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Phytochemical Screening and Antibacterial Activity of *Flemingia vestita Tuber Skin*

JKDMP Madara[1#], RBL Dharmawickreme[2] and JKDDT Jayanetti[3]

[1]*Department of Food Science and technology, Postgraduate Institute of Agriculture, University of Peradeniya*
[2]*Human Genetics Unit, Faculty of Medicine, University of Colombo*
[3]*General Sir John Kotelawala Defence University, Sri Lanka*

[#]madarajaya94@gmail.com

Sohphlang is an important medicinal plant found in the North-Eastern region of India which is traditionally recognized for its anthelmintic properties. This study was aimed to screen the phytochemical constituents and antibacterial activity of the tuber skin extracts of the plant. Whole tubers with intact skin were collected from the North Eastern state of Meghalaya in Shillong city and identified as *Flemingia vestita* in the Department of Botany, St Anthonys College Shillong. Followed by initial sample preparation, solvent extractions of the skin peel were obtained using methanol, acetone, and water. Extracts were concentrated and screened for qualitative phytochemical content using standard methods. The antibacterial activity of methanol tuber skin extract was investigated by Agar well diffusion method at 0.5 mg/ml, 1 mg/ml and 2 mg/ml concentrations, against Gram negative bacteria *Klebsiella pneumoniae, Pseudomonas aeruginosa, Escherichia coli* and Gram-positive bacteria, *Bacillus subtilis* and *Mycobacterium tuberculosis*. The diameter of the zone of inhibition was measured to determine the antibacterial activity and the obtained data were statistically analysed. Ampicillin was used as a positive control and run in parallel with sterile distilled water and methanol as a negative control. Phytochemical screening of aqueous, methanol and acetone extracts revealed the presence of alkaloids, glycosides, and phenols. The methanol extracts of *Flemingia vestita* were found to be effective at 0.5 mg/ml with a zone of inhibition of 13.3±0.57 mm and 16.3±4.9 mm against *Bacillus subtilis* and *Mycobacterium tuberculosis* respectively. Extracts of *Flemingia vestita* have not shown inhibition zones against *Klebsiella pneumonia, Pseudomonas aeruginosa* and *Escherichia coli*.

Keywords: *Flemingia vestita, antibacterial activity, phytochemical screening, well diffusion method*