

## **Wild Medicinal Plants Used by Local Communities of Manali, Himachal Pradesh, India**

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**Issued: March 01, 2010**

### **Abstract**

An ethnobotanical study was carried out in adjoining areas of Manali in Kullu district of Himachal Pradesh during the month of April to May 2007. The information related to medicinal species which are used to cure common ailments and diseases were gathered by personal interviews with village headmen, local healers, and shepherds. A total of 33 plants belonging to 24 families are listed in this paper. Details of medicinal plants are described alphabetically with their botanical name, family, local name, part used, disease/ailment and ethno medicinal uses.

**Key Words:** Medicinal plants, common ailments, Manali, Himachal Pradesh.

### **Introduction**

The Himalayas have a great wealth of medicinal plants and traditional medicinal knowledge. Himachal Pradesh, one of the pioneer Himalayan States is a rich repository of medicinal flora. Because of its geographical position, hazardous means of transport communication; the traditions, myths, legends and folklores of the ancients are carefully persevered in the lores and mores; temples and historical places in existence at various regions of this state. Kullu District of Himachal Pradesh is well known medicinal plants hot spot in the western Himalaya that has rich diversity of flora and fauna. Singh and Rawat (1998) have listed more than 250 species as ethnomedicinal and about 50 of them are commercially exploited which have been listed in the Red Data Book of IUCN (Singh and Rawat, 1998 & 2000). Dhaliwal and Sharma (1999) recorded more than 900 species of angiosperms from Kullu valley. A brief ethnobotanical account of 109 plant species belonging to 41 families and 86 genera of Kullu district in North Western Himalaya have been recorded by Singh (1999). Singh (2004) has enumerated about 58 locally used medicinal plants from Great Himalayan National Park, Kullu Valley. Negi and Subramani. (2006) recorded 38 plants belonging to 23 families and 17 Red listed species in the Naggar area of Kullu valley, Himachal Pradesh. A first hand information on 35 plant species was recorded from Malana, located in Parvati valley of Kullu district by Sharma et.al.(2005).According to Rao (1996), there is an urgent need to document the ethnobiological information presently existing among the diverse communities before the traditional knowledge are completely lost. The importance of recording the usage of plants in this region is

especially imperative because of rapid loss of forest wealth and traditional wisdom due to increase in tourism and modernization.

## Materials and Methods

### Study Area

The study comprised of local villages in the Manali area of Kullu District (HP) lying between 32°58'00" North latitude and 77°06'04" East longitude. On the North and North - East, it is bounded by Lahaul - Spiti and Kangra districts, on the East and South -East by Kinnaur and Shimla districts. The altitudinal range of this area lies between 1,300 m to 6,000 m above mean sea level. Climate of the district is cool and dry. The region receives moderate rainfall during monsoon of which the bulk is received during the months of July - August. Snowfall is received during the month of December - February.

### Methodology

The study was conducted during the month of April and May 2007 in villages of Manali area of Kullu district. The information on local use and diseases cured was collected using structured questionnaire from the respondents of both sex and age groups ranging from 22 – 82 yrs. Several village headman, local healers, and shepherds were consulted to verify the information on indigenous use of important plant species. The plant collections were identified with the help of Flora of Himachal Pradesh and herbarium at Forest Research Institute, Dehradun. A total of 33 species have been recorded and enumerated with its family name, local name, part used, disease/ ailment and uses (Table 1).

