

**A RECENT SURVEY OF MEDICINAL PLANT RESOURCES OF LAHUL
VALLEY (PUNJAB, INDIA)**

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The author, on behalf of the Botanical Survey of India, recently undertook a tour in Lahul Himalayas for the collection of plants for the Regional and Central National Herbaria. The area covered during this tour lies between 32°22' and 32°35' N and 77°00' and 77°15' E, from the Rohtang Pass (4000 m.) to Keylang, a distance of 32 trekking miles. The Lahul Valley is drained by the two main rivers, Chandra and Bhaga which confluence at Tandi near Keylang to form the Chandrabhaga which in its further course is known as the Chenab. No part of this valley is situated at an altitude less than 3000 metres and all the plants included in this account were collected above this altitude up to about 4000 m. Nearly a hundred years ago, an account of the plants of Lahul was published by J.E.T. Aitchison,¹ in which the plants collected by Rev. Heinrich Jaeschke of the Moravian Mission have been enumerated. Of the 283 species listed in this paper, only 77 were reported as occurring at altitudes above 3300 m. Plants of economic importance were also mentioned including eleven medicinal plants. Sir George Watt² wrote a note on the vegetation of British Lahul. There have been some recent collections from the valley, the most important of which has been that of N.L. Bor who spent nearly 3 months in the valley and made an extensive collection. These specimens are housed in the herbarium of the Forest Research Institute at Dehra Dun but no published account of the above collection exists.

In his recent tour of the valley during the summer of 1958, the author collected more than 200 species in the altitude range 3000 to 4000 m., of which 67 are reported to possess medicinal properties according to the Glossary of Indian Medicinal Plants.³ Some of the important high-altitude medicinal plants are also being cultivated in the valley among which may be mentioned *Saussurea lappa* Clarke and *Podophyllum emodii* Wall. During the present tour it has been observed that there are a number of plants which could be exploited as they occur in abundance. For example, extensive patches of *Caltha palustris* L., *Thymus serpyllum* L., *Pedicularis punctata* Dcne., and others are found on hill slopes. *Caltha palustris* L. in particular is reported to contain Helleborin and Veratrin and as such deserves further study. There are other valuable plants

occurring in the valley, viz., *Artemisia dracunculus* L., *Physochlaina praelta* Hook. f., *Ephedra gerardiana* Wall. There are still others which need further study for their medicinal properties. In this group may be mentioned the various species of *Astragalus*, *Potentilla*, *Allium*, *Bergenia*, etc.

Summary

During a recent tour in Lahul Himalayas for the collection of plants for the Regional and Central Herbaria of the Botanical Survey of India, opportunity was taken to gather information on the medicinal plant resources of the area. Of the two hundred species collected in the altitude range of 3 to 4000 metres, during this tour, 67 species are reported to possess medicinal properties according to published literature. Some of the important high-altitude medicinal plants are also being cultivated in the valley among which may be mentioned *Saussurea lappa* Clarke and *Podophyllum emodii* Wall. There are several plants growing in abundance which deserve further study and some of which could be exploited. *Caltha palustris* L., which is reported to contain Helleborin and Veratrin, *Artemisia dracunculus* L., *Physochlaina praelta* Hook. f., *Ephedra gerardiana* Wall. and species of *Pedicularis*, *Potentilla* and *Allium* are among those deserving further study.

Brief description of the species collected and an indication of their medicinal properties as recorded in literature are given in Appendix.

Appendix

Medicinal Plants Collected in Lahul

RANUNCULACEAE

Anemone obtusiloba D. Don. FBI. 1:8.—A densely tufted hairy herb with trilobed leaves and lemon yellow flowers, 3 cms dia. On hill slopes near Rohtang Pass, 4000 m. Seeds emetic and purgative. Roots also useful.

Thalictrum minus L.—A large herb. Leaves sheathing. Leaflets nearly 1 cm. long, 3-lobed, toothed. Achenes about 6, ribbed, narrowed towards ends. On a hill near Tandi, 3300 m. Infusion of leaves or decoction of roots useful in fevers.

Caltha palustris L. FBI. 1:21.—A common herb of moist regions found most abundantly

alongside streams along hill slopes. The cordate leaves, 10 cms dia. Flowers 2—4 cms. dia. yellow. Very common throughout, Kothi-Gondla. 2500-3500 m. Roots contain Helleborin and Veratrin.

