



The monkey grasshoppers, genus *Zeromastax* Porras (Eumastacinae, Eumastacidae, Orthoptera): two new species from the Neotropics

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Abstract

The identification of Eumastacidae is normally based on the study of phallic complex. However, the genus *Zeromastax* possesses additional characters that easily differentiate it from other eumastacids. These are ten antennomeres, spines located ventrally on the posterior femur, spur in the distal part of hind tibiae, micropterous condition and the phallic complex with subepiphallic sclerite. Two new species are described, *Z. aris* and *Z. malavasei* from the Andean region of Colombia, which show differences in external anatomy including the pronotum, shape of tegmina and coloration pattern, as well as several differences in the phallic complex.

Key words: Colombia, taxonomy, Phallic complex, Subepiphallic sclerite

Introduction

The family Eumastacidae is easily recognized within the suborder Caelifera by their habitual posture (hind legs form a right angle with the vertical plane of the body), small size and elongated shape, and antennae shorter than the fore femur. The phallic complex consists of ectophallus, epiphallus and endophallus sclerites (Descamps 1973). In general terms, eumastacids are distributed from sea level to almost 3,000m in humid environments with light gaps in the tree canopy (Rowell & Bentos-Pereira, 2001).

Eumastacidae belongs to the superfamily Eumastacoidea along with Chorotypidae, Euschmidtidae, Mastacideidae, Morabidae, Proscopiidae, Thericleidae and Episactidae. Eumastacidae consists of subfamilies Morseinae, Masynteinae, Parepisactinae, Pseudomastacinae, Paramastacinae, Temnomastacinae, Eumastacopinae and Eumatacinae (Descamps 1973). In total, there are 165 species distributed in 30 genera. The family is represented by 54 species in Colombia. Episactidae and Eumastacidae share many characters but Episactidae have the prolonged fatigium, the number of antennal segments ≤ 10 , and the phallic complex with a subepiphallic sclerite. Episactidae is represented by four subfamilies, with two found in Central America (Rowell 1997).

The main character for recognizing the neotropical monkey grasshoppers in the genus *Zeromastax* is at the phallic complex level: an interesting sclerite known as the subepiphallic sclerite (Porras 2007). Only one species of *Zeromastax* is currently recorded in the literature: *Z. selenesii* Porras. Because the species has a subepiphallic sclerite, the genus is regarded as a link between the families Eumastacidae and Episactidae, but this inference is based only on a morphological analysis (Porras 2007).

This work describes two new species of *Zeromastax*, found in Antioquia and Caldas departments in the Andean region of Colombia.

Material and methods

Fieldwork was conducted in Norcasia (Caldas) on June 3–15, 2009, and Guatapé (Antioquia) on August 12–16, 2009. Samples were counted using visual encounter surveys (Crump & Scott 1994) in an area of