

TRIAL CULTURE OF BENTHIC COPEPOD  
(HARPACTICOID:DIOSACCIDAE)  
UNDER SIMULATED ENVIRONMENT

AHMAD WAFI BIN ANAN

MASTER OF SCIENCE  
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**AHMAD WAFI BIN ANAN**

**Thesis Submitted in Fulfillment of the  
Requirements for  
Degree of Master of Science in Institute of  
Oceanography  
Universiti Malaysia Terengganu**

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## DEDICATION

*This dissertation is dedicated to the dreamers.*

*Datuk Hj Anan bin C. Mohd  
Datin Hj Anita binti Mohd Yaacob*

*Rajiah binti Dato' Hj Abdul Wahab  
Nur Syamilah binti Datuk Anan  
Nur Bahirah binti Datuk Anan  
Ahmad Waqar bin Datuk Anan  
Nur Nadhirah binti Datuk Anan*

Abstract of thesis presented to the Senate of Universiti Malaysia Terengganu  
in fulfillment of the requirements for Degree of Master of Science

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**OCTOBER 2010**

**Chairperson : Associate Prof. Zaleha Kassim, Ph.D.**

**Member : Professor Mohd Azmi Ambak, Ph.D.**

**Institute : Institute of Oceanography and Environment**

The tropical harpacticoid copepod, *Paramphiascella* sp., has good potential for mass culture to be used as live feed for fish larvae. This study was carried out to investigate the effects of simulated environmental parameters on the population density of *Paramphiascella* sp. The effect of volume and the surface of culture vessel on population density of *Paramphiascella* sp. at salinity of 25 to 30 ppt was determined using 50 mL beaker and 50 mL petri-dish with culture temperature 27°C. The experiment on the effect of substrates was carried out using 50 mL beaker by adding dead algae, fresh seagrass (*Halodule pinifolia*), sediment and netting into the culture vessel with culture temperature at 27°C. Adopting similar experimental protocols from substrate effect, the effect of temperature and the effect of pH on the population density of *Paramphiascella* sp. were investigated under three different temperatures regimes of 25, 30 and 35°C, and four different pH levels at pH 5, pH 7, pH 8 and pH 10 accordingly. For all experiments, three replicates were set up for each treatment. *Paramphiascella* sp. were fed with baker's yeast and photoperiod was

Abstrak thesis yang dikemukakan kepada senat Universiti Malaysia Terengganu  
Sebagai memenuhi keperluan untuk ijazah Master Sains

**MENKULTUR KOPEPODA BENTIK  
(HARPACTICOIDA:DIOSACCIDAE)  
DALAM KEADAAN PERSEKITARAN DIUBAHSUAI**

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Sejenis harpactioid tropika, *Paramphiascella* sp. adalah spesis yang berpotensi untuk dikultur secara besar-besaran sebagai makanan hidup kepada larva anak ikan. Kajian ini dilakukan untuk mengenalpasti kesan pengubahsuaian persekitaran kultur kepada kepadatan populasi. Pada kemasinan 25 sehingga 30 ppt, kesan luas permukaan berbanding isipadu dijalankan dengan menggunakan bikar dan piring petri bersaiz 50 mL dengan keadaan persekitaran bersuhu 27 °C. Kajian berkenaan kesan substrat dijalankan menggunakan bikar bersaiz 50 mL dan ditambah di dalamnya dengan alga mati, rumput laut segar (*Halodule pinifolia*), pasir dan kain net pada suhu persekitaran 27 °C. Berdasarkan kaedah kajian kesan substrat, kaedah yang sama digunakan untuk mengenalpasti kesan suhu dan kesan pH ke atas kepadatan populasi *Paramphiascella* sp. dengan tiga keadaan suhu iaitu 25, 30 dan 35°C dan empat tahap pH iaitu pH 5, pH 7, pH 8 dan pH 10. Kesemua kajian dijalankan menggunakan 3 replikasi untuk setiap kajian. *Paramphiascella* sp. diberi makan dengan yis dengan keadaan persekitaran 12 terang: 12 gelap selama 30 hari. Keputusan menunjukkan tiada