

STUDY OF STAND STRUCTURE AND SPECIES COMPOSITION
AT PAU ISLAND, TOM PAI ISLAND AND NEI ISLAND
IN BETH LAKE

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FAKULTI SAINS DAN TEKNOLOGI
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**STUDY OF STAND STRUCTURE AND SPECIES COMPOSITION AT RHU
ISLAND, TOK BA ISLAND AND UBI ISLAND IN SETIU LAGOON**

By

Rohmansyah Mohd Yusof

**Research Report submitted in partial fulfillment of
the requirements for the degree of
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Faculty of Science and Technology
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Dedication:

This thesis dedicated to my beloved parents Mohd Yusof and Siti Munawaro and also to all my family Julaihi, Suhaini, Sofinatinsyah and Sofitrianasyah.



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LIST OF ABBREVIATIONS

DBH	-Diameter breast height
Dom.	-Dominance
Dens.	-Density
Freq.	-Frequency
Imp. Val.	-Importance value
PC ORD	-Univariate analysis of ecological data
Rel. Dom.	-Relative dominance
Rel. Dens	-Relative density
Rel. Freq	-Relative frequency
T	-Transect
P	-Plot
S	-Species richness
E	-Species evenness
H'	-Species diversity

ABSTRACT

A study was conducted to determine index diversity, species composition and stand structure of tree in mangrove area in Setiu district, Terengganu. The study had been conducted in three locations; Rhu Island, Tok Ba Island and Ubi Island. 11 transect were setup during this study involving 37 plot. The data for stand structure such as DBH, height, type of stem and crown form had been obtain and analyze. Then, determination of mangrove species was decided according to species existence, number of individual and percent cover in certain plots. PC-ORD statistical package had been use to analyze species richness, species evenness and species diversity in the study area. In overall *Nypa fruticans* had the highest number of species in the study area. *Excoecaria agallocha* showed the greatest importance value among all the species that had been recorded in the three islands. Ubi Island had the highest average in species diversity 0.997, species richness 3.7 and species evenness 0.764. Fifteen exclusive mangrove species and five non-exclusive mangrove species had been recorded in the study area.

Kajian tentang struktur dirian dan komposisi spesies di Pulau Rhu, Pulau Tok Ba dan Pulau Ubi di Setiu Lagun

ABSTRAK

Kajian ini dijalankan bagi menentukan indeks kepelbagaian, komposisi spesies dan struktur dirian pokok bakau di daerah Setiu, Terengganu. Kajian ini telah dijalankan di tiga lokasi iaitu Pulau Rhu, Pulau Tok Ba dan Pulau Ubi. 11 transek telah di bina ketika kajian ini dijalankan yang telah melibatkan 37 plot. Data untuk dirian pokok seperti DBH, tinggi, jenis batang dan bentuk silara telah diambil dan dikaji. Selepas itu, penentuan spesies bakau ditentukan melalui kaedah kewujudan spesies, bilangan individu dan peratus litupan dalam sesuatu plot. Program statistik PC-ORD telah digunakan bagi menganalisa 'species diversity', 'species richness' dan 'species evenness'. Secara keseluruhan spesies *Nypa fruticans* merupakan spesies yang mempunyai bilangan yang paling banyak. *Excoecaria agallocha* mempunyai 'importance value' yang paling tinggi diantara semua spesies yang telah direkodkan di kawasan kajian. Pulau Ubi mempunyai nilai purata tertinggi bagi 'species diversity' iaitu 0.997, 'species richness' 3.7 dan 'species evenness' 0.764. Lima belas spesies ekslusif dan lima spesies bukan ekslusif pokok bakau juga telah direkodkan.