

IMPACT OF SUCCESS OF RAISED TERMITES (*Reticulitermes*  
*labridens* S's) EGGS UNDER DIFFERENT STORAGE CONDITIONS

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**HATCHING SUCCESS OF PAINTED TERRAPIN (*Callagur borneoensis*) EGGS  
UNDER DIFFERENT INCUBATION CONDITIONS**

**By  
Noorhashikin Binti Mamat**

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**Department of Marine Sciences  
Faculty Science and Technology  
University College of Science and Technology Malaysia  
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FAKULTI SAINS DAN TEKNOLOGI  
KOLEJ UNIVERSITI SAINS DAN TEKNOLOGI MALAYSIA**

**PENGAKUAN DAN PENGESAHAN LAPORAN  
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Adalah ini diakui dan disahkan bahawa laporan penyelidikan bertajuk:

Hatching Success of Painted Terrapin (*Callagur borneoensis*) Eggs under Different Incubation Conditions oleh Noorhashikin Mamat No. Matrik UK8514

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Disahkan oleh:

Penyelia Utama

Nama: Prof. Dr. Chan Eng Heng

Cop Rasmi:

Tarikh: 25/4/06

Penyelia Kedua

**CHOO CHEE KUANG**  
Pensyarah  
Jabatan Sains Samudera  
Fakulti Sains & Teknologi  
Universiti Sains dan Teknologi Malaysia  
21030 Kuala Terengganu.

Tarikh: 24/4/06

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## LIST OF ABBREVIATIONS AND SYMBOLS

TUMEC	Turtle and Marine Ecology Center
° C	Degree Celsius
%	Percentage
SCL	Straight Carapace Length
SCW	Straight Carapace Width
SD	Shell Depth

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## ABSTRACT

This study investigates the effect of different incubation conditions on the hatching success and incubation duration of painted terrapin (*Callagur borneoensis*) eggs. The eggs were collected from the beach hatchery at Kampung Mangkok managed by The Turtle and Marine Ecology Center (TUMEC). Using the styrofoam box incubation technique, the eggs were incubated at two different condition, .i.e. in an enclosed room and in a shaded, open and well-ventilated shed. The air temperatures in the room and shed were recorded daily using mercury in glass thermometer. Hatching success in the enclosed room where daily average temperature ranged from 31-35°C (average of  $33.13 \pm 1.00^\circ\text{C}$ ) was 86.3% while incubation duration ranged from 69-73 days (average of  $70.63 \pm 0.71$ ). For eggs incubated in the ventilated shed, hatching success was 63% where daily average temperature ranged from 28.30-32.25°C (average of  $30.96 \pm 0.80^\circ\text{C}$ ) took 72-87 days to hatch (average of  $75.72 \pm 5.96$ ). Hatching success of 68 nests incubated in the open air beach hatchery at Kampung Mangkok averaged at  $79.40 \pm 23.15$  (range of 0-100%) while incubation duration ranged from 64-68 days with average hatching period was  $65.75 \pm 1.53$  days. Results of statistical test (t-test) showed non significant difference of hatching success in comparisons between incubation in beach hatchery and styrofoam box incubation under different temperature,  $P = 2.01, > 0.05$ .

# KEJAYAAN PENETASAN TELUR TUNTUNG LAUT (*Callagur borneoensis*) DALAM KEADAAN Pengeraman YANG BERBEZA

## ABSTRAK

Kajian ini dijalankan untuk melihat hasil penetasan telur tuntung laut berdasarkan kaedah pengeraman yang berbeza. Sejumlah telur tuntung laut, *Callagur borneoensis* telah diambil dari kawasan sarang yang terletak di Kampung Mangkok, Setiu di bawah kelolaan Pusat Ekologi Marin dan Penyu (TUMEC). Dengan menggunakan teknik pengeraman melalui kotak stirobosa, telur-telur tersebut dieram pada dua kadar suhu yang berbeza iaitu dalam satu bilik yang tertutup dan pada ruang terbuka (suhu bilik). Suhu sepanjang tempoh pengeraman direkod setiap hari menggunakan termometer merkuri. Hasil penetasan dalam kotak stirobosa dalam bilik tertutup adalah 86.3%, di mana kadar suhu harian antara 31.5-33°C (purata antara  $33.13 \pm 1.00^\circ\text{C}$ ) dan tempoh pengeraman ialah antara 69-73 hari (purata antara  $70.63 \pm 0.71$  hari). Manakala keputusan hasil penetasan bagi pengeraman pada suhu bilik ialah 63% di mana bacaan suhu harian antara 28.30-32.25°C (purata antara  $30.96 \pm 0.8^\circ\text{C}$ ) mengambil masa 72-87 hari untuk menetas (purata antara  $75.72 \pm 5.96$  hari). Kejayaan atau hasil penetasan bagi teknik menggunakan kotak stirobosa tidak ketara perbezaannya dengan penetasan yang berlaku di kawasan sarang semulajadi iaitu kawasan pantai iaitu purata  $79.40 \pm 23.15\%$  (antara 0-100%) kadar penetasan bagi 68 sarang telur tuntung laut dan tempoh pengeraman ialah antara 64-68 hari (purata antara  $65.75 \pm 1.53$  hari). Keputusan analisis statistic, t-test tidak menunjukkan perbezaan yang ketara antara kaedah pengeraman yang digunakan,  $P = 2.01, > 0.05$ .