

A STUDY ON LITTERFALL OF REPLANTED TALL STILT MANGROVE
(*Rhizophora apiculata*) AND NATURALL TALL
STILT MANGROVE AT DELTA KELANTAN

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Final Research Project Report Declaration and Verification Form



**DEPARTMENT OF MARINE SCIENCE
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UNIVERSITI MALAYSIA TERENGGANU**

DECLARATION AND VERIFICATION REPORT

FINAL YEAR RESEARCH PROJECT

It is hereby declared and verified that this research report entitled:

**A STUDY ON LITTERFALL OF REPLANTED TALL STILT MANGROVE
(*Rhizophora apiculata*) AND NATURAL TALL STILT MANGROVE AT DELTA
KELANTAN**

by Syawana Hamid, Matric No. UK18169 have been examined and all errors identified have been corrected. This report is submitted to the Department of Marine Science as partial fulfilment towards obtaining the Degree of Bachelor of Science (Marine Biology) Faculty of Maritime Studies and Marine Science, Universiti Malaysia Terengganu.

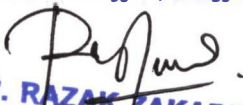
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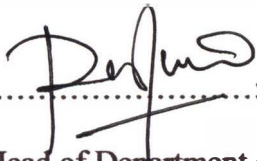
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ABBREVIATIONS

°C	:	Celsius Degree (Temperature)
M	:	Metre
mm	:	Millimeter
cm	:	Centimeter
km	:	kilometer
g	:	gram
kg	:	kilogram
ha	:	hectare
%	:	percent
Ms ⁻¹	:	meter per second

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ABSTRACT

This study was conducted in order to compare the litterfall production of replanted and natural *Rhizophora apiculata* in Delta Kelantan. During our sampling, litter trap were constructed in 5 station contain different years of *Rhizophora apiculata* stand in order to trap litterfall from April until September 2010. The height and diameter at breast height (DBH) of *Rhizophora apiculata* stand also measured to observe the age of the tree stand. Then litterfall was collected on the last day in every month and saved into the plastic bag, bring it to the laboratory for further analysis and identification. Litterfall had been divided into 4 main fractions leaves part, productivity, woods and miscellaneous fractions. Result shows that litterfall production increase along with the height and DBH of the tree stand. Overall natural *Rhizophora apiculata* produce more litterfall with 71% of the total litterfall compared to the replanted stand. Younger stand produce smaller amount of litterfall and increased when the *Rhizophora apiculata* stand becomes older and matured. Leaves litter was the most abundance defeat others, show in every month of *Rhizophora apiculata* stand, while miscellaneous had lowest amount of litterfall produced. Obviously, the patterns of litterfall for all fractions were similar except the miscellaneous. There was significance differences between litterfall produced in every months of our sampling. Litterfall production was highest in September. It was believed that rainfall influence the litterfall in that month due to September had a few days without rainfall. Apparently wind speed not really affected litterfall of *R. apiculata* much because range of variability of wind speed in every month was almost similar. Another main factor that affected our results was temperature, tidal currents and mangrove

ABSTRAK

Kajian dijalankan untuk membandingkan keguguran struktur reproduktif dari *Rhizophora apiculata* semulajadi dan tanaman semula di Delta Kelantan. Di awal kajian, bakul berjaring dibina di 5 stesyen yang mengandungi *Rhizophora apiculata* berlainan umur berfungsi untuk memerangkap struktur reproduktif yang gugur dari bulan April hingga September 2010. Tinggi dan diameter pada paras dada (DBH) pokok *Rhizophora apiculata* stand juga diukur untuk mengaitkan ia dengan umur pokok itu. Kemudian Struktur reproduktif yang gugur itu dikutip pada hari terakhir setiap bulan dan disimpan dalam plastik, dibawa ke makmal untuk dianalisis dan dikenalpasti. Struktur reproduktif yang gugur itu dibahagi kepada 4 bahagian utama iaitu daun, produktiviti, ranting kayu dan juga lain-lain. Hasil menunjukkan struktur reproduktif meningkat bersama ketinggian dan diameter paras dada (DBH) pokok itu. Keseluruhannya, *Rhizophora apiculata* semulajadi menghasilkan struktur reproduktif yang banyak iaitu 71% dari jumlah keseluruhan berbanding *R.apiculata* tanaman semula. *Rhizophora apiculata* yang muda menghasilkan jumlah keguguran struktur reproduktif yang sedikit dan meningkat apabila pokok semakin tua dan matang. Setiap bulan, struktur daun adalah yang paling banyak gugur dari *Rhizophora apiculata* sementara bahagian lain-lain menghasilkan jumlah keguguran yang paling sedikit. Nyatanya corak turun naik untuk semua bahagian adalah sama kecuali bahagian lain-lain. Ada perbezaan yang nyata ditunjukkan oleh struktur reproduktif yang gugur pada setiap bulan sepanjang kajian. Struktur reproduktif yang gugur sangat tinggi pada bulan September. Ini mungkin disebabkan oleh pengaruh hujan, Pengaruh lain yang mungkin terlibat ialah suhu, pasang surut air dan fauna bakau.