UNIVERSITI TEKNOLOGI MARA

ANTIMICROBIAL ACTIVITY OF METHANOLIC EXTRACT FROM VARIOUS *PYRROSIA* SPECIES

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Dissertation submitted in partial fulfillment of the requirements for the Degree of Bachelor of Pharmacy (Hons.)

Faculty of Phamacy

November 2009

ACKNOWLEDGEMENT

Most of all I want to express my gratitude and thank to ALLAH S.W.T, the most merciful on His blessing.

Firstly, I want to say thank you to my supervisor, Pn. Suraya bt. Sulaiman for her guidance, advice, help and encouragement during this project. To all lecturers of Faculty of Pharmacy, thank you for all the support and understanding.

Special thank to all my friends especially those who under supervision, Pn. Suraya bt. Sulaiman. Because of the cooperation and strong relationship between us make this final year project come true.

Lastly this gratitude is to my families that always give me an encouragement.

Nurul Akma binti Harun

TABLE OF CONTENTS

ABSTRACT

The main purpose of this research is to determine the antimicrobial activity of leaves from *Pyrrosia lanceolata, Pyrrosia piloselloides* and *Pyrrosia nummuralifolia* methanolic extract. Beside that, this research is also to investigate the microorganisms that are inhibited by these plant extracts. *Pyrrosia lanceolata* is believe to cure dengue fever, while *Pyrrosia nummuralifolia* is use traditionally to treat mouth ulcer. *Pyrrosia 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 succeptibility 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 inmmunocompromised patients. Yeast and fungi are eukaryotic, non- vascular organisms reproduce by means of spores, usually wind-