MANGROVE SEDIMENTS OF PULAU BUSUNG IN TERENGGANU

PERPUSTAKAAN SAINS DAN TEKNOLOGI

FAKULTI SAINS DAN TEKNOLOGI
KOLEJ UNIVERSITI SAINS DAN TEKNOLOGI MALAYSIA

2006

QH: 4810

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Universiti Malaysia Terengganu Perpustakaan

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Mangrove sediments of Pulau Busung in Terengganu / Nurrulhuda Ibrahim.

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MANGROVE SEDIMENTS OF PULAU BUSUNG IN TERENGGANU

By
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Research Report submitted in partial fulfillment of
The requirements for degree of
Bachelor of Applied Science (Biodiversity Conservation and Management)

Department of Biological Sciences
Faculty of Science and Technology
KOLEJ UNIVERSITI SAINS DAN TEKNOLOGI MALAYSIA
2006

This project should be cited as:

Nurrulhuda, I. 2006. Mangrove sediments of Pulau Busung in Terengganu. Undergraduate thesis, Bachelor of Applied Science in Biodiversity Conservation and Managemant, Faculty of Science and Technology, Kolej Universiti Sains dan Teknologi Malaysia, Terengganu. 79p.

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JABATAN SAINS BIOLOGI
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PROJEK PENYELIDIKAN I DAN II

Adalah ini diakui dan disahkan bahawa laporan penyelidikan bertajuk: MANGROVE SEDIMENTS OF PULAU BUSUNG IN TERENGGANU oleh Nurrulhuda binti Ibrahim, no. matrik: UK 8928 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.

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ACKNOWLEDGEMENT

Alhamdulillah, finally I finished this thesis. Much tribute for the success of this thesis goes to my first supervisor Mr. Kasawani bin Ibrahim who has offered precious information, suggestion, comments and guidance. I am also articulately indebted to my second supervisor Dr. Nor Antonina binti Abdullah for the help and support.

I would also like to express my sincere gratitude to lab assistance and research assistance that pleasantly provided much information and help while carrying out this study. I would also like to take this advantage to specially thank to my fellow friends Suzana, Sarah, Zai, Na, Nani, Hainal, Ai Ni, Mei Kim and Wani for their interest and enthusiasm in helping me carry out this study

Finally, I am deeply grateful to my parents Ibrahim bin Donik and Hazizah binti Awang Hamat, my sisters Nur Syuhada, Nurul Bariyah, Nur Nabilah and Nur Parahiyah and also to my brothers Muhamad Riddwa and Muhd Siraj Munir for their boundless support and encouragement which kept me motivated.

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LIST OF ABBREVATIONS

%	-	Percentage
$(NaPO_3)_6$	-	Nitrogen Peroxide
°C	-	Degree centrigrade
Al	-	Aluminum
Al	-	Aluminum
Ca	-	Calcium
$CaCO_3$	-	Calcite
CHR	-	Corrected Hydrometer Reading
Cl	-	Chlorine
cm	-	Centimeter
Co	-	Cobalt
Cr	-	Chromium
Ct	-	Calcite
Cu	-	Cooper
Fd	-	Feldspar
Fe	-	Ferum
Fe_2O_3	-	Hematite
g	-	Gram
H_2SO_4	-	Sulfuric acid
HCl	-	Hydrochloric acid
He	-	Hematite

HF	-	Hydrofluoric acid
HNO_3	-	Nitric acid
K	-	Sodium
Kg	-	Kilogram
Mg	-	Magnesium
mg	-	Miligram
mL	-	Mililiter
mm	-	Milimeter
Mn	-	Manganese
N	-	Nitrogen
Na	-	Natrium
Ni	-	Nickel
O	-	Opaque material
O	-	Oxygen
Pb	-	Lead
pH	-	Potential of Hydrogen
Qz	-	Quartz
r	-	Correlation constant
SEM	-	Scanning Electron Microscope
Si	-	Silicon
Zn	-	Zinc
µg	-	Microgram
µm	-	Micrometer

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ABSTRACT

This study was conducted to determine the mangrove forest sediments in Pulau Busung, Setiu, Terengganu. The sampling was done on 5th September 2005. Each nutrients in the sediment were determine by using the petrographic microscope to determine the mineral content, Teflon Bomb digestion method to determine the heavy metal and Scanning Electron Microscope (SEM) were used to determine the elements and compound in the sediment. Results showed that quartz is the dominant mineral found for all the stations and sandy clay loam is the textural classes of the sediments in all of the stations. The percentage of organic carbon in the sediments was low except for few stations which has higher values than the other stations. The heavy metal content in the study area are Al, Cr, Cu, Co, Mn, Ni, Pb and Zn. Correlation analysis between all the elements with the percentage of organic carbon in positive relation. The elements that occur in sampling area were Al, O, Na, Mg, Si, Cl, K, Ca, Fe and Mo while Na_2O, MgO, Al_2O_3, SiO_2, K_2O and FeO were the chemical compound that exists in the mangrove sediment. All the nutrients that present in the study area influence the growth of mangrove trees.

SEDIMEN PAYA BAKAU DI PULAU BUSUNG TERENGGANU

ABSTRAK

Kajian di jalankan adalah untuk sediment hutan paya bakau di Pulau Busung, Setiu, Terengganu. Penyempelan telah dilakukan pada 5hb September 2005. Setiap nutrien didalam sedimen ditentukan dengan menggunakan mikroskop petrografik untuk menetukan kandungan mineral, kaedah Bom Teflon untuk menetukan kandungan logam berat dan Mikroskop Elektron Scanning (SEM) digunakan untuk menetukan elemen dan kompaun didalam sedimen. Hasil daripada kajian ini, menunjukkan kandungan mineral yang paling dominan bagi semua kawasan adalah quartz dan kelodak liat berpasir adalah tekstur bagi sedimen di semua kawasan. Peratusan organik karbon di dalam sedimen adalah rendah kecuali bagi sesetengah kawasan kajian sahaja. Kandungan logam berat dikawasan kajian adalah Al,Cr, Cu, Co, Mn, Ni, Pb and Zn. Analisis korelasi antara logam berat dan karbon organik menunjukkan korelasi positif. Elemen yang hadir dikawasan kajian adalah Al, O, Na, Mg, Si, Cl, K, Ca, Fe, dan Mo manakala Na_2O, MgO, Al_2O_3, SiO_2, K_2O dan FeO adalah kompaun kimia yang wujud didalam sedimen paya bakau. Semua nutrien yang hadir dikawasan kajian mempengaruhi pertumbuhan pokok paya bakau.