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Ethnomedicinal and Ethnobotanical survey of Jinjerate Koh Valley Drosh, District Chitral

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Abstract

The present study the ethno-botanical and ethno-medicinal uses of the plants resources of Jinjerate Koh Valley, Chitral. In Jinjerate Koh Valley Drosh, District Chitral a total 50 plants belonged 21 families were collected for the ethno-botanical study. Out of 50 plants species 24 plants are found to be used medicinally. Most commonly treated diseases are cough, constipation diarrhea and skin diseases, one plant was also reported for cardiac problem. The plant parts frequently used are whole plant (32%), followed by leaves (30%), seed (12%), fruit (9%), roots (5%) and flower (3%), plants mostly used for fodder and vegetables purposes. Asteraceae was dominants family represented by 8 plants species and Fabaceaae represented by 6 species. Medicinal plants are still the main source of treatment of different type of disease in the villages of Chitral.

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Introduction

Chitral valley is a remote area of Khyber Pakhtunkhwa Pakistan mostly the people of the area depend on plants for their basic need of life. The health facilities are also insufficient and the natives people are also pour there for the local communities depend on traditional system of disease cure. Some worker also work on the ethno-botanical plant of the valley such as Hussain (2003) documented the ethno-botanical used of fruit plants of district Chitral and found that 19 fruit plants are mainly cultivated by the local people of the area.

Hussain *et al.,* (2007) studied the ethno-botanical and ethno-medicenal plants of Mastuj valley Chitral and 111plants species ware collected which are mostly used by local communities for their basic need. Qureshi and Ghufran (2007) studied the indigenous used of plants from Attock (Punjab) also describe the methods of conservation of the medicinal plants of the area. Qureshi and Bhatti (2008) documented the ethnobotanical used of plants from Nara Desert, Pakistan. 51 plants were reported from the research areas which were used by the native people of the Nara Desert. Beyra *et al*., (2004) studied the ethno-botanically used plants from Camaguey, Cuba and 111 plant species were reported.

Mostly the local communities are depending on medicinal plants for the health problems. Sher and Hussain (1998a) documented that in traditional system of medicine plants play a key role in the treatment of diseases Medicinal plants are an important source of drugs in traditional system of medicine Leporatti and Lattanzi (1994) documented 27 plants species which are used the natives of the Makran (Southern Pakistan). For the treatment of different type of diseases. Jan *et al*., (2005).

Documented the folk medicinal recipes and their used for various ailments in Torkoh area Chitral, also listed their local names methods of preparation. Ahmad *et al*., (2015) studied the taxonomic diversity and ethno-botanical characteristics of the family Lamiaceae of Swat.

The research area was not studied previously for ethno-botanical aspect of plants so the aims and objectives of the current study were:

To document the importance of plants in the lives of local people.

To collect valuable information about the medicinal plant of the area.

To document the methods of folk medicinal recipes preparation and its applications.

Material and methods

Study Area

Chitral is located in the extreme north-east of Khyber Pakhtunkhwa, parallel to the pan handle shaped Wakhan corridor of Afghanistan. It lies within 35°15' 06" to 36°55' 32" North and 71°11' 32" to 73°51' 34" East (Anonymous, 1998).

Collection of data and plants

Several trips of the research area were made in different seasons in 2014 to 1216 for the collection of ethno medicinal and ethnobotanical data. The plants were collected from the research area; the ethno botanical data were also collected on the spots from the local people. The ethno medicinal information was also collected from the people by the help of questionnaire as per modification from **(**Lip, 1989).

Preservation of plants

The plants were preserved properly and identified according to Flora of Pakistan (Nasir & Ali, 1971-1995; Ali & Qaisar, 1995-2005). The plant specimens were then deposited in the herbarium of Department of Botany Islamia College Peshawar.

