

COMPARISON STUDY OF *Nypa fruticans* MORPHOLOGICAL  
CHARACTERISTIC (Clear Bole Height) AT PULAU TOK AJI, SETIU,  
TERENGGANU AND KG. AYER HITAM, PENANG, MALAYSIA

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TERENGGANU AND KG. AYER HITAM, PENANG, MALAYSIA

By

Nur Saadah Binti Johari

Research Report submitted in partial fulfilment of  
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**DEPARTMENT OF MARINE SCIENCE  
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UNIVERSITI MALAYSIA TERENGGANU**


**DECLARATION AND VERIFICATION FORM**

**FINAL YEAR RESEARCH PROJECT**

It is hereby declared and verified that this research report entitled:

**Comparison Study Of *Nypa Fruticans* Morphological Characteristic (Clear Bole Height) At Pulau Tok Aji, Setiu, Terengganu And Kg. Ayer Hitam, Penang, Malaysia by Nur Saadah Binti Johari , Matric No. UK20913 has 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 **Bachelor of Science (Marine Science)**, Faculty of Maritime Studies and Marine Science, Universiti Malaysia Terengganu.**

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## LIST OF ABBREVIATIONS

$(C_6H_5)_2NH$	Diphenylamine
$^{\circ}C$	Degree Celsius
$\mu m$	Micrometer
$FeSO_4 \cdot 5H_2O$	Iron (II) sulphate solution
g	Gram
$H_2SO_4$	Sulphuric Acid
$H_3PO_4$	Phosphoric Acid
$K_2Cr_2O_7$	Potassium Dichromate
L	Litter
m	Meter
mL	Millilitre
TOC	Total Organic Carbon
PSA	Particle Size Analysis
mm	Millimetre

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## ABSTRACT

This study is about the comparison of morphological characteristic of *Nypa fruticans* that was conducted at P. Tok Aji, Setiu, Terengganu and Kg. Ayer Hitam, Penang. Using the clear bold height measurement parameter at both site sampling, few environmental factors were tested to see if there are correlations. The environmental parameters are such as total organic carbon (TOC), sediment texture, average rainfall and temperature monthly. The objectives of this study are; 1) To determine the clear bold height of *Nypa fruticans* as the parameter for morphological characteristic at Pulau Tok Aji, Setiu, Terengganu and Kg. Ayer Hitam, Penang. 2) To determine the sediment texture and total organic carbon (TOC) at both sampling area and 3) To determine the relationship between the morphological characteristic and environmental parameters at both location. Few data on morphological characteristics were taken, such as clear bole height, base diameter and stalk length. While data for environmental factors were total organic carbon, monthly average temperature and rainfall. This variable was under goes correlation analysis to see whether there were relationship or not. The finding was contrast to what has been predicted which all the variable shows correlation with the CBH. From three variable that been tested, there were no variable that shows the correlation with CBH parameter. From the correlation analysis using the SPSS software shows that most of the Pearson Correlation,  $r$  are range  $\pm 0.4$  or lower. Same goes when the graph X Y was drawn, the graph for rainfall can draw a straight line while others cannot. This shows that  $r=0$  relationship or also known as no correlation relationship. The graphs were have no discernable pattern can be detected between the variables, meaning no relationship exist between the variables.

Therefore, it can be said that the environmental factors are not all can affect the different in measurement morphological characteristics.

Kajian Perbandingan ciri-ciri morfologi *Nypa fruticans* (Clear Bole Height) di Pulau Tok Aji, Setiu, Terengganu dan Kg. Ayer Hitam, Penang, Malaysia.

## ABSTRAK

Kajian ini mengenai ciri-ciri perbandingan morfologi *Nypa fruticans* yang dijalankan di P. TokAji, Setiu, Terengganu dan Kg. Ayer Hitam, Penang. Menggunakan clear bold height (CBH) sebagai ukuran parameter di kedua-dua tempat kajian, beberapa parameter persekitaran diuji bersama untuk melihat sekiranya mempunyai hubungan. Parameter persekitaran seperti total organic carbon (TOC), jenis sedimen, purata bulanan hujan dan suhu. Objektif kajian ini adalah; 1) Untuk mengenalpasti ukuran clear bold height sebagai ukuran ciri-ciri morfologi, 2) Untuk mengenalpasti jenis sedimen dan total organic carbon (TOC) di kedua-dua tapak kajian, 3) Untuk mengenal pasti hubungan antara ciri-ciri morfologi dan parameter persekitaran di kedua-dua tempat kajian. Data beberapa ciri-ciri morfologi telah diambil, seperti clear bole height, diameter bawah dan panjang tandan. Manakala data bagi faktor persekitaran adalah jumlah karbon organik, suhu purata bulanan dan hujan. Pembolehubah ini melalui analisis korelasi untuk melihat sama ada hubungan atau tidak. Dapatan adalah berbeza dengan apa yang telah diramalkan yang semua pembolehubah menunjukkan terdapat pertalian dengan CBH. Daripada tiga pembolehubah yang telah diuji, tidak ada pembolehubah yang menunjukkan korelasi dengan parameter CBH. Daripada analisis korelasi dengan menggunakan perisian SPSS menunjukkan bahawa kebanyakan Korelasi Pearson,  $r$  adalah julat  $\pm 0,4$  atau lebih rendah. Begitu juga apabila XY graf yang telah dilukis, graf bagi hujan boleh



melukiskan satu garis lurus manakala yang lain tidak boleh. Ini menunjukkan bahawa hubungan  $r = 0$  atau juga dikenali sebagai tiada hubungan korelasi. Graf adalah tiada corak boleh dikesan di antara pemboleh ubah, bermakna hubungan tidak wujud antara pembolehubah. Oleh itu, bolehlah dikatakan bahawa factor persekitaran tidak semuanya mempengaruhi kelainan dalam ukuran ciri-ciri morfologi.