

Palynological records of climatic changes in the Sepetiba Bay area by the last 6,000 years

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The Sepetiba Bay, with about 305 km², is a semi-confined body of salty water, located in the southwestern Rio de Janeiro State. Extensive areas around its margins are colonized by mangroves, where were taken cores to studies.

The study was based on palynological analysis of two cores, collected with a vibracore in the mangrove facies - lower tidal plain at Guaratiba mangrove, Sepetiba Bay. The cores, 5.30 (core D) and 5.10 m long (core E), were mainly composed of mud with a minor sand interbedding. The samples for palynological analysis were selected according to sedimentological changes. The chemical treatment followed the standard palynological methodology and included addition of exotic spores, *Lycopodium clavatum* spikes, to the samples to determine palynomorphs concentration. The determination of pollen percentage were based on the pollen sum, that includes herbs, shrubs and trees, but not aquatic taxa, algae or spores. For the statistic treatment of the palynological data TILIA software was used.

The palynological analysis indicated major influence of the Ombrophilous Dense Forest and of the Coastal Sandy Vegetation, although nowadays mangroves prevail in the study area. In the last 6,000 years, 3 climatic changes for the studied cores were detected, showing an alternation of humid and dry climates, including the first record of the Little Ice Age in Brazil.