International Journal of Botany Studies
ISSN: 2455-541X, Impact Factor: RJIF 5.12
www.botanyjournals.com
Volume 2; Issue 1; January 2016; Page No. 38-59

Survey on medicinal plants in the flora of Jizan Region, Saudi Arabia

Ahmed El-shabasy

Department of Biology, Faculty of Science, Jazan University, Saudi Arabia

Abstract
The present study aims to assess medicinal plants in Jizan region comparing with total medicinal plants in Saudi Arabia Kingdom. The result revealed that there are 306 species present in the Kingdom with 11 endemic species on the other hand, there are 141 species in Jizan region which constitute about (46.08%) of total medicinal plants in the Kingdom with 5 endemic species with (45.45%). This study confirms on importance of medicinal plants protection because almost of them are rare or endangered species.

Keywords: flora, medicinal, discoveries

1. Introduction
Man ever since his first appearance on Earth, has used plant throughout his historical development as a source of medicines. Medicinal plants have formed the basis of the folkloric medicine which was the main source for new medicines discoveries (Newman *et al*., 2000) [67]. Herbal medicine has impacts on both world health and international trade. In terms of world health, traditional medicinal plants continue to play a central role in the healthcare systems of large proportions of the world's population (Akerele, 1988) [7]. By the middle of the nineteenth century at least 80% of all medicines were derived from plants. Then, after the scientific revolution which leads to development of the pharmaceutical industry, the synthetic drugs dominated (Gilani and Atta-ur-Rahman, 2005) [38].

This is particularly true in developing countries, where traditional systems of medicine have a long and uninterrupted history of use. Recognition and development of the medicinal and economic benefits of traditional medicinal plants is on the increase in both developing and industrialized countries, although it varies greatly from region to region (Zhang, 1998) [94]. Herbal drugs are prescribed widely because of their effectiveness, fewer side effects and are relatively low in cost (Odhav *et al*., 2010) [69]. Medicinal plants represent an important health and economic component of biodiversity. It is essential to make the complete inventory of the medicinal component of the flora of any country for conservation and sustainable use. The conservation of the threatened and endangered medicinal species in the wild is indispensable. The complete inventory of the medicinal plant resources of Saudi Arabia is in progress under the auspices of Medicinal, Aromatic and Poisonous Plant Research Center (MAPPRC) and the Department of Pharmacognosy, the College of Pharmacy, King Saud University, Riyadh. There are 300 species from the flora, representing 12% of the total species of the flora. These 300 species, belonging to 72 families, were reported from 2250 species of Saudi flora (Mossa *et al*. 1987 and 2000) [64].

Saudi Arabia has a hot desert climate and rainfall is scarce in most parts of the country. The flora of Saudi Arabia as well as the other countries in the peninsula has been neglected for a long time due to its arid climate. The first attempt to cover the flora of Saudi Arabia was in 1974 (Alfarhan *et al*., 1998). The flora of Saudi Arabia is one of the richest biodiversity areas in the Arabian Peninsula and comprises very important genetic resources of crop and medicinal plants. Approximately 850 species in 434 genera of 98 families have been reported from the Jizan Region, which is about 37.18 % of the total species present in Saudi Arabia. (Miller and Cope, 1996) [63].

The percentage of endemic plants in the Kingdom is very low. About 50 species (2%) are considered endemic to this country compared to 137 species (5.5%) of Yemen and 60 species (5%) of Oman. However, there are about 152 undetermined specimens deposited at various herbaria in the Kingdom and Britain. The number of endemic species in Saudi Arabia probably goes even higher as and when the nomenclatural status of the undetermined specimens has been finalized. At present, most of the endemic species are reported from the southwestern and northwestern highlands. It is probably due to these regions' rich variety of habitats and also its affordable degree of environmental stability (Miller & Nyberg, 1991) [62].

According to Al-Yahya, (1984) the Arabian peninsula is the birth place of herbal drugs, and the use of folk medicine has existed there since time immemorial. However, traditional medicine, occupies a significant part of Saudi Arabia's heritage and it is widely practiced until now (Al-Essa *et al*., 1998). According to Mossa *et al*. 1987 [64], the Kingdom of Saudi Arabia is gifted with a wide range of flora, consisting of a large number of medicinal herbs, shrubs and trees.

The aim of this study is to make a survey on all medicinal plants in the kingdom and determine the number, percentage and endemism of species present in the flora of Jizan.

2. Materials and Methods
Literatures including, textbooks, journals, proceedings, periodicals and databases written in Medicinal Plants used to

treat human diseases in Arabian Pennisula and other parts of the world were consulted for relevant information. Dictionaries of English/ Arabic and Arabic/ English were also consulted for accuracy.

3. Results

The survey of literature showed that a total of 306 species under 61 families as shown in table (1) and figure (1). Asteraceae and Lamiaceae families have the highest number of species which are 32 and 20 in KSA flora as well as 11 and 12 in Jizan flora respectively.

The investigation for medicinal plant diversity within these families revealed that out of these 141 species(46.08%) are represented in the Jizan flora. the total number of endemic species in the kingdom is 11and in Jizan flora is 5 (45.45%).

Table (2) number of medicinal plants used for treatment for each disease belonging to.

Table (3) Botanical information of all medicinal plants in Kingdom of Saudi Arabia.

Table 1: Number of species per family

	Family Name	Number of species	
		KSA	Jizan
1	Acanthaceae	1	1
2	Agavaceae	0	2
3	Aizoaceae	1	0
4	Amaranthaceae	1	7
5	Apiaceae	10	0
6	Apocynaceae	4	4
7	Areaceae	0	1
8	Asclepidaceae	3	2
9	Asphodelaceae	1	1
10	Asteraceae	23	11
11	Balanitaceae	1	0
12	Boraginaceae	4	4
13	Brassicaceae	12	3
14	Burseraceae	1	1
15	Caeslpinaceae	1	1
16	Capparidaceae	3	10
17	Caryophyllaceae	0	1
18	Chenopodiaceae	7	2
19	Clusiaceae	1	0
20	Convolvulaceae	3	3
21	Cucurbitaceae	0	3
22	Cupressaceae	1	0
23	Ephedraceae	2	0
24	Euphorbiaceae	8	15
25	Fabaceae	14	8
26	Geraniaceae	0	1
27	Lamiaceae	20	12
28	Lauraceae	1	1
29	Liliaceae	2	0
30	Lythraceae	1	1
31	Malvaceae	0	4
32	Meliaceae	0	1
33	Mimosaceae	1	0
34	Molluginaceae	0	1
35	Moraceae	1	0
36	Moringaceae	0	1
37	Myrtaceae	3	1
38	Nyctaginaceae	0	1
39	Oleaceae	0	1
40	Onagraceae	1	0
41	Orobanchaceae	1	0
42	Papaveraceae	0	2
43	Plantaginaceae	2	0
44	Plumbiginaceae	0	2
45	Poaceae	5	1
46	Polygonaceae	4	4
47	Portulaceae	0	1
48	Ranunculaceae	3	0
49	Resedaceae	1	2
50	Rhamnaceae	1	1

51	Rosaceae	1	2
52	Rutaceae	1	1
53	Salvadoraceae	0	1
54	Sapotaceae	0	1
55	Solanaceae	7	8
56	Tamaricaceae	1	2
57	Tilliaceae	1	1
58	Typhaceae	0	1
59	Urticaceae	1	0
60	Zingerberaceae	4	0
61	Zygophyllaceae	0	6

