TITLE: EVALUATION OF ANTIMICROBIAL ACTIVITY OF COMPOUNDS PRESENT IN THE EPICARPUS OF *Acrocomia aculeata*

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ABSTRACT:
Resistance to antimicrobials is one of the most significant challenges for public health. The emergence of pathogens resistant to drugs available makes it necessary to study for the identification and development of more effective antimicrobials. Plants are sources of several bioactive secondary metabolites such as tannins, terpenes, alkaloids and other compounds with proven antimicrobial activity. Thus, the development of the present study aims to evaluate the antimicrobial potential of the extract obtained from the epicarp of *Acrocomia aculeata* (Arecaceae), popularly known as macaúba, against microorganisms of medical importance. The crude extract used in the study, obtained through maceration with ethanol, was subjected to liquid-liquid partition with organic solvents in different polarities. Antimicrobial activity was evaluated using the minimum inhibitory concentration (MIC) and minimal microbicide concentration (MMC), against *Pseudomonas aeruginosa*, methicillin-resistant *Staphylococcus aureus* (MRSA BMB9393), *Cryptococcus neoformans* H99 serotype A and *Trichophyton mentagrophytes*. As results, the crude extract showed weak antimicrobial activity with MIC of 2500 µg/mL for all strains tested, except for *C. neoformans* (MIC 156 µg/mL) that presented moderate activity. Of the fractions analyzed, the most prominent was the ethyl acetate fraction with microbiostatic activity varying from significant to moderate with MICs varying from 9.8 to 156 µg/mL. These results suggest a possible therapeutic potential of the ethyl acetate fraction. Additional studies are being conducted to determine the mechanisms of action and elucidation of the chemical composition of the active fraction in order to propose the future application of *Acrocomia aculeata* as a source of substances with antimicrobial potential.

Keywords: *Acrocomia aculeata*, Antibacterial activity, Antifungal activity, Arecaceae.

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