

Botanical studies of some medicated herbs from himalyan region with special reference to upper areas of district Shimla, Himachal Preadesh and their possible utilisation in Agri-Horti crop management

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Himachal Pradesh lies in the western Himalayan region of India . HP is bestowed with diverse climatic conditions which are rich in flora and fauna. In the past several studies and surveys have been made by the researchers to seek the knowledge of our rich flora and fauna comprising of medicinal plants , timber plants, and general utility plants which can be utilized for growth regulating properties in fruits and vegetables (Chauhan *et al.*, 2009) . Most of plants species have already been explored for one and the another uses. Human society and plants hold a specific relationship which is reflected through Ethnobotanical studies. Binu *et al.* (1992) compiled an outline of ethnobotanical work carried out in India. In Himachal Pradesh Arora *et al.* (1980) recorded the little known aromatic plants of Kullu valley. Gupta (1964) recorded medicinal plants of Chamba Forest Division and Kangra Forest Division (Uhal Valley), respectively. Chauhan and Chauhan (1988) surveyed the ethnobotany of Tgrans Giri Area of Sirmour district. Kapathi (1990) collected the ethnobotanical information on 50 herbal medicines, along with parts of plants used and mode of administration of each species. In the past attempts have also been made to utilize plants

having rich medicinal properties to enhance the quality of important fruit and vegetables at post and pre-harvest level for the management of some commercial crops.

The present investigation is aimed at creating awareness about the ethno botanical wealth of upper Shimla valley among the phytochemists and environmentalists for scientific establishment. The importance of gathering information on medicinal plants is to initiate their scientific management and exploitation for the economic development of the area as well as their applicability for enhancing pre and post harvest quality of fruits and vegetable in an era of climate change where excess chemicals use in the field and in lab has contributed a lot to climate change . Documenting the indigenous knowledge through ethno botanical studies is also important for the understanding of biological resources as well as their sustainable utilization. The data presented here may provide interesting material for further studies.

The study was carried out in upper Shimal areas of the district Shimla. It lies between 31°58'00" north latitude and 77°6'04" east longitude. The total area of the district is 5003 km². The altitude varies from 1300 meters to over

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6000 meters from the mean sea level. Below 3000 meters the snow does not remain on the ground for a long time. Most of the parts of this areas remain under layer of snow during December to January. The average rainfall is 80 cm. Temperature ranges between -5.2 °C to 38.8°C.

The paper is the outcome of the study done during 2009-2010. During the study a number of field explorations were conducted in the interiors of the valley covering all seasons. The ethnobotanical information of the species was collected from the natives, gurs, local vaid and head man of the concerned village. Efforts were made to identify the plants in the field itself and further collected to the lab for further examination.

The survey of the area revealed total of 84 plants of medicinal importance belonging to 76 genera and 741 families. The taxa with promising medicinal properties as gathered from the local people are arranged alphabetically along with local name, uses and mode of administration etc. enumerated below. It may be noted that some plants find use in treating more than one ailment. Many of the plants also find mention in literature and are used in one or other system of medicines in India and other parts of world.

***Ainsliaea aptera* DC. (Asteraceae) :**

Local name (s): Aasan Patra
Part (s) used: Roots
Local use (s): Powdered roots given with milk or water are used to get quick relief from acute stomachache.
Agri-horti use : Fungicidal

***Acorus calamus* Linn. (Araceae) :**

Local name (s): Beach
Part (s) used: Rhizomes
Local use (s): Powdered rhizomes mixed with mustard oil and massaged over the aching joints to get relief. Root powder with lukewarm milk is given to cure menstrual disorders.
Agri-horti use : Insecticidal

***Aconitum heterophyllum* Wall. (Ranunculaceae) :**

Local name (s): Patish, atish
Part (s) used: Roots
Local use (s): Powdered roots with milk are given twice a day to cure abdominal pain, fever, throat infection and diabetes.
Agri-horti use : leaf powder use for insect repellent

***Aconitum violaceum* Jacq. Ex Stapf. (Ranunculaceae) :**

Local name (s): Mitha Patish,
Part (s) used: Roots
Local use (s): 1-2 spoon of the root extract is very beneficial to sure fever and cold.

