

GINGERS (ZINGIBERACEAE) IN BUKIT BANGK FOREST  
RESERVE AND SEKAYU RECREATIONAL FOREST

NUR HAIRUNNISA BINTI RAFAAI

FAKULTI SAINS DAN TEKNOLOGI  
UNIVERSITI MALAYSIA TERENGGANU  
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SEKAYU RECREATIONAL FOREST

By

NUR HAIRUNNISA BINTI RAFAAI

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Department of Biological Science  
Faculty of Science and Technology  
UNIVERSITI MALAYSIA TERENGGANU  
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Disahkan oleh: / Verified by:

Penyelia Utama / Main Supervisor

Nama: **KASAWANI IBRAHIM**

Pensyarah

Cop Rasmi: Jabatan Sains Biologi  
Fakulti Sains dan Teknologi  
Universiti Malaysia Terengganu  
21030 Kuala Terengganu.

Tarikh: 15.5.07

Ketua Jabatan Sains Biologi / Head, Department of Biological Sciences

Nama:

**DR. AZIZ BIN AHMAD**

Ketua

Cop Rasmi:

Jabatan Sains Biologi  
Fakulti Sains dan Teknologi  
Universiti Malaysia Terengganu  
21030 Kuala Terengganu

Tarikh: 16/5/2007

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## TABLE OF CONTENTS

ACKNOWLEDGEMENT	ii
LIST OF TABLES	iii
LIST OF FIGURES	iv
LIST OF PLATE	v
LIST OF ABBREVIATIONS	vi
ABSTRACT	vii
<b>CHAPTER 1 INTRODUCTION</b>	
1.1 Introduction	1
1.2 Important of study	2
1.3 Objectives of study	2
<b>CHAPTER 2 LITERATURE RIVIEW</b>	
2.1 Research Finding	4
2.2 The important of gingers	5
2.3 Plant structure of Zingiberaceae	6
2.4 Pollination and seed dispersal of gingers	8
2.5 Group of gingers	9
2.6 Environment factor of gingers	10
2.7 Distribution	10
2.8 Taxonomy	11
2.9 Classification	12
2.10 Habitats	13
<b>CHAPTER 3 METHODOLOGY</b>	
3.1 Study sites	14
3.1.1 Bukit Bauk Forest Reserve	14
3.1.2 Sekayu Recreational Forest, Terengganu	16
3.2 Materials	17



3.3 Plot sampling design	17
3.4 Species collection	17
3.5 Herbarium	18
3.6 Identify profile vegetation	18
3.7 Physical parameter	18
3.8 Data analysis	
3.8.1 Diversity Index	19
3.8.2 Richness Index	19
3.8.3 Evenness Index	20
3.9 Statistical Analysis	20
<b>CHAPTER 4 RESULT</b>	
4.1 Species composition	21
4.2 Species descriptions	24
4.3 Species abundance	33
4.4 Species diversity and richness	35
4.5 Species distribution	38
4.6 Species similarity	40
4.7 Physical parameter	41
<b>CHAPTER 5: DICUSSIONS</b>	44
<b>CHAPTER 6: CONCLUSON AND RECOMMENDATION</b>	49
<b>REFERENCES</b>	50
<b>APPENDICES</b>	52
<b>CURRICULUM VITAE</b>	55



## LIST OF TABLES

Table		Page
2.1	“Belum Gingers” Checklist	4
2.2	The classification of the uses of Zingiberaceae	5
2.7	Distribution of Zingiberaceae in Asia Countries.	11
3.4	Date of sampling in each site	17
3.7	Date of taken physical parameter in each site	19
4.1	Gingers species composition in Bukit Bauk Forest Reserve and Sekayu Recreational Forest.	21
4.5.1	Mann Whiney U Test between two study sites	38
4.5.2	Mann Whiney U Test between elevations in Bukit Bauk Forest Reserve	39
4.5.3	Mann Whiney U Test between elevations in Sekayu Recreational Forest	39
4.7.1	Spearman Correlation between two study sites	41
4.7.2	Spearman Correlation in Bukit Bauk Forest Reserve at lower and upper elevation	42
4.7.3	Spearman Correlation in Sekayu Recreational Forest at lower and upper elevation	43

## LIST OF FIGURES

Figure		Page
3.1.1	Map of Peninsular Malaysia (after Director of National Mapping, Malaysia, 1974), indicating the locations of the Bukit Bauk.	15
3.1.2	Location of Sekayu falls at Sungai Sekayu, Sekayu Recreational Forest, Kuala Berang, Terengganu (Nik, 2005).	16
4.2.3	Number of gingers clumps in Bukit Bauk at lower and upper elevation in Bukit Bauk Forest Reserve	22
4.2.4	Number of gingers clumps in Sekayu Recreational Forest at lower and upper elevation	23
4.3.1	Percentage of gingers composition in Bukit Bauk Forest Reserve	33
4.3.2	Percentage of gingers composition in in Sekayu Recreational Forest	34
4.4.1	The values of ecological indices in Bukit Bauk Forest Reserve and Sekayu Recreational Forest	35
4.4.2	The values of ecological indices in Bukit Bauk Forest Reserve at lower (148m) and upper (345m) elevation.	36
4.4.3	The values of ecological indices in Sekayu Recreational Forest at lower (101m) and upper (290m) elevation.	37
4.7	Similarity matrix using Spearman Coefficient in Bukit Bauk and Sekayu between lower and upper elevation.	40

