



<http://dx.doi.org/10.11646/zootaxa.3630.3.2>

<http://zoobank.org/urn:lsid:zoobank.org:pub:41BD1952-5232-4332-B722-DE99777DD6B4>

The ANDEEP Tanaidacea (Crustacea: Peracarida) revisited I: the family Agathotanaidae Lang, with description of four new species

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Abstract

Specimens collected during the ANDEEP I and II expeditions revealed a number of new species of tanaidacean from the family Agathotanaidae. One new species of *Metagathotanaeis* (*M. furcilla*), two of *Paragathotanaeis* (*P. diunguisus*, *P. triunguisus*) and one of *Paranarthrura*, (*P. coimbrai*) are described in this study. *Metagathotanaeis furcilla* can be separated from all other species by the incomplete fusion of the pleonites and the presence of dorsodistal spines of the propodi of pereopods 4–6. *Paragathotanaeis diunguisus* can be separated from all other species by the pereopod propodi with numerous distal spines and the numbers of spiniform setae on the pereopod 4–6 dactylus. *Paragathotanaeis triunguisus* can be separated from all other species by the numbers of spiniform setae on the pereopod 4–6 dactyli and the lack of maxilliped endite setae. *Paranarthrura coimbrai* can be separated from most other species on the spines of the propodi and ungues of pereopods 4–6. A key is given to the agathotanaids in the Antarctic/Subantarctic sector. This brings the number of agathotanaid species recorded from the Subantarctic and Antarctic sectors of the Atlantic to nine.

Key words: Tanaidacea, Tanaidomorpha, Agathotanaidae, *Allodaposis*, *Metagathotanaeis*, *Paragathotanaeis*, *Paranarthrura*, ANDEEP I–III, ANDEEP-SYSTCO, Antarctica

Introduction

From the series of ANDEEP (ANTarctic benthic DEEP-sea biodiversity) cruises that were conducted by the University of Hamburg and the Senckenberg Research Institute in 2002, 2005, and 2007, ANDEEP I–III and ANDEEP-SYSTCO, much tanaidacean material remains to be examined. The tanaidacean fauna from the Antarctic-Subantarctic has been the focus of much scrutiny (Kudinova-Pasternak 1975, 1990, 1993, Sieg 1986a, b, Józwiak & Błażewicz-Paszkowycz 2011), some of which has been based on ANDEEP material. The present paper describes the agathotanaids from the ANDEEP I–III and ANDEEP-SYSTCO cruises to the Scotia Sea and Weddell Sea (i.e. the Subantarctic or Antarctic sectors of the Atlantic).

Five species of agathotanaids have been recorded from previous studies: *Allodaposis abbreviata* (Vanhöffen), *Paragathotanaeis ipy* Józwiak *et al.*, *Paranarthrura arctowskii* Józwiak *et al.*, *P. fortispina* Sieg, *P. meridionalis* Sieg, and *P. insignis* Hansen, although this last species was described from the North Atlantic and the records from Antarctic are probably a misidentification of what is really *P. fortispina* (Sieg, 1986b:5). With the new species described below, this brings the number of agathotanaid species recorded from the Subantarctic and Antarctic sectors of the Atlantic to nine (if we exclude *P. insignis*).

The family Agathotanaidae was first erected by Lang (1971a) but later synonymised with an enlarged family Anarthruridae by Sieg (1986a). Larsen & Wilson (2002) re-erected the family as a result of a phylogenetic analysis and this family (now with the removal of *Paranarthrurella* Lang to *incertae sedis* familial status by Józwiak *et al.* 2009) thus far appears to be fairly stable and well-defined compared to many others. As for *Paranarthrurella*, although it is unlikely that it belong to the Agathotanaidae, owing to its well-developed mandibular molar, its cheliped basis with a free posterior lobe, and its biramous uropods, *inter alia*, it may belong in a related family