



Article

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***Marmachius*, a spectacular new genus of Antarcturidae (Crustacea: Isopoda: Valvifera)**

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Abstract

A new genus and species of Antarcturidae, *Marmachius fortunae*, is described from the bathyal of south-eastern Australia. *Antarcturus*, type genus of the family, and *Marmachius* are diagnosed. The new genus differs from other antarcturid genera by the combination of the possession of middorsal spines, extremely long spines generally, free pleonite 1, and the groove on the exopod of the male pleopod 1 opening distolaterally on a lobe-like apex beset with numerous fine setae. *Antarcturus princeps* is transferred to the new genus.

Key words: Crustacea, Isopoda, Valvifera, Antarcturidae, *Antarcturus*, *Marmachius*, new genus, new species

Introduction

Among the numerous new species of isopods discovered in Australia during the last few decades are many valviferans. These have prompted a review of the families (Poore 2001) plus revisions and descriptions of new species of Idoteidae (Poore & Lew Ton 1993), Chaetiliidae (e.g. Poore 1985; 1991a), Holognathidae (Poore & Lew Ton 1990), Austrarcturellidae (Poore & Bardsley 1992), Arcturidae (e.g. King 2000; 2003) and the South African endemic Holidoteidae (Poore 2003). The family Antarcturidae Poore, 2001 was erected to distinguish Nordenstam's (1933) *Antarcturus*-group of species from Arcturidae Bate & Westwood, 1862 s. s. Antarcturids are characterised by complete fusion of the head and pereonite 1, lateral margins of the head and pereonite 1 not expanded downwards to enclose the mouthparts, pereopod 1 subchelate, and the exopod of pleopod 1 of the male with an oblique groove. Brandt (1990) and Wägele (1991) described new genera from Antarctica, as Arcturidae, and provided keys to genera and species. Their diagnoses relied heavily on variations in carapace spination patterns. While some genera can be defined in this way considerable variation exists within some of the species groups/genera they recognised. Poore (1998) reviewed one genus, *Chaetarcturus* Brandt, 1990 and described two new species. This genus was rediagnosed on the possession of rows of evenly-space long parallel setae on the meri-dactyli of pereopods 2–4, called “filter setae” by Brandt and Wägele (most other genera have such setae only on the merus-propodus). The groove on the posterior face of the exopod of the male pleopod 1 opens distolaterally on a subterminal triangular projection in species of *Chaetarcturus*. The structure of this pleopod varies considerably across the Antarcturidae and is promising as a generic diagnostic character. In species of *Fissarcturus* Brandt, 1990 the groove opens laterally on the exopod margin and is covered by a small lobe (see for example Brandt 2007). In both genera, further species groups can be separated on the basis of spination and sculpture and these may warrant generic status (Brandt 2007; Poore 1998). Today, 15 genera with 133 species of Antarcturidae are described (Schotte *et al.* 2008 onwards) but several more exist in collections from Australia. This paper describes a new spectacularly spinose species. On first glance it appeared to belong to *Antarcturus* s.l. but can be differentiated from the type species and many others of this diverse genus on the basis of several features.

Here, *Antarcturus* is rediagnosed more tightly with reference to its type species and a new genus erected for the new species and another already described. The generic diagnoses come from a DELTA database of genera (Dallwitz *et al.* 1999) under construction. Brandt (1990) and many other authors, including me, have described and illustrated the mouthparts of many species of antarcturids. These have never proved to be of specific value, or even valuable at higher taxonomic levels within this family. They are not illustrated for this new species. Pereopod 1 of