



**THE ASSESSMENT OF EFFICACY OF *Parkia speciosa* LEAVES  
METHANOLIC EXTRACT AS AN ANTIMIROBIAL AGENT**

**By**

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## **DECLARATION**

**“I hereby declare that this thesis is based on my original work and has not has been submitted previously or currently for any other degree at UiTM or any other institutions.”**

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## TABLE OF CONTENTS

<b>DECLARATION</b>	<b>ii</b>
<b>INTELLECTUAL PROPERTIES</b>	<b>iii</b>
<b>ACKNOWLEDGEMENT</b>	<b>v</b>
<b>TABLE OF CONTENTS</b>	<b>vi</b>
<b>LIST OF TABLES</b>	<b>ix</b>
<b>LIST OF FIGURES</b>	<b>xi</b>
<b>LIST OF ABBREVIATIONS</b>	<b>xiii</b>
<b>CHAPTER 1</b>	<b>1</b>
<b>INTRODUCTION</b>	<b>1</b>
1.1 Background of study	1
1.2 Problem Statement	3
1.3 Research Objectives	3
1.3.1 General Objective	3
1.3.2 Specific Objectives	3
1.4 Research Hypothesis	4
1.4.1 Null Hypothesis	4
1.4.2 Alternative Hypothesis	4
1.5 Significant of study	4
<b>CHAPTER 2</b>	<b>5</b>
<b>LITERATURE REVIEW</b>	<b>5</b>
2.1 Multiple Drug Resistance	5
2.2 Ampicilin against Gram-positive Bacteria	6
2.3 Gentamycin against Gram-negative Bacteria	6
2.4 Epidemiological Characteristic of <i>Parkia speciosa</i>	7
2.5 Nutritional Value of <i>Parkia speciosa</i>	9
2.6 Choice of Solvent	9
2.7 Phytochemical Compound of <i>Parkia speciosa</i>	10
2.8 Methods for Evaluation of Efficacy of Plant Extract	11

## ABSTRACT

### **The Assessment of Efficacy of *Parkia speciosa* Leaves Methanolic Extract as Antimicrobial Agent**

The multiple drug resistance (MDR) become the biggest concern to the experts in microbiology area as this problem might contribute to failure in the prevalence of bacterial infections. Alternatives were found basically through natural product among the researchers, in order to combat the prevalence of global antimicrobial resistance problem. *Parkia speciosa* has been reported in the previous study, to have antimicrobial agent properties in the seeds and pods. However, besides seeds, there are more compartments on the plant that been neglected which suggested to contain the same therapeutic properties. Therefore, this study was conducted to assess the antimicrobial activity of *Parkia Speciosa* leaves extract against *Staphylococcus aureus* and *Escherichia coli*. An experimental research design was carried out which involved Antibiotic Susceptibility Test (AST), Minimal Inhibitory Concentration (MIC) and Minimal Bactericidal Concentration (MBC). The data were analyzed using ANOVA. Methanolic extract of *Parkia speciose* leaves gives best significant antimicrobial activity against *Staphylococcus aureus*. While no antimicrobial activity can be observed on *Escherichia coli*. The MIC and MBC of *Staphylococcus aureus* were performed in triplicate and showed the significant result ( $p < 0.05$ ). As for MIC, the result showed minimal concentration that can inhibit the bacteria is 31.25 mg/ml. However, the MBC value against *Staphylococcus aureus* was detected at 500 mg/ml. Based on that, this study revealed that methanolic extract of *Parkia speciosa* leaves has potential to be used as an antimicrobial agent against gram-positive bacteria *Staphylococcus aureus* more effectively than gram negative bacteria, *Escherichia coli*.

**Keywords:** *Parkia speciosa*, antimicrobial agent, methanolic extract