Traditional practices of herbal medicines in the Lahaul valleys, Himachal Himalayas

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Observations on the traditional practices of herbal medicines were recorded in the villages of Lahaul, a semi-arid region of district Lahaul-Spiti, a dry temperate region of Himachal Himalayas. The information was recorded for the habitat, plant characteristics, plant part used of 43 plant species, belonging to 25 families and diseases treated in the Lahaul valley.

Key words: Traditional practices, Herbal medicine, Lahaul valley, Himachal Pradesh

Ethnobotany is a multidisciplinary science that deals with a direct relationship between man and plants. Ethnobotanical studies have led to the introduction of new or less known potential medicinal herbs and provided materials for the pharmacological and chemical research and new data on the locations and uses of drugs. Organized ethnobotanical studies in India, have received attention only during the last few decades. The area of the present study lies in and around the valleys of rivers, Chandra, Bhaga, Chenab and Mayar in the Lahaul region of district Lahaul Spiti of Himachal Pradesh state. The present information on the 43 medicinal plants used by the local people of Lahaul region has been collected during past 2 years. This information on these plants were compared with the available literature and only new uses that have not been published earlier are reported.

Study area

This is a mountainous area located between Ladakh and Tibet in the North and the Kullu valley in the South. Lahaul begins 51 km North of Manali right after crossing the Rohtang Pass (3978 m). Lahaul comprises an area of 6097 sq km and is situated on the western side of the district. Spiti is the sub division of Lahaul & Spiti district with its headquarter at Kaza. It is called "Little Tibet" because it has almost the same terrain, vegetation & climate. It lies among Tibet, Ladakh, Kinnaur, Lahaul & Kulu. Lahaul Spiti (North latitude 31°44' 57" and 33°42'54/" and East longitude 76°56'29/" and 78°41'34/"), a dry temperate Himalayan region of Himachal Pradesh. The region is mountainous and rugged with the inner Himalayas lying on the North and mid Himalayas lying to the South with connecting ranges in East and West except for small opening in the West through which the Chenab river passes. The rise of mountains averages about 5480 msl high peak reaching 6400 m. The river Chenab starts from Baralacha pass at 4891 m where the two sources of rivers Chandra and Bhaga are about 1.6 km apart and start off in opposite directions making Chandra and Bhaga valleys till they meet at Tandi (2958 m) making a common river, Chandra Bhaga or Chenab which flows down through Chamba district to Kashmir (Fig. 1).

Lahaul is enclosed between high mountains which forms a barrier against monsoon rains. Rainfall fluctuates from 100-700 mm yr-1 depending on place to place. The region experiences heavy snowfall (200-400 cm-) during winter (November-March). The temperature of headquarter of the district, Keylong varies from a maximum of 27°C in July and a minimum of -16°C in February. The soil of the region is sandy loam and varies from few cm to about one metre. The dry conditions of the region are responsible for the occurrence of the patches of Betula utilis D. Don, Abies pindro Royle, Pinus
wallichina A. B. Jackson, Picea smithiana Boiss., Cedrus deodara Loud. and Juniperus macropoda Boiss.. Farmers have also raised plantations of Salix alpinaeoides Vill., Populus nigra Linn. and Juglans regia Linn. Important shrubs of Lahaul are Hippophae rhamnoides Linn., Rosa webbiana Royle, Fraxinus xanthoxyloides Wall., Cotoneaster spp. and Lonicera quinquelocularis Hardw. Pea potato and hops are important cash crops which are cultivated by over 14,000 tribals of the region.

Methodology
The surveys on the traditional application of herbal medicines were conducted during 1999-2002 covering all five valleys i.e. Chandra, Bhaga, Pattan, Mayar and Tindi valleys of Lahaul. In each valley, study was carried out in three villages. With the help of village chief (Pardhan) persons were contacted who were well known for their expertise in the traditional medicines. Generally, each village of 25-80 families has such 3-5 persons who utilize the plants for curing various diseases. Questionnaires prepared in Hindi language were distributed to these traditional doctors, who were provided the specimens along with the photographs of the plants (Fig. 2-21). The questionnaires included the questions for local name of the plant, habitat, plant and method of preparing the mixture, treatment and diseases treated. Most of the people were reluctant to share the information on methods of use or doses as they felt it would be misused commercially; they felt it goes against their interests. All the persons interviewed were well-respected male and trusted for their experience and expertise. The observations on the habitats of the plants were also taken by visiting the site of growing plants which were further confirmed from these traditional doctors. In the following enumeration the medicinal plants are arranged alphabetically according to their botanical names followed by the local names and family. It is followed by a brief detail of distribution, characteristics and local medicinal uses.