Result and discussion

In the present area which was selected for search a total 50 plants were collected for the ethno botanical study these plant belonged 21 families angiosperm. The dominants family was Asteraceae, represented by 8 plants species, Fabaceae represent by 6 species, Apiaceae have 4 species. Brassica ceae, Amaranthaceae, Cucarbitacea, Chenopodiaceae, and Ranunculaceae each represent by 3 species each. Cascutaceae and Rosaceae have 2 species each.

Berberidaceae, Betulaceae, Campanulaceae, Canabinaceae, Capparidaceae, Convoluvlaceae, Craaulaceae, Malvaceae, Polygonaceae, Saxifragaceae and Solanaceae represent by 1 species each. Among these plant herbs were the most dominant plant used by the local people, shrub were the second most used plant. Medicinal plants are still the main source of diseases cure in rural area of the country. Akhtar *et al.,* (2013) reported the use of ethno-medicinal plants from Swat mostly the local communities depends on plants for their basic need. Plants were also reported for skin from North West Punjab (Gul, 2012). Present survey also revealed that some plants are used for more than one type of disease, in some species every part used as exclusive medicinal remedy (Ahmad &Husain, 2008) The people living mountainous area depend on plants (Aziz *et al.,* 2016) medicinal plants were also used local people of Lesser Himalayas of Pakistan (Abbasi *et al.,* 2013). Our findings also have similarities with Mahmood *et al.,* 2012, Shinwari *et al.*, 2011, Goraya *et al.*, 2013. In our study frequently whole plant are used (32%), followed by leaves (30%), seed (12%), fruit (9%), roots (5%) and flower (3%), plants mostly used for fodder and vegetables purposes. Complete descriptions of plants are as given in table 1.

Table 1. Family, Botanical name, Vernacular name, Habit, Part of plant use Ethno-botanical uses of plants.

S. No.	Family	Botanical Name	Vernacular Name	Habit	Part Used	Ethno-botanical Uses
1	Amaranthaceae	*Amaranthus cruentus* L.	Kruishakhu	Herb	Leaves	Young leaves used as vegetable. Also used as fodder.
2	Amaranthaceae	*Aerva lanata* (L.) Juss.	Knotgrass	Herb	Whole plant	Fodder for livestock.
3	Amaranthaceae	*Amaranthus retroflexus* L.	Ganari	Herb	Leaves	Used as Fodder for cattle.
4	Apiaceae	*Coriandrum sativum* L.	Danu	Herb	Shoot, leaves and fruits	Aromatic in nature therefore used as condiment, carminative and diuretic agent.
5	Apiaceae	*Trachyspermum ammi* (L.) *Sprague.*	Shunjmuk	Herb	Seeds	Seeds, leaves and flowers are boiled in milk with a little salt and given to the patients of diarrhoea, bronchitis, throat infection and cough.
