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Phytochemical analyses and inhibitory effect of Kapok (Ceiba pentandra) leaf extract and bark decoction on Escherichia coli.

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Abstract

The purpose of this research is to determine the inhibitory effect of *Ceiba pentandra* bark decoction and leaf extract on the growth of *Escherichia coli* and to determine the chemical components of *Ceiba pentandra* bark decoction and leaf extract. To fulfill this objective, an experimental research design was employed. In order to efficiently determine its effectiveness, bacterial cultures were exposed to different treatments. There were five replicates of each treatment: bark decoction, leaf extract, positive control (ciprofloxacin) and negative control (distilled water). The Analysis of Variance (ANOVA) was used to determine the significance of the strength of the difference between the control and to each of the the independent variables. Dried bark and powdered leaves were sent to ITDI of DOST for the phytochemical screening. The samples were tested for fats and oils, alkaloids, tannins, saponins, unsaturated steroids and triterpenes, 2-deoxysugars, y-bensopyrone (flavonoids), and anthraquinones. Test results showed that the leaf contains fats and oils, tannins, polyphenols, sapotins, 2-deoxysugar, leucoanthocyanins, y-bensopyrone (flavonoids) nucleus and free fatty acids while it lacks alkaloids, quaternary bases and amine oxides, unsaturated steroids an triterpenes and anthraquinones. The bark contains alkaloids, tannins and polyphenol, 2-deoxysugars, unsaturated steroids and triterpenes, leucoanthocyanins, and y-benzopyrone (flavonoids) nucleus while it lacks fats and oils, quaternary bases and/or amines, saponins, and free fatty acids. After getting the data using ANOVA, the result showed there was no significant difference in the inhibitory effect of the Kapok leaf extract and bark decoction on *E. coli.*