

Title: EVALUATION OF THE ANTIMICROBIAL ACTIVITY OF *ACROCOMIA ACULEATA* (JACQ.) LODD. EX MART. LEAF EXTRACT

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Abstract:

The use of plants for therapeutic purposes is part of human culture since antiquity. These practices have aroused scientific interest in different areas, several studies have been developed and directed in the discovery of new antimicrobial agents from plant extracts and other natural products to be applied in pharmaceuticals, cosmetics and food. *Acrocomia aculeata* (Jacq.) Lodd, popularly known as bocaiuva, is a species that has several applications. In popular medicine the use of the pulp produces purgative effects, the oil has anti-inflammatory action, and emulsions, pulp and almond are used to treat respiratory diseases. This study evaluated in vitro antimicrobial activity of aqueous (EA), ethanol (EE) and methanol (EM) leaf extracts from bocaiuva against bacteria and fungi. The extracts were obtained from dried macerated leaves in water, ethanol and methanol solutions in a ratio of 1: 5 extract/solvent for seven days. The extracts were filtered and concentrated on a roto-evaporator, then lyophilized. The antimicrobial activity was determined using Mueller Hinton Broth technique for the bacteria *Klebsiella pneumoniae*, *Salmonella Typhimurium*, *Proteus mirabilis*, *Enterobacter aerogenes*, *Salmonella Enteritidis*, *Enterococcus faecalis*, *Escherichia coli*, *Listeria monocytogenes*, *Bacillus cereus*, *Staphylococcus epidermidis*, *Staphylococcus aureus* and *Pseudomonas aeruginosa*. Brain Heart Infusion broth was used for the yeasts *Candida albicans*, *Candida tropicalis*, *Candida glabrata* and *Candida krusei*. The minimum inhibitory growth (MIC) was determined in 96-well microplates. The microplates were incubated at 36 ° C for 48 hours and the reading was possible due to color changing. The smaller extract concentrations with no apparent growth were defined as concentrations which completely inhibited microbial growth. Ethanol (EE) and methanol extracts (MS) inhibited the growth of *Candida tropicalis*, presenting a minimum inhibitory concentration of 500 ug / ml. *Candida* species are important agents of nosocomial infections and its treatment can be limited when facing resistant isolates. The results contribute to the search for therapeutic alternatives against yeast infections and provide basic information for further studies in order to assess bocaiuva's real antifungal potential.

Keywords: Antifungal activity, microdilution, plant extracts, bocaiuva

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