TITLE: STUDY OF THE DIVERSITY OF ENDOPHYTIC FUNGI OF ROOTS THE NATIVE LEGUME *Mimosa caesalpiniifolia* BENTH (‘Sabiá’).

AUTHORS: OLIVEIRA, I.S.[1]; LEITE, M.F.A.[2]; LUZ, R.L.[2]; RODRIGUES, A.A.C.[2]; GEHRING, C.[2]; MORAES, F.H.R.[1]

INSTITUTION: 1- CEUMA UNIVERSITY – UNICEUMA (RUA JOSUÉ MONTELLO, 1 - RENASCENCA II, CEP 65075-120, SÃO LUÍS – MA, BRAZIL). 2- UNIVERSITY STATE OF MARANHÃO – UEMA / (PPG IN AGROECOLOGY - UNIVERSITY CITY PAULO VI, SÃO LUÍS – MA, BRAZIL).

ABSTRACT

Legumes are notable for producing strong allelopathic substances, eg alkaloids, among others. They are known to have microbial associations of great ecological importance, notably rhizobia for biological N_2 fixation, besides mycorrhizae and other microorganisms for solubilization of phosphorus and other nutrients, therefore, the full knowledge of ecology and its interactions are necessary, especially with the endophytic microbiota, because it is closely involved in the majority of relationships integrated with ecosystem services in this system. The present study evaluated the presence of endophytic fungi associated with 'sabiá' roots in the municipalities of Pirapemas and Cantanhede and other experimental areas of the last four years in the municipalities of Brejo, Central from Maranhão, Mirinzal, Monção, Cajarí, Santa Luzia of Paruá, Maranhãozinho and Presidente Médici. Root fragments without any kind of damage or apparent disease were used for the isolation of endophytic fungi, using two culture media. After collection and isolation, 78 isolates of endophytic fungi were obtained in the dry period. All the isolates were preserved in the Fungi Cultures Collection of the Phytopathology Laboratory of the State University of MA. The fungi were identified by microculture and later identified by microscopy and belong to the genus *Fusarium*, *Trichoderma*, *Pestalotiopis*, *Aspergillus* and *Rizoctonia*. The most frequent genera were *Fusarium* and *Pestalotiopsis*, and the less frequent were *Rizoctonia* and *Aspergillus*. The results obtained in this study demonstrated that 'sabiá' constitutes an interesting and unique natural reservoir of endophytic fungi, however, it is still necessary to carry out the molecular characterizations to verify the groupings and confirmation of the species. The biodiversity of endophytic fungi is still poorly understood, as are the ecological factors involved in the association with the host, especially in the soil and climate conditions of Maranhão.

Keywords: Microbial associations, Ecosystem functions, Maranhão Amazon.

Development Agency: Foundation for Research and Scientific and Technological Development of Maranhão – FAPEMA.