Zootaxa 4007 (3): 409–418
www.mapress.com/zootaxa/

Article

ISSN 1175-5326 (print edition)
ZOOTAXA
ISSN 1175-5334 (online edition)

http://dx.doi.org/10.11646/zootaxa.4007.3.7
http://zoobank.org/urn:lsid:zoobank.org:pub:3D2D89A3-2E1D-4449-A418-6F86DDB5C6A1

Thermoarcturidae, a new crustacean family of three genera (Isopoda: Valvifera)

GARY C. B. POORE
Museum Victoria, GPO Box 666, Melbourne, Vic. 3000, Australia. E-mail: gpoore@museum.vic.gov.au
Zoobank LSID: urn:lsid:zoobank.org:author:FCA834B0-9C75-48F8-8D5F-1439AB569522

Abstract

A new family Thermoarcturidae of valviferan isopod is erected for three genera, *Califarcturus* n. gen., *Spinarcturus* Kensley, 1978 and *Thermoarcturus* Paul & Menzies, 1971, each represented by one species. All share strong stiff setae on distal articles of pereopods 2–4, uropods with two rami, and a tomentum of fine setae over the cuticle. The members are distinguished from Antarcturidae, Arcturididae, Rectarcturidae and Arcturidae, similar arcturoid families that differ in having rows of filter setae on pereopods 2–4 and usually lack one or more uropodal rami.

Key words: Crustacea, Isopoda, Valvifera, Thermoarcturidae, *Califarcturus*, *Spinarcturus*, *Thermoarcturus*, new genus, new family

Introduction

The family Antarcturidae Poore, 2001 was diagnosed to include species in which the mouthparts are visible laterally below the fused head and pereonite 1, pereonite 4 is not especially longer than other pereonites and is angled with respect to pereonite 5 but not strongly geniculate as in Arcturidae Dana, 1849. In most genera pereopods 2–4 carry on their ischium–propodus two rows of regular closely-spaced long simple flexible setae and associated with each pair two or three much shorter setae (Wägele 1987). Wägele (1987) referred to the long setae as 'filter-setae' and showed they were used for suspension feeding of plankton. Brandt (1990) illustrated this feature for many species. *Halearcturus serratulus* (Whitelegge, 1904) is typical and pereopod 2 is figured for comparative purposes here (Fig. 1) (see Poore 2015). The carpus and propodus possess along the flexor margin and on the lateral face a regular row of long setae, with a smaller seta at its base, and an intermediate row of setae of moderate length.

Three species from widely separated localities at bathyal depths differ significantly from this pattern. None possesses rows of filter-setae but instead has few well-spaced stiff straight setae along the merus-propodus of pereopods 2–4. Two, *Spinarcturus natalensis* Kensley, 1978 and *Thermoarcturus venezuelensis* Paul & Menzies, 1966, belong to monotypic genera and are sufficiently different to be retained at this taxonomic level. These genera are here rediagnosed and their species redescribed, at least in part. Another is *Microarcturus tannerensis* Schultz, 1966. '*Microarcturus*' is a *nomen nudum* (Poore 2001) and *M. tannerensis* remains in taxonomic limbo. Here a new monotypic genus is erected with this as type species.

A new family, Thermoarcturidae, is erected for these taxa and differentiated from other arcturoid families diagnosed by (Poore 2001). Two genera, *Spinarcturus* Kensley, 1978 and *Thermoarcturus* Paul & Menzies, 1971, were differentiated on the first couplet from all others in the most recent key to of Antarcturidae (Poore 2015).

Material is deposited in the Australian Museum, Sydney (AM), Museum Victoria, Melbourne (NMV), the Natural History Museum of Los Angeles County, Los Angeles (LACM), National Museum of Natural History, Washington (USNM) and the Zoological Museum (Natural History Museum of Denmark), Copenhagen (ZMUC). The authors of the three species provided illustrations and descriptions that are sufficient to recognise the species. The type material of all species has been re-examined. Supplementary descriptions and additional illustrations of two are provided and for the third numerous specimens from near the type locality were available for redescription.

Accepted by J. Svavarsson: 27 Jul. 2015; published: 28 Aug. 2015