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New subfamilies and a new genus and species of Melithaeidae (Coelenterata: Octocorallia: Alcyonacea) with comparative data on the structure of both melithaeid and subergorgiid axes

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Abstract

Asperaxis karenae, a new genus and new species of the gorgonian family Melithaeidae, is described. The coenenchymal sclerites of the new genus bear similarities to those of *Acabaria*, but the axis is quite different from that which is characteristic of the family. The axial sclerites are rods and sticks, often sinuous and branched, with simple, sparse, tubercles. The internodes may be whole or partial, and are not clearly delimited from the internodes. A new subfamily, Asperaxinae, is proposed to accommodate any taxa with the new axial characters, and the Melithaeinae for the existing nominal taxa. The structure of both axial forms and the subergorgiid axis are illustrated with scanning electron micrographs.

Key words: Coelenterata, Cnidaria, Octocorallia, Alcyonacea, Melithaeidae, *Asperaxis*, new genus, new species, Melithaeinae, Asperaxinae, *Subergorgia*, *Annella*, Tasmania, Australia

Introduction

Owing to a large overlap of spicular characters, delineation of generic boundaries in the gorgonian family Melithaeidae has troubled octocoral taxonomists for a very long time (eg. Wright & Studer, 1889: 172; Hickson, 1937: 89 [with some history]; and Bayer, 1981: 917–919 [who commented that four out of the five nominal "genera probably do not merit even subgeneric status"]). Since 1870, none of the new genera proposed to be included in the family (eg. *Psilacabaria* Ridley, 1884; *Birotulata* Nutting, 1911) have avoided becoming synonymised, with only five nominal genera (*Melithaea*, *Mopsella*, *Wrightella*, *Clathraria*, *Acabaria*) generally being recognised until Grasshoff (1999, p. 7) distinguished three genera and then (2000, p. 12) four genera. Grasshoff and Bargibant (2001, p. 83) also distinguished four.

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