Short Communication

ANTIMICROBIAL ACTIVITY OF *BAUHINIA PURPURIA* LINN

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ABSTRACT: The antimicrobial activity of the various extracts of the root bark of *Bauhinia purpuria* has been studied by agar cup plate diffusion method. Significant antibacterial and antifungal activity was shown by petroleum ether, chloroform and acetone extracts.

Keywords: Antibacterial; Antifungal; *Bauhinia purpuria*

The plant *Bauhinia purpuria Linn* (Fabaceae) is the most widely cultivated variety of the genus *Bauhinia* and is distributed in the sub-Himalayan ranges of India, Sri-Lanka, Mexico, Arabia and South Western Africa. The decoction of the root is used for expelling gases, flatulence and gripping pain from the stomach and bowels. The decoction of the bark is used to cure diarrhea. The decoction of the flower works as laxative. The bark of root and flower mixed with boiled rice water is used as a maturant for boils and abscesses (Kurian, 2004). Root bark of *Bauhinia purpuria* contains flavone glycosides (Yadav et. al., 2001). The present study was undertaken to screen the antibacterial activity of the root bark of *Bauhinia purpuria*

The root bark of *Bauhinia purpuria* were collected from the local areas of Mangalore district, Karnataka, India during December 2007 and were authenticated by Prof. Gopalakrishna Bhat, Department of Botony, Poorna Prajna College, Udupi.
The powdered plant material (500 g) was subjected successive hot soxhlet extraction using petroleum ether (60-80^{o}C), chloroform and acetone in their increasing order of polarity. The extracts so obtained were concentrated to dryness by evaporating the solvent under reduced pressure using rotary evaporator. Yield of extracts was petroleum ether (2.5%), chloroform (5.2%) and acetone (4.5%). All the extracts were dissolved in sterile dimethyl sulphoxide (DMSO) for antibacterial as well as antifungal activity.

Antimicrobial activity (Pelczer.et.al., 1993) was tested using various microorganisms (Pharmacopoeia of India. 1996) using Gentamycin (10 µg/ml) and Ketoconazole as standard (Table-1) by cup plate agar diffusion method (Mackie.et. al.,1989). The organisms selected for antimicrobial activity were *Escherichia coli* ATCC 25922, *Staphylococcus aureus* NCTC 6571, *Aspergillus niger* ATCC 16404, *Candida albicans* F 598, *Pseudomonas aeruginosa* APC and *Salmonella typhi* NCTC 11. The plates were incubated at 27°C for 34 hr and the diameter of zone of inhibition measured.

Table-1. Antimicrobial activity of *Bauhinia purpuria* root bark extracts

Micro organisms	Zone of inhibition (mm)***SEM					
	P.ether	Chloro-Form	Acetone	Genta-mycin	Keto-conazole	P value
Escherichia Coli	0.26 ±0.02	0.39 ±0.12	0.55 ±0.09	0.42 ±0.06	NT	>0.10
Staphylococcus Aureus	0.19 ±0.11	0.66 ±0.23	0.36 ±0.25	0.27 ±0.12	NT	>0.10
Pseudomonas aeruginosa	0.66 ±0.08	0.68 ±0.21	0.69 ±0.14	0.56 ±0.12	NT	>0.10
Salmonella Typhi	0.76 ±0.11	0.45 ±0.17	0.21 ±0.13	0.75 ±0.14	NT	>0.10
Asperagillus Niger	0.51 ±0.21	0.45 ±0.15	0.49 ±0.10	_	0.70 ±0.22	>0.10
Candida albicans	0.60 ±0.14	0.56 ±0.13	0.56 ±0.09	_	0.85 ±0.07	>0.10

NT; not tested, ***Average of triplicate, -No zone of inhibition

Chloroform and acetone extracts exhibited strong activity against bacteria and fungi (Table-1) and the zone of inhibition was comparable with the standard drug. Presence of high antibacterial and antifungal activity in most of the plant species highlights the need of further investigations to isolate the active principle and their subsequent evaluation.

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