

WEEDS AND MEDICINAL PLANTS OF SHAWAR VALLEY, DISTRICT SWAT

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ABSTRACT

Shawar valley located on 35° 07' to 35° 22'N and 72°, 29' to 72° 39'E was analyzed for weeds as well as medicinal plants. There are 49 weed plants, out of 49 weeds 30 plants are used as traditional medicines. Among these, 37 are herbs, 06 are shrubs, 03 are trees and 03 are climbers. In the primary health care these folk medicinal plants have significant role for the inhabitants of Shawar valley. Especially the people who can not afford allopathic drugs are tempted to use of such medicinal plants.

Key Words: Medicinal value, ethnobotany, Northwest Frontier Province.

INTRODUCTION

The valley of Shawar lies in District Swat, Tehsil Matta in the Hindu Raj Mountains. It can be traced at 35° 07' to 35° 22' and 72°, 29' to 72°, 39' North latitude and East longitude, respectively (Pers. Comm. Department of Geography, University of Peshawar, Pakistan). The total area of the valley is 4877 ha, while the total population of the valley is 20,163. Literacy rate is 12.6%; male and female education at Matric level is 200 and 13 individuals, respectively. The valley comes under the Sino Japanese Region (Ali and Qaisar, 1986; and Robert *et al.*, 1995). Geography of the valley also shows that in the West it is bounded by Niage Dara (Dir), in the North by Dir Kohistan, in the Northeast by Beha valley. Totano Bandy and Mian Kalay Biakand in the South of Tehsil Kabal and Tehsil Matta, respectively.

The valley comprises gently rolling topography in its Northern, Southern and Western side. Southern hilly areas are gently sloping while the Northern part moderately goes to high elevation. Precipitation is in the form of rain, monsoon in summer and heavy snowfall in winter. The area establishes west Himalayan moist types of forests (Beg and Khan, 1974). The valley has Oak, Blue Pine, Fir and Spruce forests.

Its highest peak in the North is Landay Sir and Chota Sir having an altitude of 2900 m and 3900 m above sea level, respectively while mean altitude of the plain area is 1400m. Majority of the people residing in the area are Yousafzai Pukhtoon associated with very limited population of Sayed, Molla Khail and the hilly areas are inhabited by Gojer Khail. Ninety-five percent (95%) people are involved in agriculture, horticulture and cultivate their own farms while other five percent (5%) are working aboard in the Middle Eastern countries.

Ethnobotanically, valley is rich in medicinal plants and most of the people are using these plants as a primary source of health care. Among these medicinal plants *Acorus calamus* used as stimulant, emetic, carminative and as expectorant. Similarly *Adatoda vasica*, *Dioscorea deltoidea* and *Xantoxylum armatum* are used for different diseases (Ur-Rahman, 1999; 2000; 2001). *Hedra helix* is common liana plant and its leaves contain chromium, zinc and manganese which are hypoglycemic trace elements, is reputed as a folk hypoglycemic medicinal plant. It is also known that aqueous extract of *Hedra helix* L. has significantly lowered the blood glucose level of alloxan-induced diabetic rabbits and also plays an important role in blood metabolism (Ibrar, 1998; 2000). Annually a large number of medicinal plants are harvested and bought by the local shopkeepers of the valley.

MATERIALS AND METHODS

Geographical information was obtained from the Department of Geography, University of Peshawar. For plant collection, cutter, newspaper, vasculum, and altimeter were taken. Plants were collected, pressed in newspapers with the help of plant presser. On the spot, local name, locality and date of collection were written. Papers were changed from time to time to absorb water from plants. Plants were transferred to herbarium sheets of standard size 14" and 16". Plants were identified from the flora of Pakistan.

For knowing the ethnobotanical profile of the people, a questionnaire was developed and filled through interview randomly through different walks of life i.e. farmers, Shop keepers involved in medicinal plants business, Hakims and elders of the area. With the help of questionnaire, plant uses and the indigenous knowledge regarding the traditional uses of plants was collected. The knowledge thus extracted from local people regarding their medicinal value has been tabulated in Table-1.

RESULTS AND DISCUSSION

Present study is based on 49 species among which 30 are medicinal plants, 25 are medicinal as well as weeds and 19 are purely weeds belonging to different families and representing Dicot, Monocot and Pteridophytes. Depending upon plant habit, they were broadly divided into herbs, shrubs and trees.

Among herbs are *Acorus calmus*, *Adiantum capillis veneris*, *Ajuga bracteosa*, *Ajuga parviflora*, *Cannabis sativa*, *Mentha longifolia*, *Paeonia emodi*, *Plantago major*, *Polygonum plebejum*, *Rumex hastatus*, *Sorghum halepense*, *Thymus vulgaris*, and *Cannabis sativa* while *Zantoxylum armatum* a shrub.

