

**COMPARISON OF PREVALENCE AND INTENSITY OF
ECTOPARASITE ON MUD CRAB GENUS *Scylla* AT KG. GILING
LAUT AND KG. BANGKA BANGKA KOTA KINABALU, SABAH**



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TABLE OF CONTENTS

	Page
ACKNOWLEDGEMENT	iii
TABLE OF CONTENTS	iv
LIST OF TABLES	vi
LIST OF FIGURES	viii
LIST OF ABBREVIATIONS	x
ABSTRACT	xi
ABSTRAK	xii
CHAPTER 1 INTRODUCTION	
1.1 Study Background	1
1.2 Problem Statement	2
1.3 Significance of Study	3
1.4 Objective of study	4
CHAPTER 2 LITERATURE REVIEW	
2.1 Parasite in crab	5
2.1.1 Type of ectoparasite	5
2.1.2 Parasite effect on mud crab	7
2.1.3 Environmental factor effect parasite	8
2.2 Type of mud crab genus <i>Scylla sp.</i>	8
2.2.1 Mud crab catching method	9
2.2.2 Fishing using Baited trap (Bintur)	9
CHAPTER 3 METHODOLOGY	
3.1 Study site	10
3.2 Materials	24
3.2.1 Raw Materials	24
3.2.2 Chemicals	24
3.2.3 Apparatus	24
3.3 Methods	25
3.3.1 Physico chemical parameter	25
3.3.2 Samples collection	28
3.3.3 Examination of ectoparasite	30
3.3.4 Identification of ectoparasite	32
3.3.5 Prevalence of ectoparasite	33
3.3.6 Intensity of ectoparasite	33
FLOW CHART STUDY	34
CHAPTER 4 RESULT AND DISCUSSION	
4.1 Ectoparasite on mud crab genus <i>Scylla</i> at study site	35
4.2 Type of ectoparasite	35
4.3 Genus of <i>Octolasmis</i>	36
4.4 Genus of <i>Parhalixodes</i>	38

4.5	Genus of <i>Capillospirura</i>	39
4.6	Genus of <i>Camallanus</i>	41
4.7	Total number of ectoparasite	43
4.8	Prevalence and Intensity of Ectoparasite at Kg. Giling Laut	44
4.9	Prevalence and Intensity of Ectoparasite at Kg. Bangka Bangka	45
4.10	Total prevalence and intensity of ectoparasites at both study sites	46
4.11	Correlation of Temperature and Prevalence	47
4.12	Correlation of Dissolved oxygen and Prevalence	47
4.13	Correlation of pH and Prevalence	48
4.14	Correlation of Temperature and Intensity	48
4.15	Correlation of Dissolved oxygen and Intensity	49
4.16	Correlation of pH and Intensity	49
CHAPTER 5 CONCLUSION AND RECOMMENDATIONS		
5.1	Conclusion	51
5.2	Recommendation	52
CITED REFERENCES		53
APPENDICES		56

ABSTRACT

COMPARISON OF PREVALENCE AND INTENSITY OF ECTOPARASITE ON MUD CRAB GENUS *Scylla* AT KG. GILING LAUT AND KG. BANGKA BANGKA, KOTA KINABALU, SABAH

Ectoparasitic infection has an adverse impact on wild mangrove crab. This study aims to determine ectoparasites that hosting mangrove crabs, knowing the level of prevalence and intensity of ectoparasites and to determine the correlation of physicochemical parameter to the prevalence and intensity of ectoparasite. This study was conducted from April to July 2017 whereby the sampling done once per month. Trap (*Bintur*) were set up from early morning to afternoon (9 a.m- 12.00 p.m), a total of thirty samples of mud crabs were successfully caught from the Kg.Giling Laut and Kg.Bangka Bangka, Kota Kinabalu, Sabah. Ectoparasite observation was done by smear method on target organ (carapace and gills) for further observation under a microscope. Ectoparasite identification was based on their morphology guided by Book of Williams and Bunkley-Williams (1996), Book of Arai and Smith (2016) and Book of Bartsch (2006). The findings from Kampung Giling found that out of 15 mangrove crabs 13 samples were infected with *Octolasmis*, 5 samples were infected with *Capillospirura* and 4 samples were infected with *Parhalixodes*. Meanwhile, in Bangka Bangka Village, out of 15 mangrove crabs, 14 samples were infected by *Octolasmis*, 5 samples were infected by *Capillospirura*, 4 samples infected with *Parhalixodes* and 3 samples infected by *Camallanus*. The highest prevalence and intensity of ectoparasites in Kg. Giling Laut and Kg. Bangka Bangka is owned by *Octolasmis* with a prevalence of 86% and 93% and has an intensity value of 25 and 90 respectively. Finally, the correlation test showed that there was a positive correlation between the prevalence of dissolved oxygen ($r = 0.077$, $p < 0.05$) while there was also a positive correlation between intensity and water pH ($r = 0.084$, $p < 0.05$). In conclusion, high water pH level lead to pollution and this maybe a major factor in prevalence and high intensity at Kampung Bangka Bangka. Currently, studies on the distribution, diversity and ecological ectoparasites of the mangrove crab are very limited so further studies need to be made in the future.

CHAPTER 1

INTRODUCTION

1.1 Background of Study

Mud crab commercially harvested crabs in Malaysia. Mud crab is also known as a mangrove crab as it inhabits in brackish mangrove areas (Shelley and Lovatelli, 2011). The mud crab belongs to the family of Portunidae (Williams and Primavera, 2001). There were four species from genus *Scylla* including *Scylla serrata*, *Scylla paramamosain*, *Scylla tranquebarica* and *Scylla olivacea* (Keenan, Davie and Mann, 1998; Keenan and Blackshaw, 1999). The *Scylla Spp.* is widely distributed around the Indian Ocean to east Africa and through the Indo-Pacific region. The declining in number of fish catching and increasing in the price of mud crab a few years ago help to promote a fisherman and coastal fishing communities to start culture and farming a mud crab. However in Malaysia, there are still less investigations regarding relationship of parasite to mud crab population. Therefore, this study of parasite prevalence to mud crab is important to provide knowledge and understanding about the relationship of parasite to mud crab.