

Identification of Phenolic Compounds and Study the Antimicrobial Property of Eleaocarpus Ganitrus Fruits

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Abstract : Background: The use of herbal products for various therapeutic regimens has increased tremendously in the developing countries. *Elaeocarpus ganitrus*(Rudraksha) is a broad-leaved tree, belonging to the family *Elaeocarpaceae* found in tropical and subtropical areas. It is popular in an indigenous system of medicine like Ayurveda, Siddha, and Unani. According to Ayurvedic medicine, Rudraksha is used in the managing of blood pressure, asthma, mental disorders, diabetes, gynaecological disorders, neurological disorders such as epilepsy and liver diseases. Objectives: The present study aimed to study the physicochemical parameters of *Elaeocarpus ganitrus*(fruits) and identify the phenolic compounds (gallic acid, ellagic acid, and chebulinic acid). To estimate the microbial load and the antibacterial activity of extract of *Elaeocarpus ganitrus* for selective pathogens. Methodology: The dried powdered fruit of *Elaeocarpus ganitrus* was performed the physicochemical parameters (such as Loss on drying, Alcohol soluble extractive, Water soluble extractive, Total ash and Acid insoluble ash) and pH was measured. The dried coarse powdered fruit of *Elaeocarpus ganitrus* was extracted successively with hexane, chloroform, ethylacetate and aqueous alcohol by cold percolation method. Identification of phenolic compounds (gallic acid, ellagic acid, chebulinic acid) was done by HPTLC method and confirmed by co-TLC using different solvent system. The successive extracts of *Elaeocarpus ganitrus* and standards (like gallic acid, ellagic acid, and chebulinic acid) was approximately weighed and made up with alcohol. HPTLC (CAMAG) analysis was performed on a TLC over silica gel 60F254 precoated aluminium plate, layer thickness 0.2 mm (E.Merck, Germany) by using ATS4, Visualizer and Scanner with wavelength at 254 nm, 366 nm and derivatized with different reagents. The microbial load such as total bacterial count, total fungal count, Enterobacteria, *Escherichia coli*, *Salmonella* species, *Staphylococcus aureus* and *Pseudomonas aeruginosa* by serial dilution method and antibacterial activity of was measured by Kirby bauer method for selective pathogens. Results: The physicochemical parameter of *Elaeocarpus ganitrus* was studied for standardization of crude drug. Among all the successive extracts were identified with phenolic compounds and *Elaeocarpus ganitrus* extract having potent antibacterial activity against gram-positive and gram-negative bacteria.

Keywords : antimicrobial activity, *Elaeocarpus ganitrus*, HPTLC, phenolic compounds

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