



Description of *Bathynema nodinauti* gen. n., sp. n. and four new *Trophomera* species (Nematoda: Benthimermithidae) from the Clarion-Clipperton Fracture Zone (Eastern Tropic Pacific), supplemented with the keys to genera and species*

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Abstract

Seven specimens of the family Benthimermithidae from the Clarion-Clipperton Fracture Zone (Eastern Tropic Pacific), from the depths 4,800–5,040 m, were examined. *Bathynema nodinauti* gen. et sp. n. is described. The new genus differs from other genera of Benthimermithidae by the presence of an inner pharyngeal lumen. Four new species of *Trophomera* are also described. Body length of female of *T. elegantis* sp. n. approximately 1.5 mm; body cylindrical, anterior and posterior ends in shape of rounded cone; cephalic setae 2.0–2.5 µm long; trophosome consisting of 1 row of cells; female reproductive system didelphic, amphidelphic, occupying approximately 1/6 of total body length; ovaries reflected; diameter of mature eggs 17 µm; males not found. Body length of female of *T. minutissima* sp. n. 0.9 mm; body cylindrical, with thickest body part at anterior half of body; anterior and posterior ends rounded; cephalic setae 1.5 µm long; trophosome consisting of 1 row of cells; female reproductive system didelphic, amphidelphic, occupying approximately 1/3 of total body length; ovaries reflected; size of mature eggs 24x23 µm; males not found. Body length of female of *T. pacifica* sp. n. 5.4 mm; body cylindrical, anterior end rounded; posterior end conical, with thick conical terminal spine 81 µm long, showing granular core; cephalic setae 2.5 µm long inserted in tiny pits; trophosome consisting of 1 row of cells; female reproductive system didelphic, amphidelphic, occupying approximately 2/3 of total body length; ovaries outstretched; size of mature eggs 34x20 µm; males not found. Body length of female of *T. senckenbergi* sp. n. 1.6 mm; body fusiform; anterior and posterior ends in shape of a cone with rounded tip; cephalic setae 2 µm long; trophosome consisting of 1 row of cells; female reproductive system didelphic, amphidelphic, occupying approximately 1/6 of total body length; ovaries non-reflected; males not found. The new finding of *T. marionensis* is recorded. One rest specimen (in bad condition) of a new species is described as a morphotype. A dichotomous key to the genera of the Benthimermithidae and tabular keys to *Trophomera* species are presented.

Key words: *Benthimermis*, biodiversity, deep sea, taxonomy, manganese nodule, oozy sediments, taxonomy

Introduction

At present, there are a number of nematode species, which are known as internal parasites with marine invertebrates as the definitive hosts. Most of these nematodes belong to the family Benthimermithidae. Larval (morphologically unidentifiable) stages of benthimermithids infest body cavities or internal organs of various marine nematodes, polychaetes, priapulids, and crustaceans (Hope 1977; Rubtzov 1980; Petter 1980; Petter & Gourbault 1985; Chesunov 1988a, 1997; Miljutin 2004). Late parasitic stages can occupy the whole body of their hosts and, evidently, can result in the death of the host. Before terminal moulting, benthimermithids exit their host to the external environment, where they do not feed but do reproduce (at least as it has been inferred from their vestigial mouth and pharynx, and their intestine lacking an internal lumen).