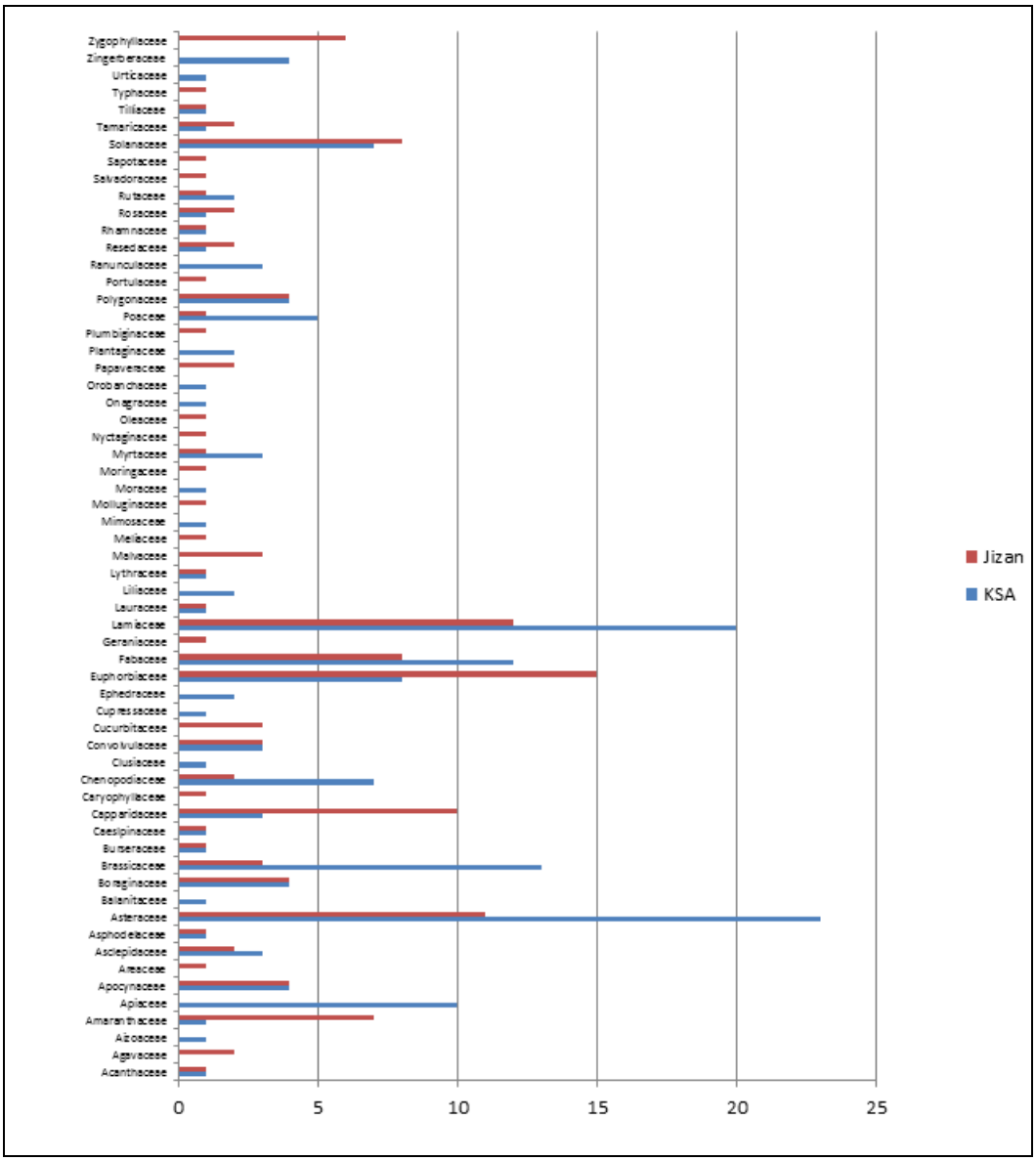

Fig 1: Shows number of species per family

Table 2: Number of species per each disease in KSA and Jizan flora

	Disease belonging to	KSA	Jizan
1	Circulatory system	19	11
2	Digestive system	30	28
3	Genital system	2	4
4	Muscular system	2	1
5	Nervous system	16	10
6	Respiratory system	11	15
7	Skeletal system	0	2

7	Urinary system	7	4
8	Anti-inflammatory	6	3
9	Anti-cancer	2	0
10	Anti-parasite	4	2
11	Anti-viral	1	0
12	antifungal	3	2
13	Antimicrobial	40	25
14	Antioxidant	2	0
15	Bee, mosquito and snake control	0	3
16	Ear	1	0
17	Eye	1	3
18	Fever	1	4
19	Hair	1	1
20	Headache	0	1
21	Skin	9	12
22	Stimulant	1	1
23	Sun stroke	0	1
24	Tooth	6	6

Table 3: Botanical information of all medicinal plants in Kingdom of Saudi Arabia.

	Scientific name	Local name	Family	Part used	Medical uses	References
1	*Abutilon pannosum* (G. Forst.) Schlecht. (Jizan)	-	Malvaceae	Whole plant	Antimicrobial	Akbar and Al-Yahya (2011)
2	*Acacia arabica* L.	-	Fabaceae	Whole plant	Haemorrhae, colds, diarrhoea, scurvy and dysentery.	Vanessa *et al*., 2012
3	*Acalypha fruticosa* Forssk.(Jizan)	-	Euphorbiaceae	Leaves	used for treating bee stings	Shubashini, *et al*.,2010
4	*Acalypha indica L.* (Jizan)	-	Euphorbiaceae	whole herb	used for the cure from bronchitis, pneumonia and asthma	Yusuf, 1994
5	*Achillea biebersteinii* Afan.	-	Asteraceae	whole herb	strong antimicrobial activity	Akbar and Al-Yahya(2011)
6	*Achillea fragrantissima* L.	-	Asteraceae	Whole plant	Central nervous system stimulation and antimicrobial	Akbar and Al-Yahya(2011)
7	*Achyranthes aspera L* (Jizan)	Mahwat	Amaranthaceae	whole herb	astringent, diuretic, alterative, antiperiodic and purgative.	Mossa *et al*., 1987
				Leaves	stomachache, bowel complaints piles, boils and skin eruptions.	Watt, 1962
				roots	abortion and labor pains	Nadkarni, 1954
8	*Adenium arabicum* Balf. (endemic) (Jizan)	Adnah;	Apocynaceae	whole herb and bark	used in bones dislocations, painful joints, wounds and skin infections	Shahina, 1994
9	*Adenium obesum* L. (Jizan)	Aden	Apocynaceae	Whole plant	Antimicrobial	Akbar and Al-Yahya (2011)
10	*Aerva javanica.* (Burm. f.) Juss. ex Schult (Jizan)	Towaim	Amaranthaceae	Whole herb	Tooth ache	El-Ghazali *et al*., 2010
11	*Aerva lanata* (L.) Juss. ex Schult.(Jizan)	Al-Athlab	Amaranthaceae	whole herb	diuretic and demulcent	Mossa *et al*., 1987
12	*Albizzia lebbeck L*	Lebbeck	Mimosaceae	Phloem	Anthelmintic	El-Ghazali *et al*., 2010
13	*Alhagi graecorum* Boiss	Aqool	Fabaceae	whole herb	Analgesic Anti-tussine, Anti haemorrhoides, Anti-	Hoseeini, 1955

					rheumatic, Aphrodisiac, Diuretic and Laxative	
14	*Alhagi maurorum* Medic.	Al-Agool	Fabaceae	Leaves	Antioxidant, Antinociceptive	Ahmad *et al.*, 2000
15	*Alkanna orientalis* (L.) Boiss. (Jizan)	-	Boraginaceae	Whole plant	Central nervous system stimulation and antimicrobial	Akbar and Al-Yahya (2011)
16	*Allium ampeloprasum var. porrum L.*	-	Liliaceae	Leaves	Antimicrobial	Alamri and Moustafa (2012)
17	*Aloe vera* (L.) Burm. f.	-	Asphodelaceae	Whole plant	As laxative, in asthma, peptic ulcers and diabetes	Syed *et al*., 1996
18	*Alpinia galangal* L.	-	Zingeberaceae	rhizomes	used against kidney stones	Ahsan, *et al.*, 1990
19	*Alpinia officinarum* L.	-	Zingeberaceae	roots and rhizomes	against rheumatism and children whooping cough	Kirtikar and Basu, 2001; Srividya *et al*., 2010
20	*Amaranthus caudatus L.* (Jizan)	Kaf Almehana	Amaranthaceae	whole herb	diuretic, strangury, blood purifier and for the treatment of piles	Chopra *et al*., 1956
				Leaves	used as an abortifacient	Watt, 1962
21	*Amaranthus spinosus L.* (Jizan)	Da'ad	Amaranthaceae	whole herb	antipyretic, diuretic, laxative, stomachic	Chopra *et al*., 1956
				root	given in gonorrhea and in constipation and jaundice	Yusuf *et a*l., 1994
22	*Amaranthus viridis L.* (Jizan)	Shae	Amaranthaceae	whole herb	antipyretic, alexiteric, diuretic, emollient, expectorant, laxative, stomachic. leucorrhoea and leprosy	Chopra *et al*., 1956 and Yusuf *et a*l., 1994
23	*Ambrosia maritima L.*	-	Asteraceae	Whole plant	relieve spasms.	Abdallah *et al.*, 1991
24	*Amygdalus Arabica* L.	-	Rosaceae	Whole plant	Antimicrobial	Akbar and Al-Yahya(2011)
25	*Anabasis articulate* L.	-	Chenopodiaceae	Whole plant	Cardiac stimulation and lower blood pressure	Akbar and Al-Yahya(2011)
26	*Anabasis setifera* Moq	Himd	Chenopodiaceae	Leaves	Biliousness	El-Ghazali *et al*., 2010
27	*Anastatica hierochunticaL.*	Khaf-Maryam	Brassicaceae	Whole herb	Facilitate maternity	El-Ghazali *et al*., 2010
					Anti-diabetic activity	Rhamy and El-Ridi, 2002
28	*Anchusa milleri* L.	-	Boraginaceae	Whole plant	Central nervous system stimulation	Akbar and Al-Yahya(2011)
29	*Andrachne aspera Spreng. var. glandulosa A.Rich.* (Jizan)	Kamas	Euphorbiaceae	whole herb	used in eye problems and for eye wash	Mossa *et a*l., 2000
30	*Anethum graveolens* L.	Dill	Apiaceae	whole herb	Antimycobactetial, Antifungal, insecticides, psychoactive and Hallucinogenic	Jirovetz, *et al*., 2003
31	*Anthemis melampodina* L.	-	Asteraceae	Whole plant	Antimicrobial	Akbar and Al-Yahya(2011)
32	*Anthemis pseudocotula* L.	-	Asteraceae	Whole plant	Antimicrobial	Akbar and Al-Yahya (2011)
33	*Anvillea garcinii*	nougd	Asteraceae	Whole plant	colds, diabetes,	El-Hassany *et*

