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Antimicrobial activity and phytochemical analysis of whole plant *Impatiens balsamina* linn

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ABSTRACT

Impatiens balsamina linn, belonging to the family of Balsaminaceae.It is distributed in tropical and sub tropical parts of India. It issued in emetic, chathartic, diuretic and cancer. Present study is carried out to determine the anti microbial properties of the ethanol extract of *Impatiens balsamina*.

Keywords: Ethanol extract of extract of *Impatiens balsamina* (EEIB). Antimicrobial activity, Zone of inhibiti

INTRODUCTION

Impatiens balsamina linn is a annual herb, stem glabrous, 30-90cm [1]. Which was collected from kolli hills namakkal. *Impatiens balsamina* linn is indigenous to India, the plant has been reported for its anti inflamatery [2], antitumor [3], antioxidant activities [4]. Because of its high therapeuticvalues, we have made an attempt to investigate anti microbial properties of the whole plant of the *Impatiens balsamina.*

MATERIALS AND METHODS

Plant collection

The whole plant of *Impatiens balsamina* linn were collected and authenticated by the botanist in Botanical Survey of India, TNAU Campus, Coimbatore, Tamilnadu. (Ref.No: BSI/SC/5/23/10-11). The collected whole plant were subjected to shade drying and the coarse powder is used for extraction and phytochemical analysis.

Phytochemical studies

The plant of *Impatiens balsamina* Linn reduced to fine powder (# 40 size mesh) and around 300 gms of powder was subjected to successive hot continuous extraction (soxhlet) with petroleum ether,chloroform, alcohol. Finally the drug will be macerated with water. Each time before extracting with the next solvent the powdered material will be air dried in hot air oven below 500C. After the effective extraction, the solvent were distilled off, the extract was then concentrated on water bath and the extract obtained with each solvent will be weighed [5]. The various extract of the whole plant

Impatiens balsamina Linn were subjected to chemical tests for identification of its active constituents.

Antimicrobial studies

The 25, 50, 75 and 100µg/ml of ethanol extract were used to find out the Antimicrobial properties using streptomycin, Nystatin (10µg/ml) as a standard against the various strains of gram positive, negative bacteria andfungi [6]. The nutrient agar medium was preparedand sterilized by autoclaving at 1200c 15lbs pressure for 15 minutes ,aseptically poured the medium into the sterile petri plates and allowed to solidity the bacterial and fungal broth culture was swabbed on each petri plates using sterile buds. Then wells made by well cutter. The ethnolic extract of whole plant were added to each well aseptically. This procedure was repeated for each petri plates then the plates were incubated at370C for 24hrs. after incubation the plates were observed for the zone of inhibition. Bacterial strains were maintained on neutrient agar slants and fungal strains were maintained on rose Bengal agar slants (Hi media) at 4^0 c.

RESULTS AND DISCUSSION

The plant *Impatiens balsamina Linn* belonging to the family Balsaminaceae**.** The present study on the whole plant of ethanol extract of *Impatiens balsamina* Linn the chemical screening show that the presence of Alkaloids, Carbohydrates, Flavonoids, Proteins & Amino acid,Glycoside, Steriods. The concentration100µg/ml of whole plant extract *Impatiens balsamina* Linn has significant antibacterial and antifungal activity. The concentration of 25 & 50 & 75µg/ml of ethanol extract of *Impatiens balsamina* Linn have moderate antibacterial and antifungal activity (Table no1).

Table 1: Antimicrobial activity of Ethanol extract of *Impatiens balsamina* Linn

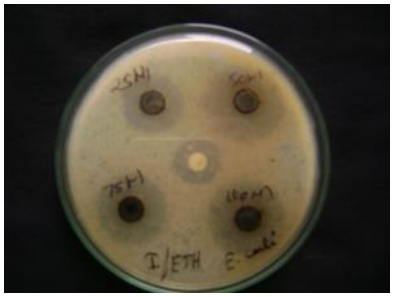
	Area of inhibition Zone (mm)									
	Conc(µg)	**A**	**B**	**C**	**D**	**E**	**F**	**G**	**H**	**I**	**J**
EEIB	control	9	8	7	9	10	8	6	7	7	6
	25	15	12	12	15	13	16	13	16	13	15
	50	16	14	13	16	14	18	16	20	16	20
	75	17	16	15	17	16	20	18	31	18	24
	100	18	18	16	18	18	23	19	35	19	25
	Standard	25	22	26	25	22	24	25	15	25	15

Bacteria

(A) Escherichia coli (ATCC 25922), (B) Salmonella typhi (ATCC 9076), (C) Bacillus subtilis (ATCC 6633), (D) Staphylococcus aureus (ATCC 25923),(E) Pseudomonas aeruginosa (ATCC 27853,(F) Bacillus megaterium (ATCC 23564,(G) Enterobacter faecalis (ATCC 35550)

Fungi

(H) Aspergillus niger (NCIM 596, (I) Candida albicans (NCIM 670),(J) Aspergillus fumigates (NCIM 291)



Antimicrobial activity 0f EEIB on *Salmonella typhi* (ATCC 9076)

Antifungal activity of EEIB on *Candida albicans* (NCIM 670)

REFERENCES

[1]. Agarwal VS. Drugs Plants of India. Kalyani Publishers, New Delhi, I, 1997, 361, 362, 433.

[2]. Oku H and Ishiguro K. Antipruritic and antidermatitic effect of extract and compounds of *Impatiens balsamina* L. in atopic dermatitis model NC mice. *Phytother Res*, 15(6), 2001, 506-1.

[3]. Ding ZS, Jiang FS, Chen NP, Lv GY and Zhu CG. Isolation and identification of an anti-tumor component from leaves of *Impatiens balsamina*. *Molecules*, 13(6), 2008, 20-9.

[4]. Ishiguro K, Fukumoto H, Murashima T, Kuriyama M, Semma M and Isoi K. Antianaphylactic effects of the ethanolic extract from the petals of *Impatiens balsamina* L. in mice. Tokyo, *J. pharmacobio-Dyn*, 15, 1992, s-9.

[5]. Trease GE, Evans WC. Pharmacognosy. ELBS Publication 12, 1983, 344- 539.

[6]. Ananthanarayan R and Paniker JCK. *Text book of Microbiology*, orient longan Ltd, Chennai, 5, 1987, 620-621.