

**TITLE:** INVESTIGATION OF FUNGAL MICROBIOTA OF THE SAND AND WATER OF THE LESTE BEACH IN THE MUNICIPALITY OF PONTAL DO PARANÁ, BRAZIL

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**ABSTRACT:**

Beaches are great tourist attractions, however, most coastal cities do not have sanitary infrastructure that supports the population increase during the summer, leading to the incorrect disposal of desires on the beach, posing a risk to public health. However, only the sanitary quality of the waters is evaluated, and there is a gap in the microbiological quality of the sand. In this sense, this study aimed to evaluate the fungal microbiota of sand and water of Praia de Leste in the municipality of Pontal do Paraná. The collections were made at different points, point 01: near the mouth of the sewage; point 02 near the bathers' access; point 03 where the bathers flow is smaller. Each sampling point was subdivided into region (dry sand, wet sand and water). Samples were diluted in PBS buffer pH 6.8, 100 µl of dilution factors ( $10^0$ ,  $10^{-1}$ ,  $10^{-2}$ ) were plated on Sabouraud medium, incubated at 28°C for 15 days, followed by isolation. Filamentous fungi were purified by the monosporic culture technique and the yeast by the technique of depletion of the loop, both identified by the blade microculture technique following taxonomic keys to the lowest possible level. Genres like *Aspergillus* (38), *Penicillium* (30), *Trichoderma* (04), *Cladosporium* (04), *Acremonium* (01), *Candida* (01) and *Mycelia Sterilia* (12) were isolated. The highest insulation indices were obtained in the dry sand at all points, a fact that may be related to the higher concentration of organic matter provided by the debris line and by the restinga. The area of dry sand at point 02 during summer and spring was the one with the highest number of isolates, which may be related both to the increase in temperature and to the contribution of organic matter brought by the wastes. The greatest number of water isolates was obtained at point 03 during the summer, and there may be a correlation with variables such as rainfall and currents. The correlation between the genera and the beach as a source of microbiological contamination can not be carried out since the most isolated genera are considered opportunistic and of easy dispersion, however some of the genres found can affect debilitated individuals. Since the highest fungal indexes were obtained in the sand of the beach, this work emphasizes the importance of establishing adequate techniques aimed at obtaining microbiological quality indicators of this environment.

**Keywords:** Balneabilidade, Environmental Quality, Fungi.

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