

STUDY OF SPECTRAL REFLECTANCE CHARACTERISTIC
OF SELECTED MANGROVE SPECIES IN TUMPAT,
KELANTAN

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2004

**STUDY OF SPECTRAL REFLECTANCE CHARACTERISTICS OF SELECTED
MANGROVE SPECIES IN TUMPAT, KELANTAN.**

By

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**Research Report submitted in partial fulfillment of the requirements for
the degree of Bachelor of Science (marine Science)**

**Department of Marine Science
Faculty of Science and Technology
KOLEJ UNIVERSITI SAINS DAN TEKNOLOGI MALAYSIA
2004**



This project report should be cited as:

Ruzalizam K. 2004. Study of Spectral Characteristics of Selected Mangrove Species in Tumpat, Kelantan Undergraduate thesis, Bachelor of Science (Marine Science), Faculty of Science and Technology, Kolej Universiti Sains dan Teknologi Malaysia, Terengganu Darul Iman. 62p.

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**JABATAN SAINS SAMUDERA
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**PENGAKUAN DAN PENGESAHAN LAPORAN
PROJEK PENYELIDIKAN I DAN II**

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Acknowledgment

Alhandulillah, thanks to Allah the mighty God. Without his permission, I would not finish this study in time as schedule. In this opportunity, I would like to thanks and express my gratitude to those who have involved in this study, directly and indirectly.

Firstly I would like to thanks my supervisor Prof. Madya Sulong Ibrahim. Thousand of thanks for accepting me as his student. His guide, advice and critics have helped a lot throughout this study. May Allah bless him always.

For my parent and family, thanks for the financial and moral support you given me through my studies. Only Allah can repay all your sacrifice for me. I love u all. Not forgotten my dearest and very special, Thalha. Thanks for what you have done all this years.

My big thanks to En. Ramli and Pak Ya for their helps during sampling. Without their help my project would not finish on time. Their accompany along the sampling day made my work easier.

A lots of thank to En. Suffian to his time and advises to teach me on using the new Spectroradiometer. Also thanks to En. Kasawani who give extra guide and help from the beginning till the end of my study.

Lastly, thanks to my housemate, Meso, Wady, Wadiko and Rizal also to En. Sulong students, Din, Apeng, Yunus, Nani and Fiza. May we all be friend forever.

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Abstrak

Kajian ini dijalankan di Delta Kelantan. Delta Kelantan terletak di timur semenanjung Malaysia. Kajian ini adalah kajian asas untuk melihat bentuk pantulan cahaya atau spektrum matahari oleh spesies pokok paya bakau. Di dalam kajian ini, lima spesies pokok paya bakau telah dipilih. Spesies yang dipilih adalah *Sonneratia caseolaris*, *Nypa Fruiticans*, *Aviciennia alba*, *Acanthus ilisifolius* dan *Hibiscus tiliaceus*. Secara keseluruhan, kajian mendapati bahawa *Hibiscus tiliaceus* memiliki pantulan cahaya yang tertinggi manakala *Sonneratia caseolaris* memiliki pantulan cahaya yang terendah. Spesies yang tinggal di kawasan yang mempunyai pengaruh pasang surut mempunyai nilai pantulan yang lebih rendah. Spesies yang hidup di kawasan yang mempunyai bekalan air yang banyak terutama air tawar juga memiliki pantulan cahaya yang lebih tinggi berbanding dengan spesies yang jauh dari sumber air. Kajian mendapati bahawa kesemua spesies yang dipilih mempunyai pantulan dibawah nilai 1.0%. terdapat pantulan yang ketara pada spektrum hijau dan juga pada sinar inframerah. Pantulan yang lemah dan boleh dikatakan berlaku penyerapan, berlaku pada spektrum biru (430nm hingga 500nm) dan merah (600nm hingga 680nm).

Abstract

This study was conducted Kelantan Delta. Kelantan Delta located at north of peninsular Malaysia. The main objectives of this study are a preliminary study of form and characteristic of spectral reflectance of mangroves species. In this study five species had been selected from Kelantan delta. The species selected were *Sonneratia caseolaris*, *Nypa Fruiticans*, *Aviciennia alba*, *Acanthus ilisifolius* and *Hibiscus tiliaceus*. Species with the highest spectral reflectance is *Hibiscus tiliaceus* meanwhile *Sonneratia caseolaris* have the lowest spectral reflectance. The results also showed that species that lives where the environment is influent by tide have lower spectral reflectance. Species lives in environments that have more fresh water show higher spectral reflectance than species with lower fresh water supply. Study show that mangrove species in Tumpat have reflectance below 1.0%. There is a high reflectance in green and near infrared region. Low reflectance and absorbance occur in blue region (430nm to 500nm) and red region (600nm to 680nm).