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ANTIMICROBIAL PROSPECTING OF THE ETHANOLIC EXTRACT OF THE FRUIT Libidibia ferrea AND ITS FRACTIONS

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Extracts from the fruit and stem of *Libidibia ferrea* (Fabaceae) show several biological activities, such as antibacterial, antifungal, antioxidant, and wound healing. Given this, the prospection of the ethanolic extract of the fruit of *L. ferrea* and its fractions was investigated against microorganisms of the genera *Bacillus sp, Escherichia sp, Pseudomonas sp, Salmonella sp, Staphylococcus sp,* and *Candida sp*, by broth microdilution method. The ethanolic extract of the fruit (EEtFr) was fractionated by silica gel column chromatography, yielding 17 fractions (FEtFr1 – FEtFr17), which were eluted with a polarity gradient. The fractions showed antimicrobial activity only for the bacteria Staphylococcus aureus and Bacillus cereus. FEtFr1 and FEtFr9 were the most active, among all tested, against S. aureus, with bacteriostatic (MICs 62.50 µg $mL^{-1}$and 125.0 µg mL^{-1}, respectively) and bactericidal (MBC = 125 µg $mL^{-1}$and MBC = 500 µg mL^{-1}, respectively) effects. The fractions FEtFr5-7, FEtFr1-10, and FEtFr13 were also bactericidal for S. aureus (MICs = 250 µg mL^{-1} for all and MBC values ranging from = 250 µg mL^{-1} to 500 µg mL-1). Regarding B. cereus, the fractions FetFr1–5, FEtFr7, FetFr9-10, FetFr12-15 were bacteriostatic (MIC value range = 250 µg mL^{-1} to 500 µg mL^{-1}; MBC = 500 µg mL^{-1} for the bactericidal ones). Additionally, ^{1}H NMR data from the fruit extract and fractions confirm the presence of phenolic compounds. However, the study of the chemical profile of the extracts and fractions by HPLC-MS is under analysis. The results suggest that the antibacterial fractions may contribute to the discovery of new antimicrobial agents in the long term. Acknowledgments: UNEB, FAPESB, CAPES, UFBA, USP.

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