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RESEARCH ARTICLE

ANALYSIS OF PHYTOCHEMICALS AND MIMOSINE FROM MIMOSA PUDICA

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Abstract

Mimosa pudica has been reported to contain mimosine & phytochemical components.The drug is also found to be rich in tannins. The root is also stated to have anti-convulsant activity. Successive extracts of the whole plant are reported to have antimicrobial activity. It was found that the root of *Mimosa pudica* have acetylcholine esterase inhibitory activity. It majorly possesses antibacterial,antifungal,antivenom, antifertility, anticonvulsant, antidepressant, aphrodisiac, Skin disease,respiratory infections and urinary tract infections .

INTRODUCTION

It mainly contains tannins, steroids, triterpenes, alkaloids, glycosides, flavonoids, c-glycoside. An extract of the leaves of *Mimosa pudica possesses* aphrodisiac, antipyretic, antispasmodic, anticancer and diuretic actions sore gum and is used as blood purifier. Roots are used in the treatment of Urinary tract infections, piles and fistula. And pinkish flowers are used as anticancer. In Ayurvedic and Unani system of medicine, this plant has been used in disease arising from corrupted blood, bile, fever, piles, jaundice, leprosy, ulcers, and small pox (White *et al*., 2002).

MATERIALS AND METHODS

Preparation of extracts

The powdered plant materials like Leaves, Flowers and Roots of *mimosa pudica* was extracted separately in soxhlet apparatus successively using ethanol, chloroform and methanol as solvents. The extract was collected and each time before successive extraction With next solvent the powdered material was air dried .All extracts were filtered through Whatmann NO: 1 filter paper and then concentrated with by using rotary vacuum evaporator at low temperature 40 -50 C°. The yield, colour and consistency of extract were noted.

Phytochemical evaluation

The extracts prepared and described in above, were subjected to qualitative and quantitative photochemical evaluation.

Microorganisms used

Pure cultures of *Staphylococcus aureus, E.coli, Pseudomonas sps, Macrophonia phaseolina, Aspergillus niger, Rhizoctonia solani* were used as the test micro-organisms that were isolatedfrom various clinical specimens like sputum, urine, Throat swab, Skin Scrapings collected from Ahalia hospital, Kerala.

Isolation and identification of bacteria and fungi

From the clinical specimen a thin smear was prepared heat fixed and gram staining was done. Those bacteria purple were referred as gram positive and those that appeared pink were appeared as gram negative. A drop of lacto phenol cotton blue was placed on a clean glass slide. Allowed the preparation microscopically and observed mycelium and conidia. Compared mycelia and conidial structures with standard for correct identification.

Measurement of Antimicrobial activity

Nutrient broth was used for the growth of bacterial culture. While Sabourauds dextrose broth was used for the growth of fungi culture. Disc diffusion method was adapted for the measurement of antimicrobial activity of extracts. Nutrient broth was taken separately in different sterilized test tubes and different bacterium was inoculated separately and the test tubes were kept in incubator for 18 – 20 hrs growth. Similarly SDA broth was taken separately in different sterilized test tubes and inoculums of different fungal cultures were inoculated. The test tubes were kept for 48hrs at 370C.

Extraction of mimosine

The fresh leafs of *Mimosa pudica* were washed then heated at 1000C for 3min.After that it was grinded and extracted then filtered ,extract juice were taken separated and purified by GCMS. The purified extract was freeze dried then mimosine extract was obtained.

