

TITLE: ANTIBACTERIAL ACTIVITY FOR LEAF ESSENTIAL OIL OF *Ocotea corymbosa* (Meisn.) Mez (Lauraceae)

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ABSTRACT:

The chemistry of natural products has proven to be effective, generating new drugs with less side effects besides being less expensive. In this context, the study of *Ocotea corymbosa* (Meisn.) Mez, a plant belonging to the Lauraceae family, is popularly known as cinnamon Crow. The objective of this work was to contribute to the pharmacological knowledge of the specimen and to verify the antibacterial activity of the leaf essential oil against three bacterial strains *Staphylococcus aureus* (ATCC 25923), *Escherichia coli* (ATCC 25922) and *Enterococcus faecalis* ATCC (19433). For this purpose, approximately 900 g of leaves were collected in the municipality of Naviraí-MS. The oil was obtained for four hours. The oil was collected and stored under refrigeration for further evaluation. The chemical tests were carried out with gas chromatography coupled to a mass spectrometer (CG-EM) and with flame ionization detector (GC-FID). The suspension assay of the bacterial strains was performed in saline (0,8% NaCl) to obtain approximately $1,5 \times 10^8$ CFU/mL. As a control, a chloramphenicol disk (30 μ g) and the study oil diluted in concentrations of 1 μ L and 5 μ L were used. The extraction yielded an oil yield of 0.29%. The most important constituents were elixene (9.9%), δ -cadinene (8,9%), D-germacrene (7,0%), the caryophyllene (4,7%) and the α -cadinol (4,3%). As for the bacterial strains, there was no inhibition in halo growth for *Escherichia coli*. However, it was shown to be active for *Enterococcus faecalis* (18.46mm \pm 0.47) and *Staphylococcus aureus* (16.98mm \pm 1.33), whereas the chloramphenicol standard inhibited 34,24mm, 25,11mm and 24,07mm, respectively. It is believed that the interactions of numerous molecules present in the oil are responsible for this activity, as well as the hydrophilic lipophilicity with terpenic structure, which allows its partition in the lipids of the cell membrane, increasing its permeability. Therefore, the antibacterial activity of *O. corymbosa* essential oil against Gram-positive bacteria can be justified, showing that this specimen oil is promising, although more in-depth studies are still necessary.

Keywords: Essential oils, natural products, drugs, antibacterial activity.

Development Agency: FUNDECT - Fundação de Apoio ao Desenvolvimento do Ensino, Ciência e Tecnologia do Estado de Mato Grosso do Sul.