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In vitro* ANTIMICROBIAL ACTIVITY OF LEAF EXTRACTS OF *Mangifera zeylanica

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Natural products have been used as a source for many drugs from the very dawn of medicine. With the evolution of resistance by microorganisms to present antimicrobials, the need for novel discoveries is urgent. Many researchers have demonstrated antimicrobial effects of *Mangifera indica* plant extracts. This study was undertaken to find out the antimicrobial activity of leaf extracts of *Mangifera zeylanica* which is an endemic plant in Sri Lanka.

The leaves of a *Mangifera zeylanica* plant (identity confirmed) were collected from the Gannoruwa forest. Leaf extracts were prepared by the maceration method using water at room temperature, water at 70°C, boiled water and ethanol. Antimicrobial effect of the plant extract at a concentration of 25mg/ml was tested against six isolates of bacteria; *Staphylococcus aureus* (NTCC 6571), *Escherichia coli* (NTCC 10417), *Pseudomonas aeruginosa* (NTCC 10662), *Streptococcus pyogenes*, *Enterococcus faecalis* and Methiciline resistant *Staphylococcus aureus* (MRSA) and five species of *Candida*; *Candida albicans* (ATCC 90028), *Candida parapsilosis* (ATCC 22019), *Candida krusei* (ATCC 6258), *Candida glabrata* (ATCC 90030), *Candida tropicalis* (ATCC 13803) using the agar well diffusion method. Minimum inhibitory concentrations (MIC) were determined for the extracts with high activity using the agar dilution method.

When the diameter of the zones of inhibition was considered, the highest antimicrobial activity was detected against *S. aureus* followed by *E. faecalis*, *E. coli* and *P. aeruginosa*. Noticeable antimicrobial activity was detected against *C. parapsilosis*, followed by *C. glabrata*, *C. krusei* and *C. tropicalis* except *C. albicans*. Ethanol and 70°C water extracts showed higher antimicrobial activity. For the ethanol extract, the MIC value for both *S. aureus* and MRSA was 0.2 mg/ml. *E. faecalis* had a MIC value of 0.8 mg/ml. The MIC value for *P. aeruginosa* was 1.6 mg/ml and for *E. coli* MIC was 3.2 mg/ml. MIC value for *C. krusei*, *C. parapsilosis* and *C. glabrata* was 0.1mg/ml while the MIC value for *C. tropicalis* was 12.8 mg/ml. For the 70°C water extract, both *S. aureus* and MRSA showed a MIC value of 0.4 mg/ml. MIC value for *E. faecalis* was 1.6 mg/ml. MIC value for *C. parapsilosis* was 0.1mg/ml and the MIC value for *C. krusei* was 0.2mg/ml. *C. glabrata* had a MIC value of 0.8 mg/ml.

Leaf extracts of *Mangifera zeylanica* under different conditions, exhibit marked antimicrobial activity. Ethanol and 70°C water extracts are effective against many microorganisms including *S. aureus*, *E. faecalis*, *P. aeruginosa* and non-albicans *Candida*.