	L.				digestive problems, gastro-intestinal troubles, indigestion, pulmonary affections.	*al*., 2004
34	*Argemone Mexicana* L. (Jizan)	Argemonia	Papaveraceae	Whole plant	Antimicrobial	Akbar and Al-Yahya (2011)
35	*Argemone ochroleuca* Sweet (Jizan)	-	Papavaraceae	whole herb	strong antimicrobial activity	Akbar and Al-Yahya (2011)
36	*Arnebia hispidissima* (*Lehm.*) *DC.* (Jizan)	Kohaeel	Boraginaceae	Whole plant	relieve fever	Srivastava, *et al.*, 1999
37	*Artemisia abyssinica L.* (Jizan)	-	Asteraceae	Whole plant	Antimicrobial	Akbar and Al-Yahya (2011)
38	*Artemisia herba-alba* L.	Chih	Asteraceae	flowery tips	digestive disorders, abdominal pain, colic and liver failure	Le Floc'h E. 1983
39	*Artemisia sieberi* Besser	-	Asteraceae	Leaves	used as an anthelmintic.	Yaseen, *et al*., 2012
40	*Asphodelus fistulosus L.*	Basal Al-Himaar	Liliaceae	Seeds, bulk and flowers	Swellings, Anthelmintic and Stomach ache	El-Ghazali *et al*., 2010
41	*Asphodelus tenuifolius* L. (Jizan)	Broque	Asphodelaceae	seeds	colds, haemorrhoids and used for rheumatic pain	Abdel-Mogib and Basaif, 2002
42	*Astragalus atropilosus* (Hochst.) Bunge (Jizan)	-	Fabaceae	Leaves	relieve backpain.	Akbar and Al-Yahya (2011)
43	*Astragalus sieberi* L.	-	Fabaceae	Whole plant	lower blood pressure	Akbar and Al-Yahya (2011)
44	*Astragalus spinosus* Vahl. (Jizan)	katad	Fabaceae	Whole plant	treat leukemia and promote wound healing	Bedir, 2000
45	*Atractylis carduus* L.	-	Asteraceae	Whole plant	Cardiac depression	Akbar and Al-Yahya(2011)
46	*Azadirachta Indica A.* (Jizan)	neem	Meliaceae	Whole plant	Antifungal	Aly and Bafeel (2010)
47	*Balanites aegyptiaca* (L.) Del	-	Balanitaceae	Whole plant	treatment of different ailments such as syphilis, jaundice, liver and spleen problems, epilepsy, yellow fever	JP and Manju (2010)
48	*Bassia muricata* L.	-	Amaranthaceae	Whole plant	Antimicrobial	Akbar and Al-Yahya (2011)
49	*Belpharis ciliaris L.*	Shook Aldabb	Acanthaceae	whole herb	Toothache and skin wounds	El-Ghazali *et al*., 2010
50	*Blyttia fruticulosa* L.	-	Apocynaceae	Whole plant	Antimicrobial	Akbar and Al-Yahya (2011)
51	*Brassica rapa* L.	-	Brassicaceae	Whole plant	As aphrodisiac	Holm *et al.*,1997
52	*Cadaba farinose* Forssk (Jizan).	Asaf	Capparidaceae	whole herb	purgative, anthelmintic, antisiphilitic, emmenagogue and aperient.	Mossa *et al*., 1987
				Leaves	a remedy for dysentery, fever, cough and lungs problem	

53	*Calandula micrantha* L.	-	Asteraceae	Whole plant	Central nervous system stimulation	Begum *et al*., 2005
54	*Calligonum comosum* L' Her. (endemic)	Arta'a	Polygonaceae	whole herb	Anti-inflammatory and anti-ulcer action	Kamil, *et al*., 2000
55	*Calotropis procera* Ait. (*Jizan*)	Oshar	Asclepiadaceae	Latex	Psoriasis, Leishmaniasis, and skin infections	El-Ghazali *et al*., 2010
56	*Capparis cartilagnia* Decne. (*Jizan*)	Shafallah,	Capparidaceae	whole herb	antiseptic, anti-inflammatory, laxative	Al-Shanwani, 1996
57	*Capparis deciduas* (Forssk.) Edgew (*Jizan*)	Tandhab,	Capparidaceae	whole herb	anthelmintic, analgesic, aphrodisiac, carminative, diaphoretic, emmenagogue and laxative.	Ageel, *et al*., 1986
58	*Capparis spinosa* L. (endemic)) (*Jizan*)	Kabar	Capparidaceae	whole herb	analgesic, anthelmintic, emmenagogue, aperient, tonic and diuretic.	Mossa *et al*., 1987
				root	rheumatism and paralysis, and also for the treatment of enlarged spleen and tubercular glands	
59	*Caralluma penicillata* (Defl.) N.E. *Br.* (*Jizan*)	-	Apocynaceae	Whole plant	Central nervous system stimulation	Akbar and Al-Yahya (2011)
60	*Caralluma sinaica* (Decne) (*Jizan*)	Ded Elkalba	Capparidaceae	Whole plant	Antiprotozoal	Vanessa *et al*., 2012
61	*Carissa edulis* Vahl Symb. Bot. (*Jizan*)	Karisa Arm	Apocynaceae	whole herb	athelmintic, antiscorbutic, astringent, stomachic and toothace.	Batanouny, 1999
62	*Cassia italica* Mill	Sanamakkah	Caesalpinaceae	Whole herb	Laxative and urinary tract purifier	El-Ghazali *et al*., 2010
63	*Cassia senna* L.	-	Fabaceae	Whole plant	Antimicrobial	Akbar and Al-Yahya (2011)
64	*Celosia trigyna L.* (*Jizan*)	Trgana	Amaranthaceae	Leaves and flower	treatment of diarrhoea and for excessive menstruation	Watt, 1962
65	*Centauria sinaica* L.	-	Asteraceae	Whole plant	Central nervous system depression	Akbar and Al-Yahya (2011)
66	*Chenopodium album* L. (Jizan)	Atrah	Chenopodiaceae	Leaves and fruits	Postnatal problems	El-Ghazali *et al*., 2010
67	*Chenopoidum murale* L.	Al-Zorbaih	Chenopodiaceae	Whole plant	Cytotoxic, Hypotensive	Awaad *et al*., 2008
68	*Chrozophora oblique* L.	-	Euphorbiaceae	Whole plant	Antimicrobial	Akbar and Al-Yahya(2011)
69	*Chrozophora oblongifolia* (*DC.*) *A.* Juss. ex Spreng. (Jizan)	Tannoum	Euphorbiaceae	whole herb	antimicrobial, cathartic and emetic	Batanouny, 1999
70	*Chrozophora plicata* (Vahl) A. Juss.	Tanoom	Euphorbiaceae	whole herb	depurative and purgative	Mossa *et al*., 1987
				Leaves	used for the cure of leprosy	Vanessa *et al*., 2012
71	*Cinnamon zellanicum* L.	*Cinnamon*	Lauraceae	whole herb	antimicrobial	Ruberto, *et al*., 2000
72	*Citrullus colocynthis L.*	Hunzal	Cucurbitaceae	Leaves and fruits	Analgesic, skin infections	El-Ghazali *et al*., 2010

