



Three new species of *Ciulfina* Giglio-Tos (Mantodea: Liturgusidae) from north-eastern Australia

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Abstract

The genus *Ciulfina* Giglio-Tos includes a number of small tree-trunk dwelling species of praying mantids that are found through eastern Queensland and northern Australia. Three new species of *Ciulfina*: *C. baldersoni*, *C. klassi* and *C. rentzi* and one existing species *C. biseriata* (Westwood) are formally described on the basis of male genital morphology. A key to the identification of *Ciulfina* based on genital morphology is also provided.

Key words: Mantodea, Liturgusidae, *Ciulfina*, praying mantis

Introduction

The genus *Ciulfina* (Mantodea: Liturgusidae) is known in Australia from two described species *Ciulfina biseriata* (Westwood) and *Ciulfina liturgusa* Giglio-Tos but may occur as more than 15 species groups based on male genitalic form (Balderson *et al.* 1998). External morphology is highly conserved in this genus and it has a widespread distribution throughout much of northern Australia.

The historical literature for *C. biseriata* is ambiguous. Westwood (1889) originally described the species as *Nanomantis biseriata*. Balderson (1984) indicates the holotype male is from Rockhampton NE Queensland (incorrectly labelled as NW Qld), described as *Nanomantis biseriata* Westwood. Giglio-Tos (1915) raised the genus *Ciulfina* to accommodate *C. liturgusa* and included *N. biseriata* here. The type localities given for *C. liturgusa* are Cape York, Queensland and Adelaide, South Australia. Balderson (1984) correctly points out that the Adelaide location is clearly incorrect as this species is essentially tropical and is unknown from latitudes south of 26°S. Tindale (1923, 1930) refers to *N. biseriata* as a subspecies of *Stenomantis novae-guinae* Haan, with the type location being listed as North-west Australia, but additionally from Northern Territory, Melville Island, Groote Eylandt and Queensland (Almaden near Chillagoe). *Stenomantis liturgusa* is also listed here. The external morphology of Tindale's figured specimens of *S. novae-guinae biseriata* from Cairns, undoubtedly resemble *C. biseriata*. In his Catalogue of Australian Mantodea, Balderson (1984) reinstated the genus *Ciulfina* within the sub-family Iridopteryginae based on its lack of Liturgusinae-type characters as defined by Beier (1964). Most recently, Ehrmann (1997, 2002) has subsequently placed *Ciulfina* in the family Liturgusidae (sub-family Liturgusinae).

In the Australian National Insect Collection, Canberra (ANIC), which includes some temporary holdings from other institutions (Australian and overseas), there is an old label for *C. liturgusa* but no corresponding specimens. The type description (Giglio-Tos 1915) for *C. liturgusa* is brief and uninformative, only indicating that the species is smaller in size (adult body 24 mm) than *C. biseriata*, and refers to the costal area of the