

IDENTIFICATION OF BRAZILIAN ASPERGILLI BASED ON A POLYPHASIC APPROACH INCLUDING MALDI-TOF ICMS

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Microbial culture collections were established to preserve cultures of fungi and bacteria for taxonomical studies. However, nowadays they are also important for the *ex situ* conservation of microbial biodiversity. They are responsible for collecting, cataloguing, identifying and preserving strains for biomedical research, teaching, industry, agriculture, etc. Hence, this current work performed a polyphasic study based on morphology, biochemistry and MALDI-TOF ICMS to identify aspergilli from different environments in Brazil. Thirteen isolates of *Aspergillus* spp. deposited at the Filamentous Fungi Collection of Ribeirão Preto (CFF-RP) were analysed. Strains were grown on Czapek-Dox Agar (CZA) and Malt Extract Agar (MEA) at 30°C for morphology. Biochemical characterisation (production of ochratoxin A and fumonisin B2) was performed by HPLC. The MALDI-TOF ICMS analysis were performed on an Axima LNR system (Kratos Analytical, Shimadzu, Manchester, UK) equipped with a nitrogen laser (337 nm), using a mass range from $m/z=2000$ to 20000 Da and *Escherichia coli* DH5 α strain for external calibration. The fungal identifications were performed using SARAMIS software (AnagnosTech mbH, Postdam-Golm, Germany). One *A. thermomutatus* was an OTA producer. In contrast, fumonisin B2 was no detected for all strains studied. The MALDI-TOF ICMS results corroborated the morphological identifications. Of the 13 isolates, 38, 31, 15.5 and 15.5% were *A. fumigates*, *A. niveus*, *A. thermomutatus* and *A. ochraceus*, respectively. These results contribute to knowledge about microbial biodiversity from the Brazilian environment.

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