	(Jizan)					
73	*Clematis simensis* Fresen.	-	Ranunculaceae	Leaves	to treat rheumatic pain.	Akbar and Al-Yahya (2011)
74	*Clematis wightiana* L.	-	Ranunculaceae	Whole plant	Cardiac depression and antimicrobial	Akbar and Al-Yahya (2011)
75	*Cleome amblyocarpa* Baratte and Murb.	Khunayzah	Capparidaceae	whole herb	antimicrobial.	Mossa *et al*., 1987
76	*Cleome arabica* L. (*endemic*))	Zafrah-Amal	Capparidaceae	whole herb	bechic and a sedative.	Chaieb and Boukhris, 1998
77	*Cleome brachycarpa* Vahl ex DC. (Jizan)	Birbran	Capparidaceae	whole herb	Appetizer and carminative	Al-Shanwani, 1996
78	*Cleome chrysantha* Decne. (*endemic*))	Safaira'a	Capparidaceae	whole herb	anthelmintic, antiseptic	Mossa *et al*., 1987
79	*Cleome viscosa L.* (Jizan)	Om-Hanif	Capparidaceae	whole herb	carminative, anthelmintic, antiseptic, sudorific, irritant, acric, rubefacient and vesicant	Mossa *et al*., 1987
80	*Clutia lanceolata* Forssk. (Jizan)	Laukh	Euphorbiaceae	whole herb	hypoglycaemic	Mossa *et al*., 2000
81	*Commicarpus grandiflorus* (A. Rich.) Standley (Jizan)	-	Nyctaginaceae	whole herb	strong antimicrobial activity	Akbar and Al-Yahya (2011)
82	*Commiphora africana* L.	-	Poaceae	Whole plant	Anticancer and Anti-infammatory	Yaseen, *et al*., 2012
83	*Commiphora myrrha* (Nees) Engl. (Jizan)	Myrrha	Burseraceae	resins	Antimicrobial, antiseptic, astringent, carminative, disinfectant and expectorant	Yaseen, *et al*., 2012
84	*Commiphora opobalsamum* L.	-	Burseraceae	Whole plant	Antimicrobial	Akbar and Al-Yahya(2011)
85	*Convolvulus arvensis L.* (Jizan)	Olaique	Convolvulaceae	Leaves and fruits	Foot cracking	El-Ghazali *et al*., 2010
86	*Convolvulus fatmensis* G. Kunze	Al-Oleeq	Convulvulaceae	Leaves	Anti-inflammatory	Diallo *et al*., 1999
87	*Convolvulus hystrix* L.	-	Convolvulaceae	Whole plant	Antimicrobial	Akbar and Al-Yahya (2011)
88	*Convolvulus oxyphyllus* L.	-	Convolvulaceae	Whole plant	Cardiac depression	Akbar and Al-Yahya (2011)
89	*Convolvulus pilosellifolius* Desr. (Jizan)	-	Convolvulaceae	Whole plant	Antimicrobial	Akbar and Al-Yahya (2011)
90	*Conyza bonariensis* L. (Jizan)	Khoa	Asteraceae	Whole plant	Antimicrobial	Akbar and Al-Yahya (2011)
91	*Conyza dioscoridis* (L.) Desf	Ain alkatkot	Asteraceae	Leaves	Epilepsy in children	Hoffmann *et al*., 1993
92	*Conyza incana* L. (Jizan)	-	Asteraceae	Whole plant	Central nervous system depression, cardiac stimulation and antimicrobial	Akbar and Al-Yahya (2011)
93	*Coriandrum sativum* L.	Coriander	Apiaceae	whole herb	treating flatulence, diarrhoea and colic.	Lo Cantore, *et al*., 2004
94	*Cornulaca monacantha Del.*	Had	Chenopodiaceae	leaves	used for liver problems and jaundice, as a hepatic and a purgative.	Amer *et al*., 1974

95	*Cressa cretica L.* (Jizan)	Naduoh	Convolvulaceae	Whole plant	Central nervous system depression	Akbar and Al-Yahya (2011)
96	*Cucumis prophetarum L.* (Jizan)	Shree Elzeeb	Cucurbitaceae	Whole plant	Antimicrobial	Akbar and Al-Yahya (2011)
97	*Curcuma longa* L.	Pasupu	Zingiberaceae	roots and rhizomes	antioxidant, anti-inflammatory	Chattopadhyay *et al*., 2004
					antiplatelet, antimicrobial and cholesterol lowering activity	Shagufta *et al*.,2010
					Antiarthritic, Antilipidemic	Phani and Ashok, 2009
98	*Cutandia memphitica* L.	-	Poaceae	Whole plant	Central nervous system stimulation and antimicrobial	Akbar and Al-Yahya (2011)
99	*Cymbopogon schoenanthus* L.	El-lemad	Poaceae	Whole plant	prevent skin problems and used for anorexia	El-Kamali *et al*., 2002
100	*Cynodon dactylon L.* (Jizan)	Thail	Poaceae	Whole herb	Stop wound bleeding	El-Ghazali *et al*., 2010
101	*Cynanchum acutum L.*	Al-Modeed	Asclepiadaceae	Leaves and stems	Insecticide, parasiticide	Kumaraswamy 2002
102	*Dactyloctenuium aegyptium L.*	Bahma	Poaceae	Whole herb	Wound sepsis	El-Ghazali *et al*., 2010
103	*Datura innoxia* Mill. (Jizan)	Binj	Solanaceae	whole herb	in the preparation of drugs	Everist, 1974
104	*Datura metal L.* syn. D. fastusa L. (Jizan)	Binj	Solanaceae	leaves, roots and seeds	used in insanity, fever, asthma, diarrhoea, skin diseases and cerebral complications	Watt, 1962
105	*Datura stramonium L.* (Jizan)	Binj-Daturah	Solanaceae	leaves and seeds	used in rheumatism, asthma, cough, bronchitis, earache and hair-fall	Begum *et al*., 2005
106	*Delonix elata* (*L.*) Gamble (Jizan)	Ranf	Fabaceae	leaves and seeds	Mosquito control agent	Marimuthu *et al*., 2012
107	*Diplotaxis acris* (Forssk) Boiss	Fegl Algabal	Brassicaceae	Leaves	Antidiabetic, wound healing	Paerkh, 2008
108	*Diplotaxis harra* L.	harra	Brassicaceae	Whole plant	Antimicrobial	Hashem and Saleh, 1999
109	*Dipterygium glaucum* Decne. (Jizan)	Alqa	Capparidaceae	whole herb	analeptic, asthmatic and used in asthma	Al-Shanwani, 1996
110	*Dracaena ombet* Kotschy & Peyr. (Jizan)	Azef	Agavaceae	Resin	used for treating haemorrhage, skin infections.	Vanessa *et al*., 2012
111	*Ducrosia ismaelis* L.	-	Apiaceae	Whole plant	Antimicrobial	Akbar and Al-Yahya(2011)
112	*Ecbolium viride* (Forssk.) Alston. (Jizan)	Khoseer	Acanthaceae	Leaves	treating skin rashes.	Vanessa et al., 2012
113	*Echinops galalensis* L.	-	Asteraceae	Whole plant	Antimicrobial	Akbar and Al-Yahya (2011)
114	*Echinops hussoni* L.	-	Asteraceae	Whole plant	Antimicrobial	Akbar and Al-Yahya (2011)
115	*Echinops spinosissimus* Turra.	Shook Algamal	Asteraceae	Whole herb	Splenic diseases and sore throat	El-Ghazali *et al*., 2010
116	*Echinosciadium arabicum* L.	-	Apiaceae	Whole plant	Central nervous system stimulation and antimicrobial	Akbar and Al-Yahya (2011)
117	*Echium horridum* L.	-	Boraginaceae	Whole plant	lower blood pressure	Akbar and Al-Yahya(2011)
118	*Emex spinosa* (L.)	Hambaaz	Polygonaceae	leaves	for the cure of	Vanessa et al.,