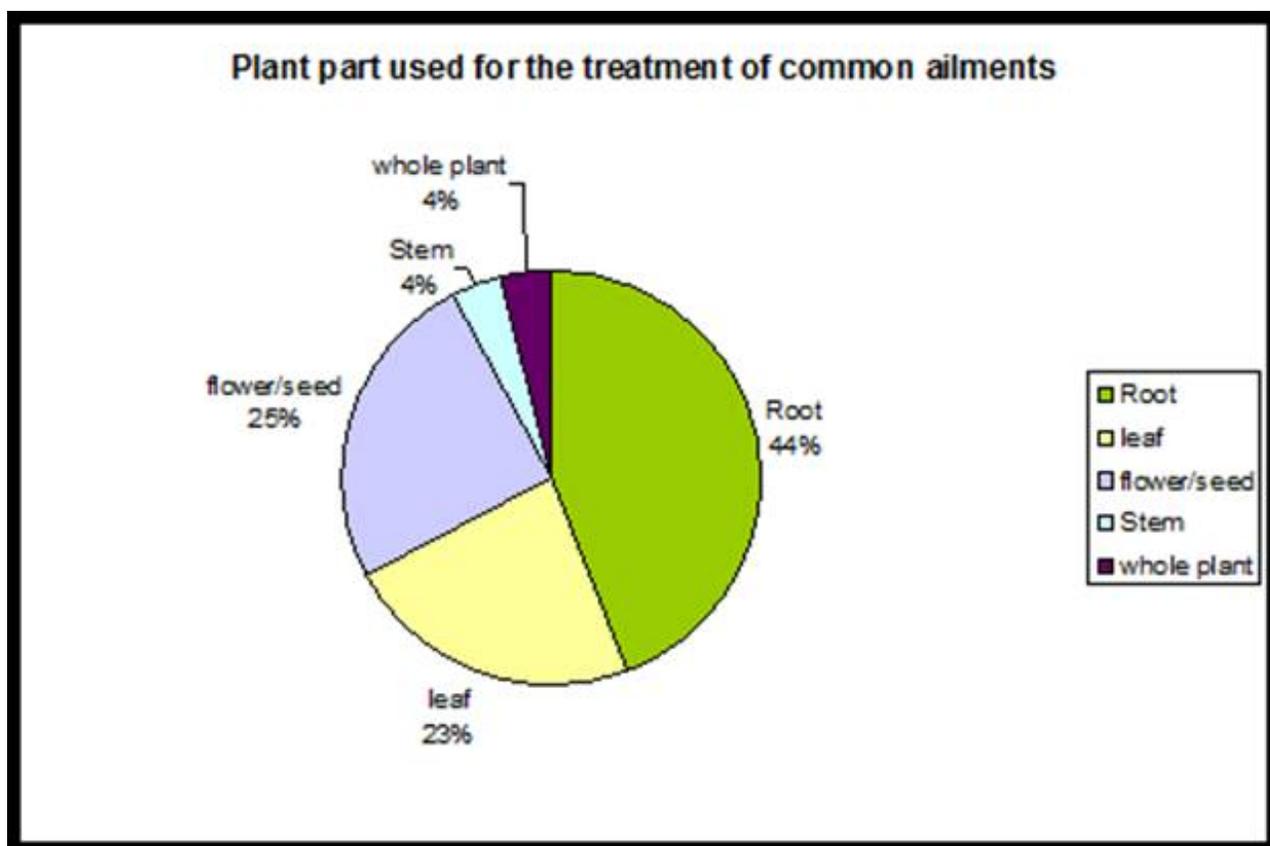
**Table 1:** Medicinal Plants and their uses.

