

DNA EXTRACTION OF *Clarias batrachus* FROM BLOOD

ROZANA BINTI ABDULLAH

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

JULY 2016

ACKNOWLEDGEMENT

I would like to express my thank you to my supervisor, Madam Liliwirianis Binti Nawi who have helped, guide, teach and share ideas before and during my final year project session. Thank you to Miss Siti Suhaila Binti Harith, lecturer to the courses research project II (FSG661) which provides many guidelines and sharing of knowledge in helping me complete the project. Do not forget to say to both my parents and family who never tired of giving support and encouragements to continue do the best in my life. Alhamdulillah, the patience and the help of all, finally I could finish my project until the day and time specified. Finally, I want to say grateful and thank you to all those involved directly or indirectly in helping me complete the final year project.

(Rozana Binti Abdullah)

TABLE OF CONTENTS

	PAGE
ACKNOWLEDGEMENTS	iii
TABLE OF CONTENTS	iv
LIST OF FIGURES	vi
LIST OF ABBREVIATIONS	vii
ABSTRACT	viii
ABSTRAK	ix
CHAPTER 1: INTRODUCTION	
1.1 Background of Study	1
1.2 Problem Statement	3
1.3 Significance of the Study	3
1.4 Objectives of the Study	4
CHAPTER 2: LITERATURE REVIEW	
2.1 Freshwater habitat	5
2.2 <i>Clarias batrachus</i> family	7
2.3 Characteristics and morphology of <i>Clarias batrachus</i>	9
2.4 DNA extraction	13
2.5 Gel electrophoresis	14
2.6 Haematological Evaluation of <i>Clarias batrachus</i>	14
2.7 Antioxidant and antibacterial activity of <i>Clarias batrachus</i>	15
CHAPTER 3: METHODOLOGY	
3.1 Materials	
3.1.1 Raw materials	17
3.1.2 Chemicals	17
3.1.3 Apparatus	17
3.2 Methods	
3.2.1 Sterilization and preparation of reagents	18
3.2.2 DNA extraction	18
3.2.3 Gel electrophoresis	24
CHAPTER 4: RESULTS AND DISCUSSION	
4.1 Genomic DNA extraction and Concentration	26
4.2 Visualization of Extracted Genomic DNA	27

CHAPTER 5: CONCLUSIONS AND RECOMMENDATIONS	31
CITED REFERENCES	33
APPENDICES	37
CURRICULUM VITAE	39

ABSTRACT

DNA EXTRACTION OF *Clarias batrachus* FROM BLOOD

Catfish are the freshwater fish that found in lakes, stream and ponds. Catfishes have a distinctive but extremely varied morphology. To some extent the species are limited in their ecological niches but providing them with basic equipment to dominate benthic habitats in many freshwater ecosystems. This study was conducted to extract the DNA of *Clarias batrachus* from blood and to determine the size of DNA of *C. batrachus*. Two sample of *C. batrachus* were used for blood sample. Purification of total DNA from *C. batrachus* blood, the processes involved are cell lysis, homogenization, loading, washing, drying and DNA elution that were perform by using DNeasy® Blood and Tissue Kit (Qiagen). By using agarose gel in electrophoresis techniques the DNA molecule size of the species studied can be determine. From the result, the size of extracted genomic DNA from the *C. batrachus* blood is about 100bp when compared with the DNA marker. The finding of the study is hoped to enhance basic information on *C. batrachus* for further research.