Free-living nematodes from the deep-sea Håkon Mosby Mud Volcano, including the description of two new and three known species*

DARIA PORTNOVA
P.P. Shirshov Institute of Oceanology, Russian Academy of Sciences, 36, Nakhimovskiy Prospect, 117218 Moscow, Russia
E-mail: dp81@yandex.ru


Abstract

Two new and three known species of the genera Aponema Jensen, 1978, Molgolaimus Ditlevsen, 1921, Sabatieria Rouville, 1903, and Terschellingia De Mann, 1888 were found at the deep-sea Håkon Mosby Mud Volcano, at a depth of 1250m, in the Norwegian Sea. Aponema ninae sp. n. is characterized by short body length, short spicules, gubernaculum with wide apophyses, which are bevelled on the top, and long narrowed tail with drop-shape thickened tip and caudal setae. The new species most resembles Aponema torosa (Lorenzen, 1973). Molgolaimus haakonmosbiensis sp. n. differs from all other species of Molgolaimus by shape and length of spicules; relations of spicule length to the anal body diameter; presence of two supplements. Spicules of the new species are short (30.5 µm), slender, twisted with amplate and excursion proximal parts. The appearance of our specimen of Sabatieria ornata fits well with the original description of Ditlevsen, 1918. Specimens of Terschellingia distlamphida Juario, 1974 also fit the original description based on nematodes sampled from the sub littoral of the German Bight. However, the Norwegian specimens have a shorter (1010 µm vs. 1343 µm) and thicker body (a=64.6 µm vs. a=32.0 µm). The Håkon Mosby specimens of Terschellingia longicaudata De Mann, 1907 differ from the original description in body length and thickness: 1094 µm vs. 1429 µm, and a=22.3 µm vs. 49.0 µm correspondingly, but agree with descriptions by other authors, especially with the one by Chitwood (1951).

Key words: Aponema, marine nematodes, Molgolaimus, mud volcano, Sabatieria, taxonomy, Terschellingia

Introduction

Recently there have been a series of varied studies into the meiobenthic community of the Håkon Mosby Mud Volcano (HMMV), of which the current study forms a part. Study of meiobenthos of HMMV began in 2002 (Soltwedel et al. 2005) with analyses of spatial distribution of all metazoan meiobenthos, and the community structure of nematodes and foraminifera.

The Håkon Mosby Mud Volcano is characterized by a very complicated mosaic of habitats with irregular distributed bacterial mats, patchy populations of pogonophorans, active bubbling areas and bare sediments (Soltwedel et al. 2005). One of the features of meiofauna of reducing biotopes is a gradual replacement of multi-species communities by those with few or even single species, along with a decrease of oxygen concentration (Mokievsky et al. 2005).

At HMMV the nematode diversity varied from 35 species per sample in the background sediments to 27–29 species per sample in methane rich sediments, and further changed to a monoculture of a single nematode species in the most reduced habitat, the bacterial mat. The nematode community from pogonophorans was dominated by Terschellingia distlamphida Juario, 1974 and Terschellingia longicaudata.