

**ETHNO BOTANICAL SURVEY OF WILD MEDICINAL PLANTS OF KHAIRABAD VALLEY DISTRICT DIR (LOWER), KHYBER-PAKHTUNKHWA**

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**Abstract**

The present survey for the ethno-botanical study was conducted on Khairabad Valley, Dir lower PK Pakistan, which contains a lot of wild medicinal plants. Collect information including local names, local medicinal uses, Status of plants. A total of 50 plants were collected, out of which 4 were gymnosperm and 46 belong to angiosperm. Belong to 32 families, out of this the family Liliaceae was leading contain 8 species, followed by family Solanaceae with 3 species, and family Apiaceae two species, Rosaceae and Rutaceae consist three species and the remaining all consist of single species on the basis of their status the plants were divided into herb 50%, shrub 18%, tree 30% and climber 2%. 6 plant uses were as tonic, four were as anticancer, three purgative and two plants were used as antiseptic, 6 are laxative, 4 for wound, 3 used for digestive disorder, 5 sedative, 9 use as a pain killer, 2 for blood stopping, 4 used as anthelmintic, 4 carminative, 2 used for vomiting, 5 for liver disorder, 5 headache, 7 for cough, 4 as a purgative, 3 aromatic, 2 hemorrhoids, 4 astringent, 4 used as anti-inflammatory.

**Keywords:** Rosaceae, Rutaceae, Apiaceae, Liliaceae

## Introduction

The word ethno botany was first coin by American botanist named Johns Harsh Berger in 1895 he refer to the study of those plants which used by local people for health care. Ethno botany arises when initially man observed that animals used different plants for their food, curative wounds and also for shelters. The awareness of ethno botany increase prosperous use and get achievements in research on human beings. It also leads to our familiar medicines and food (Campbell et al., 2002). Many medicinal plants are used for maintaining health purpose they uses as traditional methods or as medicine (Ibrar et al., 2007). In Pakistan northern side are famous due to its climate condition (cool or humid) because different type of medicinal plant can grow easily. These plants cannot helps in economy of a country but it is very important due to botanically and medically uses. It's our aim to save these types of plants because some plants contain synergistic and or side effects neutralizing combination (Gilani and Atta ur rehman 2005).

In Pakistan approximately 6000 plant species have been reported out of which 3200 species used in Homopathic and Unani allopathic while 300 plant species are utilized in ordinary medicine (Parveen and Hussain, 2007). The field ethno botany is extremely ignored in Pakistan however, a series of papers are published by many researcher's on Pakistan's medicinal plants, who reported that about 84% inhabitants of Pakistan needful for their medicinal requirement on the traditional medicines (Shahzebt et al., 2013). In traditional medicines plants has a key role in the treatment of different virus infection (Bakoet et al., 2005). Pakistan reveal flourishing history on the traditional use of flora. Plants considered as vital source in traditional medicines as their extract are used in allopathic remedies for health care of animals and humans (Hussain, et al 2010). In Pakistan about 10% (600-700 plants species) of the national flora are utilized for drug purposes (Shinwari, 2010).

From the different place of Pakistan conduct Ethno medicines, survey and collect a lot of medicinal plant for the different purposes but not specifically from Ouch Valley. Our studies accompaniment the information on ethno botanically important species of the Lower Dir district. Similarly, (Shinwari *et al.*, 2002) explained the status of medicinal plants species of Shinaki Bar and Valleys, Northern Area of Pakistan. The present was conduct in district lower Dir, Khairabad Valley. Valley located 18 kilometer from Chakdara, university of Malakand it is well-liked for the collection of medicinal plants for treating various diseases like cough, fever etc . It is evident

from the literature review that previously no one has reported or documented the traditional uses of native plants from this valley. The present research are specifically designed to highlight the medicinal uses of plants present in Khairabad Valley and store the knowledge, and create awareness about conservation and documentation of the folk uses of the flora of the Khairabad Valley.

## **Materials and Methods**

Field survey and collection of specimen was done in the study area of Khairabad Valley. The data of use of medicinal plants was collected the different localities of Khairabad Valley. The people of different age interviewed and information were collected about the plants, different information like local name, its nature, local uses, parts used, distribution, flowering time, and fruiting time about the taxa data were record.