	Campd. (Jizan) (*endemic*))				dyspepsia and biliousness, and to stimulate appetite	2012
119	*Ephedra alata* L. (female)	-	Ephedraceae	Whole plant	Central nervous system stimulation and antimicrobial	Akbar and Al-Yahya(2011)
120	*Ephedra alata* L. (male)	-	Ephedraceae	Whole plant	Antimicrobial	Akbar and Al-Yahya(2011)
121	*Epilobium hirsutum* L.	-	Onagraceae	Whole plant	Central nervous system depression and antimicrobial	Akbar and Al-Yahya(2011)
122	*Eruca sativa L*	Rocka	Brassicaceae	Seeds	Ringworm	El-Ghazali *et al*., 2010
123	*Eryngium foetidum* L.	cilantro	Apiaceae	whole herb	fevers and chills, vomiting, diarrhea	Vanessa *et al*., 2012
124	*Eucalyptus camaldulensis* Dehnh (Jizan)	Khafour	Myrtaceae	Whole herb	Abortion and perfume	El-Ghazali *et al*., 2010
125	*Eucalyptus dives* L.	eucalyptus	Myrtaceae	whole herb	strong antiseptic and anti-viral properties.	Delaquis, *et al*., 2002
126	*Eucalyptus globules* L.	-	Myrtaceae	Whole plant	Antifungal	Aly and Bafeel (2010)
127	*Euphorbia Arabica* Hochst. And Steud. Ex Anders (Jizan)	-	Euphorbiaceae	whole herb	Used in skin infections	Al-Shanwani, 1996
128	*Euphorbia cuneata* Vahl (Jizan)	Al-Baky	Euphorbiaceae	whole herb	sedative, antimicrobial	Mossa *et al*., 2000
129	*Euphorbia cyparissioides* L.	-	Euphorbiaceae	Whole plant	Antimicrobial	Akbar and Al-Yahya (2011)
130	*Euphorbia dracunculoides* Lam.	Yaktin	Euphorbiaceae	fruits	used to remove warts from the skin	Mossa *et al*., 1987
131	*Euphorbia granulata* Forssk. (Jizan)	Lebbein	Euphorbiaceae	whole herb	anthelmintic, diuretic, purgative	Al-Shanwani, 1996
				Latex	used as purgative	
132	*Euphorbia helioscopia* L.	Emaiah	Euphorbiaceae	whole herb	Anthelmintic, cathartic and a remedy for rheumatism and neuralgia	Mossa *et al*., 1987
133	*Euphorbia hirta* L. (Jizan)	-	Euphorbiaceae	whole herb	antiasthmatic, febrifuge, narcotic and used in asthma and bronchitis	Yusuf, 1994
134	*Euphorbia peplus* L.	Khaneez	Euphorbiaceae	whole herb	for the lowering of blood pressure	Mossa *et al*., 1987
135	*Euphorbia retusa* Forssk. (*endemic*)	Ghazalah	Euphorbiaceae	Latex	Eczema, wound healing and antileishmaniasis	Yusuf, 1994
136	*Euphorbia schimperiana* Scheele (endemic) (Jizan)	Saibarisodis	Euphorbiaceae	whole herb	used in coughs, asthma, ear pains, skin infections and snake bites	Rahman, 2002
137	*Euphorbia scordifolia* Jacq. (Jizan)	Rummid	Euphorbiaceae	whole herb	used in fevers and constipation	Al-Shanwani, 1996
138	*Euphorbia terracina* L.	Terasina-harmal	Euphorbiaceae	whole herb	used as a remedy for fever and paralysis	Al-Shanwani, 1996
139	*Euryops arabicus* Steud.	-	Asteraceae	Whole plant	Cardiac stimulation and antimicrobial	Akbar and Al-Yahya (2011)
140	*Fagonia bruguieri* Prod. (Jizan)	Shika'a	Zygophyllaceae	Leaves	Blood and heart tonic	El-Ghazali *et al*., 2010
141	*Fagonia indica* Burm. (Jizan)	Showaika	Zygophyllaceae	Whole herb	Gout	El-Ghazali *et al*., 2010

142	*Farsetia aegyptiaca* Turra (Jizan)	Jarbaa	Brassicaceae	Whole herb	Rheumatism	El-Ghazali *et al*., 2010
143	*Farsetia longisiliqua* Decne (Jizan)	-	Brassicaceae	Whole plant	Central nervous system depression	Akbar and Al-Yahya (2011)
144	*Feoniculum vulgare* L.	Fennel	Apiaceae	whole herb	relieves digestive problems, increases lactation, relaxes spasms, reduces inflammation, Antimicrobial, used for skin disorders, used for conjunctivitis and used for blepharitis of the eye	Kwon, *et al*., 2002
145	*Ficus salicifolia* L.	-	Moraceae	Whole plant	Antimicrobial	Akbar and Al-Yahya (2011)
146	*Forsskalea tenacissima* L.	Lussaique	Urticaceae	Whole herb	Ulcers	El-Ghazali *et al*., 2010
147	*Francoeuria crispa* Forssk (Jizan)	Githgath	Asteraceae	Whole herb	Swellings and antiinflammation	El-Ghazali *et al*., 2010
148	*Geranium trilophum* Boiss. (*jizan*)	-	Geraniaceae	Whole plant	relieve pain.	Vanessa *et al*., 2012
149	*Glinus lotoides* L. (Jizan)	Om Tafaa	Molluginaceae	Whole plant	Antimicrobial	Akbar and Al-Yahya (2011)
150	*Glycyrrhiza glabra L.*	-	Fabaceae	Rhizomes	treating muscle pain.	Vanessa *et al*., 2012
151	*Grewia tenax* (Forssk.) Fiori (Jizan)	Khadar	Tiliaceae	Whole plant	Central nervous system depression and antimicrobial	Akbar and Al-Yahya(2011)
152	*Haloxylon salicornicum Moq*	Ramath	Chenopodiaceae	Whole herb	Anti-diabetic; smog and used for cold	El-Ghazali *et al*., 2010
153	*Haplophylum tuberculatum* (Frossk) *A. Juss*	-	Rutaceae	Whole herb	In liver diseases	Mahshid *et al*.,2011
				Leaves	used as a sedative and strengthen weak muscles.	Ali *et al*., 2001
154	*Heliotropium arbainense* Fresen., Mus. Senckenb. (Jizan)	Ramram	Boraginaceae	Whole plant	lower blood pressure and antimicrobial	Akbar and Al-Yahya (2011)
155	*Heliotropium digynum* L.	-	Boraginaceae	Whole plant	Antimicrobial	Akbar and Al-Yahya (2011)
156	*Heliotropium europaeum* L.	-	Boraginaceae	Whole plant	Antimicrobial	Akbar and Al-Yahya (2011)
157	*Hibiscus micranthus L. f.* (Jizan)	Raein	Malvaceae	Whole plant	Antimicrobial	Akbar and Al-Yahya (2011)
158	*Hibiscus sabdariffa* L. (Jizan)	karkeda	Malvaceae	Whole plant	anti-hypertension, reduce the testicular damage and ameliorate the drop in sperm quality	Amin and Hamza, 2006
159	*Hyoscyamus muticus L.*	As-sakran	Solanaceae	whole herb	as a remedy for asthma, toothache and sea sickness	Mossa *et al*., 1987
160	*Hyoscyamus pusillus L.*	Babekh safaree	Solanaceae	whole herb	stimulant	Mossa *et al*., 2000
161	*Hypericum chrysostrictum* L.	-	Clusiaceae	Whole plant	Central nervous system depression and antimicrobial	Akbar and Al-Yahya (2011)
162	*Hyphaene thebaica* (*L.*)	Doom	Arecaceae	Whole plant	Cardiac stimulation and antimicrobial	Akbar and Al-Yahya (2011)

