

## **ETHNOBOTANICAL STUDIES OF PLANTS OF MIANWALI DISTRICT PUNJAB, PAKISTAN**

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### **Abstract**

Medicinally important plants are necessary for the production of the various drugs and curing diseases. The local people use 26 species of the vascular plants of the Mianwali district for medicine, furniture and agricultural implements and as the food. The local community is extremely knowledgeable about the local plants but unfortunately this knowledge is going to be lost as traditional culture is disappearing.

The information obtained while studying the flora of Mianwali District, Punjab is presented here. For each plant its botanical name, family name, vernacular names and method of using this plant is given. Total of 21 species belonging to 16 families were recorded for the medicinal use and five species utilized for agricultural implements and for other purposes.

### **Introduction**

Mianwali is situated in the south-western part of the Punjab province. It represents the plains of the western part of the salt-ranges near the Sakesar hill (Iftikhar, 1964). It has boundaries with Bhakkar, Khushab, D.I Khan and Bannu districts. It is included in the Sargodha Division. It's population is more than one million. About 79.22% people live in the rural area while 20.78% of people live in the urban areas (Census, 1998). Literacy rate of the city is as low as 25%.

Average maximum temperature per annum is 47°C and minimum temperature is 19°C. Mean annual rain fall of the Mianwali is 3.3mm and maximum rain fall occurs in the month of July i.e., 6.6cm (Anony., 2000; Iftikhar, 1964). There are three types of soil sandy, clay and loamy in this district. Important crops of the area are wheat, barely, oat, mustard, Eruca, fennel, pea nut, mung, mash, etc. Due to ruthless cutting of forest for fuel and timber purposes, the forest covered area is very low. Mostly the area is semi-Arid very small area is irrigated and source of the irrigation is the canals of river Indus. In the human civilisation plants have played a vital role. The use of plants for medicinal purposes is as old as human civilisation (Hill, 1952). From the Ethnobotanical point of view the sub-continent is considered an extremely important area (Paliwal & Badoni, 1988). According to an estimate in Pakistan up to 84% people depend upon traditional medicine for almost all kinds of medicine need (Hocking, 1958). All the systems of traditional medicine have their roots in the house remedies and this knowledge is transferred from one generation to other generation with the passage of time (Shinwari, 1996). It is the fact that all the indigenous herbal or eastern system of medicine is entirely based on the properties of these plants. The importance of the herbal medicine can be well understood by the saying of Hippocrates "Let medicine be your food and food your medicine (Bartran, 1995).

S.No.	Plant Name	Family	Accession No.	Voucher No.	Collection area	Collectors name	Collection date
1.	<i>Rhazya stricta</i> Deene.	Apocynaceae	81509	06	Musakhel Mianwali	Mir Ajab and Maqsood	07-03-1978
2.	<i>Caraluma tuberculata</i> N.E.Brown	Asclepiadaceae	31904	121	Mianwali	Dilawar and Shahzad	11-05-1977
3	<i>Calotropis procera</i> (Willd.) R.Br.	Asclepiadiaceae	80930	314	Tatha near Mianwali	Shahzad Iqbal and Maqsood	05-03-1977
4	<i>Calendula arvensis</i> L.	Asteraceae	44005	92		Shahzad and Dilawar	05-03-1977
5.	<i>Lanaea procubens</i> Roxb. Ramayya & Rajagopal	Asteraceae	45522	710		Mir Ajab and Manzoor	16-03-1977
6.	<i>Chenopodium album</i> L.	Chenopodiaceae	44005	92	Mianwali	Shahzad and Dilawar	05-03-1977
7.	<i>Convolvulus arvensis</i> L.	Convolvulaceae	83376	733	Mianwali	Mir Ajab and Ayaz	26-03-1978
8.	<i>Citrullus colocynthis</i> (L.) Schard.	Cucurbitaceae	53457	1228	Nath Saghral Mianwali	Mir Ajab abd Mohd. Ashraf	29-04-1977
9.	<i>Cuscuta reflexa</i> Roxb.	Cuscutaceae	45711	136	Kala Bagh Mianwali	Shahzad and Dilawar	06-03-1977
10.	<i>Aloe barbadensis</i> Mill.	Liliaceae	36421	34	Mianwali	Manzoor and Arif	02-04-1975
11.	<i>Albizia lebbek</i> (L.) Benth.	Mimosaceae	22198	57	Mianwali city	Manzoor and Lal	10-05-1976
12.	<i>Ficus religiosa</i> L.	Moraceae	44838	18	Mianwali city	M. Shah, Arif and Maqsood	12-03-1977
13.	<i>Morus alba</i> L.	Moraceae	89351	634	Indus bank Kalabagh Mianwali	Mir Ajab and Ayaz Abbassi	24-03-1978
14.	<i>Morus nigra</i> L.	Moraceae	92066	12	Mianwali	Maqsood and Dilawar Khan	18-05-1978
15.	<i>Boerhaavia coccinea</i> Mill.	Nyctaginaceae	35501	213	Mianwali	M. Shah and Manzoor	5-06-1975
16.	<i>Olea ferruginea</i> Royle	Oleaceae	25631	45	Mianwali city	Dilawar and Maqsood	16-03-1977
17.	<i>Plantago major</i> L.	Plantaginaceae	08735	391	Mianwali	Anjum Amin, Nisar and Manzoor	07-06-1975
18.	<i>Dodonaea viscosa</i> (L.) Jacq.	Sapindaceae	83746	862	Mianwali	Mir Ajab and Maqsood	29-03-1978
19.	<i>Fagonia arabica</i> L.	Zhgophyllaceae	24621	11	Mianwali city	M. Shah and Manzoor	14-05-1975
20.	<i>Peganum harmala</i> L.	Zhgophyllaceae	86430	897	Near Mianwali Railway Station.	Mir Ajab and Ayaz Abbassi	29-03-1978

