COMPARATIVE STUDY OF THE QUANTITATIVE PHYTOCHEMICAL CONSTITUENTS AND ANTIBACTERIAL ACTIVITY OF FIVE TREE SPECIES

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ABSTRACT

Quantitative phytochemical constituents and antibacterial activity of *Albizzia lebbeck*, *Terminalia catappa*, *Terminalia mantaly*, *Citrus grandis* and *Khaya senegalensis* were assessed. The fresh leaves of the five tree species collected were shade-dried and grinded into fine powder and the phytochemical constituents were extracted using water as a solvent. The quantitative phytochemical constituents were determined using standard procedures and the antibacterial activity test of the aqueous leaf extracts of the plants were tested on *Bacillus subtilis*, *Staphylococcus aureus*, *Salmonella typhi*, and *Escherichia coli* in vitro. The results of the quantitative analysis revealed that,*A. lebbeck* had the highest concentrations of tannins (1.29 %) and total phenols (4.99 mg/ml). *Terminalia mantaly* had the highest concentration of alkaloids (3.94 %) and *K. senegalensis* had the highest concentrations of saponins (14.96 %), cyanogenic glycosides (15.00 mg/g) and flavonoids (13.91 %). Whereas the results of the antibacterial activity test of the aqueous leaf extracts of the five tree species showed variations in their antibacterial activities with the aqueous leaf extract of*T. mantaly* being the most active against most of the test organisms compared to those of other trees. In conclusion, the aqueous leaf extract of *T. mantaly* had a better antibacterial tendency than those of the other four tree species.

Keywords: Antibacterial, Aqueous extracts, Phytochemicals, Trees.