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**CHEMICAL STUDIES ON
SELECTED MALAYSIAN ANNONACEAE
SPECIES**

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By

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ABSTRACT

The isolation and structural elucidation of two Malaysian Annonaceae species have been carried out in this study. The structure of the flavonoids and alkaloids were elucidated by spectroscopic methods. The two species are *Fissistigma lanuginosum* and *Polyalthia hookerian*. Alkaloids were found in both species and flavonoids were only isolated from *Fissistigma lanuginosum*.

The flavonoids isolated from *Fissistigma lanuginosum* were pedicin **21**, 2', 5' - dihydroxy - 3', 4', 6' - trimethoxychalcone **22**, 5, 8 - dihydroxy - 6, 7 - dimethoxyflavone **23**, fissistin **33**, isofissistin **34**, 3', 4', 6' - trimethoxy - 2', 5' - quinochalcone **35** and alkaloids were liriodenine **39** and lanuginosine **40**. Two new 'condensed' chalcones, **33** and **34**, were elucidated by spectral methods, especially 2D NMR.

Beside the main alkaloids and flavonoids isolated from *Fissistigma lanuginosum*, three other alkaloids were extracted from *Polyalthia hookerian* identified as lysicamine **41**, liriodenine and atherospermidine **42**.

ABSTRAK

Pengasingan dan elusidasi struktur jujuk-jujuk kimia bagi dua spesies Annonaceae yang terdapat di Malaysia telah dikaji. Struktur flavonoid dan alkaloid telah dielusidasi menggunakan kaedah spektroskopi. Dua spesies yang dikaji ialah *Fissistigma lanuginosum* dan *Polyalthia hookerian*. Alkaloid telah ditemui dalam kedua-dua spesies tersebut manakala flavonoid hanya terdapat dalam *F. lanuginosum*.

Flavonoid yang dipisahkan dari *F. Lanuginosum* ialah pedicin **21**, 2',5'-dihidroksi-3',4',6'-trimetoksicalkon **22**, 5-8-dihidroksi-6,7-dimetoksiflavon **23**, fissistin **33**, isofissistin **34**, 3',4'6'-trimetoksi-2',5'-kuinocalkon **35** dan alkaloid pula ialah liriodenina **39** dan lanoginosina **40**. Dua calkon baru iaitu **33** dan **44** telah dielusidasi dengan kaedah spektroskopi terutama 2D RMN.

Disamping alkaloid dan flavonoid yang dipisahkan dari *Fissistigma lanuginosum*, tiga lagi alkaloid telah diekstrak dan diasingkan dari *Polyalthia hookerian* dan dikenalpasti sebagai lysicamina **41**, liriodenina **39** dan atherospermidina **42**.

List of Tables, Schemes and Figures.

Tables	Page
1. Genera of Annonaceae	4
2. The UV maximum absorption of aporphine	22
3. Ultraviolet absorption spectra of some flavonoids	38
4. Chemical shift data for C - 6 and C - 8 protons	41
5. Chemical shift data for C - 5,6 and 8 protons	41
6. Chemical shift data for C - 2',3',5',6' protons	42
7. Chemical shift data for C - 2' and 6' protons	42
8. ^{13}C and ^1H NMR data for compounds FL1 and FL2	49
9. ^1H NMR data (270 MHz, CDCl_3 , TMS as internal standard)	53
10. ^1H NMR data for compounds FL4 and FL5	60
11. ^{13}C NMR data for compound FL6	63
12. ^{13}C and ^1H NMR data for compounds FL4 and FL7	66
13. ^{13}C and ^1H NMR data for compounds FL8 and FL9	70
14. Chemicals content in the bark of the plant	90
15. Chromatography results from flavonoid extracts of <i>Fissistigma lanuginosum</i>	92
16. Colour of spots on TLC and % of weight obtained in flavonoid extracts from <i>Fissistigma lanuginosum</i>	92

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Tables	Page
1. Genera of Annonaceae	4
2. The UV maximum absorption of aporphine	22
3. Ultraviolet absorption spectra of some flavonoids	38
4. Chemical shift data for C - 6 and C - 8 protons	41
5. Chemical shift data for C - 5,6 and 8 protons	41
6. Chemical shift data for C - 2',3',5',6' protons	42
7. Chemical shift data for C - 2' and 6' protons	42
8. ^{13}C and ^1H NMR data for compounds FL1 and FL2	49
9. ^1H NMR data (270 MHz, CDCl_3 , TMS as internal standard)	53
10. ^1H NMR data for compounds FL4 and FL5	60
11. ^{13}C NMR data for compound FL6	63
12. ^{13}C and ^1H NMR data for compounds FL4 and FL7	66
13. ^{13}C and ^1H NMR data for compounds FL8 and FL9	70
14. Chemicals content in the bark of the plant	90
15. Chromatography results from flavonoid extracts of <i>Fissistigma lanuginosum</i>	92
16. Colour of spots on TLC and % of weight obtained in flavonoid extracts from <i>Fissistigma lanuginosum</i>	92

