



## Pôster – Ecologia e Conservação

### Sun coral (*Tubastraea* spp.) population growth in a marina from Southeastern Brazil and its consequences to the diversity of benthic organisms

Tanasovici, Rodrigo M. (1), Kitahara, Marcelo V. (2,3), Dias, Gustavo M. (1)

(1) Centro de Ciências Naturais e Humanas da Universidade Federal do ABC (CCNH/UFABC), São Bernardo do Campo, SP, Brasil; (2) Instituto do Mar da Universidade Federal de São Paulo (IMAR/UNIFESP), Santos, SP, Brasil; (3) Centro de Biologia Marinha da Universidade de São Paulo (CEBIMar/USP), São Sebastião, SP, Brasil.

Marine facilities create physical and biotic conditions distinct from those in natural habitats, modifying sediment deposit, organic and inorganic pollutants, hydrodynamics and biological communities. Those modifications can facilitate the establishment of non-indigenous species (NIS) in coastal ecosystems. The sun corals *Tubastraea coccinea* and *T. tagusensis* are harmful NIS in the Southeastern of Brazil, where they impact benthic communities and local economy. Herein, using a series of images spanning 9 years, we detected for the first time and followed the expansion of sun corals populations in a region where the sun corals are not frequent in the natural substrate. We described population growth in two locations from a recreational marina (Yacht Club of Ilhabela, São Sebastião Channel, SP): inside the marina and at the breakwater. As sun corals are known to reduce diversity in natural environments, we also evaluated how the variation in the density of sun corals inside the marina affected the community of both sessile and mobile benthic organisms. Sun corals have grown exponentially from 2010 to 2019 inside the marina, but not in the breakwater, where population stopped growing in 2016. While the increase in coverage of the sun corals did not affect species richness for both sessile and mobile groups, they are associated to a reduction in the area covered by the native bryozoan *Amathia Braziliensis*, and an increase of the area covered by the exotic bryozoan *Schizoporella errata*. Besides, areas with higher sun coral coverage also tended to show reduced abundance of gammarids and crabs. Small-scale variation in the population growth across the marina is probably associated to the high productivity and larval retention inside the marina. The maximum sun coral coverage found in this study was 59%. In a neighboring island further of the coast, only coverages nearing 100% resulted in loss of diversity, but considering that sun coral population is still growing inside the marina and promoting a replacement of a native species, management initiatives must be employed to prevent more intense damages to the benthic biota, especially considering that the sun corals are still scarce in the natural substrate of the São Sebastião channel, where the marina is located.

**Apoio:** Conselho Nacional de Desenvolvimento Científico e Tecnológico (CNPq); Fundação de Amparo à Pesquisa do Estado de São Paulo (FAPESP)