



Antimicrobial activity of mangrove leaves against drug resistant pathogens

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Abstract: In the present study, aqueous and solvent extracts of leaves collected from nine mangrove plants were screened against Methicillin resistant *Staphylococcus aureus* (MRSA), Vancomycin resistant *Staphylococcus aureus* (VRSA) and Extended spectrum beta lactamase (ESBL) strains. Out of nine mangrove plants *Avicennia sp.*, *Rhizophora sp.*, *Ceriops decandra* and *Thillai species* showed antimicrobial activity against test pathogens. Methanolic extracts of *Avicennia sp.*, and *Rhizophora sp.*, showed 10 mm, 9mm and 10mm, 13mm against *S. aureus* and *Pseudomonas aeruginosa*, respectively. Methanol extract of *Ceriops decandra* showed 12 mm inhibition against *S. aureus* and *Pseudomonas aeruginosa*. Methanol extracts of *Thillai sp.*, showed 10mm activity against *Pseudomonas sp.* The crude extract of *Avicennia sp.*, produced two spots in thin layer chromatography (TLC) when chloroform: methanol (60:40) used as a solvent system. In bioautography, the first spot (Rf value 0.65) showed activity. The active compound purified by preparative TLC showed maximum activity (15 mm inhibition) against MRSA. The methanolic crude extract of *Rhizophora sp.*, and *Ceriops decandra* produced Rf value 0.58 and 0.6 respectively. The active compound of *Rhizophora sp.*, and *Ceriops decandra* purified by TLC showed maximum activity of 18 and 16 mm activity against MRSA. Further isolation and characterization of active compounds is in progress.

Keywords: Antimicrobial, Mangrove, Extraction, Activity, Bioautography.

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