MEDICINAL IMPORTANCE OF FEW PLANTS FROM AZAD JAMMU & KASHMIR, PAKISTAN

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Abstract

In Azad Kashmir plants has diverse habitat. A total of 46 plants belonging to 31 families are medicinal important plants which are used to treat almost 14 diseases. Out of which *Abutilon indicum* and *Achilleamille folium* have more medicinal value as they are used to cure diseases like diuretic, astringent, tonic, expectorant, anthalminitic, laxative, anti-inflammatory, stimulant, anti-spasmodic and anti-diarrheal. Medicinal importance of other plants are also presented.

Introduction

The location of Azad Kashmir valley lies between 34◦22'25 North latitude and 73◦28'14 East longitude. Indian state Jammu and Kashmir bounds the area in the east, Gilgit-Baltistan in the north, Khyberpakhtunkhwa in the west and province Punjab in the south. Muzaffarabad is the capital of Kashmir. Total area covered by Azad Jammu and Kashmir valley is 13,297 square kilometers. The estimated population of this valley is about 4-million. The mean maximum temperature recorded during summer was 16◦C to 24◦C while the mean minimum temperature during winter was recorded as -4◦C. The valley is rich in plant flora, providing a large number of medicinal plants for local people.

There are different plants which are used in various ways as a source of fodder, fire wood and timber wood by the peoples living in northern areas of Pakistan (Hussain & Khaliq, 1996). To obtain many herbal medicines, the whole plants along with their various parts are commonly used (Ishtiaq *et al*., 2010a, b). Extracts of many medicinal plants are used for the treatment of animal as well as for human in their daily needs (Khan, 1951; Ahmad, 1999). Herbs in large quality are reported as local and commercial uses, and among them few are exported to many other countries to obtain foreign exchange (Shah, 2006). It is reported that in hilly areas about 700 plants are used in medicine as well as perfumed purpose (Shengji, 1992). It is also reported that among 2500 medicinal plants species 4 to 20% are traded world wise (Schippmann *et al*., 2002).

In many regions of Pakistan it has been reviles that small number of research has been carried out on medicinal plants as well as on ethno-botany (Haq & Rehman, 1990; Ahmad and Sirajuddin, 1996; Shinwari and Khan, 1996; Rizwana *et al*., 2007; Ihsan, 2008; Ishtiaq *et al*., 2001, 2006a, b, 2007, 2012). It is estimated that about 84% peoples of Pakistan were reliant on conventional medicines to accomplish their medicinal needs (Hocking 1958). Bokhari (1994) studied 10 different communities of medicinal plants in different localities of Machyara National park Azad Jammu and Kashmir for their medicinal as well as vegetation analysis. Zandial (1994) reported 104 medicinally vital plants species which are used by local peoples on National park Machyara. In rural and remote hilly regions of Pakistan, the use of medicinal plants are considered as safe medication and it is also naturally valuable remedy for many human sufferings (Zaidi, 2001). It is hoped that this paper would provide documentation of some medicinal plants of the study area.

Materials and Methods

Field sampling were carried out regularly for the collection of plants from representative area during the flowering season from March 2009-2011. The collected plants were dried, recognized and then identified by both rally round of Flora of Pakistan and also by comparing it with specimens of herbarium, (Stewart, 1967, 1982; Nasir and Ali (eds) 1970 - 2004; Choudhary *et al*., 2000). They permit taxonomists to classify the family, genus and species from the collected data (Martin, 1995; Ishtiaq *et al*., 2010b). Herbaria have been organized (Alexiades, 1996; Ishtiaq *et al*., 2010a). The specimens of plants were stored in the herbarium of Bahauddin Zakarya University Multan. The data of plant usage for medicines were collected through a questionnaire from senior native people and local herbal practitioners (hakims).

Results and Discussion

Table 1 shows the medicinal use of 64 species (14 diseases) and Fig. 1. Indicated the relative importance of each plant species. Photographs of some important plants are shown in Fig.2.

