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Antibacterial property of crude extract from stem-bark and leaves of *Rhizophora apiculata* against selected bacterial fish pathogens

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Introduction: Recently the wide range of commercial antibiotics in fish feed for aquaculture practices has led to antibacterial resistance, environmental pollution and residue build-up in fish tissue. Therefore new sources of antibiotics from natural sources need to be investigated to circumvent these problems. *Rhizophora apiculata* has been reported to have high antimicrobial activity due to the high concentration of tannin in the bark of the tree. **Methods**: Based on these contexts, this study was conducted to measure the antimicrobial activity of ethanol, ethyl acetate and distill water extracts from the stem-bark and the leaves of *R. apiculata*. 9 species of bacteria consist of *B. subtilis*, *S. aureus*, *S. epidermidis*, *P.aeruginosa*, *P. mirabilis*, *H. alvei*, *V. alginolyticus*, *V. paraheamolyticus* and *E. coli* were tested to measure their susceptibility to the extracts. The extracts were dissolved into 2 different concentrations which were 10 mg/mL and 50 mg/mL or 10 ug/disc and 50 ug/disc respectably, to determine the inhibitory effect of the extract upon the bacterial fish pathogen. **Results**: 2 species of Gram-positive bacteria which were *B. subtilis* and *S. epidermidis* have shown positive results with 9.0 mm to 16.0 mm of inhibition zone respectably while the other bacteria were resistant to the extract concentration administered. **Conclusions**: A continuous monitoring need to be carried out to comprehend the potential of *Rhizophora apiculataas* and other mangrove plants, which can be applied as an alternative source for environmental friendly antibacterial drug in pharmaceutical and aquaculture industries.

KEYWORDS: *Rhizophora apiculata*, anti-bacterial resistance, fish pathogen, disc diffusion method