Tree species consist of *Ailanthus altissima*, *Pistacia integerima*, *Ficus carica*, *Juglans regia* and *Zizyphus sativa* Gaertn while one species of *Adiantum capillus venesis* belongs to Pteridophytes.

Ethnobotanically some of the species reported here have multiple uses e.g the delicious nuts of walnuts are edible, also used in culinary preparation, fruits are mental tonic and also used as sexual tonic. Leaves and bark used for teeth cleaning, flowers are used as antiseptic while bark is used in tea factory for tea processing as dyeing agent. Similarly *Berberis lycium* is used for jaundice, cooling agent, used for ulcer, colic, aphrodisiac and its fruits are used by children as sour food, hedge plant and used as fuel plants. So plants are natural custodian natural chemical compound and used for multi purposes (Table-1).

Table-1. Botanical names, local names, parts used and local uses of plants of Shawar valley.

S.#	Botanical Name	Family Name	Local/Eng. Name	Part used	Manner of Local Uses
1	<i>Acorus calamus</i> L.	Araceae	Skhawaja/Radix acori	Rhizome	Rhizome is powdered and very effective for constipation.
2	<i>Adiantum venustum</i> L.	Pteridaceae	Sumbal	Plant	Plants are boiled and its decoction is used for coldness of body temperature.
3	<i>Ailanthus altissima</i> (Mill) Swingle.	Simarubaceae	Tora Shandi	Leaves	i. Leaves are kept in seed boxes to prevent attack of lice ii. It is used as anthelmintic and in dysentery.
4	<i>Ajuga bracteosa</i> Wall. ex Bath.	Lamiaceae	Buti/ Kauri booti	Plant	i. Fresh plant is powdered and its extract is used before dinner for ulcer, colic and jaundice. ii. Dry powder is also used for above purpose.
5	<i>A. parviflora</i> Bath.	Lamiaceae	Buti / Kauri booti	Plant	As above
6	<i>Amaranthus caudatus</i> L.	Amarantraceae	Chalwaii	Plant	i. It is used as diuretic, blood purifier and antispasmodic.

7	<i>Avena fatua</i> L.	Poaceae	Jamdar/ Oat	Seeds	Seeds are nerve tonic, stimulant and laxative.
8	<i>Berberis lycium</i> Royal	Berberidaceae	Kwary/ Babaery	Roots, Rhizome	Bark of roots are removed, powdered and used for ulcer, colic. ii. Used for internal and external wounds iii. Used for body cooldness and also as a sexual tonic.
9	<i>Bromus japonicus</i> Thumb ex Murr	Poaceae	Jokai	Young shoots	i. Young shoots are used for diarrhea. ii. whole plant, in bundle are used for cleaning houses.
10	<i>Cannabis sativa</i> L.	Cannabinaceae	Bhang/ Hemp-hang	Whole plant	i. Plant dried and burnt to protect the family members from bad intentions of other people. ii. It is used as narcotic and stimulant.
11	<i>Cedrela serrata</i> Role	Melaceae	Skhawona	Plant	It is used for decreasing gases pressure in cattle.
12	<i>Cuscuta reflexa</i> Roxb	Cuscutaceae	Jamaldarai/ Ghas bel	Plant	Used as insecticide and antilice agent. Fodder.
13	<i>Equisetum arvense</i> L.	Equisetaceae	Bandakae/Horse tail	Plant	Used as a hair tonic.
14	<i>Ficus carica</i>	Moraceae	Enzar/ Engeer	Milky juice of leaves	i. Juice is applied for extracting deep plant spines from feet. It looses spines which easily come out from body. ii. Over eating of fruits causes diarrhea in human being.
15	<i>Hedra helix</i> L	Araliaceae	Zalyaelvy	Leaves	Leaves extract used for curing diabetes. ii. Used for blood pressure and blood purifier.
16	<i>Juglans regia</i> L.	Juglandaceae	Ghwaz/ Walnut	Fruits, leaves, bark	i. Leaves and bark is used for cleaning teeth. ii. Flower prevents fungal attack in between toes as an antiseptic. iii. Fruits are used for increasing mental and sexual capacity. iv. It exudes chemicals which depress growth and eliminate surrounding plants.
17	<i>Malva nglecta</i> Waller	Malvaceae	Paneraik/ Mallow	Plant	Used as vegetable and anti-spasmodic.
18	<i>Mentha longifolia</i> L.	Lamiaceae	Vanalai/ Mint	Plant	i. Plants are dried, powdered and used for diarrhea. ii. Powdered <i>Menthaplus Zanthoxylum</i> (Dambara) are poured on fried, boiled eggs and used for chest disease.
19	<i>Paeonia emodi</i> Wall	Ranunculaceae	Mamikh/ Himalayan peony	Rhizome	Rhizome is boiled in milk and the extract is used for backbone ache and good sexual tonic.
20	<i>Pistacia integerrima</i> Stewart ex Brandis.	Anacardaceae	Shnai	Bark	Bark is removed and boiled and the extract is used for jaundice and hepatitis.
21	<i>Plantago major</i> L.	Plantaginaceae	Ghata Jabi	Leaves	Leaves are warmed and added with warm wet flour of maize and placed on the ulcer for rupture.
22	<i>Polygonium glabrum</i>	Polygonaceae	Palpolak	Whole	Fresh plants are powdered and then stirred in