Table 1. Medicinal plants of Mianwali.

S.No.	Family name	Botanical name	Vernacular name	Parts used	Uses
1.	Apocynaceae	<i>Rhazya stricta</i> Deene.	Akari	Seeds	Seeds of this plant are medicinally very important. Seeds are soaked in the water for a night, then cooked, a thick liquid is obtained and used for achenes and the removal of the heat effects. This paste is used with butter.
2.	Asclepiadaceae	<i>Caraluma tuberculata</i> N.E.Brown	Chaunga	Whole plant	Plant is mostly used as vegetable and believed to be a cure for rheumatism. This species is usually collected from wild status and is an expensive vegetable in the big cities. Jicy stem is bitter tonic, febrifuge, stomachic and carminative.
3.	Asclepiadaceae	<i>Calotropis procera</i> (Willd.) R.Br.	Ak	Roots, flowers, branches and leaves	Leaves are cooked in mustard oil for the treatment of pian and pus in ear. Flower buds used in snail bite. Milky juices obtained from leaves and branches applied in wasp bit. Liquid obtained from its root is effective only for external use for the pains of invisible injuries and wounds.
4.	Asteraceae	<i>Calendula arvensis</i> L.		Seeds and flowers	Seeds of this plant are used for the kasra. For this purpose the extract of seed is given to the patient. Flowers are considered as stimulant and antispasmodic
5.	Asteraceae	<i>Lanaea procubens</i> (Roxb.) Ramayya & Rajagopal	Bhasvat	Whole plant	Leaves are crushed and then placed on the eye to relieve pain and redness. It is also given to the animals with butter and atwain if they have achenes in their body.
6.	Chenopodiaceae	<i>Chenopodium album</i> L.	Bathu	Whole plant	The whole plant of bathu specially branches after slight heating are used as bandage on the parts where patient feel pain and has invisible injuries to convert them into wounds. Leaves are used as salad and also cooked as a potherb. Whole plant is used as fodder.
7.	Compositaceae	<i>Comvolvulus arvensis</i> L.	Hiran khuri	Leaves and roots	Leaves are boiled and extract is given to the children for constipation and also for the women. The root is purgative and diarrhoeic.
8.	Cucurbitaceae	<i>Citrullus colocynthis</i> (L.) Schard.	Tumba	Fruits, Seeds and roots.	Seeds are purgative used for stomach disorders. Fruits of tumba are cut down into slices and spread on the earth, people suffering from piles, allowed to walk on this bed until they feel bitterness. For the removal of this bad taste, sugar with ghee is taken. Seeds are grind to form powder and used for the gas trouble. Roots of tumba are used as maswak and also effective for constipation, fever and intestinal pain. Roots of this plant are very useful in jaundice and rheumatism.
9.	Cuscutaceae	<i>Cuscuta reflexa</i> Roxb.	Akash bale	Whole bale	This plant is used as a painkiller for the animals. The plant is anthelmintic, carminative, alternative, purgative and diuretic. It is used in jaundice, pain of joints and to prevent vomiting. Seeds are carminative and anthelmintic
10.	Lilaceae	<i>Aloe barbadensis</i> Mill.	Kawar kandal	Whole bale or plant	Medicinally this plant is of great importance. The whole plant is used for the piles. Fresh juice extracted from leaves have cooling effect and given to patients suffering from fever. Dry form of the juice is used in constipation. Female use pulp for menstrual irregularities. Leaves are cooked in curry form and given to the diabetic patients. Fresh leaves with salt used for the gas troubles.