6	Apiaceae	*Carum carvi* L.	Hojoj	Herb	Seeds	Seeds are boiled; herbal tea is made and is used in nausea and stomachic.
7	Apiaceae	*Cuminum cyminum* L.	Zira	Herb	Seeds, leaves	Leaves are used as fodder for animals. Seeds are used as condiment.
8	Asteraceae	*Erigeron bonariensis* L.	Horse weed	Herb	Seeds, leaves	Leaves are used as fodder for animals. Seeds are used as condiment.
9	Asteraceae	*Calendula arvensis* (Vaill.) L.	Bodoki	Herb	Leaves and flowers	Used as condiment and vegetable.
10	Asteraceae	*Cirsium arvense* (L.) Scop.	Chamchirik	Spiny Shrubs	Leaves	Leaves used as fodder for cattle.
11	Asteraceae	*Carthamus tinctorius* L.	Poam	Shrub	Dried floret, seeds	The orange/reddish/brownish florets are collected, dried, powdered and mixed with milk to cure itching of body rashes. Herbal tea made from seeds cures cough.
12	Asteraceae	*Cirsium vulgare* (Savi) Ten.	Blansirik	Spiny Shrub	Leaves	The weed after harvest losses turgidity and then is used as fodder, which is said to be thicken the milk of animals.
13	Asteraceae	*Cichorium intybus L.*	Khasti	Herb	Root and leaves.	The root of this plant is dugout and washes with water. Then chop and boil with water. After cooling these extraction is filter trough silk cloth. These aqueous extract is useful for cardiac problem. Young leaves serve vas vegetable; while whole plant is used as fodder.
14	Asteraceae	*Artemisia abaensis* Y.R.Ling and S.Y.Zhao	Dron	Shrub	Leaves	Fodder for animals.
15	Asteraceae	*Aster frikartii* Silva Tar. and C.K.Schneid.	Aster	Herb	Whole plant	Ornamental plant
16	Berberidaceae	*Berberis lycium* Royle	Chounj	Shrub	Whole plant	Leaves and fruits are collected and juice is extracted from leaves and fruit. Filtered and stored in bottles. Which can be taken orally? These can be used for treatment of typhoid, dyspepsia, blood purification and muscular pains. These are also use as firewood and animal fodder.
17	Betulaceae	*Betula utilis* D.Don	Bulee	Tree	Whole plant	The water proof thin bark was used as paper for writing in is heated and wrapped around boils. Stem fire wood and leaves as fodder.
18	Brassicaceae	*Brassica rapa* L.	Chalmuchan/ Sarson	Herb	Leaves, stem	Mustard is cultivated as vegetable. Also use as fodder.
19	Brassicaceae	*Brassica oleracea* L.	Band ghobi	Herb	Leaves	Cabbage is cultivated as vegetable. Leaves serve as fodder.
20	Brassicaceae	*Capsella bursa-pastoris (L.) Medik.*	Shatara	Herb	Whole plant	Fodder for animals
21	Campanulaceae	*Codonopsis clematidea* (Schrenk) C.B.Clarke	Marghon	Herb	Whole plant	The plant is used as fodder.
22	Cascutaceae	*Cuscuta reflexa* Roxb.	Umbool	Climbing	Whole plant	Used as fodder for cattle's and is parasitic on clover and

