

**Antimicrobial activity of *Piper betel* leaves,
Momordica charantia seed & *Centella asiatica*
root extracts against microorganisms associated
with fish spoilage.**

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By

**GUNATHUNGA ARACHCHILAGE ASANKA PRADEEP
DISSANAYAKA.**

**Science and Technology Degree Program
Uva Wellassa University, Sri Lanka
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ABSTRACT

Spoilage of fresh and lightly preserved fish products is caused by mainly microbial action. So prevention of undesirable microbial actions in fish is important. For that we can use plant sources which are having antimicrobial activities.

The objective of this study was to determine the antimicrobial activity of selected plant extracts against microorganisms associated with fish spoilage. Bacteria isolation was done from spoiled fish samples and it was carried out with serial dilution method, spread plate method & streak plate method. Finally 3 types of bacteria were isolated with different characteristics. Two of isolated bacteria & *Staphylococcus aureus* were subjected to the Screening of antimicrobial activity. For the extraction *Piper betle* leaves, *Momordica charantia* seeds and *Centella asiatica* roots were subjected. The extraction of this plant parts were carried out with soxhlet extraction method by using Methanol & Hexane solvents. Among them methanol extracts showed the highest crude for all plants. So methanol crude was chosen for the Screening of antimicrobial activity. Screening of antimicrobial activity was done by agar disc diffusion method. 5 concentration series were made for each plant extract for the disc diffusion method. (200mg/ml, 100mg/ml, 50mg/ml, 25mg/ml, 12.5mg/ml). Then disc diffusion was done for each selected bacteria with a positive control(methanol). Then inhibition zones for each bacteria & concentrations were obtained and minimum inhibitory concentrations were calculated. Finally statistical analysis was done to choose the best plant extracts for each bacteria strain.

According to this study the methanol was the best solvent for extraction of selected plants(polar solvent). All selected plants have shown the antibacterial activities for selected bacteria. The highest effect was shown by *Piper betel* leaves and least effect was shown by *Centella asiatica* roots for all bacteria strains. The screening results of the study confirm the possible use of selected plants as a source of antimicrobial agent.

Key words :- antimicrobial activity, spread plate method, streak plate method, disc diffusion method