

**Title: Isolation and identification of endophytic fungi in roots of *Remirea maritima* (Cyperaceae) in frontal zone plants formation of sand dunes**

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**Abstract:**

The sand dune is a coastal ecosystem, characterized by dystrophic sandy soils with low capacity to retain water, which makes them proper to the development of symbiotic micro-organisms. Besides having biological properties of interest, such as the production of enzymes, toxins and drugs, endophytic fungi are micro-organisms that live inside the vegetal tissues and are important for the survival of the plant. This interaction causes no apparent damage to the symbionts. There are few scientific information about sand dunes environment, specially related to soil micro-organisms and their ecological implications. There is also limited knowledge about biodiversity of these fungi, fungal-plant interaction and fungi-environment. Based on previous research in which the colonization of *Remirea maritima* by arbuscular mycorrhiza was reported, we aimed to evaluate the co-colonization by other endophytic fungi, their isolation and identification of these fungal colonies. For the isolation of micro-organisms we have collected roots of *R. maritima* (Cyperaceae) in frontal zone located in sand dunes of Massambaba, Arraial do Cabo - RJ. These roots were first rinsed in clean water and sectioned into pieces of approximately 1 cm and superficially disinfected with sodium hypochlorite at 2% and 33% hydrogen peroxide for 2 and 1 minute, respectively. After surface disinfection, the roots were soaked and placed in triplicate in petri plates on agar-malt culture medium supplemented with broad-spectrum antibiotic. The plates were kept in chamber at 25 ° C in the dark for 15 days. The colonies grown on the solid medium were isolated and conserved. Subcultures were done after each growth (15 days) and four types of fungal colonies were observed. The colonies were isolated and conidial structures, melanized and septated hyphae, hyaline hyphae and multinucleated hyphae were verified optical microscopy. From these results we can conclude that besides the identification of arbuscular mycorrhizal other colonies of endophytic fungi in roots of *R. maritima* can be observed. We aim to identify each colony of isolated endophytic fungi and characterize the symbiosis between fungi and sand dunes plants.

**Keywords:** Cyperaceae, Endophytic fungi, Sand Dunes.

**Development agency:** CNPq