The instruments and materials used for collection of plants are, A digger for digging of underground stems, pair of secateurs for cutting twigs, knife for cutting different parts of plants, pair of forceps, wooden plant press, newspaper, note book for writing notes about plants medicinal uses, Magnifying glass, Microscope, camera for taking photos of the collected plants.

The plants were collected at a specific time during plant life cycle; it is because that the drug contents of the plant are at their peak time. Roots were collected either very early in the spring before growth has begun, or late in the fall. Stem collect during the blooming or fruiting period. Leaves are usually collected before blooming begins and can either be removed from the plant in the field, or the plant can be harvested and the leaves can be removed later at a collection area. Seeds and fruits are best harvested when ripe. Bark should be collected it slips most easily, during the dormant season i.e. in early spring. The plant species were identified directly with the help of flora of Pakistan, flora of Australia and other relevant published sources.

## **Results and Discussion**

The ethno medicinal flora of Khairabad Valley consists of 50 species belonging to 32 families. Among the collected plants 8 plants belong to family Lamiaceae, 3 to family Asteraceae 3 belong to Solanaceae. 2 Moraceae 3 belong to Rosaceae and 3 Rutaceae, , One species was recorded for Amaryllidaceae, Brassicaceae, Asophodelaceae, Cannabaceae, Oleaceae, Mimosaceae, chenopodiaceae, Apiaceae, Poaceae, Punicaceae, cupressaceae, Sapindaceae,

Myrtaceae, Fumariaceae, Juglandaceae, Malvaceae, Meliaceae, Anacardiaceae, Nyctaginaceae, Cucurbitaceae, Apocynaceae, Papaveraceae, and Vitaceae, Ascleiadaeaceae, oxalidaceae, polygonaceae (fig. 1). on the basis of their status the plants were divided into herb 50%, shrub 18%, tree 30% and climber 2% (fig.2). *Datura anoxia*, *Juglan regia*, *Canabus sativa*, and *Prunus amygdalous*, were used as tonic, *Ajuga bracteosa*, *Phoenix dactylifera*, *Vitis vinifera*, and *Olea ferruginea*, were used as anticancer, *Coriendum sativum*, *Morus alba*, and *Mirabilis Jalapa*, were used as purgative, while *Mangifera indica* and *Mentha piperita* were used as antiseptic, residual aspect of the species such as the part used, local name and their family, specie table(1).

