

TITLE: TRYPANOCIDAL ACTIVITY OF ENDOPHYTIC FUNGI ASSOCIATED WITH BIOACTIVE BRAZILIAN MEDICINAL PLANT *LAFOENSIA PACARI*

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Endophytic fungi are microorganisms that live within plants tissues for at least a part of their life cycle without causing any visible manifestation of disease. These endophytes have been shown to be a source of bioactive secondary metabolites of pharmacological and agricultural interest. Among the target plants for the studies of endophytic fungi community, medicinal plants represent a promising source for bioactive molecule producers. From the above, this work aimed to evaluate the medicinal plant *Lafoensia pacari* present in the Pantanal Mato-grossense, Brazil, as reservoir of endophytic fungi capable of producing bioactive metabolites. Fragments of the leaves and bark of *L. pacari* were surface disinfested and used for the isolation of endophytic fungi. In order to evaluate the production capacity of bioactive metabolites, the fungi were cultivated in BDA for 15 days and their metabolites extracted with the dichloromethane solvent. The metabolites of leaves and bark were also extracted. The extracts obtained were evaluated for antiparasitic activity by the plate microdilution method. Bioactive fungi identification was performed by sequencing the internal transcribed region ITS-5.8S of the rRNA gene region, as well as by the partial sequencing of the β -tubulin gene. Among the extracts, six fungal extracts belonging to Valsariaceae, Pleosporinea, *Apergillus* and *Diaporthe* groups, and ten bark extracts presented trypanocidal activity against amastigote forms of *Trypanosoma cruzi*, with parasite inhibition ranging from 70 to 99%. In addition, fungal extracts were able to inhibit parasite growth at low concentrations with low toxicity to mammalian cells. From the results obtained is possible to affirm that leaves and bark of *L. pacari* harbor a community of endophytic fungi with potential metabolite-producing that are interesting for the search of new bioactive substances with trypanocidal activity.

Keywords: endophytic fungi, *Lafoensia pacari*, bioactive secondary metabolites, *Trypanosoma cruzi*.

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