Table 1. (Cont'd.).

S.No.	Family name	Botanical name	Vernacular name	Parts used	Uses
11.	Mimosaceae	<i>Albizia lebbek</i> (L.) Benth.	Shirin	Fruits and wood	Fruit is used for making achaar (pickle). Cattles eat dry fruit. Wood and dry fruit used as fuel.
12.	Moraceae	<i>Ficus religiosa</i> L.	Peepal	Roots and bark	Bark of the tree is soaked in water in clay pot and this water is used for the production of blood. It is also effective for the blood diseases. Roots of the tree are soaked in the water, the women use it for regulation of the menstrual disorder. Extract is also useful for neutralization of heat effect.
13.	Moraceae	<i>Morus alba</i> L.	Tut	Root fruits and leaves	Roots are boiled and crushed, this paste is used for throat disorder. Fruit is edible they are also used for the formation of drink which is very effective against heat-stroke. Leaves infusion is used to bring down blood sugar level and reduction of arterial pressure.
14.	Moraceae	<i>Morus nigra</i> L.	Safaid Tut	Fruit and leaves	Fruits are used both fresh and dry and are laxative and purgative. Leaves are astringent and anthelmintic.
15.	Nyctaginaceae	<i>Boerhaavia coccinea</i> Mill.	Itsit	Leaves	Leaves are crushed, a paste is formed and it is applied as plaster on boils to take out the pus.
16.	Oleaceae	<i>Olea ferruginea</i> Royle	Kao	Leaves	Leaves of this tree is used as tea. A black colored liquid comes out of tree and it can be obtained by making the cuts on the bark. This is effective for the skin disease.
17.	Plantaginaceae	<i>Plantago major</i> L.	Ispagol	Seeds, leaves and roots	Seeds as tonic, used in dysentery; leaves and roots are astringent and used in fever.
18.	Sapindaceae	<i>Dodonaea viscosa</i> (L.) Jacq.	Sanatha	Leaves	Leaves of <i>Dodonaea</i> after drying, grind to form powder and used for the stomach disorder. Due to the pleasant smell of plant, it is used for the removal of bad smell.
19.	Zygophyllaceae	<i>Fagonia arabica</i> L.	Dhamea	Whole plant	Green plant ground with addition of water. This solution with salt or sugar used by patient of diabetes. This is used as fodder for the camels and goats.
20.	Zygophyllaceae	<i>Peganum harmala</i> L.	Harmal	Seeds and branches	Dry branches of harmal are burn to remove bad smell. Used for the irritation and redness of eyes. Fresh green are crushed and wrap into the muslin cloth placed on eyes. It is also used for the muscle pull. Harmal is also used as the expeller of mosquitoes and flies. Young babies are subjected to the smoke to avoid evil eyes. Seed powder is anthelmintic. Roots applied to kill lice

Table 2. Plants used in furniture and agricultural implements.

Family names	Botanical names	Vernacular names	Uses
<i>Bignoniaceae</i>	<i>Tecomella undulata</i> (Sm.) L.	Lahura	Wood of this tree is very strong and the mites do not affect it. It is largely used for the panels of doors.
<i>Mimosaceae</i>	<i>Acacia nilotica</i> (L.) Delile	Kikar	Wood is not of good quality but used for the preparation of furniture
<i>Mimosaceae</i>	<i>Albizia lebbek</i> (L.) Benth.	Shirin	Used as fuel
<i>Meliaceae</i>	<i>Melia azedarach</i> L.	Darak	Used as fuel
<i>Oleaceae</i>	<i>Olea ferruginea</i> Royle	Kao	Good quality wood. Used for making ploughs and panels of door.

### Materials and Methods

The area of our studies was Mianwali district. For the collection of the plant specimen field trips were frequently undertaken. Ethnobotanical informations were gathered by investigation and interviewing the local people. The plant specimens collected for this purpose were identified and deposited in the herbarium, Quaid-i-Azam University, Islamabad (ISL), Pakistan.

### Results and Discussion

During the present investigation based on economically important floristic diversity of Mianwali area, a total of 23 species belonging to 16 families were collected and interviews were conducted for their local uses especially in medicines and other economical purposes e.g., furniture and timber uses. The data collected for various uses of these species is presented in Tables 1 and 2.

It has been found that traditional and homeopathic medicines are cheaper and often more accepted by large number of the people (Chaudhuri & Tribedi, 1976). In Pakistan main source of medicinal plants is forest and rangeland. There are 50,000 registered hakims in Pakistan (William & Zahoor, 1999). Mianwali has produced several hakims (local healers) famous not only locally but also the people from other parts of the country visit them. Many of them do not charge any thing for their service and treat the people free of cost.

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