

ALLOMETRY OF MANGROVE TREE COMMUNITY IN
TUK BALI, KELANTAN AND KEMAMAN,
TERENGGANU

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ALLOMETRY OF MANGROVE TREE COMMUNITY IN TOK BALI
KELANTAN AND KEMAMAN, TERENGGANU

By

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Adalah ini diakui dan disahkan bahawa laporan penyelidikan bertajuk: ALLOMETRY OF MANGROVE TREE COMMUNITY IN TOK BALI, KELANTAN AND KEMAMAN, TERENGGANU oleh Mohd Saifuddin Bin Ariffin, No. Matrik UK8197 telah diperiksa dan semua pembetulan yang disarankan telah dilakukan. Laporan ini dikemukakan kepada Jabatan Sains Biologi sebagai memenuhi sebahagian daripada keperluan memperoleh ijazah Sarjana Muda Sains Gunaan (Pemuliharaan dan Pengurusan Biodiversiti), Fakulti Sains dan Teknologi, Kolej Universiti Sains dan Teknologi Malaysia.

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ABSTRACT

The study of allometry relationship of mangrove species in relation to their safety margin, stand structure and locations was carried out in Tok Bali, Kelantan and Kemaman, Terengganu. Six species occur in each study site, *Avicennia alba*, *Bruguiera cylindrica*, *Bruguiera gymnorhiza*, *Ceriops decandra*, *Rhizophora apiculata* and *Sonneratia alba*. *Avicennia alba* was the most frequent in Tok Bali and *Rhizophora apiculata* most frequent in Kemaman. The allometric relationship was test on dbh (diameter at breast height) and tree height whereby all species showed good fit in coefficient of regression (r^2) and significantly differed ($P < 0.05$) between species and site. In terms of stability safety margin (SSM) measurement, all species was above the theoretical buckling limit ($b=1.5$) which differed between sites. Mangrove species in Tok Bali showed the largest SSM in low stature while mangrove tree community in Kemaman mangrove species displayed the largest SSM with increasing height. Crown projection in mangrove community was similar in all level of height and low extreme in their morphology.

ALLOMETRI KOMUNITI POKOK PAYA BAKAU DI TOK BALI, KELANTAN DAN KEMAMAN, TERENGGANU

ABSTRAK

Kajian tentang hubungan allometri spesis pokok kayu bakau dan perkaitannya dengan margin keselamatan, struktur dirian dan lokasi telah dijalankan di Tok Bali, Kelantan dan Kemaman, Terengganu. Sebanyak 6 species yang terdapat di dalam kawasan kajian iaitu *Avicennia alba*, *Bruguiera cylindrica*, *Bruguiera gymnorhiza*, *Ceriops decandra*, *Rhizophora apiculata* dan *Sonneratia alba*. *Avicennia alba* adalah individu yang paling kerap dicerap di Tok Bali manakala di *Rhizophora apiculata* adalah paling kerap di Kemaman. Bentuk hubungan alometrik diuji adalah ukur lilit pokok (dbh) dan ketinggian pokok di mana kesemua spesis menunjukkan nilai pekali regresi (r^2) yang baik serta terdapat perbezaan bererti ($P < 0.05$) di antara spesis dan kawasan. Bagi pengukuran pinggir kestabilan keselamatan (SSM), semua spesis berada di atas had teori lengkokan ($b=1.5$) dan terdapat perbezaan di antara kawasan kajian. Spesis pokok kayu bakau di Tok Bali (TBMS) menunjukkan nilai SSM yang terbesar semasa ketinggian rendah manakala spesis pokok kayu bakau di Kemaman (KMS) menunjukkan SSM tertinggi dengan peningkatan ketinggian. Unjuran silara di dalam komuniti pokok kayu bakau adalah setara pada sebarang ketinggian dan kurang ekstrem pada morfologinya.