17. Chromatography results from alkaloid extracts of <i>Fissistigma lanuginosum</i>	93
18. Colour of spots on TLC and % of weight obtained of the components in alkaloids extract from <i>Fissistigma lanuginosum</i>	93
19. Chromatography results from alkaloid extracts of <i>Polyalthia hookerian</i>	94
20. Colour of spots on TLC and % of weight obtained in alkaloid extracts from <i>Polyalthia hookerian</i>	94

Schemes

1. Classification of Annonaceae	3
2. Classification of alkaloids with the concept of biogenesis	11
3. Examples of alkaloid ring skeleton	12
4. The biogenetic pathway of proaporphine and aporphine	19
5. The biogenetic pathway of oxoaporphine and phenanthrene	20
6. The MS fragmentation of aporphines	24
7. Diagnostic mass spectral fragmentation pathways for different classes of flavonoids	39
8. The MS fragmentation patterns of flavonoid FL1	47
9. The MS fragmentation patterns of flavonoid FL3	54
10. The MS fragmentation patterns of flavonoid FL4	58
11. The MS fragmentation patterns of flavonoid FL6	64

12. The MS fragmentation patterns of alkaloid FL10	73
13. The MS fragmentation patterns of alkaloid FL11	76
14. The MS fragmentation patterns of alkaloid PH1	79
15. The MS fragmentation patterns of alkaloid PH3	82

Figures

1. Classification of Flavonoids	29-30
2. UV absorption of most flavonoid	35
3. Some flavonoid compounds	52
4. COSY and HMBC correlations for compound FL4	57

TABLE OF CONTENTS

	Page
ACKNOWLEDGEMENT	i
ABSTRACT	ii
LIST OF TABLES, SCHEMES AND FIGURES	iii, iv, v
CHAPTER 1	
INTRODUCTION	1
1.1 Family of Annonaceae	2
1.2 Annonaceae : General Characteristic And Its Classification	3
1.3 The Tribe : Xylopeae	
The Genus : <i>Fissistigma</i>	5
1.3.1 <i>Fissistigma</i> : General Appearance and Morphology	6
1.4 The Tribe : Unoneae	
The Genus : <i>Polyalthia</i>	7
1.4.1 <i>Polyalthia</i> : General Appearance and Morphology	8
CHAPTER 2	
GENERAL CHEMICAL ASPECTS	9
2.1 Introduction	9
2.2 Alkaloids in General	9
2.3 Alkaloids of Annonaceae	10
2.3.1 The Isoquinoline Alkaloids	12

2.4 Structural Elucidation of Some Isoquinoline Alkaloids	21
2.4.1 Aporphines and Oxoaporphines	21
2.5 Flavonoids in General	26
2.6 Flavonoids of Annonaceae	28
2.7 Structural Elucidation of Some Flavonoids	32
CHAPTER 3	
RESULT AND DISCUSSION	43
3.1 Flavonoids Extract of <i>Fissistigma lanuginosum</i>	43
3.1.1 Structural Elucidation of Compound Labelled FL1	44
3.1.2 Structural Elucidation of Compound Labelled FL2	46
3.1.3 Structural Elucidation of Compound Labelled FL3	50
3.1.4 Structural Elucidation of Compound Labelled FL4	55
3.1.5 Structural Elucidation of Compound Labelled FL5	59
3.2 Alkaloids Extract of <i>Fissistigma lanuginosum</i>	61
3.2.1 Structural Elucidation of Compound Labelled FL6	61
3.2.2 Structural Elucidation of Compound Labelled FL7	65
3.2.3 Structural Elucidation of Compound Labelled FL8	68
3.2.4 Structural Elucidation of Compound Labelled FL9	69
3.2.5 Structural Elucidation of Compound Labelled FL10	71
3.2.6 Structural Elucidation of Compound Labelled FL11	72
3.3 Alkaloids extract of <i>Polyalthia hookerian</i>	75

3.3.1	Structural Elucidation of Compound Labelled PH1	77
3.3.2	Structural Elucidation of Compound Labelled PH2	78
3.3.3	Structural Elucidation of Compound Labelled PH3	80
3.4	Conclusions	83
CHAPTER 4		
EXPERIMENTAL		
		85
4.1	Instrumentation	85
4.2	Reagents	86
4.3	Plant Materials	87
4.4	Extraction of Plant Materials	89
4.5	Separation and Purification of the Flavonoids	90
4.6	Separation and Purification of the Alkaloids	91
4.7	Physical and Spectral Data of Flavonoids and Alkaloids	95
4.7.1	Petroleum - ether extract of <i>Fissistigma lanuginosum</i>	95
4.7.2	Alkaloid extract of <i>Fissistigma lanuginosum</i>	99
4.7.3	Alkaloid extract of <i>Polyalthia hookerian</i>	103
KEY FOR TABLE		106
REFERENCES		107