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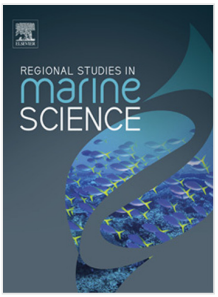


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# Population dynamics and secondary production of the ghost shrimp *Callichirus major* (Thalassinidea): a keystone species of Western Atlantic dissipative beaches.

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**Abstract**

We describe the autoecology of the thalassinid crustacean *Callichirus major*, a dominant macrofaunal species, on a relatively non-impacted Brazilian dissipative beach. At Rasa Beach (22°45'S, 41°56'W, southwestern Atlantic), monthly sampling was carried out during spring low tides at two sites, 1.3 km apart. Seasonal von Bertalanffy growth curves were adjusted by the ELEFAN routine (FiSAT-II) for the entire population and for each gender separately. Considerable differences in density, biomass, secondary production and size composition of *C. major* from the two sites indicate that it is not possible to extrapolate our results to the entire beach since there are significant heterogeneities between the two sampling sites. The higher secondary production at one of the sites may be caused by its higher populational density, associated with the occurrence of a higher proportion of juveniles. The renewal rate of the local population of *C. major* (P/B ratio from 0.85 to 2.19) is smaller than for other beach macrocrustaceans studied in different localities worldwide.

**Keywords**: macrobenthos; autoecology; soft-bottom; crustacean; sandy beaches.

## 1. Introduction

Sandy beaches are the most widespread transitional ecosystem between the land and the ocean (Schlacher et al., 2008), occupying 2/3 of the ice-free coastline (McLachlan & Brown 2006). It is one of the most well-known and utilized ecosystems by humankind, with more than 41% of the human population living in the coastal zone (Martínez et al. 2007). These characteristics make sandy beaches one of the world's most