

OR-80**Isolation and Characterization of Novel Antimicrobial Peptides from Selected Plant Species**

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The present study is initiated to explore the presence of novel antimicrobial peptides from three selected plant species namely *Aleisanthia rupestris* (Rubiaceae), *Ilex praetermissa* (Aquifoliceae) and *Elaeocarpus mastersii* (Elaeocarpaceae). Among these, *Aleisanthia rupestris* (Rubiaceae) and *Ilex praetermissa* (Aquifoliceae) are endemic to the Klang Gate Quartz Ridge which is situated in the north-eastern part of Kuala Lumpur. These plants were also evaluated for their antioxidant potential using 2, 2-Diphenyl-1-picrylhydrazyl (DPPH), Ferric Reducing Ability of Plasma (FRAP), Super oxide dismutase (SOD) and hemolytic rabbit erythrocyte assays. The antimicrobial efficacy of such AMPs against prominent pathogens such as *Bacillus cereus* ATCC14579, *Escherichia coli* UT181, *Pseudomonas aeruginosa* PA7, and *Staphylococcus aureus* RF122 were evaluated. The result showed that all three species using aqueous and methanolic extraction have antimicrobial properties against *Bacillus cereus* and *Staphylococcus aureus*. All the ethanolic extracts showed good antioxidant and hemolytic effects. *Ilex praetermissa* and *Elaeocarpus mastersii* showed significant results for MIC and MBC against *Bacillus cereus*. *Elaeocarpus mastersii* also showed evidence of the presence of phenolic compounds. The findings from these studies can serve well for the conservation of Klang Gate Quartz Ridge flora from where the plants were collected of which two were endemic species. This area should be conserved as a conservation site for not just the species in this study but also other flora that have been documented as endemic in literature. The results on *Elaeocarpus mastersii* in this study may be useful in the development of anticancer drugs as it is widely distributed in this country.

Keywords: Rubiaceae, Aquifoliceae, Elaeocarpaceae, *Ilex praetermissa*, *Elaeocarpus mastersii*.
