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Two new species of the genus *Austroniscus* Vanhoeffen, 1914 (Isopoda: Asellota: Nannoniscidae) from the Antarctic shelf

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Abstract

During the BENDEX expedition (BENthic Disturbance-EXperiment) with RV *Polarstern* in Antarctic summer 2003/04, species of the genus *Austroniscus* Vanhoeffen, 1914 were sampled from the continental shelf of the eastern Weddell Sea. Besides *Austroniscus ovalis* Vanhoeffen, 1914, which is the first record of this species from western Antarctica, two other species were found, i.e. *Austroniscus chelus* sp. nov. and *Austroniscus obscurus* sp. nov. They both bear many resemblances to *Austroniscus ovalis*, but can be easily distinguished from *A. ovalis* by the shape of the rostral crest and the first pereonite. The two new species are very similar to each other but differ in the number of articles of the antennula and the shape of pleopods 3 to 5.

Key words: Isopoda, *Austroniscus*, Nannoniscidae, BENDEX, Antarctic shelf, new species

Introduction

The thermal and oceanographic isolation of Antarctica produces a unique and diverse macrobenthic fauna (Brandt 1999, 2000). Particularly peracarid crustaceans show a high diversity of species, both in the deep sea and on the continental shelf (e.g. Arntz *et al*. 1997; Brandt 2000, 2005; Brandt *et al.* 2004; Clarke *et al*. 2004).

Until now, over 250 isopod species have been described from the Antarctic shelf (Brandt 1999; Clarke *et al.* 2004). Approximately 88% of these species are endemic (Brandt 1999). Different hypotheses about the colonization of the Antarctic continental shelf by Isopoda were published in the past. Kussakin (1973) suggested that the tropical shelves yielded the most primitive isopods, while the temperate and polar shelves represented a more recent isopod fauna. He postulated that the deep-sea regions bore the youngest fauna and that the deep-sea taxa were descendants of primitive shelf taxa. The origin of Serolidae or Antarcturidae supports the theory of polar submergence (Brandt 1991). Hessler & Wilson (1983) hypothesised that the Antarctic shelf species were derived from species of the deep sea. This form of migration (polar emergence) is represented for example in the asellote families Desmosomatidae and Nannoniscidae (Brandt 1991).

Two genera of Nannoniscidae are recorded from the Antarctic shelf (*Austroniscus* Vanhoeffen, 1914 and *Nannoniscus* Sars, 1870) with two species each (*A. ovalis, A. rotundatus, N. bidens, N. australis*).

During the BENDEX expedition in the eastern Weddell Sea in Antarctic summer 2003/04 (Arntz & Brey 2005) specimens of the genus *Austroniscus* were sampled. Besides individuals of *Austroniscus ovalis*, two very similar new species were discovered: *Austroniscus chelus* sp. nov. and *Austroniscus obscurus* sp. nov. Description and illustration of these new species form the basis of this paper. Furthermore *Austroniscus ovalis* is redescribed on the basis of material from the Museum für Naturkunde (Berlin) for a detailed comparison of all three species.

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