

SOME ECOLOGICAL ASPECTS OF BENTHIC
POLYCHAETA AT TOK BALI MANGROVE FOREST
KELANTAN DARUL KEHILIAN

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LP 60 FST 5 2006



1100046134

Some ecological aspects of infaunal polychaeta at Tok Bali mangrove forest Kelantan Darul Naim / Zaleha Md Bidin.



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SOME ECOLOGICAL ASPECTS OF INFAUNAL POLYCHAETA AT TOK BALI
MANGROVE FOREST, KELANTAN DARUL NAIM

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2006

**SOME ECOLOGICAL ASPECTS OF INFAUNAL POLYCHAETA AT TOK BALI
MANGROVE FOREST, KELANTAN DARUL NAIM**

By

Zaleha Md Bidin

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

**Department of Biological Sciences
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KOLEJ UNIVERSITI SAINS DAN TEKNOLOGI MALAYSIA
2006**

This project should be cited as:

Zaleha, M.B. 2006. Some Ecological Aspects of Infaunal Polychaeta at Tok Bali Mangrove Forest, Kelantan Darul Naim. Undergraduate thesis, Bachelor of Applied Science (Biodiversity Conservation and Management), Faculty of Science and Technology, Kolej Universiti Sains dan Teknologi Malaysia, Terengganu. 60p.

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PENGAKUAN DAN PENGESAHAN LAPORAN

PROJEK PENYELIDIKAN I DAN II

Adalah dengan ini disahkan bahawa laporan penyelidikan bertajuk SOME ECOLOGICAL ASPECTS OF INFAUNAL POLYCHAETA AT TOK BALI MANGROVE FOREST, KELANTAN DARUL NAIM oleh Zaleha Md. Bidin No. Matrik UK 8760 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 Pengurusan dan Pemuliharaan Biodiversiti, Fakulti Sains dan Teknologi, Kolej Universiti Sains dan Teknologi Malaysia.

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ACKNOWLEDGMENT

I would like to express my deepest gratitude to my supervisor, Encik Kasawani B. Ibrahim and Dr. Zaleha Bt. Kassim. Thank you for your caring, valuable guidance, supportive and patience supervision. Thank you for all your contribution and advices throughout this project.

My sincere appreciation to all staff by offering their guidance and support. Without your kindly help from the beginning until the end of producing a thesis, I won't have been finished with this project.

I would like to thank my family for their love, courage and support throughout my whole life. That's the strength that cheers me up throughout this study.

To my beloved friends, thank you for being with me, sharing all the good and bad times together. Your loyalty made me stronger to face challenges. Though it's really frustrating sometimes, but, we all make it through finally.

Thanks to all that I might be neglected their names that helped to make this project possible.

At last but not least, thanks for sharing all your knowledge with me. I'll remember what you all taught me.

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LIST OF ABBREVIATIONS

cm	centimeters
E	East
g	gram
ha	hectare
m	meter
N	north
ppt	part per thousand
PSA	particle size analysis
TOM	total organic matter
°C	degree Celsius
μ	micron
ø	phi
>	more than
<	less than
=	equal
%	percentage

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ABSTRACT

A study on the abundance of species Polychaeta was conducted on three seasons, dry (July), pre-monsoon (September) and monsoon (December) on 2005. Samples of polychaetes and sediments have been taken at different mangrove forest types which are *Nypa Fruiticans*, *Rhizophora* spp., *Avicennia* spp. and Mixed Mangrove. Samples of sediment were analysed for particle size and total organic matter analysis. Physico-chemical factors such as temperature, salinity, pH, and dissolved oxygen were measured using Hydrolab Quanta. Mean particle size range from 2.01 phi to 2.39 phi that showed the sediment at this area can be classified as fine sand. Mean total organic matter range from 0.61 g/g to 1.45 g/g. There are six families were found in this study namely Nereidae, Sabellidae, Syllidae, Capitellidae, Scalibregmidae and Ampheretidae and the species were *Neries unifasciata*, *Namalycastis indica*, *Capitella capita*, *Chone collaris*, *Syllis trifalcata*, *Ampherete agulhanis*, *Parasclerocheilus capensis*, *Potamilla reniformis* and *Leonates decipiens*. Total of mean density of polychaeta is 1923.92 (ind/m²). Overall ANOVA test shows significant different between seasons but not significant different between station. Total organic matter shows correlation with density of polychaeta ($r=+0.580$, $P<0.05$).

ASPEK EKOLOGI POLYCHAETA DI KAWASAN PAYA BAKAU TOK BALI, KELANTAN DARUL NAIM

ABSTRAK

Satu kajian terhadap spesies Polychaeta telah dijalankan pada musim kering (Julai), pra - monsun (September), dan December (monsun). Sampel polychaeta dan sampel sediment telah diambil daripada empat stesen berbeza hutan paya bakau iaitu *Nypa Fruticans*, *Rhizophora* spp., *Avicennia* spp. dan hutan paya bakau campuran. Sampel sediment dianalisis untuk saiz partikel dan kandungan bahan organik. Faktor fisiko-kimia air seperti suhu, salinity, pH, dan oksigen terlarut diukur menggunakan Hidrolab Quanta. Min saiz partikel di kawasan kajian adalah berjalat 2.01 phi hingga 2.39 phi yang menunjukkan jenis sediment di kawasan kajian adalah dalam keadaan berpasir halus. Purata kandungan bahan organik keseluruhan berjalat 0.61 g/g hingga 1.45 g/g. Enam famili telah dijumpai dalam kajian ini iaitu Nereidae, Sabellidae, Syllidae, Capitellidae, Scalibregmidae and Ampheretidae dan spesiesnya ialah *Neries unifasciata*, *Namalycastis indica*, *Capitella capita*, *Chone collaries*, *Syllis trifalcata*, *Amphereite agulhanis*, *Parasclerocheilus capensis*, *Potamilla reniformis* and *Leonates decipiens*. Purata kepadatan polychaeta adalah sebanyak 1923.92 (ind/m²). Secara keseluruhan, ujian anova menunjukkan perbezaan bererti bagi perbandingan data yang diperolehi di antara musim. Manakala perbandingan antara stesen tidak menunjukkan perbezaan bererti. Kandungan bahan organik menunjukkan hubungan yang bererti dengan kepadatan polychaeta ($r=+0.580$, $P<0.05$).