	Mart., Hist. (Jizan)					
163	*Indigofera articulata* Gouan. (Jizan)	-	Fabaceae	Roots	relieve toothache	Vanessa et al., 2012
164	*Jasonia candicans* L.	-	Asteraceae	Whole plant	Cardiac stimulation and antimicrobial	Akbar and Al-Yahya (2011)
165	*Jatropha curcas L.* (Jizan)	Kharat	Euphorbiaceae	Leaves	used in wounds, eczyma and scabies	Mossa *et al*., 2000
166	*Jatropha glauca* Vahl (Jizan)	Medjasche	Euphorbiaceae	whole herb	treatment of chronic skin diseases	Mossa *et al*., 2000
167	*Juniperus polycarpos* L.	-	Cupressaceae	Whole plant	Central nervous system stimulation and antimicrobial	Akbar and Al-Yahya (2011)
168	*Lantana camara* L. (Jizan)	-	Lamiaceae	Whole plant	antipyretic, antimicrobial and antimutagenic	Fernanda *et al*, 2005
169	*Lavandula coronopifolia* Poir*; L.* stricta Del. (Jizan)	Dikta	Lamiaceae	whole herb	antibacterial	Mossa *et al*., 2000
170	*Lavandula dentata* L.	Dhurm	Lamiaceae	flowers	useful for urine retention and removal of stones from kidney and ureter	Mossa *et al*., 2000
171	*Lavandula pubescens* Decne. (Jizan)	Attan	Lamiaceae	Leaves	given in headache and cold	Mossa *et al*., 2000
172	*Lavandula stoechas subsp. Stoechas*	*lavender*	Lamiaceae	whole herb	antiseptic, antispasmodic, digestive , expectorant and antiasthmatic	Mossa *et al*., 2000
173	*Lawsonia inermis L.* (Jizan)	Henna	Lythraceae	Whole plant	Antifungal	Aly and Bafeel (2010)
174	*Lepidium aucherii* L.	-	Brassicaceae	Whole plant	lower blood pressure and cardiac stimulation	Akbar and Al-Yahya(2011)
175	*Lepidium draba* L.	-	Brassicaceae	Whole plant	Central nervous system stimulation and antimicrobial	Akbar and Al-Yahya (2011)
176	*Lepidium sativum L.* (Jizan)	Rashad	Lauraceae	Whole plant	Antifungal	Aly and Bafeel (2010)
177	*Leptadenia pyrotechnica* (Forssk.)Decne. (Jizan)	Markh	Asclepiadaceae	Whole plant	Antimicrobial	Akbar and Al-Yahya (2011)
178	*Limonium axilllare* (Forssk.) Kuntze (Jizan)	Kattaf	Plumbaginaceae	Whole plant	Central nervous system depression and antimicrobial	Akbar and Al-Yahya (2011)
179	*Lindenbergia sinaica* L.	-	Orobanchaceae	Whole plant	Antimicrobial	Akbar and Al-Yahya (2011)
180	*Lycium shawii* Roem. and Schult.	Awsag	Solanaceae	Fruits	Mouth ulcers	Mossa *et al*., 2000
181	*Maerua crassifolia* Forssk. (Jizan)	Sarh	Capparidaceae	leaves	used in toothache and intestinal diseases	Mossa *et al*., 1987
182	*Maerua oblongifolia* (Forssk.) A. Rich (endemic) (Jizan)	Maru	Capparidaceae	whole herb	hypocholesterolemic	Mossa *et al*., 1987
183	*Malva parviflora L.* (Jizan)	Khobaiza	Malvaceae	Whole herb	Laxative and promotes hair growth	El-Ghazali *et al*., 2010
184	*Marrubium vulgare L.*	Frasyoon	Lamiaceae	whole herb	used for the treatment of coughs	Nadkarni, 1954

					and chronic bronchitis, dyspepsia, jaundice amenorrhoea, rheumatism and hepatitis	
185	*Matricaria aurea* (Loel.) Sch.-Bip.	-	Asteraceae	Flowers	used for making a tea for all stomach ailments.	Vanessa *et al.*, 2012
186	*Melilotus officinalis*	Iklilulmalik	Fabaceae	Flowers, stem and root	Diuretic, scabies lumbago, lactogogue, boils, wounds, oedemas, insomnia and colic	Saganuwan, 2010
187	*Mentha lavendulacea* Willd.	Niena'a	Lamiaceae	whole herb	Analeptic and carminative	Al-Shanwani, 1996
188	*Mentha longifolia* (L.) L.	Naana	Lamiaceae	Leaves	a remedy for cough and breathing problem	Mossa *et a*l., 2000
189	*Mentha microphylla* C. Koch	Niena'a barri-niena'a	Lamiaceae	whole herb	analeptic, appetizer, carminative	Al-Shanwani, 1996
190	*Mesembryanthemum crystallinum* L.	-	Aizoaceae	Whole plant	Antimicrobial	Akbar and Al-Yahya (2011)
191	*Momordica balsamina L.* (Jizan)	Madoda	Cucurbitaceae	Whole plant	Antimicrobial	Akbar and Al-Yahya (2011)
192	*Morettia parviflora* L.	-	Brassicaceae	Whole plant	Antimicrobial	Akbar and Al-Yahya (2011)
193	*Moringa peregrina* (Forsk) Fiori (Jizan)	Habb Elyasar	Moringaceae	Seeds	Analgesic, Abdominal pain, Burns, Constipation, Febrifuge, Laxative and Headache	Miier and Morris (1989)
194	*Nepeta deflersiana* Schweinf. ex Hedge (endemic)	Firuwak	Lamiaceae	whole herb	Antimicrobial and as a tranquillizer	Mossa *et al*., 2000
195	*Nerium oleander L*	Dafla	Apocynaceae	Leaves and roots	Used in skin diseases	Chopra *et al*., 1956
196	*Nicotiana rustica L.*	Al-tabag	Solanaceae	Tobacco snuff	useful in nasal polypi, nasal catarrh, headach, chronic giddiness, fainting, rheumatic swellings and skin diseases	Nadkarni, 1954
197	*Nigella sativa L.*	Habbatus sauda	Ranunculaceae	Whole plant	General aliments, carminative, mucolytic, ulcers, mange diabetes, antidote, asthma, hypertension, hepatoprotective, anti obesity, migraine, headache, haemorrhoid, tinea capitis, tinea pedis and expel radents	Saganuwan, 2010
198	*Notoceras bicorne* L.	-	Brassicaceae	Whole plant	Antimicrobial	Akbar and Al-Yahya (2011)
199	*Ochradenus arabicus* L. (Jizan)	Kardey	Resedaceae	whole herb	With high hypoglycaemic effects	Shabana *et al*., 1990
200	*Ochradenus baccatus* Del.	Ghorzaa	Resedaceae	Whole herb	Back pain and fistula, strong	El-Ghazali *et al*., 2010 and

	(Jizan)				antimicrobial activity	Miller, 1984
201	*Ocimum americanum* L. (Jizan)	Sims	Lamiaceae	Leaves	used in parasitic skin diseases	Dastur, 1977
202	*Ocimum basilicum* L. (*jizan*)	Rahan	Lamiaceae	leaves	treatment of cough, fever, ringworms, internal piles, diarrhoea and kidney disorders	Dastur, 1977
203	*Ocimum tenuiflorum* L., syn. O. *sanctum* L.	Shajrat-az-zir	Lamiaceae	whole herb	snake-bites and scorpion sting	Chopra *et al*., 1956
				Leaves	used in cough and bronchitis	
204	*Olea europaea* L. *ssp. cuspidata* (Wall. ex G. Don) Ciferri. (Jizan)	Athm	oleaceae	Oil, leaves and bark	Aesthetic, liver diseases, thrush, dental caries, oesophageal swelling, ulcers, oedemas, wound demulcent, emollient, cholagogue, calculi and diabetes.	Saganuwan, 2010
205	*Ononis serrate* L.	-	Fabaceae	Whole plant	Antimicrobial	Akbar and Al-Yahya (2011)
206	*Origanum majorana* L. (*Jizan*)	Bardakush	Lamiaceae	whole herb	used in asthma, cough, indigestion, rheumatism and headache	Mossa *et al*., 2000
207	*Origanum syriacum* L.	Al-Barda	Lamiaceae	Leaves	Antitussive, anti-inflammatory	Srivastava *et al*., 1996
208	*Oriranum syriacum var. bevanii* L.	oregano	Lamiaceae	whole herb	treating tooth decay, gum infections, and coughs	Soylu, *et al*.,2006
209	*Otostegia fruticosa* (Forssk.) Schweinf. ex Penz. (Jizan)	Shakab	Lamiaceae	Flowers	used as a remedy for sun-stroke	Mossa *et al*., 2000
210	*Panicum turgidum* Forssk.	Tammam	Poaceae	Whole herb	Eye infection	El-Ghazali *et al*., 2010
211	*Pergularia tomentosa* L.	Gholfa	Asclepiadaceae	Whole herb	Skin diseases	El-Ghazali *et al*., 2010
212	*Periploca aphylla* L.	-	Asclepiadaceae	Whole plant	Antiprotozoal	Vanessa *et al*., 2012
213	*Petroselinum crispum* L.	-	Apiaceae	seeds	used against kidney stones	Ahsan, *et al*., 1990
214	*Petroselinum sativum* L.	-	Apiaceae	seeds	used against kidney stones	Ahsan, *et al*., 1990
215	*Phyllanthus maderaspatensis* L. (Jizan)	Taralandi hindi	Euphorbiaceae	Leaves	used for headache	Mossa *et al*., 1987
216	*Physalis minima L.*	-	Solanaceae	whole herb	used in gonorrhoea and earache	Kirtikar and Basu (1980)
217	*Picris abyssinica* L.	-	Asteraceae	Whole plant	Antimicrobial	Akbar and Al-Yahya (2011)
218	*Picris cyanocarpa* (Jizan)	Hozan	Asteraceae	Whole plant	Central nervous system stimulation, lower blood pressure and cardiac stimulation	Akbar and Al-Yahya(2011)
219	*Pimenta dioica* (L.) Merr	-	Myrtaceae	Whole plant	As anti-inflammatory, analgesic and antipyretic	Al-Rehaily *et al*., 2002
220	*Pituranthus*	-	Apiaceae	Whole plant	lower blood pressure	Akbar and Al-