Sr. No.	Botanical Name	Family	Local Name	Part Used	Disease/ailment	Uses
01	<i>Aconitum heterophyllum</i> Wall.	Ranunculaceae	Atish	Root	Fever	The dry root is powdered and taken orally with lukewarm water twice a day for 3-4 days.
02	<i>Aconitum balfourii</i> Stapf.	Ranunculaceae	Patish	Root	Acidity	The dry root is powdered and taken orally with lukewarm water twice a day for one week.
	<i>Aconitum balfourii</i> Stapf.	Ranunculaceae	Patish	Root	Stomachache	A decoction of dry roots of patish and karu ( <i>Picrorrhiza kurroa</i> ) is prepared and taken orally at bed time
03	<i>Acorus calamus</i> Linn.	Araceae	Boz, Bach	Rhizome	Cuts and wounds	The dried rhizome is powdered and mixed with water. A thick paste is applied on affected areas.
	<i>Acorus calamus</i> Linn.	Araceae	Boz, Bach	Rhizome	Stomachache	The dry root is powdered and taken orally as such with lukewarm water once a day.
	<i>Acorus calamus</i> Linn.	Araceae	Boz, Bach	Rhizome	Stomachache	The dry roots are burnt on charcoal. Smoke is exposed to the belly at bed time.
04	<i>Ainsliaea aptera</i> DC.	Asteraceae	Sath jeri	Root	Stomachache	A decoction of dry root is prepared and taken orally once a day.
	<i>Ainsliaea aptera</i> DC.	Asteraceae	Sath jeri	Root	Stomachache	The dry root is powdered and mixed with jaggery. The dose is taken orally with lukewarm water.
05	<i>Allium humile</i> Kunth.	Amaryllidaceae	Faran, Duno	Leaves	Tonsillitis	The fresh leaves are crushed and taken orally with milk.
06	<i>Anemone obtusifolia</i> Don.	Ranunculaceae	Mingooa	Root	Toothache	The small piece of fresh root is put between aching teeth. The root piece is chewed for 4-5 minutes.
07	<i>Angelica glauca</i> Edgew.	Umbelliferae	Chora	Root	Stomachache	Roots are powdered and taken orally as such with water twice a day.

08	<i>Arnebia benthami</i> (Wall. Ex G. Don.) Johnston	Boraginaceae	Ratanjot	Root	Arthritis	Dry roots are soaked in mustard oil for more than one week and the warm oil is massaged on the affected part(s) at bedtime.
	<i>Arnebia benthami</i> (Wall. Ex G. Don.) Johnston	Boraginaceae	Ratanjot	Root	Hairfall	The dry roots are soaked in mustard oil for more than one week till its color changes to reddish pink. The oil is massaged.
09	<i>Artemesia capillaris</i> Thunb.	Asteraceae	Jhaoo	Leaf	Earache	Leaf juice is extracted. Leaf juice is used as an ear drop. The Treatment is undertaken once a day.
10	<i>Berberis aristata</i> DC.	Berberidaceae	Kshamal	Flower	Acidity	The flowers are boiled in water and filtered. The extract is taken orally.
	<i>Berberis aristata</i> DC.	Berberidaceae	Kshamal	Flower	Eye infection	Roots are boiled in water and filtered. The filtrate is used as an eye drop. The treatment is undertaken twice a day for one week.
11	<i>Cannabis sativa</i> Linn.	Cannabinaceae	Bhaang	Seed	Arthritis	Seed oil is extracted by expulsion and is warmed by heating. The warm oil is massaged on the affected part(s). The treatment is undertaken at bedtime once a day.
12	<i>Cassiope fastigiata</i> (Wall.) D.Don	Ericaceae	Hieun -sheli	Leaf	Minor burns	Fresh leaves are crushed and a thick paste is made. A thick paste is applied externally on the affected parts.
13	<i>Dactylorhiza hatagirea</i> (D. Don.) Soo	Orchidaceae	Panja, Salampanja	Rhizome	Fever	The rhizome is powdered. The powder is taken orally with lukewarm water. The powder is taken twice a day for three days.
	<i>Dactylorhiza hatagirea</i> (D. Don.) Soo	Orchidaceae	Panja, Salampanja	Rhizome	Cuts and wounds	The dry rhizome is powdered and mixed with water. A thick paste is applied on affected areas.
	<i>Dactylorhiza hatagirea</i> (D. Don.) Soo	Orchidaceae	Panja, Salampanja	Rhizome	Cold and cough	The dry rhizome is boiled in water and decoction is prepared. The decoction is taken orally. The decoction is given twice a day for 4-5 days.
14	<i>Datura metel</i> Linn.	Solanaceae	Dhatura	Seed	Arthritis	Dried seeds are roasted on iron pan and powdered after cooling. The powder is mixed with hot mustard oil to make a paste. A thick paste is applied on the affected parts at bed time.
15	<i>Ficus palmata</i> Forsskal	Urticaceae	Fagad, Fagar	Stem	Toothache	The latex of the stem is squeezed out.2-3 drops of latex are applied on aching teeth and gums.
16	<i>Gentiana kurooa</i> Royle	Gentianaceae	Neelkanthi	Leaf	Fever	The leaves are boiled in water and filtered. The extract is taken orally.
17	<i>Gerardinia heterophylla</i> Decne.	Urticaceae	Zaran, Bichoo Ga	Whole plant	Snakebite	The whole plant is swept on the affected part. Until the patient feels relaxed and improved
	<i>Gerardinia heterophylla</i> Decne.	Urticaceae	Zaran, Bichoo Ga	Leaf	Muscles sprain	Fresh leaves are crushed and mixed with cow dung. The mixture is warmed by heating. The mixture is wrapped in a cotton cloth and tied on affected portion. The Treatment is undertaken at bedtime.
18	<i>Hedychium spicatum</i> Buch.-Ham.	Zingiberaceae	Kachoor	Rhizome	Acidity	The dry rhizome is powdered. The powder is taken orally with lukewarm water once in a day.
19	<i>Heracleum lanatum</i> Michx.	Umbelliferae	Patrala	Root	Leucoderma	The dry root is powdered and mixed with water. A thin paste is applied on the affected parts. The treatment is undertaken once a day for 1-2 week.
20	<i>Mesua ferrea</i> Linn.	Guttiferae	Nagkesar	Seed	Fever	A decoction is taken orally once in a day.
21	<i>Morchella esculenta</i> (L.) Pers.	Morchellaceae	Gucchi	Fruiting Body	Fever	The Guichi is mixed with eggs of fish. The preparation is taken orally once a day.