Observations
1. Aconogonum alpinum (All.) Schur. (Polygonaceae)
   Locality: Darcha (Altitude 3260 msl)
   Distributed on the river sides and irrigated areas. A tall (1-2 m) herbaceous plant with
Fig. 6 - Berberis jaeschkeana Schneid.

Fig. 7 - Caltha palustris Linn.

Fig. 8 - Chenopodium foliosum Asch.

Fig. 9 - Cercium falconeri
Fig. 10 - *Geranium wallichianum* D. Don

Fig. 11 - *Heracleum iallii* Norman

Fig. 12 - *Meconopsis aculeate* Royle

Fig. 13 - *Myricaria squamosa* Desv.
Fig. 14 - *Pedicularis oederi* Vahl.

Fig. 15 - *Phlomis bracteosa* Royle ex Benth.

Fig. 16 - *Plectranthus rugosus* Wall.

Fig. 17 - *Rheum emodi* Wall. ex Meissn.
2. *Anaphalis triplinervis* (Sims) C. B. Clarke (Asteraceae)
Locality: Rohtang Pass (Alt 3978 m)
Distributed on high altitude pasture lands (3100-4200 m). A dwarf plant (20-50 cm) with narrow lanceolate white wooly leaves of 4-8 cm size. It has solitary or few white flowers head of 1-1.4 cm across with shining white papery spreading bracts.
Flowering: June-September
Uses: Leaves and flowers are dried in sunlight and ground. The powder is taken orally to treat acidity.

3. *Anemone rivularis* Buch-Ham. ex DC. (Ranunculaceae)
Locality: Trilijkinath (Alt 2790 m)
Local name: Talpal
Growing along the water channels and grasslands. Plants of 20-100 cm in height, silky pubescent herbs with basal leaves with rounded blade of 7-15 cm, deeply 3-lobed, shallowly toothed. Flower 1.3-3 cm, white.
Flowering: May and July
Uses: Whole plant is dried and made powder which is taken orally to cure asthma.

4. *Artemisia dracunculus* Linn. (Asteraceae)
Locality: Gemur (Alt 3125 m)
Local names: Chamarya, Pharmung
Grows on the eastern aspect of Bhaga valley along with *Juniperus macrodm* (2900-3300 m). The perennial herb of 30-70 cm has anise-like odour. Leaves oblong acute green of 2.5-3.7 cm. Flower head globular 3 mm, short stalked forming spikes.
Uses: Seeds are eaten by horses. Leaves are made into paste and applied to treat wounds on the legs of animals. Also useful in treating dysentery and stomachache.

5. *Aruncus dioicus* (Walter) Fernald (Rosaceae)
Locality: Urgos (Alt 2890 m)
Local name: Nalo
Plant grows on grasslands cultivated area. A slender erect herbaceous perennial with large 2-3 ternate leaves and large terminal pyramidal branched cluster of tiny pinkish-white flowers.
Flowering: July-August
Uses: Leaves and flowers are boiled in water and the extract is orally taken to treat dysentery.

6. *Berberis aristata* DC. (Berberidaceae)
Locality: Kukumseri (Alt 2730 m)
Local name: Kerpameto
A shrub usually 2 m in height grows in cultivated areas and grasslands. It has arching pale yellow branches, yellow flowers and leaves of 2.5-5 cm, which turn often red in October. Stem highly thorny. Flowers of 6 mm size borne in clusters.
Uses: An important plant for curing eye diseases and other health problems. Root is crushed, boiled and the extract is used to treat lungs' problems like vomiting of blood. Fruit is used to treat dysentery.