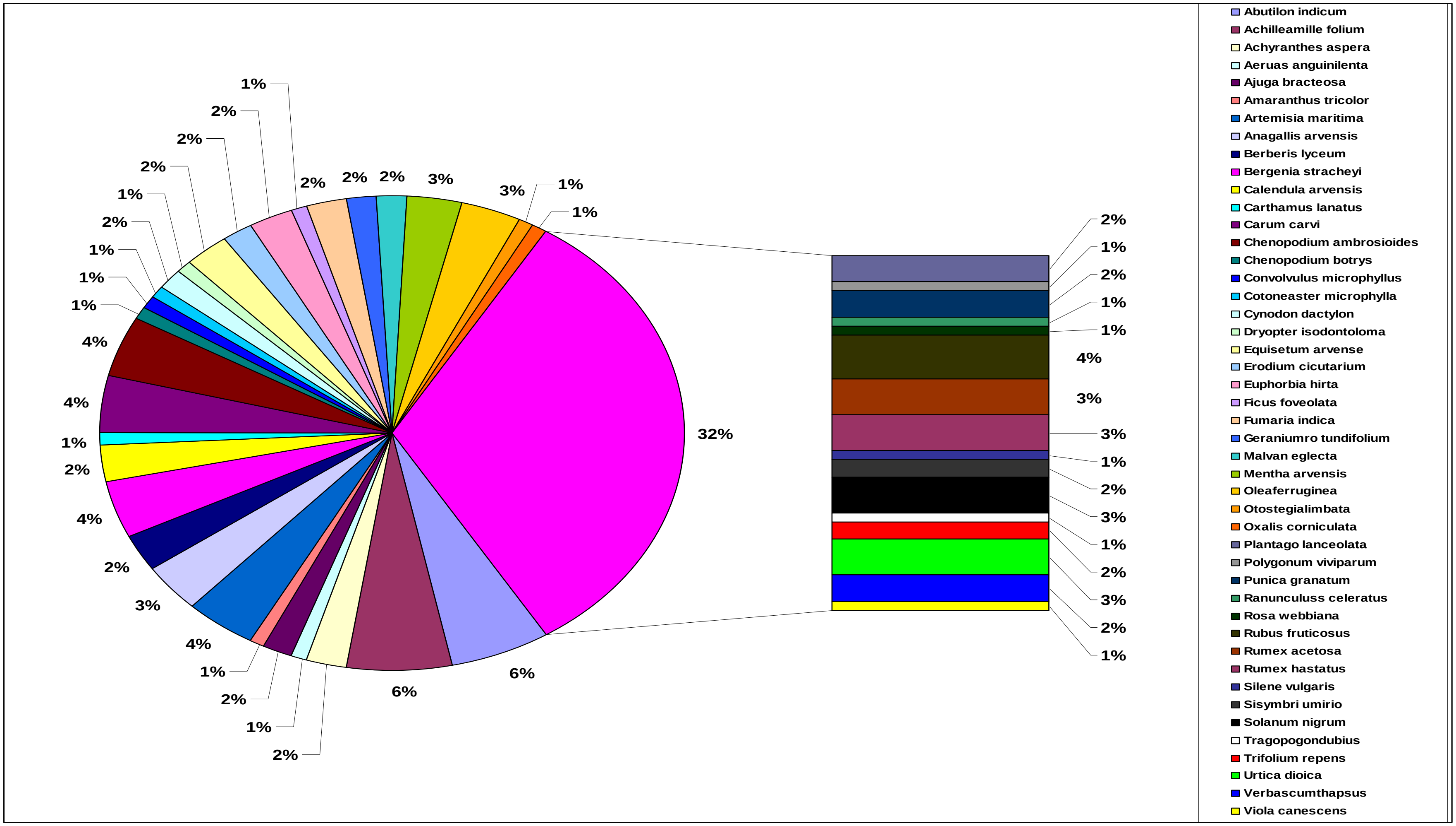

Fig.1. Pharmacological potential (relative importance) of plants from Azad Kashmir.

Abutilon indicum

Achillea mille folium

Achyranthes aspera

Amaranthus tricolor

Anagallis arvensis

Berberis lyceum

Artemisia maritime

Bergenia stracheyi

Calendula arvensis

Carthamus lanatus

Chenopodium botrys

Chenopodium ambrosioides

Fumaria indica

Mentha arvensis

Fig.2. Some important medicinal plants of Azad Jammu Kashmir.

Table 1. Botanical names, families, local names and medicinal uses of different plant species distributed in study area.

