



Oxynaspididae (Crustacea, Cirripedia): phylogenetics and evolutionary ecology, with descriptions of three new genera and six new species

ROBERT J. VAN SYOC & ALLEN M. DEKELBOUM

Invertebrate Zoology and Geology, California Academy of Sciences, 55 Music Concourse Dr. San Francisco, CA 94118.

E-mail: bvansyoc@calacademy.org

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Abstract

A phylogenetic analysis of the Cirripedia family Oxynaspididae yields four monophyletic clades. These are designated as four genera, *Oxynaspis* Darwin, 1852, *Archoxynaspis* **gen. nov.**, *Pycnaspis* **gen. nov.** and *Minyaspis* **gen. nov.** Five new species from Astrolabe Reef in Fiji (*Oxynaspis perekrestenkoi* **sp. nov.**, *O. joankovanae* **sp. nov.**, *Minyaspis amylanae* **sp. nov.**, *M. opreskoi* **sp. nov.** and *M. welchi* **sp. nov.**) and one from Palau (*Oxynaspis joandianae* **sp. nov.**) are described. A morphological character dataset and resulting phylogeny supporting the new generic divisions is presented. All but two of the 24 species previously known and all six of the newly described species are intimately associated with antipatharians. *Pycnaspis connectens* was described by Broch (1931) as “fixed to a silicious sponge.” A list of species’ ranges and their known hosts is presented. The earliest known possible antipatharian in the fossil record is Miocene, much later than the Eocene appearance of *Archoxynaspis eocenica* (Withers, 1935). Therefore, the symbiosis of oxynaspidids with antipatharians may have evolved only since the Miocene. However, given the dubious fossil record of antipatharians (known only from a single specimen of uncertain affinity from Miocene Italy) the time of the first antipatharian/oxynaspidid symbiosis is uncertain.

Key words: *Archoxynaspis* **gen. nov.**, *Pycnaspis* **gen. nov.**, *Minyaspis* **gen. nov.**, symbiosis, barnacle, black coral, Antipatharia, Cirripedia