7. *Caltha palustris* L. (D.Don) (Ranunculaceae)
Locality: Sakoli (Alt 2760 m)
Local name: Charmaphool
Plant grows in open places grazing grounds along the water channels on the slope. Plant is characterized by heart shaped leaves and terminal yellow shining flowers of 2-4 cm across. Leaves are long stalked, blade 3-15 cm size and finely toothed.
Flowering: June-August
Uses: Leaves and flowers are sun dried, powdered and taken to cure cough.

8. *Chenopodium foliosum* (Moench) Asch. (Chenopodiaceae)
Locality: Tindi (Alt 2573 m)
A plant of 25-90 cm grows in open places and cultivated areas. Plant is easily distinguished by its bright red fleshy fruit borne in dense stalk less clusters. Leaves are triangular and irregularly toothed and 2-5 cm in size.
Flowering: June-September
Uses: The whole plant is sun dried and powdered to use for treating the urination disorders.

Locality: Kukumseri (Alt 2730 m)
Local name: Dhuwa and Kimali
Grows in cultivated area and open places. A tall (0.5-1.0 m) perennial, whole plant covered with whitish spines showing a silvery appearance. Leaves linear acute with triangular toothed or lobed margins with spines. Flower head globular, cream coloured 7-9 cm across with several spines of 2-3 cm length.

Uses: Leaves and flowers sun-dried and powdered. Powder is taken orally to cure swelling of head due to acidity.

10. **Codonopsis elegantea** (Schrenk) C.B. Clarke (Campanulaceae)

Locality: Darcha (Alt. 3260 m).

Plant grows on riversides and cultivated places. A perennial aromatic herbaceous plant of 30-100 cm height with short leaves of 1.5-2.7 cm, bluish white solitary, bell-shaped flower with pink or brown rings within and 1.4-2.5 cm long corolla with recurved lobes.

Flowering: July-September

Uses: Leaves and flowers are crushed in water and the extract is applied to kill the lice of sheep. Leaves are used to cure the joints' pain. Fruit is made into paste and applied on the abscess.

11. **Colchicum luteum** Baker (Liliaceae)

Locality: Kukumseri (Alt. 2730 m)

Local name: Kukum

The small plant (10-30 cm) grows in open places cultivated places and forests. Flowers solitary or two with golden yellow, petals of 2 cm long, appearing from the ground with the young narrow oblong blunt leaves of 15-30 cm in length. Corm cylindrical and covered with several brown scales.

Flowering and Fruiting: March-June

Uses: Flower and corm are sun dried, powdered and used in treating weakness.

12. **Convolulus arvensis** Linn. Field Bindweed (Solanaceae)

Locality: Urgos (Alt. 2850 m)

Local name: Dhechigmendo

Plant grows in open places, cultivated areas and grasslands. Plant (1-2 m) is a slender spreading or climbing perennial with distinctive arrow shaped lanceolate leaves and broadly funnel-shaped purple flowers with white or pale yellow centers. Flower solitary, axillary, borne on stalks. Leaves 2-7 cm, ovate or lanceolate with two spreading triangular basal lobes.

Flowering: May-September

Uses: Leaves and flowers are sun dried and boiled in water. The extract is used in curing the kidney pain and cleaning the hands.

13. **Cotoneaster microphyllus** Wallich ex Lindley (Rosaceae)

Locality: Kukumseri (Alt 2730 m)

It is a prostrate shrub. White flowers, 8 mm across, solitary, Leaves 6-13 mm, ovate to elliptic, fruit scarlet. Much branched stems.

Flowering: June-August

Uses: The fruits are used to regulate the menstruation cycle.

14. **Cynoglossum glochidiatum** Wallich ex Benth (Boraginaceae)

Locality: Kukumseri (Alt 2730 m)

Local name: Gava

Plant grows in cultivated places and grazing lands. An erect plant with simple or branched stems of 20-40 cm in height. Flowers bright blue and 8 mm across with spreading rounded lobes. Lower leaves lanceolate and upto 5 cm or more and stalked. Upper leaves smaller and stalkless.

