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Analysis of endogenous compositito of benzenoid in male
reproductive organ of Nypa fruticans / by Mohd Yunaidie
Yaacob.

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UNIVERSITI MALAYSIA TERENGGANU (UMT)
21030 KUALA TERENGGANU

1100099143

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ANALYSIS OF ENDOGENOUS COMPOSITION OF BENZENOID IN MALE REPRODUCTIVE
ORGAN OF *Nypa fruticans*

By
MOHD YUNAIIDIE BIN YAACOB

A research report submitted in partial fulfilment of
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DEPARTMENT OF BIOLOGICAL SCIENCE
FACULTY OF SCIENCE AND TECHNOLOGY
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Disahkan oleh:

.....
Penyelia Utama

Nama:

Cop Rasmi:

Tarikh:

.....
Penyelia Kedua (jika ada)

Nama:

Cop Rasmi

Tarikh:

.....
Ketua Jabatan Sains Biologi

Nama:

Cop Rasmi:

DR. MARIAM BINTI TAIB
Ketua
Jabatan Sains Biologi
Fakulti Sains dan Teknologi
Universiti Malaysia Terengganu
21030 Kuala Terengganu

Tarikh: 22/7/10

DECLARATION

I hereby declare that this thesis entitled ANALYSIS OF ENDOGENOUS CONCENTRATION OF BENZENOID COMPOUNDS IN MALE REPRODUCTIVE ORGAN OF *Nypa fruticans* is the result of my own research except as cited in the references.

Signature :
Name : Mohd Yunaidie Bin Yaacob
Matrix number : UK 15753
Date :

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ANALYSIS OF ENDOGENOUS COMPOSITION OF BENZENOID IN MALE REPRODUCTIVE
ORGAN OF *Nypa fruticans*

ABSTRACT

The chemical composition of the floral scent determined the emission of floral scent in plants that consist of chemical such as benzenoid compound. This study was focused on the chemical composition of benzenoid compounds in male reproductive organ of *Nypa fruticans* that was analyzed by high performance liquid chromatography (HPLC). The objectives of the study are to identify benzenoid composition in male reproductive organ of *N. fruticans* and to determine endogenous concentration of the benzenoid in male reproductive organ of *N. fruticans* at different time interval. The analysis of endogenous benzenoid compounds in flower sample have been done using reversed-phase HPLC to detect three benzenoid derivatives which are isoeugenol, benzyl alcohol, and methyl benzoate that contributes floral scent in *N. fruticans*. Methyl benzoate was the only element detected in male flower of *N. fruticans* at 6.9 minute. The concentration of methyl benzoate was high during the day and low at night. High and low endogenous concentration of benzenoid during the day and at night might be influenced by the foraging behaviour of pollinator. Benzenoid compounds could play a role as pollination syndrome of *N. fruticans*.

ANALISIS TERHADAP KOMPOSISI BENZENOID ENDOGENUS DALAM ORGAN
PEMBIAKAN JANTAN *Nypa fruticans*

ABSTRAK

Komposisi kimia dalam bau bunga menentukan bau yang akan dibebaskan oleh tumbuhan yang mengandung bahan kimia seperti benzenoid. Kajian ini dijalankan bagi mengkaji analisis komposisi benzenoid dalam organ pembiakan jantan *Nypa fruticans* menggunakan mesin HPLC (High Performance Liquid Chromatography). Objektif kepada kajian ini adalah untuk mengenal pasti komposisi benzenoid dalam organ pembiakan jantan *N. fruticans* dan untuk menentukan kepekatan benzenoid dalam organ pembiakan jantan *N. fruticans* pada waktu yang berbeza. Analisis sebatian benzenoid dalam sampel bunga dijalankan menggunakan HPLC fasa berbalik untuk mengesan kehadiran tiga terbitan benzenoid yang menyumbang kepada penghasilan bau bunga iaitu isougenol, benzil alkohol dan metil benzoat. Hanya metil benzoat dikesan dalam bunga jantan *N. fruticans* pada minit ke 6.9. Kepekatan metil benzoat didapati maksima pada waktu siang dan minima pada waktu malam. Kepekatan yang tinggi dan rendah benzenoid pada waktu siang dan malam mungkin dipengaruhi oleh aktiviti pencarian makanan agen pendebungaan. Sebatian benzenoid memainkan peranann sebagai sindrom pendebungaan *N. fruticans*.