

**RELATIONSHIP BETWEEN SIZE OF FISH WITH THE
TOTAL NUMBER OF ECTOPARASITES (MONOGENEANS)
ON *Ictalurus nebulosus* Lesueur, 1819 (CATFISH) FROM
FISH FARM AT RANAU, SABAH**

NUR DEANNA BINTI KAMISLIN

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

JULY 2017

**RELATIONSHIP BETWEEN SIZE OF FISH WITH THE
TOTAL NUMBER OF ECTOPARASITES (MONOGENEANS) ON
Ictalurus nebulosus Lesueur, 1819 (CATFISH) FROM
FISH FARM AT RANAU, SABAH**

NUR DEANNA BINTI KAMISLIN

**Final Year Project Report Submitted in
Partial Fulfilment of the Requirements for the
Degree of Bachelor of Science (Hons) Biology
in the Faculty of Applied Sciences
Universiti Teknologi MARA**

JULY 2017

This Final Year Project entitled **“Relationship between size of fish with the total number of ectoparasites (monogeneans) on *Ictalurus nebulosus* Lesueur, 1819 (catfish) from fish farm at Ranau, Sabah”** was submitted by Nur Deanna Binti Kamislin, 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

Ansir Salim
Supervisor
B. Sc. (Hons.) Biology
Faculty of Applied Science
Universiti Teknologi MARA
88997 Kota Kinabalu
Sabah

Ajimi Hj. Jawan
Project Coordinator
B. Sc. (Hons.) Biology
Faculty of Applied Science
Universiti Teknologi MARA
88997 Kota Kinabalu
Sabah

Siti Aminah Bt Tengah @
Mohammad
Programme Coordinator
B. Sc. (Hons.) Biology
Faculty of Applied Science
Universiti Teknologi MARA
88997 Kota Kinabalu
Sabah

Date: _____

TABLE OF CONTENTS

	Page
ACKNOWLEDGEMENT	iii
TABLE OF CONTENTS	iv
LIST OF TABLES	vi
LIST OF FIGURES	vii
LIST OF ABBREVIATIONS	ix
ABSTRACT	x
ABSTRAK	xi
CHAPTER 1 INTRODUCTION	
1.1 Background of study	1
1.2 Problem statement	3
1.3 Significance of study	4
1.4 Objectives of study	5
1.5 Limitations of study	5
CHAPTER 2 LITERATURE REVIEW	
2.1 Background of <i>Ictalurus nebulosus</i> Lesueur, 1819	6
2.1.1 Lifecycle if a Catfish	7
2.2 Fish diseases and parasites	8
2.3 Ectoparasites	9
2.3.1 Distributions of ectoparasites on the host body parts	10
2.3.2 Relationship between the total number of ectoparasite with the host size	11
2.4 Monogeneans ectoparasites	13
2.4.1 The number of Monogenean species per fish host varied	17
2.5 Water temperature with parasitic invasion	18
CHAPTER 3 METHODOLOGY	
3.1 Study area	20
3.2 Materials	
3.2.1 Chemicals	23
3.2.2 Apparatus	23
3.2.3 Sample	24
3.3 Procedures	

ABSTRACT

RELATIONSHIP BETWEEN SIZE OF FISH WITH THE TOTAL NUMBER OF ECTOPARASITES (MONOGENEANS) ON *Ictalurus nebulosus* Lesueur, 1819 (CATFISH) FROM FISH FARM AT RANAU, SABAH

Monegeneans are ectoparasites of fishes that can cause serious damage in the aquaculture industry. The aims of this study are to investigate the types of monogeneans species on catfish and to see the correlation of the size of the catfish with the total number of ectoparasites found. The weight and length of the catfish were recorded and be compared with the total number of ectoparasites found. A total of 180 catfish collected from two selected farm fish namely Kg. Marakau and Kg. Libang were analysed for monogenean infection. Scraping method was applied on the catfish dorsal side, lateral line and anal fin by using a clean scalpel. The preservation method was used by using 70% ethanol. The mucus obtained was smeared on the clean glass slide and drops of 70% ethanol were added on the mucus before being observed by using a compound microscope. 10X until 40X magnification level was used for parasite identification. Physical parameter of the water quality was recorded by using the multiparameter YSI and pH meter. The results showed that only 5 types of monogeneans species were identified which are *Capsalidae sp.*, *Gyrodactylus sp.*, *Dactylogyrus sp.*, *Diclybothrium sp.* and *Paradiclybothrium sp.* Most of the ectoparasites found were on the lateral line of the body of the catfish. This is because the lateral line on the catfish body surface holds a greater and wider surface area than the surface area for dorsal side and anal fin. The correlation between the size of the sample of this study versus the total number of ectoparasite shows negative relationship ($r = - 0.440$, $p < 0.05$). The smaller size fishes were more subjected to ectoparasite infection than the bigger one. This means that, the higher the size of the fish, the lower the total number of ectoparasites found on the fish. This might be because smaller catfish have a longer generation time to prevent the parasitic invasion and their immune system is not strongly developed yet.