

NESTING BEHAVIOR OF PAINTED TERRAPIN,

*Callagur borneoensis*

THE INFLUENCE OF SAND PARTICLE SIZE ON NEST SITE  
SELECTION OF KUALA SETIU, BARU, PENARIK, TERENGGANU

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KOLEJ UNIVERSITI SAINS DAN TEKNOLOGI MALAYSIA

KUSTEM

2003

9/N 1631

1100025041

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Nesting behavior of painted terrapin, Callagur borneoensis "The influence of sand particle size on nest site selection of Kuala Setiu Baru, Penarik Terengganu / Tengku Rinalfi Putra Tengku

1100025041

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Pengarang: **TG. RINALFI PUTRA** No. Panggilan: **1631**

Judul: **NESTING BEHAVIOR OF ...**

Tarikh	Waktu Pemulangan	Nombor Ahli	Tanda tangan
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**Nesting Behavior of Painted Terrapin, *Callagur borneoensis*  
“The influence of sand particle size on nest site selection of Kuala Setiu Baru,  
Penarik, Terengganu.”**

**By**

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**This project report is submitted in partial Fulfillment of the requirement for the  
Bachelor of Applied Science  
(Biodiversity Conservation and Management)**

**Department of Biological Sciences  
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KUSTEM  
2003**

**1100025041**

This project report should be cited as :

Rinalfi, T.P. 2003. Nesting Behavior of Painted Terrapin, *Callagur borneoensis* "The influence of sand particle size on nest site selection of Kuala Setiu Baru, Penarik, Terengganu." p.32

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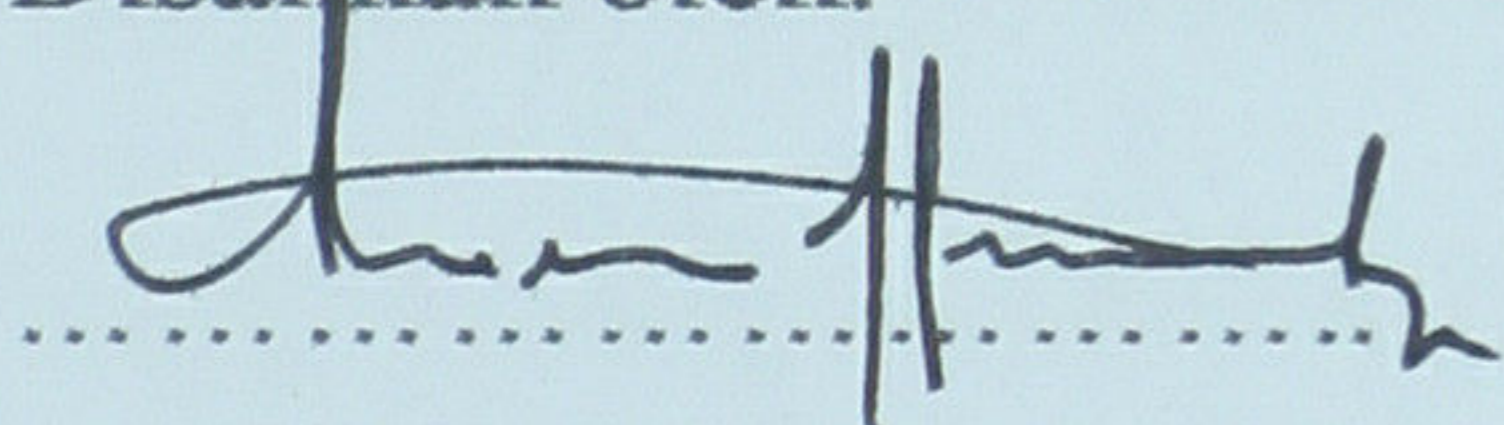
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**PENGAKUAN DAN PENGESAHAN LAPORAN**

**PENYELIDIKAN ILMIAH TAHUN AKHIR**

Adalah dengan ini diakui dan disahkan bahawa laporan penyelidikan ilmiah tahun akhir bertajuk Nesting Behaviour of Painted Terrapin, *Callagur borneoensis*: "The influence of sand particle size on nesting site selection in the coastal beach of Kuala Setiu Baru, Penarik, Terengganu." oleh Tengku Rinalfi Putra, no. matrik UK 4834 telah diperiksa dan semua pembetulan yang disarankan telah dilakukan. Laporan ini dikemukakan kepada Jabatan Sains Biologi sebagai memenuhi sebahagian daripada keperluan memperolehi ijazah Sarjana Muda Sains (Pemuliharaan dan Pengurusan Biodiversiti), Fakulti Sains dan Teknologi, Kolej Universiti Sains dan Teknologi Malaysia.

