

THE STAND STRUCTURE OF RHIZOPHORA-AVICENNIA
FOREST TYPE AT TOK BALI KELANTAN

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**THE STAND STRUCTURE OF RHIZOPHORA-AVICENNIA FOREST TYPE AT
TOK BALI, KELANTAN**

By

Nancy Ngerong

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the requirements for degree of
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Adalah ini diakui dan disahkan bahawa laporan penyelidikan bertajuk: THE STAND STRUCTURE OF RHIZOPHORA-AVICENNIA FOREST TYPE AT TOK BALI, KELANTAN, oleh Nancy Ngerong, no. matrik: UK9146 telah diperiksa dan semua pembetulan yang disarankan telah dilakukan. Laporan ini dikemukakan kepada Jabatan Sains Biologi sebagai memenuhi sebahagian daripada keperluan memperoleh ijazah Sarjana Muda Sains Gunaan-Pengurusan dan Pemuliharaan Biodiversiti, Fakulti Sains dan Teknologi, Kolej Universiti Sains dan Teknologi Malaysia.

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TABLE OF CONTENTS

CONTENT	Page
ACKNOWLEDGEMENT	i
TABLE OF CONTENT	ii
LIST OF TABLES	v
LIST OF FIGURES	vi
LIST OF SYMBOLS	vii
LIST OF APPENDICES	viii
ABSTRACT	ix
ABSTRAK	x
1.0 INTRODUCTION	1
1.1 Introduction	1
1.2 Justification of Study	3
1.3 Objectives	4
2.0 LITERATURE REVIEW	5
2.1 Mangroves	5
2.2 Importances of Mangrove	6
2.2.1 Ecological Importances	6
2.2.2 Economic Importances	7

2.2.3	Coastal Protection	7
2.3	Classification of Mangrove Vegetation	8
2.4	Mangrove Forests Distribution in the World	9
2.5	Mangrove Forests Distribution in Malaysia	12
2.6	Mangrove Forest Structure	14
3.0	METHODOLOGY	19
3.1	Description of Study Area	19
3.2	Data Collection	22
3.2.1	Site Selection	23
3.2.2	Sampling Design	23
3.2.3	Transect Setting	25
3.3	Data Analysis	27
3.3.1	Species Composition	27
3.3.2	Basal area	29
3.3.3	Gross Volume	29
4.0	RESULTS	31
4.1	Species Composition	31
4.2	Number of Individuals	33
4.3	Plot Summary	37
4.4	Community Structure	39
4.6	Stocking	41
4.7	Basal Area	44
4.8	Gross Volume	50

4.5	Forest Profile	56
5.0	DISCUSSION	58
6.0	CONCLUSION AND RECOMMENDATION	63
	REFERENCES	65
	APPENDICES	67
	CURRICULUM VITAE	79

LIST OF TABLES

Tables	Page
2.1 Watson's inundation classes (Port Swettenham = Port Klang)	8
3.2 Formula used in data calculation	28
4.1 Exclusive Mangrove species found at Rhizophora-Avicennia forest type, Tok Bali	31
4.2 Non-Exclusive Mangrove species found at Rhizophora-Avicennia forest type, Tok Bali	31
4.3 Number of trees at the study area	34
4.4 Number of saplings at the study area	35
4.5 Number of seedlings at the study area	36
4.6 Summary of plot analysis for the study area	38
4.7 Community structure at the Rhizophora-Avicennia forest type, Tok Bali	40
4.8 Species groups and frequency distribution of trees 5 cm dbh and larger in different diameter class	42
4.9 Basal area distribution of trees 5cm dbh and larger in different diameter class	45
4.10 Gross volume distribution of trees 5 cm dbh and larger in different diameter class	51
5.1 Description of Stand Strata of Mangrove Forest	61

LIST OF FIGURES

Figures	Page
2.1 World distribution of mangroves	10
2.2 Approximate number of species of mangroves per 15° of longitude	10
2.3 The distribution of mangroves in Peninsular Malaysia	13
3.1 Mangrove forest type in Kuala Semerak, Tok Bali, Kelantan	20
3.2 Front view of Rhizophora-Avicennia forest type, Tok Bali	21
3.3 A creek within the Rhizophora-Avicennia forest type, Tok Bali	21
3.4 The study outline	22
3.5 Plot diagram	24
3.6 Transect diagram	26
4.1 Species composition and distribution at Rhizophora-Avicennia forest type, Tok Bali	32
4.2 Frequency distribution of trees 5cm DBH and larger in different diameter class in Rhizophora-Avicennia forest type, Tok Bali	43
4.3 Basal area distribution of <i>R. apiculata</i> trees 5cm dbh and larger in different diameter class	46
4.4 Basal area distribution of <i>A. alba</i> trees 5cm dbh and larger in different diameter class	46
4.5 Basal area distribution of <i>S. alba</i> trees 5cm dbh and larger in different diameter class	47
4.6 Basal area distribution of <i>C. decandra</i> trees 5cm dbh and larger in different diameter class	47

