



Secondary metabolites of *Diaporthe hongkongensis*, an endophytic fungus from *Platonia insignis* Mart.

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Platonia insignis Mart. (Clusiaceae) is a fruit and wood species of state of Pará origin. Its fruit is edible and popularly known as “bacuri” [1]. The resin from the bark of the fruit and oil extracted from the seeds are used in traditional medicine in the treatment of herpes and eczemas [2]. Aiming to contribute to the study of new bioactive natural products, the objective of this work was the bioprospection of endophytic fungi associated to *P. insignis* species. The endophytic fungi are microorganisms that colonize asymptotically the interior of host plants and develop innumerable symbiotic relationships with their host without causing immediate negative effects [3]. Eighteen endophytic fungi were isolated from branches, leaves and fruit using traditional methodology, being cultivated in small scale on potato and dextrose liquid medium (PDB) to obtain the respective crude extracts. After chemical investigation by ¹H NMR and HPLC-DAD and biological by means of the biofilm eradication bioassay and screening for gram positive and gram negative bacteria for MIC determination, the endophyte identified as *Diaporthe hongkongensis* was chosen for this study, which was cultivated (large scale) in PDB medium for 28 days at 25 °C. After the incubation period, the fermented medium was separated from the mycelium by filtration and subjected to liquid/liquid partition with AcOEt (3 x 50% of the medium volume). Then, the solvent was evaporated to give the crude extract, which was analyzed by HPLC-DAD and led to fractionation by column chromatography using reverse phase silica gel (C18) and eluted with CH₃OH: H₂O gradient, resulting in seven fractions. The PI-G13-Fr3 fraction was submitted to preparative HPLC and resulted in the isolation of the diketopiperazine cycle(Pro-Phe) [4] and of the aryylethylamide, N-(2-phenylethyl)acetamide [5], as well as other 5 that are in phase of structural determination. The structures were elucidated by analysis of 1D and 2D NMR and comparison with the literature. These classes of compounds are distinguished by their diverse biological activities such as antitumor, antimicrobial, larvicidal and antifungal [5,6,7]. These results reinforce the potential of these microorganisms as a source of bioactive natural products, suggesting an ecological role of this endophyte when associated with the plant species. This is the first report of endophytic fungi associated with *Platonia insignis* Mart.

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