STUDY ON POPULATION DYNAMIC OF GASTROPOD, *Telescopium telescopium* AND *Faunus ater* IN THE MANGROVE AREA OF SETIU WETLAND, TERENGGANU

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2013

Study on population dynamic of gastropod, Telescopium telescopium and faunus ater in the mengrove area of Setiu Wetland, Terengganu / Arifasuriana Zakaria.

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STUDY ON POPULATION DYNAMIC OF GASTROPOD, *Telescopium telescopium* AND *Faunus ater* IN THE MENGROVE AREA OF SETIU WETLAND, TERENGGANU

By

Arifasuriana Binti Zakaria

Research project submitted in partial fulfillment of the requirements for the degree of Bachelor of Science (Marine Biology)

Faculty of Maritime Study and Science Marine

UNIVERSITY MALAYSIA TERENGGANU

2013

This project report should be cited as:

Zakaria, A. (2013). Study on the Population Dynamic of Gastropod, *Telescopium telescopium* and *Faunus ater* in the Mangrove Area of Setiu Wetland, Terengganu. Undergraduate Thesis, Bachelor of Science (Marine Biology), Faculty of Maritime Studies and Marine Science, University Malaysia Terengganu, Terengganu. 63p.

DEPARTMENT OF MARINE SCIENCE
FACULTY OF MARITIME STUDIES AND MARINE SCIENCE
UNIVERSITI MALAYSIA TERENGGANU

DECLARATION AND VERIFICATION REPORT

FINAL YEAR RESEARCH PROJECT

It is hereby declared and verified that this research report entitled:

STUDY ON POPULATION DYNAMIC OF GASTROPOD, *Telescopium telescopium* AND *Faunus ater* IN THE MANGROVE AREA OF SETIU WETLAND, TERENGGANU by Arifasuriana Binti Zakaria, Matric No. UK 23419, have been examined and all errors identified have been corrected. This report is submitted to the Department of Marine Science as partial fulfillment towards obtaining the Degree of Bachelor of Science (Marine Biology) Faculty of Maritime Studies and Marine Science, University Malaysia Terengganu.

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Date: 13 JUN 2013

ACKNOWLEDGEMENTS

Firstly, thank to Allah SWT because give me the strength to finish this thesis. Also a big appreciates toward my family for all they have provided to me and for being my biggest fans. Their continuous support encouragement and confidence in me have been invaluable. I am truly grateful to my supervisor, Assoc. Prof. Dr. Zainudin Bachok for taking time out of his busy to assist me in the making of this thesis and teach me a lot about the population dynamic study. A very thankfull also to my second examiner, Dr. Roswati Md. Amin because her cooperation. Special thankful also to my Final Year Research members, Nik Haslaily Mohd Nor Wawi, Syaziella Shaharim, Wan Amirudin Wan Ghazali and Mohd Syakir Syahiran Mohd Noor that assist me in the field.

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ABSTRACT

The population dynamic of *Faunus ater* and *Telescopium telescopium* were investigated in the mangrove area of Kampung Pengkalan Gelap, Setiu Wetland, Terengganu from April 2012 to March 2013. Relationship between shell length and fresh weight were determined monthly while the length and dry weight relationship were examined for every three months which were in June, September, December 2012 and March 2013 and it only for 30 individuals from various sizes. The length of *Faunus ater* was range from 0.3 to 7.8 cm while for the *Telescopium telescopium* were range form 1.3 -8.9. Annually, the length-weight relationship of *Faunus ater* was in the form of Log W = -0.789 + 2.321* Log L, while in exponential form, the equation was in the form of $W = 0.163\ L^{2.321}$. The length-weight relationship of *Telescopium telescopium* was in the form of Log W = -2.54 + 2.267*Log L, while in exponential form, the equation was in the form of $W = 0.557\ L^{2.267}$. Overall, both species of gastropods possessed the negative allometric growth where as $b < 3$. The von Bertalanffy growth function (VBGF) was applied on a length-frequency data of the both species. The growth parameters were examined using electronic length-frequency analysis (ELEFAN) in "FiSAT II" software. The value of asymptotic length (L_∞) and growth coefficient (K) of the von Bertalanffy growth function (VBGF) for *Faunus ater* were at 10.50 cm and 0.69 $year^{-1}$ and *Telescopium telescopium* were at 9.45 cm and 1.500 $year^{-1}$ respectively. These indicate that *Telescopium telescopium* growth faster than *Faunus ater*.

Kajian Ke Atas Populasi Dinamik Gastropod, *Telescopium telescopium* Dan *Faunus ater* Di Kawasan Bakau, Setiu Wetland, Terengganu.

ABSTRAK

Populasi dinamik *Telescopium telescopium* dan *Faunus ater* telah dijalankan dikawasan bakau di Kampung Pengkalan Gelap, Setiu Wetland, Terengganu daripada April 2012 hingga Mac 2013. Hubungan antara panjang cengkerang dan berat basah telah diperiksa bagi setiap bulan manakala hubungan panjang cengkerang dan berat kering telah dijalankan bagi setiap tiga bulan iaitu Jun, September, Disember 2012 dan Mac 2013 dan ianya hanya untuk 30 individu daripada pelbagai saiz. Panjang *Faunus ater* adalah dari 0.3 ke 7.8 cm manakala bagi *Telescopium telescopium* pula adalah dari 1.3 ke 8.9 cm. Hubungan antara panjang dan berat bagi *Faunus ater* secara keseluruhan dalam bentuk Log W = -0.789 + 2.321* Log L, manakala dalam bentuk eksponen adalah $W = 0.163\ L^{2.321}$. Makala bagi *Telescopium telescopium* pula adalah Log W = -2.54 + 2.267*Log L dan dalam bentuk eksponen adalah $W = 0.557\ L^{2.267}$. Secara keseluruhannya, kedua-dua spesies gastropoda ini memiliki pertumbuhan 'allometric' yang negatif dimana nilai b < 3. Fungsi pertumbuhan von Bartalanffy (VBGF) telah digunakan untuk data taburan kekerapan bagi kedua-dua spesies ini. Parameter pertumbuhan telah ditentukan menggunakan elektronik analisis panjang frekuensi (ELEFAN) dalam perisian FiSAT 11. Nilai panjang asimptot ($L\infty$) dan pekali pertumbuhan (K) daripada VBGF untuk *Faunus ater* adalah 10.50 cm dan 0.69 $tahun^{-1}$ dan *Telescopium telescopium* adalah 9.45 cm dan 1.500 $tahun^{-1}$. Ini menunjukkan bahawa pertumbuhan *Telescopium telescopium* adalah lebih cepat daripada *Faunus ater*.