Zootaxa 2136: 1–20 (2009)
www.mapress.com/zootaxa/

Article

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

Hexactinellida (Porifera) from the ANDEEP III Expedition to the Weddell Sea, Antarctica

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Abstract

New Hexactinellida from the deep Weddell Sea collected in 2005 during the ANT XXII/3 expedition (ANDEEP III) are described. This hexactinellid fauna includes 12 species from 8 genera, 2 of which are new to science: *Lophocalyx profundum* **n. sp.** and *L. topsenti* **n. sp.** It further contains the first record of *Caulophacus* (*Caulodiscus*) *valdiviae* in the Weddell Sea, and the second findings of the species *Acoelocalyx brucei* and *Caulophacus* (*Oxydiscus*) *weddelli* since their original descriptions. The Southern Ocean deep-sea, including the deep Weddell Sea, still offers a challenging potential for the discovery of new taxa.

Key words: Porifera, Hexactinellida, Antarctica, new species, deep-sea sponges

Introduction

Although most of the Southern Ocean is composed of bathyal and abyssal areas, the majority of its known sponge species are described from the Antarctic Shelf and the Subantarctic islands, and mostly from depths less than 500 m. The Weddell, Scotia and Lazarev Seas constitute the Atlantic sector of the circumantarctic Southern Ocean, the sea extending from the Antarctic coasts northward to 60°S (International Hydrographic Organization 2000). The Weddell Sea covers approximately 2.8 X 10^6km^2. Over most of their areas, the Weddell and Scotia Seas are 4000–5000 m deep, although some minor ridges define a number of basins. The continental shelf is generally narrow, the shelf edge is located at 500–800 m depth, and the slopes are mostly rather steep. Whereas the benthic fauna of the Weddell Sea shelf areas is rather well known, our knowledge about life at the bottom of the bathyal and abyssal Weddell Sea is meager at best. Our present data on the Antarctic deep-sea Porifera originate mainly from scattered older expeditions (overview of the sponge literature from the earlier expeditions is given by Barthel & Tendal 1994 and Janussen & Tendal 2007). In general, taxonomy of the class Hexactinellida is incomplete in the sense that probably not even half of its species are known to science. This is obvious from the fact that repeatedly many of the hexactinellid species collected during recent deep-sea expeditions are new to science. Furthermore, many hexactinellid species and even genera are known only from one, sometimes only a fragmented ,specimen. A collection of hexactinellids from the deep Weddell Sea, described by Janussen et al. (2004) from the ANDEEP II-Expedition, included 14 species belonging to 12 genera, of which five species and one subgenus were new to science. In this report, we describe further Hexactinellida from the deep Weddell Sea, collected by one of the authors (DJ) in 2005 during the ANDEEP III-Expedition. For further data concerning the ANDEEP expeditions sponge collection and sampling sites see Janussen (2003, 2006).

Accepted by E. Hajdu: 22 May 2009; published: 19 Jun 2009