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A revision of *Rhodomantis* Giglio-Tos, 1917 (Mantodea: Mantidae: Mantinae)

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Abstract

The genus *Rhodomantis* Giglio-Tos is revised. A total of nine species are recognised. Seven new species, *R. helenae*, *R. kimberley*, *R. macula*, *R. microptera*, *R. mitchell*, *R. napier*, and *R. rentzi* are described. *Rhodomantis carinicollis* Werner and *R. gracilis* Tindale are new synonyms of *R. queenslandica* Sjöstedt.

Key words: Praying mantis, taxonomy, new species, Australia

Introduction

Rhodomantis Giglio-Tos, 1917 is a mantid genus presently known only from Australia, although it may be expected to occur in the savannah woodland areas of southern Papua New Guinea given its habitat preferences. All species are slender in form and brown or grey in colour, blending in with the dry grasses and other low vegetation with which they are most commonly associated.

Giglio-Tos (1917) erected *Rhodomantis* to include a single species, *R. pulchella* (Tepper). Further species were described by Sjöstedt (1918), Tindale (1923) and Werner (1933). Examination of the major insect collections in Australia has revealed the existence of seven new species which are here described.

Materials and Methods

Methods and terminology follow Milledge (1997, 2005). Photographs were taken with a Nikon K90 camera and processed in Adobe Photoshop©. The following abbreviations are used for the male genitalia; *apr*, apical process of left phallomere, *dpr*, distal process of ventral phallomere, *pa*, phalloid apophysis, *vph*, ventral phallomere. Measurements are in mm and are of a representative male and female except for body length where a size range of specimens examined is also given when enough material was available. Abbreviations used for institutions where material is held are as follows: Australian Museum, Sydney-Australia (AM); Australian National Insect Collection, Canberra-Australia (ANIC); Naturhistoriska Riksmuseet, Stockholm-Sweden (NHRS); Naturhistorisches Museum, Basel- Switzerland (NMB); Museum Victoria, Melbourne-Australia (NMV); Queensland Museum, Brisbane-Australia (QM); South Australian Museum, Adelaide-Australia (SAM); Western Australian Museum, Perth-Australia (WAM).

Relationships

The nearest relatives of this genus remain obscure at present. Within the Australian fauna it is a relatively speciose genus. This, combined with the fact that the females of all species are flightless, suggests it belongs in the older element of the fauna, which has been discussed previously (Milledge, 1997). The classification of Ehrmann (2002), presumably based on morphology, places them in the tribe Mantini with the genera, *Mantis*, *Statilia* and several other genera. This tribe was curiously included in the subfamily Paramantinae by Ehrmann rather than the Mantinae, but no reasons were given for these groupings. Recent genetic studies suggest that many of the currently

Paratypes. 1♀, same data as holotype, 11-000017. 1♀, Western Australia, Surveyors Pool, near Mitchell Plateau, Kimberley District, 14°40'S 125°44'E, 15 May 1983, D.C.F. Rentz & J. Balderson, stop 20, 11-000018 (both ANIC).

Diagnosis. This species can be distinguished from others in the genus by having the wings reduced to small flaps in both sexes.

Description. Body (Figs. 21–22) very elongate and slender. Colour brown or yellow brown—the colour of dry grass. Frontal shield with moderate subantennal ridge. Ocelli of both sexes poorly developed. Antennae of male about half the length of prothorax, of female about one third the length of prothorax. Prothorax elongate and slender, metazone of pronotum with dorsolateral carinae which become indistinct anteriorly and posteriorly. Foreleg with coxa distinctly shorter than metazone, femur with claw groove situated at about mid point. Both sexes with wings reduced to small lateral flaps. Abdomen elongate and very slender, supra-anal plate triangular, cerci much reduced in both sexes, not reaching tip of abdomen. Caudal margin of sixth abdominal sternite of female (Fig. 49) extended, forming a scoop like structure. Styli of male elongate, about same length as subgenital plate and twice the length of the cerci.

Male genitalia (Figs. 39–40) with dpr short, very broad and truncate, with short anterior and posterior projections and lateral margin finely cuspluate; pa compact with small blunt shagreened projection posteriorly, medial lobe of vph prominent and curved dorsally, anterior portion of vph narrowed, apr of left phallomere prominent. Female ovipositor without hooks (Figs. 47–49).

Measurements (mm). Body length, ♂ 57.7, ♀ 81.5. Head width, ♂ 3.8, ♀ 5.3. Head depth, ♂ 1.9, ♀ 3.2. Pronotum length, ♂ 21.7, ♀ 30.2. Pronotum width, ♂ 1.8, ♀ 2.8. Forecoxa length, ♂ 8.8, ♀ 12.7. Forefemur length, ♂ 10.5, ♀ 16.2. Tegmen length, ♂ 3.1, ♀ 3.1. Abdomen length, ♂ 28.2, ♀ 40.4.

Immature stages. Unknown.

Etymology. Specific name refers to the extremely reduced wings in this species.

Distribution and habits. Found in the Kimberley region of Western Australia (Fig. 54). Habits unknown but likely to be a grass dweller.

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References

- Ehrmann, R. (2002) *Mantodea: Gottesanbeterinnen der Welt*. Naturund Tier Verlag GmbH, Münster, 519 pp.
- Giglio-Tos, E. (1917) Mantidi Esotici. Generi e specie nuove. *Societa entomologica Italiana, Bollettino*, 48, 43–108.
- Milledge, G. (1997) Revision of the tribe Archimantini (Mantodea: Mantidae: Mantinae) *Memoirs of the Museum of Victoria*, 56 (1), 1–63.
- Milledge, G. (2005) Revision of the genera *Sphodoproda*, *Trachymantis* and *Zopheromantis* (Mantodea: Mantidae: Mantinae). *Records of the Australian Museum*, 57 (2), 191–210.
<http://dx.doi.org/10.3853/j.0067-1975.57.2005.1442>
- Roy, R. (2002) *Euchomenella finoti* Roy, 2001, Nouveau Synonyme de *Rhodomantis queenslandica* (Sjöstedt, 1918) [Dictyoptera, Mantidae]. *Revue française d'Entomologie (N.S.)*, 24 (4), 169–170.
- Sjöstedt, Y. (1918) Results of Dr E.Mjöbeg's Swedish scientific expeditions to Australia 1910–1913. 17. Mantidae and Phasmidae. *Arkiv fur Zoologi*, 11 (19), 1–60.
- 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>
- Tepper, J.G.O. (1904) Descriptions of some new species of Orthoptera from north-western South Australia. No. 1. *Transactions of the Royal Society of South Australia*, 28, 162–167.
- Tindale, N. (1923) Review of Australian Mantidae. *Records of the South Australian Museum*, 2, 425–457.
- Werner, F. (1933) Prof. Dr. E. Handschin Studienreise auf den Sundainseln und in Nordaustralien 1930–32. Einige teilweise neue asiatische und australische Mantodeen. *Revue Suisse de Zoologie*, 40, 441–447.