Aquilegia vulgaris L. FBI. 1:24.—A large herb with large white spurred flowers. Near Gondla 3000 m. Poisonous.

Delphinium denudatum Wall. FBI. 1:25.—A large herb with blue flowers, spurred. 2500-3500 m. Roots, bitter, stim., alter., tonic, adulterant for aconite.

Berberis jaeschkaeana C.K. Sch. Bull. Herb. Boiss. Ser 2.5: 399, 1905.—A rigid shrub with yellow flowers, 1 cm. dia. Sissu-Gondla: On hill slopes 3200 m. Needs chemical investigation.

Podophyllum emodii Wall. ex Royle. FBI. 1:112.—Near Gondla village. Perhaps in cultivation. Rhizome and roots, hepatic, stim., cholag., purg.

PAPAVERACEAE

Meconopsis aculeata Royle. FBI. 1:118.—The well known Himalayan Blue Poppy with sky blue flowers. Sissu-Gondla. 3200 m. Root considered narcotic and poisonous.

FUMARIACEAE

Corydalis ramosa Wall. FBI. 1:125.—A herb with dissected leaves and yellow spurred flowers. Tandi. 3500 m. Sap of plant employed in eye diseases.

CRUCIFERAE

Barbarea vulgaris Br. FBI. 1:134.—A herb with characteristic aroma and yellow flowers. Khoksar. 3200 m. In Spain and La Reunion leaves and plant used as stim. etc.

Cardamine impatiens L. FBI. 1:138.—An annual with small white flowers. Khoksar in moist situations. 3400 m. Plant stim. diur.

Arabidopsis thaliana (L.) Heyn. (*Sisymbrium thalianum* (L.) Gay. FBI. 1:148.—Khoksar. 3300m. Used in Spain to cure sores in the mouth.

Capsella bursa-pastoris (L.) Medic. FBI. 1:159.—Kothi-Khoksar. 2800-3400 m. Seeds. stim. Plant astring. antiscorb. in haematuria and dropsy.

VIOLACEAE

Viola biflora L. FBI. 1:182.—Rohtang. 3500-4000 m. Root emet. Flowers, emol. diaphor. antisp. Leaves, emol. laxt.

CARYOPHYLLACEAE

Arenaria serpyllifolia L. FBI. 1:239.—Herb used in China for bladder diseases.

MALVACEAE

Malva rotundifolia L. FBI. 1:320.—A prostrate herb with thick rootstock and pale violet flowers. Seeds, Leaves and Plant. Various uses.

LINACEAE

Linum perenne L. FBI. 1:411.—A perennial herb with blue flowers, 2 cms. dia. Tandi. 3000 m. Seeds, considered emol.

GERANIACEAE

Geranium wallichianum Sw. FBI. 1:430.—Very common on grassy slopes. Flowers large, bluish, purple-streaked. Khoksar to Tandi, 3200 m. Herb used in ailments of teeth and eyes.

LEGUMINOSAE

Lotus corniculatus L. FBI. 2:91.—A perennial herb with yellow flowers. Common on grassy slopes, Sissu. 3200 m. Reported to contain HCN-glucoside.

Astragalus species.—Several species of the above genus found in the valley deserve further study.

ROSACEAE

Potentilla species.—Need further study.

Cotoneaster nummularia Fisch. & Mey. FBI. 2:386.—A rigid spreading shrub with small white flowers. Common in the valley above 3000 m. Plant, aper., stomachic.

SAXIFRAGACEAE

Bergenia stracheyii Engl. f. *Saxifraga stracheyii* Hook. f. & Thoms. FBI 2:398.—A fleshy herb amidst boulders with pale rose coloured flowers. Needs further study.

Ribes orientale Poir. FBI. 2:410.—A shrub on rocks. Flowers in racemes. At Tandi, 3500 m. Berries purgative.

CUCURBITACEAE

Melothria heterophylla Cogn. (*Zehneria umbellata* Thw. FBI. 2:625).—Near Kothi on way to Rohtang. 2500 m. Juice of root and leaves medicinal.

