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A new genus and species of Mantoididae (Mantodea) from the Brazilian and Venezuelan Amazon, with remarks on *Mantoida* Newman, 1838

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Abstract

Paramantoida amazonica n. gen. & n. sp. is described from North Amazon. The new genus is characterized by having anterior femora without postero-ventral spines or with 1–2 spinules (small spines) at most. Additional remarks on the genus *Mantoida*, following the examination of several primary types, are also presented. As a result, the identity of *Mantillica beieri* Kaltenbach, 1957 as a member of *Mantoida* is herein confirmed, whereas other synonyms previously established for other species of *Mantillica* in relation to *Mantoida* are discarded.

Key words: Amazon, *Mantillica*, Mantoididae, Neotropical region, Taxonomy

Introduction

The Mantoididae, along with Chaeteessidae, are two of the earliest diverging lineages of extant Mantodea or Eumantodea (Grimaldi 2003; Svenson & Whiting 2009). Their morphological features are unlike most recognized Mantodea. Members of these two Neotropical lineages exhibit a number of putative primitive traits relative to all other Mantodea, such as their small size and stout complexion, their usually dull coloration, very long antennae, short pronotum, low degree of sexual dimorphism and agile displacement. The Mantoididae is currently represented by a single genus: *Mantoida*, described by Newman (1838); members of this lineage are widely distributed from Mexico to northern Argentina (Agudelo *et al.* 2007) with a disjunctive, endemic population in Florida and a potential population in Mona Island, in the Caribbean (Wieland & Schütte 2011). Mantoididae species differ from Chaeteessidae by having an apical claw on a less curved fore tibiae, the males having prominent ocelli, a cylindrical body shape (Chaeteessidae species are more dorsoventrally compressed) and shorter cerci.

Twelve species of *Mantoida* are currently recognized. Although this relatively low number of species may lead to the assumption that this is a 'species-poor' genus, it seems to be more specious than previously thought, with the morphological homogeneity exhibited by *Mantoida* species being the main reason for their uncovered diversity. The main morphological characters used to distinguish species of *Mantoida* usually consist of differences in size and color patterns. Consequently, the oldest species descriptions offer few morphological details. Rehn (1951) considered it important to re-assess such characters in order to establish the relationships and extent of variation among species. There is still much uncertainty on the identity of some species, most of which are barely cited in the literature or remain known only from their original description. Rehn (1951) offered a detailed description of the external morphology of *M. schraderi* Rehn, 1951, from Costa Rica, whose morphological description was complemented later on by Klass (1997), who described its phallic complex. La Greca & Lombardo (1989) used a more detailed approach and illustrated additional features of the phallic complex of *M. argentina* La Greca & Lombardo, 1989 and *M. ronderosi* La Greca & Lombardo, 1989, also providing a description of *M. brunneriana* (Saussure, 1871). These authors also briefly commented on the genus and emphasized the need to review the ambiguous species definitions.

Based on all these previous considerations, as well as a planned revision of *Mantoida*, the task of analyzing an important number of specimens from multiple collections was accomplished. This preliminary scrutiny of such

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APPENDIX

Specimens examined.

M. argentina: BRAZIL: Roraima, 1♂ Pacaraima, N04°27'04" W61°07'56", 07 vii 1996, luz mista mercurio, B.R. Tales & F. Xavier leg (INPA, 0027018). ***M. brunneriana***: BRAZIL: ♂ holotype “Brasilien” Coll. Br. V. W., 1538, 127, Mant. Inv. No. 28, MSF 08.02.94 (NHMW); BRAZIL: 7♂ (all at INPA), Amazonas, Itacoatiara, Madeireira Mil, S02°45'10" W58°39'11", 29-30 xi 2005, Armadilha luminosa móvel, J.A. Rafael, J.P. Machado & A. Silva F. Leg; Amazonas, Manaus, Estrada ZF-2, 01x 2005, Armadilha luminosa móvel, J.A. Rafael, F.F. Xavier F. R. Machado, A. A. Agudelo & Y.K. Dantas leg; Amazonas, Presidente Figueiredo, AM 240, km 24, ? viii 2005, Luz mista/mercurio, F. Xavier leg; Amazonas, Manaus, Ilha Anavilhanas, 03 iii 1976, Paraluppi leg; Amazonas, Manaus, ZF-2, torre, km 14, 35 m, S02°35'21" W60°06'55"; Amazonas, Guaporé, S12°13'19" W60°32'44", 23 iv 2006, armadilha luminosa, J.A. Rafael & F.F. Xavier leg.; Roraima, Rio Uraricoera, Ilha de Maracá, 21–30 xi 1987, Malaise, J.A. Rafael e equipe leg, L. Jantsch, 1988 (det.). ***M. burmeisteri***: BRAZIL: ♂ and ♀ syntypes, Brasilien, Nova Friburgo, MLU Halle, WB Zoologie, S. –Nr 11213. ***M. fulgidipennis***: BRAZIL: ♀ holotype, Brasil, Amaz. Bates, type Orth: 417 (OUMNH); 1 ♂ Amazonas, Manaus, ZF-2, km 34, Campina, S02°35'37" W60°12'39", 11 vii 2008, armadilha luminosa, J.A. Rafael & F. Xavier leg (INPA). ***M. luteola***: BRAZIL: ♂ holotype, Pará, Santarem, Bates (*M. luteolens*, Westwood), type Orth. 418 (OUNHM), Maranhão, 3♂, Mirador, Parque Estadual Mirador, Base da Geraldina, 5–8 i 2008, Armadilha luminosa, F. Limeira-de-Oliveira, leg. (INPA). ***M. maya***: MEXICO: Yucatán, 2♀ syntypes, Temax, Gaumer, Coll. Godm. v. Salv. v (MHNG). USA: Florida 2♂, Monroe County, Big Pinne key, 22 vi 1974, at (UV) Black Light, J.B. Heppner leg. (INPA). GUATEMALA: Petén, 1♂, Ixpanpajul, nr Santa Ana, 2–5 vi 2007, 180m, J.B. Heppner leg (INPA). ***M. nítida***: BRAZIL: Amazonas, 1♂, 12 v 1976, I.S. Gorayeb leg, L. Jantsch (det.) (INPA). ***M. tenuis***: BRAZIL ♂ holotype? (RISNE-Brussels). São Paulo, 2♂, Ribeirão Preto, Fazenda da Pedra, Rio Tamanduá, 5–8 xii 1953, Travassos & Zago leg, P.S. Terra, 1981 (det.) (MZUSP). São Paulo, 1 ♂, Ribeirão Preto, Fazenda da Pedra, Rio Tamanduá, 26–29 x 1954, Travassos leg (MZUSP). ***Mantillica nigricans***: BRAZIL: Amazonas, ♂ holotype, (*Mantilia nigrina*) Bates, M.S., 33, type 0428 (OUNHM). ***Mantillica sialidea***: BRAZIL: Amazonas, ♂ holotype, Bates M.S. (*Mantilia fragilis*), type 0429 (OUNHM). ***Mantillica beieri***: ARGENTINA: Formosa, 2 ♂ (holotype and paratypes), Ing. Suarez I–49, 49, R. Golbach, Mant. Inv. Nr. 842 (NHMW).