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A new species of *Halophytophilus* Brian, 1919 (Copepoda: Harpacticoida: Ectinosomatidae) from cold-water corals in the Porcupine Seabight (NE Atlantic)

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Abstract

The first deep-sea representative of *Halophytophilus* Brian, 1919 is described from samples of dead cold-water coral fragments, glass sponge skeletons and underlying sediment collected from the Porcupine Seabight (NE Atlantic). *Halophytophilus lopheliae* **sp. nov.** can be distinguished from its congeners by the dimensions of the P1 endopod and the position of the inner seta on its proximal segment. Moreover, we present the first description of a male in this genus. The occurrence of *Halophytophilus* and three other ectinosomatid genera with prehensile first legs is remarkable in the deep sea and an indication that the hard substrates of the coral degradation zone may provide an exceptional habitat. A key to the five species of *Halophytophilus* is included.

Key words: Ectinosomatidae, *Halophytophilus lopheliae*, systematics, deep sea, *Lophelia pertusa*

Introduction

The assemblage structure and species diversity of Copepoda Harpacticoida associated with cold-water coral substrates in the Porcupine Seabight (NE Atlantic) has recently been investigated by Gheerardyn *et al.* (submitted). In the coral degradation zone of *Lophelia pertusa* (Linnaeus, 1758) reefs, Ectinosomatidae Sars, 1903 was found to be the most dominant family on dead coral fragments and in the underlying sediment. Generally, this is an abundant family in the deep-sea benthos with species mostly belonging to the genera *Bradya* Boeck, 1873, *Pseudobradya* Sars, 1904, *Ectinosoma* Boeck, 1865 and *Halectinosoma* Lang, 1944 (e.g. Martínez Arbizu *et al.* 1998; Seifried 2004; Shimanaga *et al.* 2004). In the Porcupine Seabight, twelve genera were identified and four of these were characterised by prehensile first legs (i.e. *Bradyellopsis* Brian, 1924, *Halophytophilus* Brian, 1919, *Klieosoma* Hicks & Schriever, 1985 and *Peltobradya* Médioni & Soyer, 1968). Known species of the first three genera are mostly reported from the washings of littoral algae, suggesting a shift to the phytal environment from the sedimentary benthic substrates more commonly inhabited by Ectinosomatidae (Lang, 1948; Noodt 1971; Hicks & Coull 1983; Hicks & Schriever 1983, 1985; Watkins 1987). The occurrence of these genera in the deep sea is remarkable and an indication that the coral degradation zone may provide an exceptional habitat. A new species of *Halophytophilus* will be described here.

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