UMBELLIFERAE

Bupleurum falcatum L. FBI. 2:676.—A herb, habit variable with small yellow flowers. 3200 m. Roots useful in liver troubles and as diaphor.

Carum carvi L. FBI. 2:680.—A cultivated herb common throughout upto 4000 m. Fruits, stomach carmin.

Ferula jaeschkaeana Vatke. FBI. 2:708.—A large herb with large compound umbel of yellow flowers. Gondla. 3300 m. Gum resin useful.

Heracleum species.—Two species were collected which deserve further study.

RUBIACEAE

Galium aparine L. FBI. 3:205.—A rambling herb with sticky fruits. Gondla 3300 m. Expressed juice of plant-aper., diur., antiscorb.

Galium verum L. FBI. 3:208.—Common on rocks on hills around Tandi. 3500 m. Expressed juice or decoct. in epilepsy and hysteria.

VALERIANACEAE

Valeriana species.—Two specimens were collected which could not be exactly determined. One of them approximates to *V. hardwickii* Wall.

DIPSACACEAE

Morina coulteriana Royle. FBI. 3:216.—This tall spinescent herb with yellow flowers needs study since *M. persica* is mentioned as a drug plant.

COMPOSITAE

Achillea millefolium L. FBI. 3:312.—An erect herb with highly dissected leaves and crowded heads. Manali to Sissu. 2000—3400 m. Herb. diaphor., stim., tonic, emmen. and other uses.

Artemisia dracunculus L. FBI. 3:321.—An erect aromatic herb with 3-forked leaves and greenish heads. Sissu-Tandi. 3300m. Aromatic leaves: aper., stomach., stim. febrifuge.

Artemisia maritima L. FBI. 3:323.—A strongly aromatic herb with minutely dissected leaves. Keylang. 3500 m. Anthelm.

Carduus nutans L. FBI. 3:361.—An erect herb with fascicled heads. Keylang, 3500 m. Flowers febrifuge.

Saussurea lappa Clarke. FBI. 3:376.—Cultivated in the valley. The well known 'KUTH' of commerce.

Taraxacum officinale Wigg. FBI. 3:401.—The Dandelion. Root, tonic, aper., kidney and liver disorders.

CAMPANULACEAE

Codonopsis ovata Benth. FBI. 3:433.—A tall herb upto a metre in height with bell-shaped flowers. In fields near Tandi. 3300m. Roots and leaves used for bruises etc.

ERICACEAE

Rhododendron lepidotum Wall. FBI. 3:471.—A stunted shrub with glandular leaves and purplish flowers. Near Rohtang, 3500-4000m. Leaves arom. stim.

ASCLEPIADACEAE

Cynanchum vincetoxicum Pers. FBI. 4:22.—An erect herb with sessile opposite leaves and yellow flowers. Plant poisonous. Root-emetic.

GENTIANACEAE

Gentiana tenella Fries. FBI. 4:109.—A herb on moist slopes with blue flowers. Gondla 3300m. Decoct. of plant given in fevers.

BORAGINACEAE

Cynoglossum wallichii G. Don. FBI. 4:157.—A large hairy herb with blue flowers. Khoksar-Sissu. 3200m. Juice of root useful.

Arnebia benthamii (Wall. ex G. Don.) I. M. Johnston (*Macrotomia benthamii* D.C. FBI. 4:177)—A rough hairy herb with blue flowers in dense inflorescences. Locally known as BALSAD. Gondla. 3500 m. Plant considered useful in diseases of tongue and throat.

Onosma hispidum Wall. (*O. echioides* Clarke in FBI. 4:178. non Linn).—A profusely hispid herb

with white tubular flowers. Sissu 3400 m. Leaves, flowers, root, various medicinal uses.

CONVOLVULACEAE

Convolvulus arvensis L. FBI. 4:219.—A twiner with ovate cordate leaves and pale tubular flowers. Tandi 3300 m. Root purgative.

SOLANACEAE

Physochlaina praelta Hook. f. FBI. 4:244.—A herb with greenish tubular flowers with exerted stamens. On a dry hill slope near Tandi. 3500 m. Poisonous.

Hyoscyamus niger L. FBI. 4:244.—A herb with purple veined tubular flowers. Khoksar 3200 m. Leaves sedative, narcotic and various other uses.