Flowering: June-August

Uses: Leaves are made into a paste and applied to treat abscess.

15. **Delphinium cashmerianum** Royle (Ranunculaceae).

Locality: It grows on sloppy lands in Chaling (3100 m)

Leaves deeply lobed, 3-5 cm across. Flowers bluish-purple with a stout spur of 1.5-cm.

Flowering: August-September

Uses: Leaves and flowers are crushed in the boiling water and the extract is used to cure dysentery and fever.

16. **Dipsacus inermis** Wallich (Dipsacaceae)

Locality: Gispa (Alt 3100 m)

Local name: Ghati

Grows in shrub beries, open places and cultivated areas. A robust perennial plant with opposite pinnately lobed leaves and globular heads of 2-3 cm across, numerous cream-coloured flowers borne on long leafless stalks. Leaves of 10-25 cm, elliptic toothed, stem angled, up to 180 cm in length.

Flowering: June-September
Uses: Flower is pounded in to a paste with rapeseed oil and applied on the abscess.

17. *Epilobium latifolium* L.(Onagraceae)  
Locality: Urgos (Alt 2900 m).  
Local name: Chama Chung Chu  
Plant grows along the water channels and stony places. Pink flowers up to 5 cm across with rounded short stalked petals, leaves narrow-elliptic, 4-8 cm having stems usually to 40 cm and spreading or straight.  
Flowering: July-September  
Uses: Flowers and leaves are pounded into a paste and applied for joint pain, abscess and to cure headache.

18. *Fraxinus xanthoxyloides* Wallich (Oleaceae)  
Locality: Kukumseri (Alt. 2730 m)  
Local name: Sanjal  
Small tree grows on lower slopes and open fields (2000-2700 m) in Lahaul. Leaves with 5-11 small ovate-lanceolate 3-4 cm long leaflets. Flowers in dense stalk less clusters. Petals absent. Fruit in clusters of each of 3-4 cm; wood hard and used in making agricultural implements.  
Flowering: April  
Uses: Bark of the main branches is removed and boiled in water. The extract is used to treat stomachache in the livestock. It is also used to treat fractured bones.

19. *Galium verum* L. (Rubiaceae)  
Locality: Kukumseri (Alt.2730 m)  
Grows in cultivated areas. A herbaceous plant of 30-110 cm height, leaves 1-2 cm, 6-8 in each, whorled, leaner acute, usually hairy above. Flowers yellow, 2-4 mm across, numerous in a rather dense branched terminal cluster.  
Flowering: June-August  
Uses: Flowers are sun dried and powdered. Powder is taken orally to cure fever and cold.

20. *Gentianella moororofiana* Wallich ex. G.Don (Gentianaceae)  
Locality: Urgos (Alt 2880 m)  
Local name: Tikta  
Plant is found in open places and cultivated areas. Leaves 1.5-3 cm. Plant 5-25 cm with many pale blue flowers of 3 cm. Corolla tube funnel shaped.  
Uses: Flowers and leaves are pounded and used in curing headache and headache. The extract is useful in treating fever, cough and acidity.

21. *Geranium pratense* L. (Geraniaceae)  
Locality: Kukumseri (Alt 2750 m)  
Plant is found in meadows and cultivated places. A herbaceous plant of 15-50 cm length. Bluish purple flowers are in pairs, 2.5-4 cm across. Leaf blade 3-5 cm across, divided deep up to base into 5-7 ovate toothed lobes.  
Flowering: June-August  
Uses: Roots and flowers are powdered and used to treat asthma and lungs pain. The paste is used to blacken the hair.

22. *Gnaphalium affine* D. Don (Asteraceae)  
Locality: Sansha (Alt 2900 m)  
Local name: Parvah  
The plant is a common weed in the farmers' fields. A plant of 30 cm, flower head globular, bright glistening yellow 3 mm across, in dense rounded solitary or branched clusters, borne on erect wooly stems with wooly-haired leaves. Leaves are oblong, 2-5 cm, gray or white felted, half clasping several stems and tufted.  
Flowering: April-October  
Uses: Leaves are pounded into a paste and applied on burns.