## LIST OF PLATES

<b>Plate</b>		<b>Page</b>
1	<i>Alpinia murdochii</i>	23
2	<i>Elettariopsis</i> spp.	24
3	<i>Zingiber</i> spp.	25
4	<i>Zingiber otensii</i>	26
5	<i>Hedychium longicornutum</i>	27
6	<i>Globba leucantha</i>	28
7	<i>Zingiber puberulum</i>	29
8	<i>Alpinia javanica</i>	30
9	<i>Scaphochlamys concinna</i>	31

## LIST OF ABBREVIATIONS

cm	Centimeter
E	Evenness index
H'	Diversity index
ha	hectare
M	Meter
mm	Millimeter
R1	Richness index
<sup>0</sup> C	Degree of Celsius
%	Percent

## ABSTRACT

These studies were conducted in Bukit Bauk Forest Reserve at lower (148 m) and upper (345 m) elevations and in Sekayu Recreational Forest and lower (148 m) and upper (290 m) elevations to determine the diversity, abundance and distribution of Zingiberaceae in Bukit Bauk Forest Reserve and Sekayu Recreational Forest at lower and upper elevations and to examine the correlation of physical parameter that influence gingers diversity, abundance and distribution in both sites. There were nine species of Zingiberaceae found in both sites. The most abundance species in both sites was *Alpinia murdochii* that cover 66% (39 clumps) in Bukit Bauk Forest Reserve and 28% (23 clumps) in Sekayu Recreational Forest in the plot 0.2ha. Three species was found similarly between both sites which were *Zingiber* spp., *Zingiber otensii* and *Alpinia murdochii*. The diversity of gingers at lower elevation was higher than upper elevation in both sites. Four species was found at elevation 148 m and only one species found at elevation 345 m in Bukit Bauk Forest Reserve. While in Sekayu Recreational Forest seven species was found at elevation 101 m and three species at elevation 290 m. Sekayu Recreational Forest indicates more diverse and richness species ( $R1= 1.60$ ,  $H'= 1.81$  and  $E= 0.87$ ) compared to Bukit Bauk Forest Reserve ( $R1= 0.74$ ,  $H'= 1.01$  and  $E= 0.73$ ). The gingers distribution between both sites and elevations was similar. Physical parameter such as light intensity, soil pH and air humidity have influence the gingers diversity and richness in both sites. There are several factors that influence the diversity, abundance and distribution of gingers community such as disturbance and environmental factor between both sites.

# TUMBUHAN HALIA DI HUTAN SIMPAN BUKIT BAUK DAN HUTAN REKREASI SEKAYU

## ABSTRAK

Kajian tentang komposisi tumbuhan halia dijalankan di Hutan Simpan Bukit Bauk pada ketinggian 148m (aras rendah) dan 345m (aras tinggi) manakala di Hutan Rekreasi Sekayu pada ketinggian 101m (aras rendah) dan 290m (aras tinggi) untuk menentukan kepelbagaian, kelimpahan dan taburan tumbuhan halia di Hutan Simpan Bukit Bauk dan Hutan Rekreasi Sekayu serta mengenalpasti fizikal parameter yang mempengaruhi kepelbagaian, kelimpahan dan taburan tumbuhan halia di kawasan tersebut. Sebanyak sembilan species tumbuhan halia telah dijumpai di kedua-dua lokasi didalam plot 0.2ha. Spesies yang mempunyai kelimpahan paling tinggi di kedua-dua lokasi ialah *Alpinia murdochii* yang mewakili 66% (23 kelompok) di Hutan Simpan Bukit Bauk dan 28% (23 kelompok) di Hutan Rekreasi Sekayu. Terdapat tiga spesies yang mempunyai kesamarataan diantara kedua-dua lokasi iaitu *Zingiber* spp., *Zingiber otensii* dan *Alpinia murdochii*. Kepelbagaian spesis tumbuhan halia pada aras rendah lebih banyak daripada aras tinggi di kedua-dua kawasan. Di Hutan Simpan Bukit Bauk, empat spesis tumbuhan halia dijumpai pada ketinggian 148 m dan hanya satu spesis pada ketinggian 345 m. Manakala, di Hutan Rekreasi Sekayu, tujuh spesis dijumpai pada ketinggian 101 m dan tiga spesis pada ketinggian 290 m. Hutan Rekreasi Sekayu mempunyai index kepelbagaian yang lebih tinggi ( $R= 1.60$ ,  $H'= 1.81$  dan  $E= 0.87$ ) berbanding Hutan Simpan Bukit Bauk yang mempunyai index kepelbagaian yang lebih rendah ( $R1= 0.74$ ,  $H'= 1.01$  dan  $E= 0.73$ ). Taburan tumbuhan halia di kedua-dua kawasan dan ketinggian adalah sama. Fizikal parameter seperti cahaya, pH tanah dan kelembapan udara mempengaruhi kepelbagaian, kelimpahan dan taburan species tumbuhan halia di kedua-dua kawasan. Terdapat beberapa faktor yang mempengaruhi kekayaan, kelimpahan dan taburan spesies tumbuhan halia antaranya ialah tahap gangguan terhadap habitat dan faktor persekitaran di kawasan tersebut.