	L.			plant	the standing water for hunting fishes.
23	<i>Portulaca oleracea</i> L.	Portulacaceae	Warkharae	Plant, Seeds	i. Refrigerants, used in cure liver, kidney. ii. Seeds are demulcent, diuretic and wormifuge.
24	<i>Rumex dentatus</i> L.	Polygonaceae	Shalkhay/ Dock	Leaves	i. Leaves are used in vegetable to prevent from deterioration and kept them in good condition for one to two days. ii. Over eating of plants cause diarrhea in cattle's.
25	<i>R. hastatus</i> .	Polygonaceae	Tarokay/ Dock	Leaves and shoots	Diuretic, refrigerant and used as cooling agent.
26	<i>Solanum nigrum</i> L.	Solanaceae	Karmacho	Plant	Used for curing hepatitis, soar throat and used as pot herb.
27	<i>Stellaria media</i> L.	Staphylaceae	Chechra/ Stitchwort	Plant	Used as vegetable and laxative.
28	<i>Thymus serpyllum</i>	Lamiaceae	Ghra sparkay/ Thyme	Whole plant	i. Plants are ribbed in the bee's boxes to attract bees because of its pleasant smell. ii. Used for making green tea. iii. Visited by honey bees.
29	<i>Zanthoxylum armatum</i> . DC.	Rutaceae	Dambara/ Prickly ash	Fruits	i. Fruits are powdered and eaten with boiled egg for chest infection. ii. It is mixed with <i>Mentha</i> spp and salt used as good digestive.
30	<i>Zizyphus arvensis</i> Gaertn	Rhamnaceae	Markhanre	Fruits and leaves	i. Used for anti- diabetes and fruits are edible. ii. Visited by honeybees.

PURE WEEDS

31. *Gallium aparine* (Fumeraceae) 32. *Calendula arvensis* (Asteraceae) 33. *Capsella bursa-pastoris* (L.) Medic (Arassicaceae) 34. *Chenopodium album* (Chenopodiaceae) 35. *Convolvulus arvensis* L. (Convolvulaceae) 36. *Cynodon dactylon* L. (Poaceae) 37. *Digera arvesies* Forsk (Amaranthaceae) 38. *Euphorbia helioscopia* L. (Euphorbiaceae) 39. *Fumaria indica* (Hausk) Pugsley (Fumeraceae) 40. *Lathyrus sativus* L. (Leguminosae) 41. *Impatiens bicolor* Royle (Balsaminaceae) 42. *Lathyrus cicera* L. (Leguminosae) 43. *Medicago denticulata* (Leguminosae) 44. *Populus alba* (Salicaceae) 45. *Ranunculus muricatus* L. (Ranunculaceae) 46. *Salvia morrerftina* (Lamiaceae) 47. *Sonchus aspar* (Asteraceae) 48. *Verbascum thaspus* L. (Scrophulariaceae) and 49. *Xanthium strumarium* (Asteraceae) are pure weeds.

WEEDS WITH MEDICINAL VALUE

Acorus calamus L., *Ailanthus altissima* (Mill) Swingle, *Amaranthus caudatus* L. *Avena fatua* L., *Berberis lycium* Royal, *Bromus japonicus* Thumb ex Murr, *Cannabis sativa* L., *Cedrela serrata* Role, *Cuscuta reflexa* Roxb, *Equisetum arvense* L., *Hedra helix* L., *Malva neglecta* Waller, *Mentha longifolia* (L.) Huds, *Plantago major* L., *Polygonum plebejum* L., *Portulaca oleracea* L., *Rumex hastatus* L., *Rumex acetosa* L., *Salvia moocroftiana*, *Sorghum helepense* (L.) Pers., *Solanum nigrum* L., *Stellaria media*, *Zanthoxylum armatum*. DC. and *Zizyphus sativa* Gaertn, are weeds with medicinal value.

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