

D-76 Antimicrobial studies on *Ruellia tuberosa*

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Ruellia tuberosa (S. Puruk Amukkara) of the Family Acenthaceae has emetic and antifertility activity. *Ruellia tuberosa* is used as a substitute for *Withania somnifera* in Ayurvedic medicine in Sri Lanka. The present study was carried out to investigate the antimicrobial activity of the plant extracts.

Ruellia tuberosa roots and aerial parts were separately extracted with pet ether, chloroform, ethanol and water. Water soluble alkaloids too were extracted. *Staphylococcus aureus* (NCTC 6971), *Escherichia coli* (NCTC 10418) and *Streptococcus* sp. were used as test organisms for antibacterial studies and gentamicin (3 mg/ml) was used as the reference. Inhibitory activity was determined by Kirby-Bauer disk diffusion technique and gentamicin was used as the reference. MIC values were determined by serial dilution method and growth of micro-organisms were checked by streaking prepared agar plates. A direct bioautographic TLC assay was also used to determine the individual compounds possessing antibacterial activity.

All extracts (except the chloroform extract of aerial parts) were active against *Streptococcus*, *Staphylococcus*, and *E. coli* 3.2 mg/ml, *Staphylococcus* 2.5 mg/ml. The direct bioautographic technique showed very clear inhibition zones for the 3 bacterial strains.

Rhizoctonia, *Curvularia*, *Fusarium*, *Alternaria* and *Cladosporium* were grown on Potato Dextrose Agar (PDA) medium and disk diffusion test was carried out to study the inhibition of fungal strains. TLC assays were conducted to determine the compounds possessing antifungal activity for the *Cladosporium*, *Curvularia* and *Alternaria*.

The 2 extracts (Chloroform extract of tubers and crude alkaloids) were active against *Curvularia*, *Alternaria* & *Cladosporium*. The result of disk diffusion test was confirmed by the TLC assay.

Dimethyl sulfoxide was used to dissolve all 7 samples except the pet ether extract which dissolved only in methylene chloride.

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