

## **Ethnobotanical Studies From Northern Areas of Pakistan**

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### **Summary**

The present study was aimed to investigate the ethnobotanical knowledge of plants in the northern areas of Pakistan. The ethnobotanical data on 51 plant species belonging to 36 families were recorded during field trips from Naltar, Nagar, Hunza, Jaglot, District Astore, Skardu, Ghizer and Diamer. The whole information were collected through interviewing and filling of questionnaires from local people, hakeems, shepherds, farmers, local herbal practitioners and forest guards. The botanical name, followed by vernacular name, family, habitat, part used and uses were recorded.

**Key words:** Etanobotanical, Northern areas of Pakistan.

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### **Introduction**

Northern areas of Pakistan occupy a unique Bio-geographic position. Nature has endowed this region with high mountain massive glaciers magnificent rivers and splendid valleys. The Northern Areas of Pakistan are located between 35-37N and 72-75 E. and are divided in to six administrative Districts, Gilgit, Diamir, Ghizar, Skardu, Ganche and Astore. Human settlements are on alluvial fans and terraces from 4000 ft to 11500 ft on either side of Indus and its tributaries where water is available for agriculture. Roughly 0.86% area is under agriculture, double of this is arable, 4.0% under forest and the rest is cover by range lands, glaciers and mountains. Agriculture is irrigated owing to scanty precipitation and subsequent aridity allover the mountain region. People of the area live a very hard life. Climatically the area falls in the dry temperate zone located beyond the reach of the eastern monsoon. However western disturbances bring snow and rainfall in winter and spring. Winter is sever and prolonged and the temperature remains below freezing during December to mid February. In low lying area the summer goes up to 112 F°.

Northern areas ecological landscape provides suitable environment for the natural growth of medicinal plants and there are two ecological zones where several species of economically important plants are exploited commercially. The Flora of the region is very diverse, with a number of economically important species of wild plants, including wild *cumin*, *thyme*, *pine*, *angelica*, *artemisia*, *arnebia*, nuts and hundreds of medicinal plants with useful Pharmaceutical values. About 5700 species of flowering plants have been reported from Pakistan, and almost 400 of these endemic species and around 1000 species of vascular plants are known to occur in northern mountain regions of Pakistan [1]. The high mountains, alpine and sub alpine meadows of Northern Pakistan are highly rich in medicinal plants. The area is not easy accessible due to its severe climatic condition in winter.

The people of this area with their own primitive culture and traditions are another source of beautifications. The native inhabitants of Northern Areas have a lot of indigenous knowledge regarding the uses of medicinal and other beneficial plants. Moreover, they have the knowledge ranging centuries old of the traditional uses of the medicinal herbs in the region. This indigenous knowledge of plants/ herbs is transferred from generation to generation from their ancestors. This indigenous traditional knowledge of these people about the herbs transmitted in non-transcriptional ways for many decades is rapidly disappearing due to wide importance and promotion of allopathic medicine in the area.

Several medicinal plants were identified in Astore and adjoining areas. Four scientific expedition for collection of plants were organized by Kyoto University (Japan) and Punjab University Lahore, who jointly carried out a survey of the Hindokush and Karakoram during 1955, 1956, 1957 and 1958. The Botanical survey report of these expeditions has been edited [2] with the title of “Plants of west Pakistan and Afghanistan” and published by Kyoto University. A team of Botanist headed by Dr. M. B Zaman carried out a survey of medicinal plants of Gilgit, Astore and Guraze valley in 1957. After the construction of KKH the Northern Areas were linked with the rest of the country and almost all important valleys have been opened by jeep road making the access easy to all botanically interesting areas. A detail Botanical survey of the area is needed to explore the medicinal flowers.

### **Materials and Methods**

The study was conducted from 1<sup>st</sup> March, 2006 to 8<sup>th</sup> December, 2006. The work plan was prepared and general information about the area, cultural practices and vegetations were collected before starting the field work. The project area was Naltar, Nagar, Hunza, Jaglot, District Astore, Skardu, Ghizer and Diamer (Northern Areas). The plants specimens have been collected with different pastures and nallahs of above-mentioned areas. They were given field number and plants pressers containing blotting papers to press them. Frequent field visits were undertaken during the whole period of the research work in order to gather the ethno- botanical information and traditional uses of plants. The whole information were collected through interviewing from local people both men and women. Largely the information was given by local elders who were the real users and have a lot of information about the plants and their uses. The local names and uses of plants were given in the fields by local experts and the data were also collected from

Hakeems, shepherds, farmers, local herbal practitioners and forest guards. The plants were identified with the help of literature, manuals and floras [3, 4, 1]. Plants were collected, pressed, dried, and preserved at AMHRWO Herbarium Gilgit.

### Results

#### *Aconitum chasmanthum.*

**Vernacular Names:** Bishmoulo ( Shina ) Mori( urdu )

**Family:** Ranunculaceae

**Habitat:** Astore, Kargah , Naltar, Nagar, Daarel

**Description:** *Aconitum chasmanthum* is a perennial graceful herb with blue- purple hooded flowers.

**Uses:** It is used in inflammation, influenza, cold, cough, mumps, cystitis , fever, insomnia, measles sore throat and for leucoderma.

**Voucher No:** AMR /113/ GLT

#### *Angelica glauca Edgw.Stapf.*

**Vernacular Names:** Chora ( urdu ), Choro ( shina )

**Family:** Umbelliferae/ Apiaceae

**Parts used:** Roots

**Habitat:** Babosar, Astore.

**Description:** *Angelica* is an aromatic biennial herb with greenish white globe- shaded compound umbels. Stem purple tinge and are upright, ridged and hollow. Leaves are bright green with the lower leaves large and tri- pinnate and sharply toothed. The upper leaves are small and pinnate. Flowers are sweetly scented. Root is fibrous gray and hard.

**Uses:** Cardioactive, stimulant, expectorant, diaphoretic. Root is used as a spices or condiment as well as drug. It is also considered to treat constipation for cough and heart diseases. Powdered root is administered in warm water for children's stomach ailments.

**Voucher No:** Voucher No: AMR /114/ GLT

***Artemisia maritima L.***

**Vernacular Names:** Dermina turkey (Urdu), Zoon (Shina )

**Family:** Compositae

**Part used:** Leaves

**Habitat:** Gilgit, Chilas, Astore.

**Description:**A much branched stiff, strongly aromatic, shrubby perennial, with dissected pale gray to almost white leaves with narrow branched spikes of auxiliary clusters of tiny yellowish to reddish flower heads.

