

A PRELIMINARY STUDY OF PHENOLOGY OF *Nyssa fruticans*  
AT SELECTED ISLANDS IN KELANTAN DELTA

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A PRELIMINARY STUDY OF PHENOLOGY OF *Nypa fruticans* AT SELECTED  
ISLANDS IN KELANTAN DELTA

BY

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Research report submitted in partially fulfillment of  
the requirement for the degree of  
Bachelor science of Marine Biology

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**DEPARTMENT OF MARINE SCIENCE  
 FACULTY OF MARITIME STUDIES AND MARINE SCIENCE  
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**DECLARATION AND VERIFICATION REPORT  
 FINAL YEAR RESEARCH PROJECT**

It is hereby declared and verified that this research report entitled A PRELIMINARY STUDY OF PHENOLOGY OF *Nypa fruticans* AT SELECTED ISLANDS IN KELANTAN DELTA, TUMPAT KELANTAN by NURSHUHADA BT LEBAI THAYEB .Matric No. UK 16672 have been examined and all errors identified have been corrected. This report is submitted to the Department of Marine Science as partial fulfillment towards obtaining the Degree of Sciences (Marine biology) Faculty of Maritime Studies and Marine Science, Universiti Malaysia Terengganu.

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## TABLE OF CONTENTS

	<b>Page</b>
<b>ACKNOWLEDGEMENTS</b>	<b>ii</b>
<b>TABLE OF CONTENTS</b>	<b>iii</b>
<b>LIST OF TABLES</b>	<b>vii</b>
<b>LIST OF FIGURES</b>	<b>viii</b>
<b>LIST OF ABBREVIATIONS</b>	<b>x</b>
<b>LIST OF APPENDICES</b>	<b>xi</b>
<b>ABSTRACT</b>	<b>xii</b>
<b>ABSTRAK</b>	<b>xiii</b>
<b>CHAPTER 1: INTRODUCTION</b>	
1.1 Background of the study	1
1.2 Significance of the study	4
1.3 Objectives	4
<b>CHAPTER 2 : LITERATURE REVIEW</b>	
2.1 Introduction to mangrove	5
2.1.1 Definition	5
2.1.2 Zonation of mangrove forest	6
2.2 <i>Nypa fruticans</i>	7
2.2.1 Characteristics	7

2.2.2	Distribution	7
2.2.3	Habitat	8
2.2.4	Importances	8
2.2.5	Classification of Mangrove	10
2.2.6	Taxonomy	11
2.2.7	<i>Nypa</i> as an exclusive mangroves	12
2.2.8	Stages in the flowering phenological	13
2.2.9	Reproductive phenology	14
2.3	Definition of phenology	16
2.3.1	Factor influencing phenology	17

### **CHAPTER 3: METHODOLOGY**

3.1	Study sites	19
3.2	Materials	21
3.3	Plot set up & tagging	22
3.4	Environment parameter	26
3.5	Field observation on phenology	27
3.6	Data analysis	32



## CHAPTER 4: RESULTS

4.1	The timing of flowering and fruiting of <i>Nypa fruticans</i>	33
4.1.1	Pulau Che Minah (Male and female reproductive development )	33
4.1.2	Pulau Kambing (Male and female reproductive phenology)	36
4.1.3	Tanjung Kuala (Male and female reproductive phenology)	39
4.1.4	The overall means of <i>N.fruticans</i> reproductive stages for male flower	42
4.1.5	The overall means of <i>N.fruticans</i> reproductive stages of female flower	44
4.2	Environmental parameter	46
4.2.1	Salinity, temperature and pH)	46
4.2.1.1	Pulau Che Minah	46
4.2.1.2	Tanjung Kuala	47
4.2.1.3	Pulau Kambing	48
4.2.2	Rainfall	50

## CHAPTER 5: DISCUSSIONS

5.1	Timing of Flowering and fruiting of <i>Nypa fruticans</i>	55
5.2	Habitat characteristic of Station 1, 2 and 3	57
5.3	Development of <i>Nypa fruticans</i> reproductive stages of male flower for Tanjung Kuala (S1), Pulau Kambing (S2) , Pulau Che Minah (S3)	57
5.4	Development of <i>Nypa fruticans</i> reproductive stages of male flower for Tanjung Kuala (S1), Pulau Kambing (S2) , Pulau Che Minah (S3)	59

<b>CHAPTER 6: CONCLUSION</b>	<b>60</b>
<b>REFERENCES</b>	<b>61</b>
<b>APPENDICES</b>	<b>65</b>
<b>CURRICULUM VITAE</b>	<b>72</b>

