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Phytochemical and biological investigation of ***Wodeytia bifurcata* (Family Arecaceae)**

A Thesis

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Submitted by

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Abstract

Phytochemical screening of the aerial parts of *Wodeytia bifurcata*, family Arecaceae, revealed the presence of triterpenes, flavonoids, and phenolic acids. A phytochemical study of the total extract of the aerial parts of *Wodeytia bifurcata* was carried out to fractionate and separate possible compounds and proof their chemical structure using both chemical and spectroscopic methods of analysis viz ^{13}C -NMR, ^1H -NMR, EI-MS and UV.

Two triterpenoids were isolated from the aerial parts (of *Wodeytia bifurcata* Arecaceae cultivated in Egypt), their structures were elucidated on the basis of spectral data and were identified as: Olean-12-en-3 β -ol (β -Amyrin) and (3 β)-lup-20 (29)-en-3-ol (lupeol). Four phenolic compounds were identified as Apigenin, Kaempferol, para hydroxybenzoic acid and gallic acid.

The genetic fingerprinting of the leaves of *Wodeytia bifurcata* was determined using the RAPD-PCR (Random Amplified Polymorphic DNA) technique which has been widely used in plants for the construction of genetic maps and for genotyping identification and taxonomic studies.

The methanol, butanol, n-hexane, and chloroform, extracts of the aerial parts of *Wodeytia bifurcata* showed certain biological activities: anti-inflammatory, antioxidant and cytotoxic activities against HEP-G₂ (Hepatocarcinoma).

Index	
List of Tables	XII
List of Figures	XIII
List of symbols and abbreviations	XIV
I. Introduction	1
II. Review of literature	3
II. 1 Reported phytoconstituents isolated from family Arecaceae	3
II.2 Reported Biological Activities	29
II. 2. 1. Anti-inflammatory activity.	29
II. 2. 2. Antitumor activity.	30
II.2.3. Anti diabetic activity.	31
II.2.4. Antidepressant activity.	32
II.2.5. Antioxidant activity.	33
II.2.6. Antimicrobial activity.	34
II.2.7. Anti-migraine activity.	36
II.2.8. Alzheimer disease.	36
II.2.9. Antihypertensive activity.	36
II.2.10. Antiulcer activity.	37
II.2.11. Improving urinary tract function.	38
II.2.12. Wound healing activity.	38
II.2.13. Anti-diarrhoeal Activity.	38
II.2.14. Hepatoprotective activity.	39
II.2.15. Antimutagenic activity.	39
II.2.16. Effect on gastrointestinal transit.	39
II.2.17. Anthelmintic activity.	40
II.2.18. Effect on reproductive system.	40
II.2.19. Disinfectant activity.	40

II.2.20. Antihyperlipidemic activity.	41
II.2.21. Skin aging and Cosmetics.	41
II.2.22. Nephroprotective activity.	42
II.2.23. Anticonvulsant activity.	42
II.2.24. Anti-allergic.	42
II.2.25. Central Nervous System Stimulant.	42
II.2.26. Platelet Aggregation inhibitory activity.	43
II.2.27. Prevention of Dental Cavities.	43
II.2.28. Molluscicidal activity.	43
II.2.29. Anticholecystitic effect.	44
II.2.30. Cardioprotective activity.	44
II.2.31. Antiviral activity.	44
II.2.32. Immunostimulatory activity.	45
II.2.33. Antithrombotic activity.	45
II. Material, Apparatus and Method	47
III.1. Material	47
III.1.1. Material for DNA profiling	47
III.1.1.1. Plant Material for DNA Profiling	47
III.1.1.2. Buffer Solutions & Enzymes	47
III.1.1.3. Primers	48
III.1.1.4. Agarose Gel	48
III.1.1.5. Molecular Size Marker	48
III.1.2. Material for the Phytochemical Investigation	49
III.1.2.1. Plant Material	49
III.1.2.2. Material for Chromatographic Study	49
III.1.2.2.1. For Column Chromatography (CC)	49
III.1.2.2.2. For Thin Layer Chromatography (CC)	49

