

**THE DIVERSITY OF EMERGENT AQUATIC PLANT
SPECIES IN PONDS AT UiTM KUALA PILAH,
CAWANGAN NEGERI SEMBILAN**

MADIHAH ABD RAHIM

**Final Year Project Submitted in
Partial Fulfillment of the Requirements for the
Degree of Bachelor of Science (Hons.) Biology
in the Faculty of Applied Sciences
University Teknologi MARA**

JULY 2017

This Final Year Project Report entitle **“The Diversity of Emergent Aquatic Plant Species in Ponds At UiTM Kuala Pilah, Cawangan Negeri Sembilan”** was submitted by Madihah Binti Abd Rahim, in partial fulfillment of the requirements for the Degree of Bachelor of Science (Hons.) Biology, in the Faculty of Applied Sciences, and was approved by

Syazuani Mohd Shariff
Supervisor
Faculty of Applied Sciences
UiTM Cawangan Negeri Sembilan
Kampus Kuala Pilah
Pekan Parit Tinggi
72000, Kuala Pilah
Negeri Sembilan

Lili Syahani bt Rusli
Project Coordinator
Faculty of Applied
Sciences
UiTM Negeri Sembilan
Kampus Kuala Pilah
Pekan Parit Tinggi
72000, Kuala Pilah
Negeri Sembilan

Dr. Nor'aishah Abu Shah
Head of School of Biology
Faculty of Applied Sciences
UiTM Negeri Sembilan
Kampus Kuala Pilah
Pekan Parit Tinggi
72000, Kuala Pilah
Negeri Sembilan

Date: _____

TABLE OF CONTENT

	PAGE
ACKNOWLEDGEMENTS	iii
TABLE OF CONTENTS	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	2
1.3 Significance of the Study	3
1.4 Objective of the Study	3
CHAPTER 2: LITERATURE REVIEW	
2.1 Diversity of Emerged Aquatic Plant	4
2.2 Freshwater Ecosystem	5
2.3 Morphology and Type of Earthworms	6
CHAPTER 3: METHODOLOGY	
3.1 Sampling site	8
3.2 Sample Collection	10
3.3 Preservation	10
3.4 Identification of the Specimen	11
3.5 Data Analysis	12
3.5.1 The Shannon's Diversity Index (H)	12
3.5.2 Evenness Index (E)	13
3.5.3 Richness Index (R)	13
CHAPTER 4: RESULTS AND DISCUSSION	
4.1 Competition of Earthworms	14
4.2 Ecological Indices	19

CHAPTER 5: CONCLUSION AND RECOMMENDATIONS	22
CITED REFERENCES	24
APPENDICES	28
CURRICULUM VITAE	32

ABSTRACT

THE DIVERSITY OF EMERGENT AQUATIC PLANT SPECIES IN PONDS AT UiTM KUALA PILAH, NEGERI SEMBILAN

The variety of life forms within a given species, ecosystem, biome or planet is known as biodiversity. Biodiversity can also be referred as species diversity and species richness. Understanding the drivers of biodiversity requires an understanding of intertwined biotic and abiotic factors, including climate patterns over the earth. The aim of this study is to determine the diversity patterns of emergent aquatic plants. Generally, types of aquatic plants play a significant role in the ecology of large numbers of freshwater ecosystems worldwide. There are total of 145 individuals which consist of four families of emergent aquatic plants that represent 7 genera. Each species are preserved and identified as the sample collected. The family of Cyperaceae and Onagraceae has five and one genus respectively while Juncaceae and Poaceae consist only two genera. Where, the highest family collected was Cyperaceae which have 50 individuals, while the lowest family collected was Onagraceae with 23 individuals. The genera *Phalaris* is the most abundant which has 31 individuals followed by *Scirpus* with 27 individuals, *Juncus* with 25 individuals, *Ludwigia* with 23 individuals, *Phragmites* with 16 individuals and *Carex* with 14 individuals. The least genera collected were *Eleocharis* which only has 9 individuals. The diversity pattern of species in ponds at UiTM Kuala Pilah, Negeri Sembilan is stable with Shannon's Diversity index is $H= 1.1$, while Evenness Index is $E= 1$ and the Richness Index is $D=0.42$. From this study, there is no eutrophication occurred as the calculated Evenness index is 1.