**Uses:** The fresh or dried leaves with the sugar or Honey and taken as vermifuge. The santonin extracted is used in fever and the ointment made for use in joint pain has made it more important.

**Voucher No:** AMR /115/ GLT

***Anaphalis nepalensis***

**Family:** Compositeae/ Asteraceae

**Part used:** Inflorescence

**Vernacular Names:** Chikee (shina) , chora ( Urdu )

**Habitat:** Astore,Chaprote,Gilgit

**Description:** Anaphlaxis nepalensis is perennial graceful herb with white flower.

**Uses:** Aromatic,used in home for their beautiful smell and its flower are used in gynocological infections,also used in diarrhea.

**Voucher No:** AMR /116/ GLT

***Berberis aristata DC***

**Vernacular Names:** Churku, sumlo, ishkeen( shina) Sumbal/Kishmal ( Urdu)

**Family:** Berbeirdaceae

**Parts Used:** Roots, Stem

**Habitat:** Karakoram and Himalayas (Eastward to Garhwal). Common in Balochistan, Dir, Gilgit, Hazara, Murree and Azad Kashmir at elevations of 900 to 3000 meters. The plants are widely distributed in the temperate and semi temperate zones of Balochistan, NWFP, Azad Kashmir and the Northern Areas.

**Uses:** A crude decoction is made by boiling the roots in water and solidifying the extract which is known as rasant, a valuable remedy for swollen and sore eyes. Mixed with butter and alum or with opium and lime juice, it is applied over the eyelids as useful household remedy in acute conjunctivitis. The chief alkaloid of root is umbellatine berberine, starch grain and tannin are also present in small quantities. The roots are used as a tonic, astringent, diaphoretic curative of piles and febrifuge. They are used in gonorrhoea, and chronic diarrhoea.

**Voucher No:** AMR /117/ GLT

### ***Bergenia stracheyi***

**Vernacular Names:** Korat (Shina) Zakham-i- hayat (Urdu)

**Family:** Saxifragaceae

**Parts used:** Leaves, Flowers

**Habitat:** Baboser, Naltar, Astore, Juglot, Nagar.

**Description:** A perennial herb, Leaves ovate or orbicular, heart shaped at the base, margin entire, fringed with bristles, hairy on both sides. Inflorescence, a raceme, on a long stalk. Flowers white, pink or purple. Fruit is round; seeds are many oblong and minute. Root stock thick and fleshy.

**Uses:** In Northern Areas its leaves and roots are used for recovery after delivery. It is used for dental diseases. Powder of root is mixed with butter and sun blocking cream. Its roots are used for rheumatic, arthritic and back bone pains. It is also used as aphrodisiac for sexual stimulation and on wounds. Green tea is made from its dry leaves.

**Voucher No:** AMR /118/ GLT

### ***Betula utilis D. Don***

**Vernacular name:** Bhoj Pattar (Urdu), Birch (Eng)

**Parts Used:** Bark

**Habitat:** Pakistan to S. W. China 2700- 4300m. Almost all the peaks of mountains at Northern Areas.

**Description:** A moderate size tree with very distinctive bark which peels off in very thin pale almost transparent horizontal strips. Male catkin mostly 5 to 10 cm reddish appearing on bare branches.

**Uses:** The bark ( paper ) is used in the pharmaceutical filterings especially during the analysis of vitamin B- I. Local people cover Desi Ghee in the bark ( which is like paper, Indians in ancient used it to write upon ) and bury in the soil; as the time passes, the taste of Ghee becomes pleasant. Due to the water proof nature of the paper, they spread this paper on the roofs of their houses like sheets during construction as well as cover the potatoes and wheat which are kept in small digs made in the fields.

**Voucher No:** AMR /119/ GLT

### *Cannabis sativa L*

**Vernacular Names:** Thoonchi ( Shina ), Bhang( Urdu ),

**Family:** Cannabaceae

**Parts Used:** Dried flowering or fruit tops, leaves and resins exudation

**Habitat:** Gilgit, Astore, Diamer, Baltistan.

**Uses:** The plant is a narcotic drug and is also used for malaria, black water fever, blood poisoning, anthrax and dysentery. A poultice is useful in all inflammation and neuralgia. The leaves are narcotic, anodyne, sedative, antispasmodic, diuretic, digestive and astringent. It is also used as a household remedy for dysentery and diarrhea. Powdered leaves are administered as stomachic and for relieving flatulence. The leaves are given to induce sleep where opium is not useable. The leaves are also used in tetanus and for relieving pain in dysmenorrhea. The juice of fresh leaves is used for removing dandruff and vermin from the head and for allaying pain in the ear. Powder of the leaves is useful for dressing fresh wounds and sores as it promotes granulation. Poultice of fresh leaves is used for eye- diseases with photophobia, in piles and in orchitis. Hashish (Bhang) is given in dyspepsia, gonorrhoea, and bowel complaints. Ganja is sometimes used as an antidote to poisoning or orpiment. In case of strangulated hernia and griping pains of dysentery Ganja smoke is passed through the rectum. It is also used to relieve pain in itching eczema and pruritus. Charas is a valuable narcotic and is given in malarial and periodical headaches, migraine, acute mania, whooping cough. Cough of phthisis, asthma, anemia of brain, vomiting, tetanus, convulsions, insanity, delirium, dysuria and nervous exhaustion. The drug is commonly used by the lower classes as a sexual stimulant. The seeds are narcotic. The infusion of the seeds is useful for gonorrhoea. In the Northern Areas, the seeds of the plants cultivated in vegetable gardens are eaten with dry fruit like mulberry and kernel of apricot etc.

**Voucher No:** AMR /120/ GLT

***Carum carvi L.***

**Vernacular Names:** Hayyo ( Gilgit ), zerra ( urdu )

**Family:** Umbelliferae/Apiaceae

**Part used:** Seeds, leaves , Roots

**Habitat:** Astore ( Rattu Area), Gilgit, Diamer.

**Uses:** A very important of condiment and spices of the food. Extensively used in curry and pulao. It is also used as carminative, appetite stimulant.