III.1.2.2.3. For Paper Chromatography (PC)	49
III.1.2.3. Spray Reagents	50
III.1.2.4. Test Solutions	50
III.1.2.5. Solvents	50
III.1.2.5.1. General Solvents	50
III.1.2.5.2. Solvent systems	51
III.1.2.5.3. Deuterated Solvents	51
III.1.3. Material for biological assay	51
III.1.3.1. Material for antioxidant assay	51
III.1.3.1.1. Plant material	51
III.1.3.1.2. Chemicals	51
III.1.3.2. Material for cytotoxic assay	51
III.1.3.2.1. Plant material	51
III.1.3.2.2. Drugs	51
III.1.3.2.3. Human tumor cell lines	52
III.1.3.2.4. Chemicals	52
III.1.3.2.5. Buffers	52
III.1.3.3. Material for Estimation nitric oxide	52
III.1.3.3.1. Plant material	52
III.1.3.3.2. Chemicals	52
III.1.4 Material for fatty acid	53
III.1.4.1 plant material	53
III.1.4.2 chemicals	53
III.2. Apparatus	53
III.2.1. Apparatus for DNA profiling	53
III.2.2. Apparatus for the phytochemical investigation	53

III.2.2.1. Rotary Vacuum Evaporator (Rotavapor®)	53
III.2.2.2. UV-Spectrophotometer	54
III.2.2.3. Nuclear Magnetic Resonance Spectrometer	54
III.2.2.4. UV light	54
III.2.2.5. Chromatographic Equipment	54
III.2.3. Apparatus for biological assay	54
III.2.3.1. Apparatus for antioxidant assay	54
III.2.3.2. Apparatus for cytotoxic assay	54
III.2.3.3. Apparatus for nitric oxide estimation	55
III.2.4. Apparatus for fatty acid	55
III.2.4.1. GLC for unsaponifiable matter	55
III.2.4.2. GLC for fatty acid methyl ester	55
III.3. Method	56
III.3.1. Method for DNA profiling	56
III.3.1.1. Principle	56
III.3.1.2. Methodology	57
III.3.2. Method for the phytochemical investigation	57
III.3.2.1. General Tests for Preliminary Screening of Phytoconstituents	57
III.3.2.1.1. Tests for Flavonoids.	58
III.3.2.1.2. Tests for Steroids and / or Triterpenoids.	58
III.3.2.1.3. Tests for Carbohydrates and / or Glycosides.	59
III.3.2.1.4. Tests for Saponins.	59
III.3.2.1.5. Tests for Tannins.	60
III.3.2.1.6. Tests for Alkaloids.	60
III.3.2.1.7. Tests for Anthraquinones.	61
III.3.2.2. Methods of Analysis of Phenolic Compounds.	61
III.3.2.2.1. Chromatography.	61

III.3.2.2.2. Spectroscopic and spectrometric Analysis.	63
III.3.3. Method for biological assay.	63
III.3.3.1. Method for antioxidant assay.	63
III.3.3.1.1. Principle.	63
III.3.3.1.2. Procedure.	64
III.3.3.2. Method for cytotoxic assay.	65
III.3.3.2.1. Maintenance of the human cancer cell lines in the laboratory.	65
III.3.3.2.2 . Principle	66
III.3.3.2.3. Procedure.	66
III.3.3.3 Method for Nitric oxide estimation.	67
III.3.3.2.1. Principle.	67
III.3.3.3.2. Procedure.	68
III.3.4. Method for fatty acid.	69
III.3.4.1. Procedure.	69
III.3.4.1.1. Extraction of the unsaponifiable matter and fatty acids.	69
III.3.4.1.1.1. Saponification process.	69
III.3.4.1.1.2. Methylation of fatty acids.	70
IV. Taxonomy of <i>Wodyetia bifurcata</i> .	71
IV.1. Family Arecaceae (Palmaceae).	71
IV.2. Genus <i>Wodeytia</i> .	71
IV.3. Species <i>bifurcata</i> .	72
IV.4. Description.	72
IV.5. Habitat of <i>Wodeytia bifurcata</i>	72
IV.6. Status.	72
V. Biogenic of isolated compounds.	74
V.1. Biogenetic of isolated flavonoids	74
V.2. Biogenetic of isolated. triterpenoids.	75