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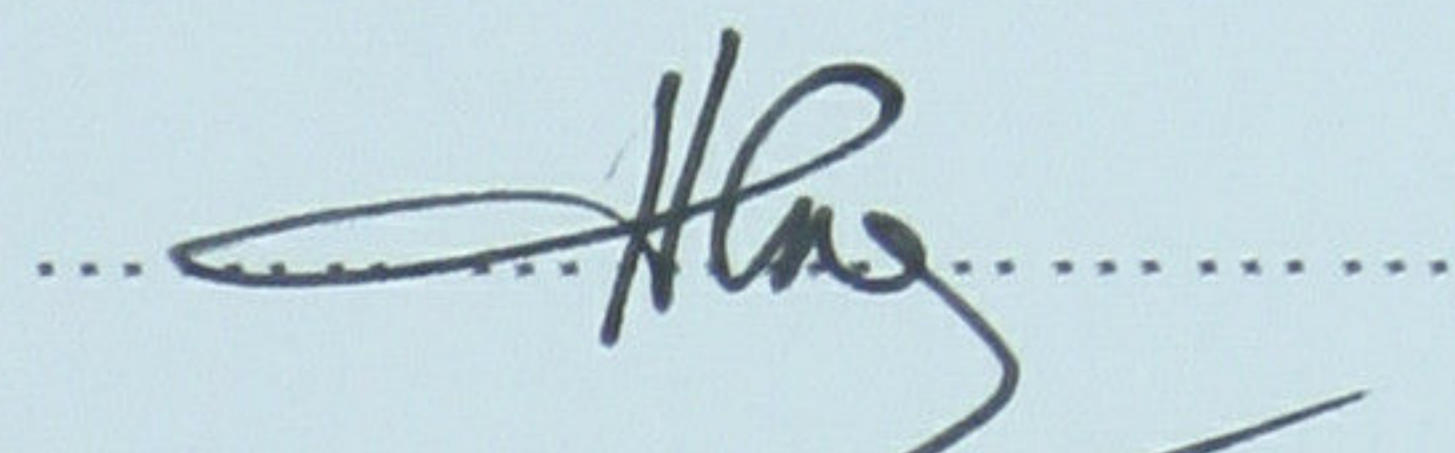


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## Acknowledgements

In completing this project, I would like to express my deepest gratitude to Dr. Mohd Effendy bin Abd. Wahid for his full support and trust, Dr. Dionesyius S.K. Sharma for his very useful guidance in ways to tackle problems encountered throughout the research, Professor Glenn Bristow for his ideas in methodology, Assoc. Prof. Dr. Awang Soh for his encouragement and WWF Malaysia, who had given me the consent to carry out this study in Kuala Setiu Baru.

I would also like to extend my thanks to Led and Ibu whose support had enabled me to complete this project, my brother Aidil, who had helped me a lot in the writing up of this report and my little sister Rini, for just being there. Millions of thanks also go to my fiancée, Dr. Juliana Jalil whose kind words had been edging me relentlessly towards success, Pakcik Karim bin Othman of Kg. Mangkuk, Penarik, Setiu who was always ready to lend a helping hand especially during the data gathering. Lastly, I would like to thank my co-researcher, Naszatul Izza and Eirik Karlssen, Anna T. Sandven, Nina M. Fossen, Frank Spetland and Stine Indrelid from the University of Bergen.

## Abstract

The Painted terrapin or *Callagur borneoensis* is among Malaysia's most endangered species. A native only to the Peninsular Malaysia, Southern Thailand, the island of Borneo and Sumatra, this species of freshwater turtle was enlisted as Critically Endangered by the International Union for Conservation of Nature (IUCN) in 1990. In Malaysia, the biggest population of Painted Terrapin can be found in Sungai Setiu in the state of Terengganu. This project was carried out to study the nesting behavior pattern of Painted Terrapin focusing in its relation to the sand particle size in the coastal beach where the terrapins lay their eggs. The findings showed that there is a correlation between distribution of sand particle size and nesting density of the Painted Terrapin. Horizontal analysis showed that as sand particle size gets larger further from the river mouth, the number of nest decreases ( $r^2 = 0.85$ ). Vertical analysis showed that as sand particle size gets larger further upward from the shoreline, the number of nest increases ( $r^2 = 0.99$ ). The Painted Terrapin showed preference to sand with smaller particle size to lay their eggs. The straight-line equation of the analysis is  $y = 4.67x - 1.56$  for horizontal analysis and  $y = 21.84x - 16.71$  for vertical analysis. Average nest depth is 17.1 cm. Average nest incubation temperature is 29.2° C. Average nest distance from the shoreline is 28.9 m. Average nest distance from the nearest vegetation is 15.4 m. Average size of terrapin eggs is 8.72 cm in length and 5.54 cm in maximum width.

## Abstrak

Tuntung Laut atau Callagur borneoensis adalah antara haiwan yang paling terancam di Malaysia. Spesies ini hanya dijumpai di Semenanjung Malaysia, Selatan Thailand, Kepulauan Borneo and Sumatra dan telah di senaraikan oleh “International Union for Conservation of Nature” (IUCN) sebagai sangat terancam pada tahun 1990. Di Malaysia, populasi terbesar Tuntung Laut boleh dijumpai di Sungai Setiu di dalam negeri Terengganu. Projek ini dijalankan untuk mengkaji tabiat peneluran Tuntung Laut dengan memfokuskan kepada kaitan antara saiz partikel pasir dengan pemilihan kawasan bertelur di dalam kawasan kajian. Keputusan yang diperolehi daripada kajian ini mendapati bahawa terdapat korelasi di antara taburan saiz pasir dan kepadatan sarang peneluran. Analisa melintang menunjukkan bahawa apabila saiz partikel pasir semakin bertambah dengan jarak dari kuala sungai, jumlah sarang yang ditemui berkurangan ( $r^2 = 0.852$ ). Analisa menegak menunjukkan bahawa apabila saiz partikel pasir semakin berkurang dengan jarak dari gigi air, jumlah sarang yang diketemui bertambah ( $r^2 = 0.99$ ). Tuntung Laut. Tuntung Laut didapati memilih kawasan yang mempunyai pasir yang lebih halus untuk bertelur. Persamaan garis lurus antara saiz partikel pasir dengan kepadatan sarang ialah  $y = 4.67x - 1.56$  untuk analisa melintang dan  $y = 21.84x - 16.71$  untuk analisa menegak. Purata kedalaman sarang tuntung ialah 17.1 cm. Purata suhu eraman sarang ialah 29.2° C. Purata jarak sarang dari gigi air ialah 28.9 m. Purata jarak sarang dari vegetasi terdekat ialah 15.4 m. Purata saiz telur tuntung ialah 8.72 cm memanjang dan 5.54 cm lebar maksimum.