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Range Extensions and Taxonomic Notes on Atlantic Myxasteridae (Velatida; Asteroidea)

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Abstract

Newly collected specimens of the Atlantic *Myxaster sol* and a further record of *Pythonaster atlantidis* add to the known occurrence records and the morphological variation of these rarely encountered species. Distribution data suggests that both *M. sol* and *P. atlantidis* are pan-Atlantic species and are similar to other widely distributed deep-sea asteroid species. Re-examination of the type of *Myxaster perrieri* further supports its placement within *Myxaster* and not *Pythonaster* as has been recently reported.

Introduction

The family Myxasteridae is known primarily from the Atlantic and the Pacific oceans (Clark and Downey 1992, Clark 1996) and includes only nine species in three genera (*Asthenactis*, *Myxaster* and *Pythonaster*). Members of this family occur primarily in bathyal to abyssal settings (>1000 m). Myxasterid species are rarely encountered and are known from very few specimens. In fact, most myxasterid species are known only from the holotype. One consequence of having so little available material is the lack of data on the inter- and intra- specific variation of characters used to delineate taxonomic boundaries between species and/or differing populations within species, respectively. Taxonomic boundaries are based primarily on morphological character differences between individual specimens. Newly discovered material present opportunities to study species' character variation (spine counts, arm measurements, variable morphology, etc.) from throughout its distribution.

Recent collections from the North Atlantic have yielded several new records of the Atlantic *Myxaster sol*, greatly extending the known range. The type specimen of the second recorded Atlantic species, *Myxaster perrieri* shows that placement of this species into *Pythonaster* by Dilman et al. (2005) and Dilman (2006) is unwarranted. Additional data on both Atlantic *Myxaster* species and the even more rarely encountered *Pythonaster* are presented.

Abbreviations used in the manuscript include: MNHN= Muséum national d'Histoire naturelle de Paris, NMFS= National Marine Fisheries Service, USNM= National Museum of Natural History, SH=Southampton Oceanographic Center asteroid collection, WHOI=Woods Hole Oceanographic Institution, and YPM= Yale Peabody Museum. Note that all measurements below are in cm unless otherwise noted.

MYXASTERIDAE Perrier

Pterasteridae (pt) Perrier, 1885a: 886; 1885b: 69.
Pterasteridae: Pythonasterinae Sladen, 1889: xxxviii, 530.
Myxasteridae Perrier, 1891: K177; 1893: 850; Koehler, 1896: 48; Fisher, 1906: 1096; 1911: 253; 1913: 224; Verrill, 1914: 204; Fisher, 1919: 454; Madsen, 1951: 90; Alton, 1966: 687; Clark and Downey 1992: 336; McKnight 2006: 25.

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