

In vitro Antimicrobial Activity of *Tamarix ericoides* Rottl. Stem and Leaf Extract. (Methanolic)

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Abstract: In nature each and every plants have some medicinal properties. So present study focused on antimicrobial activity of less known medicinally important plant, *Tamarix ericoides* Rottl. This plant are generally used in various local people to cure some disease. these plants are also rich in phytoconstituents such as alkaloids, tannins, Flavonoids, phenols, saponins etc. In this paper researcher investigate its antimicrobial activity by using various micro-organism like *s. typhi*, *E.coli*, *B.subtilis*, *C.albicans* with different solvent. But results shows higher antimicrobial activity in methaloic extract as compare to other solvent such as petroleum ether, ethanol, and aqueous etc.

Keyword: Antimicrobial activity, Disc diffusion methods, Phytoconstituents, Medicinal uses, *Tamatix ericoides* Rottl.

1. Introduction

Antimicrobial properties of medicinal plants were reported from different parts of the world. According to WHO world health organization 80% people dependent on the herbal medicine. In the long time of history India Numerous infectious diseases have been known to be controlled by herbal remedies that have been proved variously since primitive to present history of the mankind. Since time immemorial, man has used various parts of plants in treatment and prevention of various ailments

Tamatix ericoides Rottl. Is the less known medicinal plant of family tamaricaceae. these plant generally present on bnak of river..it is tall shrub belonging to family Tamaricaceae. It is generally grows in bank of river in any seasons. It is tall shrub, blackish bark, leaves of minute. The most important characters of these plants are having reduced scaly lance like leaves. Plants show pink flower having 5-sepals, 5-petals, ovate, and free. The plants generally used by local peoples and tribal of Maharashtra as erthnomedicine on various ailments. The roots generally used diabetes, febrifuge, antidermatosis. It is also used on paralysis, upper limb; sensation of motion during egging. It is also dye yielding plants

However, from the above account, it is obvious that there is no information available about the antimicrobial activity of of methanolic extract of stem and leaf *T.ericoides* Rottl..The present investigation was designated to explore the antimicrobial of methanolic extract of given plants. In this preliminary investigation, stem and leaves was used and the crude extracts were subjected to screening against different strains of bacteria using standard protocol of Disc Diffusion Method (DDM). The antibacterial activities were assessed by the presence or absence of inhibition zones.

2. Material and Method

The plants material were collected from chikhaldara region from Melghat Maharashtra. India. The collected plant was identified taxonomically by local taxonomist and floras (Naik, 1998 and Singh Kathikeyan 2001).vaucher speciemen are kept in the herbarium of Botany department, Shri shivaji

college Akola (MS).India. the fresh plant material (stem and leaves) washed thoughtly with water. Then cleaned plants parts are then allowed for complete shade dying and then made to fine powder with mechanical grider and stored in airtight container.a powered of plant parts were to used for extract preparation.

Extract Preparation

10 gm powder of each plants parts (stem and leaves) were extracted successfully with methanol, ethanol, chloroform and petroleum ether and water. The extract obtained from successive solvent.extract were filtered and stored in air tight bottle at 4 c and further used for investigation.

Micro-Organism Used

Following four type of microbial strains are used for investigation.

- 1) Echerichia coli (Bacteria)
- 2) Bacillus subtilis (Bacteria)
- 3) Salmonella typhi (Bacteria)
- 4) Candia albicans(Fungus)

3. Procedure

The antimicrobial activity of selected methaloic extract was derermined by disc diffusion methods (NCCLs.1997, Elizabeth,2005).briefly 100 µl of suspension containing 108 colony forming units of bacteria cells and 104 sopres/ml of fungi were spread on Petri plates containing nutrients agar (NA) and potato dextrose agar (PDA) medium (50mL,media/plate),respectively. The paper disc(6 mm diameter) were separately impregnated with 15 µl of extract or main components of essential oils and placed on the agar which had previously been inoculated with the selected test microorganism.Tetracycline was used as positive reference. Disc without samples were used as negative control. Plate were kept in 4c for 1hour.the plate were incubated at 37°c for 24 hour for bacteria and at 30°cfor 48 hour for fungal stains. Antmicrobial activity was assessed by measuring the diameter of growth inhibition zone in millimeter for the test of organism comparing to the controls.

4. Results and Discussion

Plant derived antimicrobial agents has great perspectives in medicine and pharmaceutical industries. In the present investigation, methanolic and other extracts of *Tamarix ericoides* were tested for its antibacterial activity against few pathogenic bacterial strains like *Bacillus subtilis*, *E. coli*, *S. typhi* and fungal strain *C. albicans*. The results are presented in Table-1. All the tested bacteria were found to be highly susceptible to the crude extracts of *Tamarix ericoides*. The most effective activity was observed in methanolic extract with maximum zone of inhibition. Both powder extract leaf and stem show maximum activity against methanolic extract. The further observation are presented in the table no.

Table 1: Antimicrobial activity of methanolic extract of *Tamarix ericoides* Rottl.

Microorganisms	Zone of inhibition (mm)	
	<i>Tamarix ericoides</i>	
	Stem	Leaf
<i>B. subtilis</i>	10	11
<i>S. typhi</i>	8	9
<i>E. coli</i>	8	10
<i>C. albicans</i>	5	7

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