EVALUATION OF MANGROVE EXTRACTS AS ANTIBACTERIAL AGENT AGAINST METHICILLIN RESISTANT *STAPHYLOCOCCUS AUREUS*

By

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STATEMENT BY THE AUTHOR

I hereby declare that this submission is my own work and to the best of my knowledge, it contains no material previously published or written by another person, nor material which to a substantial extent has been accepted for the award of any other degree or diploma at any educational institution, except where due acknowledgement is made in the thesis.

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ABSTRACT

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Nowadays the amount of bacteria with antibiotic resistance is rapidly increasing and is causing problems all around the world. One of such bacteria is the Methicillin Resistant *Staphylococcus aureus* or commonly known as MRSA. It is a strain of *Staphylococcus aureus* bacteria that has developed resistance against antibiotics with ß-lactam, which are basically most of the commonly used antibiotics to treat *Staphylococcus* infections. In this research the antibacterial activity of the extract from five different types of mangrove species will be tested against the MRSA bacteria. The *Sonneratia caseolaris, Avicennia marina, Rhizophora mucronata, Bruguiera gymnorrhiza*, and *Rhizophora apiculata* were the mangrove species that were chosen for this experiment. The experiment was conducted using the Kirby-Bauer-Disk-Diffusion-Assay, which is the most commonly used method in order to quantitatively measure the antibacterial activity of a substance. Other than the antibacterial assay, the total phenolic and flavonoid content of the mangrove extracts were also determined, along with the antioxidant properties and the toxicity of the extracts.

Keywords: MRSA, Mangrove, Disk-diffusion, Antibacterial, Antioxidant, Phytochemical.

DEDICATION

I dedicate this work to my beloved family and friends.

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