Agri-horti use : Leaf and root powder used for eliminating foul smell of pulses.

***Adiantum venustum* D. Don (Adiantaceae) :**

Local name (s): Bhageri
Part (s) used: Rhizomes
Local use (s): Decoction of rhizomes is recommended twice a day against chest infection.
Agri-horti use : Prolonging fruit shelf life

***Agrimonia pilosa* Ledeb. (Rosaceae) :**

Local name (s): Neroi
Part (s) used: Leaves, stem and flowers
Local use (s): Dries herb boiled in water is used as gargle. Teacup of the same infusion is recommended to cure cold. Decoction of leaves is effective against liver problems.
Agri-horti use : Fungicidal

***Ajuga bracteosa* Wall. (Lamiaceae) :**

Local name (s): Neel kanthi
Part (s) used: Leaves
Local use (s): The paste of the leaves is applied on the forehead to cure headache. The pills made from the paste of the leaves are given to the patients suffering from piles.
Agri-horti use : Fungicidal

***Allium wallichii* Kunth. (Liliaceae) :**

Local name (s): Satpanja
Part (s) used: Roots
Local use (s): Powdered roots are given with milk to check hemorrhage. Paste of the roots is applied on wounds for quick healing.
Agri-horti use : Insecticidal

***Androsace rotundifolia* Hardw. (Primulaceae) :**

Local name (s): Nirodhak buti
Part (s) used: Leaves
Local use (s): Leaves eaten with gur and ghee to regularize menstrual flow. The herb is also used as a contraceptive.
Agri-horti use : Growth regulator in fruit crops

***Angelica glauca* Edgew. (Apiaceae) :**

Local name (s): Chaura
Part (s) used: Roots, leaves and seeds
Local use (s): Seeds are used against cold, cough and diseases of the urinary organs. Dried stems and roots are good appetizer and help in relieving constipation.
Agri-horti use : Pesticidal

***Arctium lappa* Linn. (Asteraceae) :**

Local name (s): Jangli kuth
Part (s) used: Roots and Seeds
Local use (s): Tincture made from seeds is used to cure acne. Extract of the roots is used to cure gout.
Agri-horti use : Pesticidal

***Artemisia roxburghiana* Besser (Asteraceae) :**

Local name (s): Chhambar
Part (s) used: Leaves and roots
Local use (s): The paste of leaves is applied on the cuts and wounds to check bleeding. Infusion of leaves is used to cure asthma. Roots are used as tonic and antiseptic.
Agri-horti use : Fungicidal

***Aclepias curassavica* Linn. (Asclepiadaceae) :**

Local name (s): Ranjon, kakathundi
Part (s) used: Leaves and roots
Local use (s): Juice of leaves is used to counteract dysentery and its symptoms. Powdered roots are given to cure piles.
Agri-horti use : Fungicidal

***Astragalus hosackioides*, Benth. (Papilionaceae):**

Local name (s): Sakina
Part (s) used: Roots
Local use (s): Decoction of the root is given in chest infection especially to get relief from whooping cough.
Agri-horti use : Fungicidal

***Atropa acuminata* Royle. (Solanaceae) :**

Local name (s): Angurohefa
Part (s) used: Roots and leaves.
Local use (s): Infusion of roots and leaves is given to counteract urinary problems.
Agri-horti use : Insecticidal

***Berberis aristata* DC. (Berberidaceae) :**

Local name (s): Kashmal
Part (s) used: Roots
Local use (s): Extract of roots is applied on body to cure skin diseases and infections, also used as eye drops to cure eye infections. It is also given to cure fever and jaundice.
Agri-horti use : Inhibition of storage rots in Potatoes

***Berberis lyceum* Royle. (Berberidaceae)**

Local name (s): Rasaunth, Kashmal
Part (s) used: Roots and leaves
Local use (s): Root extract is used in eye infections.

