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***Pseudopolycope (P.) andeep* sp. nov. from the deep Southern Ocean (Crustacea, Ostracoda, Cladocopina)**

IVANA KARANOVIC¹ & SIMONE NUNES BRANDÃO²

¹Department of Life Science, College of Natural Science, Hanyang University, Seoul 133-791, South Korea; and Institute of Marine and Antarctic Studies, University of Tasmania, Private Bag 49, 7001, Hobart, Tasmania, Australia. E-mail: ivana@hanyang.ac.kr

²Laboratório de Geologia e Geofísica Marinha e Monitoramento Ambiental-GGEMMA, Departamento de Geologia /Programa de pós-Graduação em Geodinâmica e Geofísica, UFRN, Campus Universitário Lagoa Nova, CEP 59072-970 - Natal, RN - Brasil
Caixa-postal: 1596. E-mail: brandao.sn.100@gmail.com

Abstract

Polycopids are one of the most diverse and often very abundant ostracod group in the deep sea. The true diversity of polycopids today inhabiting this environment, however, is very poorly known, because most of the studies identify ostracod material to the genus level, and they are based on the shell characters only. In this paper we describe *Pseudopolycope (Pseudopolycope) andeep* sp. nov. collected during the ANDEEP-SYSTCO I expedition in 2007 in the Atlantic Sector of the Southern Ocean. The new species was collected from 2,063 m depth. It differs from other 18 Recent *Pseudopolycope* Chavtur, 1981 species by (1) a peculiar morphology of the structures between claws on the uropodal lamellae; (2) morphology of the mandibular exopod; and (3) ornamentation of the shell. This is the first description of a living polycopid species from the deep Southern Ocean.

Key words: Myodocopa, Polycopidae, taxonomy, diversity, Antarctic, ANDEEP-SYSTCO

Introduction

Studies on deep-sea ostracods are relatively abundant (e.g. Ayress *et al.* 1997, 2004; Bergue & Coimbra 2008; Cronin 1983, Cronin *et al.* 1995; Dingle & Lord 1990; Dingle *et al.* 1989; Jellinek & Swanson 2003; Jellinek *et al.* 2006; Jones *et al.* 1999; Joy & Clarke 1977; Mazzini 2004, 2005; Yasuhara *et al.* 2008a, 2009a, b). These studies were, however, based mostly on the shells obtained from sediments, and in many cases the species were considered as Recent since samples were taken near the sediment-water interface (e.g. Bergue & Coimbra 2008; Yasuhara *et al.* 2008a). Fossil and subfossil ostracod assemblages often serve as indicators of environmental changes (e.g. temperature) and water circulation in deep sea (see Cronin & Raymo 1997; Cronin *et al.* 1999, 2005; Yasuhara *et al.* 2008b). Recently, Brandão (2010) studied living ostracods, mostly from the deep Southern Ocean, and recognized 120 species, of which 70% are postulated to be new to science. In addition, molecular data (Brandão *et al.* 2010), as well as some morphological studies (Swanson & Ayress 1999; Schornikov 2005) challenged previous opinion about widespread species distributions, showing that certain species are actually species complexes with species having much smaller distributional ranges. Generally, deep-sea ostracod assemblages are mostly composed of several podocopid families. The subclass Myodocopa is in the palaeontological studies (including subfossils) almost exclusively represented by the family Polycopidae, because valves of other myodocops are rarely preserved in the sediment. While the identification of podocopids in the studies often goes down to the species level, polycopids are rarely identified more than *Polycope* spp. (see Ayress *et al.* 2004; Bergue & Coimbra 2008; Cronin 1983; Cronin *et al.* 1995; Dingle & Lord 1990; Mazzini 2004, 2005). However, Joy and Clark (1977) described seven new species belonging to *Polycope* Sars, 1866 and reported *P. punctata* Sars, 1870 from the deep Arctic Ocean. Some of these species have been found again by Jones *et al.* 1999, but their soft parts have not been described so far. In some assemblages (see Jones *et al.* 1999) polycopids constitute more than 50% of all ostracod taxa. Because of the cuticle, which englobes the shell, the ostracods can survive below the carbonate compensation