	<i>Morchella esculenta</i> (L.) Pers.	Morchellaceae	Gucchi	Fruiting Body	Cold & cough	The fruiting body is boiled in water and decoction is prepared. The decoction is given at bedtime for 2-3 days.
22	<i>Picrorrhiza Kurooa</i> Royle ex Benth.	Scrophulariaceae	Karu	Root	Jaundice	The dry root is boiled in water and decoction is prepared. The decoction is taken orally.
	<i>Picrorrhiza kurooa</i> Royle ex Benth.	Scrophulariaceae	Karu	Leaf	Cold & cough	Dry leaves are boiled in water and decoction is prepared. The decoction is taken orally once a day.
	<i>Picrorrhiza kurooa</i> Royle ex Benth.	Scrophulariaceae	Karu	Root	Stomach-ache	The dry root is powdered and mixed with jaggery. The dose is taken once a day
23	<i>Plantago major</i> L.	Plantaginaceae	Dunsua	Seed	Constipation	Dry seeds are powdered and mixed with sugar. The dosage is taken orally at bed time.
24	<i>Pleurospermum brunonis</i> Benth	Umbelliferae	Losar	Flower	Skin disease	The dry flower is powdered and mixed with water to make a thick paste. A thin layer is applied on the affected parts. The treatment is undertaken once a day regularly.
	<i>Pleurospermum brunonis</i> Benth	Umbelliferae	Losar	Flower	Stomatitis	The dry flower is powdered and mixed with butter to make a thick paste. A thin layer is applied on the affected parts. The treatment is undertaken once a day regularly.
	<i>Pleurospermum brunonis</i> Benth	Umbelliferae	Losar	Flower, leaf	Small pox	The flower and leaf is crushed to make a paste. A thick paste is applied externally on the affected parts. The Treatment is undertaken once a day for one week.
	<i>Pleurospermum brunonis</i> Benth	Umbelliferae	Losar	Flower, leaf	Cold & cough	A decoction is prepared. The decoction is taken orally to warm up body during cold. The decoction is given once a day.
25	<i>Podophyllum hexandrum</i> Royle	Podophyllaceae	Bankakdi	Root	Snakebite	The dry root is powdered and mixed with water. A thin layer is applied on the affected parts. The treatment is undertaken twice a day for one week.
	<i>Podophyllum hexandrum</i> Royle	Podophyllaceae	Bankakdi	Flower, Leaf	Jaundice	Juice is extracted and mixed with butter. The juice is taken orally. The Treatment is undertaken at bedtime.
	<i>Podophyllum hexandrum</i> Royle	Podophyllaceae	Bankakdi	Root	Stomach-ache	The dry roots are powdered. The root powder is taken orally as such with lukewarm water. The dose is taken once a day
26	<i>Prinsepia utilis</i> Royle	Rosaceae	Bhekal	Seed	Arthritis	The seed oil is extracted by expulsion and is warmed by heating. The warm oil is massaged on the affected part(s) at bedtime.
27	<i>Prunus armeniaca</i> L.	Rosaceae	Khubani, Khurbani, Khumani	Seed	Arthritis	Seed oil is extracted by expulsion and is warmed by heating. The warm oil is massaged on the affected part(s) The massage is done at bedtime.
28	<i>Rhododendron campanulatum</i> D. Don.	Eriaceae	Shalgar	Leaf	Small pox	Fresh leaves are crushed to make a paste. A thick paste is applied externally on the affected parts. The Treatment is undertaken twice a day for one week.
29	<i>Rheum australe</i> D.Don.	Polygonaceae	Chuchi	Root	Small pox	The dry root is powdered and mixed with water. A thick paste is applied externally on the affected parts. The Treatment is undertaken once a day.

