

A Revision of the Scaphopoda from Australian Waters (Mollusca)

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ABSTRACT. The extant Australian fauna of the molluscan class Scaphopoda is reviewed. In total 108 species are recognized, of which 47 are new and 28 represent named species not previously recorded from the Australian region. Both scaphopod orders—Dentaliida and Gadilida—are well represented in the extant fauna, especially the Dentaliida with 79 species (59 in Dentaliidae alone). The following families and genera were noted, with the numbers of species in each genus indicated in brackets. Order Dentaliida—Dentaliidae, *Dentalium* s.st. (38 including 16 new) *Dentalium* (*Lentigodentalium*) (3 including 2 new), *Dentalium* (*Pictodentalium*) (1), *Tesseracme* (3 including 1 new), *Fissidentalium* (11 including 6 new), *Graptacme* (3 including 1 new); Fustiariidae, *Fustiaria* (2); Laevidentaliidae, *Laevidentalium* (13 including 5 new); Omniglyptidae, *Omniglypta* (2); Gadilinae, *Episiphon* (4 including 2 new); Order Gadilida Entalinidae, *Entalina* (2 including 1 new), *Bathoxiphus* (4 including 2 new); Pulsellidae, *Pulsellum* (2 including 1 new), *Compressidens* (1); Gadilidae, *Gadila* (9 including 4 new), *Cadulus* (5 including 3 new), *Dischides* (2 including 1 new), *Polyschides* (3 including 2 new). The Omniglyptidae are recorded for the first time from Australia. Some previously named “species” are removed from the fauna (*Tesseracme beachportensis* Cotton & Ludbrook, probably a portion of a pennatulid rachis) or treated as unrecognizable (*Dentalium weldianum* Tenison-Woods, *D. tasmaniensis* Tenison-Woods). Full descriptions, comparisons and distribution maps are given for each valid species. In addition a series of keys are provided for the identification of Australian scaphopods from the level of order down to species. Reference is also made to the fossil scaphopods from Australia, although no attempt is made to review those species taxonomically. *Laevidentalium largicrescens* (Tate), formerly known only from Tertiary deposits is recorded as living in deep water from Bass Strait to southern Queensland.

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