

## Poster (Painel)

### 791-1 THE SULFUR-PROCESSING COMMUNITY OF MANGROVES UNDER DISTINCT HISTORIC OF CONTAMINATION IN BRAZIL

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## Resumo

The mangrove is a coastal ecosystem, which represents the transition between terrestrial and marine environments. In Brazil there are about 15% (26.000 Km<sup>2</sup>) of the global mangrove area. The characteristics of mangrove sediments are the anaerobiosis, the high salinity and the abundance of non-decomposed organic matter, making it optimal for anaerobic microorganisms, such as sulphate-reducing bacteria. However, despite the range of methodological approaches available for assessing the major microbial players in the sulphur cycle, it is still poorly described in the mangroves. In this study, two genes related to sulphur transformations were target (*dsrB* and *aprA*) in a survey involving three mangroves located in the coastline of the São Paulo State (Brazil): i) oil-contaminated mangrove at *Bertioga*, ii) anthropogenic-impacted mangrove at *Bertioga*, iii) non-disturbed mangrove at *Ilha do Cardoso*. Samples were subjected to the estimative of the diversity and abundance by denaturing gradient gel electrophoresis (DGGE), followed by multivariate analyses (Cluster and one-way analysis of similarity), by clone libraries of target genes with results analyzed by Mothur and the quantification of target genes was made by real time PCR (qPCR). In general, results have indicated that both genes studied in the three mangroves have distinct structures. However, the analysis of *dsrB* gene has determined that anthropization is the most significant factor modulating the diversity of such gene, while the analysis based on gene *aprA* has shown the oil contamination as a main modulator for the diversity of such gene. Also, a quantification of these genes has indicated that both genes did not reveal changes among mangroves in absolute numbers, with the log values of the copies per gram of sediment ranging from: 4.88 to 5.32 for *dsrB* and 5.00 to 5.67 for *aprA*. However, if a relative quantification (*dsrB/aprA*) is made a different pattern unfolds; while in anthropogenic-impacted area the *dsrB* amount is around 20% of the *aprA*, in non-disturbed is 35% and this value reach 90% in the area with a higher contamination with oil. These results suggest that the oil spill and the anthropization affect the structure of the sulphur-processing microbial communities in mangroves, possibly interfering in the efficiency of the metabolic web present in this ecosystem.