

**THE ANTIOXIDANT ACTIVITY OF *Plectranthus*
amboinicus AND *Gynura procumbens***

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TABLE OF CONTENTS

	PAGE
ACKNOWLEDGEMENT	iii
TABLE OF CONTENT	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	5
CHAPTER 2: LITERATURE REVIEW	
2.1 <i>Plectranthus amboinicus</i>	6
2.2 <i>Gynura procumbens</i>	8
2.3 Combination of medicinal herbs	9
2.4 Antioxidant Activity	10
CHAPTER 3: METHODOLOGY	
3.1 Materials	12
3.1.1 Raw materials	12
3.1.2 Chemicals	12
3.1.3 Apparatus	12
3.2 Methods	13
3.2.1 Sample Collection and Preparation	13
3.2.2 Extraction of <i>Plectranthus amboinicus</i> samples	13
3.2.3 Extraction of <i>Gynura procumbens</i> samples	14
3.2.4 Extraction of mixtures of both samples (<i>Plectranthus amboinicus</i> and <i>Gynura procumbens</i>)	14
3.2.5 DPPH Radical Scavenging Activity Assay	15
3.2.6 Total Phenolic Activity	16
CHAPTER 4: RESULTS AND DISCUSSION	
4.1 Radical scavenging activities by using DPPH assay	17
4.1.1 Radical scavenging activity in ascorbic acid	17
4.1.2 Radical scavenging activity in <i>Plectranthus amboinicus</i>	18

4.1.3	Radical scavenging activity in <i>Gynura procumbens</i>	21
4.1.4	Radical scavenging activity in combination of <i>Plectranthus amboinicus</i> and <i>Gynura procumbens</i>	22
4.1.5	Comparison of antioxidant activity between <i>Plectranthus amboinicus</i> , <i>Gynura procumbens</i> and combination of <i>Plectranthus amboinicus</i> and <i>Gynura procumbens</i>	24
4.1.6	Determinations of IC ₅₀ values	27
4.2	Total Phenolic Content Assay	28
4.2.1	Total Phenolic Content of Gallic acid	28
4.2.2	Total Phenolic Content of <i>Plectranthus amboinicus</i>	29
4.2.3	Total Phenolic Content of <i>Gynura procumbens</i>	30
4.2.4	Total Phenolic Content of combination of <i>Plectranthus amboinicus</i> and <i>Gynura procumbens</i>	31
4.2.5	Comparison of total phenolic content between <i>Plectranthus amboinicus</i> , <i>Gynura procumbens</i> and combination of <i>Plectranthus amboinicus</i> and <i>Gynura procumbens</i>	32
4.3	Data analysis	33
4.3.1	Radical scavenging activities by using DPPH assay	33
4.3.2	Total Phenolic Content Assay	33
CHAPTER 5: CONCLUSIONS AND RECOMMENDATIONS		34
CITED REFERENCES		35
APPENDICES		40
CURRICULUM VITAE		47

ABSTRACT

THE ANTIOXIDANT ACTIVITY OF *Plectranthus amboinicus* AND *Gynura procumbens*

The antioxidant can be clarified as the molecule that is able to slow or prevent the oxidation of other molecules even though biological antioxidant has been described as the substance that is in low concentration compared to the oxidizable substrate, can delay the oxidation of the substrate. In Malaysia, *Plectranthus amboinicus* known as “Bangun-bangun” and this plant has many pharmacological properties like anti-inflammatory, antimicrobial, wound healing, antioxidant and etc. *Gynura procumbens* known as “Sambung Nyawa” in Malaysia and this plant are non-toxic and also shows that they are anti-diabetic, anti-inflammatory, anti-hypertensive activities and etc. The present study was conducted to evaluate the antioxidant activity of *Plectranthus amboinicus*, *Gynura procumbens* and the combination of *Plectranthus amboinicus* and *Gynura procumbens*. The extract was prepared with methanol solvent respectively. 2,2-diphenyl-1-picrylhydrazyl (DPPH) assay and Total Phenolic Content (TPC) assay were used to study the antioxidant activity for the three samples. The extracts then were compared to the standard reference which is ascorbic acid and also BHT as the positive control. *Plectranthus amboinicus* shows the highest antioxidant activity which is 81.26% at 100 mg/ml followed by *Gynura procumbens* (80.37%) and combination of the two herbs (77.09%) For DPPH assay, IC₅₀ was calculated for each sample. Combination of two herbs have the highest value of IC₅₀ which is 0.915 mg/ml followed by *Gynura procumbens* which is -0.020 mg/ml and lastly *Plectranthus amboinicus* which is -0.337 mg/ml. The lower the value of IC₅₀, the stronger the ability for the extract to act as DPPH scavengers. Total phenolic activity assay were used to measure the amount of phenol compound in plant extracts. The highest extraction has phenol compound is *Plectranthus amboinicus* (5.572±0.022 mg GAE/g) followed by *Gynura procumbens* (4.716±0.022 mg GAE/g) and lastly the combination of both of the herbs (4.417±0.022 mg GAE/g). The combination of the herbs does not shows a very high antioxidant activity. In conclusion, the combination of both herbs may not work well if combined together. For the future study, it recommends to use another type of assay and solvent to determine which methods are suitable and have an accurate data. It also recommends to mix with other type of herbs which maybe can have higher antioxidant.