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A Female *Pterorthacris* UVAROV, 1921 (Orthoptera: Pyrgomorphidae)

by

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Abstract

A female of the pyrgomorphid grasshopper genus *Pterorthacris* is examined for the first time. Although coming from southern Pakistan, it is considered that the specimen most probably belongs to *P. subcallosa* UVAROV, originally described from NE India. Its morphology is in agreement with that of females of other members of the tribe *Chlorizeinini* to which *Pterorthacris* had been previously assigned. *

Not many species and very few genera of the family *Pyrgomorphidae* are known by one sex only, *Pterorthacris* being one of the latter (KEVAN et al. 1969: 169).

*) Since our paper was written, a male corresponding to, and bearing the same date as, the female described has been discovered. One of us (M.S.W.) has examined the phallic structures of this specimen and has found no difference between these and those illustrated in KEVAN, AKBAR and CHANG (1972) for *Pterorthacris subcallosa* UVAROV, so that we may now confirm that the female in question belongs to that species - D.K. McE. KEVAN & M.S. WAGAN.

UVAROV (1921: 493-494) erected this genus for a single male of a relatively slender, fully alate pyrgomorphid from Pusa, Bihar, India, describing the type species under the name *P. subcallosa* and placing it in what was then known as „section *Orthacres*“ of the acridid subfamily *Pyrgomorphinae*. No illustration accompanied the description. A full, though short, bibliography of *Pterorthacris* and *P. subcallosa* was given by KEVAN (1977). Nothing further has been published subsequently.

Following the original description, neither genus nor species was referred to again (except in the Zoological Record and in nomenclators) until KEVAN and AKBAR (1964: 1525) transferred *Pterorthacris* to their new tribe of *Pyrgomorphidae*, the *Chlorizeinini*, and its subtribe *Chlorizeinina*, the diagnoses of which were given only by means of a dichotomus key (op. cit.: 1522). The rationale for the transfer of the genus was not fully indicated until KEVAN (1969) revised the Asiatic *Chlorizeinini* (i.e., the subtribe *Chlorizeinina*), when the similarity of the phallic structures of *Pterorthacris* to those of *Chlorizeina* BRUNNER von WATTENWYL, 1893, and a new genus *Feacris* KEVAN, 1969, was illustrated. At the same time, two further males of *P. subcallosa* were reported from the type locality, but, until now, the three males are the only specimens recorded in the literature (or of which the author was previously aware). The observation by MASON (1969), that *Pterorthacris* belongs to a group of pyrgomorphid genera whose abdominal tympana are sunk into the integument and are covered by the tegmina when at rest, was based upon the same three specimens. It constitutes virtually the only published information on the genus that is not primarily taxonomic.

Pterorthacris was again mentioned by KEVAN et al. (1971: 146), but only to note that it is not an *Orthacridine*. Later (KEVAN et al. 1972: 190-193), these authors gave full definitions of the *Chlorizeinini* and its included subtribes, illustrating, not only the phallic structures of all three genera of *Chlorizeinina* (*Chlorizeina*, *Feacris* and *Pterorthacris*), but also the receptacula seminis and subgenital plates of the females for the two genera in which both sexes were known. Certain African *Chlorizeinini* (*Humpatellina*) were similarly illustrated.

Both male and female copulatory structures are quite similar throughout the tribe, and a recently discovered female of *Pterorthacris* confirms this in respect of that genus. A comparison of Fig. 1, herein, with illustrations given by KEVAN et al. (1972: 183, fig. 39 A-D) for *Chlorizeina* and *Feacris* will indicate the close similarity, particularly to the southern Indian genus *Feacris* (their fig. 39 C, D). The spermathecal appendage is slightly, and the spermathecal duct noticeably, shorter than in *Feacris*, but the close relationship is quite obvious. Similarly, the egg-guide of the subgenital plate is much shorter in *Pterorthacris* than in *Feacris* (or in *Chlorizeina*), but the general structure of the plate is exactly comparable.

The unique female *Pterorthacris* (in the senior collection, Lyman Entomological Museum) was captured in or near the city of Hyderabad, Sind, Pakistan in 1983, but it bears no closer date or collector's name. In view of the considerable geographical separation of central Sind from the type locality in NE India, as well as of topographical and ecological differences, it is possible that this female is not conspecific with known males of *P. subcallosa*, but from the evidence available, this seems unlikely. The specimens are all very similar, the female differing little except in sexual characters, including slightly larger size and relatively shorter antennae. It may also be noted that the two parallel rows of low, paler, callosities on the pronotal disk are even weaker than they are in the holotype (illustrated in dorsal view by KEVAN, 1969, 377, fig. 66). Also the hind femora (UVAROV, 1921: 495, has „tibiae“ by mistake) lack reddish coloration and the hind wings are not orange pink at the base in the female. Other colour features are much as described for the holotype.