Leaves are crushed and applied to boils and burns.
Agri-horti use : Pesticidal

***Bergenia ciliate* (Hew.) Sternb. (Saxifragaceae) :**

Local name (s): Pashan bhed, Pathad bhed.
Part (s) used: Rhizomes and roots
Local use (s): Roots taste bitter, act as tonic, used in fever and applied to boils. Roots are used to expel stones from the kidney and bladder. Rhizomes are used to cure swollen joints.
Agri-horti use : Pesticidal

***Bergenia stracheyi* (Hook.f. and Thoms.) Engl. (Saxifragaceae) :**

Local name (s): Batkhod
Part (s) used: Rhizomes and roots
Local use (s): Paste of the rhizomes is applied on boils. Decoction of the roots is used to cure fever, cough, cold and diarrhea.
Agri-horti use : Insecticidal

***Bupleurum falcatum* Linn. (Apiaceae) :**

Local name (s): Kalizewar
Part (s) used: Roots
Local use (s): Powdered roots with water used to cure liver and stomach disorders. It also promotes perspiration or sweat.
Agri-horti use :

***Capsella bursa-pastoris* Medic. (Brassicaceae) :**

Local name (s): Rai
Part (s) used: Aerial part
Local use (s): Juice of the plant is used to cure the eye ailments. It is also beneficial in dysentery.
Agri-horti use :
Insecticidal

***Cardamine impatiens* Linn. (Brassicaceae) :**

Local name (s): Mrigu
Part (s) used: Aerial part
Local use (s): This herb is used to cure urinary tract infections, particularly given no increase the flow of urine.
Agri-horti use : Insecticidal

***Convolvulus arvensis* Linn. (Convolvulaceae) :**

Local name (s): Beri, Prasarna
Part (s) used: Roots
Local use (s): The roots are laxative and are used in curing liver disorders.
Agri-horti use : Insecticidal

***Dactylorhiza hatagirea* (D. Don) Soo (Orchidaceae) :**

Local name (s): Panja, Salampanja
 Part (s) used: Roots
 Local use (s): Crushed roots are applied on joints to get relief from rheumatic pain. Roots are boiled in milk and given to person suffering from fever.
 Agri-horti use : Insecticidal

***Dioscorea bulbifera* Linn. (Dioscoreaceae) :**

Local name (s): Ratalu
 Part (s) used: Tuber
 Local use (s): Dried and powdered tubers are applied on ulcers for quick healing. It is also used for curing piles. The tubers are given to cattle to check bleeding.
 Agri-horti use : Insecticidal

***Dolichos biflorus* Linn. Syn. *D. uniflorus* Lamk. (Papilionaceae) :**

Local name (s): Kulth
 Part (s) used: Seeds
 Local use (s): Decoction made from the seeds is given in kidney stones. Seeds are also edible.
 Agri-horti use : Weedicidal

***Foeniculum vulgare* Linn. (Apiaceae) :**

Local name (s): Meetha saunf.
 Part (s) used: Fruits
 Local use (s): The fruits are used as spice and condiment, also used as carminative and stimulant.
 Agri-horti use : Growth stimulant in seedlings

***Fritillaria cirrhosa* D. Don (Liliaceae) :**

Local name (s): Shahterah
 Part (s) used: Corms
 Local use (s): Dried corms are used in asthma, bronchitis and tuberculosis.
 Agri-horti use : Insecticidal

***Galium triflorum* Michx. (Rubiaceae) :**

Local name (s): Pula, Pathra
 Part (s) used: Aerial part
 Local use (s): Infusion of herb is used to expel kidney stones and to cure urinary diseases. It is also used to cure sore throat.
 Agri-horti use : Insecticidal

***Gentiana quadrifaria* Blume (Gentianaceae) :**

Local name (s): Kakadi
 Part (s) used: Aerial part
 Local use (s): Decoction of the aerial part is given to cure fever.
 Agri-horti use : Insecticidal