**Table 1; List of species with their family and local name, habit and part use**

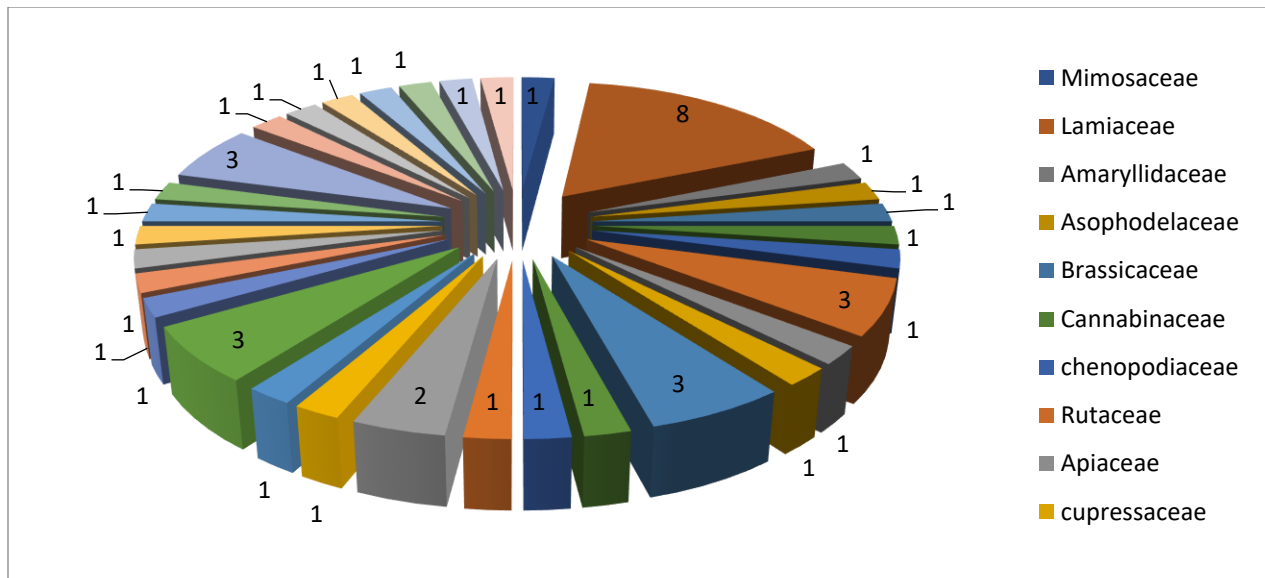
Family	botanical name of plant	English/local name	habit	part used
Mimosaceae	acacia nilotica	arabica/kiker	tree	bark, gum, seed
Lamiaceae	ajuga bracteosa	ajuga/boti	herb	whole plant
Amaryllidaceae	allium sativa	garlic/ooga	herb	whole plant
Asophodelaceae	aloe vera (l.)	lemon balm/kashmala	herb	leaf gel
Brassicaceae	brassica comperistis	musterd/sharshm	herb	seed, leaves
Cannabinaceae	canna sativa	soft hemp/bung	herb	leaves, flowering tops
chenopodiaceae	chenopodium ambrasiodes	goose foot/skha boti	herb	whole plant
Rutaceae	citrus medica	lemon/nembo	shrub	Fruit
Rutaceae	citrus sinensis	sweat orange/malta	shrub	Fruit
Apiaceae	coriendum sativa	coriender/danya	herb	seed, leaves
Cupressaceae	cupress sempervirens	cupress/sarwa	tree	needle, twigs
Solanaceae	datura innoxia will.	thorn apple/datura	herb	seed, leaves, flower
Poaceae	dendrocalamus strctus (roxb) nees	bamboo/ banus	tree	leaves
Spindaceae	dodonea viscos (l.)	hupbush/ghwarasky	shrub	whole plant
Myrtaceae	eucalyptus lanceolatal	eucalyptus/ilachi	tree	leaves, gummy exudates
Moraceae	ficus carrica	fig/inzar	tree	fruit
Fumariaceae	fumaria indica	Fumaria	herb	whole plant
Juglandaceae	juglan regia	walnut/ghuz	tree	bark, leaves, fruit
Asteraceae	luctca satial	Salad	herb	leaves and seed
Malvacee	malva neglecta	mallow/panerak	herb	whole plant
Anacardiaceae	magnifera indica	mango/aam	tree	bark, fruit, leaves, flower
Lamiaceae	mentha longifolia	horse nut/ wenally	herb	whole plant
Meliaceae	melia azadarech	neem/tora shundy	tree	leave, bark, fruit
Lamiaceae	mentha piperita	mint/podena	herb	whole plant
Nyctaginaceae	mirabillis jalapa	/gulibada	shrub	whole plant

Cucurbitaceae	momordica charantia	biter guard/karela	herb	Fruit
Moraceae	morus alba	white mulbery/bedana tooth	tree	bark and fruit
Oleaceae	olea ferruginea	olea/khona	tree	whole plant
Arecaceae	phoenix dactyliferal	date/kajora	tree	whole plant
Pinaceae	pinnus roxburghii	chir pine/nakhtar	tree	whole plant
Rosaceae	prunus amygdalous	almond/badam	tree	Seed
Punicaceae	punica grranatum	ponigramte/anar	tree	rind fruit, leaves
Apocynaceae	nerium oleander	oleander/gandery	shrub	Leaves
Lamiaceae	osimum basilicum	kashmaly	herb	whole plant
Papaveraceae	papaver sommiferum	poppy/qush qash	herb	capsule, gummy exudates
Rosaceae	rosa indica	Gulab	shrub	Flower
Solanaceae	solonum nigrum	black nightshad/kach machu	herb	whole plant
Solanaceae	solonum surattense	morghony	herb	Fruit
Asteraceae	taraxium officinale	dandelian/lalten	herb	whole plant
Vitaceae	vitis vinifera	grapes/kwar	climber	Fruit
Asclepiadaceae	carallum tuberculata	pamankey	herb	whole plant
Lamiaceae	salvia moorcroftiana	kharghwag	herb	leaves, stem
Lamiaceae	plectranthranthus rugoses	Sperkay	shurb	whole plant
Lamiaceae	lathyrus aphaca	kurkomany	herb	Leaves
Asteraceae	carthamus oxycantha	Kareeza	shurb	Fruit
Lamiaceae	otostegia limbata	spenazghay	herb	whole plant
Oxalidaceae	Oxalis kornialata	Tarooky	heb	whole plant
Polygonaceae	polygonum barbatum	polpolak	herb	whole plant
Rosaceae	rubus fruticosus	karwara	shurb	Fruit
Rutaceae	zanthoxylum armatum	dambara	tree	leaves, fruit

