

STUDY OF SPECIES COMPOSITION AND STAND STRUCTURE OF  
MANGROVE FOREST AT PULAU KECIL AND WESTERN OF PULAU  
BESAR IN MERANG, TERENGGANU

ANIS BINTI SEMAIL

FACULTY OF MARITIME STUDIES AND MARINE SCIENCE  
UNIVERSITI MALAYSIA TERENGGANU

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**STUDY OF SPECIES COMPOSITION AND STAND STRUCTURE OF  
MANGROVE FOREST AT PULAU KECIL AND WESTERN OF PULAU  
BESAR IN MERANG, TERENGGANU**

**By**

**Anis Binti Semail**

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DEPARTMENT OF MARINE SCIENCE  
FACULTY OF MARITIME STUDIES AND MARINE SCIENCE  
UNIVERSITI MALAYSIA TERENGGANU

DECLARATION AND VERIFICATION REPORT  
FINAL YEAR RESEARCH PROJECT

It is hereby declared and verified that this research report entitled:

**Study of Species Composition and Stand Structure of Mangrove Forest at Pulau Kecil and Western of Pulau Besar in Merang, Terengganu by Anis Binti Semail,**  
Matric No. **UK 21517** 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 Bachelor of Science (Marine Science),** Faculty of Maritime Studies and Marine Science, Universiti Malaysia Terengganu.

Verified by:

Principal Supervisor

Name:

Official stamp:

PROF. MADYA SULONG BIN IBRAHIM SAP, SMP  
PENSYARAH  
KETUA  
South China Sea Natural History Museum  
Institut Oseanografi  
Universiti Malaysia Terengganu  
21030 Kuala Terengganu, Terengganu

Date: 18/6/2012

Second Supervisor (where applicable)

Name:

Official stamp:

Date: .....

Head of Department of Marine Science

Name: Prof. Madya Dr. Rosnan Yaacob

Official stamp:

PROF. MADYA DR. ROSNAN BIN YAACOB  
Ketua  
Jabatan Sains Marin  
Fakulti Pengajian Maritim dan Sains Marin  
Universiti Malaysia Terengganu  
21030 Kuala Terengganu

Date: 18/6/12



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## LIST OF ABBREVIATIONS/ SYMBOLS

cm	Centimetre
DBH	Diameter Breast Height
DGPS	Digital Global Positioning System
E	East
ha	Hectare
km	Kilometre
m	Metre
MDS	Multi-dimensional Scaling
N	North
No	Number
Sap	Sapling
Seed	Seedling
Sq	Square
$\pi$	3.142
°	Degree
%	Percentage



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## ABSTRACT

A study was carried out to determine species composition and stand structure of mangrove forest at Pulau Kecil and Western of Pulau Besar in Merang, Terengganu. 5 transects which include 42 plots were established in these two sites by using forest inventory method. There are 3 species of exclusive mangrove that found in Pulau Kecil belonging to one Family Rhizophoraceae. Meanwhile, there are 5 exclusive mangrove species that found in Western of Pulau Besar belonging to 3 families: Avicenniaceae, Euphorbiaceae and Rhizophoraceae. There are one species of non-exclusive mangrove was founded at both islands belonging to one Family Malvaceae. Overall, community structure analysis that was carried out at Pulau Kecil showed that importance value of *Melaleuca leucadendron* was the highest with 97.71. For mangrove, *Rhizophora apiculata* was the dominant species with importance value of 21.03. Meanwhile, community structure analysis at Western of Pulau Besar indicates that this island dominated by *Melaleuca leucadendron* with importance value of 87.89. For mangrove, *Rhizophora apiculata* was the diverse species with importance value of 16.94. Study areas were dominated by small trees with the DBH between 5.0 cm and 14.9 cm.

**Kajian Komposisi Spesies Dan Struktur Dirian Hutan Paya Bakau Di Pulau  
Kecil Dan Barat Pulau Besar Di Merang, Terengganu**

**ABSTRAK**

Kajian ini telah dijalankan untuk menentukan komposisi spesies dan struktur dirian di Pulau Kecil dan Barat Pulau Besar di Merang, Terengganu. 5 transek yang mengandungi 42 plot merangkumi kedua-dua tempat dengan menggunakan kaedah inventori hutan. Pulau Kecil mengandungi 3 spesies eksklusif bakau yang mana tergolong dalam satu Famili iaitu Famili Rhizophoraceae. Manakala di Barat Pulau Besar mengandungi 5 spesies eksklusif bakau yang mana tergolong dalam 3 Famili iaitu Avicenniaceae, Euphorbiaceae and Rhizophoraceae. Terdapat satu spesies bukan eksklusif di kedua-dua pulau iaitu Famili Malvaceae. Secara keseluruhan, analisis struktur komuniti di Pulau Kecil menunjukkan nilai kepentingan *Melaleuca leucadendron* adalah tertinggi iaitu 97.71. Untuk spesies paya bakau, *Rhizophora apiculata* adalah paling dominan iaitu 21.03. Manakala, analisis struktur komuniti di Barat Pulau Besar menunjukkan pulau ini didominasi oleh *Melaleuca leucadendron* dengan nilai kepentingannya ialah 87.89. Untuk spesies paya bakau, *Rhizophora apiculata* adalah paling pelbagai dengan nilai kepentingannya ialah 16.94. Kawasan kajian didominasi oleh pokok kecil DBH antara 5.0 cm dan 14.9 cm.