***Geranium pretense* Linn. (Geraniaceae) :**

Local name (s): Laljari
 Part (s) used: Roots
 Local use (s): Root is chewed to get relief from toothache and extract of root is beneficial in eye-troubles.
 Agri-horti use : Insecticidal

***Geum elatum* Wallich (Rosaceae) :**

Local name (s): Gogjimul
 Part (s) used: Entire plant
 Local use (s): Its constant use is said to have a highly restorative power in weakness and debility. It is also useful in diarrhoea, sore throat and leucorrhoea.
 Agri-horti use : Insecticidal

***Hackelia uncinata* (Royle. Ex Benth.) Fischer (Boraginaceae):**

Local name (s): Eran
 Part (s) used: Roots
 Local use (s): Paste of roots is massaged on head to control hair fall.
 Agri-horti use : Fungicidal

***Heracleum candicans* Wallich ex DC. (Apiaceae) :**

Local name (s): Padara
 Part (s) used: Roots
 Local use (s): The roots are used to check vomiting and diarrhoea, also said to be used against snakebites.
 Agri-horti use : Fungicidal

***Hyoscyamus niger* Linn. (Solanaceae) :**

Local name (s): Khurasani ajwain
 Part (s) used: Seeds and leaves
 Local use (s): Powdered seeds are given to relieve toothache, uterus problems and as poultice in eye pain. To get relief from muscular pain, paste of leaf is applied externally and leaf extract is also given to cure diabetes.
 Agri-horti use : Fungicidal

***Hypericum oblongifolium* Choisy (Hypericaceae) :**

Local name (s): Basant
 Part (s) used: Flowers
 Local use (s): Infusion of fresh flowers in olive oil is used externally in the treatment of wounds, sores, ulcers and swellings.
 Agri-horti use : Fungicidal

***Hypericum perforatum* Linn. (Hypericaceae) :**

Local name (s): Basant

Part (s) used: Leaves and flowers
 Local use (s): The herb is used in treating a number of ailments including pulmonary complaints, bladder problems, diarrhoea and nervous depression. It is also very effective in treating overnight incontinence of urine in children. It is also used as an expectorant for asthma and whooping cough, and externally for the treatment for burns and rheumatic joints.
 Agri-horti use : Insecticidal

***Indigofera dosua* Buch.- Ham. ex D. Don (Papilionaceae) :**

Local name (s): Kalikathi
 Part (s) used: Roots
 Local use (s): Roots of this herb and Picrorhiza kurroa are crushed to paste and are given to the pregnant ladies to lessen pain during delivery.
 Agri-horti use : Fungicidal

***Lamium rhomboideum* Benth. (Lamiaceae)**

Local name (s): Bhagsu
 Part (s) used: Aerial part
 Local use (s): Decoction of the herb is used in hemorrhage of uterus and nose.
 Agri-horti use : Weedicide

***Ligularia fischeri* (Ledeb.) Turcz. (Asteraceae) :**

Local name (s): Ingi
 Part (s) used: Leaves
 Local use (s): Leaves are crushed and used as snuff to cure cold.
 Agri-horti use : Fungicidal

***Malva parviflora* Linn. (Malvaceae) :**

Local name (s): Sochal
 Part (s) used: Fruits
 Local use (s): Decoction of the fruits is given in chest infection and also to remove phlegm.
 Agri-horti use : Fungicidal

***Malva sylvestris* Linn. (Malvaceae) :**

Local name (s): Sochal
 Part (s) used: Flowers and immature fruits
 Local use (s): Flowers and immature fruits are used to cure whooping cough. They are also used externally to cure wounds.
 Agri-horti use : Fungicidal

***Malvastrum coromandelianum* (Linn.) Garcke (Malvaceae):**

Local name (s): Laamari
 Part (s) used: Whole plant
 Local use (s): Paste of the leaves gives cooling effect on wounds and sores. Juice of the plant is given to

cure jaundice.
 Agri-horti use : Insecticidal

***Mentha longifolia* (Linn.) Hudson (Lamiaceae) :**

Local name (s): Jungli pudina
 Part (s) used: Leaves
 Local use (s): Paste of leaves is applied externally to get relief from the joint pains particularly in elderly people.
 Agri-horti use : Fungicidal