RESULT

Fig -1 ANTIMICROBIAL ACTIVITY OF *MIMOSA PUTICA* LEAF EXTRACT AGAINST RESPIRATORY TRACT INFECTIONS CAUSING BACTERIA

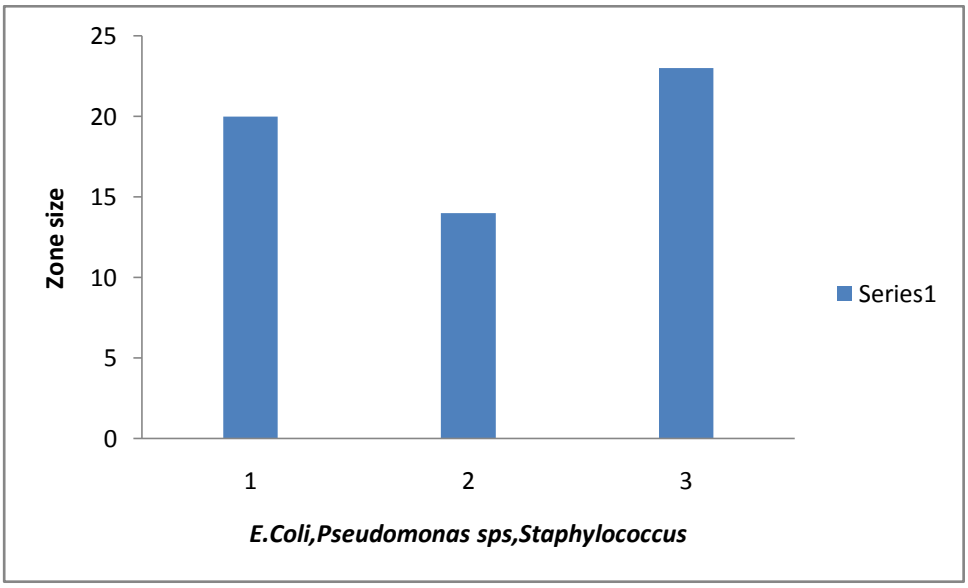


Fig 2. ANTIMICROBIAL ACTIVITY OF *MIMOSA PUDICA* FLOWER EXTRACT AGAINST SKIN INFECTION CAUSING BACTERIA

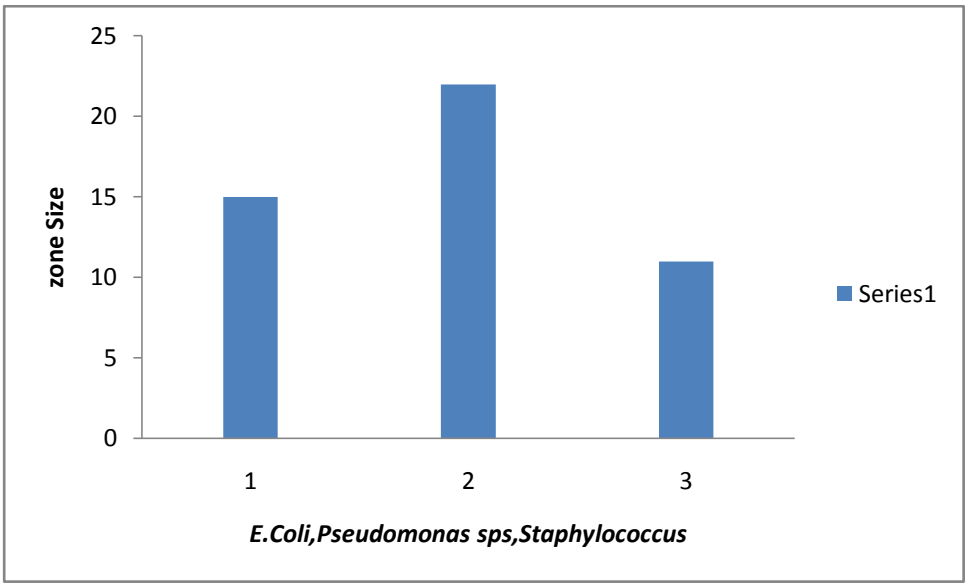
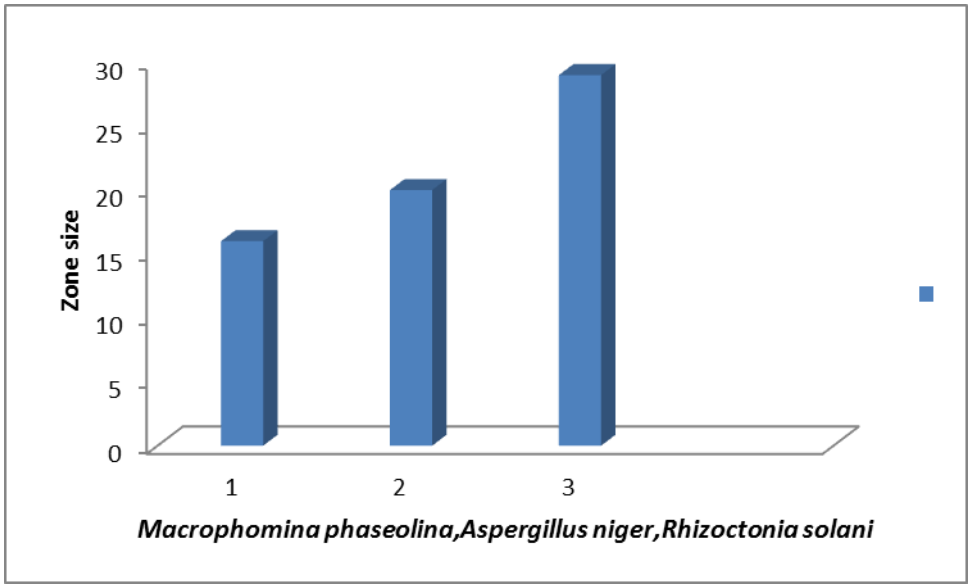


FIG-3. ANTIFUNGAL ACTIVITY OF *MIMOSA PUDICA* ROOT EXTRACT AGAINST URINARY INFECTION CAUSING FUNGI



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