23. *Heracleum lallii* Norman (Umbelliferae)  
Locality: Trilokinath (Alt 2780 m)  
Local name: Rawah, Padava.  
Plant grows in open places, cultivated places and grasslands. A perennial plant up to 2 m in height, large pinnately lobed leaves of 15-65 cm in size, with leaf blade up to 18 cm long and leaflet of 6 cm. Flowers white. Fruit oblong, margin normally winged.  
Flowering: May-June  
Uses: Flowers and leaves are pounded into a paste and applied on forehead to cure headache.

24. *Lespedeza gerardiana* Graham ex Maxim (Leguminosae)  
Locality: Urgos (Alt 2870 m)  
Local name: Nakesar.  
Plant grows in cultivated area and grasslands. A small under shrub up to 1 m with many dense clusters of yellow flowers with purple tips arranged along the stem. Flowers several, petals 1-1.5 cm, calyx silky haired, leaflets oblanceolate to linear-oblong.  
Flowering: August-October  
Uses: The whole plant is pounded into a paste and applied on burns and abscess.
25. *Lonicera quinquelocularis* Hardw. (Caprifoliaceae)
Locality: Kukumseri (Alt 2730 m)
A tall shrub, 2-3 m in height grows in cultivated areas, open areas and grasslands. Leaves 3-6 cm, ovate to broadly lanceolate and with pairs of cream-coloured flowers turning yellow in axillary stalk less clusters and white translucent fruits.
Flowering: August-October
Uses: Fruits are crushed, made into a paste and applied on the boils.

26. *Meconopsis aculeata* Royle (Papavraceae)
Locality: Rohtang (Alt 3978 m)
Local name: Kahiharu
Grows in stones, meadows and high altitude pastures. Plant up to 65 cm in height, leaves deep pinnately lobed. Flowers few, light blue 5-7 cm across. Capsule ovate to oblong, 1.5 cm across, bristly and haired.
Flowering: June-August
Uses: Leaves are ground into a paste and applied to treat the swelling of legs due to long walk.

27. *Mentha longifolia* L. (Labiatae)
Locality: Kukumseri (Alt 2730 m)
Local name: Chrup
Plant is distributed in irrigated fields along with water channels. A plant of 25-95 cm highly aromatic with blue flowers in many distant whorls in a terminal spike. Flowers 2.5 ern long. Leaves oblong-lanceolate, 7-15 ern in size, obscurely curved. Flowering: July-August
Use: Leaves are pounded into a paste and applied on the wound. The paste is wormicide.

28. *Myricaria squamosa* Desv. (Tamaricaceae)
Locality: Darcha (Alt 3250 m)
Local name: Humbo, Dona
An under shrub grows on river beds and sides. Plant up to 2 m in height, has small pink flowers in lateral spikes of 3-5 cm. Leaves 2-6 mm long and glaucous. Stem light brown.
Flowering: June-July
Uses: Leaves are pounded into a paste and used to treat the absciaetic pain.

29. *Nepata laevigata* D. Don (Labiatae)
Locality: Gemur (Alt 3175 m)
Local name: Neugra
A plant of 25-100 cm in height with blue purple flowers in dense whorls crowded into long terminal spikes of 3-10 cm length. Flower of 7-11 mm. Leaves of 2-5 cm, stalked, ovate acute to triangular, lanceolate, coarsely saw-toothed.
Flowering: July-September
Uses: Flowers are sun dried, powdered and are orally taken to treat cough and weakness. Flower extract is also used to treat the eye problems.

30. *Oxypotis mollis* Royle (Leguminosae)
Locality: Gemur (Alt 3175 m) Local name: Sanna
Plant grows in stony places or slopes. Aerial stems very short, flowers 10-15 mm, often purple fading to blue in long stalked clusters. Leaflets ovate elliptic or lanceolate, 6-17 mm, silky haired.
Flowering and fruiting: May-June
Uses: Leaves are pounded into a paste and applied to treat the swelling of hands and abdomen.

