COMPARISON IN SPECTRAL REFLECTANCE OF FIVE WATER WEED SPECIES AT SETIU WETLAND AND KELANTAN DELTA

MOHD AKMAL BIN SOBARI

FAKULTI SAINS DAN TEKNOLOGI
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Lihat sebelah

COMPARISON IN SPECTRAL REFLECTANCE OF FIVE MANGROVES SPECIES AT SETIU WETLAND AND KELANTAN DELTA

By

Mohd Akmal Bin Sobari

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Faculty of Science and Technology
KOLEJ UNIVERSITY SAINS DAN TEKNOLOGI MALAYSIA
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KOLEJ UNIVERSITI SAINS DAN TEKNOLOGI MALAYSIA

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Adalah ini diakui dan disahkan bahawa laporan penyelidikan bertajuk: COMPARISON IN SPECTRAL REFLECTANCE OF FIVE MANGROVES SPECIES AT SETIU WETLAND AND KELANTAN DELTA oleh Mohd Akmal Bin Sobari, no. matrik UK8433 telah diperiksa dan semua pembetulan yang disarankan telah dilakukan. Laporan ini dikemukakan kepada Jabatan Sains Biologi sebagai memenuhi sebahagian daripada keperluan memperolehi Ijazah Sarjana Muda Sains Gunaan (Pemuliharaan dan Pengurusan Biodiversiti), Fakulti Sains dan Teknologi, Kolej Universiti Sains dan Teknologi Malaysia.

Disahkan oleh:

.....
Penyelia Utama
Nama: *Kasawani Ibrahim*
Cop Rasmi: *Pensyarah*
Jabatan Sains Biologi
Fakulti Sains dan Teknologi
Kolej Universiti Sains dan Teknologi Malaysia
21030 Kuala Terengganu.

Tarikh: 4.5.06

.....
Penyelia Kedua
Nama: PROF. MADYA SULONG BIN IBRAHIM
Cop Rasmi: *Fellow*
Institut Oseanografi
Kolej Universiti Sains dan Teknologi Malaysia
Mengabang Telipot
21030 Kuala Terengganu.

Tarikh: 04/05/06

.....
Ketua Jabatan Sains Biologi
Nama: PROF. MADYA DR. NAKISAH BT. MAT AMIN
Cop Rasmi: *Ketua*
Jabatan Sains Biologi
Fakulti Sains dan Teknologi
Kolej Universiti Sains dan Teknologi Malaysia
(KUSTEM)
21030 Kuala Terengganu.

Tarikh: 4 . 5 . 2006

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Chl	-	chlorophyll
dbh	-	diameter at breast height
E	-	east
N	-	north
KUSTEM	-	College University Science and Technology Malaysia
nm	-	nanometer
µm	-	micrometer
°C	-	degree Celcius
°	-	degree
”	-	minutes

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ABSTRACT

A study of camparison in spectral reflectance of mangroves species was carried out in Setiu Wetland and Kelantan Delta. Five species selected were *Acrostichum speciosum, Ceriops decandra, Rhizophora apiculata Sonneratia caseolaris* and *Hibiscus tilaceus*. The result showed that there were differencess in the spectral reflectance between young and old tree mangrove species in the visible region and in the near infrared region. Old *Acrostichum Speciosum* recorded the highest reflectance in the visible region and in the near infrared region at Setiu Wetland. 71.3 % was the mean reflectance recorded in the near infrared region at Setiu Wetland and 75.8 % recorded in the Kelantan Delta. Young and old *Rizophora apiculata* trees showed no significant differences between both study areas. From the stepwise discriminant analysis, 15 bands of wavelength produced for each study area that better discriminate the variability among mangrove species in each study area. The best waveband to discriminate the spectral reflectance among selected mangrove species in both study areas was 552 nm.

PERBANDINGAN PANTULAN SPEKTRAL DI ANTARA LIMA SPECIES POKOK PAYA LAUT DI SETIU WETLAND DAN KELANTAN DELTA

ABSTRAK

Kajian ini adalah kajian asas untuk melihat perbandingan di antara pantulan spektral di antara spesies pokok paya laut di kawasan Setiu Wetland dan Delta Kelantan. Lima species pokok yang dipilih untuk kajian ini adalah *Acrostichum speciosum, Ceriops decandra, Rhizophora apiculata, Sonneratia caseolaris* dan *Hibiscus tilaceus*. Kajian ini mendapati bahawa terdapat perbezaan pantulan spektral di antara spesies pokok muda dengan spesies pokok tua. Perbezaan dapat dilihat pada kawasan jalur kenampakan dan di kawasan jalur infra merah. Di kedua-dua kawasan kajian, pokok *Acrostichum Speciosum* tua mencatatkan pantulan spektral yang tertinggi di kawasan jalur kenampakan dan di kawasan jalur infra merah. Bacaan purata yang dicatatkan di kawasan jalur infra merah adalah 71.3 % di Setiu Wetland dan 75.8 % di Kelantan Delta. Pokok muda dan tua *Rhizophora apiculata* tidak menunjukkan perbezaan bacaan pembalikan spektral di kedua-dua kawasan kajian. Daripada analisis menggunkan perbezaan stepwise, 15 bacaan panjang gelombang yang dapat membezakan satu spesies pokok dengan satu species pokok bakau yang lain diperolehi bagi setiap kawasan kajian. Bacaan gelombang pada 552 nm adalah yang terbaik untuk membezakan setiap spesies pokok paya laut di kedua-dua kawasan kajian.