



BIOPROSPECTING OF METABOLITES FROM ENDOPHYTIC FUNGI ASSOCIATED WITH LEAVES OF *Vochysia divergens* POHL (Vochysiaceae), CAMBARÁ

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Endophytic microorganisms colonize plants and generally inhabit their roots and aerial parts such as leaves and stems, but apparently without causing any harm to their hosts, living in symbiotic association. In addition to their number of important functions to the host, these microorganisms are potentially useful in agriculture and pharmaceutical industry, mainly because the production of many bioactive compounds [1]. Thus, this study aimed to identify the bioactive compounds produced by endophytic fungi associated with the *Vochysia divergens* (Cambará), a native plant from the Brazilian Cerrado/Pantanal. From this perspective, 82 strains of endophytic fungi were isolated and purified from the leaves of *V. divergens*, using appropriate techniques [2]. The microorganisms were identified by analysis of genotype. Subsequently 15 strains were selected and grown on solid medium (Potato Dextrose Agar) and subjected to extraction of metabolites using ethyl acetate to yield crude extracts [3]. These extracts were screened for potential antifungal and antibacterial activities, and also analyzed by HPLC and ¹H NMR to assess the chemical profile of the metabolites present. The strains of interest were grown on a larger scale and its crude extracts subjected to chromatographic fractionation by preparative HPLC and open column chromatography, aiming to isolate the bioactive substances. From the crude extract of *Nigrospora oryzae*, four fungal metabolites were identified as 5-methyl-melleine, 5-methyl-5-methyl-8-methoxy melleine, sclerine and daldinone A, through 1D and 2D NMR spectroscopy. Lasiodiplodin was isolated from the *Pseudofusicoccum stromaticum* fungus. The *Nigrospora sphaerica* fungus produced one novel metabolite named 10,11-dihydroxy-5,5,8-trimethyl-4-oxocycloundeca-1,8-dienecarbaldeide. All compounds were evaluated against five fungal strains and five bacterial strains, highlighting the Daldinone A. Thus, this study aimed to search for new potential bioactive agents, in addition to contribute to the knowledge of diversity and biotechnological potential of microorganisms associated with *V. divergens*.

References:

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