S.No.	Plants	Family	Local Name	1	2	3	4	5	6	7	8	9	10	11	12	13	14
1	*Abutilon indicum*	Malvaceae	Sweet Kangi	+	+	+	+	-	+	-	-	-	+	-	-	-	+
2	*Achilleamille folium*	Asteraceae	Sultani booti	+	+	+	-	+	-	+	-	-	-	-	+	-	+
3	*Achyranthes aspera*	Amaranthaceae	Puthkanda	+	+	-	-	-	-	+	-	-	-	-	-	-	-
4	*Aeruas anguinilenta*	Amaranthaceae	Sufedphulia	+	-	-	-	-	-	-	-	-	-	-	-	-	-
5	*Ajuga bracteosa*	Lamiaceae	Khawaga-bouti	+	-	-	-	-	+	-	-	-	-	-	-	-	-
6	*Amaranthus tricolor*	Amaranthaceae	Bhaji	-	+	-	-	-	-	-	-	-	-	-	-	-	-
7	*Artemisia maritima*	Asteraceae	Ajvain	-	-	+	-	+	+	+	-	-	-	-	-	+	-
8	*Anagallis arvensis*	Primulaceae	Billi boti	+	-	-	+	+	-	-	+	-	-	-	-	-	-
9	*Berberis lyceum*	Berberidaceae	Sumblu	+	-	-	-	+	-	+	-	-	-	-	-	-	-
10	*Bergenia stracheyi*	Saxifragaceae	Pashanbheda	+	+	+	-	-	-	-	-	-	-	-	+	+	-
11	*Calendula arvensis*	Asteraceae	Field Marigold	-	+	-	-	+	-	+	-	-	-	-	-	-	-
12	*Carthamus lanatus*	Asteraceae	Distaff Thistle	-	-	-	-	-	+	-	-	-	-	-	-	-	-
13	*Carum carvi*	Apiaceae	Kango	-	-	-	+	+	-	+	-	-	+	-	-	+	-
14	*Chenopodium ambrosioides*	Amaranthaceae	Epazote	-	-	+	-	+	-	+	_	-	+	-	-	+	-
15	*Chenopodium botrys*	Chenopodiaceae		-	-	-	-	-	+	-	-	-	-	-	-	-	-
16	*Convolvulus microphyllus*	Convolvulaceae	Kabal	-	-	+	-	-	-	-	-	-	-	-	-	-	-
17	*Cotoneaster microphylla*	Rosaceae	Luni	-	+	-	-	-	-	-	-	-	-	-	-	-	-
18	*Cynodon dactylon*	Poaceae	Spreng	+	+	-	-	-	-	-	-	-	-	-	-	-	-
19	*Dryopter isodontoloma*	Dryopteridaceae		-	-	-	-	-	-	-	+	-	-	-	-	-	-
20	*Equisetum arvense*	Equisetaceae	Horsetail	+	+	-	-	-	-	-	-	-	-	-	-	+	-
21	*Erodium cicutarium*	Geraneaceae	Stork's Bill	+	+	-	-	-	-	-	-	-	-	-	-	-	-
22	*Euphorbia hirta*	Euphorbiaceae	Dhodhe	+	-	-	-	-	-	-	-	-	-	-	+	-	+
23	*Ficus foveolata*	Moraceae	Miq	-	-	+	-	-	-	-	-	-	-	-	-	-	-
24	*Fumaria indica*	Fumariaceae	Papra	+	+	-	-	-	-	-	-	-	-	+	-	-	-
25	*Geraniumro tundifolium*	Geraniaceae		+	+	-	-	-	-	-	-	-	-	-	-	-	-
26	*Malvan eglecta*	Malvaceae	Panerak	-	-	-	-	-	+	-	-	+	-	-	-	-	-

S.No.	Plants	Family	Local Name	1	2	3	4	5	6	7	8	9	10	11	12	13	14
27	*Mentha arvensis*	Lamiaceae	Podina	-	-	-	+	+	-	+	-	-	-	-	-	+	-
28	*Oleaferruginea*	Oleaceae	Khuna	+	+	+	-	-	-	-	-	-	+	-	-	-	-
29	*Otostegialimbata*	Lamiaceae	Spin azgy	-	+	-	-	-	-	-	-	-	-	-	-	-	-
30	*Oxalis corniculata*	Oxalidaceae	Khatmit	-	-	-	-	-	-	-	-	-	-	-	-	+	-
31	*Plantago lanceolata*	Plantaginaceae	Ispagool	-	+	-	+	-	-	-	-	-	-	-	+	-	-
32	*Polygonum viviparum*	Polygonaceae		-	+	-	-	-	-	-	-	-	-	-	-	-	-
33	*Punica granatum*	Punicaceae	Anar	-	+	-	-	-	+	-	-	-	-	-	+	-	-
34	*Ranunculuss celeratus*	Renunculaceae		-	-	-	-	-	-	+	-	-	-	-	-	-	-
35	Rosa webbiana	Rosaceae	Jangli gulab	-	-	-	-	-	-	+	-	-	-	-	-	-	-
36	*Rubus fruticosus*	Rosaceae	Black berry	+	+	+	-	-	-	-	-	-	-	-	+	-	+
37	*Rumex acetosa*	Polygonaceae	Sorrel	+	+	-	-	-	+	-	-	-	+	-	-	-	-
38	*Rumex hastatus*	Polygonaceae	hatti Buti	+	-	+	-	-	-	-	-	-	+	-	-	+	-
39	*Silene vulgaris*	Caryophyllaceae	Garcke Sakla	-	-	-	-	-	-	-	-	+	-	-	-	-	-
40	*Sisymbri umirio*	Brassicaceae	khoob kalan	-	-	-	+	-	-	-	-	-	-	-	-	-	-
41	*Solanum nigrum*	Solanaceae	katch match	-	-	+	-	-	-	+	-	-	+	-	+	-	-
42	*Tragopogondubius*	Asteraceae	Salsify	-	-	-	-	+	-	-	-	-	-	-	-	-	-
43	*Trifolium repens*	Papilionaceae	Shautal	-	-	+	-	-	-	-	+	-	-	-	-	-	-
44	*Urtica dioica*	Urticaceae	kayyari	+	+	+	-	-	-	-	-	-	-	-	-	-	+
45	*Verbascumthapsus*	Scorphulariaceae	Khardug	-	+	-	-	-	-	-	-	+	-	-	-	+	-
46	*Viola canescens*	Violaceae	Banafsha	-	+	-	-	-	-	-	-	-	-	-	-	-	-

