TITLE: ISOLATION AND CHARACTERIZATION OF ENDOFITIC FUNGI OF FINE ROOTS OF THE BABASSU PALM *Attalea speciosa* (Mart)

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ABSTRACT:

The babassu palm *Attalea speciosa* (Mart.), Arecaceae, is a dominant and ruderal component in the deforested periphery of former Amazonia, with outstanding socioeconomic importance (palm oil extractivism) and ecological relevance. Endophytic fungi are microorganisms that inhabit the inter- or intracellular of the plant tissues without causing them any apparent damage, little is known about their biodiversity and the ecological factors which influence the fungus-host and fungus-habitat association, especially of the integrated relationships to ecosystem services in this system. This study evaluates endophytic fungi within fine roots of the babassu palm, with the objective of discovering the microbiota associated to this species. We sampled both in rainy and in dry season roots without any damage or apparent disease from an field experimental site involving different babassu palm densities (25 e 100% palms ha^{-1}), located in Pirapemas county, Maranhão state. All the isolates obtained were identified at the genus level through optical microscopy after microcultures, and preserved these in the Fungi Cultures Collection of the Phytopathology Laboratory of Maranhão State University. We obtained a total of 768 endophytic fungi isolates, being 212 and 186 isolates, in areas with 25% palm density, while at 100% density were 194 and 176 isolates, respectively distributed in dry and rainy periods. The most abundant genera of fungi were: *Fusarium* (352 isolates), *Trichoderma* (77), *Pestalotiopis* (49), *Penicillium* (43), *Rizoctonia* (41), *Aspergillus* (26), *Cladosporium* (07), *Curvularia* (08), Alternaria (06), Phytophthora (03) and Mammaria (02). The other 154 isolates are still in the process of identification, as are the respective species. Considering the fact that babaçu palm is an ecologically predominant species in Maranhão, we emphasize that our results are pioneer and point to a unique and diverse reservoir of endophytic fungi in babassu roots, which may be providing the species get several ecological benefits, through the ecosystem services associated with these microorganisms.

Keywords: Maranhão cocais region, plant community ecology, relative abundance, biodiversity, ecosystem services

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