



## New species of small, bathypelagic calanoid copepods from the Arctic Ocean: *Brodskius arcticus* sp. nov. (Tharybidae) and three new species of *Pertsovius* gen. nov. (Discoidae)

VLADIMIR N. ANDRONOV<sup>1</sup> & KSENIA N. KOSOBOKOVA<sup>2</sup>

<sup>1</sup>Atlantic Branch of P.P. Shirshov Institute of Oceanology, Russian Academy of Sciences, Prospect Mira 1, Kaliningrad 236000, Russia. E-mail: vandro@mail.ru & andronov@ioran.baltnet.ru

<sup>2</sup>P.P. Shirshov Institute of Oceanology, Russian Academy of Sciences, Nakhimova ave. 36, Moscow 117997, Russia. E-mail: xkosobokova@ocean.ru

### Abstract

A new calanoid copepod species, *Brodskius arcticus* sp. nov. (family Tharybidae Sars, 1902), and three new species of a new genus *Pertsovius* gen. nov. (family Discoidae Gordejewa, 1975) are described from deep waters of the Arctic Canada Basin. The female of *Brodskius arcticus* differs from five of the other six known species of this genus in the absence of rostral filaments, the lack of which it shares with *B. abyssalis* Markhaseva & Schulz, 2007. This new species differs from *B. abyssalis* in having two very short outer proximal spines at the distal segment of the fifth swimming legs (P5). The length of these spines is less than half the width of the segment, whereas in *B. abyssalis* they are longer than the width of the segment. The new genus *Pertsovius* is created here for a group of seven species within the family Discoidae which have one-segmented endopods of P2-P4. In contrast, the other genera of this family have three-segmented endopods of P2-P4. The three new species of *Pertsovius* differ from each other in the appearance of the genital field, and in the number of outer border spines on the distal exopodal segment of P2. In *Pertsovius tridentatus* sp. nov. this segment bears three external spines on both left and right P2. The left P2 of *P. heterodentatus* sp. nov. has three spines, while the right P2 bears two spines only. The distal segments of both left and right P2 of *P. serratus* sp. nov. have two external spines, but the proximal part of the external margin on the left P2 bears three relatively large denticles. The distal exopodal segments of P2 of the other four species here transferred to the genus *Pertsovius* are smooth with no external spines or denticles, but each bears two outer border spines.

**Key words:** Copepoda, Calanoida, taxonomy, diversity, Arctic Canada Basin, deep water

### Introduction

Studies of the species composition of the zooplankton of the Arctic Ocean stretch back for more than a century (Sars 1900; Brodsky & Nikitin 1955; Virketis 1957, 1959; Johnson 1963; Brodsky 1967; Grainger 1965; Dunbar & Harding 1968; Mumm 1993; Sirenko *et al.* 1996; Kosobokova *et al.* 1998; Kosobokova & Hirche 2000; Auel & Hagen 2002; Hopcroft *et al.* 2005; Kosobokova & Hopcroft 2010). During this period, the Copepoda Calanoida have received more attention than other zooplankton taxa, and their specific composition in the Arctic Ocean is considered to be well known (Kosobokova & Hopcroft 2010). Nonetheless, recent examination of the deep water zooplankton collections from the Arctic Ocean have revealed that there are some species new to science and not described yet even within this taxon (Kosobokova *et al.* in press). In particular, during routine processing of collections from two expeditions from the Canada Basin we found several unknown species of small calanoids with body lengths less than 1 mm. One of these species represents a new species of the calanoid genus *Brodskius* Markhaseva & Ferrari, 2005 and the other three are attributed to a new genus, created here to accommodate a group of seven species within the family Discoidae Gordejewa, 1975.