



## Two new *Diastylis* (Cumacea: Diastylidae) from Antarctic waters: *Diastylis andeepae* and *D. catalinae*

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### Abstract

Two new deep-sea cumaceans, *Diastylis andeepae* and *D. catalinae* are described from the Weddell Sea. *Diastylis andeepae* n. sp. can be distinguished from other members of the genus by a combination of characters including: carapace with small tubercles all over and anterior part with an arched row of teeth extending from each side of the pseudorostrum and disappearing a short distance before reaching the inferior margin of the carapace, ischium of the pereopod 2 with four strong teeth, endopod uropod of two articles. *Diastylis catalinae* n. sp. is a closely related species to *D. richardi* Fage 1929 recorded from the Bay of Biscay, however *D. catalinae* can be easily separated from *D. richardi* by having: (1) on each side of the anterior part of the carapace several teeth arranged in two non-uniform rows (randomly distributed and with two antero-lateral horns in *D. richardi*); (2) clearly visible pereonites 1 and 2 in dorsal view (hardly visible in *D. richardi*); (3) one tooth on each postero-lateral angle of the pereonite 5 (without teeth in *D. richardi*); and (4) one minute simple seta on article 4 of the antenna 2 (a long setulate seta in *D. richardi*).

**Key words:** Antarctica, Weddell Sea, deep-sea, new species

### Introduction

At present, 18 species and subspecies of the family Diastylidae are known from the Antarctic waters (data based on Mühlenhardt-Siegel 1999; Corbera 2000; Błażewicz-Paszkowycz & Heard 2001; Petrescu & Wittmann 2003; Rehm *et al.* 2007; Rehm 2009). Of these 18 species, 7 belong to the genus *Diastylis*: *D. anderssoni anderssoni* Zimmer 1907; *D. mawsoni* Calman 1918; *D. corniculata* Hale 1937; *D. anderssoni armata* Ledoyer 1993; *D. enigmatica enigmatica* Ledoyer 1993; *D. galeronae* Ledoyer 1993; *D. enigmatica rossensis* Rehm 2009.

The members of the family Diastylidae are found throughout the world's oceans, and most of the described species come from depths greater than 1000 m (Day 1980; Jones 1969). However, the diversity of the Antarctic *Diastylis* is at a maximum between 50–650 m depth, decreasing substantially in deeper waters. Of the seven species and subspecies of *Diastylis* known from Antarctica, six were found between 0–650 m and only one species, *D. galeronae*, was confined to depths below 1000 m (data based on Mühlenhardt-Siegel 1999; Corbera 2000; Błażewicz-Paszkowycz & Heard 2001; Petrescu & Wittmann 2003; Rehm *et al.* 2007; Rehm 2009). The scarcity of species described from the deep Antarctic waters may reflect a low sampling effort. In this regard, the EASIZ II (Ecology of the Antarctic Sea Ice Zone) and ANDEEP (Antarctic Benthic Deep-Sea Biodiversity) surveys carried out in Antarctica revealed high levels of unrecorded biodiversity (see the expeditions reports in Arntz & Gutt 1999; Fütterer *et al.* 2003; Fahrback 2006).

Based on the species of *Diastylis* obtained by the R/V Polarstern during these surveys in the Weddell Sea, Antarctic Peninsula and South Sandwich Islands together with a study of the relevant type material, two new species recorded in deep waters from 2657–4698 m were described: the preparatory female of *Diastylis andeepae*; and the preparatory female and the subadult male of *D. catalinae*. This contribution improves on our knowledge of the Antarctic deep fauna.