31. *Pedicularis oederi* Vahl (Scrophulariaceae)
Locality: Gemur (Alt 3175 m)
Plant grows along the *Juniperus macropoda* trees in Bhaga valley. Plant of 30-70 cm in height, with pinnately cut leaves, stalked, the blade 5-10 cm with numerous toothed lobes. Flowers light yellow to purple; borne in a dense oblong, cluster. Corolla tube up to twice as long as calyx, the upper lip oblong with a rounded apex and longer than the broad 3 lobed lower lip.
Flowering: July-September
Uses: Leaves and flowers are sun dried, powdered and taken orally to relieve kidney pain. Roots are also used same way to treat the pain in lungs.

32. *Phlomis bracteosa* Royle ex Benth (Labiatae)
Locality: Trilokinath (Alt 2800 m)
Local name: Ghasangsan
Plant is found in the cultivated fields and grasslands. Plant of 15-90 cm in size with 4-9 cm long leaves, stalked, hairy, heart shaped toothed. Pink flowers forming an interrupted spike. Flowers crowded in to large whorl of 2.3-4.2 cm across.
Flowering: July-August
Uses: Leaves and flowers are sun dried, powdered and used to treat arthritis.

33. *Plantago tibetica* Hook f. (Plantaginaceae)
Locality: Kukumseri (Alt 2730 m)
Small plant grows in cultivated areas and meadows. Leaves ovate-lanceolate, usually 5
ribbed, toothed tapering downwards in a short stalk. Spike cylindrical, stamens protruding.
Capsule containing 2-4 seeds.
Flowering: May-September
Uses: Besides the traditional use in treating the constipation, the leaves are also used in treating the abscess.

34. *Plectranthus rugosus* Wallich ex Benth (Labiatae)
Locality: Tindi (Alt 2575 m)
Local name: Pasak
Found in cultivated fields and grasslands. An erect branched leafy shrub or under shrub up to 150 cm with ovate wrinkled hairy leaves and many small white 2-lipped flowers. Leaves coarsely toothed 2-4 cm, conspicuously white or gray-woolly beneath in contrast to the green wrinkled upper surface.
Flowering: May-September
Uses: Leaves are sun dried, powdered and taken orally for the purification of blood, stomachache and acidity.

35. *Polygonum amplexicaulis* D.Don (Polygonaceae)
Locality: Urgos (Alt 2890 m)
Local name: Rambha and Raja ka phool
Plant is found growing in shrubberies, open places or slopes and alpine pasturelands. A slender erect perennial plant of 100 ern, with ovate, heart-shaped clasping upper leaves tapering to a long point and slender terminal 5-15 cm long spikes of pink, deep red 3-6 cm long flowers.
Flowering: July-August
Uses: The whole plant is sun dried, powdered and taken orally to treat the physical weakness and acidity.

36. *Ranunculus diffusus* DC (Ranunculaceae)
Locality: Urgos (Alt 2890 m)
Local names: Falangja ka phool, chesa
Distributed in shrubberies, open places and forests. A softly hairy spreading plant with yellow flowers of 1.0-1.5 cm across. Leaf blade heart-shaped 2-5 cm long, stalked, deeply 3-lobed with acute teeth.
Flowering: April-July
Uses: Leaves and flowers are powdered and used to treat swelling of tongue, burns, cough and cold.

37. *Rheum emodi* Wallich (Polygonaceae)
Locality: Kukumseri (Alt 2730 m)
Local name: Chukri
Grows in cultivated areas. A herbaceous plant of 1-2 m 1 height, with a leaf of 30-50 cm stalk and broadly ovate, blade with a heart-shaped base. Much branched clusters of small radiate-purple flowers borne in an inflorescence of 15-30 cm in length.
Flowering: June-July
Uses: Flowers are sun dried, powdered and taken orally to cure the indigestion.

38. *Rosa foetida* Herrm (Rosaceae)
Locality: Keylong (Alt 3000 m)
Local name: Gulab
Plant is liked for its beautiful rich scented yellow flowers. A native of western Asia, has now naturalized in the cultivated areas of Keylong.
Flowering: June-September
Uses: Fruit is used to treat dysentery and weakness. Fruit is also taken orally to treat.

