

TITLE: ASSESSMENT OF MICROBIAL DIVERSITY ASSOCIATED WITH CNIDARIAN
MILLEPORA ALCICORNIS AND PHYLLOGORGIA DILATATA

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ABSTRACT:

The marine microbiota has been shown to be an important source of molecules related to the recycling of organic compounds and bioactive compounds, developing a crucial role in the maintenance of marine ecosystems. Thus, the study of marine microbial diversity, as well as the prospection of metabolites synthesized by these organisms may be fundamental for the development of new therapeutic and biotechnological products. This work aims to identify the different species of bacteria associated to the surface of two species of cnidarians: *Millepora alcicornis* and *Phyllogorgia dilatata*. Samples of the coral species were collected in Búzios, Rio de Janeiro, Brazil. The Isolation of the bacteria was performed by two different methods: the maceration of saline solution of the coral fragments followed by the inoculation of the extracts in marine agar at different dilutions; and obtaining culture of coral fragments enriched in marine broth for 72 hours and incubation of samples diluted in solid medium. Pure bacterial cultures were obtained from both cnidarian species by both methods. From *M. alcicornis*, 121 isolates were obtained by the first method and 50 by the second method. From *P. dilatata*, 14 isolates (first method) and 32 isolates (second method) were obtained. Until the present moment, 27 isolates have been identified using amplification of the 16S rRNA gene region, being found specimens belonging to the genera *Bacillus*, *Vibrio*, *Allomonas* and *Lucibacterium*. The data suggest that the difference in bacterial isolates among the two-cnidarian species may be related to antimicrobial compounds secreted by *P. dilatata*, which is in accordance with previous discoveries related in the literature. Antimicrobial tests and detection of protein compounds by mass spectrometry are being carried out to prospect for secondary metabolites produced by these microorganisms.

Keywords: *Millepora alcicornis*; *Phyllogorgia dilatata*; microbial diversity; antimicrobial.

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