

Article



http://dx.doi.org/10.11646/zootaxa.3797.1.10 http://zoobank.org/urn:lsid:zoobank.org:pub:B97C1B94-6F34-4C44-AF80-E665613E97DE

A case of the higher-level classification of praying mantises (Mantodea) obscuring the synonymy of *Majangella* Giglio-Tos, 1915 (Liturgusidae, Liturgusinae) and *Ephippiomantis* Werner, 1922 (Hymenopodidae, Acromantinae)

GAVIN J. SVENSON^{1,*} & WILLIAM VOLLMER²

- ¹ Department of Invertebrate Zoology, Cleveland Museum of Natural History, 1 Wade Oval Drive, Cleveland, OH 44106 USA. Email: gsvenson@cmnh.org
- ² University at Albany, State University of New York, Albany, New York, USA.
- * Corresponding Author

Abstract

The praying mantis genus *Majangella* Giglio-Tos, 1915 is taxonomically treated with a re-description of the genus and the two included species, *M. moultoni* Giglio-Tos, 1915 and *M. carli* Giglio-Tos, 1915. The genus *Ephippiomantis* Werner, 1922 is newly determined to be the junior synonym of *Majangella* Giglio-Tos, 1915 based on morphology. The species for which the genus name *Ephippiomantis* was erected, *E. ophirensis* Werner, 1922, is re-described and now included within *Majangella*. This synonymy was determined herein as the direct result of erroneous higher-level placement of *Majangella* within the Majanginae by Giglio-Tos and was not recognized even after the genus was moved to within Liturgusidae. Action is now taken to move *Majangella* from within Liturgusidae to within the Hymenopodidae subfamily of Acromantinae, which is supported by morphological and molecular data. A key to the three species is provided along with habitus images, images of the head, pronotum, and foreleg, and illustrations of the male genitalia. Species distributions are presented and locality coordinates are provided in print as well as being available for download as a KML file viewable in Google Earth.

Key words: Southeast Asia, Mantodea, Hymenopodidae, Liturgusidae *Majangella*, *Ephippiomantis*, systematics, new synonymy, praying mantis

Introduction

Majangella was first created by Ermanno Giglio-Tos in 1915 to include his two newly described species *M. moultoni* Giglio-Tos, 1915 and *M. carli* Giglio-Tos, 1915. By original designation, *M. moultoni* was named as the type species for the genus and is deposited in the Sarawak Museum, Borneo. Giglio-Tos (1915) included his new genus, *Majangella*, within the group Majangae, which also included the genus *Majanga* Wood-Mason, 1891 from Madagascar, presumably because he thought the two genera were closely related. The characters used to diagnose the group Majangae included a process on the vertex of the head, preapical lobes on the hind femora, and conical tubercles on the pronotum. Subsequent to creating the genus, Giglio-Tos continued to classify *Majangella* with *Majanga* in his group Majangae and subfamily Majanginae (Giglio-Tos, 1919, 1927). This taxonomic arrangement remained unchanged until Beier (1935) placed the two genera within the tribe Liturgusini under Mantinae and disposed of the Giglio-Tos' subfamily Majanginae, but also noted the likely relationship between *Majangella* and other Acromantini. With its original placement within Majanginae and now within the Liturgusini, *Majangella* was considered a close ally to the broader group of bark dwelling mantises such as *Majanga*, *Liturgusa*, *Theopompella*, and others. However, the habits and life strategy of *Majangella* species are unknown.

The genus *Ephippiomantis* was created by Franz Werner in 1922 for his newly discovered species *E. ophirensis* Werner, 1922 collected in Sumatra. The monotypic genus was included within the Acromantinae by Werner, a subfamily of the flower mantis family Hymenopodidae. This placement has remained unchanged and the

References

- Beier, M. (1931) Neue und interessante Mantiden (Mantodea). The Bulletin of the Raffles Museum, 6, 149-154.
- Beier, M. (1934) Mantodea, Fam. Mantidae, Subfam. Hymenopodinae. Genera Insectorum, Fascicule 196, 1–37.
- Beier, M. (1935) Mantodea. Subfamilie: Mantinae. Genera Insectorum, Fascicule 203, 1-146.
- Beier, M. (1942) Neue und seltene Mantodeen aus deutschen Museen. Annalen des Naturhistorischen Museums, Wien, 52, 126–154.
- Beier, M. (1964) *Blattopteroidea-Mantodea. In*: Bronns, H.G. (Ed.), *Klassen und Ordnungen des Tierreichs*. Akademische Verlagsgesellschaft, Leipzig, pp. 849–970.
- Beier, M. (1968) Mantodea. In: Helmcke, J.G., Starck, D. & Wermuth, H. (Eds.), Handbuch der Zoologie 12, 4 (2), pp. 1-47.
- Bragg, P.E. (2010) A review of the Liturgusidae of Borneo (Insecta: Mantodea). Sepilok Bulletin, 12, 21–36.
- Ehrmann, R. (2002) Mantodea: Gottesanbeterinnender Welt. Naturund Tier Verlag GmbH, Münster, 519 pp.
- Giglio-Tos, E. (1915) Mantidi Esotici: Generie specie nuove. Bollettino della Societa entomologica italiana, 46, 31-108.
- Giglio-Tos, E. (1919) Saggio di una nuova classificazione dei Mantidi. *Bullettino della Societa Entomologica Italiana*, 49, 50–87
- Giglio-Tos, E. (1927) Das Tierreich. Orthoptera-Mantidae. Walter de Gruyter & Co., Berlin & Leipzig, 707 pp.
- Otte, D. & Spearman, L. (2005) *Mantida species file. Catalog of the mantids of the world. Vol. 1*. Association of Insect Diversity Philadelphia, 489 pp.
- Svenson, G.J. & Whiting, M.F. (2004) Phylogeny of Mantodea based on molecular data: evolution of a charismatic predator. *Systematic Entomology*, 29, 359–370.
 - http://dx.doi.org/10.1111/j.0307-6970.2004.00240.x
- Svenson, G.J. & Whiting, M.F. (2009) Reconstructing the Origins of Praying Mantises (Dictyoptera, Mantodea): the roles of Gondwanan vicariance and morphological convergence. *Cladistics*, 25, 468–514. http://dx.doi.org/10.1111/j.1096-0031.2009.00263.x
- Werner, F. (1922) Zur Kenntnis der Mantodeenfauna der niederlandischen Kolonien. Zoologische Mededeelingen Uitgegeven Vanwege's Rijks Museum van Natuurlijke Historie te Leiden, 7 (1–2), 115–126.
- Werner, F. (1933) Funfter Beitrag zur Kenntnis der Mantodeen von Niederlandisch-Indien. Treubia, 14 (2), 255–273.
- Wood-Mason, J. (1891) A Cataloque of the Mantodea, with descriptions of new genera and species, and an enumeration of the specimens, in the collection of the Indian Museum, Calcutta. *Mus. Calcutta*, 2, 49–66.
- Yager, D.D. & Svenson, G.J. (2008) Patterns of praying mantis auditory system evolution based on morphological, molecular, neurophysiological, and behavioural data. *Biological Journal of the Linnean Society*, 94, 541–568. http://dx.doi.org/10.1111/j.1095-8312.2008.00996.x