

CYTOCHALASIN D, AN ACTIVE COMPOUND ISOLATED FROM ENDOPHYTIC FUNGUS *XYLARIA CUBENSIS* OF AMAZONIAN GUARANA

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The Brazilian Amazon holds the greatest biodiversity in the world, with thousand of plant species that may have endophytic microorganisms not yet identified. Fungi may produce important molecules with biological activities, including for agronomic purposes. Fungi in the genus *Colletotrichum* are considered one of major plant pathogens due to economic damage to several crops. Although several control procedures are available, these are not always effective, prompting the search for new control alternatives. Our study aimed to explore the biological and chemical potential of secondary metabolites produced by *Xylaria cubensis*, an endophytic fungus isolated from Amazonian guarana (*Paullinia cupana*), and evaluate their antifungal activity *in vitro* to *Colletotrichum gloeosporioides* isolated from the same host plant. Profiling of secondary metabolites was conducted by chromatographic analysis (Silica-based Solid Phase Extraction cartridge – SPE and High Performance Liquid Chromatography – HPLC) and elucidated by spectroscopic analyses (High Resolution Mass spectrometry – HRMS and Nuclear Magnetic Resonance - NMR). All separation steps were monitored using thin-layer chromatography (TLC) and by bioassays of antifungal activity to *C. gloeosporioides*. One of the isolated compounds proved to be active and was identified as Cytochalasin D, a nitrogenated compound with mixed biosynthetic origin, involving one aminoacid unit and a polyketide chain. This compound inhibited the mycelia growth of *C. gloeosporioides* in 38.76%. Despite the reported antifungal action of Cytochalasin D was already described for the genus *Xylaria*, the antifungal action against *C. gloeosporioides* is inedit. The present study contributed to the knowledge of antifungal range of Cytochalasin D, isolated from an endophyte of the Amazonian guarana.

Keywords: natural products, *Colletotrichum*, anthracnose, bioprospecting

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