A new species of Acanthaspidia Stebbing, 1898 (Isopoda, Asellota, Acanthaspidiidae) from the bathyal Weddell Sea (Southern Ocean)

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Abstract

A new acanthaspidiid species, Acanthaspidia matsi sp. nov., is described from the Powell Basin slope (Weddell Sea, Southern Ocean). Specimens of the new species were collected during the expedition ANDEEP III on board RV Polarstern in March 2005. The new species most closely resembles Acanthaspidia typhlops (G. O. Sars, 1879), Acanthaspidia natatalensis (Kensley, 1977) and Acanthaspidia bifurcatoides Kussakin & Vasina, 1982, but can be distinguished from all these species by the following characters: rostrum strongly trifid (tips 0.4 times rostrum length); pereonites 1, 3–4 and 6 with 2 mid-dorsal spines; pleotelson spinulated, with 2 robust mid-dorsal spines. Systematic difficulties to distinguish the genera Acanthaspidia Stebbing, 1898 and Ianthopsis Beddard, 1886 are discussed and a key to all species in the genus Acanthaspidia is provided.

Key words: Acanthaspidia matsi sp. nov., Antarctic, deep sea, taxonomy, Crustacea, Ianthopsis

Introduction

The deep sea (here referred to as areas below the shelf break) entirely surrounds Antarctica, and such depths constitute the majority of the Southern Ocean (Clarke & Johnston 2003). Yet, despite its vastness and central position in the global climate system, little effort has been made to sample the Southern Ocean deep sea. Most of our knowledge of Southern Ocean biodiversity refers to shelf data, whilst data on deep-sea faunas are scarce. Results of the ANDEEP (ANtarctic benthic DEEP-sea biodiversity: colonization history and recent community patterns) project revealed that the deep benthic realm seems to harbor a great biodiversity (Brandt et al. 2007). During the three ANDEEP expeditions in 2002 and 2005, more than 600 isopod species were collected. Identification to morpho-species level revealed that most of these species were new to science, but mainly belonged to already known genera or families (Brandt et al. 2007).

The family Acanthaspidiidae, established by Menzies (1962), to date consists of three genera, i.e. Acanthaspidia Stebbing, 1898, Ianthopsis Beddard, 1886 and Mexicope Just, 2001. Until now 37 species have been described in the family Acanthaspidiidae, of which 25 species occur in the southern hemisphere (south of 30°S; Brandt 1991; Just 2001; Bruce 2004, incl. this study). Mexicope is the only shallow-water taxon (80 m and above, Bruce 2004), while most species of Ianthopsis occur in the top 500 m (Just 2001). In Acanthaspidia most species have been recorded from mid-shelf and upper-slope depth; only a few Acanthaspidia species were collected deeper than 5,000 m (such as Acanthaspidia iolanthoidea Kussakin & Vasina, 1982, Acanthaspidia curtispinosa Kussakin & Vasina, 1982 and Acanthaspidia namibia Brandt, 2001).

During the ANDEEP III expedition specimens of a new species of the genus Acanthaspidia were collected from the Weddell Sea continental slope. The current study provides a description of this species, as well as a key to all species in the genus Acanthaspidia. Moreover, systematic difficulties to separate genera within Acanthaspidiidae (Ianthopsis and Acanthaspidia in particular) are discussed.