



A historical review of praying mantid taxonomy and systematics in the Neotropical Region: State of knowledge and recent advances (Insecta: Mantodea)

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Abstract

This review presents a detailed account of taxonomic studies of praying mantids (Mantodea) from the Neotropical region. The current knowledge for each genus is presented along with a brief review of the advances in systematics for the order with emphasis on the Neotropical fauna. Additional comments on the limitations in taxonomic studies in mantids are also discussed.

Key words: Neotropical Region, Mantodea, praying mantids, taxonomy, systematics, history

Resumen

Esta revisión presenta un registro detallado de los estudios taxonómicos de las "mantis religiosas" (Mantodea) de la región Neotropical. Se presenta un resumen del estado del conocimiento de la taxonomía de cada género así como también una breve revisión de los avances recientes en el estudio de su sistemática y comentarios adicionales sobre las limitaciones en estudios taxonómicos en el orden Mantodea.

Introduction

Despite the general fascination and interest that the praying mantis has inspired throughout history (Prete & Wolfe 1992), Mantodea remains one of the least studied insect taxa. Although several aspects of their biology, physiology and behaviour have historically received more attention, their taxonomy and systematics have been seldom and inadequately studied (see Prete *et al.* 1999). This dearth of studies stems from an apparent lack of impact in human economic activities and the resulting small and scattered community of mantid taxonomists. This poor taxonomic treatment has consequently frustrated further attempts to effectively catalogue regional mantid faunas, study their ecological processes and produce a solid classification system for the order.

Mantodea is often regarded as a "minor" order, since it includes fewer species than other insect orders. Recent accounts estimate approximately 2300–2450 species worldwide (Ehrmann 2002; Otte & Spearman 2005), with most species distributed in warm, tropical and subtropical environments in all zoogeographic regions (except Antarctica), from the driest deserts to the most humid rainforests. The Neotropical region is well known for being a biodiversity hotspot. Six of the 17 countries considered megadiverse occur in this zoogeographic region: Mexico, Venezuela, Colombia, Ecuador, Peru and Brazil (Table 1). Even though a large proportion of global biodiversity occurs within the politic boundaries of these countries, the Neotropical mantid fauna is comparatively less diverse than that from other such zoogeographic regions. For instance, the Ethiopian region possesses the highest diversity of mantid species with ca. 900 species described, followed by the Oriental region with ca.550 species (Agudelo & Chica 2002b). According to the latest account (Ehrmann & Koçak 2009), in addition to those species described before the submission of this paper to press, there are 498 mantid species in the neotropics.