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

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By

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Adalah ini diakui dan disahkan bahawa laporan penyelidikan bertajuk **Study of spectral reflectance of selected mangrove species in Tumpat, Kelantan** oleh **Ruzalizam B. Katimon**, No. Matrik **UK5868** telah diperiksa dan semua pembetulan yang disarankan telah dilakukan. Laporan ini dikemukan kepada Jabatan Sains Samudera sebagai memenuhi sebahagian daripada keperluan memperolehi Ijazah **Sarjana Muda Sains Sains Samudera** Fakulti Sains dan Teknologi, Kolej Universiti Sains dan Teknologi Malaysia.

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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).