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The Vulnerary Potential of Malaysian Traditional Vegetables as Antibacterial...



The Vulnerary Potential of Malaysian Traditional Vegetables as Antibacterial Agents of Fish Pathogens: A Preliminary Study

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Abstract Controlling antibiotic use in aquaculture demands the development of more sustainable alternative treatments for bacterial diseases. Therefore, the present study aims to evaluate the in vitro antibacterial effects of ethanolic extracts derived from ten popular and commonly consumed Malaysian traditional vegetables against *Aeromonas hydrophila*, *Aeromonas jandaei*, *Aeromonas sobria*, and *Edwardsiella tarda*. Various parts of pla¹⁶ were assessed for their inhibitory activity using disc diffusion,



minimum inhibitory concentration, and minimum bactericidal concentration (MBC) methods. The *Persicaria odorata* and *Garcinia atroviridis* extracts extracted using the maceration method showed a wide range of inhibitory effects, but others showed less activity. *Aeromonas hydrophila* was the most susceptible bacterial strain, with all plant extracts suppressing its growth, while *A. sobria* is the most resistant strain. The minimum inhibition concentration (MIC) value ranged from 0.39 to 100 mg/ml, and all tested bacteria's MBC/MIC ratio was demonstrated to be bactericidal (MBC/MIC ratio <4). The findings of this study reveal the potential of *P. odorata* and *G. atroviridis* extracts as natural antibacterial agents that could be a safer and more effective alternative treatment in controlling bacterial infections in freshwater fish.

Keywords

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Keywords Plus: ANTIOXIDANT; EXTRACTS; STRAINS; LEAVES

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