

TITLE: ISOLATION AND ANTIMICROBIAL ACTIVITY OF ENDOPHYTIC FUNGI OF *Arrabidaea bilabiata* (Sprague) Sandwith

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ABSTRACT:

Arrabidaea bilabiata is a toxic plant commonly found in floodplains in Amazon region, responsible for causing sudden death in cattles. Most of the studies with this plant have been aimed to toxicity variation in cattles, buffaloes and rabbits. Few researches seek to know their chemical compounds. Knowing that the chemical components of a plant are related to its endophytic microorganisms, this study aims to verify the biological activity of endophytic filamentous fungi of this plant against bacteria and yeasts pathogenic to humans. Whole leaves without mechanical defect or stains were collected from 10 random individuals in a property located in the municipality of Careiro da Várzea - AM. (3 ° 17'03.0 "S 59 ° 19'42.0" W). The collected leaves were conducted under cooling to the ILMD facilities where they were sterilized in an aseptic environment by immersion. Fragments of 1cm were cut and inoculated, 7 fragments by plate of each leaf were inoculated in Agar Potato Dextrose medium (BDA). After growth around the fragments, they were transferred to tubes with inclined BDA medium. The biological activity of the endophytes was verified through the agar diffusion method in "agar gel block". The fungi were cultivated for 7 days in CYA medium, after this period, 6mm blocks were made and inoculated together with the target microorganism previously seeded in plates according to their needs, after 24 and 48 hours were observed to verify inhibition halos, the tests were performed in triplicate. Target microorganisms were *Escherichia coli* (ATCC 35218), *Staphylococcus aureus* (ATCC 6538) and *Candida albicans* (ATCC 12031). In total, 59 filamentous fungi were isolated, with isolation frequency of 84.2%. Of these, up to the present time 36 were tested, and 5 presented activity against *E.coli*, 8 against *S. aureus* and 3 against *C. albicans*. With only one isolate, until now, demonstrating activity against both bacteria. The observed halos measured about 2 to 4 mm. This preliminary study demonstrated that the endophytic fungi of *A. bilabiata* have active metabolites against bacteria and yeast with biotechnological potential.

Keywords: Bioprospection, chibata, endophytes.

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