



Three new species of *Cerviniella* Smirnov, 1946 (Copepoda: Harpacticoida) from the Arctic

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Abstract

Considered one of the most common harpacticoid families in deep-sea benthos, the Aegisthidae can be found in various types of marine sediments and at different depths. During the fourth leg of the ninth expedition of RV *Polarstern* in the Arctic Ocean (ARK-IX/4) in September 1993, three new representatives of the genus *Cerviniella* were collected in multicorer samples from the Laptev Sea at depths of 760–2017 m. The new species have a close relationship, as indicated by the combination of shared characters: distal segment of antennule with aesthetasc, antennary endopod with two setae and one spine laterally, and four spines and three setae apically; and the same number of armature elements on the maxillula and maxilla. *Cerviniella danae* **sp. nov.** and *C. hitoshii* **sp. nov.** can be easily distinguished from their congeners primarily by the reduction of the antennules to only five segments, which is common to both species but unique in *Cerviniella*. *Cerviniella danae* **sp. nov.** is most readily separated from other described species by the armature of the antennule and maxilliped, and the spine and seta formulae of the swimming legs. For *C. hitoshii* **sp. nov.**, major diagnostic differences are found in the maxilliped, segmentation and setation of P3 and P4 endopods, and P6 represented by three setae. *Cerviniella arctica* **sp. nov.** is unique in the combination of the following characters: caudal rami extremely elongated, armature of the antennules and mandible, and the spine and seta formulae of the swimming legs. Based on a review of the literature, an updated listing of the P1–P4 armature and a key to species of the genus are presented.

Key words: Aegisthidae, deep-sea, Laptev Sea, meiobenthos, meiofauna, taxonomy

Introduction

The family Aegisthidae was established by Giesbrecht (1892) to accommodate two species of *Aegisthus* Giesbrecht 1891, and for a long time this genus contained the only members within the family. Later, Conroy-Dalton & Huys (1999) and Lee & Huys (2000) added four genera and five species to the family, and considered aegisthids one of the most common harpacticoid groups in deep-sea benthos.

More recently, in their study of phylogenetic relationships at the base of Oligoarthra, Seifried & Schminke (2003) characterised Aegisthidae Giesbrecht, 1892 to include the taxon Cerviniidae Sars, 1903. They also suggested that the systematics of the group remains problematic, as species of Aegisthinae (formerly Aegisthidae) are derived Cerviniopseinae, and decided to maintain the subfamilial subdivision, as Aegisthinae Giesbrecht, 1892, Cerviniinae Sars, 1903, and Cerviniopseinae Brotskaya, 1963, until a phylogenetic analysis at species level is performed. Later, Huys (2009) discussed the priority of the subfamily name Pontostratiotinae A. Scott, 1909 over Cerviniopseinae Brotskaya, 1963, and reinstated the former.

Based on Wells (2007), the subfamilies and the genera allocated to these subfamilies are as follows: Aegisthinae - *Aegisthus* Giesbrecht, 1891; *Andromastax* Conroy-Dalton & Huys, 1999; *Jamstecia* Lee & Huys, 2000; *Nudivorax* Lee & Huys, 2000; and *Scabrantenna* Lee & Huys, 2000;

Cerviniinae - *Cervinia* Norman, 1878; *Cerviniella* Smirnov, 1946; *Eucanuella* T. Scott, 1900; *Expansicervinia* Montagna, 1981; and *Paracerviniella* Brotskaya, 1963; Pontostratiotinae - *Pontostratiotes* Brady, 1883; *Cerviniopsis* Sars, 1909; *Hemicervinia* Lang, 1935; *Herdmaniopsis* Brotskaya, 1963; *Ameliotes* Por, 1969; *Stratiopontotes* Por, 1969; and *Tonpostratiotes* Itô, 1982.