***Nepeta coerulea* Maxim. (Lamiaceae) :**

Local name (s): Saamari
 Part (s) used: Seeds
 Local use (s): Infusion of seeds is used in dysentery and other stomach disorders.
 Agri-horti use : Fruit setting

***Origanum vulgare* Linn. (Lamiaceae) :**

Local name (s): Malja, sathura, banajwain
 Part (s) used: Leaves
 Local use (s): The paste of leaves and terminal shoots is applied to boils, ulcers, wounds and cuts. The paste of leaves is reported to be highly useful in healing the wounds caused by fire burns. The tablet made from leaves is administered orally for quick healing in bone fracture.
 Agri-horti use : Insecticidal

***Osyris arborea* Wall. (Santalaceae) :**

Local name (s): Jungli Chai
 Part (s) used: Bark
 Local use (s): Bark is used to make tea, which cures constipation and other stomach disorders.
 Agri-horti use : Pesticidal

***Oxalis corniculata* Linn. (Oxalidaceae) :**

Local name (s): Amlika
 Part (s) used: Whole plant
 Local use (s): Fresh juice from the whole plant is given to patients suffering from piles and anemia. Leaf juice is very useful against poisoning caused by *Datura stramonium*.
 Agri-horti use : Pesticidal

***Papaver macrostomum* Boiss. and Himet. Ex Boiss. (Papaveraceae) :**

Local name (s): Affim
 Part (s) used: Seeds
 Local use (s): Seeds of this plant and almonds are ground to paste and are given with honey to get relief from rheumatic pain.

Agri-horti use : Pesticidal

***Picrorhiza kurrooa* Royle ex Benth. (Scrophulariaceae) :**

Local name (s): Karu

Part (s) used: Roots

Local use (s): The herb is highly valued; powdered roots are given with water for 3-5 days to cure fever and stomach problems.

Agri-horti use : Pesticidal

***Pistacia integerrima* Stewart (Anacardiaceae) :**

Local name (s): Kakarsinghi

Part (s) used: Galls, leaves

Local use (s): Powder of galls and black pepper mixed in equal quantity with honey and is given in hiccups, fever, cough and other throat diseases.

Agri-horti use : Pesticidal

***Plantago major* Linn. (Plantaginaceae) :**

Local name (s): Jangali isabghol

Part (s) used: Seeds

Local use (s): Seeds are used in gastric complaints, to relieve burning sensation in stomach and constipation.

Agri-horti use : Pesticidal

***Podophyllum hexandrum* Royle. (Podophyllaceae) :**

Local name (s): Bankakadi

Part (s) used: Roots

Local use (s): The root powder is administered internally for gastrine ulcers. It is applied as a paste on cuts and wounds for regeneration for the tissues.

Agri-horti use : Pesticidal

***Polygala abyssinica* R. Br. (Polygalaceae) :**

Local name (s): Miragu

Part (s) used: Roots

Local use (s): Decoction of the root alleviates coughing and is used to remove phlegm from the bronchial tubes.

Agri-horti use : Insecticidal

***Polygonatum verticillatum* Allioni (Liliaceae) :**

Local name (s): Sala Mistri

Part (s) used: Rhizomes

Local use (s): Rhizomes are used to cure kidney problems.

Agri-horti use : Pesticidal

***Polygonum plebeium* R. Br. (Polygonaceae) :**

Local name (s): Chemti or Machiti

Part (s) used: Entire plant

Local use (s): The leaves are used as vegetable and as cattle feed; root powder is given in bowel complaints and powdered herb is administered internally to cure pneumonia.

Agri-horti use : Pesticidal

***Potentilla atrosanguinea* Lood. (Rosaceae) :**

Local name (s): Ratanjot

Part (s) used: Leaves

Local use (s): Fresh leaves are crushed to paste and applied to abscesses for quick healing.

