

THE EFFECT OF INCREASED AMOUNTS OF THE SURVIVAL AND
PERFORMANCE OF FRESHWATER GLASSGERRAL *Morone macrocephala*

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2007

1100057958



LP 20 FASM 1 2007



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The effect of unionized ammonia on the survival and
reproductivity of freshwater cladoceran Moina macrocopa. /
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**THE EFFECT OF UNIONIZED AMMONIA ON THE SURVIVAL AND
REPRODUCTIVITY OF FRESHWATER CLADOCERAN *Moina macrocopa***

Ngan Cheng Yip

**This project report is submitted in partial fulfillment of the requirement of the
degree of Bachelor of Science in Agrotechnology (Aquaculture)**

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This project report should be cited as:

Ngan, C.Y. 2007. The effect of unionized ammonia on the survival and reproductivity of freshwater cladoceran *Moina macrocopa*. Undergraduate thesis, Bachelor of Science in Agrotechnology (Aquaculture), Faculty of Agrotechnology and Food Science, Universiti Malaysia Terengganu, Terengganu.

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ACKNOWLEDGEMENTS

I would like to take this opportunity to convey my gratitude to my supervisor, Dr. Hii Yii Siang for his attentive guidance, supervision throughout this project as well as constructive comments in completing this thesis. I would also like to thank my co-supervisor, Dr. Chuah Tse Seng for his advice and assistance in writing this thesis. Next, my heartfelt gratitude goes to my family as without their support I would not have the opportunity to conduct this project and complete the thesis. I would like to express my appreciation to the laboratory assistants especially Mr. Sharol and Mr. Yaakob for his cooperation and permission to use facilities in the laboratory. Not forgetting my close friends especially Darul Ekram, Soo Chen Lin and Hemalatha in helping me to overcome the barriers in completing this project. I would like to thank my coursemates for the moral support along the way. Last but not least, my appreciation goes to everyone who has contributed to this project either directly or indirectly.

ABSTRACT

Moina macrocopa were exposed to different concentrations of unionized ammonia at pH 7.0 ± 0.43 and temperature of 25.3 ± 0.38 °C in this study. Results show that mortality increased with increasing unionized ammonia concentration. Complete mortality was recorded at 3.6×10^{-1} mg NH₃ L⁻¹. The 24-hour LC₅₀ and 48-hour LC₅₀ values were 0.077 and 0.070 mg NH₃ L⁻¹ respectively. As for chronic test, four concentrations were experimented; control, environmental concentration (6.92×10^{-4} mg NH₃ L⁻¹), non-observed effective concentration (2.09×10^{-3} mg NH₃ L⁻¹) and 48-hour LC₁₀ (1.18×10^{-2} mg NH₃ L⁻¹). Average longevity, lethal time that causes 50% mortality (LT₅₀), net reproductive (R_0) and intrinsic rate of population increase (r) were reduced with the increased concentration of test solutions. Mean generation time (T) at 6.92×10^{-4} mg NH₃ L⁻¹ was higher compared to control treatment and the value gradually decreased with higher concentrations. These results suggest that toxicity of unionized ammonia will cause negative impact to the present population of *Moina macrocopa* in the environment.