Article

Gelatinous zooplankton fauna (Cnidaria, Ctenophora and Thaliacea) from Baía da Babitonga (southern Brazil)

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Abstract

The present study reports on a survey of the gelatinous zooplankton fauna (Cnidaria, Ctenophora and Thaliacea) from the proposed Baía da Babitonga marine protected area (southern Brazil; ~26°S), based on collections from multiple sites over different seasons and from published literature. In order to sample both small and large gelatinous animals, plankton hauls (n = 255) and fishing trawls (n = 126) were employed. More than 20,000 organisms were studied, which, including literature data, totaled 48 species: one cubomedusa, three scyphomedusae, four siphonophores, 36 hydromedusae, two ctenophores, and two thaliaceans. Among these, the hydromedusae *Cnidostoma fallax* Vanhöffen and *Helgicirrha* sp. are recorded for the first time from the southwestern Atlantic coast and *Paulinum* sp. and *Protiara* sp. are recorded for the first time from the South Atlantic. A description of young stages of the hydromedusa *Gossea brachymera* Bigelow is presented and shows that *Octobulbacea montehermosensis* Zamponi is a junior synonym of the former. Although comprehensive local assessment of diverse taxonomic groups is still lacking, the high diversity observed herein underscores the importance of Baía da Babitonga as a high priority site for conservation of regional marine biodiversity.

Key words: biodiversity, ctenophores, doliolids, estuary, medusae, siphonophores, salps, southwestern Atlantic

Introduction

Baía da Babitonga is a high priority area for conservation on the Brazilian coast (MMA 2007a), but it has been subjected to growing human-induced pressure. The environmental integrity of this local region is threatened by increased domestic and industrial sewage disposal, expansion of predatory fishing, real estate development, and the building of new harbors (Cremer et al., 2006). Currently, the area of Baía da Babitonga is a candidate site for the creation of a sustainable use marine protected area (MPA), in the national category of "Reserva de Fauna" (MMA 2007b). The initiative was based on the potential development of local ecotourism, sustainable artisanal fisheries and an attempt to limit negative impacts such as those listed above. A further reason to designate this region a MPA is the presence of threatened and/or over-exploited species, such as the cetaceans *Pontoporia blainvillei* (Gervais & D'Orbigny) and *Sotalia guianensis* (Bénédén), the goliath grouper, *Epinephelus itajara* (Lichtenstein) and the swamp-ghost-crab *Ucides cordatus* (Linnaeus) (Cremer *et al*. 2006; MMA 2007b).

Unfortunately, knowledge of the biota of Baía da Babitonga is virtually unknown, although the ichthyofauna was recently comprehensively evaluated (Vilar *et al*. 2011). The absence of this basic knowledge hinders the development of adequate conservation management policies. This situation is not exclusive to Baía da Babitonga, but rather is representative of most of Brazil's protected areas from where neither terrestrial nor aquatic fauna and flora have been comprehensively surveyed (Agostinho *et al*. 2005). The scarcity of information is an obstacle to any attempt to measure its real ecological importance or priority status for conservation. Therefore extensive surveys of local biodiversity are needed. Moreover, former identification of species assemblages is frequently decisive for an adequate interpretation of disturbance events and the detection of local introductions or extinctions, highlighting the importance of basic biological knowledge such as species composition.

Gelatinous zooplankton (Cnidaria, Ctenophora and Thaliacea) is an often neglected yet important component of marine biodiversity. Both gelatinous carnivores (cnidarians and ctenophores) and herbivores (thaliaceans)