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Studies on some Libyan species of Pamphagidae (Orthoptera: Acridoidea)

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Abstract

The present study is based on eight species representing five genera and two subfamilies belonging to the family Pamphagidae. Specimens from twenty eight localities in Fezzan region (Southern Libya) infesting various cultivated and wild plants were collected. Brief diagnosis of the family Pamphagidae is given. Key to the subfamilies and genera belonging to this family is provided mainly based on conventional as well as genitalic characters. Additional characters of male and female genitalia at generic level and differentiating characters of all species are briefly described. This is the first systematic collection of Pamphagidae from this region. Two species, *Tmethis cisti* and *T. maroccanus* were recorded for the first time from Fezzan region.

Key words: Classification, Taxonomy, Genitalia, Pamphagidae, Libya

Introduction

The system of classifying Acridoids by earlier workers was mainly based on easily recognizable externally visible characters, namely shape, size, colouration, texture, number of antennal segments etc. Thereafter the trend in Acridoid systematics was emphasized on genitalic characters especially of phallic complex. This has resulted into a profound change in the systematic concept of this group. The genitalic structures particulaly epiphallus, aedeagus, spermatheca are less affected than the external characters by environment conditions. A comparative study of these structures may therefore help to trace the interrelationship of the groups more clearly than the external characters. A review of literature shows that in recent years the taxonomic significance of different structures of male and female genitalia in the classification of Acridoidea have been shown by various authors. Roberts (1941) made a comparative study of phallic complex and described three general forms of epiphallus; one distinctive for Pyrgomorphinae (now Pyrgomorphidae), one for pamphaginae and its allied "subfamilies" (now Pamphagidae) and one for remaining subfamilies of Acrididae. Dirsh (1956) made taxonomic studies on phallic complex in Acridoidea and made acomparative study of epiphallus in various families and subfamilies of Acridoidea and considered that there are only two forms, shield like in Charialidae and Pamphagidae and other bridge like in the remaining families of Acridoidea. In 1956, he has also shown importance of aedeagus in classifying and grouping various families of Acridoidea. Dirsh (1965) briefly described supra-anal plate in African genera of Acridoidea. Slifer (1940) and Dirsh (1957) have shown the taxonomic significance of spermatheca in various families and subfamilies of Acridoidea. Agarwala (1953) made comparative. study of ovipositor in various species of Acridoidea and correlated the morphology of ovipositor with the oviposition sites. Herrera & Schnidrig (1983) described the male genitalia of 64 species of Orthoptera from Navarra (Spain).

The present study is based on conventional as well as genitalic characters .The aim of this study is an attempt to present classification of Pamphagidae along with a key to subfamilies and genera of the family

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