Agri-horti use : Pesticidal

***Potentilla sibbaldi* Haller. (Rosaceae) :**

Local name (s): Chanana

Part (s) used: Roots

Local use (s): The root ashes mixed with oil and applied to burns. Decoction of root is given to the patient suffering from pneumonia and gastric problem.

Agri-horti use : Pesticidal

***Prinsepia utilis* Royle (Rosaceae) :**

Local name (s): Bhekhal

Part (s) used: Fruit

Local use (s): Oil from Kernels is used to get relief from joint pain.

Agri-horti use : Pesticidal

***Prunella vulgaris* Linn. (Lamiaceae) :**

Local name (s): Khyala

Part (s) used: Aerial part

Local use (s): Infusion of aerial part is used against fever and cough. It is also used as mouthwash. Massaging the juice of plant, mixed with rose oil, cures headache.

Agri-horti use : Weedicidal

***Punica granatum* Linn. (Lythraceae) :**

Local name (s): Darhu

Part (s) used: Fruit and seeds

Local use (s): Powdered fruit rind taken with cold water to get relief from cough. The dried seeds locally called "Anardana" in combination with "Pudina" are used to cure indigestion.

Agri-horti use : Anti rodents in wheat fields

***Ranunculus arvensis* Linn. (Ranunculaceae) :**

Local name (s): Chambul

Part (s) used: Leaves

Local use (s): Tablets made from the leaves are used against asthma and gout.

Agri-horti use : Powdered form quite useful in

regulating physiological disorder of fruits crops

Agri-horti use : Pesticidal

***Rheum moorcroftianum* Royle (Polygonaceae) :**

Local name (s): Chuchi

Part (s) used: Roots

Local use (s): The paste of the roots is applied externally in muscular injury, cuts, wounds and mumps. The watery extract is given orally in stomach pain, constipation, dysentery, swelling of the throat and tonsillitis. It is said to purify the blood, reduces the swellings and rheumatic pains quite effectively.

Agri-horti use : Pesticidal

***Rhodiola himalensis* (D. Don) S.H. Fu (Crassulaceae) :**

Local name (s): Methi

Part (s) used: Seeds

Local use (s): Powdered seeds are given to expel the worms from the stomach.

Agri-horti use : Insecticidal

***Ricinus communis* Linn. (Euphorbiaceae) :**

Local name (s): Eran

Part (s) used: Seeds

Local use (s): Paste of seeds is applied to sores, boils and gouty and rheumatic swellings.

Agri-horti use : Pesticidal

***Roscoea alpine* Royle (Zingiberaceae) :**

Local name (s): Gunacha

Part (s) used: Roots

Local use (s): Infusion of roots is used as a tonic in general debility. It is also beneficial in impotency, diabetes, leucorrhoea, diarrhoea and dysentery.

Agri-horti use : Pesticidal

***Rubia manjith* Roxb. ex Fleming. (Rubiaceae) :**

Local name (s): Manjistha

Part (s) used: Roots, leaves and twigs

Local use (s): The decoction of roots with sugar is given to Women to cure irregular menstruation. Infusion of the plant with mustard oil is used in eye and ear infections. The paste of the stem is used to cure pimples.

Agri-horti use : Pesticidal

***Rumex hastatus* Don. (Polygonaceae) :**

Local name (s): Khatti ambli

Part (s) used: Aerial part

Local use (s): Paste of the aerial part is massaged on the head to reduce the hair loss. Pills made from the paste of the leaves are also effective against leucorrhoea.

***Salvia moorcroftiana* Wall. (Lamiaceae) :**

Local name (s): Thuth

Part (s) used: Roots, Seeds and leaves,

Local use (s): The decoction of roots is used against cough. Seeds are used as emetic. The paste of leaves is applied to relieve itching.

Agri-horti use : Insecticidal

***Sanicula europaea* Linn. (Apiaceae) :**

Local name (s): Mansoori

Part (s) used: Aerial part

Local use (s): Infusion of the plant is given in diarrhoea and dysentery. It is also used to cure leucorrhoea and piles.

