MORPHOMETRIC AND MERISTIC ANALYSIS OF BLUE-SPOTTED

MUDSKIPPER, Boleophthalmus boddarti (Pallas, 1770) FROM SELECTED MANGROVE AREAS IN PENINSULAR MALAYSIA

SYAZWIN RAFHANAH BINTI SAIFUZZAMAN

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

JULY 2018

This Final Year Project Report entitled "MORPHOMETRIC AND MERISTIC ANALYSIS OF BLUE-SPOTTED MUDSKIPPER, *Boleophthalmus boddarti* IN PENINSULAR MALAYSIA" was submitted by Syazwin Rafhanah binti Saifuzzaman, in partial fulfilment of the requirements for the Degree of Bachelor of Science (Hons.) Biology, in the Faculty of Applied Sciences, and was approved by

Dr. Izzati Adilah binti Azmir Supervisor B. Sc. (Hons.) Biology Faculty of Applied Sciences Universiti Teknologi MARA 72000 Kuala Pilah Negeri Sembilan

Lili Syahani binti Rusli Project Coordinator B. Sc. (Hons.) Biology Faculty of Applied Sciences Universiti Teknologi MARA 72000 Kuala Pilah Negeri Sembilan Dr. Aslizah Mohd Aris Head of Programme B. Sc. (Hons.) Biology Faculty of Applied Sciences Universiti Teknologi MARA 72000 Kuala Pilah Negeri Sembilan

Date: _____

TABLE OF CONTENTS

ACKNOWLEDGEMENTS TABLE OF CONTENTS LIST OF TABLES LIST OF FIGURES LIST OF ABBREVATIONS ABSTRACT ABSTRAK		PAGE iii iv vi vii viii x
СНА	PTER 1: INTRODUCTION	
1.1	Background Study	1
1.2		2
1.3		3
1.4	Objectives of the Study	3
СНА	PTER 2: LITERATURE REVIEW	
2.1	Species of mudskipper in Malaysia	4
2.2	Family Gobiidae	5
	2.2.1 Sub-family Oxudercinae	7
	2.2.2 Genus Boleophthalmus	8
	2.2.3 Boleophthalmus boddarti	9
2.3	Habitat and distribution of mudskipper	10
2.4	Morphometric and meristic count for species identification	11
	2.4.1 Advantages of morphometric and meristic	13
2.5	Length and weight relationship	14
2.6	Importance of mudskipper	14
СНА	PTER 3: METHODOLOGY	
3.1	Sampling site	16
	3.1.1 Matang Perak	16
	3.1.2 Pendas Johor	18
	3.1.3 Pekan Pahang	18
3.2	Materials	
	3.2.1 Raw materials	19
	3.2.2 Apparatus	19
3.3	Methods	1.0
	3.3.1 Sample collection	19
	3.3.2 Preservation of the sample	19
	3.3.3 Species identification	19

3.3.4	Measuring based on morphometric and		
	meristic characteristic	20	
3.4	Data Analysis	20	
CHAI	PTER 4: RESULTS AND DISCUSSION		
4.1	Morphometric measurements in <i>B. boddarti</i>	22	
4.2	Meristic measurements in <i>B. boddarti</i>	26	
4.3	Length and weight relationship	28	
CHAI	PTER 5: CONCLUSIONS AND RECOMMENDATIONS	32	
CITED REFERENCES		34	
APPENDICES		43	
CURRICULUM VITAE		47	

ABSTRACT

MORPHOMETRIC AND MERISTIC ANALYSIS OF BLUE-SPOTTED MUDSKIPPER, *Boleophthalmus boddarti* (Pallas, 1770) FROM SELECTED MANGROVE AREAS IN PENINSULAR MALAYSIA

Mudskippers are locally known as Belacak or Tembakul has unique adaptations that can make them live in the land. Mudskippers are usually found at the area of mangrove site. 72 individuals of mudskippers were collected from three selected mangrove areas in Peninsular Malaysia; Matang Perak, Pendas Johor and Pekan Pahang. A total of 17 morphometric characteristic and seven meristic measurements were measured on the sample. The means of the each characteristic were estimated by using analysis of Variance (ANOVA) with P<0.05. The regression analysis was carried out for information in the relation of the total length and weight of the mudskipper. The length and weight relationship for *B. boddarti* from Pendas Johor is described as log W= 3.116 log TL-5.280, while Matang Perak is log W= 3.297 log TL-5.650 and Pekan Pahang is log W= 2.877 log TL-4.780. Mudskipper from each of the population displayed different intensity of coloration. This shows that the intensity of the coloration cannot be used to differentiate the species from the different places as mudskipper adapts their coloration with its environment.