**Voucher No:** AMR /121/ GLT

***Capsella bursa -pastoris - L.***

**Vernacular Names:** Paskey ( Shina), Khakasheers ( urdu )

**Family:** Brassicaceae

**Part Used:** Seeds, leaves

**Habitat:** Gilgit, Ghizer, Astore

**Description:** Annual or biennial herb, stem erect, glabrous or hairy. Basal leaves rosulate, usually pinnatifid. Cauline leaves smaller, sessile and clasping the stem. Inflorescence, racemes many flowered, flower white. Seeds oblong- elliptic, pale brown.

**Uses:** Seeds are used in cold, cough and fever. Leaves are used as salad.

**Voucher No:** AMR /122/ GLT

***Chenopodium album L.***

**Vernacular Names:** Kunah ( Shina ), bathwa ( Urdu )

**Family:** Chenopodiaceae

**Part Used:** Whole herb

**Habitat:** Gilgit, Ghizer, Nager.

**Description** It is an annual up to 80 cm green mealy scentless, glabrous herb. Leaves varying from rhombic- ovate to lanceolate flower small dense cluster or glomerules arranged in terminal or axillary spikes or cymes. Perianth segments- 5 green sepaloid, with a round keel on the back, enclosing the utricle. Stamens 5 styles very short stigma. Seeds 1 mm in diameter rounded compressed black shining almost smooth.

**Uses:** This plant is used as laxative in hepatic disorder and in splenomegaly.

**Voucher No:** AMR /123/ GLT.

***Colutea paulsinii* .**

**Vernacular Name:** Paskey (Shina)

**Family:** Papilionaceae

**Part Used:** Seeds

**Habitat:** Gilgit, Nager

**Description:** A shrub up to 2m tall, young shoots pubescent, older shoots reddish brown, shining. Leaves alternate, imparipinnate. Inflorescence raceme, flowers yellow, fruit inflated like bladder with papery wall. Seeds black and numerous.

**Uses:** Seeds are slightly toxic are used in seasonal fever.

**Voucher No:** AMR /124/ GLT

***Chichorium intybus* L.**

**Vernacular Names:** Iskanachi ( shinna ), Kasni ( urdu )

**Family:** Compositae/Asteraceae

**Parts Used:** Whole Plant

**Habitat:** Throughout the Northern Areas of Pakistan

**Description:** This is a small, perennial, spreading herb. It is a common weed of open spaces like roadsides. Its flowers are blue- purple or pinkish. The flowering period is from June to September.

**Uses:** It is used in the treatment of fever, diarrhea, and splenomegaly. In Northern Areas it is also used as vegetable.

**Voucher No:** AMR /125/ GLT

***Dactylorhiza hatagirea (D. Don)***

**Vernacular Names:** Nar mada ( Shina ) Salap/ Salib Punja ( Urdu )

**Family:** Orchidaceae

**Part used:** Tubers (Roots)

**Habitat:** Gilgit, Astore

**Description:** It is a perennial herb, stem erect leafy, stout and hollow. Leaves oblong lanceolate, base sheathing. Inflorescence spike. Flowers purple, bracts green, narrowly lanceolate, lower longer than the flowers, upper slightly shorter. Roots tuberous, divided into 2 or 3 lobe.

**Uses:** It is a nervine tonic and aphrodisiac and used in impotency.

**Voucher No:** AMR /126/ GLT

***Delphinium brunonianum Royle.***

**Family Name:** Ranunculaceae

**Vernacular Names:** Mareal/Mukhoti ( Shina ), Gul- e- Mamoon ( Urdu )

**Parts Used:** Leaves, Flower

**Habitat:** Naltar, Khunjab National park, Gilgit.

**Description:** It is a perennial herb, stem branched, mostly dense glandular pubescent, petiol long. Leaves orbicular-reniform in outline, 3-lobbed, segments obovate, incised to toothed, and teeth mucronulate. Inflorescence 4-7 flowered cymes; bracts long. Flower blue pedicel long pubescent. Lateral and interior sepals obovate posterior long acute. Spur conical, inflated recurved, obtused; posterior petals long bilobed, glabrous; anterior petals long, claw long glabrous; limb long bifid, covered with tuft of hairs. Fruit, follicles oblong glandular, pubescent.

**Uses:** It is used for cough, sore throat, fever, asthma, typhoid and malaria.

**Voucher No:** AMR /127/ GLT

***Daphne mucronata Royle.***

**Vernacular Names:** Nirco ( Shina), Rati lal ( Urdu )

**Family:** Thymelaeaceae

**Parts Used:** Leaves, Berries

**Habitat:** Nagar,Hunza,Ghezer,Skardu.Naltar.

**Description:** It is a perennial shrub 2.5 to 3 m tall, stem branched often – tomentose leaves simple alternate oblong to lanceolate, mucronate sessile 3- 9 flowers in terminal. Corolla tube long, petals 4 lobed, stamens 8, bi-seriate, fruit ovoid and dark orange.

**Uses:** leaves are used externally for rheumatism and Arthritis.

**Voucher No:** AMR /128/ GLT

***Equisetum arvense L.***

**Vernacular Name:** Chew ( Shina )

**Family:** Equisetaceae

**Part used:** Whole Plant

**Description:** A small perennial herb, belong to pteridophytes of plant kingdom. Main stems hollow 10- 14 furrowed. Cones are produced on branches.

**Uses:** Plants are mixed with other herbs and applied on skin troubles and allergy. It is also used with a plantago species to cure diarrhea.

**Voucher No:** AMR /129/ GLT

***Ephedra gerardiana .***

**Vernacular Name:** Dama Booti/Asmani Booti ( urdu)

**Family:** Ephedraceae

**Parts used:** Roots, Dried twigs, Fruit and Seeds

**Habitat:** District Gilgit,Astore,khunrab National Park. Central Asia, West Siberia, Afghanistan, Tibet, Sinkiang, Karakoram and Nepal. In Pakistan it is found in Balochistan, the Northern Areas and the Himalayas.

**Description:** A shrubby plant up to 50cm tall, branches usually many, erect, spreading, minutely tuberculate, inter-nodes straight or slightly bent. Male strobili up to 8, whorled; bracts obligate, connate; staminate column slightly exerted. Female strobili paired or in whorls.