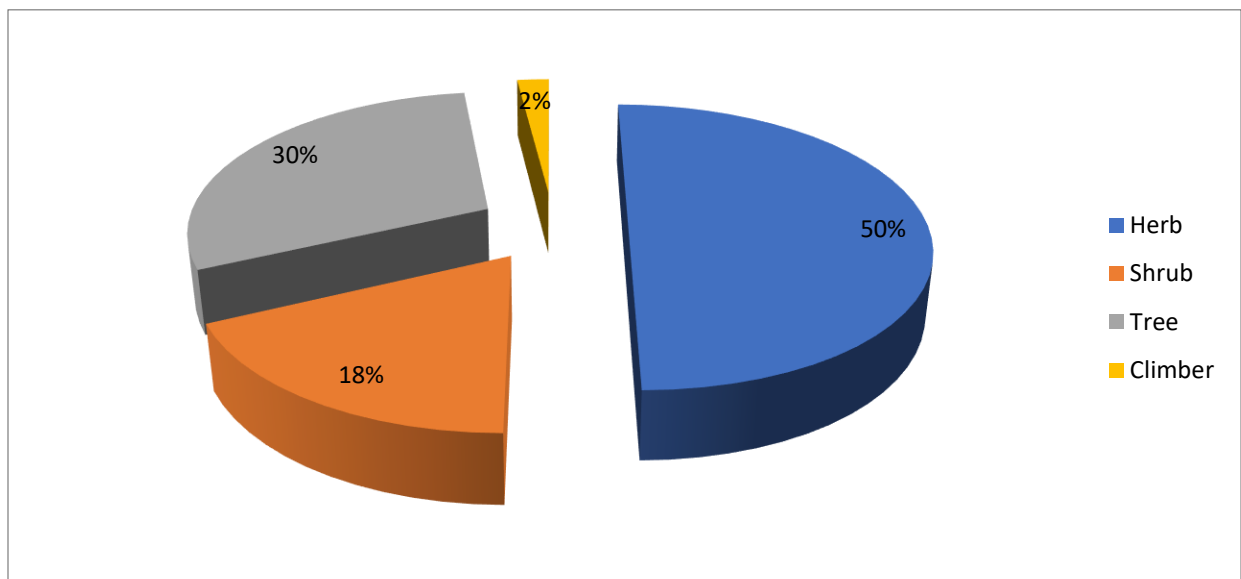
**Table 2; list of the 63 therapeutic.**

S.no	Full name	S.no	Full name
1	Stomach-ache	33	Toothache
2	Diurietries	34	Astringent
3	Astringent	35	Pharynsitis

4	Diarrhrea	36	Laryngitis
5	Cancer	37	Detergent
6	Cough	38	inti infilimination
7	Dysentery	39	skin disease
8	Fever	40	small pox
9	blood purifier	41	Tuberculosis
10	Laxative	42	Diabetes
11	Wound	43	Antiseptic
12	digestive disorder	44	Dyspepsia
13	Narcotic	45	Anemia
14	Sedative	46	Ulcer
15	pain killer	47	Influenza
16	blood clotting	48	kidney stone
17	Anthelmintis	49	mouth care
18	Carminative	50	Osteoarthritis
19	Vomiting	51	eye disease
20	Lever	52	Constipation
21	Headache	53	bladder disease
22	Bilious	54	Antioxidant
23	Purgative	55	Antimutagenic
24	Aromatic	56	Antimicrobial
25	facial care	57	muscle relaxant
26	Hemorroides	58	abdominal pain
27	Hallucinogenic	59	Swelling
28	Asthma	60	Antihyperlipidemic
29	Rheumatism	61	Antinephrolithiatic
30	Anodyne	62	Tonic
31	Iching	63	Cordiovasculer
32	Intispasmadic		



