STUDY OF BLOOD CELL MORPHOLOGY OF NESTING GREEN TURTLE (*Chelonia mydas*) IN CHAGAR HUTANG, REDANG ISLAND, TERENGGANU

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2011

Study of blood cell morphology of nesting green turtle (Chelonia mydas) in Chagar Hutang, Redang Island, MalaysiacNor Azri Shah Norhan.

Lihat sebelah

STUDY OF BLOOD CELL MORPHOLOGY OF NESTING GREEN TURTLE (*Chelonia mydas*) IN CHAGAR HUTANG, REDANG ISLAND, TERENGGANU

By

Nor Azri Shah Bin Norhan

Bachelor Degree of Science (Marine Biology)

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DECLARATION AND VERIFICATION REPORT

FINAL YEAR RESEARCH PROJECT

It is hereby declared and verified that this research report entitled: Study Of Blood Cell Morphology Of Nesting Green Turtle (*Chelonia mydas*) In Chagar Hutang, Redang Island, Terengganu. By Nor Azri Shah Bin Norhan, Matric No. UK 16985 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 Biology), Faculty of Maritime Studies and Marine Science, Universiti Malaysia Terengganu.

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µm	-	micrometer
cm	-	centimeter
SD	-	standard deviation
RBCs	-	red blood cell
WBCs	-	white blood cell
SEATRU	-	Sea Turtle Research Unit
CCL	-	curved carapace length
CCW	-	curved carapace width
MY	-	Malaysia
ES	-	erythrocytes size
NS	-	nucleus size
EW	-	erythrocytes width
EL	-	erythrocytes length
NW	-	nucleus width
NL	-	nucleus length

ABSTRACT

Study was conducted between 23rd May till 31st July 2010 on nesting green sea turtles (*Chelonia mydas*) on Chagar Hutang, Redang Island, Malaysia. Blood samples were obtained from nine individuals. Six of them are normal, and the rest are categorized as stressed *C. mydas*. A stress *C. mydas* suffers from injuries such as amputation of flippers, tumors and present of parasite such as barnacle. These stress physical condition are caused by natural disease and human act. Samples were withdrawn from dorsal cervical sinus by using 18 Gauge needle into ethylene diamine tetraacetic acid (EDTA) tube. In erythrocytes morphological studies, the thin blood smears were stain with Giemsa stain. However, Wright's stain was used for leukocytes morphological studies. Both were observed under 1000x magnification. The erythrocyte observed is a nucleated red blood cell with a rounded and elongated cytoplasm presence. This study was concentrated on the differences size of erythrocytes of normal and stressed *C. mydas*. Erythrocytes size for normal *C. mydas* is 211.34 ± 21.05 μm^2 and for its nucleus is 26.42 ± 3.00 μm^2. As for erythrocytes size of stressed *C. mydas* is 151.69 ± 18.75 μm^2 and the nucleus is 18.40 ± 2.08 μm^2. In this study, only three types of leukocytes was identified; monocytes, lymphocytes and heterophils. The identified leukocytes have similar morphological characteristics with previous studies of *C. mydas*.

Kajian Bentuk Sel Darah Pada Persarangan Penyu Agar (*Chelonia mydas*) di Chagar Hutang, Pulau Redang, Terengganu

ABSTRAK

Kajian yang telah dijalankan, bermula dari 23 Mei sehingga 31 Julai 2010 di kawasan pendaratan penyu (*Chelonia mydas*) bertelur di Chagar Hutang, Pulau Redang, Malaysia. Sembilan sampel darah telah diperolehi. Enam sampel adalah daripada yang normal dan selebihnya adalah dikategorikan sebagai *C. mydas* yang tegang. *Chelonia mydas* yang tegang mempunyai kecederaan seperti kehilangan anggota, ketumbuhan dan juga kehadiran parasit seperti teritip. Ketegangan fizikal ini berpunca daripada penyakit dan juga akibat perbuatan manusia. Sampel darah penyu diambil dari 'dorsal cervical sinus' dengan menggunakan jarum bersaiz 18 dan disimpan di dalam tabung ethylene diamine tetraacetic acid (EDTA). Dalam kajian sel darah merah,calitan nipis darah telah diwarnakan dengan pewarna Giemsa. Manakala pewarna Wright pula digunakan untuk kajian morfologi leukosit. Imej kedua-dua jenis sel darah ini dikenalpasti dengan menggunakan magnifikasi 1000x. Eritrosit yang dikaji mempunyai nukleus serta sitoplasmanya adalah bulat dan memanjang bentuknya. Kajian ini berkenaan saiz eritrosit bagi *C. mydas* normal dan tegang. Saiz eritrosit bagi *C. mydas* yang normal adalah 211.34 ± 21.05 μm^2 dan saiz nukleusnya adalah 26.42 ± 3.00 μm^2. Bagi saiz eritrosit *C. mydas* yang. tegang adalah 151.69 ± 18.75 μm^2 dan saiz nukleusnya adalah 18.40 ± 2.08 μm^2. Dalam kajian ini, hanya tiga jenis sahaja dapat dikenalpasti; monosit, limposit dan heterofil. Leukosit yang dikenalpasti adalah yang mempunyai ciri-ciri yang sama seperti kajian terdahulu bagi *C. mydas*.