DISTRIBUTION OF FORAMINIFERA IN SURFACE SEDIMENTS OF KEMAMAN MANGROVE FOREST

NURUL RABITAH BINTI DAUD

FACULTY OF MARITIME STUDIES AND MARINE SCIENCE
UNIVERSITI MALAYSIA TERENGGANU

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Distribution of foraminifera in surface sediments of Kemaman mangrove forest / Nurul Rabitah Daud.

Lihat sebelah

DISTRIBUTION OF FORAMINIFERA IN SURFACE SEDIMENTS OF KEMAMAN MANGROVE FOREST

By

Nurul Rabitah Binti Daud

Research Report submitted in partial fulfillment of the requirements for the degree of Bachelor of Science (Marine Science)

Department of Marine Science
Faculty of Maritime Studies and Marine Science
UNIVERSITI MALAYSIA TERENGGANU

DEPARTMENT OF MARINE SCIENCE
FACULTY OF MARITIME STUDIES AND MARINE SCIENCE
UNIVERSITY MALAYSIA TERENGGANU

DECLARATION AND VERIFICATION REPORT

FINAL YEAR RESEARCH PROJECT

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

DISTRIBUTION OF FORAMINIFERA IN SURFACE SEDIMENTS OF KEMAMAN MANGROVE FOREST by **NURUL RABITAH BINTI DAUD**, Matric No. **UK 17935** has been examined and all errors identified have been corrected. This report is submitted to the Department of Marine Science as partial fulfillment towards obtaining the **Degree of Science (Marine Science),** Faculty of Maritime Studies and Marine Science, University Malaysia Terengganu.

Verified by:

.....

Principal Supervisor

Name: **PROF DR. MOHD LOKMAN B. HUSAIN**

Official stamp: PROF. DR. MOHD LOKMAN BIN HUSAIN
Pengarah
Institut Oseanografi
Universiti Malaysia Terengganu
21030 Kuala Terengganu, Terengganu

Date: 2A/A/2011

.....

Second Supervisor

Name: **DR. NOR ANTONINA BT ABDULLAH**

Official stamp:

Date: .....

.....

Head of Department of Marine Science

Name: **DR. RAZAK BIN ZAKARIYA**

Official stamp: DR. RAZAK ZAKARIYA
Ketua Jabatan Sains Marin
Fakulti Pengajian Maritim dan Sains Marin
Universiti Malaysia Terengganu
(UMT)

Date: 27/4/11

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LIST OF ABBREVIATIONS / SYMBOLS

%	-	Percentage
m	-	Meter
mm	-	Milimeter
cm	-	Centimeter
cm^3	-	Centimeter cubic
µm	-	Micrometer
3D	-	Three Dimensi
SiO^2	-	Silicon dioxcide
$CaCo^3$	-	Calcium carbonate
o	-	Degree
^oC	-	Degree Celcius

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ABSTRACT

Mangrove sediments sampled from 27 sites in the Kemaman Mangrove Forest were analyzed to determine species of foraminifera and their relationship with salinity and land elevation. The species were composed of 11 genus of agglutinated foraminifera. These were studied in terms of taxonomic, diversity (Shannon-Wiener) and evenness. Along all transects, it was observed the trend of increasing diversity towards the upstream. *Arenoparella sp., Miliammina sp.,* and *Haplopragmoides sp.* are the dominant species of foraminifera found in the study area. Only some genus show relationship with salinity and elevation. For examples *Acupeina sp., Miliammina sp., Paratrochamina sp., Trochamina sp., Haplopragmoides sp., Caronia sp., Arenoparela sp.,* and *Ammoastuta sp.*. While *Siphotrochamina sp., Jadammina sp., Ammotium sp.* seems not to be no significantly influenced by salinity and elevation variables. Among all the genus, *Arenoparella sp.* is considered the most resilient genus as they are found in all areas, it appeared as the dominant genus in all transects. In this study site it would not be the salinity and elevation has little influence on the distribution of these species. The distribution pattern of foraminifera observed in the mangrove environment provides key element to understand the hydrohaline dynamics of the area, supporting environmental diagnosis and ecosystem management. It can also be used in paleoenvironmental studies.

Taburan Foraminifera Dalam Sedimen Permukaan Di Hutan Paya Bakau Kemaman

ABSTRAK

Sebanyak 27 sedimen sampel dari Hutan Bakau Kemaman telah dianalisis untuk mengetahui taburan foraminifera dan hubungannya dengan saliniti dan ketinggian dari aras laut. Terdapat 11 genus foraminifera dijumpai daripada sampel tersebut yang dikaji dari segi taksonomi, kepelbagaian (Shannon-Wiener) dan kepadatannya. Pada kesemua transek menunjukkan peningkatan kepelbagaian hidupan foraminifera di kawasan kajian. Terdapat tiga genus yang mendominasi kawasan kajian iaitu *Arenoparella sp.*, *Miliammina sp.*, dan *Haplopragmoides sp.* Hasil dari kajian menunjukkan hanya genus tertentu sahaja memberi tindak balas kepada saliniti dan ketinggian dari aras laut. Genus tersebut ialah *Acupeina sp.*, *Miliammina sp.*, *Paratrochamina sp.*, *Trochamina sp.*, *Haplopragmoides sp.*, *Caronia sp.*, *Arenoparela sp.*, dan *Ammoastuta sp.*. Manakala, bagi genus *Siphotrochamina sp.*, *Jadammina sp.*, dan *Ammotium sp.* menunjukkan taburan mereka tidak dipengaruhi oleh pembolehubah saliniti dan ketinggian dari aras laut. Keseluruhan kajian ini menunjukkan taburan foraminifera di kawasan kajian tidak dipengaruhi oleh saliniti dan ketinggian dari aras laut. Di antara semua genus *Arenoparella sp.* ialah genus yang mempunyai ketahanan hidup paling tinggi kerana ia boleh dijumpai di setiap transek. Pola taburan foraminifera diamati dalam persekitaran hutan bakau bagi menyediakan elemen penting untuk memahami dinamik hydrohaline di kawasan ini, menyokong diagnosis persekitaran dan pengurusan ekosistem hutan bakau ini. Hal ini juga boleh digunakan dalam kajian paleoenvironmental.