



New species of *Heteropathes* (Anthozoa: Antipatharia) expands genus distribution to the NE Atlantic

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Abstract

Heteropathes opreski, a new antipatharian species from the northern border of the Oceanographer Fracture Zone is here described and illustrated. An emended diagnosis of the genus and a dichotomous key containing the four *Heteropathes* species are presented. This species is unique in that it forms smaller colonies compared to the other species in the genus, with some of the lateral pinnules presenting a small ramified subpinnule. Additionally, the polypar spines found on the lateral pinnules are the highest so far recorded in the genus. This record greatly expands the known distribution of this genus, as it was not previously reported to occur in the Northeastern Atlantic.

Key words: Black corals, Cladopathidae, *Heteropathes opreski* **spec. nov.**, distribution, taxonomy, dichotomous species key

Introduction

The Northeast Atlantic has a long history of biogeographic research that can be traced back to Otto F. Müller (1730–84) using a modified oyster dredge in the deep waters of the southern Norway fiords (Spärck 1932) and the HMS Lightning (1868) and HMS Porcupine (1869) cruises around Scotland and Ireland. These early efforts grew into greater endeavors such as the global HMS Challenger expedition (1872–76), the Prince Albert I of Monaco Oceanographic Campaigns (1886–1915) and the Percy Sladen Trust Expedition to the Indian Ocean (1905) that enabled the first records, descriptions and taxonomies of many of the currently known deep-water taxa (Brook 1889; Roule 1905, Cooper 1909) to be established.

Since the second half of the 20th century, a greater number of research cruises to the Northeast Atlantic and the use of modern technology have contributed to the accumulation of a wealth of data on deep-water corals, including antipatharians (e.g. Molodtsova, 2006; Molodtsova *et al.*, 2008; Morris *et al.*, 2012; de Matos *et al.*, 2013). Most Northeast Atlantic deep-sea coral records come from steeply sloping seamounts, oceanic islands and along the continental slope, with antipatharians being the third most commonly recorded group, after alcyonaceans and scleractinians (Braga-Henriques *et al.* 2013; Hall-Spencer *et al.* 2007).

Antipatharians are colonial hexacorals reported to present longevities ranging from decades to millennia (Carreiro-Silva *et al.* 2013; Love *et al.* 2007; Roark *et al.* 2009), and occurring between 20 and 5440 m (Gravier 1921; Braga-Henriques *et al.* 2013) in the Northeast Atlantic Ocean. This taxon was generally assumed to be azooxanthellate, due to a preference for low-light environments that do not allow photosynthesis, but recently, several species occurring at up to 396 m of depth were shown to associate with *Symbiodinium* (Bo *et al.* 2011; Wagner *et al.* 2011).

In a revision of Northeast Atlantic antipatharian fauna, Molodtsova (2006) reported 33 species for this region. However, this did not include *Trissopathes tetracrada* Opresko, 2003 (Opresko 2003a) and *Allopathes denhartogi* Opresko, 2003 (Opresko 2003b) from Cape Verde. Further on, *Schizopathes affinis* Brook, 1889 from the Mid-Atlantic ridge (Molodtsova, 2008), *Leiopathes montana* Molodtsova, 2011 from the Great Meteor (Molodtsova,

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