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Lihat sebelah

THE STAND STRUCTURE OF AVICENNIA-SONNERATIA FOREST TYPE AT KUALA SEMERAK, TOK BALI, KELANTAN

By

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the requirements for degree of
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PENGAKUAN DAN PENGESAHAN LAPORAN
PROJEK PENYELIDIKAN I DAN II

Adalah ini diakui dan disahkan bahawa laporan penyelidikan bertajuk: THE STAND STRUCTURE OF AVICENNIA-SONNERATIA FOREST TYPE AT TOK BALI, KELANTAN, oleh Catherine AK. Chal, no. matrik: UK9111 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-Pengurusan dan Pemuliharaan Biodiversiti, Fakulti Sains dan Teknologi, Kolej Universiti Sains dan Teknologi Malaysia.

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LIST OF ABBREVIATIONS

cm	Centimeter
dbh	Diameter at breast height
ft	Feet
No	Number
h^{-1}	Per hour
ha^{-1}	Per hectare
km	Kilometer
m	Meter

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ABSTRACT

This study was carried out at Avicennia-Sonneratia forest type at estuary of Semerak River in Tok bali, Kelantan where it revealed seven species namely *Sonneratia alba, Avicennia alba, Bruguiera cylindrica, Rhizophora apiculata*, *Ceriops decandra, Aegiceras corniculatum* and *Finlaysonia obovata.* Using stratified sampling plots method, 20 plots were built in Avicennia-Sonneratia forest type to determine the stand structure and species composition. Meanwhile, transect line method were used to described the forest profile. The most dominant species in study area was *Sonneratia alba* where at trees stage it was carried out the highest value for relative density, relative frequency, relative dominance and importance value with 80.38%, 54.05%, 78.79% and 213.22 respectively. Species groups and frequency distribution showed that dbh class of 5.0-<10.0 cm gave the highest stoking with 715 stems ha $^{-1}$ and the lowest was from dbh class of 25-30.0 cm with 10 stems ha $^{-1}$. Meanwhile, the highest basal area was from dbh class of 10.0-<15.0 cm with 4.67 m² ha $^{-1}$ and the lowest was demonstrated by dbh class of 25.0-<30.0 cm with 0.60 m² ha $^{-1}$. The highest gross volume was found at dbh class of 10.0-<15.0 cm with 24.31 m³ ha $^{-1}$ while the lowest represent by dbh class of 25.0-<30.0 cm with 4.27 m³ ha ^{1}. Avicennia-Sonneratia forest type at estuary of Semerak River also can be considered as young mangrove forest.

KAJIAN STRUKTUR DIRIAN DI HUTAN JENIS AVICENNIA-SONNERATIA DI KUALA SG SEMERAK, TOK BALI KELANTAN

ABSTRAK

Kajian ini telah dijalankan di hutan jenis Avicennia-Sonneratia di Kuala Sungai Semerak, Tok Bali Kelantan yang mana menunjukkan tujuh species iaitu *Sonneratia alba*, *Avicennia alba*, *Bruguiera cylindrica*, *Rhizophora apiculata*, *Ceriops decandra*, *Aegiceras corniculatum* dan *Finlaysonia obovata*. Dengan keadah kajian plot jenis 'stratified', 20 plot telah dibina di kawasan hutan jenis Avicennia-Sonneratia. Manakala, kaedah garis transek digunakan untuk mengambarkan profil hutan. Species yang paling dominan di kawasan kajian ialah *Sonneratia alba* di mana pada peringkat dewasa (pokok), ia membawa nilai yang tinggi bagi taburan relatif, taburan frekuensi, taburan dominan dan nilai penting sebanyak 80.38%, 54.05%, 78.79% dan 213.22. Taburan kumpulan species dan frekuensinya menunjukkan bahawa kelas dbh 5.0-<10.0 cm memberi kandungan stok yang tinggi iaitu sebanyak 715 pokok ha $^{-1}$ dan yang paling sikit diberikan oleh kelas dbh 25-30.0 cm dengan 10 pokok ha $^{-1}$. Manakala luas pangkal paling tinggi adalah dari kelas dbh 10.0-<15.0 cm dengan 4.67 m^2 ha $^{-1}$ dan yang paling rendah ditunjukkan oleh kelas dbh 25.0-<30.0 cm iaitu sebanyak 0.60 m^2 ha $^{-1}$. Isipadu kasar tertinggi dijumpai dalam kelas dbh 10.0-<15.0 cm dengan 24.31 m^3 ha $^{-1}$ manakala yang paling rendah diwakili oleh kelas dbh 25.0-<30.0 cm dengan 4.27 m^3 ha ^{1}. Hutan jenis Avicennia-Sonneratia di Kuala Sungai Semerak juga boleh dikategorikan sebagai hutan paya laut muda.