

**THE PRESENCE OF MACROBENTHOS COMMUNITY IN  
REPLANTED MANGROVE AREA IN TUMPAT**

**MOHD FAIZ BIN RAZALI**

**FACULTY OF MARITIME STUDIES AND MARINE SCIENCE  
UNIVERSITI MALAYSIA TERENGGANU**

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PERPUSTAKAAN SULTANAH NUR ZAHIRAH  
UNIVERSITI MALAYSIA TERENGGANU (UMT)  
21030 KUALA TERENGGANU

1100061848		

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**THE PRESENCE OF MACROBENTHOS COMMUNITY IN REPLANTED  
MANGROVE AREA IN TUMPAT**

**By**

**Mohd Faiz bin Razali**

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**JABATAN SAINS MARIN  
FAKULTI PENGAJIAN MARITIM DAN SAINS MARIN  
UNIVERSITI MALAYSIA TERENGGANU**

**PENGAKUAN DAN PENGESAHAN LAPORAN  
PROJEK PENYELIDIKAN I DAN II**

Adalah ini diakui dan disahkan bahawa laporan penyelidikan bertajuk:

**THE PRESENCE OF MACROBENTHOS COMMUNITY IN REPLANTED MANGROVE AREA IN TUMPAT** oleh **MOHD FAIZ BIN RAZALI**, No. Matrik **UK12249** telah diperiksa dan semua pembedaan yang disarankan telah dilakukan. Laporan ini dikemukakan kepada Jabatan Sains Marin sebagai memenuhi sebahagian daripada keperluan memperoleh **Ijazah Sarjana Muda Sains (Biologi Marin)**. Fakulti Pengajian Maritim dan Sains Marin, Universiti Malaysia Terengganu.

Disahkan oleh:

Penyelia Utama.

Nama: **Prof. Madya Sulong bin Ibrahim**

Tarikh:

Cop Rasmi:

PROF. MADYA SULONG IBRAHIM  
Pensyarah  
Institut Oseanografi  
Universiti Malaysia Terengganu (UMT)  
21030 Kuala Terengganu, Terengganu.

Penyelia Kedua.

Nama: **Dr. Zaleha Kassim**

Tarikh:

Cop Rasmi:

DR ZALEHA BT KASSIM  
KETUA PROGRAM  
MASTER SAINS (AKUAKULTUR), STRUKTUR C  
INSTITUT AKUAKULTUR TROPIKA  
UNIVERSITI MALAYSIA TERENGGANU (UMT)  
21030 KUALA TERENGGANU.

Ketua Jabatan Sains Marin

Nama:

Cop Rasmi:

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

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<b>TABLE OF CONTENT</b>	<b>PAGE</b>
ACKNOWLEDGEMENTS	ii
LIST OF TABLES	iii
LIST OF FIGURES	iv
LIST OF ABBREVIATIONS	vi
LIST OF APPENDICES	vii
ABSTRACT	viii
ABSTRAK	ix
1.0 INTRODUCTION	1
1.1 Justification	3
1.2 Objectives	4
2.0 LITERATURE REVIEW	5
2.1 Study on mangrove's macrobenthos	5
2.2 The assemblages of macrobenthos in mangroves	7
2.3 The role of macrobenthos	8
2.4 Factors that affecting the macrobenthos distribution	9
2.4.1 Salinity	9
2.4.2 Sediment characteristic	9
2.4.3 Temperature	10
2.4.4 Dissolved Oxygen (DO)	10
2.5 Recent methods for macrobenthos study in mangrove	11
3.0 METHODOLOGY	14
3.1 Sampling site	14

3.2 Sampling the environment parameters	16
3.3 Sampling design	16
3.4 Sediment Characteristic Analysis	19
3.5 Data Analysis	21
3.5.1 Univariate Analysis	21
3.5.2 Multivariate Analysis	22
4.0 RESULTS	23
4.1 Physico-chemical parameters	23
4.2 Community structure	25
4.2.1 Density of macrobenthos in Tumpat	25
4.2.2 The composition of macrobenthos	29
4.2.3 The Diversity of Macrobenthos	31
4.2.4 Hierarchal Clustering and Multi-Dimensional Scaling (MDS)	33
4.3 Sediment Analysis	39
5.0 DISCUSSIONS	41
6.0 CONCLUSIONS	48
REFERENCES	49
APPENDICES	54
CURICULUM VITAE	74

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<b>LIST OF TABLES</b>	<b>PAGE</b>
Table 3.1 GPS reading of sampling stations in Tumpat	15
Table 4.1 The physico-parameters that have been recorded at each sampling station in Tumpat	23
Table 4.2.2 The composition and distribution of macrobenthos at each sampling station in Tumpat	30
Table 4.2.3 The univariate diversity indices of macrobenthos at each sampling station in Tumpat	32
Table 4.3 The sediment analysis of each sampling station in Tumpat	40