Note: Legend, **1:** Diuretic **2:** Astringent **3:**Tonic **4:** Expectorant **5:** Stimulant **6:** Anthalmintic **7:** Antispasmodic **8:** Purgative **9:** Emollient **10:** Laxative **11:** Anti-Dyspepsia **12:** Anti-Diarrheal **13:** Carminative **14:** Anti-inflamatory +: Indication of disease.

Due to expensive allopathic medicines as well as their side effects on human health, village people prefer to use medicinal plants for the treatment of many diseases (Zaidi, 2001). To overcome their basics needs of life, the peoples of hilly areas are completely dependent on local vegetation; the area has been reported as diverse type of weather (Ishtiaq *et al*., 2012). The use of herbal medicine for different diseases of these area are still playing a vital role in countryside and also used for many ailment as a household medication (Quraishi & Ghufran., 2005). To fulfill most important requirements of health, greater part of global people depends upon folk medicines. It is now expected that the herbal products market of world had a value of US $ 60 million (WHO, 2002).

The present study of medicinal plants reveals that totally 46 plants belonging to 31 different families were distributed in the area of research (Table 1). All plants species that investigated during the survey were dicotyledonous. The most frequently plants species belonged to family Asteraceae had 5 species while the family Amaranthaceae having 4 species. Lamiaceae , Rosaceae and polygonaceae had 3 species each. Malvaceae and Geranaceae had 2 species each. While Poaceae, Berberidaccae, Convolvulaceae, Oleaceae, Apocynaceae, Scrophulariaceae, Chenopodiaceae, Oxalidaceae, Plantaginaceae ,Equisetaceae, Dryopteridaceae, Sexifragaceae, Euphorbiaceae, Moraceae, Fumariaceae, Utricaceae, Papilionaceae, Violaceae ,Brassicaceae, Solanaceae, Caryophyllaceae and Punacaceae families contributing only one species. A total of 46 species (Fig. 1) were collected and documented from study area, out of these, 19 species were used as diuretic, 22 astringent, 6 expectorant, 13 tonic, 11 stimulant, 3 emollient, 7 laxative, 1 antispasmodic, 3 purgative, 1 anti-dyspeptic, 7 anti-diarrhea, 7 anthalmintic , 9 carminative and 5 species anti-inflammatory (Nasir *et al*., 1970-2004; Ahmad, 2000).

Plants such as *Abutilon indicum, Achilleamille folium*, *Achyranthes aspera, Amaranthus tricolor*, *Artemisia maritima*, *Anagallis arvensis*, *Berberis lycium*, *Bergenia stracheyi*, *Calendula arvensis, Carthamus lanatus, Carumcarvi, Chenopodiumam brosioides, Chenopodium botrys, Equisetum arvense, Fumaria indica, Mentha arvensis, Olea ferruginea , Plantago lanceolata , Rubus fruticosus , Rumex acetosa , Rumex hastatus, Solanum nigrum, Urtica dioica* and *Verbascum thapsus* are multipurpose medicinal plants being used in more than three curing purpose (Fig. 2).

Abutilon indicum and *Achilleamille folium* are very significant in sense that these are remedy of 7 diseases. *Abutilon indicum* is diuretic, astringent, tonic, expectorant, anthalminitic, laxative and anti-inflammatory while *Achilleamille folium* is diuretic, astringent, tonic, expectorant stimulant, anti-spasmodic, anti-diarrheal and anti-inflammatory. It is hoped that this information will be useful for pharmaceutical industries and research students.

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