

INDEX

Contents	Page
Dedication	I
Acknowledgment	II
Abstract	III
Arabic abstract	IV
Contents	V
Chapter One	
Introduction and literature review	
1-1 General introduction and history	1
1-2 General taxonomy of <i>ziziphus</i>	3
1-2-1 The classification of family and alphabetical	3
1-2-2 The genus of <i>ziziphus</i>	3
1-2-3 Description of the genus <i>ziziphus</i>	4
1-2-3-A <i>Z.iziphus spina - Christi</i>	4
1-2-4 Distribution of <i>ziziphus</i> species over the world	6
1-2-5 Distribution of <i>Z. spina - Christi</i>	8
1-3 General information about <i>ziziphus</i>	8
1-3-1 <i>Ziziphus</i> is an important fruit species	9
1-3-2 Plant physiological characteristics	11
1-3-3 <i>Ziziphus</i> is a multipurpose tree	11
1-3-3- A Shelter vegetation	11
1-3-3-B Fruit	13
1-3-3-C Fodder, fuel and fencing	15
1-4 Pharmacological and medical uses of <i>ziziphus</i>	16
1-5 Ethnomedicinel uses in <i>ziziphus</i> species	19
1-6 Biological study on <i>ziziphus</i> species	19
1-7 Phytochemical work on <i>ziziphus</i> species	19
1-8 Compounds isolated from <i>z.. spina chirst</i>	19

1-9 Objectives of the present study	25
	27
	35
Chapter Two	
Materials and Methods	
2-1 Plant materials	36
2-2 Perparation of plant materials	36
2-2-A Petroleum ether extraction	36
2-2-B Ethanol extraction	36
2-2-C Fractionation of ethanolic extraction	36
2-3 Chromatographic techniques	38
2-3-1Thin layer chromatography	38
2-3-1-A Preparation of the plates	38
2-3-1-B Application of the samples	38
2-3-1-C Development	38
2-3-1-D Elution and detection	38
2-3-1-E Preparation of spray reagents	38
2-3-1-F Solvent system	39
2-4 Column chromatography	40
2-4-A Column packing	41
2-4-B Application of the sample	41
2-4-C Elution	41
2-4-D Fractions collection	41
2-5 Preparative TLC	41
2-6 Analytical Technique	43
2-6-1 Melting Point (M.Pt)	43
2-6-2 Infrered (IR.) Spectroscopy	43

2-6-3 Ultra Vilot Visible (UV.-VIS)	44
	44
	44
	44
	44
	44
Chapter Three	
Result and Discussion	
3-1 Prelimminary Screening of Extracts of from <i>Z.spina-christy</i>	45
3-1-1 Screening of Ethanol Extracts	45
3-1-2 Screening of Chloroform Extracts	45
3-1-3 Screening of Ethylacetate Extracts	45
3-1-4 Screening of Butanol Extracts	45
3-2 Identification of compounds from Ethyl acetate fractions	50
2-3-1 Characterization of compound A	51
2-3-2 Characterization of compounds B and C	54
Chapter four	
References	67

List of Tables

Table No.	Page
Table (1) Distribution of Z. species over the world	7 18

Table (2)	Ethnomedicinal uses of <i>Z. species</i>	21
Table (3)	Biological study on <i>Z species</i>	25
Table (4)	phyto chemical work on <i>Z. species</i>	29
Table (5)	Compound Isolated from <i>Z. spina-chirsti</i>	37
		47
Table (6)	Extraction of samples	52
Table (7)	Result of reagents	58
Table (8)	UV data of compound A	59
Table (9)	UV data of compound C	53
Table (10)	UV data of compound D	60
Table (11)	IR data for compound A	61
Table (12)	IR data for compound B	
Table (13)	IR data for compound C	

List of Figures

Fig No.	Page
---------	------

Fig (1-1) <i>Ziziphus spina - Christi</i>	5
Fig (1-2) <i>Jubanine</i> B	26
Fig (1-3) <i>Christinin</i> (1,2,.3 and4)	30
Fig (1-4) <i>Spinanine</i> A	31
Fig (1-5) Kaempherol	32
Taxifolin B-D Glycoside	
Taxifolin 3-O-B-D Glycoside	
Fig (1-6) <i>Apigenin</i> 3-O-B-D Glycoside	33
Rutin	
Hyprosided	
Fig (1-7) B-Sitosterol	34
Urosolic acid	
Betulinic acids	
Fig (2-1) Column chromatography	
Fig (3-1) UV of compound A	42
Fig (3-2) UV of compound B	52
Fig (3-3) UV of compound C	58
Fig (3-4) IR of compound A	59
Fig (3-5) IR of compound B	63
Fig (3-6) IR of compound C	64
	65

List of Plates

Plate No.	Page
Plate (1) TLC of <i>Z.spina- Christi</i> (leaves)	48
Plate (2) TLC of Ethyl acetate Extract	49
Plate (3) TLC of compound (A, B and C)	51
Plate (4) TLC of compound (A, B and C) In solvent system No. 14 With spray reagent Vanillin. H ₂ SO ₄	55
Plate (5) TLC of compound (A, B and C) In solvent system No.15 with Spray reagent KOH	56
Plate (6) TLC of compound (A, B and C) In solvent system No. 16 Spray reagent AlCl ₃	57