**Uses:** Roots and stem are used as anti rheumatics and anti- asthmatics, as cardio vascular stimulants, and as a remedy for syphilis. The juice of the berries is useful in treating infections of the respiratory passage. Fruits are edible, used for hay fever and laryngitis. Seeds are used as a cooling medicine. In Astore Valley it is mixed with tobacco and used as naswar. Farmers also use it as silage in winter.

**Voucher No:** AMR /130/ GLT

***Fraxinus xanthoxyloides (G. Don) DC.***

**Vernacular name:** Kasonder ( Shina )

**Family :** Oleaceae

**Parts Used:** Leaves and Root Bark

**Habitat:** Naltar,Haramosh, Bagrote,Astore.

**Description:**The plants are perennial shrub or trees, stem tall, erect and branched. Leaves imparipinnately compound. Leaflets cordate entire.

**Uses:** Locally leaves and root bark are used for Jaundice, pneumonia and Malaria and also used for fodder and fuel wood.

**Voucher No:** AMR /131/ GLT

***Fragaria nubicola L.***

**Vernacular name:** Kuruchal

**Family:** Rosaceae

**Common Name:** Wild Strawberry

**Part Used:** Fruits

**Habitat:** Naltar,Chilas,Astore,Gilgit.Kurram Agency, Waziristan, NWFP and Baluchistan. Cultivated in all parts of Pakistan an as fruit trees.

**Uses:** Fruits are used in fever,antiemetic,in diarrhoea and as carminative.

**Voucher No:** AMR /132/ GLT

***Ferula narthex.***

**Vernacular Names:** Sup ( Shina ) Hing ( Urdu )

**Family:** Umbelliferae/Apiaceae

**Parts Used:** Root and Stem and resin.

**Distribution:** In Northern Areas it is found in Byan Jangle Sain, Bagrote valley ( Gilgit), Harcho Nullaah, Kamri, Chillim, Rattu at Astore.

**Uses:** Gum resin is used in scorpion sting whooping cough, hysteria, treatment of habitual abortion, indigestion, torpidity of liver and epilepsy. It is also used as intestinal antiseptic, anthelmintic, carminative, anti spasmodic, nerving stimulant, expectorant and diuretic. Seeds are anthulmentic.

**Voucher No:** AMR /133/ GLT

### *Gentiana tianschinica*

**Vernacular Name:** Bangra ( shina/Plamat.)

**Family:** Gentianaceae

**Parts Used:** Leaves, Flowers

**Habitat:** Haramosh, Nagar, Hunza, Gilgit.

**Description:** A perennial herb 1-2 feet tall, petiol long arising from ground. Leaves simple, oblong lanceolate, pointed at the apex. Flowers blue and produced on verticillaster position.

**Uses:** Leaves and flowers are used for purification of blood and also used for potency.

**Voucher No:** AMR /134/ GLT

### *Glycyrrhiza glabra L.*

**Vernacular Name:** Shakshaloko(Shina)Multhi(Urdu)

**Family:** Fabaceae

**Parts used:** The Dried Roots and Rhizomes

**Habitat:** Greece, Syria, Central Asia, Afghanistan, Azad Kashmir, Baluchistan and in Gilgit it is found wild in Danyore, Thalichi, Sultanabad, Jutial, Rahimabad, Goro Juglote, Rabat Chaprote, Chalt and Silpi .

**Uses.** Flavoring agent, for gastritis, and ailments of the upper respiratory tract

**Voucher No:** AMR /135/ GLT

***Hippophae rhamnoides L.***

**Family:** Elaeagnaceae

**Vernacular Name:** Dwarf Seabuckthorn ( English )

**Parts used:** Fruit, Seeds

**Description:** It is usually dwarfed with extensive branching thorny shrubs and scaly young twigs. The older shoots have silver, covering and the smaller, narrower leaves all clothed underneath with silvery or rusty scales. The leaves are variable, oblong with a length of 4 cm and a width of 2- 4mm. The fruit is approximately 6mm in size and orange red in color. The stem is stout and range from 20 to 90 cm in size.

**Uses:** The fruit is acidic and is used for treating cough. A decoction of the berries is used for skin and lung problems. It is also used as anti hypertensive and also used as anti cancer.

**Voucher No:** AMR /136/ GLT

***Hyoscyamus niger L.***

**Vernacular Names:** Tamakoo ( Shina), Ajwain-i-khurasani ( Urdu )

**Family:** Solanaceae

**Parts used:** Seeds, Leaves.

**Habitat:** Naltar, Astore, Chilas, Nagar.

**Description:** It is a biennial deciduous herb, with unpleasant heavy odour, radical leaves entire or coarsely sinuate toothed or lobed oblong ovate, cauline leaves smaller, sessile, and ovate lobed. Flowers axillary, tubular, five parted, greenish, yellow color with purple veins, fruit a capsule.

**Uses:** Its seeds are used to relief toothache. Leaves are sedative, narcotic, and anti spasmodic. These are also used in asthma and whooping cough and also used as antihypertensive agent.

**Voucher No:** AMR /137/ GLT

***Juniperus excelsa***

**Family:** Cupressaceae

**Common Name:** Pencil Cedar

**Parts Used:** Juniper Berries

**Habitat:** Central Asia, Afganistan, Pakistan through Himalayas to Nepal. Inner dry Himalayas 2,590 to 4,266 metres. Gregarious, forming open forests on rocky ground. Not usually over 1- 2 meters in girth. Occur in the forests of Ziarat and Herboi hills. Also found in Dir, Swat, Chitral, Gilgit and Kurrum Agencies. In Astrore and Gilgit forests this species is found mixed with Kail and Ash normally occupying the hotter aspects. It is also found competing with Kail in height and diameter growth in Gilgit forests while in Chilas forests it competes with both Kail and Deodar. Gena and Juti forests in Chilas forest Division are good examples where juniper associates and complete both Deodar and Kail trees.

