AZRIT DITEULOTO A TVZIO

UN 6216



Effect of temperature on embryonic development and hatching rates of giant freshwater prawn eggs (Mascrobrachium rosenbergii) / Azrim Sulong@Yazid.



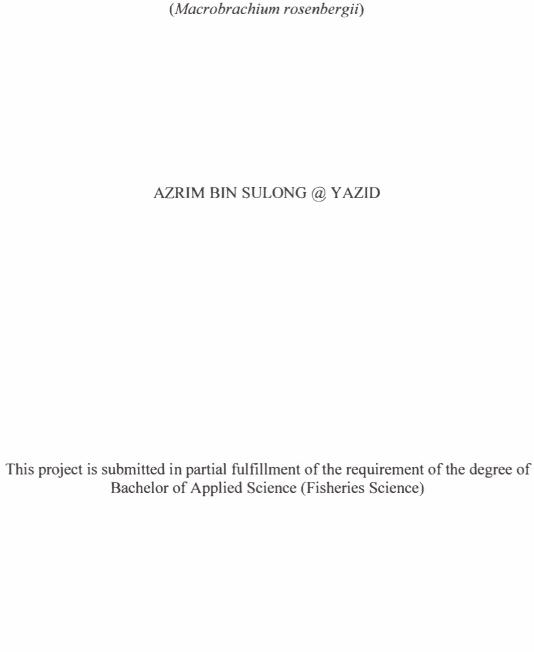
PERPUSTAKAAN SULTANAH NUR ZAHIRAH UNIVERSITI MALAYSIA TERENGGANU (UNT)

21030 KUALA TERENGGANU		
	1000617	19

Lihat sebelah

HAK KILIK PERPUSTAKAAN SULTAHAH NUR ZAHIRAH UMT

EFFECTS OF TEMPERATURE ON EMBRYONIC DEVELOPMENT AND HATCHING RATES OF GIANT FRESWATER PRAWN EGGS



FACULTY OF AGROTECHNOLOGY AND FOOD SCIENCE UNIVERSITI MALAYSIA TERENGGANU

This project report should be cited as:

Azrim, S. 2007. Effects of temperature on embryonic development and hatching rate of giant freshwater prawn eggs (*Macrobrachium rosenbergii*). Undergraduate thesis, Bachelor of Applied Science (Fisheries Science), Faculty of Agrotechnology and Food Science, Universiti Malaysia Terengganu. 45 p.

No part of this project report may be reproduced by any mechanical, photographic, or electronic process, or in the form of phonographic recording, nor may it be stored in a retrieval system, transmitted, or otherwise copied for public or private use, without written permission from the author and the supervisor(s) of the project.

PP!



FAKULTI AGROTEKNOLOGI DAN SAINS MAKANAN

UNIVERSITI MALAYSIA TERENGGANU

BORANG PENGESAHAN DAN KELULUSAN LAPORAN AKHIR PROJEK PENYELIDIKAN TAHUN AKHIR SARJANA MUDA SAINS GUNAAN (PERIKANAN) SESI 2006/2007

Nama Pelajar: Azrim bin Sulong @ Yazid

Program: Sarjana Muda Sains Gunaan (Perikanan)

No. Matrik: UK10991

Nama Penyelia: Prof. Dr. Mohd Azmi bin Ambak

Tajuk Projek:

Effects of Temperature on Embryonic Development and Hatching Rates of Giant Freshwater Prawn Eggs (*Macrobrachium rosenbergii*)

Dengan ini disahkan bahawa saya telah menyemak laporan projek tersebut dan semua pembetulan yang disarankan oleh pemeriksa-pemeriksa telah dibuat, laporan ini telah mengikut format yang diberikan dalam Buku Panduan Penulisan Tesis, Jabatan Sains Perikanan dan Akuakultur, Fakulti Agroteknologi dan Sains Makanan, Universiti Malaysia Terengganu pada tempoh masa yang diberi.

Tandatangan:

Nama: Prof. Dr. Mohd Azmi bin Ambak

PROF. DR. MOHD AZMI AMBAK Dekan

Tarikh: 17 Mei 2007

Pusat Pengajian Siswazah Universiti Malaysia Terengganu (UMT) Aras 2, Bangunan Canselori dan Pentadbiran 21030 Kuala Terengganu

ACKNOWLEDGEMENTS

Assalamualaikum w.b.t.,

Firstly, I would like to extend my special gratitude and appreciation to my main supervisor, Prof. Dr. Mohd Azmi bin Ambak for his time, comment and invaluable guidance throughout my project.

Thanks a lot to En. Masduki bin Morni, Dr. Hii Yii Siang, Dr. Hamid Khoda Bakhsh, and Dr. Chuah Tse Seng for their guidance in accomplishing this project. Also thanks to my best friend for giving me full support in solving all the problems during the running of the project.

I am also grateful to other lecturer, staffs of marine hatchery, freshwater hatchery and Anatomy and Physiology Laboratory (MAF) for their kindness and help throughout my project. Without their help my work will be facing certain difficulty.

My deepest gratitude goes to my parents and all my family members for their financial and moral support during my life in the university. Last but not least, a special thanks to Wong Li Lian and everyone concerned who had helped me in fulfilling the needs to complete this project successfully.

ABSTRACT

Two experiments on the effects of three different temperatures on hatching rate and embryonic development of freshwater prawn Macrobrachium rosenbergii, were carried out. In the first experiment, eggs were incubated from fertilization to hatching at different experimental temperatures (ambient, 29°C and 33°C) to determine the effects of temperature on the hatching rate of bright brown eggs. Each treatment has triplicates which consist of incubation tanks with 100 pieces eggs in it. The study was carried out as soon as the eggs had changed from yellow to brown in colour prior to eggs hatching. The second experiment was a study on the embryonic development. The time from fertilization to hatching decreased with increasing temperature. Days of hatching were decreased in treatment 33°C. The optimum temperature for hatching rate is 29°C. From the study, it is found that the hatching rate at ambient temperature, 29°C and 33°C were 77%, 83% and 64% respectively. The number of spoiled eggs at ambient temperature, 29°C and 33°C were 23%, 17% and 36% respectively. While the mortality rate of larvae after 24 hours of hatching at ambient temperature, 29°C and 33°C were 34%, 3% and 19% respectively. The effect of three different temperatures in this experiment on hatching rate and number of spoiled eggs was not significantly different in contrast to the mortality rate of larvae which is significantly different (p<0.05). Thus, in order to increase the hatching rate of Macrobrachium rosenbergii eggs and minimizing the mortality rate of larvae, incubation temperature should be retained in a controlled condition without occurrence of fluctuations by using heater or any relevant apparatus.