## LIST OF TABLES

Tables		Page
4.1	Mean value of <i>N.fruticans</i> reproductive stages at Pulau Che Minah for male flower.	34
4.2	Mean of <i>N.fruticans</i> reproductive stages at Pulau Che Minah for female flower	35
4.3	Mean of <i>N.fruticans</i> reproductive stages at Pulau Kambing for male flower.	37
4.4	Mean of <i>N.fruticans</i> reproductive stages at Pulau Kambing for female flower	38
4.5	Mean of <i>N.fruticans</i> reproductive stages at Tanjung Kuala for male flower	40
4.6	Mean of <i>N.fruticans</i> reproductive stages at Tanjung Kuala for female flower	41
4.7	Mean of <i>N.fruticans</i> reproductive stages of overall for male flower	43
4.8	Mean of <i>N.fruticans</i> reproductive stages of overall for female flower	44
4.9	Values for salinity ,temperature ,& pH for P.Che Minah	46
4.10	Values for salinity, temperature, & pH for Tanjung Kuala	47
4.11	Values for salinity, temperature, & pH for Pulau Kambing	49

## LIST OF FIGURES

Figure s	Page
1.1 <i>Nypa fruticans</i> inflorescence and flower	3
2.1 Zonation of mangrove forest	7
3.1 Map of islands in Kelantan Delta, Tumpat, Kelantan	20
3.2 Map of Mangrove forest of Kelantan Delta, Tumpat, Kelantan	21
3.3 Diagram of the plot A, B and C show the tagged location of the individual tree for Tanjung Kuala.	23
3.4 Diagram of the plot A, B and C show the tagged location of the individual tree for Pulau Kambing.	24
3.5 Diagram of the plot A, B and C show the tagged location of the individual tree for Pulau Che Minah	25
3.6 People working on plot set up	26
3.7 Water parameter was taken by using YSI	27
3.8 Scale development of <i>Nypa</i> for female flower from inflorescence buds to the fruit fall to the ground .	30
3.9 Scale development of <i>Nypa</i> for male flower from totally unopened inflorescence buds to the pollen that started to fall off.	31
4.1 Mean value of <i>N.fruticans</i> reproductive stages at Pulau Che Minah for male flower.	34
4.2 Mean of <i>N.fruticans</i> reproductive stages at Pulau Che Minah for female flower	36

4.3	Mean of <i>N.fruticans</i> reproductive stages at Pulau Kambing for male flower	37
4.4	Mean of <i>N.fruticans</i> reproductive stages at Pulau Kambing for female flower	39
4.5	Mean of <i>N.fruticans</i> reproductive stages at Tanjung Kuala for male flower	40
4.6	Mean of <i>N.fruticans</i> reproductive stages at Tanjung Kuala for female flower	42
4.7	Mean of <i>N.fruticans</i> reproductive stages of overall for male flower	43
4.8	Mean of <i>N.fruticans</i> reproductive stages of overall for female flower	45
4.9	Graph of salinity ,temperature ,& pH for Pulau Che Minah	47
4.10	Graph of salinity, temperature, & pH for Tanjung Kuala	48
4.11	Graph of salinity, temperature, & pH for P.Kambing	49
4.12	Daily rainfall (mm) amount in May	50
4.13	Daily rainfall (mm) amounts in June	51
4.14	Daily rainfall (mm) amounts in July	51
4.15	Daily rainfall (mm) amounts in August	52
4.16	Daily rainfall (mm) amounts in September	52
4.17	Daily rainfall (mm) amounts in October	53
4.18	Mean of rainfall (mm) from May to October	54

## LIST OF ABBREVIATIONS

m	- Meter
mm	- Milimeter
Ppt	- Part per thousand
°C	- Degree Celsius

## **LIST OF APPENDICES**

		<b>Page</b>
<b>APPENDIX A</b>	<b>Water parameter</b>	<b>65</b>
<b>APPENDIX A</b>	<b>Rainfall Data</b>	<b>66</b>

## ABSTRACT

This preliminary study of *Nypa* phenology was conducted at several islands at Kelantan Delta, Tumpat. . Actually phenology, refer to the word which is derived from the Greek word phaino meaning to show or to appear, is the study of periodic biological events in the animal and plant . About 390 *N.fruticans* were tagged from the total of 3833 *Nypa* trees. The observation was done mainly on the trees development monthly.5 stages for male reproductive flower and 8 stages for female reproductive flower were been observed for 6 month started from May to October 2011.The aimed of this study is to find the timing flowering and fruiting of *Nypa fruticans* and to determine and thus environmental parameter characteristics of *N.fruticans* in selected islands of Kelantan Delta with the phenology.



## ABSTRAK

Kajian Phenologi Nipah ini telah dijalankan di beberapa pulau di Tumpat, Delta Kelantan, phenology adalah merujuk kepada perkataan Greek iaitu Phaino yang bermaksud muncul ataupun wujud, phenology ialah kitaran peringkat pertumbuhan haiwan ataupun tumbuhan. 390 pokok telah Nipah ditanda daripada 3833 jumlah pokok sebagai pokok kajian .Pemerhatian dibuat pada pertumbuhan pokok secara bulanan .Terdapat 5 peringkat pertumbuhan untuk bunga jantan dan 8 peringkat pertumbuhan untuk betina , pemerhatian dibuat selama 6 bulan bermula dari bulan Mei sehingga October. Kajian ini adalah bertujuan untuk menentukan masa berbunga dan berbunga bagi pokok Nipah dan menentukan ciri-ciri habitat pokok ini . Parameter persekitaran juga diambil untuk melihat hubungannya dengan kadar pertumbuhan pokok Nipah .