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**APPLICATION THE INDIAN ALMOND *Terminalia catappa* LEAVES SOLUTION IN
THE LARVAE REARING OF GIANT FRESHWATER PRAWN
*Macrobrachium rosenbergii***

By

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**Research Report submitted in partial fulfillment of
the requirements for the degree of
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**Department of Fisheries Science and Aquaculture
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**FAKULTI AGROTEKNOLOGI DAN SAINS MAKANAN
UNIVERSITI MALAYSIA TERENGGANU**

**PENGAKUAN DAN PENGESAHAN LAPORAN
PROJEK ILMIAH I DAN II**

Adalah ini diakui dan disahkan bahawa laporan ilmiah bertajuk: **Application of Indian almond, *Terminalia catappa* leaves solution in the larvae rearing of Giant freshwater prawn, *Macrobrachium rosenbergii*** oleh **Muhd Ranzi Bin Abdullah Dawawi**, No.Matrik **UK 13758** telah diperiksa dan semua pembetulan yang disarankan telah dilakukan. Laporan ini dikemukakan kepada Jabatan Sains Perikanan dan Akuakultur sebagai memenuhi sebahagian daripada keperluan memperolehi Ijazah Sarjana Muda Agroteknologi (Akuakultur), Fakulti Agroteknologi dan Sains Makanan, Universiti Malaysia Terengganu.

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DECLARATION

I hereby declare that the work in this thesis is my own except for quotations and summaries which have been duly acknowledged.

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ABSTRACT

This study was conducted at Marine Hatchery, Universiti Malaysia Terengganu (UMT). The Indian almond, *Terminalia catappa* leaves used in the present study was collected at Teluk Ketapang Beach, near UMT. Wild female broodstock of giant freshwater prawn, *Macrobrachum rosenbergii* which have the brown eggs were acquired from Manir River, Kuala Terengganu. Broodstock were brought back to the hatchery, take care, feeding till hatching. Larvae were cultured in each rearing tank by stocking density of 30 larvae /liter. Sample of leaves were collected and keep at 4°C until use. Stocking water of *T. catappa* leaves solution was prepared at concentration of 0.1 g/l. After 3 days dissolved in the brackish water, the residue were removed. The solutions were distributed in every treatment tank for treatment larvae rearing. Every triple day, water exchange about 70% was done. Data for larvae stage index (LSI) were collected from both tanks. During the study, water parameter was at accepted range. Result showed that the growth rate were differ ($p < 0.05$) in treatment and control tank. Via the addition of *T. catappa* leaves solution in the rearing tank, the larvae reach post larvae (PL) stage at 25day, while 31 day need for the larvae in the control tank to reach post larvae stage. Since all treatments and control in this study shared the same water quality and feeding regimen, growth rate differences must be related to the supplementation of the leaf in the larvae rearing tank. Future research should be carried out further base on the specific concentration of *T. catappa* leaves should be applied in the larvae rearing of giant freshwater prawn, *M. rosenbergii* larvae.

ABSTRAK

Kajian ini telah dijalankan di Hatcheri Air Masin, Universiti Malaysia Terengganu (UMT). Daun Ketapang, *Terminalia catappa* yang digunakan dalam kajian ini telah diperolehi dari Pantai Teluk Ketapang berdekatan UMT. Induk betina udang galah, *Macrobrachum rosenbergii* yang liar diperolehi dari Sungai Terengganu. Induk yang dipilih mempunyai telur berwarna kelabu. Induk telah dibawa ke hatchery, dijaga, dan diberi makan kerang yang segar. Apabila larvae menetas, ia diagihkan ke setiap tangki dengan kepadatan 30 larva per liter. Daun yang telah diperolehi dibersihkan terlebih dahulu sebelum disimpan di dalam tempat penyimpanan pada suhu 4°C. Daun ketapang direndam ke dalam air pada kepekatan 0.1 g/l selama 3 hari. Kemudian, selepas 3 hari baki dari daun tersebut diasingkan. Air daun ketapang kemudiannya diagihkan ke setiap tangki rawatan. Proses pertukaran air baru sebanyak 70% dilakukan setiap 3 hari. Data Indek Peringkat Larva (IPL) dicatatkan dari setiap tangki. Sepanjang kajian dijalankan, parameter air berada pada julat yang optimum. Analisis menggunakan Sampel *t*-test menunjukkan terdapat perbezaan ($p < 0.05$) bagi kadar pertumbuhan larvae bagi dua tangki tersebut; rawatan dan kawalan. Dengan penambahan daun ketapang ke dalam tangki pemeliharaan, larva memerlukan purata 25 hari untuk sampai peringkat Pasca Larva (PL), manakala 31 hari diperlukan bagi tangki kawalan. Disebabkan kedua-dua tangki mempunyai sistem pemakanan dan pengurusan yang sama, maka perbezaan pada kadar pertumbuhan ini adalah berkaitan dengan penambahan daun ketapang ke dalam tangki pemeliharaan. Pada masa hadapan, kajian perlu dijalankan dengan lebih terperinci merujuk kepada kepekatan daun yang berbeza terhadap kadar pertumbuhan larva udang galah *M. rosenbergii*.