



Bryodiversity in the tropics: taxonomy of *Microporella* species (Bryozoa, Cheilostomata) with personate maternal zooids from Indian Ocean, Red Sea and southeast Mediterranean

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Abstract

The particularly speciose cheilostomate genus *Microporella* includes taxa whose maternal zooids and associated ovicells present a personate structure, i.e. a particularly developed peristome. Six species of *Microporella* with personate ovicells are analysed from material sampled in the Indian Ocean, Red Sea and southeast Mediterranean. Consideration of highly diagnostic tiny morphological characters displayed by the primary orifice and the avicularium has made it possible to distinguish three new species, *M. browni* n. sp., *M. maldiviensis* n. sp. and *M. collaroides* n. sp., and to better characterise the other species. Among the latter, two species named by Audouin (1826) from Savigny's drawings (1817), *M. coronata* and *M. genisii*, are redescribed and neotypes are selected. Additionally, a new species of the *M. coronata* species group, *Microporella hastingsae* n. sp., is proposed following examination of a museum specimen recorded as *M. ciliata* var. *coronata* (Hastings 1927). The species dealt with in this study revealed remarkably different patterns of geographic distribution, possibly showing different potential for natural and/or anthropogenic dispersal. The bryozoan assemblages sampled along the coast of Lebanon include four of the six studied species, at least three of them presumably non-indigenous including *M. harmeri* Hayward, which displays a remarkably wide distribution from the Indian Ocean to the West Pacific and the East Atlantic (Canary Islands).

Key words: bryozoans, biodiversity, Ascophora, Microporellidae, ovicell, new species, biogeography, alien species

Introduction

Present-day knowledge of marine biodiversity is very incomplete for most higher taxa even in areas that have long been the focus of a considerable scientific effort, such as the European seas (Bouchet 2006). The gap between the presumed actual number of extant species and that of already described ones is particularly wide in tropical regions, which harbour hot-spots of biodiversity (Gray 2001; Bouchet 2006). Shipping and the opening of artificial corridors between basins are the most influential anthropogenic factors affecting the biogeographical ranges of an increasing number of marine species. The opening of the Suez Canal to maritime traffic in 1869 was the start of a new era for the southeastern Mediterranean, leading to an exceptionally extensive colonization of the Levant basin by tropical species that have taken advantage of the warming of the sea (Steinitz 1967; Powell 1969; Galil 2000; Zenetos *et al.* 2005; Por 2009; Bitar 2010).

The known 'bryodiversity' (i.e. the diversity of bryozoans) represents a relatively modest part, approximately 2.6% of the general marine biodiversity, if one considers that about 6,000 living species have been recorded. How-