

**PHYTOCHEMICAL AND INSECTICIDAL ACTIVITY OF
Orthosiphon stamineus LEAVES EXTRACTS AGAINST
RICE WEEVILS (*Sitophilus oryzae* L.)**

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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	ix
ABSTRACT	x
ABSTRAK	xi
CHAPTER 1: INTRODUCTION	
1.1 Background Study	1
1.2 Problem Statement	4
1.3 Significance of the Study	5
1.4 Objectives of the Study	6
CHAPTER 2: LITERATURE REVIEW	
2.1 Botanical Aspects	7
2.2 <i>Orthosiphon stamineus</i> As Medicinal Plants	11
2.3 Phytochemical Aspects of <i>Orthosiphon stamineus</i>	13
2.4 Insecticidal Studies	16
2.5 Rice weevils (<i>Sitophilus oryzae</i>)	17
2.5.1 Classification and Taxonomy	19
2.5.2 Life cycle	19
2.6 Biopesticide	22
CHAPTER 3: METHODOLOGY	
3.1 Location of Study	24
3.2 Materials	24
3.2.1 Raw materials	24
3.2.2 Chemicals	24
3.2.3 Apparatus	24
3.3 Methods	
3.3.1 Plant sample	25
3.3.2 Insect culture	25
3.3.3 Preparation of leaves extract of <i>O. stamineus</i>	26
3.3.4 Test for insecticidal activity by LD ₅₀ Against <i>Sitophilus oryzae</i> L.	26
3.3.5 Determination of Median Lethal Dose (LD ₅₀)	28
3.4 TLC procedure and development of TLC	29
3.4.1 Visualization of the spot to detect of the secondary metabolites.	29
3.5 Phytochemical analysis	30

3.5.1	Alkaloids test	30
3.5.2	Saponin test	30
3.5.3	Terpenoids test	31
3.5.4	Steroids test	31
3.5.5	Tannins and phenols test	31
3.5.6	Flavonoids test	31
3.6	Statistical Analysis	32

CHAPTER 4 : RESULTS AND DISCUSSION

4.1	Percentage yield of plant extracts leaves sample	33
4.2	Respond of rice weevil mortality toward <i>O. stamineus</i> leaves extracts	35
4.3	Respond of rice weevil mortality toward <i>O. stamineus</i> leaves extracts at different concentration.	38
4.4	Respond of rice weevil mortality toward <i>O. stamineus</i> leaves extracts at different extraction.	40
4.5	Phytochemical constituents of extracts	45
4.6	Probit analysis for toxicities of <i>O. stamineus</i> extract against <i>S. oryzae</i>	49
4.7	The TLC analysis result and Rf value	54

CHAPTER 5 : CONCLUSIONS AND RECOMMENDATIONS

CITED REFERENCES	62
APPENDICES	69

LIST OF TABLES

TABLE	TITLE	PAGE
4.1	The percentage yield of methanol, chloroform and petroleum ether extract of <i>O. stamineus</i> leaves sample	33
4.2	Analysis variance for mortality rate rice weevils	36
4.3	Phytochemical screening of methanol, chloroform and petroleum ether extract of <i>O. stamineus</i> leaves sample	46
4.4	Probit analysis table for <i>O. stamineus</i> petroleum ether extract	50
4.5	Probit analysis table for <i>O. stamineus</i> chloroform extract	51
4.6	Probit analysis table for <i>O. stamineus</i> methanol extract	52
4.7	Suggested ppm to control rice weevils based on different extract	54
4.8	Different type of extracts with Rf value from TLC analysis	55

ABSTRACT

PHYTOCHEMICAL AND INSECTICIDAL ACTIVITY OF *Orthosiphon stamineus* LEAVES EXTRACTS AGAINST RICE WEEVILS (*Sitophilus oryzae* L.)

The percentage yield of crude extracts calculated found that methanol showed the highest percentage followed with chloroform and petroleum ether with 4.10, 3.23 0.66 % respectively. The three different types of extract leaves of *O. stamineus* were screened for secondary metabolite constituents and insecticidal activity against rice weevils (*S. oryzae*). The leaves sample were extracted with different solvent, petroleum ether, chloroform and methanol. Phytochemical screening of the extracts revealed the presence of alkaloids, flavonoids, saponins, steroids, tannins, and terpenoids in the plants investigated. However, steroids and alkaloids absence in the petroleum ether extract and while in chloroform absence of terpenoids and saponins and methanolic extract absence of terpenoids. The extracts of *O. stamineus* of different concentrations were also investigated for their insecticidal activity against *S. oryzae*. The concentration were used at 250 ppm, 500 ppm, 1000 ppm, 2000 ppm and 4000 ppm. Average mortality indicated that the extracts caused significant mortality on the target insects. The bioassay has indicated that the toxic effect of the extracts was proportional to the concentration and higher concentration has stronger effect. From the study, petroleum ether extract of *O. stamineus* could cause the highest significant mortality compared to chloroform and methanolic extract. The probit analysis was done to determine lethal concentration on controlling 50% of mortality rate of rice weevils. The LD₅₀ for the petroleum extract is 1, 697, for chloroform extract is 24, 863 and for the methanol extract is 29, 084 ppm. The TLC analysis is used as confirmation of secondary metabolite found in the extracts of *O. stamineus*. Thus, *O. stamineus* plant extract could be used as bio-pesticide against rice weevils so as to protect stored grains.