S. No.	Family	Botanical Name	Vernacular Name	Habit	Part Used	Ethno-botanical Uses
				Herb		alfalfa plants.
23	Cascutaceae	*Cuscuta epithymum* (L.) L.	Umbool	Climbing herb	Whole plant	It is used as fodder for cattle and act as parasites on various plants past it was used as dying agent for dying wools. The plant is dried, mixed with water and then colored wools and white threads.
24	Canabinaceae	*Cannabis sativa* L.	Boung	Herbs	Leaves, stem & seeds	The leaves are dried ,grinded and powdered called garda are mixed wheat flour and is given to cattle to treat flatulence, sedative and abdominal pain. Seeds are fed to hens to enhance egg lying this plant is narcotic and used in the preparation of charse, Which produce pleasure and excitement. Also used as firewood and fodder.
25	Capparidaceae	*Capparis spinosa* L.	Kaveer	Shrubs	Flower & fruits	Floral buds are collected and keep in the rooftop under the sky for at least 7 days for soaking. After drying these floral buds are mashed with wheat flour and cooked to prepare aqueous extract called kavirough, which is efficient for abdominal pain. Leaves are used as fodder. The fleshy fruits are applied as face Cosmetics.
26	Chenopodiaceae	*Chenopodium acerifolium* Andrz.	Khodur	Herb	Leaves	It is a fodder.
27	Chenopodiaceae	*Chenopodium album var. reticulatum* (Aellen) Uotila	Gangali kunakh	Herbs	Whole plant	The Plant is used as fodder.
28	Chenopodiaceae	*Chenopodium album subsp. iranicum* Aellen	Kunakh	Herbs	Leaves	The leaves serve as vegetable, as laxative for constipation. Plant is used as fodder.
29	Convolvulaceae	*Convolvulus arvensis* L	Mish/polinijo shu	Herbs	Whole plant	Use as fodder for cattle's.
30	Crassulaceae	*Aeonium canariense* (L.) Webb & Berthel.	Ghepjoshu	Herb	Whole plant	Ornamental plant
31	Cucarbitaceae	*Cucurbita pepo* L	Tinda	Herb	Seeds, leaves, fruits	Fruit is a good vegetable. Leaves used as fodder. while fruit & flowers serve as vegetable. The seeds are diuretic.
32	Cucarbitaceae	*Cucumis sativus* L.	Badrangh / khira	Herb	Leaves, fruits	Leaves used as fodder while fruit are serve as vegetable. The fruit is sweet, act as cooling agent and are useful in burning sensation, fever, constipation, and applied on eyes to improve eye sight.
33	Cucarbitaceae	*Cucurbita maxima* Duchesne	Alok	Herb	Seeds, leaves, fruits	Fruit is a good vegetable, The seeds of this plant are boiled in water and then filter to make herbal tea which is helpful to cure cough.
34	Fabaceae	*Astragalus tragacantha* L.	Garmezu	Shrub	Whole plant	Used for thatching purpose and firewood
35	Fabaceae	*Astragalus sesameus* L.	Orchokuchun	Herb	Whole plant	Fodder.
36	Fabaceae	*Cicer arietinum* L.	Chola	Herbs	Whole plant	It is also used as fodder. Fruits are used as vegetable. The seeds are sweet and are used as anti diuretic, bronchitis and skin diseases.
37	Fabaceae	*Coronilla coronata* L.	Like rub	Herb	Whole plant	Fodder for animals
38	Fabaceae	*Astragalus aaronii (*Eig) Zohary	Doderokuchu n	Herb	Whole plant	Fodder
39	Fabaceae	*Astragalus adsurgens* Pall.	Rub	Herb	Whole plant	Fodder
40	Fumaricaceae	*Corydalis aurea* Willd.	Golden corydalis	Herb	Whole plant	Fodder
41	Fabaceae	*Cicer microphyllum* Benth.	Qaquchun	Shrub	Whole plant	Fodder
42	Malvaceae	*Abelmoschus esculentus* (L.) Moench	Bhindi	Herb	Leaves, fruits	Leaves are used as Fodder for cattle. Fruit is nutritious, diuretic in case of dysentery. It is very effective against urinary and skin diseases.
43	Polygonaceae	*Atraphaxis pyrifolia* Bunge	Ishpen	Trees	Stem, & leaves	Stem and branches are used as firewood, leaves serve as tem are used axe handle etc.
44	Ranunculaceae	*Aconitum carmichaelii* Debeaux	Zharojosh	Herb	Roots	Roots extract are useful to strengthen and clean hairs.
45	Ranunculaceae	*Clematis orientalis* L.	Chountrouk	Herbs	Whole plant	Extract of leaves is used for eczema. Used as fodder & firewood.
46	Ranunculaceae	*Caltha palustris* L.	Chiririjosh	Herb	Leaves	It is served as a fodder for cattle.
47	Rosaceae	*Cotoneaster acuminatus* Wall. ex Lindl.	Mikin	Shrub	Fruits, seeds, leaves & stem	The edible fruits and seeds are blood purifier. Stem & branches are used as fodder.
48	Rosaceae	*Crataegus songarica* K. Koch	Ghooni	Tree	Whole plant	The bark is soaked in water for some hours and aqueous extract is obtained, called Ghuniogh. One glass of ghuniogh is given to the Women at the time of child birth to reduce labor pain. It is also used as timber wood.
49	Saxifragaceae	*Bergenia stracheyi* (Hook.f. & Thomson) Engl.	Besabur	Herbs	Seeds, leaves, roots & latex	Seeds, leaves, roots and latex are used for eczema, toothache and bleeding gums. Also used to make gholja, in ancient women Used it as face cream (sun block). Leaves are used as fodder.
50	Solanaceae	*Datura stramonium* L.	Bangedivana	Herb	Stem	The peel from dried stem and branches, called khaf, are placed over affected parts of the body and burnt to treat rheumatic diseases. Seed smoke is considered as devil repellent and protects from evil sight. Plant is used as firewood. Seeds are poisonous.

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