**Uses:** The fruit and oil are diuretic, carminative, stimulant and are used in dropsy, gonorrhoea, gleet, leucorrhoea and some cutaneous diseases. The berries are given in scanty urine, chronic Bright's diseases, cough and pectoral infections. Oil should not be given in acute nephritis. Locally, the powder of berries is rubbed on rheumatic and painful swellings. Berries are also used for preservation of meat and the preparation of Juniper brandies. Juniper berries are roasted, ground and are used as a substitute for coffee. Ash of the bark is applied in certain skin infection. The berries are also recommended in infantile tuberculosis and diabetes. In Gilgit the leaves and berries are burnt as incense in the houses. The ash of the leaves is mixed with tobacco to make the local Naswar

**Voucher No:** AMR /138/ GLT

***Mentha longifolia L.***

**Vernacular Names:** Phileel ( Shina ) Jungali- Podina ( Urdu )

**Family:** Labiatae

**Parts Used:** Leaves, Flowers

**Habitat:** It is found through out the Northern Areas

**Description:** It is an aromatic perennial herb. Stem erect, leaves lanceolate, ovate or oblong, tooth, nearly sessile arranged opposite on stem. Stipules absent. Flowers small, lilac in whorls forming slender spike often interrupted below, borne at the ends of branches and forming a lax densely hairy inflorescence. Flower hairy outside. Bracts lanceolate. Calyx sharply 5-tooth, bell shaped, petals 4-lobed, lobes erect and stamen 4.

**Uses:** The infusion of leaves is taken as a cooling medicine. Dried leaves and flowers tops are carminative and stimulant. It is believed to be the best remedy for headaches. Leaves are used in stomach trouble, digestion, purification of blood, headache, diarrhea and anti emetic.

**Voucher No:** AMR /139/ GLT

***Onosma bracteatum Wall.***

**Vernacular Name:** Gaozaban(Urdu)

**Family Name:** Boraginaceae

**Parts Used:** Roots, Leaves and Flowers.

**Habitat and distribution:** Altai, Ang-sayan, Mongolia and Himalayas ( from Swat to Kumaon). Found in sunny gravelly places. In Pakistan it is found in Baluchistan at Chaman, Chitral, Swat, Kalam, Dir, Parachina, Kaghn and Kashmir from about 1,000 to 3,000 metres elevation. In Northern Areas this drug is found at very high altitude in the surrounding hills of Minimurg and in Bumarai Pahari-6 miles from Gudai.

**Uses:** The decoction of the dried flowers, leaves is taken for fever and heart trouble. It is considered to be a tonic and restorative. It is much used as a demulcent, alternative, diuretic and relieves thirst restlessness during fever. It is also useful in palpitation of the heart and irritation of the stomach and bladder.

**Voucher No:** AMR /140/ GLT

***Orchis latifolia L.***

**Vernacular Name:** Salip messri (shina, urdu)

**Family:** Orchidaceae

**Part Used:** Dried Tuberos Roots.

**Habitat:** From Europe to Mongolia and in Himalayas from Kashmir to Nepal. Karakoram Paeju near the Snout of Baltoro Glacier 3,300m. Swat, Himalayas, between Paloga and Mahodan 2,300m. Between Kalam and Paloga 2,390m. NWFP and Azad Kashmir at an altitude of 2,400- 3,600 metres. In Astore areas, Bakhat, Rattu, Steanmarg,

Chittinadi, Kalapani. Also occurs in Nalter and Kargah, Buyan Jungle forests. Normally found growing in moist places by the sides of springs and streams.

**Uses:** Tubers are expectorant and astringent. These roots are finally powdered and boiled with milk to form a nutritious item of diet and are given in phthisis, diabetes, chronic diarrhoea and dysentery. Roots are demulcent and highly nutritious. Locally it is used as a nervine tonic and aphrodisiac.

**Voucher No:** AMR /141/ GLT

***Onosma hispidum Wall.***

**Vernacular Name:** Talsharung.(Shina) Lal jari(urdu)

**Family :** Boraginaceae

**Parts used :** Leaves,Flowers,Roots.

**Habitat:** Astore,Haramosh,Chilas,Gilgit.

**Description:** It is found throughout Northern Areas from 1,000 to 1,300 meters elevation.

**Uses:** Locally this drug is used for throat infection, fever and hepatitis. It is apply on the burnt wounds with ghee/ oil. It is also used as dye and hair tonic.

**Voucher No:** AMR /142/ GLT

***Peganum harmala L.***

**Vernacular Name:** Ispandur(Shina) Ispand/Harmal (Urdu)

**Family:** Zygophyllaceae

**Parts used:** Seed and whole plant.

**Habitat:** In Northern Areas of Pakistan it is abundantly found in graveyards and mountain deserts at 300- 2400m, prominent along the Indus valley in Ladakh and Kashmir.

**Description:** A somewhat freshly- lived, much branched perennial, with solitary terminal greenish -white flowers 1- 2.5cm across, petals 4- 5, oblong – elliptic, sepal linear as long as petals or slightly longer, stamens mostly 15. Leaves pinnately cut into long widely spaced linear acute lobes 1- 2 mm wide; stem stout, 20- 90cm. Fruit globular, 6- 10mm; seeds dark brown.

**Uses:** The seeds contain the alkaloids harmaline, harmine, harmalol from which a red dye is obtained. The seeds are antiseptic, narcotic, alternative and anthelmintic. They are prescribed in remittent and intermittent fevers, rheumatism and jaundice. The powdered seed are very important for killing worms. The powder, mixed with mustered oil, is used for killing vermin. The smoke of the plant is commonly used in Punjab as a disinfectant and is believed to keep off mosquitoes.

**Voucher No:** AMR /143/ GLT

***Plantago major L.***

**Vernacular Names:** Khapy- e- Patow ( Shina ) Ispaghule ( Urdu )

**Family:** Plantaginaceae

**Parts used:** Seeds, Leaves.

**Habitat:** District Gilgit, Ghizer, Astore, Skardu.

**Description:** It is a small smooth or hairy perennial herb, with a large radical rosette leaves, leaves oblong ovate 5- 7 ribbed, with entire margins and few long slender densely flower spikes. Flower small green, crowded in long spikes, on short stalks. The calyx four parted, the small corolla bell shaped and four lobed stamens 4, with purple anthers. The fruit is a two- celled capsule. Seeds are black.

