

Title: ANTIBACTERIAL ACTIVITY OF ETHANOLIC EXTRACTS OF *CECROPIA* SP., *PHYLLANTUS* SP., *CONYZA* SP. AND *BAHUNIA* SP. AGAINST OPPORTUNISTIC MICROORGANISMS

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Abstract:

The antimicrobial activity of plant extracts has presented a lot of applications, including pharmaceuticals products and alternative medicine. The antibacterial substances of plants were discovered primarily through the observation of ability of these compounds to inhibit the growth of microorganism which naturally they are exposed. This fact becomes important front of the worrying evolution of bacterial resistance mechanisms, particularly in microorganisms with high prevalence in healthcare environments, such as *Acinetobacter baumannii*. Owing to therapeutic potential of plant extracts and the search for alternatives for combating resistant microorganisms that causing nosocomial infections, this research aimed to evaluate the antimicrobial activity of four ethanolic extracts against three opportunistic pathogens. For this purpose, were performed the antimicrobial activity of the ethanol extracts of *Cecropia* sp., *Phyllanthus* sp., *Conyza* sp. e *Bahunia* sp. against *Burkholderia cepacia* (ATCC 17759), *Acinetobacter baumannii* (ATCC 19606) and *Pseudomonas aeruginosa* (ATCC 15442). To evaluate the activity of this extracts, the broth microdilution test were employed in concentrations of 200 µg/mL to 50 µg/mL of compound, according methods described by CLSI (2012). Across the minimum inhibitory concentrations (MIC's), was observed an inhibitory activity of all extracts tested against *P. aeruginosa*, where *Phyllanthus* sp. showed better results against this bacterial, with a MIC ≤ 50 µg/mL. Whereas, the ethanolic extract of *Cecropia* sp. have been the only one that inhibited the growth of *A. baumannii* (MIC = 200 µg/mL). With respect to *B. cepacia*, neither concentrations of any compound studied was able to inhibit the growth of this bacteria. Based on the results, we could check the substantial antibacterial activity of the extracts used against *P. aeruginosa* and *A. baumannii*. It's considered relevant further studies, in order understand the activity and mechanisms of actions of these extracts, to each bacterial species in particular, taking into account their respective characteristics.

Keywords: ethanolic compounds, antimicrobial activity, bacterial

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