

**UNIVERSITI TEKNOLOGI MARA**

**ANTIMICROBIAL ACTIVITY OF METHANOLIC  
EXTRACT FROM VARIOUS *PYRROSIA* SPECIES**

**NURUL AKMA BINTI HARUN**

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## TABLE OF CONTENTS

	Page
TITLE PAGE	
APPROVAL	
ACKNOWLEDGEMENTS	ii
TABLE OF CONTENTS	iii
LIST OF TABLES	vi
LIST OF FIGURES	vii
LIST OF ABBREVIATIONS	viii
ABSTRACT	ix
CHAPTER ONE (INTRODUCTION)	
1.1 Background of study	1
1.2 Objectives	2
1.3 Hypothesis of study	3
1.4 Statement of problem	3
1.5 Significance of study	4
1.6 Limitation	5
CHAPTER TWO (LITERATURE REVIEW)	
2.1 Introduction	6
2.2 Plant as source of traditional medicine	7
2.3 Reason plants are preferred as medicine	9
2.3.1 Easily available	9
2.3.2 Safety	9
2.3.3 Constituents	10
2.3.4 Cheap	11
2.4 Pathogenic microorganisms	12
2.4.1 Bacteria	12
2.4.1.1 <i>Staphylococcus aureus</i>	13
2.4.1.2 <i>Staphylococcus saprophyticus</i>	13
2.4.1.3 <i>Pseudomonas sp.</i>	13
2.4.1.4 <i>Bacillus subtilis</i>	14
2.4.1.5 <i>Proteus mirabilis</i>	14
2.4.2 Fungi	14
2.4.2.1 <i>Microsporum canis</i>	14
2.4.2.2 <i>Aspergillus niger</i>	15
2.4.2.3 <i>Aspergillus flavus</i>	15
2.4.2.4 <i>Trichophyton rubrum</i>	16
2.4.3 Yeast	16
2.4.3.1 <i>Candida albicans</i>	16
2.4.3.2 <i>Rhodotorula rubra</i>	17
2.4.3.3 <i>Cryptococcus neoformans</i>	17
2.5 Characteristics of good antimicrobial agents	17
2.5.1 Selective toxicity	18
2.5.2 Reach site of infections	18

## ABSTRACT

The main purpose of this research is to determine the antimicrobial activity of leaves from *Pyrrrosia lanceolata*, *Pyrrrosia piloselloides* and *Pyrrrosia nummuralifolia* methanolic extract. Beside that, this research is also to investigate the microorganisms that are inhibited by these plant extracts. *Pyrrrosia lanceolata* is believe to cure dengue fever, while *Pyrrrosia nummuralifolia* is use traditionally to treat mouth ulcer. *Pyrrrosia piloselloides* usually use as cough remedies, and to treat skin infection. Microorganisms use includes 8 bacteria, 7 fungi and 4 yeast. Only 4 bacteria and 2 yeast show inhibition zones in antimicrobial suscepibility testing, and are continued for MIC and MBC determination. No inhibition is observed on fungi. Growth profile of *Staphylococcus aureus* is observed, as all the extracts have effects on *S.aureus*.

# CHAPTER 1

## INTRODUCTION

### 1.1 Background of study

Plants have been used as traditional medicine since thousand of years ago, by our ancestor. Long before humans discovered the existence of microbes, the idea that certain plants had healing potential, and that they contained what we would currently characterize as antimicrobial principles is already applied. Since ancient times, man has used plants to treat common infectious diseases and some of these traditional medicines are still included as part of the habitual treatment of various maladies.

Plants are rich in secondary metabolites, such as flavanoids, phenols and phenolic glycosides, saponins, tannins, alkaloids, which can act as antioxidant, antimicrobial agents, antidiabetics and antihypertensive agents.

Pathogenic microorganisms can be categorized into fungi, yeast and bacteria. Bacteria are very small living microorganism that only can be seen through microscope. Bacteria are present in water, air, soil, food and our body is not excluded as being their habitat. In human, normal flora like bacteria are present on our skin, mouth, gastrointestinal tract and other part of body. This normal flora usually not causing harm to humans, accept in immunocompromised patients. Yeast and fungi are eukaryotic, non- vascular organisms reproduce by means of spores, usually wind-