EVALUATION OF ANTIBACTERIAL ACTIVITIES AND TOXICITY OF *Licuala spinosa*'s FRUITS

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Final Year Project Report Submitted in
Partial Fulfilment of the Requirements for the
Degree of Bachelor of Science (Hons.) Biology
In The Faculty of Applied Sciences
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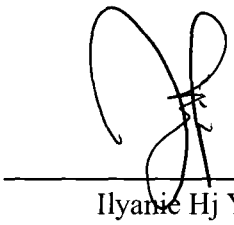
JANUARY 2014

This Final Year Project Report entitled "**Evaluation Of Antibacterial Activities And Toxicity Of *Licuala Spinosa's* Fruits**" was submitted by Nur Izzati Binti Zakaria, in partial fulfillment of the requirements for the Degree of Bachelor of Science (Hons.) Biology, in the Faculty of Applied Sciences, and was approved by



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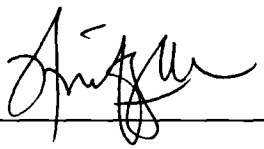

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ABSTRACT

EVALUATION OF ANTIBACTERIAL ACTIVITIES AND TOXICITY OF *Licuala spinosa*'s FRUITS.

Licuala spinosa (*Arecaceae*) was used by the natives in Malaysia to treat centipede bites and act as antidote to poisoning. An evaluation on the antibacterial and acute toxicity activity of the extract of this plant is crucial to support the therapeutic claims. The extract was prepared through the maceration of dried powdered fruits using 70% methanol. It was tested against five different concentrations which were 25 mg/ml, 50 mg/ml, 100 mg/ml, 200 mg/ml and 400 mg/ml of distilled water. The vancomycin was served as positive control while methanol was used as negative control. The methanolic extract of *L.spinosa*'s fruit was tested on gram negative bacteria (*Pseudomonas aeruginosa* and *Escherichia coli*) and gram positive bacteria (*Bacillus substilis* and *Micrococcus luteus*) by using disc diffusion method. The results showed that the extract has the highest antibacterial activity on *B. Substilis* at concentration 400 mg/ml with zone inhibition of 10.7 mm. For gram negative bacteria,extract showed the highest antibacterial activity on *P. aeruginosa* at concentration 400 mg/ml with zone inhibition of 4.3 mm. Then, the methanolic extract of *L.spinosa's* fruits was tested using brine shrimp lethality test. The LC_{50} was lesser than 1.0mg/ml in which was known to possess toxic effect. The maximum mortality took place at concentration 200 µg/ml which is 86% mortality rate whereas there is no mortality observed at 10 µg/ml.