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A taxonomic revision of *Otomantis* Bolivar, 1890 (Mantodea: Hymenopodidae, Acromantinae) with description of five new species

FRANCESCO LOMBARDO[1], MARTIN B.D. STIEWE[2], SALVATRICE IPPOLITO[1], ALESSANDRO MARLETTA[1]

[1]*University of Catania, Department of Biological, Geological and Environmental Sciences, Section of Animal Biology, Via Androne 81, Catania 95124, Italy. Email: lombafra@unict.it*

[2]*The Natural History Museum, London, Scientific Associate, Department of Entomology, Cromwell Road, SW7 5BD, London, UK. Email: m.stiewe@nhm.ac.uk*

Abstract

The African genus *Otomantis* Bolivar, 1890, is taxonomically treated via the re-description of its species on the basis of new morphological features (pronotum and male genitalia). Five new species, *O. centralis* sp. n. from D. R. of Congo and Angola, *O. gracilis* sp. n. from D. R. of Congo, *O. trimacula* sp. n. from Zambia and Malawi, *O. bolivari* sp. n. from Kenya and Tanzania and *O. minima* sp. n. from South Africa are described. The taxonomic position of the syntypes of *O. capirica* Giglio-Tos is revised. A lectotype is designated for the female of *O. capirica*. The female of *O. rendalli* (Kirby) and the male of *O. aurita* (Saussure & Zehntner) are described for the first time. Also provided are many new localities for all nominal species. A key to the species of *Otomantis* is included for both male and female, each key fully illustrated. Finally, observations on species distributions and relationships are presented.

Key words: Ethiopian Region, Mantodea, Hymenopodidae, *Otomantis*, new species.

Introduction

The genus *Otomantis* Bolivar, 1890, is one of the least known African groups of praying mantises. It includes five nominal species of small size from forest areas or wet savannas of Africa: *Otomantis scutigera* Bolivar, 1890 (type locality in Eastern Africa-Mozambique), *Otomantis aurita* (Saussure & Zehntner, 1895; type locality in Madagascar), *Otomantis rendalli* (Kirby, 1899; type locality in Malawi), *Otomantis casaica* Giglio-Tos, 1915 (type locality in D. R. Congo-Kasai), and *Otomantis capirica* Giglio-Tos, 1915 (type locality in D. R. Congo-Kapiri and Irangi). These species are known from only a few specimens and no genus revision has been performed. Species identification was difficult in the wake of a historical confusion about the classification and poor taxonomic treatments. With this in mind, we re-examined the existing type material and added additional specimens in order to perform a comprehensive revision of the genus. The principal aim of this work is to provide new morphological data, describe new species diversity, and produce a species level key for both sexes in order to facilitate identification by future workers.

Material and Methods

We examined a total of 82 specimens, including the types of all previously described *Otomantis* species. The material studied belongs to the following collections: Museum of the Department of Biological, Geological and Environmental Sciences of Catania, Section of Animal Biology "M. La Greca", Catania-Italy (MABC); Musée Royal de l'Afrique Centrale, Tervuren-Belgium (MRAC); Muséum National d'Histoire Naturelle, Paris-France (MNHN); The Natural History Museum, London-UK (NHM); Muséum National d'Histoire Naturelle, Genève-Switzerland (MNHG); Museo Nacional de Ciencias Naturales, Madrid-Spain (MNCN); Instituto de Investigação

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those of the northern D. R. of Congo and southeastern Africa, the genus is well defined by the common shape of the pronotum, the presence of a vertical process of the vertex and by a flattened fore femora.

Two groups of species can be identified on the basis of the genital shape: The first includes four species, all from central Africa: *O. capirica, O. centralis* sp. n., *O. gracilis* sp. n. and *O. trimacula* sp. n. The copulatory apparatus of this group is characterized by a ventral phallomere that is ear-like in shape and the lack of a distal process; the phalloid apophysis is elongated with two apical lobes (Fig. 12). Within this group, *O. gracilis* sp. n. is characterized by its small size and the indistinct vertical process of the vertex. It occurs in the Bas Congo near to Congo River. The distribution of *O. centralis* sp. n. is split into two areas, the central area of the D. R. of Congo and northeastern Angola. However, such discontinuity might be apparent due to insufficient data. *Otomantis capirica* and *O. trimacula* sp. n. have been reported from southern D. R. of Congo and from Zambia and Malawi, respectively. The second group includes six species: *O. aurita*, *O. bolivari* sp. n., *O. minima* sp. n., *O. rendalli* and *O. scutigera* from southern and eastern Africa and *O. casaica* from the north of D. R. of Congo. The genitalia model of this group is constituted by a rhomboidal ventral phallomere with a more or less distinct distal process; the phalloid apophysis, despite some differences, is similar in structure to that of the first group (Fig. 12). Within this group, *O. aurita* is endemic to Madagascar; this species likely diverged on the island out of a population of a yet unidentified species that colonized it from the nearby mainland in the past. *Otomantis casaica*, a species widespread in the northern D. R. of Congo, and *O. bolivari* sp. n. from Kenya and Tanzania, have a copulatory apparatus that is characterized by a non-bifid ventral phallomere (Fig. 12). They are the only two species that do not occur in the rainforest or wet savannah. *Otomantis rendalli*, a species widespread in southeast Africa (Malawi, Mozambique, Zambia, Zimbabwe and Transvaal) is very similar to *O. scutigera*, which occupies a relatively small area in Mozambique and Natal (Fig. 13). *Otomantis minima* sp. n. is the smallest member of this group and its morphological assessment does not suggest any detectable close relationship to any other known species. Unfortunately we do not even know the exact locality where it was found since the label of the only known male specimen simply states “South Africa”. Therefore, we were unable to make any evaluation on its relationships based on geographic distribution.

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