<b>LIST OF FIGURES</b>	<b>PAGE</b>	
Figure 2.5	Extraction protocol for sampling sublittoral and shallow marine infaunal benthos	13
Figure 3.1	The location of sampling area	15
Figure 3.3a	Sampling design for collecting macrobenthos	17
Figure 3.3b	Flow chart of methodology for macrobenthos abundance and distribution	18
Figure 3.4	Flow chart of methodology for sediment character analysis	20
Figure 4.2.1(a)	The density of macrobenthos (ind/m <sup>2</sup> ) in each quadrat of each transect in station natural	26
Figure 4.2.1(b)	The density of macrobenthos (ind/m <sup>2</sup> ) in each quadrat of each transect in station mudflat	26
Figure 4.2.1(c)	The density of macrobenthos (ind/m <sup>2</sup> ) in each quadrat of each transect in station 0 year	27
Figure 4.2.1(d)	The density of macrobenthos (ind/m <sup>2</sup> ) in each quadrat of each transect in station 3 year	27
Figure 4.2.1(e)	The density of macrobenthos (ind/m <sup>2</sup> ) in each quadrat of each transect in station 6 year	28
Figure 4.2.1(f)	The density of macrobenthos (ind/m <sup>2</sup> ) in each station in Tumpat	28
Figure 4.2.2	The composition of macrobenthos in each station in Tumpat	30
Figure 4.2.3	The diversity indices of macrobenthos at each sampling station in Tumpat	32

Figure 4.2.4(a)	(I) Dendogram from Bray-Curtis similarities for macrobenthos sample at station natural. (II) MDS configuration of macrobenthos in station natural at 68.8 % - 82.48 % of similarity level	34
Figure 4.2.4(b)	(I) Dendogram from Bray-Curtis similarities for macrobenthos sample at station mudflat. (II) MDS configuration of macrobenthos in station mudflat at 56.93 % of similarity level	35
Figure 4.2.4(c)	(I) Dendogram from Bray-Curtis similarities for macrobenthos sample at station 0 year. (II) MDS configuration of macrobenthos in station 0 years at 46.67 % – 74.45 % of similarity level	36
Figure 4.2.4(d)	(I) Dendogram from Bray-Curtis similarities for macrobenthos sample at station 3 year. (II) MDS configuration of macrobenthos in station 3 years at 57.61 % - 75.33 % of similarity level	37
Figure 4.2.4(e)	(I) Dendogram from Bray-Curtis similarities for macrobenthos sample at station 6 year. (II) MDS configuration of macrobenthos in station 6 years at 44.34 % - 81.11 % of similarity level	38
Figure 4.3	Sediment mean size ( $\phi$ ) and sorting of each sampling station in Tumpat	40

## LIST OF ABBREVIATIONS

GPS	Global Positioning System
°C	Degree celcius
‰	Part per thousand
DO	Dissolved Oxygen
Ind./m <sup>2</sup>	Individual per metre square
MDS	Multi-Dimensional scaling
2D	Two-dimensions
Ø	Phi

<b>LIST OF APPENDICES</b>	<b>PAGE</b>
Appendix 1 Univariate diversity indices, hierarchal clustering and non-metric multi-dimensional scaling of macrobenthos at station natural	54
Appendix 2 Univariate diversity indices, hierarchal clustering and non-metric multi-dimensional scaling of macrobenthos at station mudflat	58
Appendix 3 Univariate diversity indices, hierarchal clustering and non-metric multi-dimensional scaling of macrobenthos at station 0 year	62
Appendix 4 Univariate diversity indices, hierarchal clustering and non-metric multi-dimensional scaling of macrobenthos at station 3 years	66
Appendix 5 Univariate diversity indices, hierarchal clustering and non-metric multi-dimensional scaling of macrobenthos at station natural	70

## ABSTRACT

Studies on the presence of macrobenthos community in the replanted area have successfully been conducted and done in Tumpat, Kelantan on October 2007. The main objectives in this study are to determine the presence of macrobenthos in replanted mangrove area at different ages and also to compare the presence of macrobenthos in replanted mangrove area at different ages in Tumpat. A total of 358 individual of macrobenthos have been collected from five stations which are natural mangrove, mudflat, 0 year, 3 years and 6 years. Four groups of macrobenthos have been found where gastropods and annelids (polychaetes) were the most abundant in that area followed by sipunculids and crustaceans. Station natural mangrove showed the highest value of diversity ( $H'$ ) with 1.037. Station 6 years showed the highest value in richness ( $D$ ) and evenness ( $J'$ ) with 1.115 and 0.933. Some environmental factors and the sediment characteristic might affect the distribution and the abundance of macrobenthos community in mangrove area in Tumpat, Kelantan.

# **Kajian Kehadiran Komuniti Makrobentos di kawasan Penanaman Semula Hutan Paya Laut Tumpat**

## **ABSTRAK**

Kajian kehadiran komuniti makrobentos di kawasan penanaman semula telah berjaya dijalankan di kawasan hutan paya laut Tumpat, Kelantan pada bulan Oktober 2007. Tujuan utama kajian ini adalah untuk mengenalpasti kehadiran makrobentos di kawasan penanaman semula bakau pada umur yang berlainan dan juga membezakan makrobentos di kawasan penanaman semula bakau pada umur yang berlainan di Tumpat. Sebanyak 358 individu makrobentos telah dikumpul dari lima stesen iaitu stesen bakau semulajadi, stesen kawasan lumpur (mudflat), stesen 0 tahun, stesen 3 tahun dan stesen 6 tahun kawasan penanaman semula. Empat kumpulan makrobentos telah dijumpai di mana gastropoda dan annelida (polychaeta) adalah yang paling dominant di kawasan itu, diikuti sipuncula dan krustasia. Kawasan bakau semulajadi menunjukkan nilai kepelbagaian yang paling tinggi dengan 1.037. Stesen 6 tahun menunjukkan nilai kekayaan dan nilai keserataan yang tinggi dengan nilai 1.115 dan 0.933. Faktor persekitaran dan karektaristik sedimen mungkin mempengaruhi kepadatan dan penyebaran komuniti makrobentos di kawasan paya laut di Tumpat, Kelantan.