



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

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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 excurved 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*