Zootaxa 2510: 55–67 (2010)
www.mapress.com/zootaxa/

Article

ISSN 1175-5326 (print edition)
ZOOTAXA
ISSN 1175-5334 (online edition)

On the taxonomic status of *Monstrilla leucopis* Sars (Crustacea: Copepoda: Monstrilloida) from Norway, with comments on the male of *M. longiremis* Giesbrecht

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Abstract

Specimens of monstrilloid copepods collected and described in the early 20th century by G.O. Sars from the coasts of Norway and deposited in the Sars Collection (University of Oslo) were re-examined. *Monstrilla leucopis* Sars, 1921 was described based on female and male specimens, but the species was later synonymized with *M. conjunctiva* Giesbrecht, 1902 by several authors. Females of this species were analyzed and compared with closely related congeners, particularly with *M. conjunctiva*. This analysis includes the description of previously unknown morphological details following upgraded descriptive standards in this group. Evidence was found to support the notion that the female type specimens from Kvalø, Norway represent a distinct species; thus, *M. leucopis* is redescribed and reinstated as a valid taxon. Previous tropical records of female *M. conjunctiva* are questionable, but differences with *M. leucopis* can be found in body and antennule proportions, the structure of the genital spines and fifth legs, and most probably, their geographical ranges. Furthermore, *M. leucopis* has a modified thick-walled seta on the endopods of legs 2–4, so far a unique character among monstrilloids. The single male specimen labeled as *M. leucopis* in the Sars Collection was also examined and it is not the male of this species as depicted by G.O. Sars (1921). It is in fact a male of *M. longiremis* Giesbrecht, 1893, a species for which a short supplementary description and taxonomic comments are also provided herein. The male of *M. leucopis* also shares some important characters with that of *M. conjunctiva*, but also with another male specimen that was questionably assigned to the latter species; this male probably represents an undescribed species.

Key words: marine zooplankton, associated copepods, taxonomy, Copepoda, monstrilloids

Introduction

The order Monstrilloida includes copepods that are protelean parasites of benthic invertebrates such as polychaetes and molluscs (Davis 1984; Suárez-Morales *et al.* 2010); most postnaupliar and preadult stages are endoparasitic. Adults are free-living, reproductive forms and are likely to be captured during plankton surveys of coastal-neritic environments at all latitudes (Suárez-Morales 2001). Taxonomical problems related to this group include a relatively reduced set of characters, inadequate species descriptions, and lack of type specimens in many instances. One of the fundamental steps in building a reliable background in the development of the taxonomy of these relatively rare copepod taxa is to recover and re-examine old type specimens. It is important to provide detailed redescriptions of the species described during the last century in order to supplement the available knowledge of their morphology, upgraded to recent descriptive standards, and to define their taxonomic status (Grygier 1994, Grygier & Ohtsuka 1995, 2008; Suárez-Morales & Gasca 2004; Suárez-Morales 2007). This analysis is part of an ongoing initiative to obtain and re-examine museum specimens of Monstrilloida to accomplish a complete revision of this group of copepods.

The monstrilloid copepods from different areas of Norway were studied by G.O. Sars (1921), in a work including 11 species of three of four currently valid genera, *Monstrilla* Dana, 1849, *Cymbasoma* Thompson, 1888, and *Monstrillopsis* Sars, 1921 (Boxshall & Halsey 2004; Grygier & Ohtsuka 2008). Part of this material is currently deposited in the Sars Collection, Zoological Museum, University of Oslo, Norway. Specimens of

Accepted by S. Dippenaar: 18 May 2010; published: 18 Jun. 2010