

Antimicrobial activity of leaf extract of members of leguminasae

R. SHANMUGAVADIVU^{1*}, M.S. SUBRAMANIAN² AND P.N. GURURAJA RAO¹

¹Physiology Section, Sugarcane Breeding Institute, COIMBATORE (T.N.) INDIA

²Department of Botany, Kongunadu Arts and Science College, COIMBATORE (T.N.) INDIA

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SUMMARY

Albizia lebbek Benth., *Cassia auriculata* L., *Delonix elata* Gamb and *Clitoria tematea* L., belongs to the family Mimosaceae. The plants were commonly used in the treatment of rheumatism. In the present study an attempt was made to test the anti-bacterial screening against *Klebsiella pneumoniae* and antifungal screening against *Aspergillus niger*. The response of plant extract widely varies across the type of micro organisms. The leaf extract was having higher inhibitory effect than the control for both bacteria and fungi. The extract of the plant effectively controlled the growth of bacteria two to four old times in comparison to fungi. Antimicrobial activity increased with increased in concentration.

Key words : *Albizia lebbek*, *Cassia auriculata*, *Clitoria tematea*, *Delonix elata*, Antimicrobial activity.

Medicinal plants have a strong linkage with human health not only in Indian system of medicine but also in the Ayurveda, Yunani and Sidha are depending on herbal drugs. But the other systems including Allilopathic and Homeopathic directly or indirectly depend upon the herbal drug sources. Many chemicals are currently employed for the control of fungal and bacterial diseases. These chemicals may be extracted from natural sources or synthesized artificially. Antimicrobial investigation of medicinal plants has been a notable area of research. The screening of plant extracts for antimicrobial activity has revealed the potentiality of plants as a source of antimicrobial agents. The identification of natural products in plants with antimicrobial activity represents a potentially useful area for development of chemotherapeutic agents and helps in explaining the use of some plant materials in traditional medicine. A wide variety of medicinal plants are commonly used to treat various skin infections etc. Samy and Ignachimuthu (2000) studied the antimicrobial activity of some folk medicinal plants used by tribals in Western Ghats of India. Tewnty plats showed activity. Among the leaf extracts of cassia occidentalis, *Cassia auriculata* exhibited significant broad spectrum activity. Alebbeck is a native of tropical Himalaya, India, South Asia, South China, extensively cultivated in tropics and sub tropics. Some selected medicinal plants of Nigeria showed antimicrobial activity against *E.Coli*, *Pseudomonas aruginosa* and *Stapi/ococcus aureus* (Harani *et al.*, 2000).

MATERIALS AND METHODS

The plant *Albizia lebbek* Benth. was collected

from in and around Coimbatore during the period of January to March 2002 leaves of *Albizia lebbek* were taken, shade dried and powdered in Wiley mill and passed through 40 mesh sieve and processed for powder analysis (Gupta and Banerjee, 1970).

Preparations of test samples:

The test samples of Ethanol and Ethonalic extract of leaves of *Albizia lebbek* were prepared in sterile distilled water (10 mg/ml). Further dilutions of test solutions as required, were made with sterile distilled water.

Inoculum:

Inoculum was prepared by transferring a loopful of stock culture to a 250 ml Erlenmeyer flask containing 80 ml of nutrient broth for bacteria and sabouraud's agar broth for fungal culture.

Preparation of plates:

The nutrient agar medium and sabouraud's agar medium were sterilized by autoclaving at 121°C for 15 minutes. The Petri plates and pipettes plugged with cotton were sterilized in an oven at 150°C for one hour. About 25 ml of molten agar medium was poured in each sterilized Petri dish (diameter 10 cm), under aseptic conditions. About 0.5 ml of inoculum broth of different strains of bacteria and fungi were added to the respective, Petri plates. The contents of Petri dishes were mixed thoroughly by rotary motion. The medium containing inoculum was allowed to solidify at room temperature. After solidification of media four cups (diameter 8 mm) were made in each Petri dish with sterile borer at equal distances.

* Author for correspondence.