4.7	Basal area distribution of <i>B. cylindrica</i> trees 5cm dbh and larger in different diameter class	48
4.8	Basal area distribution of <i>B. gymnorrhiza</i> trees 5cm dbh and larger in different diameter class	48
4.9	Basal area distribution of <i>D. spathacea</i> trees 5cm dbh and larger in different diameter class	59
4.10	Gross volume distribution of <i>R. apiculata</i> trees 5cm dbh and larger in different diameter class	52
4.11	Gross volume distribution of <i>A. alba</i> trees 5cm dbh and larger in different diameter class	52
4.12	Gross volume distribution of <i>S. alba</i> trees 5cm dbh and larger in different diameter class	53
4.13	Gross volume distribution of <i>C. decandra</i> trees 5cm dbh and larger in different diameter class	53
4.14	Gross volume distribution of <i>B. cylindrica</i> trees 5cm dbh and larger in different diameter class	54
4.15	Gross volume distribution of <i>B. gymnorrhiza</i> trees 5cm dbh and larger in different diameter class	54
4.16	Gross volume distribution of <i>D. spathacea</i> trees 5cm dbh and larger in different diameter class	55
4.17	Forest Profile for Rhizophora-Avicennia forest type at Tok Bali	57

LIST OF SYMBOLS/ABBREVIATIONS

°	-	Degree
°C	-	Celcius
BA	-	Basal Area
cm	-	centimeter
dbh	-	Diameter at Breast Height
E	-	East
e	-	Exponent
GPS	-	Global Positioning System
ha	-	hectare
ha ⁻¹	-	per hectare
km ²	-	kilometer per square
m	-	meter
m ²	-	meter per square
m ³	-	meter cubic
N	-	North

LIST OF APPENDICES

Appendices	Page
A. Picture of Rhizophora-Avicennia forest type at Tok Bali	67
B. Crown shape and stem form indices	68
C. Records of study data	69
C. Forest profile data	78

ABSTRACT

A study was conducted to identify the species composition and stand structure of the mangrove in *Rhizophora-Avicennia* forest type at Tok Bali, Kelantan. 24 plots were established during the ground sampling. All trees with 5 cm dbh and larger were measured and identified up to species level in the main plot. All saplings with below 5cm dbh and seedlings were counted and identified up to species level in the subplot 1 and subplot 2 respectively. In total, seven mangrove species were found at the area where *Rhizophora apiculata* was the most dominant species. From analysis, *Rhizophora apiculata* had the highest importance value which was 217.4458. The highest total stocking was 450 stems ha⁻¹ in dbh class 10-14.9 cm and the lowest was 8 stems ha⁻¹ in dbh class 30-34.9 cm. This also gave the same result for the highest total basal area for dbh 10-14.9 cm with 5.409 m²ha⁻¹ and the lowest was dbh 30-34.9 cm with 0.599 m²ha⁻¹. The highest gross volume was also recorded in dbh class 10-14.9 cm with 40.235 m³ha⁻¹ and the lowest was 4.738 m³ha⁻¹ in dbh class 30-334.9 cm. The results indicated that the forest is at young stand and lack in species composition.

STRUKTUR DIRIAN HUTAN PAYA LAUT JENIS RHIZOPHORA- AVICENNIA DI TOK BALI, KELANTAN

ABSTRAK

Kajian telah dijalankan untuk mengenalpasti komposisi spesies dan struktur dirian hutan jenis *Rhizophora-Avicennia* di Tok Bali, Kelantan. Semua pokok yang mempunyai dbh 5 cm ke atas telah diukur dan dikenalpasti spesiesnya. Semua anak pokok dengan dbh kurang daripada 5 cm dbh dan anak benih pokok pula telah dihitung jumlahnya dan dikenalpasti spesiesnya. Secara keseluruhan, terdapat tujuh spesies pokok dijumpai dalam hutan ini dan *Rhizophora apiculata* merupakan spesies yang paling dominan. Berdasarkan analisis, *Rhizophora apiculata* mempunyai nilai kepentingan tertinggi iaitu 217.4458. Jumlah pokok tertinggi ialah 450 pokok ha⁻¹ dalam kelas dbh 10-14.9 cm dan terendah ialah 8 pokok ha⁻¹ dalam kelas dbh 30-34.9 cm. Ini juga sama bagi jumlah 'basal area' tertinggi iaitu 5.409 m²ha⁻¹ bagi kelas dbh 10-14.9 cm dan terendah ialah 0.599 m²ha⁻¹ dalam kelas dbh 30-34.9 cm. Jumlah isipadu kasar tertinggi juga direkod oleh kelas dbh 10-14.9 cm iaitu 40.235 m³ha⁻¹ dan yang terendah ialah 4.738 m³ha⁻¹ dalam kelas dbh 30-334.9 cm. Keputusan dari kajian ini menunjukkan hutan ini berada pada tahap pertumbuhan yang masih muda dan agak kurang dari segi komposisi spesiesnya.