

TITLE: DIVERSITY OF ENDOPHYTIC FUNGI ASSOCIATED WITH LEAVES OF THE *SWIETENIA MACROPHYLLA* (MELIACEAE)

AUTHORS: BAHIA, M.; FERREIRA, M.C.; BARRETO, D.L.C.; ROSA, L.H.

INSTITUTION: UNIVERSIDADE FEDERAL DE MINAS GERAIS (Av. Pres. Antônio Carlos, 6627 - Pampulha, Belo Horizonte - MG, 31270-901); RENÉ RACHOU INSTITUTE – FIOCRUZ MINAS (Av. Augusto de Lima, 1715 - Barro Preto, Belo Horizonte - MG, 30190-002); UNIVERSIDADE FEDERAL DE OURO PRETO – UFOP, OURO PRETO, MG (RUA DIOGO DE VASCONCELOS, 122, PILAR, CEP 35400-000, OURO PRETO – MG, BRAZIL).

ABSTRACT:

Endophytic fungi, those that inhabit the interior of plant tissues asymptotically for at least a period of their life cycle without causing apparent damage, are potential producers of various bioactive metabolites. In addition, they can play different roles in the ecology of their host plants in their healthy state and evolution. For this reason, knowledge about its biodiversity is extremely important. Considering the importance of studies on the diversity of endangered species of biologically endangered environments, the present study aimed to elucidate biodiversity of endophytic fungi associated with the leaves seedlings of *Swietenia macrophylla*, currently threatened with extinction, originating from the state park of Rio Doce, Minas Gerais. The isolation was performed from five fragments properly disinfested from ten individuals, plated and purified in PDA medium. For the identification of endophytic fungi, the ITS region of the rRNA gene was amplified and sequenced, using primers ITS1 and ITS4. Among the 134 fungi recovered, eighteen were identified so far at the genus level, of which 3 belong to the *Diaporthe* complex and the remainder to the genus *Colletotrichum*. Fungi of this genus are considered important phytopathogens, widely disseminated, mainly in tropical and subtropical regions. In *Colletotrichum* species, saprophytic and pathogenic forms are found, the latter being responsible for economically important diseases, commonly called anthracnose that occurs in a wide range of hosts. Besides that this genus has received attention in researches, due to its characteristic of producing bioactive molecules, such as colletotric acid, antimicrobial activity against *Bacillus subtilis* and *Staphylococcus aureus*. In addition, *Colletotrichum* species produce phytotoxic metabolites that induce symptoms similar to those of their own pathogens and can be used for biological control. Furthermore, species of the genus *Diaporthe* have been described also in a wide range of hosts as phytopathogenic, endophytic, and saprophytic. It also has records of secondary metabolites with leishmanicidal activity. For this reason studies of diversity make it possible to know the composition of the fungal community, and thus contribute to future bioprospecting studies.

Keywords: diversity, endophytic fungi, Rio Doce State Park, *Swietenia macrophylla*.

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