





New Species of *Melinna* (Melinnidae, Annelida) from the Australian Abyss with Comments on *M. albicincta*, *M. cristata* and *M. elisabethae*

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ABSTRACT. A new species of *Melinna* (family Melinnidae) is described from the abyssal depths off the east coast of Australia. All material was collected during the RV *Investigator* voyage “Sampling the abyss” (IN2017_V03) in May–June 2017 from Bass Strait, Tasmania/Victoria using a beam trawl at 4197–4133 m depth. The new species *Melinna hamulus* sp. nov. differs from all other species of *Melinna* by having around 45 abdominal segments, dorsal membrane with 13–17 projections, four pairs of branchiae completely free and occurring in depths of over 4000 m. Phylogenetic relationships between our new species and other species within the family Melinnidae were assessed using the nuclear 18S and the mitochondrial 16S and cytochrome oxidase subunit I (COI) gene fragments. The results revealed that *Melinna hamulus* sp. nov. was genetically distinct from all other species of Melinnidae. This is the first species of *Melinna* to be described from Australian waters. We provide a new standard for description of species of *Melinna* and provide further detail on three existing species: *Melinna albicincta* Mackie & Pleijel, 1995, *Melinna elisabethae* McIntosh, 1914 and the type species of the genus *Melinna cristata* (Sars, 1851) using morphological characters illustrated with light and scanning electron microscopy photographs. We provide a table with the main diagnostic characters of all described species of *Melinna* together with type localities and depths.

Introduction

Traditionally, Melinninae Chamberlin, 1919 and Ampharetinae Malmgren, 1866 were treated as two subfamilies within the family Ampharetidae Malmgren, 1866 and Ebbe & Purschke (2021) who provided a brief description of the family Ampharetidae accepted these two subfamilies. However,

Stiller *et al.* (2020) undertook a phylogenetic analysis of a selected number of Terebelliformia using both molecular and morphological data. They found that the subfamily Melinninae was sister to the Terebellidae Johnston, 1846 and not closely related to other ampharetids. Thus, they raised Melinninae to a new family, Melinnidae. This new family includes all the five genera previously included in the subfamily Melinninae,

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