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Phytochemical, histochemical and anti-microbial Screening of *Murraya koenigii* L.

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The discovery of revitalizing molecules with the capacity to stop or reduce the pathogens will be considered as the major breakthrough of the present time. The side effects and health issues due to the usage of available synthetic compounds heightens the need of molecules from plants and other natural resources. *Murrayya koeinigii* from Rutaceae family is commonly used as a medicinally important herb. It has been scientifically proven that the leaves, roots, and bark of this plant are rich sources of carbazole alkaloids, which produce potent biological activities and pharmacological effects which include antioxidant, antidiabetic, anti-inflammatory, antitumor, and neuro-protective activities. The present study provides an insight into the major components of *M. koenigii* and their pharmacological activities against various pathological conditions. Morphological and microscopic characters were observed by pharmacognostic study. Quantitative analysis of carbohydrate, alkaloid, sterol, tannin, volatile oil, saponins, anthraquinone, glycosides and flavonoids were also the part of study. The organoleptic characteristics of bark of M. koenigii were noted. The protein estimation of leaves of M. koenigii exhibited comparable results. Based on the diameter of zone of inhibition, the organic extracts exhibited inhibitory activity against Staphylococcus aureus, *Escherichia coli* and P*seudomonas aeruginos*a. *Klebsiella pneumoniae* and *Salmonella paratyphi* were found to be resistant except for chloroform extract which showed a very faint zone of inhibition. The organic extracts presented a good potential of antibacterial activity against *E.coli* and *Pseudomonas aeruginosa* with the zones of inhibition well above standard antibiotic. Ethyl alcohol extract displayed highest inhibitory activity when compared to hexane and chloroform extracts. The results were comparable to that of previous studies in which the researchers reported that various organic extracts of *M. koenigii* exhibited significant antimicrobial activity against both gram positive and gram negative bacteria.