

## MICROBIOLOGY APPLIED TO ECOLOGY IN THE EDUCATION OF SCIENCE CLASSES

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Lakes Region, in Rio de Janeiro, has a great potential for ecotourism and intense tourist activity due to the beauty of its coastline including sand dunes, which is a coastal ecosystem home of rolling dunes and endemic species of animals and plants. However, this ecosystem is facing problems due to human activities such as land speculation and uncontrolled urban settlement. Investigate its ecology and biological interactions of this ecosystem, as well as educate the public about the socioeconomic and environmental importance of these areas protected by law, can be a key factor to sustainable tourist development. Brazilian basic education has the following objectives: full development of citizenship, education for the work field and contribute for further studies. Thus, it is important to offer to student the construction of significantly knowledge, raise awareness about the environment they live in, providing opportunities, for teachers, to practice scientific literacy in the production of knowledge. In this perspective, educational booklets have been prepared for the 6th year of elementary school teachers of municipal schools in the Lakes Region, providing materials to the study of ecology. The surveys were conducted by the Ecotoxicology and Environmental Microbiology Laboratory of the Federal Fluminense Institute, Campus Cabo Frio and have as a common factor the study of the interactions of sand dune plant, the *remirea maritma* (Cyperaceae) in symbiosis with arbuscular mycorrhizal fungi, dark septate endophyte Fungi and bacteria found in the rhizosphere of plants of frontal sand dune, in Massambaba, Arraial do Cabo, Rio de Janeiro. This booklet sought to clarify the following issues: the fixation of sand dunes due to occurring symbiosis, as well as the important role of plants present in this setting; reducing the impact of tides on the continent; the potential for rhizoremediation promoted by fungi and bacteria in contamination promoted by human actions. To sum up, this material seeks to meet the need for awareness of the local population to the problems that stand in the preservation and conservation actions of the sand dunes.

Keywords: environmental education, sand dunes, ecology

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