Agri-horti use : Insecticidal

***Sedum adenotrichum* Wall. (Crassulaceae) :**

Local name (s): Nunu

Part (s) used: Entire plant

Local use (s): Entire plant is crushed and applied to cure piles.

Agri-horti use : Insecticidal

***Senecio diversifolius* Wallich ex DC. (Asteraceae) :**

Local name (s): Jaari

Part (s) used: Root

Local use (s): root decoction of this herb mixed with flower decoction of Bahera (*Terminalia bellerica*) is given to cure cholera and periodic fever.

Agri-horti use : Insecticidal

***Solanum khasianum* Linn. (Solanaceae) :**

Local name (s): Van shagotru

Part (s) used: Fruits

Local use (s): Paste of fruit is applied on wounds for rapid healing.

Agri-horti use : Insecticidal

***Solanum nigrum* Linn. (Solanaceae) :**

Local name (s): Chya, makoi

Part (s) used: Leaves

Local use (s): Paste of leaves is applied to cure skin infection. The herb also has diuretic and laxative properties.

Agri-horti use : Insecticidal

***Swertia paniculata* Wall. (Gentianeaceae) :**

Local name (s): Chrayata

Part (s) used: Aerial part

Local use (s): Powder of aerial part is given orally to

cure piles and stomach disorders.
Agri-horti use : Insecticidal

***Symplocos chinensis* Ham. ex Don. (Styracaceae) :**

Local name (s): Sodh, Lodra
Part (s) used: Aerial part
Local use (s): Plant is used as a tonic; for checking the bleeding of spongy gums and to cure ulcers and tumors.
Agri-horti use : Pesticidal

***Thalictrum foliolosum* DC. (Ranunculaceae) :**

Local name (s): Pilagor, Pilihari
Part (s) used: Roots
Local use (s): Crushed roots administered with water or milk used to cure jaundice. The poultice of the root is used to cure the boils.
Agri-horti use : Pesticidal

***Thymus serpyllum* Linn. (Lamiaceae) :**

Local name (s): Ban-ajwain
Part (s) used: Leaves and shoots
Local use (s): The shoots are used as flavouring agent. Leaves and flower tops yield oil, which is helpful in toothache. Herb infusion is given in skin itching and eruptions.
Agri-horti use : Pesticidal

***Trifolium pretense* Linn. (Papilionaceae) :**

Local name (s): Sarida
Part (s) used: Entire plant
Local use (s): Powdered roots with water or milk given to diabetic patients. The decoction of the aerial part is also beneficial in diabetes.
Agri-horti use : Weedicide

***Trillidium govanianum* (D. Don) Kunth. (Liliaceae) :**

Local name (s): Bamani
Part (s) used: Aerial part
Local use (s): Infusion of aerial part is given for regularization of menstrual flow.
Agri-horti use : Pesticidal

***Valeriana jatamansi* Jones. Syn. *V. wallichii* DC. (Valerianaceae) :**

Local name (s): Mushkwala
Part (s) used: Rhizomes and leaves
Local use (s): Decoction of rhizomes and leaves is beneficial in acute stomachache.
Agri-horti use : Pesticidal

***Viola biflora* Linn. (Violaceae) :**

Local name (s): Pila banaksha

Part (s) used: Entire plant
Local use (s): Leaves are used as laxative.
Agri-horti use : Pesticidal

***Viola pilosa* Ging. (Violaceae) :**

Local name (s): Vanaksha
Part (s) used: :Leaves and flowers
Local use (s): Decoction of leaves is used to cure fever and stomachache. Decoction prepared from leaves and flowers is effective against sore throat.
Agri-horti use : Pesticidal

***Zanthoxylum armatum* DC. (Rutaceae) :**

Local name (s): Timber
Part (s) used: Fruits, seeds and bark
Local use (s): Fruits and branches are used as a remedy for toothache. Fruits are used as a mouth fresher. It is also used as an insecticide. Seeds and bark are used as an aromatic tonic in fever.
Agri-horti use : Insectisidal properties.

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