



## New records of the family Agathotanaidae (Crustacea: Tanaidacea) in the Antarctic, with remarks on *Arthrura monacantha* (Vanhöffen, 1914)

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### Abstract

Based on the material collected during the ANDEEP III, BIOPEARL and USAP Expeditions, two new species of the family Agathotanaidae (*Paranathrura arctowskii* n. sp. and *Paragathotanaeis ipy* n. sp.) are described, together with new records of *Paranathrura fortispina* Sieg, 1986. Additionally the first record of a male of *Arthrura monacantha* (Vanhöffen, 1914) is presented. The possibility of the development of eggs and manca outside the marsupium is considered.

**Key words:** *Libanius*, *Arthrura*, *Paranathrura*, *Paragathotanaeis*, ANDEEP, BIOPEARL, USAP, Antarctic, Southern Ocean, abyssal

### Introduction

The first deep-sea tanaidacean collections from the Southern Ocean were made in late 1960s and early 1970s as an outcome of the Russian expeditions on board the R/V *Vitjaz* and R/V *Akademik Kurchatov* (Kudinova-Pasternak 1969, 1975; Kussakin & Tzareva 1974). The other diverse tanaidacean collections came from the United States Antarctic Program (USAP) on board the R/V *Eltanin*. Superficial observation based on those materials confirmed earlier findings of a high diversity of tanaidaceans in abyssal waters (Sanders et al. 1965, Wolff 1977). Despite this high diversity the material was quite sparse and most of the identified new species were represented by a single specimen only. This significantly inhibited taxonomic studies. The problem was solved to some extent by implementing sampling gears more appropriate for collecting small animals. Use of an epibenthic sledge during the ANDEEP (Antarctic Benthic Deep-Sea Program - <http://www.biologie.uni-hamburg.de/zim/niedere2/andeeep.html>) and BIOPEARL Programs under the umbrella of the Census of Antarctic Marine Life (CAML) and united with the 4<sup>th</sup> International Polar Year, has resulted in a diverse and abundant collection that is being studied and described progressively (Błażewicz-Paszkowycz 2004, 2005, 2007; Błażewicz-Paszkowycz & Larsen 2005; Józwiak & Błażewicz-Paszkowycz 2007).

The present paper is dedicated to the Agathotanaidae that have been identified in the ANDEEP and BIOPEARL collections together with a few samples caught during the USAP. This family was known in the Southern Ocean from three species of the genus *Paranathrura*. Two of them, *P. fortispina* Sieg, 1986 and *P. meridionalis* Sieg, 1986, were known from single records in Weddell Sea. The third, *P. insignis* Hansen, 1913, was recorded in the vicinity of Elephant Island (Kudinova-Pasternak 1990), although remote from the type locality in the North Atlantic. Herein we present new records of *P. fortispina* and the description of one new species from the genus – *P. arctowskii*. In addition we provide the description of a new species of *Paragathotanaeis* – *P. ipy* – the first record of the genus from the Southern Ocean. Finally, a new record of *Arthrura monacantha* (Vanhöffen, 1914) has allowed supplementary description on the male.

### Material and methods

The tanaidacean material was collected during the ANDEEP III Expedition in the austral summer of 2005 from the R/V *Polarstern* in the region of the Eastern Weddell Sea (<http://www.biologie.uni-hamburg.de/zim/niedere2/>)