SCROPHULARIACEAE

Verbascum thapsus L. FBI. 4:250.—A woolly herb with yellow flowered spikes. Common throughout. Herb, leaves, seeds, roots, various medicinal uses.

Euphrasia officinalis L. FBI. 4:305.—A small herb with dull white flowers. Sissu 3200 m. Herb bitter astring., tonic, in eye disorders, etc.

Pedicularis pectinata Wall. FBI. 4:306.—A tall herb with purplish flowers in bracteate spikes. Tandi 3500 m. Plant diur. Pounded leaves for haemoptysis.

Pedicularis punctata Dcne. (*P. siphonantha* D. Don). FBI. 4:313.—Abundant along streams and in moist places above 3000 m. Plant used as diur.

OROBANCHACEAE

Orobanche epithimum DC. FBI. 4:325.—Parasitic on *Thymus serpyllum* and *Artemisia* sp. Common. 3500 m. Needs study particularly because it is parasitic on such plants as *Thymus* and *Artemisia*.

LABIATAE

Thymus serpyllum L. FBI. 4:649.—A spreading aromatic plant. Common on hill slopes 2 to 4000 m. Herb, seeds and oil various medicinal uses.

Calmintha clinopodium Benth. FBI. 4:650.—An erect herb with flowers in whorls. Gondla 3300 m. Plant astring., carmin., heart tonic.

Prunella vulgaris Royle, FBI. 4:693.—An erect herb with purple flowers. Kothi-Gondla 2500-3500 m. Herb, green leaves various medicinal uses.

PLANTAGINACEAE

Plantago major L. FBI. 4:705.—A large herb with spike 20 cms. long. Tandi. 3500 m. Seeds, tonic; stim., leaves and roots, in fevers.

Plantago brachyphylla Edgew. FBI. 4:706.—A small prostrate herb with spikes 8-10 cms. Rohtang 4000 m. leaves applied to wounds.

POLYGONACEAE

Polygonum aviculare L. FBI. 5:26.—Kothi-Tandi. 2500 to 3500 m. Herb, dried root and seeds used in medicine.

Polygonum viviparum L. FBI. 5:31.—Along water margins, Khoksar to Sissu. 3400 m. Root, various uses.

Rheum webbianum Royle. FBI. 5:57.—A large herb on precipitous rock edges. Khoksar-Tandi 3300 m. Root, laxative.

Oxyria digyna Hill. FBI. 5:58.—An erect soft herb with cordate reniform leaves. Khoksar 3400 m. Plant, cooling.

THYMELEACEAE

Wickstroemia canescens Meissn. FBI. 5:195.—A shrub with cymose clusters of yellow tubular flowers. Kothi to Rahla 2500-3000 m. Needs investigation since other species have medicinal properties.

URTICACEAE

Urtica dioica L. FBI. 5:548.—A common nettle. Sissu 3400 m. Root diur. Decoction of plant other uses.

CUPULIFERAE

Alnus nitida Endl. FBI. 5:600.—A tree with short pendulous spikes upto 3000 m. Bark contains tannin.

GYMNOSPERMS-GNETACEAE

Ephedra gerardiana Wall. FBI. 5:640.—A rigid shrub with male structures. Tandi on rocks, 3500 m. Various uses.

CONIFERAE

Juniperus communis L. FBI 5:646.—A stunted shrub with cones. On rocks near Tandi 3400 m. Fruit and Oil, diur., carmin., stim., in dropsy, etc.

MONOCOTYLEDONS—ORCHIDACEAE

Orchis latifolia L. FBI. 6:127.—A ground orchid with purple flowers. Sissu to Tandi 3200m. Tuber yields Salap. expect. astring.

IRIDACEAE

Iris kumaonensis Wall. FBI. 6:274.—Near Khoksar 3200 m. very common on hill slopes. Roots and leaves given in fevers.

NAIADACEAE

Triglochin palustris L. FBI. 6:563.—A scapige-

rous herb with flowers on long scape. Tandi 3500 m. Contains HCN.

PTERIDOPHYTES-EQUISETACEAE

Equisetum arvense L.—In moist situations on way to Khoksar. 3200 m. Herb used in Germany as diur. Has haemostatic properties.

References

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