

TITLE: ANTIMICROBIAL ACTIVITY OF ETHANOLIC EXTRACTS OF LEAVES AND BRANCHES FROM *SERJANIA* SP.

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ABSTRACT:

Over the years, the plants are being used as forms of treatment that encompass numerous etiologies. The lack of new antimicrobials makes it increasingly necessary to discover new compounds capable of fighting microorganisms resistant to existing antibiotics. In the study, the antimicrobial activity of two extracts obtained through the leaves and branches of the *Serjania* sp plant was evaluated, by testing its potential against a gram-positive and a gram-negative bacterium. The experiment was developed from the collection of samples of the plant in question, making the selection and preparation of the collected material. Subsequently, the ethanol extraction method was performed, obtaining two extracts, one of the branches and the other of the leaves of the plant. By using the 96-well plate microdilution method in the proportions of 1/1 to 1/10, where the highest concentration of the extract was 100 mg/μL, two microorganisms were tested, *Staphylococcus aureus* (Gram-positive) and *Escherichia coli* (Gram-negative), adding 1μL of a brain heart infusion (BHI) solution containing the bacteria and added them to the wells mentioned. In the evaluation of the bacterial growth it was possible to observe that in wells 1 / 1, 1 / 2 and 1/3 containing leaves extract, there was inhibition of microbial growth. On the other hand, in the extract of the branches only 1/1 concentration obtained the same result. In the test to evaluate the microbicidal capacity of the extracts, it was used the mueller hinton agar, and 1 μL of the wells that had bacteriostatic characteristics were pipetted and only 1/1 concentrations obtained inhibition halo, but it was considered insignificant when antibiotic chloramphenicol is used as reference. For this reason, we can consider that the leaf extract has some activity, but it doesn't act as bactericides but rather as bacteriostats. Additionally, the extract of the branches showed activity only in the highest concentration, being considered the part of the plant that has less activity on the microorganisms in question. Thus, future experiments will still be carried out in order to refine the activity in question and seek new results.

Keywords: antimicrobials, microorganisms, bactericides, bacteriostats,

Development Agency: Prof. Dr. Alexandre Braoios