

MORPHOMETRIC STUDY OF HORSESHOE CRAB (*Tachypleus gigas*
and *Carcinoscorpius rotundicauda*) FROM BALOK, PAHANG

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MORPHOMETRIC STUDY OF HORSESHOE CRAB
(Tachypleus gigas and Carcinoscorpius rotundicauda) FROM BALOK, PAHANG

By
Nurliyana Binti Subli

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DEPARTMENT OF MARINE SCIENCE
 FACULTY OF MARITIME STUDIES AND MARINE SCIENCE
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**DECLARATION AND VERIFICATION
 FINAL YEAR RESEARCH PROJECT**

It is hereby declared and verified that this research report entitled:
Morphometric study of Horseshoe crab (*Tachypleus gigas* and *Carcinoscorpius rotundicauda*) from Balok, Pahang by **NURLIYANA BINTI SUBLI**, Matric No. **uk16742** have been examined and all errors identified have been corrected. This report is submitted to the Department of Marine Science as partial fulfillment towards obtaining the **Degree of Science (Marine Science)**, Faculty of Maritime Studies and Marine Science, University Malaysia Terengganu.

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ABBREVIATIONS

Wt	=	Body Weight
IOL	=	Inter-ocular Length
DPB	=	Dorsal Prosoma Breadth
DBL	=	Dorsal Body Length
VPB	=	Ventral Prosoma Breadth
TL	=	Telson Length
CH	=	Central Height
FL	=	Frontal Length
FMH	=	Frontal Margin Height
RL	=	Regional Height
DO	=	Dissolved oxygen

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ABSTRACT

This study was conducted at Balok, Pahang. Sampling was done during full moon and new moon in May to September 2010. The samples of horseshoe crab (*Tachypleus gigas* and *Carcinoscorpius rotundicauda*) were collected at the beach and mangrove area for morphometry measurement. Existence area of horseshoe crab was important for distribution record. Ten variables of morphometry (millimeter) including body weight have been taken during sampling. The total of 115 individual of two horseshoe crab species were collected from the sampling sites. There are 92 individual of *T. gigas* consists of 33 males and 59 females, while 15 males and 8 females from total 23 individual of *C. rotundicauda*. Weight ranges (g) of horseshoe crab are 180 - 420 gram for male and 290 – 1200 gram for female *T. gigas*, while 100 – 260 gram for male and 260 – 340 gram for female *C. rotundicauda*. In addition, range of length for male and female *T. gigas* are 244 – 378 mm and 230 – 516 mm, whereas 269 – 337 mm and 299 – 390 mm for male and female *C. rotundicauda*. Ratios of male to female tells the comparative body size which is for *T. gigas* species, the male size is nearly 72% of the female while for *C. rotundicauda*, male size is nearly 83% of female. In every aspect, it shows that female of *T. gigas* and *C. rotundicauda* are bigger and heavier than male of both species.

Kajian Morfometrik Belangkas bagi spesies (*Tachypleus gigas* dan *Carcinoscorpius rotundicauda*) di Balok, Pahang

ABSTRAK

Kajian ini telah dijalankan di Balok, Pahang pada bulan Mei hingga September 2010 iaitu setiap 2 minggu, ketika bulan baru dan bulan penuh. Sampel-sampel belangkas dikutip dan dikumpul daripada kawasan pantai dan kawasan bakau dengan bantuan nelayan dan juga penduduk di kawasan tersebut. Kawasan pendaratan belangkas direkod bagi menghasilkan peta taburan untuk kedua-dua spesies. Terdapat 10 ciri-ciri morfometrik termasuk berat telah direkod dan diambil kira ketika proses mengukur belangkas. Jumlah keseluruhan belangkas yang ditemu ia dalah 115 ekor iaitu 92 ekor bagi *T. gigas* dan 23 ekor *C. rotundicauda*. Daripada 92 ekor, 33 ekor adalah belangkas jantan dan 59 ekor belangkas betina. Manakala daripada 23 ekor *C. rotundicauda*, 15 ekor adalah belangkas jantan dan 8 ekor belangkas betina. Skala bagi berat belangkas jantan dan betina (*T. gigas*) adalah 180 - 420 dan 290 - 1200 gram, manakala bagi (*C. rotundicauda*) ialah 100 - 260 dan 260 - 340 gram. Seterusnya, skala panjang belangkas jantan dan betina (*T. gigas*) adalah 244 - 378 mm dan 230 - 516 mm, manakala 269 - 337 mm dan 299 - 390 mm bagi belangkas jantan dan betina (*C. rotundicauda*). Analisis nisbah antara belangkas jantan dan betina yang telah dilakukan adalah bertujuan membandingkan saiz belangkas mengikut jantina. Nisbah jantan sepsis *T. gigas* adalah hampir 72% saiz betina, dan nisbah saiz jantan sepsis *C. rotundicauda* adalah hampir 83% saiz betina. Secara keseluruhannya, saiz belangkas betina bagi kedua-dua spesies adalah lebih besar dan lebih berat berbanding saiz belangkas jantan.