	triradiatus L.				and antimicrobial	Yahya (2011)
221	*Plantago ammplexicaulis* Cav	Rabal	Plantaginaceae	Whole herb	Renal diseases and urinary tract purifier	El-Ghazali *et al*., 2010
222	*Plantago ovata* Forssk..	Geneima	Plantaginaceae	Seeds	used as a laxative, an emollient, demulcent and astringent, particularly in chronic colitis.	Gupta, 1982
223	*Plectranthus asirensis* J.R.I Wood (Jizan)	Shar Elkrood	Lamiaceae	whole herb	strong antimicrobial activity	Akbar and Al-Yahya (2011)
224	*Plectranthus barbatus* Andres (Jizan)	Shaar Elkrood	Lamiaceae	Leaves	used as a deodorant.	Khaled *et a*l., 2000
225	*Plectranthus cylindraceus* Hochst. ex Benth.	Khurub	Lamiaceae	whole herb	a remedy for sore throat	Khaled *et a*l., 2000
226	*Plectranthus tenuiflorus* (Vetke) Agnew	Shaar	Lamiaceae	whole herb	the treatment of sore throat	Mossa *et al*., 2000
227	*Pluchea arabica* (Boiss.) Qaiser & Lack	-	Asteraceae	Whole plant	treating boils, skin sores	Vanessa *et al.*, 2012
228	*Plumbago zeylanica L.* (Jizan)	-	Plumbiginaceae	Whole plant	rheumatic pain, dysmenorrhea, carbuncles, contusion of the extremities, ulcers and elimination of intestinal parasites	Chiu and Chang, 2003
229	*Polycarpaea repans* (Forssk.) Aschers. & Schweinf. (Jizan)	Rokeka	Caryophyllaceae	Whole plant	Used as an antidote against snake bites.	Vanessa *et al*., 2012
230	*Polygonum argyrocoleum* Steud. ex Kunze	Abu-Zalaf, Qorda'b	Polygonaceae	Whole herb	used in stomach troubles	Al-Shanwani, 1996
231	*Portulaca oleracea L* (Jizan)	Regla	Portulacaceae	Whole herb	Anti-inflamation	El-Ghazali *et al*., 2010
232	*Prosopis juliflora* L.	-	Fabaceae	Whole plant	Antiprotozoal	Vanessa *et al*., 2012
233	*Prunus amygdalus* (L.) Batsch. (Jizan)	-	Rosaceae	Whole plant	As aphrodisiac	Begum *et al*., 2005
234	*Psiadia punctulata* (DC.) Vatke (Jizan)	Fotaa	Asteraceae	Branches and stems	relieve muscle pain.	Vanessa *et al*., 2012
235	*Psoralea plicata* L.	-	Fabaceae	Whole plant	Antimicrobial	Akbar and Al-Yahya (2011)
236	*Pulicaria arabica* L.	-	Asteraceae	Whole plant	lower blood pressure and antimicrobial	Akbar and Al-Yahya (2011)
237	*Pulicaria guestii* Rawi	-	Astreaceae	whole herb	strong antimicrobial activity	Akbar and Al-Yahya (2011)
238	*Pulicaria undulate* L. (Jizan)	Gathgath	Asteraceae	Whole plant	Central nervous system depression and antimicrobial	Akbar and Al-Yahya (2011)
239	*Raetam ratam* L.	-	Fabaceae	Whole plant	Anticancer and Anti-infammatory	Yaseen, *et al*., 2012
240	*Reseda muricata* Presl	Danban	Resedaceae	Fruit	Menstruation tonic	El-Ghazali *et al*., 2010
241	*Rhanterium epapposum* L.	-	Asteraceae	Whole plant	Antimicrobial	Akbar and Al-Yahya (2011)
242	*Rhazya stricta* Decne.	Harmal	Apocynaceae	Leaves and flowers	Rheumatism and Allergy	El-Ghazali *et al*., 2010
243	*Rheum palmatum* L.	-	Polygonaceae	roots and rhizomes	antimicrobial	Ushimaru *et al*., 2007

244	*Ricinus communis L.* (Jizan)	Kharwah,	Euphorbiaceae	whole herb	the treatment of scrofulous sores, boils and rheumatic swellings	Mossa *et al.*, 1987
245	*Rosa abyssinica* Lindley (Jizan)	Aball	Rosaceae	Whole plant	Antimicrobial	Akbar and Al-Yahya (2011)
246	*Rosmarinus officinalis* L.	rosemary	Lamiaceae	whole herb	antifungal	El-Gayyar, *et al.*, 2001
247	*Rumex nervosus* L. (*jizan*)	Aathrab	Polygonaceae	roots	used in skin diseases and skin burns	Mossa *et al.*, 2000
248	*Rumex pictus* Forssk.	Hamsees	Polygonaceae	whole herb	sedative, spasmogenic and antimicrobial	Mossa *et al*., 2000
249	*Rumex steudelii* Hochst. ex A. Rich. (Jizan)	Tabal	Polygonaceae	whole herb	remedy for abdominal pains due to intestinal worms	Watt, 1962
250	*Rumex vesicarius L* (Jizan)	Hammaad	Polygonaceae	Whole herb	Toothache and nausea and to promote appetite	Nadkarni, 1954
				Seeds	for the cure of dysentery	
251	*Ruta chalpensis* L.	Arabic El-shathap	Rutaceae	Leaves and stem	Scarlet fever, headaches, heart conditions and measles	Ezmirly and Wilson, 1980
252	*Salsola imbricate* L. (Jizan)	Kha'reet	Chenopodiaceae	Whole herb	Anthelmintic	Vanessa *et al*., 2012
253	*Salvadora persica* L. (Jizan)	Miswak	Salvadoraceae	whole herb	Used as a toothbrush	Vanessa *et a*l., 2012
254	*Salvia aegyptiaca* L. (Jizan)	Ghashba	Lamiaceae	whole herb	used in gastro-intestinal disorders, diarrhoea, gonorrhoea and hemorrhoids	Mossa *et al*., 1987
				Seeds	help in removing a foreign body from the eye	
255	*Salvia lanigera* L. (Jizan).	Jurayba	Lamiaceae	whole herb	Carminative and used in indigestion	Al-Shanwani, 1996
256	*Salvia spinosa* L.	Harsha	Lamiaceae	Seeds	used for the cure of toothache, gonorrhoea and urithritis	Mossa *et al*., 1987
257	*Sansevieria ehrenbergii* Schweinf. ex Baker (Jizan)	Salaf	Agavaceae	Leaves	used for treating blisters	Vanessa *et a*l., 2012
258	*Savignya parviflora* L.	-	Brassicaceae	Whole plant	Central nervous system stimulation and cardiac stimulation	Akbar and Al-Yahya (2011)
259	*Schimpera arabica* L.	-	Brassicaceae	Whole plant	Cardiac stimulation	Akbar and Al-Yahya (2011)
260	*Schweinfurthia pterosperma* (A. Rich.) A. Braun (Jizan)	-	Sapotaceae	Whole plant	Antimicrobial	Akbar and Al-Yahya (2011)
261	*Seidletzia rosmarinus* Bunge ex Boiss.	-	Chenopodiaceae	Leaves	Antimicrobial	Akbar and Al-Yahya (2011)
262	*Senecio asirensis* Boulos & J. R. I. Wood (Jizan)	Pedaa	Asteraceae	Leaves	used for treating fevers.	Vanessa *et al.*, 2012
263	*Senna alexandrina* Mill (Jizan).	Sana	Fabaceae	Leaves and fruits	Stimulant laxative and cathartic.	Kinnunen, 1993
264	*Senna italica* Mill. (Jizan)	Sana mekki	Fabaceae	Leaves and fruits	for elephantiasis and ophthalmic diseases	Galal *et al*., 1985

