THE DIVERSITY AND ABUNDANCE OF MEIOFAUNA AT INTERTIDAL ZONE OF TANJUNG ARU AND LOK KAWI

ROJITA LASION

BACHELOR OF SCIENCE (Hons.) BIOLOGY FACULTY OF APPLIED SCIENCES UNIVERSITI TEKNOLOGI MARA

JUNE 2014

ACKNOWLEDGEMENT

I would like to thank God for giving me the courage, knowledge and strength to overcome the challenges that I have to endure throughout the process of completing my final year project. Praise to the Lord for the blessing and for this amazing journey.

I express my profound sense of gratitude to my supervisor, Mr. Ansir Salim for guiding me, constant support and encouragement and also for being understanding throughout my research work. I remain indebted him to introducing me to the quest for meiofauna.

I am sincerely thankful to my aunty Ms.Nora Mellisa Sondong to help me in management of this final year project, constant support and watching over my safety during sampling and providing me transportation to my study sites.

I am sincerely thankful to my uncle Mr. Anthony Pan Vui Leong to drive me in every time going to the sampling station and help me in field work. I would like to thanks to my young brother Mr.Rony Lasion to for helping in field work and supportive.

I am sincerely thankful to my friend Mr. Calvin Charles for the helping me in laboratory work and supportive. To my friends, Atun, Mackley, Aron, Sheela, Sarah, Hartini, Stacy, Ben, Carol and syafikah and to all my friends at UITM Sabah. I am thankful to have such supportive friends. You are my shoulder to cry on and a force to be reckoned with.

I am sincerely thankful to all lecturers of FSG in all their supportive and guiding. Not forget also to all laboratory staffs to help me preparing the apparatus needed for sampling.

Finally I wish to express my love and affections to my beloved daddy, mummy, aunty, uncle and my old brother for their kind understanding, endurance, prayers and sacrifices.

ROJITA LASION

TABLE OF CONTENT

	PAGE
ACKNOWLEDGEMENT	iii
TABLE OF CONTENTS	iv
LIST OF TABLES	vi
LIST OF FIGURES	vii
LIST OF ABBREVATIONS	vii
ABSTRACT	ix
ABSTRAK	х
CHAPTER 1: INTRODUCTION	

1.1	Background Study	1
1.2	Problem Statement	2
1.3	Significance of the Study	3
1.4	Objectives of the Study	4

CHAPTER 2: LITERATURE REVIEW

2.1	Intertidal zone	5
2.2	The diversity and abundance of meiofauna	7
2.3	Physical factor influencing diversity and abundance of meiofauna	7
2.4	The role of meiofauna in marine and in freshwater ecosystems	9
2.5	Meiofauna in Sabah Malaysia	10

CHAPTER 3: METHODOLOGY

3.1	.1 Materials		
	3.1.1	Raw materials	11
	3.1.2	Chemicals	11
	3.1.3	Apparatus	11
3.2	Metho	ods	
	3.2.1	Sampling site	12
	3.2.2	Sample methods	15
	3.2.3	Meiofauna fixation	15
	3.2.4	Laboratory treatment	
		3.2.4.1 Extraction	15
		3.2.4.2 Counting	16
3.3	Data a	analysis	16

CHA	PIER 4	: RESULT AND DISCUSSION	
4.1	Diversity of meiofauna 1		17
4.2	2 Abundance of Meiofauna		
	4.2.1	The Average Density of Meiofauna at Two Different Study Areas.	18
	4.2.2	The Relative Abundance Analysis of meiofaunal at two different study sites.	20
	4.2.3	The Comparison of Abundance of Meiofauna at Tanjung Aru First Beach and Lok Kawi Beach	23
4.3	The rel chemic	ationship of the abundance of meiofauna based on physio- al parameters	24

D & DECITI T AND DISCUSSION

CHAPTER 5: CONCLUSION AND RECOMMENDATIONS 26

CITED REFERNCES	28
APPENDICES	. 32
CURRICULUM VITAE	39

V

ABTRACT

THE DIVERSITY AND ABUNDANCE OF MEIOFAUNA AT INTERTIDAL ZONE OF TANJUNG ARU AND LOK KAWI

Meiofaunal organisms are small animals that can pass through 1 mm mesh size sieve and retained on mesh sizes sieve from 1000 μ m to 42 μ m and lives in a wide variety of habitats. The study of diversity and and abundance the meiofauna was compared between two tidal zone of Tanjung Aru and Lok Kawi respectively. About five transect lines were done from the lowest tide level, middle tide level and to the high tides level. Some of parameters were influence the abundance of meiofaunal and the major controlling factor is the sediment characteristic. Eight taxa of meiofaunal founded at Tanjung Aru beach and Lok Kawi beach which are about 1,309 and 1,156 individual respectively were dominated by Nematode and Copepode. The Harpacticoid. Oligocheata, Turbellaria, Ostracoda, and Polycheata were also present but in lower abundance. The Gastrotricha and Nemertea were found but much less abundance. Tanjung Aru first beach has the highest diversity index with 1.026 and Lok kawi has low diversity index with 0.934.