39. *Salvia campanulata* Wallich ex Benth (Labiatae)
Locality: Tindi (Alt 2575 m)
Plant is distributed in forests, shrubberies and open places. A plant of 25-75 cm, flowers large, yellow, 2-3 cm, 2-lipped. Ovate, heart-shaped toothed long stalked leaves.
Flowering: June-July
Uses: Leaves and flowers are sun dried, powdered and taken orally to cure fever and cough.

40. *Scorzoner a virgata* DC (Asteraceae)
Locality: Urgos (Alt 2880 m)
Local name: Chatis
Plant grows in cultivated areas and grasslands. It is a small slender perennial, much branched, forming a large clump with narrow grey-green, entire 1-4 mm broad, 5-15 cm long with margin inrolled leaves. Solitary terminal long stalked bright yellow heads with narrow cylindrical involucres. Floret 5-8, 2.5-3 cm long, involucre bracts slender, blunt with papery margins.
Flowering: July-August
Uses: Flowers are sun dried, powdered and taken orally to cure cough and weakness.

41. *Sedum eversii* Ladeb (Crassulaceae)
Locality: Tindi (Alt 2525 m)
Plant grows in stony slopes and cultivated fields; plant of 10-70 cm can be identified by its small (1.2-2.5 cm) flat fleshy, blue-green leaves borne on spreading stems. Leaves are ovate to
opposite. It also bears dense domed clusters of numerous pink flowers of 5-8 mm in size. Flowering: July-September
Uses: Flowers are pounded into a paste and applied on forehead to treat the headache. Leaves and flowers are sun dried, powdered and taken orally to treat the pain in lungs and weakness.

42. Taraxacum officinale Wigg (Asteraceae)
Locality: Kukumseri (Alt 2730 m)
Local name: Quathi
A small plant of 10-30 cm grows in cultivated areas, open slopes and alpine pastures.
Uses: Root is sun dried, powdered and taken orally to cure backache.

43. Verbascum thapsus L. (Scrophulariaceae)
Locality: Tindi (Alt 2575 m)
Plant grows on rocky slopes and cultivated areas. It has an erect leafy stem with a slender wooly spike of many yellow flowers of 2-2.5 cm and oblanceolate pale yellowish-gray wooly leaves.
Flowering: June-September
Uses: Leaves and flowers are sun dried, powdered and taken orally to treat vomiting.

Discussion
The Lahaul is a part of cold desert Himalayas which is considered a remote and hard region of Himachal Pradesh. The present study is a brief account of some plants traditionally used in local medicines by the tribals, farmers and local doctors. They generally use different plants in a particular ratio to treat various types of the health problems and avoid giving the complete details about the methods as well as the composition of the mixture. They explained that many people are contacting them to know about these plants and exploit them commercially. Instead, they suggest proper action in the conservation of these rare plants of high medicinal values. However, such surveys conducted on the traditional uses of plants in treating various diseases by these village folks have proved very beneficial as this is their precious knowledge which is of course on the verge of disappearance along with these rare plants. One medicinal plant Kuth (Saussurea lappa C. B. Clarke) had been successfully cultivated and exported to China up to 1962. Recently, based on the traditional knowledge of the village folks cultivation and commercial utilization of sea buck thorn (Hippophae rhamnoides Linn) have started in the region, which is likely to benefit the tribal people of the state. Some of the important wild medicinal plants of this region are Aconitum heterophyllum Wall. ex Royle, Podophyllum hexandrum Royle,Picrorhiza kurroa Royle ex Benth and Dactylorhiza hatagirea (D. Don) Soo., which are being illegally collected from the region. However, these plants are highly under pressure due to over-exploitation, illegal collection, agricultural expansion, deforestation and grazing. Already some plants like Meconopsis aculeata Royle are facing extinction and rarely seen. Further, opening of a tunnel under the Rohtang pass in next 4-5 years to reduce the journey from Manali to Lahaul by three hours, is likely to put these rare and important plants under more pressure due to more inflow of tourists. It is high time that appropriate steps be taken on the scientific cultivation, conservation and economic utilization of this important wealth of nature which will also benefit the poor tribals of this part of Himalayas.

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