

**A STUDY OF BIOLOGICAL FEATURES OF JINGA
SHRIMP, *Matapanaeus affinis* (MILNE ADWARDS,
1837) FROM KEDAH COASTAL WATER OF
MALAYSIA**

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2012

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2012**

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(MILNE EDWARDS, 1837) FROM KEDAH COASTAL WATER OF
MALAYSIA**

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2012

This project report should be cited as:

Norwadi, N.A. 2012. Study on the Biological Features of Jinga Shrimp, *Metapenaeus affinis* (Milne Adwars, 1837) From Kedah Coastal Water of Malaysia. Undergraduate thesis, Bachelor of Science in Marine Science, Faculty of Maritime Studies and Marine Science, University Malaysia Terengganu, Terengganu, 50p.

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DECLARATION

I hereby declare that the work in thesis is my own, except for quotation and summaries which have been duly acknowledge.

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DECLARATION AND VERIFICATION FORM

FINAL YEAR RESEARCH PROJECT

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

Biological Features of Jingga Shrimp, *Metapenaeus affinis* (Milne Edwards, 1837)

Fom Kedah Coastal Water of Malaysia by Norkamarul Azhan Bin Norwadi,

Matric No. **UK21593** has 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 Science)**, Faculty of Maritime Studies and Marine Science, Universiti Malaysia Terengganu.

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ACKNOWLEDGEMENT

Alhamdulillah, all praises to Allah for the courage, strengths, for keeping me strong mentally and physically and His blessing in completing this study. I would like to express my sincere thanks to Associate Assoc. Prof. Dr. Mhd. Ikhwanuddin @ Polity Bin Abdullah, the chairman of my supervisory committee for his helpful advices, comments and confidence in me throughout this study. I would not have been able to continue my study without these supports and encouragement. I am also in debted to my honorable second supervisor Dr. Zainudin Bin Bachok for his helpful comment and encouragement.

Heartfelt thanks are accorded to the staff Universiti Malaysia Terengganu (UMT) especially to FMSM staff of their helping me whether during sampling or laboratory work. My appreciation also forward to my parent, Mr. Norwadi Bin Yusoff and Mrs. Che Rahanah Binti Hj. Ibrahim and all my beloved friends Maziidah Binti Abd. Rahman, Hilmi Bin Mat Ghani, and Muhammad Hafiz Bin Bahar. They are so kind and always are with me during my sampling and I really appreciate that. Their encouragement and support, moral and material has enabled me to complete this study until the end. All of your deeds are infinite and can only repay by Allah S.W.T.

Last but not least to local fisherman especially at Pulau Sayak, Kedah for their guidance and advice to me to complete my thesis and project. Thanks a lot to sharing the information and knowledge also guide me become a good student.

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LIST OF SYMBOLS AND ABBREVIATION

cm - centimeter

m - meter

mm - millimeter

g - gram

° - degree

% - percent

CL₅₀ - size when 50% shrimp at maturity

CL - carapace length

BW - body weight

Sp. - species

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ABSTRACT

Biological features of size at maturity, size distribution, carapace length (CL) – body weight (BW) relationship and sex ratio were studied from 300 of *M. affinis* species (147 males and 153 females) sampled from Kedah coastal water of Malaysia on October 2011. This result indicates that the *M. affinis* species can attain sexual maturity (CL₅₀) at 3.6 cm CL for male and 3.7 cm CL for female. Size distribution for male and female shrimp was found to be abundance at range of 3.5 – 3.99 cm CL. The mean CL - BW relationship of male shrimp are 3.23 cm CL (range: 3.23 – 4.96 cm; n = 147) and 5.3 g BW (range: 5.3 – 17.503 g; n = 147) respectively, while mean of CL - BW relationship for female shrimp were 3.29 cm CL (range: 3.29 – 4.89 cm; n = 153) and 5.32 g BW (range: 5.32 – 17.946 g; n = 153). The CL – BW relationship for male was attained as $BW = 0.7905e^{0.6357CL}$ ($R^2 = 0.9041$; n = 147) and for female was estimated as $BW = 0.6383e^{0.6876CL}$ ($R^2 = 0.9032$; n = 153) respectively. Finally, the overall sex ratio was identified as 1 : 1.04. The data obtained from this study can be used as baseline data which is helpful in aquaculture field and fisheries management hence helps to ensure the population sustainability of this species.

ABSTRAK

Ciri-ciri biologi bagi saiz matang, taburan saiz, hubungan antara panjang karapas (CL) – berat badan (BW), dan nisbah jantina yang dikaji dari 300 spesis *M. affinis* (147 jantan dan 153 betina) telah dikaji di perairan Kedah, Malaysia . Keputusan ini menunjukkan bahawa spesis *M. affinis* boleh mencapai kematangan seksual (CL_{50}) pada 3.6 cm CL bagi jantan dan 3.7 cm CL bagi betina. Taburan saiz bagi udang jantan dan betina banyak terdapat pada julat saiz 3.5 – 3.99 cm CL . Min bagi hubungan antara CL – BW untuk udang jantan masing-masing adalah 3.23 cm CL (julat: 3.23 – 4.96 cm; n = 147) dan 5.3 g BW (range: 5.3 – 17.503 g; n = 147), manakala min bagi hubungan antara CL – BW untuk udang betina masing-masing adalah 3.29 cm CL (julat: 3.29 – 4.89 cm; n = 153) dan 5.32 g BW (julat: 5.32 – 17.946 g; n = 153). Hubungan antara CL – BW bagi udang jantan telah dicapai dengan $BW = 0.7905e^{0.6357CL}$ ($R^2 = 0.9041$; n = 147) dan bagi udang betina masing-masing adalah $BW = 0.6383e^{0.6876CL}$ ($R^2 = 0.9032$; n = 153) . Akhir sekali, nisbah jantina keseluruhan telah dikenalpasti iaitu 1 : 1.04. Data yang diperolehi daripada kajian ini boleh digunakan sebagai data asas yang amat berguna dalam bidang akuakultur dan pengurusan perikanan bagi membantu memastikan kemampanan populasi spesis ini.