265	*Sisymbrium irio* L. (Jizan)	-	Brassicaceae	Seeds	relieve cold and fever.	Vanessa *et al*., 2012
266	*Solanum careens* L.	-	Solanaceae	Whole plant	Antimicrobial	Akbar and Al-Yahya (2011)
267	*Solanum forskalii* Dunal (Jizan)	Nashbah	Solanaceae	whole herb	used for treating ulcers	Al-Shanwani, 1996
268	*Solanum incanum* L. (Jizan)	Aeen Elbagar	Solanaceae	Fruits	Antimicrobial	Alamri and Moustafa (2012)
269	*Solanum nigrum* L. (Jizan)	Enab-Alzeeb	Solanaceae	whole herb	used in jaundice, fever, gonorrhoea, diarrhoea, heart diseases, inflammation, edema, mastitis and hepatic cancer	Perwaiz *et al*., 1995
270	*Solanum surattense* Burm. f. (Jizan)	Bankum-Bakini	Solanaceae	whole herb	used in fevers, asthmas, coughs, in sexual diseases and to promote female fertility	Al-Shanwani, 1996
271	*Solenostemma argel* (Del.) Hayne.	Al-Argal	Solanaceae	Leaves	Rheumatic pains, cough	Stepanovic *et al*., 2003
272	*Sonchus oleraceus L*. (jizan)	Uddaid	Asteraceae	Leaves and flowers	Promotes menstruation	El-Ghazali *et al*., 2010
273	*Stachys Sp. Aff. Schimperi* Vatke	-	Lamiaceae	whole herb	strong antimicrobial activity	Akbar and Al-Yahya (2011)
274	*Suaeda vera* L.	-	Chenopodiaceae	Whole plant	Cardiac stimulation	Akbar and Al-Yahya (2011)
275	*Syzygium aromaticum* L.	clove	Lythraceae	whole herb	treat toothache, respiratory disorders, inflammation, and gastrointestinal disorders.	Vanessa *et a*l., 2012
276	*Tamarindus indica* L. (Jizan)	Tamr Handi	Caesalpiniaceae	Fruits	Headache, jaundice, antihypertensive and antiemetic	Saganuwan, 2010
277	*Tamarix amplexicaulis* L.	-	Tamaricaceae	Whole plant	Central nervous system depression, cardiac stimulation and antimicrobial	Akbar and Al-Yahya (2011)
278	*Tamarix aphylla* L. (Jizan)	Al-Athl	Tamaricaceae	Leaves and roots	Wound infection and Stomach ache	El-Ghazali *et al*., 2010
279	*Tamarix nilotica* Ehrenb (Jizan)	Tarfaa	Tamaricaceae	Leaves and seed's oil	Leg varices	El-Ghazali *et al*., 2010
280	*Taverniera lappacea* L.	-	Fabaceae	Whole plant	Central nervous system stimulation and antimicrobial	Akbar and Al-Yahya (2011)
281	*Tephrosia apollinea Del.* (jizan)	-	Fabaceae	Whole plant	lower blood pressure and cardiac stimulation	Akbar and Al-Yahya (2011)
282	*Tephrosia nubica ssp. arabica* (Boiss.) Gillet. (Jizan)	-	Fabaceae	Whole plant	lower blood pressure and cardiac stimulation	Akbar and Al-Yahya (2011)
283	*Teucrium oliverianum* Ging. and Benth. (endemic)	Qassapa	Lamiaceae	Whole herb	Diabetes	Mossa *et al*., 2000
284	*Teucrium polium* L.	Jaada	Lamiaceae	whole herb	treat liver disease, jaundice, diabetes, fertility problems and cancer.	Ljubuncic *et al*, 2005
285	*Teucrium yemense* Defl. (Jizan)	Rechal Fatima	Lamiaceae	whole herb	used as anti-diabetic and in kidney problems	Sattar *et a*l., 1995

286	*Thymbra spicata subsp. Spicata* L.	thyme	Lamiaceae	whole herb	antimicrobial	Nurdan *et al*.,2009
287	*Thymus decussates* Benth.	Za'atar	Lamiaceae	whole herb	for nausea	Batanouny, 1999
288	*Thymus vulgaris L.*	Za'atar	Lamiaceae	whole herb	antiseptic, anthelmintic, expectorant, carminative, diuretic, emmenogogue and sedative besides used in veterinary medicine	Leung, 1980
				Leaves	taken in whooping cough, bronchitis and colds	Vanessa *et al*., 2012
289	*Torularia torulosa* L.	-	Apocynaceae	Whole plant	lower blood pressure and cardiac stimulation	Akbar and Al-Yahya (2011)
290	*Trachyspermum ammi* L.	-	Apiaceae	seeds	used against kidney stones	Ahsan, *et a*l., 1990
291	*Tribulus Terrestris* L. (Jizan)	Shirshir	Zygophyllaceae	Leaves	Renal colic	El-Ghazali *et al*., 2010
292	*Trichodesma africanum* L. (Jizan)	Hamham	Boraginaceae	Whole herb	Cough and cold	El-Ghazali *et al*., 2010
293	*Trigonella anguina* L. (Jizan)	Nafel	Fabaceae	Whole plant	Antimicrobial	Akbar and Al-Yahya (2011)
294	*Trigonella stellate* Forssk.	Girgas	Fabaceae	Whole herb	Hair diseases	El-Ghazali *et al*., 2010
295	*Triumfetta flavescens* L.	-	Tiliaceae	Whole plant	Central nervous system depression and cardiac stimulation	Akbar and Al-Yahya (2011)
296	*Typha domingensis* (Pers.) Poir. (Jizan)	Pardey	Typhaceae	Whole plant	Cardiac depression	Akbar and Al-Yahya (2011)
297	*Vernonia schimperii* L. (Jizan)	Howar	Asteraceae	whole herb	strong antimicrobial activity	Akbar and Al-Yahya (2011)
298	*Withania somnifera* (L.) Dunal (Jizan)	Sem Alfa'ar	Solanaceae	Leaves	Used in ulcers	Dastur, 1977
				Whole herb	used in rheumatic complaints, dyspepsia, loss of appetite, cough and dropsy	
				roots	used for toning up the uterus of women for habitual miscarriage	
299	*Xanthium spinosum* L. (Jizan)	Shobet	Asteraceae	Whole plant	Antimicrobial	Akbar and Al-Yahya (2011)
300	*Zilla spinosa* Prantl	Shibrim	Brassicaceae	Leaves and flowers	Purgative but toxic at high doses	El-Ghazali *et al*., 2010
301	*Zingiber officinalis* L.	ginger	Zingiberaceae	Rhizome	Hepatoprotective, clears vision, digestive, aphrodisiac, Gout, Rheumatism, Voice Clearnes, Sudorific, antipyretic,	Saganuwan, 2010

					antisurbutic and food condiment	
302	*Zizyphus nummularia* L.	Zyzafun	Rhamnaceae	Whole plant	Antispasmotic, emollient, coughs, sudorific, antipoison, laxation and skin eruption	Saganuwan, 2010
303	*Ziziphus spina-chisti* L. (Jizan)	Sidir	Rhamnaceae	Whole herb and bark	Duodenum and stomach ache	El-Ghazali *et al*., 2010
304	*Zygophyllum album* L. (Jizan)	Retret	Zygophyllaceae	Whole plant	Diabetes and cardiovascular diseases	Kais *et al*., 2012
305	*Zygophyllum coccineum* L. (Jizan)	Harm	Zygophyllaceae	Whole herb	Anthelmintic	El-Ghazali *et al*., 2010
306	*Zygophyllum simplex* L. (Jizan)	Al-damran	Zygophyllaceae	Whole herb	Ophthalmia	El-Ghazali *et al*., 2010

4. Discussion

The objective is to emphasize the importance of setting up conservation priorities, and sustained development of various medicinal plants of Saudi Arabia. Since part of the objectives of this compilation is to conserve plants biodiversity, there is need for all the ethnic and religious groups of the world to know the plant biodiversity of one another, because 15,000 plant species may face extinction due to over harvesting and habitat loss (IUCN, 2007), translating to the Earth losing at least one potential major drug every two years (Robertson, 2008) [75]. Each species of plant lost to extinction represents not only the potential loss of life-saving cures for diseases such as cancer or acquired immunodeficiency syndrome (AIDs), but also the loss of possible protein-or vitamin-rich foods or more productive and stable crops (Robertson, 2008) [75].

Hence, to protect plant germplasm and ensure availability, the public should be educated to the importance of the plants and all possible avenues should be used to encourage the public to become acquainted with their medicinal uses and to cultivate the plants on the farms and in gardens and flower pots for therapeutic uses. The use of the plants would undoubtedly minimize the cost of treatment and limit side or toxic effects of orthodox medicines that are currently being used (Saganuwan, 2009) [77].

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