

Exploring the pharmacognostic and antimicrobial features of the leaf extract from *Bridelia Ferruginea* Benth (Euphorbiaceae)

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DESCRIPTION

Bridelia ferruginea is a well known shrub that is used in traditional medicine in the management of certain diseases such as dysentery, arthritis and constipation. Ascertain the validity of the use of *B. ferruginea* as an antimicrobial agent, to evaluate the pharmacogenetic profile and differentiate it from adulterated one, to detect the secondary metabolites present in the leaf extract and to compare the plants antimicrobial activity with standard antimicrobial agents.

METHODS

The leaves of *Bridelia ferruginea* were picked from the stem and left to dry in the shade for about a week. The leaves were ground into moderately coarse powder using mortar and pestle. A 400 g quantity of the grounded leaves were packed into a glass jar and macerated with methanol for 24 hours. The extractive were then filtered, distilled and concentrated in a rotary evaporator at optimum temperature of 40.5°C and was brought to complete dryness over a water bath. The flask containing the extract was allowed to cool and the extract was then collected.

RESULTS

The MIC values for the *Bridelia ferruginea* extract against the susceptible organisms (*S. aureus*, *B. subtilis*, and *C. albicans*) were found to be 9.5 ± 0.21 , 7.0 ± 0.15 , and 9.0 ± 0.20 respectively, showing no significant difference ($p < 0.05$). The values of the inhibitory zone diameter obtained ranged from 7.017 ± 0.01 to 9.5 ± 0.02 for *C. albicans* and *S. aureus* respectively at 100 mm, without any significant difference ($p < 0.05$). From the results, the extract was more effective only against Gram positive bacteria. The analysis of phytochemicals in the leaves of *Bridelia ferruginea* revealed the existence of secondary metabolites.

CONCLUSION

The study indicates the enormous potential of *B. ferruginea* with anti-microbial properties. Due to its wide application, the phytochemicals present has been documented, and they could be useful in lead compound discover.

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