ISOLATION AND IDENTIFICATION OF FUNGI RELATED TO YERBA MATE (ILEX PARAGUARIENSIS ST. HIL) FROM PARAGUAY

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RESUMO

The “yerba mate”, *Ilex paraguariensis* A. St.-Hil (Aquifoliaceae), is a tree species native from South America, it is cultivated exclusively in Paraguay, Argentina and Brazil for the commercialization of its leaves, which are used mainly in the preparation of traditional beverages. It presents a high index of domestic consumption, contributing to income generation for small and large producers, which generates industrial and productive movement. Due to its domestication, in order to improve crops and increase yields, improper management practices may have altered the natural fungal community associated with yerba mate. The plant development of many species is affected by certain groups of naturally occurring microorganisms, some positively and others negatively. Therefore, the objective of this work was to isolate and identify fungi related to yerba mate branches, in order to know the fungal community associated with this plant organ. Two branches samples of yerba mate were collected from Nueva Alborada District, Itapúa Department, Paraguay. For the isolation, small pieces (1x1 cm) of the vegetal tissue were disinfected using a disinfection battery, which consisted of 5% (v/v) sodium hypochlorite (NaClO), 70% (v/v) alcohol and sterile distilled water, leaving the material in each solution for 10 seconds. The disinfected portions were transferred to 3,9% (w/v) Potato Dextrose agar (PDA) supplemented with antibiotic (0,015 % ampicillin). Cultures were incubated at 28 ± 1 °C for 5-7 days with constant photoperiod (24 h light). The isolated strain was conserved in the Fungal Culture Collection of the Faculty of Science and Technology. The morphological characterization using taxonomic keys was made. A total of four strains were isolated and identified, two belonging to the genus *Bipolaris*, one to the genus *Curvularia* and one to *Trichoderma*. These results are interesting considering that *Bipolaris* and *Curvularia* are genera that include species identified as phytopathogenic in different plant species, and *Trichoderma* widely used as biological control agent. Therefore, it is important to continue with the characterization of these strains and the evaluation of their interaction with yerba mate.

PALAVRAS-CHAVE: Fungi, Morphological characterization, Yerba mate

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