

TITLE: CHEMICAL CONSTITUENTS, ANTIBACTERIAL AND ANTIFUNGAL ACTIVITIES OF THE ESSENTIAL OIL THE *Myroxylon peruiferum* L.f

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Natural products are considered fundamental sources of new chemical diversity, serving as scaffolds for the chemical synthesis of bioactive compounds. Thus, the objective of this study was to describe the chemical constituents of the essential oil and evaluate the antibacterial and antifungal activity of the essential oil of *Myroxylon peruiferum* L.f. Leaves (1000g) of *M. peruiferum* L.f were collected from Uruburetama massif, located in the Soledade district of Itapagé (Ceará State, Brazil). The voucher specimen (number 19240) was deposited at Herbarium of the State University of Acaraú Valley. The essential oil (EOMP) was extracted from fresh leaves by the hydrodistillation method using the Clevenger type apparatus for 2 hours. The antibacterial and antifungal activity were determined by the microdilution broth method against *Staphylococcus aureus* ATCC 25923, *Staphylococcus epidermidis* ATCC 12228, *Escherichia coli* ATCC 11303, *Pseudomonas aeruginosa* ATCC 10145, *Trichophyton rubrum* 0207, *Trichophyton rubrum* 0208, *Trichophyton rubrum* 0209, *Trichophyton rubrum* 0210, *Candida albicans* ATCC 90028, *Candida tropicalis* LABMIC 0110, *Candida parapsilosis* LABMIC 0123 e *Candida krusei* LABMIC 0124. The results of gas chromatography coupled to mass spectrometry (GC/MS) showed the identification and quantification of 24 compounds, corresponding to 85.50 % of the chemical composition of the oil, having the Germacrene D (17.15 %), α -pinene (14.85 %) and E-caryophyllene (10.78 %) as main compounds. EOMP showed MIC of 2.5 % concentration and MBC of 5.0 % against *S. aureus* and MIC of 5.0 % against *S. epidermidis*, but, did not show MBC. On the other hand, EOMP showed no activity against Gram-negative bacteria. Regarding antifungal effect, EOMP showed fungistatic and fungicidal activity on *T. rubrum* LABMIC 0207, *T. rubrum* LABMIC 0208 and *T. rubrum* LABMIC 0209 at concentrations ranging from 5.000 to 1.250 μ g/mL. Was observed that the essential oil did not present inhibition effectiveness against the yeast strains tested. We found that the essential oil of *M. peruiferum* L.f exhibits antifungal and antibacterial activity. Thus, the essential oil is considered a potential antimicrobial agent against infections and contaminations.

Keyword: *Myroxylon peruiferum* L.f. Essential oil. Microdilution broth method.