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Antimicrobial Activities of Whole Plant of *Voila canescens* and *Bauhinia variegate*

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In the present new investigation an attempt have been done to screen the antimicrobial activity of two commonly available medicinal plants of Garhwal region. The plants selected for the study are Whole plant of *Voila canescens* and *Bauhinia variegate*. These plants have been tested and gave effective antimicrobial activity against *E. coli*, *Staphylococcus aureus, Psudomonaus* and *Bacillus subtilis* which have been procured from Lovely professional university panjab.

Key words: Antimicrobial activity, *Voila canescens, Bauhinia variegate*.

Many research works have been done which aim at knowing the different antimicrobial and phytochemical constituents of medicinal plants and using them for the treatment of microbial infections (both topical and systemic applications) as possible alternatives to chemically synthetic drugs to which many infectious microorganisms have become resistant. During the last ten years the pace of development of new antimicrobial drugs has slowed down while the prevalence of resistance (especially multiple) has increased astronomically[1]. The increase in number of antibiotic resistant bacteria is no longer matched by expansion in the arsenal of agents available to treat infections.Literature reports and ethnobotanical records suggest that plants are the sleeping giants of pharmaceutical industry[2]. They may provide natural source of antimicrobial drugs that will/ or provide novel or lead compounds that may be employed in controlling some infections globally.

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Viola canescens typically have heart-shaped, scalloped leaf, though a number have palmate leaves or other shapes. *Viola canescens* commonly used as traditional medicine in the Garhwal region of north-west Himalaya for the treatment of protozoan infections and fever including malaria were studied. *Bauhinia variegate* is a plant of *Fabaceae* family. This tree has nearly half-an-inch thick bark, dark brown in color, having vertical cracks. The tree has a long history of being used in medicine**.** A decoction made from the bark of the tree is used to cure dysentery, and an infusion of the dried flower buds is used to treat diarrhea**.** The bark is also used in preparations to cure skin diseases and the flower buds can be made into an infusion which will cure coughs. It is even claimed that a decoction of the root will prevent obesity by practitioners of traditional medicine on the Indian subcontinent[3].

EXPERIMENTAL

Plant material

The whole plant of Whole plant of *Voila canescens* and *Bauhinia Variegate* were collected from Bacchear District. Chamoli Uttrakhand in the month of October and identified by Department

Botany, P.G. College Gopeshwar where vaucher specimen were deposited.

Extraction

Exactly 150 g each of the powdered three plants were separately extracted in cold using 60% alcoholic for 4 days. The ethanol extract was concentrated to dryness through rotatory evaporator.

Sensitivity testing

The sensitivity testing of the extracts were determined using agar well diffusion method(4&6). The bacterial isolates were first grown in nutrient broth for 18 h before use. The inoculums suspensions were standardized and then tested against the effect of the two plant extracts at a concentration of 20 mg/ml each in DST medium. The plates were later incubated at 37°C ± 0.5°C for 24 h after which they were observed for zones of inhibition (Table1 and 2). The effects were compared with that of the standard antibiotic streptomycin at a concentration of 1 mg/ml (Khan and Omotoso,2003).

RESULTS AND DISCUSSION

Voila canescens extract showed positive tests for some bacterial cultures as given below:

(i) *E.colli*- solution of *Voila canescens* extract showed 10 mm zone of inhibition against *E.colli*.

(ii) *Bacillus*- solution of the extract showed 12 mm zone of inhibition against *Bacillus*.

(iii) *Staphylococcus Aureus*- solution of the extract showed 20 mm zone of inhibition against *Staphylococcus aureus.*

(iv) *Psudomonaus* - solution of the extract showed 20 mm zone of inhibition against *Psudomonaus*

Antibacterial activity of *Voila canescens* Extracts:-

Extract of seeds	Bacteria Culture	Zone of inhibition
Extract of whole plant	*E.colli*	10
Extract of whole plant	*Bacillus subtilis*	12
Extract of whole plant	*Staphylococcus Aureus*	20
Extract of whole plant	*Psudomonaus*	14

Bauhinia Variegate

Extract showed positive tests for two bacterial cultures as given below:

(i) *E.coli* –100mg/ml solution of this extract showed 10 mm zone of inhibition against *E.coli*.

(ii) *Bacillus* – 100mg/ml solution of this extract showed 25 mm zone of inhibition against *Bacillus*.

Antibacterial activity of extract of Whole plant of *Bauhinia Variegate*

Extract	Culture	Zone of inhibition
extract of whole plant	*E.coli*	10 mm
extract of whole plant	*Bacillus subtilis*	25 mm

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