**Fig.1.** Ethno botanical important plants families' distribution in the Khairabad Valley KP, Pakistan.



**Fig. 2.** Habit of Ethno botanical plants in Khairabad valley KPK Pakistan.

As per medicinal use of the plants total 63 therapeutic classes as shown in Table (2) in which 8 used for dysentery, 8 for stomachic, 6 are diuretic, 2 are anticancer, 6 helping in fever, 7 are laxative, 4 for wound, 4 used for digestive disorder, 3 are narcotic, 6 sedative, 9 use as a pain killer, 2 for blood stopping, 4 used as anthelmintic, 4 carminative, 2 used for vomiting, 5 for liver disorder, 5 headache, 7 for cough, 5 as a purgative, 3 aromatic, 2 hemorrhoids, 5 astringent, 5 used as anti-inflammatory, 2 for skin disease, 2 as used small pox, 4 help in tuberculosis, 4 diabetes, 2

for kidney stone, 2 as mouth care, 2 plant are used as blood purifier, and one plant are used for, facial care, hallucinogenic, asthma, rheumatic, anodyne, itching, antispasmodic, 2 toothache, pharyngitis, laryngitis, detergent, anemia, ulcer, influenza, osteomalaria, eye disease, constipation, bladder, antimicrobial, antibacterial, tonic and antioxidant. Cardiovascular, antihyperlipidemic.

The present study indicated that a large number of medicinal plant are still present in which valley which is used for different purposes like wood, fuel, animal fodder and much more disease such as, the aqueous extract of *Coriandrum sativum* seed has anioxlytic, and for muscle relaxant, used diuretic and vermifuge. The *Ajuga bracteosa* used as a anticancer, diuretic, tonic, malarial fever and the fresh dry leaves is used in case of fevers, abdominal pain, gastro-entries, constipation, nausea and poor digestion, also leaves used for sore throat, tension and headache and very effectively used in reduction of blood pressure, some similarity to that of (Hamayun *et al.*, 2003) reported that for the treatment of jaundice, hypertension and sore throat the leaves decoction of *Ajuga bracteosa* is used. ( Haidar Ali *et al.*, 2009) suggested that when the fruit especially the pericarp of *Punica granatum* were grinded, dried, powdered and mixed it with sugar, to cure diarrhea and dysentery, and also help in swelling and injuries, and for Blood purification, cooling mainly fruit are use. And when the fruit pericarp and tea are mixed with each other it helps in whooping cough. And due to novelty in chemical constituents also people used as laxative. During present work it is investigate that the fruit of *Punica granatumis* taken as stomachic; rind of the fruit is useful in diarrhea, dysentery. Stem and root bark anthelmintic especially against tape-worms; seeds are stomachic, fresh juice is refrigerant, used in digestive disorders. Dry fruit also used for inflammation of throat. (Joshi, 2012) reported that the fruit of *Olea ferruginea* oil derived from fruit was analyses and contain (61–67%) monounsaturated oleic acid. It is a source of important nutrients and bioactive of remedial and therapeutic interest that is used by traditional people as remedy. Present study shows that the whole plant is for cure of diabetes, cancer lever problem, painkiller, and ulcer and also helps in heart trouble, and mostly in anemia. Leaves of *Oleo ferruginea* are used to cure gonorrhoea and fever. The oil from the fruit is rubefacient and taken for digestive disorders. Bark is astringent. ( Shinwari *et al.*, 2002) done to facilitate for toothache, headache and epilepsy the leaves of *Datura innoxia* is effective, and their seeds are antipyretic and narcotic. *Datura anoxia* is used in seed used as sedative and anodyne, hallucinogenic intoxicant extremely used in asthma, in India the leaves of datura used in cigarette for relive of asthma, in china the leaves are used in anesthesia during surgery, also used as sore



throat, headache and also avoid from heart problem. *Solanum nigrum* the juice from leaves and fruit is used for fever, eye disease and specially used in digestive disorder according to (Habib *et al.*, 2013) reported that *Solanum nigrum* is used as antipyretic. *Melia azdareca* used in diabetes, help in arthritis problem and help in cough and fever.

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