

**EVALUATION OF ANTIBACTERIAL ACTIVITY AND
TOXICITY OF *Licuala spinosa* STEMS**

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TABLE OF CONTENTS

	PAGE
ACKNOWLEDGEMENTS	iii
TABLE OF CONTENTS	iv
LIST OF TABLES	vi
LIST OF FIGURES	vii
LIST OF ABBREVIATIONS	viii
ABSTRACT	ix
ABSTRAK	x
CHAPTER 1: INTRODUCTION	
1.1 Background of Study	1
1.2 Problem Statement	3
1.3 Significance of the Study	4
1.4 Objectives of the Study	4
CHAPTER 2: LITERATURE REVIEW	
2.1 Family Arecaceae	5
2.2 Arecaceae as Medicinal Plant	8
2.3 Genus <i>Licuala</i>	11
2.4 <i>Licuala spinosa</i>	13
2.5 Methanol Extract	15
2.6 Microorganisms	16
2.6.1 <i>Escherichia coli</i>	16
2.6.2 <i>Pseudomonas aeruginosa</i>	17
2.6.3 <i>Bacillus subtilis</i>	18
2.6.4 <i>Micrococcus luteus</i>	19
2.7 Toxicity	20
2.8 Brine shrimp	21
CHAPTER 3: METHODOLOGY	
3.1 Materials	23
3.1.1 Raw materials	23
3.1.2 Chemicals	23
3.1.3 Apparatus	23
3.2 Methods	24
3.2.1 Collection of plant material	26
3.2.2 Plant extraction	27
3.2.3 Bacterial preparation	28
3.2.4 Preparation of Mueller-Hinton agar	29
3.2.5 Kirby Bauer disc diffusion technique	29

3.2.6	Brine shrimp toxicity test	31
3.2.6.1	Hatching shrimp	31
3.2.6.2	Brine shrimp lethality test	32
3.3	Statistical Analysis	33
CHAPTER 4: RESULTS AND DISCUSSION		
4.1	Plant Material	34
4.2	Plant Extraction	35
4.3	Antibacterial Activity and Disc Diffusion Assay	37
4.4	Brine Shrimp Lethality Test	43
CHAPTER 5: CONCLUSIONS AND RECOMMENDATIONS		46
CITED REFERENCES		48
APPENDICES		54
CURRICULUM VITAE		63

ABSTRACT

EVALUATION OF ANTIBACTERIAL ACTIVITY AND TOXICITY OF *Licuala spinosa* STEMS

Medicinal plants have many traditional claims including the treatment of ailments of infectious origin. In the evaluation of traditional claims, scientific research is important. The objective of the study was to evaluate the antibacterial activity of methanol extract of *Licuala spinosa* stems and to evaluate the acute toxicity of methanol extract of *Licuala spinosa* stems. In this preliminary investigation, the extract was prepared through maceration of dried powdered stems of the plant by methanolic solution. The antibacterial activity of the crude methanol extracts was evaluated at eight different concentrations and subjected to screening against four strains of bacteria species, *Escherichia coli*, *Pseudomonas aeruginosa*, *Bacillus subtilis*, and *Micrococcus luteus*, using standard protocol of disc diffusion method. The methanol extracts was more active against Gram-positive bacteria as compared to Gram-negative bacteria. The antibacterial activities were assessed by the presence or absence of inhibition zones. The inhibitory effect of the extract was compared with standard antibiotic, vancomycin (positive control). The methanol extract of *Licuala spinosa* stems do not demonstrate any significant antibacterial activity compared with the negative control ($p > 0.05$). The plant extracts tested showed no antibacterial activities against all four bacterial that were used. Further study of this plant extracts has been tested for acute toxicity in *Artemia salina*. Methanol extracts from *Licuala spinosa* stems was screened by the brine shrimp lethality assay and found that the extract showed significant toxicity to the brine shrimp. *Licuala spinosa* stems extract have exhibited potent activity with LC_{50} 38.9 $\mu\text{g/ml}$.