# MICROBIAL COMMUNITIES SHIFTING IN MANGROVES UNDER DISTINCT POLLUTION STATE MIGHT NAME CANDIDATES FOR BIOREMEDIATION PROGRAMS

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Mangroves encompass an important ecosystem in the tropical coastline for the reproduction of animal species and protection of the land against the sea effects. Such niche also harbors a vast diversity of microbes, still not properly described and assessed. One of the main roles of these microbes is to act in the organic matter processing, supporting the basis of the trophic web, what is promoted by versatile biochemical processes found in these species due to the limited availability of nutrients in mangroves. It makes these microbes responsive to environmental changes, like the pollution by chemical as oil. Here it is presented a culture-independent survey in three mangroves located in the coastline of the São Paulo State (Brazil): *i*) oil-contaminated mangrove at *Bertioga*, *ii*) non-contaminated mangrove at *Bertioga*, *iii*) non-disturbed mangrove at *Ilha do Cardoso*. In these mangroves, bacterial, archaeal and fungi communities were subjected to analysis by denaturing gradient gel electrophoresis to evaluate the diversity of each group. Samples were collected at 0 to 30 cm and in three areas within each mangrove, in a transect from the sea to the land. Results have shown the differential adaptation of microbes groups to the fate of oil contamination. While archaeal communities where similar in all mangroves and only slightly affected by the salinity, bacterial community were distinct among mangroves and responsive in a gradient of contamination from the land to the sea. The fungi community has a particular behavior, suggesting a partial responsiveness to the contamination, evidenced by a number of specific bands found only in highly contaminated areas, while other bands occur erratically in the DGGE patterns from distinct samples. The results show that bacteria and fungi are more responsive to the oil contamination, and the identification of selected-bands must name major candidates for bioremediation programas.

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