	<i>Rheum australe</i> D.Don.	Polygonaceae	Chuchi	Root	Muscles sprain	The dry root is powdered and mixed with water. A thick paste is applied externally on the affected parts. The Treatment is undertaken at bedtime.
30	<i>Saussurea gossypiphora</i> D.Don	Asteraceae	Guggibaan	Flower	Cuts & wounds	The flower is dried. The wool of the herb is applied to fresh cuts and seals the wound. The dry wool is applied per day.
31	<i>Solanum surattense</i> Burm. F.	Solanaceae	Kantkari	Leaf	Arthritis	The fresh leaves are heated mildly on iron pan and made into poultice. The warm leaves are tied on the affected part(s) using muslin cloth. The poultice is applied at bedtime. sufficient relief is observed after one application
32	<i>Viola serpens</i> Wall.	Violaceae	Banfsa	Leaf	Cold & cough	A decoction is prepared. The decoction is given orally twice a day.
33	<i>Zanthoxylum armatum</i> DC.	Rutaceae	Timber, Timru	Bark	Toothache	The bark is removed from the stem. Small piece of bark is chewed for 4-5 minutes.



**Figure 1.** Plant parts used for the treatment of common ailments and diseases.

## Results and Discussion

Present study reports 33 medicinal plants which are commonly found in the study area. These plants with medicinal properties are being used by the local communities in their day to day health care. It is reported

that underground parts (44%) are used in most of the formulations of the medicines followed by flowers/seeds (25%), leaf (23%) and remaining other parts. The destructive harvesting of the medicinal plants by the maximum use of underground parts from the wild may lead to extinction of the species in the future. Plants growing in high altitudinal regions are of immense use in herbal and pharmaceutical industries as well. As demand for medicinal plants are ever increasing and these resources depleting from the nature. Therefore, there is a need to generate awareness among the local communities towards the sustainable utilization and conservation of medicinal plants.

## Acknowledgements

The authors are thankful to the local people for sharing their knowledge regarding plants and their uses in day to day healthcare practices.

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