1. DNA Profiling of <i>Wodeytia bifurcata</i> cultivated in Egypt Using Random Amplified Polymorphic DNA (RADP) -PCR Technique.	79
1.1 Introduction.	79
1.2. Results.	80
1.3. Distribution of RAPD markers.	82
1.4. Discussion.	83
2. Investigation of lipoidal matter	85
2.1. Extraction of the unsaponifiable matter and fatty acids.	85
2.1.1. Saponification process.	85
2.2. Identification of the unsaponifiable matters (USM).	86
2.3. Identification of saponifiable matter (fatty acid methyl esters).	87
2.4. Result and discussion	88
3. Phytochemical screening of aerial parts <i>Wodeytia bifurcata</i> cultivated in Egypt.	89
3.1. Preliminary phytochemical screening of <i>Wodeytia bifurcata</i> aerial parts.	89
4. Phytochemical investigations of <i>Wodeytia bifurcata</i> aerial parts.	90
4.1. Extraction Method:	90
4.2. Part I	92
4.2.1. Column chromatography of butanol extract (Part I) of <i>W.bifurcata</i> aerial parts:	92
4.2.1.1. Column 1 for the purification of fraction (F I) [36-48]:	93
4.2.1.2. Sub-column 2 for the purification of fraction (F II) [49-63]:	94
4.2.3 Part II	95
4.2.3.1.Column chromatography of methanol extract (Part II) of <i>W.bifurcata</i> aerial parts:	90
4.2.3.1.1. Column 1 for the purification of fraction (3) [47-60]:	91
4.2.3.1.2. Column 2 for the purification of fraction (IV) [89-100]:	91

4.2.4. Results and discussion	99
4.2.4.1. Compound (I).	99
4.2.4.2. Compound (II).	104
4.2.4.3. Compound (III).	109
4.2.4.4. Compound (IV).	114
4.2.4.5. Compound (V).	119
4.2.4.6. Compound (VI).	121
5. Biological screening.	122
5.1 Antioxidant activity.	122
5.1.1. Scavenging of DPPH radicals.	122
5.1.2 Reagents preparation.	122
5.1.3 Procedure.	122
5.1.4 Calculation.	123
5.1.5. Results of Antioxidant activity.	123
5.2. Estimation of nitric oxide.	125
5.2.1 Reagent preparation	125
5.2.2 Procedure.	125
5.2.3 Calculation.	125
5.2.4 Results of nitric oxide index.	126
5.3 Cytotoxic Activities (Tumor Cell Lines)	128
5.3.1 Introduction.	128
5.3.2 Results of Cytotoxic Activity.	129
5.3.3 Discussion.	130
Conclusions and Recommendations	131
General Summary	133
Reference	138

List of Tables	
II. 1. Nitrogen containing compounds isolated from family Arecaceae.	3
II. 2. Phenolic compounds (phenolic acids) isolated from family Arecaceae.	5
II. 3. Phenolic compounds (flavonoids) isolated from family Arecaceae.	10
II. 4. Terpenoids isolated from family Arecaceae.	17
II.5. Saturated fatty acids isolated from family Arecaceae.	26
1. 1. Molecular size in base pairs of amplified DNA fragments produced by twelve decamer primers in <i>Wodeytia bifurcata</i> .	81
1. 2. Total numbers of RAPD-PCR fragments in <i>Wodetia bifurcata</i> .	82
2. 1. GLC analysis of hydrocarbons and sterols in USM of <i>Wodetia bifurcata</i> .	86
2. 2. GLC analysis of fatty acid esters of <i>Wodetia bifurcata</i> .	87
3. 1. Phytochemical screening of <i>Wodetia bifurcata</i> .	89
4. 1. Fractions collected from column.	92
4. 2. Fractions collected from column.	93
4. 3. Fractions collected from column.	94
4. 4. Fractions collected from column.	95
4. 5. Fractions collected from column.	96
4. 6. Fractions collected from column.	97
4. 7. The ^1H NMR and ^{13}C NMR spectral data of compound (I)	99
4. 8. The ^1H NMR and ^{13}C NMR spectral data of compound (II)	103
4. 9. The ^1H NMR, UV and EI-MS spectral data of compound (III)	110
4. 10. The ^1H NMR, UV and EI-MS spectral data of compound (IV)	115

List of figure	
IV. 1. The tree of <i>Wodeytia bifurcata</i> .	73
IV. 2. leaves of <i>Wodeytia bifurcata</i> .	73
IV. 3. Fruits of <i>Wodeytia bifurcata</i> .	73
1. 1. The obtained RAPD-PCR products for <i>Wodetia bifurcata</i> . using twelve decamer primers	80
4. 1. ^1H NMR of compound (I)	102
4. 2. C^{13} NMR of compound (I)	103
4. 3. EI-MS of compound (I)	104
4. 4. ^1H NMR of compound (II)	107
4. 5. C^{13} NMR of compound (II)	108
4. 6. EI-MS of compound (II)	109
4. 7. UV chart of compound (III)	112
4. 8. ^1H NMR of compound (III)	113
4. 9. EI-MS of compound (III)	114
4. 10. UV chart of compound (IV)	117
4. 11. ^1H NMR of compound (IV)	118
4. 12. EI-MS of compound (IV)	119
4. 13. ^1H NMR of compound (V)	121