**Uses:** Leaves are applied to bruise, leaves are astringent and used in fever. Seeds are tonic and appetite stimulant. It is also used in chronic dysentery and constipation. The root powder and oil is most effective for immediate relief of toothache

**Voucher No:** AMR /144/ GLT

***Primula macrophylla Don.***

**Vernacular Name:** Meo (Shina),

**Family:** Primulaceae

**Part used:** Whole Herb.

**Habitat:** Astore, Naltar, hunza, Nagar, Gilgit.

**Description:** A stout perennial with a short rootstalk. Leaves usually in basal rosettes, lanceolate to elliptic or oblanceolate, entire, farinose; farina (powder) white distributed uniformly on the under surface of leaves, apex acute to obtuse, midrib impress on the

upper surface. Petiole sheathed scap (leaf less stem) up to 32 cm long. Flowers 5-merous, umbellate, fairly stout bracts long, exceeding calyx length, flowers heteromorphic, purple, pink purple, violet or Lilac and pedicellate.

**Uses:** it is used for ophthalmic diseases.

**Voucher No:** AMR /145/ GLT

***Podophyllum emodi Wall.***

**Vernacular Names:** Itchaudai (Shina) Bankakri (Urdu)

**Family:** Podophyllaceae

**Habit:** Gilgit, Astore, Ghazar and Diamer district

**Description:** It is an erect perennial herb, with an erect unbranched stem bearing to large terminal lobed leaves in encircling the single large white or pale pink flower. Flower usually cup shaped solitary, sepals 3, petals 6, stamens 6, carpel one, stigma large sessile; fruit an ovoid scarlet berry. Seeds are numerous

**Local uses:** It is used for the treatment of cancer.

**Voucher No:** AMR /146/ GLT

***Prunus amygdalus Bell. Batsch.***

**Vernacular Names:** Jangli Badam ( Urdu ) Kono Badam ( Gilgit ) Almond ( English

**Family:** Rosaceae

**Part Used:** Fruits

**Habitat:** Almond, cultivated elsewhere, grows wild in the Northern Areas. The natural habitat of wild almond lies between 2,000 to 2,600 m. elevation in Astore valley, Punial – Gupis valley and Chaprote valley. It normally occupies the slopes with deep soil.

**Uses:** They contain about 50% of fixed oil which occurs also in the sweet almonds, together with a ferment emulsion which, in the presence of water acts on the glucoside amygdalin yielding (1) glucose (2) prussic (hydrocyanic) acid and (3) the essential oil of bitter almond.

**Voucher No** AMR /147/ GLT:

***Punica granatum L.***

**Vernacular Names:** Anar (Urdu, Punjabi, Pushto ) Danu ( Gilgit) Bichill ( Hunza)

**Family:** Punicaceae

**Parts used:** Dried Bark of Roots, Stem, fruit and rind of fruit.

**Habitat and Distribution:** From Greece eastward to Pakistan. Wild in the salt range and Himalaya 1,000 to 2,000 m. common and gregarious on dry limestone soil in Hazara but becoming scarce further east and probably in many places not indigenous. Found growing wild on slopes all over Chilas Sub- Division along agriculture fields and also in Chilas proper. Cultivated in other parts of the Northern Areas upto 6,000 m elevation. Kurrum Agency, Waziristan, NWFP and Baluchistan. Cultivated in all parts of Pakistan as fruit trees.

**Uses:** The pericarp of the fruit is a good source of tannin and is also used in the eastern system medicines. The seeds, commonly known as Anar Dana are commonly used in curries by every household to produce a sour taste and flavour which are. Many developed horticultural varieties of the plant are cultivated in the gardens of the country. Stem bark yields an alkaloid called pelletierine. Root bark contains 3 alkaloids pseudo-pelletierine, isopelletierine, methylpelletierine, as well as tannin etc. The fresh juice is cooling, refringent. The Pulp is cardiac and stomach tonic also useful in diarrhoea and dysentery. The root and stem bark is astringent and anthelmintic. The leaves are used for tanning.

**Voucher No:** AMR /148/ GLT

***Picrorhiza kurrooa Royle. ex Benth.***

**Vernacular Names:** Karro (Shina) Kutakisafed ( Urdu )

**Family:** Scrophulariaceae

**Parts Used:** Roots and Rhizomes.

**Habitat:** India and Pakistan. In Pakistan, Kashmir, Skardu, Deusa Plain, Chillim, Kamri, Burzil passes 2500 to 34000 m.

**Uses:** Stomach cooling, cardiogenic, anti pyretic, anti periodic, cathartic in large doses, anthelmintic, laxative, promotes appetite, anti asthmatic. It is useful to dyspepsia urinary discharged, hiccup, burning sensation, jaundice and purifies the nurse milk.

**Voucher No:** AMR /149/ GLT

***Rumex hastatus Don.***

**Vernacular Names:** Khati buti ( urdu)

**Family:** Polygonaceae

**Parts used:** Root & whole plant

**Habitat :** It can be found from Afghanistan through the Himalayas to China, Tirah, Malakhan, Peshawar, Drosh, Swat, Gilgit, Hazara, Murree hills, Poonch and Kashmir, between elevations of 600- 2000m.

**Description:** A bushy plant with many ascending stems and narrow, arrow shaped leaves with a pair of spreading basal lobes. It has numerous thin branches with slender clusters of whorls of tiny greenish- white flowers. The flowers are very small, with the stalks lengthening into fruit. The leaves are mostly 2- 4 cm, some broadly triangular and stalked. The stem is woody at the base and 20- 60cm in diameter. The fruit is pinkish, wings papery and delicately net veined.

**Uses:** The root is used for medicinal purposes. It is a laxative and a tonic and can be used in rheumatism, skin diseases, bilious complaints, piles and bleeding of the lungs.

**Voucher No:** AMR /150/ GLT

***Rheum spiciforma Royle.***

**Vernacular Names:** Jaro chuntal ( shina ) Ravand ( urdu )

**Family:** Polygonaceae

**Habitat:** Gilgit, Babosar, Astore

**Part Used:** Roots.

**Description:** Rheum webbianum is a tall perennial herb. Leaves orbicular cordate, 5- 7 nerved, papillose or glabrous, tip rounded or sub acute, petiole long inflorescence, panicle, axillary and terminal, flowers smaller pale yellowish. Fruit oblong or orbicular, notched at both ends.

**Uses:** The roots are purgative and astringent tonic. The tuber is pungent bitter and is also considered laxative, diuretic and is reported to be used in biliousness, lumbago, sore eyes, piles, chronic bronchitis, fever, asthma. Locally is used as blood purifier and it is also as stomach indyspepsia and as general tonic for the live stock.

