

Title: CULTURABLE MICROORGANISMS: DIVERSITY ASSOCIATED WITH MARINE INVERTEBRATES

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Abstract:

The urbanism and pollution increase in coastal environment have threatened marine invertebrates. Microorganisms from marine environment are mostly unknown and little research has targeted on this biodiversity. Microorganisms when associated with marine invertebrates may influence physiological and ecological roles of these organisms. Herein, we isolate and identify yeasts, bacteria and filamentous fungi associated with three species of Cnidaria: *Palythoa variabilis*, *Palythoa caribaeorum* and *Zoanthus sociatus* (Zoanthidae family) and five species of Porifera: *Chondrilla* sp., *Aphimedon viridis*, *Haliclona* sp., *Ircinia strobilina* and *Tedania ignis* from two sites in Maceió municipality, coral reef in Ponta Verde and sandstone reef in Sereia's beach, Alagoas State, Brazil. A total of seven collections were made at Ponta Verde and five at Sereia's beaches; one to three individuals from each species were sampled. The samples were macerated and plated in culture medium YM and Marine Agar. To isolate filamentous fungi, the samples were cut into small pieces and placed on Agar Malt Extract. The plates remained incubated for up to 28 days at 22-25°C. Fifty-six and 74 yeast isolates were obtained from the coral reef in Ponta Verde and from sandstone reef in the Sereia's beach respectively, approximately 60% of them were Ascomycota, and 40% were Basidiomycota. Ninety-nine bacteria were obtained, although only 40 of them were tested to the Gram staining method (13 were Gram-positive and 27 Gram-negative). For the arrangement of the bacterial cells, the greatest number found was the coccobacilli (62.5 %), followed by diplococci (17.5 %), bacillus (12.5 %) and cocci (7.5 %). Fifty-two isolates of filamentous fungus was obtained and all of them are under molecular identification process. The oceans are a rich source to discovery of new taxa. Marine microorganisms constitute an interesting source of genetic novelties with biotechnological purposes. The great number of isolates obtained in this unexplored environment reinforces the marine biotechnological potential.

Key-words: yeast, bacteria, filamentous fungi, Alagoas, Brazil.

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