

Comments on *Chiropsalmus* (Cnidaria: Cubozoa: Chirodropida): a preliminary revision of the Chiropsalmidae, with descriptions of two new genera and two new species

LISA-ANN GERSHWIN

School of Marine Biology and Aquaculture, James Cook University, Townsville, Queensland, 4811, and Australian Institute of Marine Science, Townsville, Queensland, 4810, Australia.

Current address: State and National Marine Stinger Advisor, Surf Life Saving, 18 Manning Street, South Brisbane, QLD 4101

Table of contents

Abstract	2
Introduction	2
Material and methods	3
Systematics	4
Phylum Cnidaria Verrill, 1865	4
Subphylum Medusozoa Petersen, 1979	4
Class Cubozoa Werner, 1973	4
Order Chirodropida Haeckel, 1880, sens. emend.	4
Family Chiropsalmidae Thiel, 1936, sens. emend.	5
Genus <i>Chiropsalmus</i> L. Agassiz, 1862	5
<i>Chiropsalmus quadrumanus</i> (Müller 1859)	6
<i>Chiropsalmus zygonema</i> Haeckel, 1880	11
<i>Chiropsalmus alipes</i> , sp. nov.	12
<i>Chiropsalmus maculatus</i> Cornelius et al., 2005	16
Genus <i>Chiropsoides</i> Southcott, 1956	17
<i>Chiropsoides buitendijki</i> (Horst 1907)	18
<i>Chiropsoides quadrigatus</i> (Haeckel, 1880), comb. nov.	22
Genus <i>Chiropsella</i> , gen. nov.	25
<i>Chiropsella bronzie</i> , sp. nov.	25
General discussion	36
Conclusion	36
Acknowledgments	37
References	37

Abstract

The nomenclature and identity of *Chiropsalmus quadrigatus* have been extensively confused. Originally described from Rangoon, Burma, based on an immature and badly damaged specimen, subsequent Philippine and Australian redescrptions do not match primary characters of the holotype. This has led to widespread messiness in identification and classification of this and related species. In order to clarify the nomenclature of the *Chiropsalmus*-type cubomedusae, a preliminary revision of the Chiropsalmidae is given. *Chiropsoides quadrigatus* comb. nov. is proposed, in order to reflect the close relationship of this taxon with *Chiropsoides buitendijki*, based on the shared character of linear-branching pedalia. A common Australian form, often attributed to *Chiropsalmus quadrigatus*, is herein described as a new genus and species, *Chiropsella bronzie*. This new form differs from other Chiroadropida in having sessile, solid, smooth gastric saccules, whereas in other Chiroadropida these structures are pendant whether they are smooth or branched. This new species is not dangerous to humans. Another form, *Chiropsalmus alipes* n. sp., is described from the Pacific coast of southern Mexico; this new species differs from others in having long, blade-like pedalia similar to those of the Carybdeida, only four tentacles at maturity per pedalum, each branching in a different direction, and a warty body; comments are made regarding its apparent relationship to the enigmatic *Chiropsalmus zygonema*. The recently described *Chiropsalmus maculatus* is moved to a new genus, *Chirodectes* in the family Chiroadropidae.

Key words: Chiroadropidae, Cubomedusae, box jellyfish, sea wasps, taxonomy

Introduction

Chiropsalmus quadrigatus was described by Haeckel (1880) based on a badly damaged juvenile specimen from Rangoon, Burma (50mm BH, with 4-clawed pedalia, lacking gonads and saccules). The species was not illustrated, and the written description was vague. Mayer (1910; 1915; 1917) redescribed the species based on mature and immature specimens from the Philippines; this redescription has been widely adopted. Later workers examining Haeckel's holotype were unable to distinguish it from the young of other species (Stiasny 1922; Kramp 1955), and so the redescription of Mayer continued to be used. However, the Philippine and Burmese forms are not conspecific; in fact, my preliminary study of Mayer's Philippine material suggests that it may actually comprise two species, neither of which morphologically matches the true *Chiropsalmus quadrigatus*. Furthermore, the western Indian Ocean medusa used by Stiasny (1937) to offer a better redescription of *Chiropsalmus quadrigatus* does not match Mayer's redescription, nor does it match Haeckel's holotype.

I have recently examined Haeckel's type specimen in the Zoological Museum of the University of Copenhagen (ZMUC), and I remain quite perplexed. It is indeed a juvenile, but it is not without interesting and interpretable characters. It's pedalia branch in a linear series rather than bilaterally, and the pedalial canal possesses a prominent 'spike' at the bend; these features are characteristic of *Chiropsoides buitendijki* (Horst 1907). However,