**Voucher No:** AMR /151/ GLT

***Rumex nepalensis Spreng.***

**Vernacular Name:** habobal ( shina), Rawas ( Urdu )

**Family:** Polygonaceae

**Parts used:** leaves, Roots

**Habitat:** District Astore,Gilgit,Skardu.

**Description:** A large erect herb; radical leaves oblong, pointed or blunt, base broadly or narrowly heart shaped stalked, upper leaves sessile and small. Flowers small green, often turning red. Sharply 3 angled, enclosed in the 3 enlarged hooked fringed sepals.

**Uses:** Roots are considered as purgative and are used as substitute for rhubarb and lungs diseases of humans as well as cattle. Powder made from dried roots is applied on wound which are not erupting and bleeding. Dried leaf powder is mixed with butter ( ghee ) and applied on skin for boils and carbuncle.

**Voucher No:** AMR /152/ GLT

***Rosa webbiana Royle.***

**Vernacular Names:** Shingy ( Shina ), Jungly Gulab ( Urdu )

**Family:** Rosaceae

**Parts used:** Leaves, Fruit and Bark

**Habitat:** Khujrab National Park,Nagar,Hunza,Haramosh.

**Description:** An erect much branched perennial shrub, armed with prickles; leaves imparipinnate compound, leaflets small. Inflorescence axillary or terminal, flowers large, pink or white. Fruit red and flask shaped.

**Uses:** Extract of flowers is used in ophthalmic diseases.

**Voucher No:** AMR /153/ GLT

***Saussurea lappa***

**Vernacular Names:** Minal ( Shina ), Kuth ( Urdu ),

**Family:** Compositae (Asteraceae)

**Part used:** Roots

**Habitat:** The species grow on moist and open slopes between the altitude of 2600 to 3600m. This species is found at Astore and Minimurk forest. The most important locations where this species grow wild include Kala Panni and Kamri.

**Uses:** Dried root have been summarized by Baden Powell in his Punjab Products in the following terms. Dried and powdered as the principle ingredient in an astringent stimulant ointment, applied to severe ulcerations. Dried and powdered as a hair wash. As a stimulant in Cholera; and infusion made of Cardamom 1 dr, fresh khut 1- 3 dr, water 4 oz. one ounce every half hour, and doubtless a powerful aromatic stimulant and would be serviceable in any spasmodic disease. It is universally employed by shawl merchants as a protector of Kashmir fabrics from the attack of moth and other vermins. The dried root is an agreeable fumigatory. It is exported in enormous quantities to China where it is used as incense and burnt in Buddhist temples. It is said to have the power of turning grey hairs black. Carminative, stimulant, antiseptic, prophylactic, astringent, sedative and insecticidal properties are ascribed to this remedy. The Chinese apply it with musk to aching teeth.

**Voucher No:** AMR /154/ GLT

***Salix acomophyla Boiss.***

**Vernacular Names:** Bew ( Shina ), Baid ( urdu )

**Family:** Salicaceae

**Parts used:** leaves, Bark

**Habitat:** Babosar, Astore, Juglot, Punial.

**Description:** A small tree; leaves linear- lanceolate, caudate, margin entire, green or glabrous above. Flowers appearing after leaves, male catkin produce on short leafy shoots. Female catkin long is also produce on leafy shoot. Fruit a capsule glabrous on a slender distinct stipe.

**Uses:** The decoction of bark is used as febrifuge. Leaves and fruits are used for foot problem and stomach troubles.

**Voucher No:** AMR /155/ GLT

***Salvia nubicola Wall.***

**Vernacular Name:** Chorai- Moto ( shina )

**Family:** Lamiaceae

**Parts used:** leaves, roots.

**Habitat:** Babosar, Naltar, Bagrote, Astore.

**Description:** It is a perennial herb, 2- 4 feet high. Stem and leaves covered with hairs; leaves simple, narrowed with long stalk. Flowers yellowish, produced on top and axils of branches.

**Uses:** Leaves are used in lung diseases and asthma of cattle

**Voucher No:** AMR /156/ GLT

***Thymus serpyllum L.***

**Vernacular Names:** Tumuro (Shina), Ajwain (Urdu)

**Family:** Labiatae/Lamiaceae

**Part Used:** Dried leaves

**Habitat:** Afghanistan ( Nuristan) Pakistan, Himalayas, China, Manchuria and Japan. Hazara, Baluchistan, Dir, Chitral, Swat, Gilgit, Babosar ( Astore), Kurram Agency, Baltistan and Azad Kashmir at an elevation of 2,000 to 3,000 metres. Himalayas, 1,523-3,657 metres. Very common in grassy places, especially in dry alpine pasture. Usually a few inches high with tufted branches. The long procumbent shoots are about 12 inches long and frequently root. Flowers in May, June and July. It forms the ground flora of almost all the forests in the Northern Areas especially in Kail Zone, Babosar ( Astore ). The occurrence of this plant in large quantities is reported at Galwanjut, Rama Forests, Rampur, Rattu cantt area, Kalapani, Kamari and Burzil top. It grows on small hills, particularly in the open areas having little overhead shade.

**Uses:** Essential oil 0.5 percent containing phenols, p-cymene, terpene alcohols, carvone and thymol. Wild thyme is used as an antispasmodic in the treatment of whooping cough, asthma and respiratory inflammations. Oil thyme or thymol, the volatile oil distilled from the leaves, is deodorant and antiseptic. It is a remedy for toothache and is also used as vermifuge. Locally the whole plant is used in stomach trouble and fever. The plant is antispasmodic, carminative and tonic. The herb is also used in whooping cough, catarrh and sore throat. The infusion of the plant is prepared with 1 oz herb to a pint of boiling water, sweetened with sugar or honey and made demulcent by acacia. One or two tablespoonfuls are given several times daily.

**Voucher No:** AMR /157/ GLT

***Taraxacum Officinale Weber.***

**Vernacular Names:** Pele phoner ( shina ), Gul- e- Qasadi ( urdu )

**Family:** Compositae ( Asteraceae )

**Parts Used:** Leaves, Roots

**Habitat :** Gilgit,Nagar,Hunza,Punial.

**Description:** Taraxacum officinal is a small perennial herb with milky sap. Leaves all radical, narrowly oblong, divided triangular lobes, pointing back and sessile. Flowering head yellow, born on a top of hollow stalks.

