



The tantulocarid genus *Arcticotantulus* removed from Basipodellidae into Deoterthridae (Crustacea: Maxillopoda) after the description of a new species from Greenland, with first live photographs and an overview of the class

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Abstract

A new species of Tantulocarida was found off the coast of Disko Island, West Greenland. The new species, *Arcticotantulus kristenseni* sp. nov., is exclusively found on an as yet undescribed species of *Bradya* Boeck, 1873 (Copepoda, Harpacticoida) caught at depths of 200 m off the coast in muddy sediments. A total of 44 individuals were found, and 38 were examined by use of LM and SEM; these represented different stages of the life cycle: tantulus larvae, developing males, parthenogenetic females, and what may be only the third record of a developing sexual female. *Arcticotantulus kristenseni* is tentatively placed in Deoterthridae based on the mode of formation of the male trunk sac, the pattern of ornamentation on the tergites and cephalic shield, and the number of setae on the thoracopods and caudal rami. It is suggested that the genus *Arcticotantulus* Kornev, Tchesunov & Rybnikov, 2004 is removed from Basipodellidae and placed in Deoterthridae instead, in accordance with the mode of trunk sac development in males and the absence in the latter family of a cephalic rostrum. Various internal anatomical features were examined, including the tubular structures inside the head of the tantulus larvae. The first live photographs of any species of Tantulocarida are presented. This is also the first report on Tantulocarida from West Greenland.

Key words: Deoterthridae, parasite, ectoparasitic crustacean, Harpacticoida, parthenogenetic, *Bradya*, sexual female tantulocarid

Introduction

The Tantulocarida are tiny marine ectoparasitic crustaceans that have been found exclusively on other small or minute crustaceans. The Tantulocarida were established as a new class of Crustacea by Boxshall & Lincoln (1983) but the roots of their taxonomic history go back to the beginning of the 20th century, when the French naturalist Bonnier (1903) and the Danish carcinologist Hansen (1913) described some minute crustaceans parasitic on cumaceans and tanaidaceans, respectively (Huys 1991). Other reports on tantulocaridans prior to their establishment as a separate taxon include those of Greve (1965), Becker (1975), and Bradford & Hewitt (1980).

The peculiar life cycle of the Tantulocarida was elucidated by Boxshall & Lincoln (1987) and Huys *et al.* (1993b) by combining information from several species. According to Huys *et al.* (1993b), there is an infecting tantulus larva that passes through a short benthic phase before infecting a suitable epibenthic host. In their short epibenthic phase the larvae are regarded as temporary meiobenthos (Huys 1991). After attachment, three different developmental pathways apparently exist for an individual tantulus larva. It can develop into a