The measurements given by UVAROV for the male holotype of *P. subcallosa* are inaccurate (as may be confirmed by reference to KEVAN, 1969: 377, fig. 66, 67). His measurement for „length of body“ includes the projecting tegmen, and the other measurements are each exaggerated by up to a millimeter or so. The actual comparative measurements in mm (with the addition of antennal lengths) are as follows:

| | Holotype ♂ | Hyderabad ♀ |
|--|------------|-------------|
| Length of body (apex of fastigium to tip of abdomen approx.) | 24 | 29 |
| Length of antenna (approx.) | 9 | 8 |
| Length of head (median dorsal) | 3.9 | 3.6 |
| Length of pronotum (median dorsal) | 5.2 | 6.0 |
| Length of tegmen | 20 | 24.5 |
| Length of hind wing | 18.5 | 23.0 |
| Length of hind femur | 12.5 | 13.5 |
| Length of hind tibia | 10.5 | 12.0 |

The ovipositor and female cercus (Fig. 2) are quite consistent in form with those of other *Chlorizeinina*. The strong, very acute apices of the ovipositor valves are characteristic.

Acknowledgements

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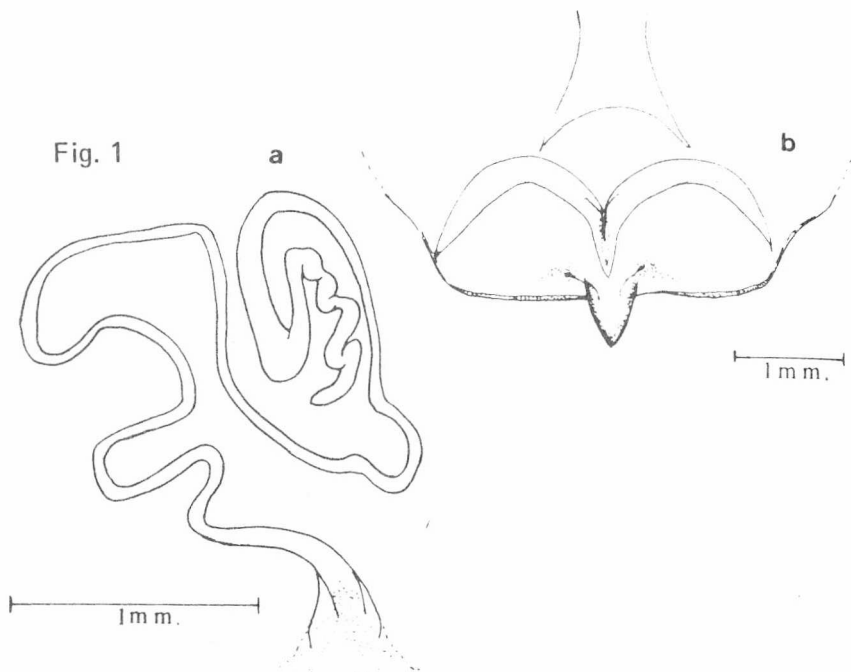


Fig. 2

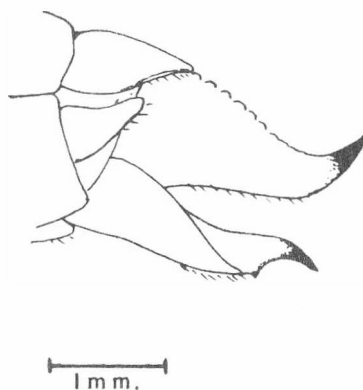


Fig. 1: Female copulatory structures of *Pterorthacris subcallosa* UVAROV (?): a. Receptaculum seminis; b. Subgenital plate, dorsal.

Fig. 2: Abdominal terminalia of female *Pterorthacris subcallosa* UVAROV (?), from left.

References

- KEVAN, D.K.McE., 1969: A preliminary revision of the Asiatic *Chlorizeinini* (Orthoptera: Acridoidea: Pyrgomorphidae). Trans. Amer. ent. Soc. 94 (1968): 355-378.
- KEVAN, D.K.McE., 1977: Superordo Orthopteroida Ordo Orthoptera s. str. (=Saltatoria-Caelifera) Subordo Acridodea Infraordo Acridomorpha: Superfam. Acridoidea Fam. Pyrgomorphidae. Orthopterorum Catalogus, 16: I-IV, 1-663, [i-vii].
- KEVAN, D.K.McE. & AKBAR, S.S., 1964: The Pyrgomorphidae (Orthoptera: Acridoidea): Their Systematics, Tribal Divisions and Distribution. Can. Ent.: 96: 1505-1536.
- KEVAN, D.K.McE., AKBAR, S.S. & CHANG, Y.-C., 1969: The concealed copulatory structures of the Pyrgomorphidae (Orth. Acridoidea) Part I. General introduction. Eos, Madr. 44 (1968): 165-266.
- KEVAN, D.K.McE., AKBAR, S.S. & CHANG, Y.-C., 1971. Idem. Part III. Tribes Chapmanacridini, Ichthiacridini, Ichthyotettigini, Orthacridini, Popoviini and Nereniini. Ibid. 46 (1970): 123-210, pl. II-VI.
- KEVAN, D.K.McE., AKBAR, S.S. & CHANG, Y.-C., 1972. Idem. Part IV. Tribes Desmopterini, Monistriini, Chlorizeinini, Poecilocerini and Phymateini. Ibid. 47 (1971): 137-274, pl. II-IX.
- MASON, J.B., 1969: The tympanal organ of Acridomorpha (Orthoptera). Ibid: 44 (1968): 267-355.
- UVAROV, B.P., 1921: Records and Descriptions of Indian Acrididae (Orthoptera). Ann. Mag. nat. Hist. (9) 7: 480-509.

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