**Uses:** The tops are used both in salads and as a cooking green. The root is not used as a vegetable, but may have some medicinal value. Dandelion flowers are used in wine-making, according to reports.

**Voucher No:** AMR /158/ GLT

### *Tamarix gaelic L.*

**Vernacular Names:** Hookero(Shina) Jhau(Urdu)

**Family:** Tamaricaceae

**Parts Used:** Bark, Twigs and Gall.

**Habitat.** From eastern Europe eastward to china, Karachi, Sindh, Gharo, Mirpur, Baluchistan, Sibi Range, North Waziristan, Pb, Multan, Attock, Jhelum, Kashmir, Kishen Ganga valley ascending to 3,657m. On the upper Indus abundant on the banks of rivers, streams and water channels. Common almost throughout the Northern Areas.

**Uses:** The astringent bark of the twigs is used in the treatment of dysentery and diarrhea. The galls are used externally as an ointment for the treatment of ulcerating piles. The plant is used as mild laxative especially for children.

**Voucher No:** AMR /159/ GLT

### *Urtica dioica L.*

**Family Name:** Urticaceae

**Vernacular Names:** Jumi ( shina ), Bichu- buti ( urdu )

**Parts Used:** Leaves, Seeds

**Occurrence:** Lower Babosar,Gilgit,Gojal,Ishkoman.

**Description.** It is a perennial herb, stem erect, slender, long, grooved, covered with stinging hairs. Leaves ovate or lanceolate, opposite, apex pointed, margins toothed, also covered with stinging hairs. Stipule present. Plant is dioecious, in which male and female flowers are born on separate plant, flowers, minute and green, arising in axillary and terminal branching pyramidal clusters. Fruit flattened achenes.

**Uses:** It is used in haematuria, jaundice, fever, nephritis, eruptive skin diseases, gout and arthritis. Its young leaves are used as a vegetable. Its leaves are mixed with oil and applied on skin for chronic wound. It is laxative and also used for constipation.

**Voucher No:** AMR /160/ GLT

### *Valeriana wallichii*

**Vernacular name:** Mushkbala ( urdu)

**Family:** Valarianaceae.

**Parts used:** Rhizomes and Roots.

**Description:** A forest perennial, with a terminal topped cluster of small white or pink tinged flowers, born on erect nearly leafless stems, corolla funnel shaped, with 5 blunt lobes spreading to 5mm. Basal leaves with ovate- heart shaped acute blade, 2.5- 8cm, toothed or wavy margin, long stalked; stem leaves few, small, entire or pinnate- lobed, root stock thick, horizontal, fruit crowned with a persistent pappus-like calyx.

**Habitat:** Asia and Europe, from Afghanistan through Himalayas to China, Burma. In Northern Areas, it is found in Astore, Swat ,Himalayas, Chitral. Found at an elevation in the range of 1500-3600m, in forest, open slopes etc.

**Uses:** Valeriana is used in Insomnia, Epilepsy, neurosis, diathesis, cholera, shell shock and hysteria. The roots are used in habitual constipation. It is used in perfumery. Locally the roots are used to remove the foul odor of mouth by tooth trouble. Volatile oil from roots and rhizome may be given in all cases of nervous debility and hysteria.

**Voucher No:** AMR /161/ GLT

### *Viola serpens wall.*

**Vernacular Names:**Lillio ( Shina ) Banafsha ( Urdu )

**Family:** Violaceae.

**Part Used:** Whole plant

**General Distribution:** From Europe to North America, Afghanistan, China, Barma, and Asia. In Pakistan Hazara, Dir, Swar, Marree Hills and Kashmir. All over the Northern Areas, Rama forest Kala Pani, Kamri, Nalter, Buyan Jangle, Astore and Chaprote. 1200-3000 m.

**Uses:** Diaphoretic, antipyretic, febrifuge and externally used for eczema. Syrup of plant is used for relieving febrile symptoms. Roots are emetic, purgative and good substitute for ipeceacuanha. Flowers are emollient, dumulcent, astringent, diaphoretic, diuretic, laxative, also used for restraining for suppuration and in bilious infections, epilepsy, nervous disorder treatment of cough, hoarseness, soar throat, kidney diseases and liver disorder. Seeds are purgative and diuretic.

**Voucher No:** AMR /162/ GLT

### *Verbascum thapsus L.*

**Family:** Scrophulariaceae

**Vernacular Names:** Tamakusak/ Tambako(Shina)

**Parts Used:** Leaves, Flower and Roots

**Habitat:** Giltgit ( Sai area, Buyan Jungle, Kargah Nullah) Deosai, Astore, Rattu, Kamri, Babosar and Diamar District.

**Uses:** The leaves are used in fever. It is demulcent and astringent. Leaves and flowers are useful in pulmonary diseases, cough bleeding of lungs. The leaves warmed and rubbed with oil are employed as an application to the inflamed parts. The seeds are aphrodisiac and narcotic.

**Voucher No:** AMR /163/ GLT

### Discussion

The present study provides ethnobotanocal informations about 51 plants from 36 different families. These plants are used by local inhabitants in form of various traditional preparations such as with Desi Ghee and as crude powder for the treatment of various diseases. Medicinal plants continue to be extensively used as a major source of drugs for the treatment of many ailments and as such their procurement, cultivation and propagation is of great importance. In early 1950 up to 84% of Pakistani population was dependent on traditional medicines for all or most of their medicinal use [5].

Herbal medicine is currently experiencing a revival in Western Society along with others complementary therapies such as Traditional Chinese Medicine, Osteopathy and Homeopathy. In northern areas of Pakistan poor peoples collect the seasonal wild herbs and plants and use these plants for treatment of diseases. Some low income villagers collect the herbs and plants such as wild thyme and berberis lyceum royle for uplift of there poor economy.

Pakistan has varied climate and is quite rich in medicinal herbs, though scattered over large area. All the plants are growing while and no systematic attempts have been made to collect and cultivate herbs in a proper and planned way. It is suggested that biochemical and pharmacological screening of these plants should be carried out for the production of commercial standardized product. It is proposed that Northern Areas are very fertile land for the exporting of *Ephedra gerardiana*, *Artimasia*, *Saussurea lappa* and another species *Hippophae- rhamnoides*. To avoid the loss of these precious plants conservation methods should be practiced immediately..

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