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Medicinal Plants used in the treatment of various diseases by the inhabitants of Sarkaghat region of district Mandi, Himachal Pradesh, North-Western Himalaya

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Abstract

Present plants study was carried out in Sarkaghat Tehsile of Mandi District of Himachal Pradesh of North- West Himalayas for their medicinal uses by the local people of study area from ancient time. The human relationship with the plants is too old as old the existence of life. Plants are most important source of medicine from the ancient period. The aim of this study is to document the traditional knowledge on the utilization of plants by the locals. There is no previous work done any workers and all the information mentioned the paper is derived from the people of the area. In present paper 60 medicinal plants of belonging to 59 genera of 44 families. Plant parts leaves, stem, root, rhizome, fruit and flowers are used by the local inhabitant for the treatment of various diseases.

Keywords: Himalaya, traditional, medicinal plants, diversity

Introduction

Himalaya is magnificently enriched with a vast diversification of plants having medicinal significance. Indian Himalaya, identified as one of the mega biodiversity hotspots of the world (Zeeshan Hasan *et al*., 2009) [18] includes 18,440 species of plants. The Himalaya have great wealth of medicinal flora and traditional folklore medicinal knowledge. Himachal Pradesh, a Western Himalayan state is a reservoir of medicinal plants. Himachal Pradesh is also well known medicinal plant hot spot in the western Himalaya that has rich diversity of flora Ethnobotanical work in Himachal Pradesh was done by several workers. These are the fountainhead which accord raw materials for various industries like pharmaceutical, phytochemical, food, flavoring and cosmetic industries. The rural people has tremendous belief for traditional and wonderful plants. The rural people have traditional indigenous knowledge about the use of medicinal plants to cure various diseases. Traditional primitive knowledge involves practice based on observations.

Study Area: The study area Sarkaghat Tehsile is a part of Mandi District of Himachal Pradesh. Himachal Pradesh is positioned in the North-western region of India. Sarkaghat is a town but the area include in the Sarkaghat is maximum rural area. Maximum people of Sarkaghat are lives in the villages. It is bounded by states of Jammu and Kashmir in the North, Punjab in the West, Haryana in the South-West, Uttarakhand in the South-East, Tibet in the East, Uttar Pradesh in the South. Most of the parts of the state lie in the Dhauladhar range. Himachal is fed by 5 perennial rivers Chenab, Ravi, Beas, Sutlej and Yamuna. Mandi district is one of the 12 districts of Himachal Pradesh. The coordinates of Sarkaghat are 31.41550^0 N and 76.44102^0 E longitudes in the Western Himalayas. Altitude of the area Sarkaghat is varying from 600m t0 1800m. Visited to different locations of Sarkaghat Tehsile like Gopalpur, Dharampur, Tihra, Kamalah, Marhi, Seoh, Sandhole, Riwalsar, Manadap,

Janitri Dhar, Baroti, Baneradi etc. The area includes various kind of the forest i.e. Pine forest, Oak-Rhododendron forest, Cedrus forest and otassdher broad leaf forests sub tropical forests

Materials and Methods

Ethno medicinal data was collected according to the methodology suggested by Jain and Goel. Several ethnobotanical surveys were conducted during the period of 2019-2022. Local healers called vaidyas, native people and resource persons mainly woman, using medicinal plants for curing various diseases were interviewed for documenting the information in their local language (Mandyali). People of this region can easily understand and speak Hindi, amongst themselves they communicate in mandyali dialect.

Table 1: Ethano-medicinal Plants of Tehsile Sarkaghat of Mandi District

Sr. No.	Name of Plants	Family	Common Name	Part Used	Etanomedicinal Uses of Plants
1.	*Achyrathes asprera* Linn.	Amaranthaceae	Puthkanda	Leaves, Roots	Leaves are chewed for mouth alcer. Roots are applied as paste around the joint for treatment of pain.
2.	*Ageratum conyzoides* Linn.	Asteraceae	Ujadu	Leaves	Leaves paste used on wound for checking blood from the wound.
3.	*Ajuga bracteosa* Wall. Ex. Benth.	Lamiaceae	Neelkanthi	Leaves	5g powdered dry leaves prescribed twice daily for diabetes or eaten raw leaves.
4.	*Allium cepa* Linn.	Amaryllidaceae	Pyaz	Bulb	Hot slice of bulb treated on pimple for ripening of pimple.
5.	*Aloe vera* (L.) Burm.f.	Xanthorrhoeaceae	Chilak Dware	Leaves	Paste (gel) of leaves apply on the wound. For Gastric problem gel is eaten.
6.	*Anacyclus pyrethrum* (L.) Lag.	Asteraceae	Karkara	Flower bud	Bud is chewed for toothache and oral sore.
7.	*Asparagus adscendens* Roxb.	Asparagaceae	Sanspali	Rhizome	Powder taken with milk for increase vitality and strength.
8.	*Bauhinia variegata* Linn.	Leguminosae	Karale	Fresh Flower, Bark	Used for orally constipation. Paste of bark applies for skin diseases.
9.	*Berberis lycium* Royle	Berberidaceae	Kashmal	Fruit, Leaves, stem, root	Eating fruit for digestion problems. Stem use for pyorrhea treatment. Leaves use for Jaundice cure. Roots use for dysenteric treatment and Piles problem with butter.
10.	*Brassica rapa* L.	Brassicaceae	Saroon	Seed	Seed oil used for body massage in case of internal injury, Oil also applied on wound.
11.	*Bryophyllum pinnatum* (Lamk.) Oken.	Crassulaceae	Pathar Khar	Leaves	Fresh leaves juice used for removal of kidney's stone.
12.	*Calotropis procera* (Aiton) Dryand.	Apocynaceae	Aak	Leaves	Leaves of Plant applied on the pimple for ripening of pimple. Latex of leaves applied on teeth for toothache.
13.	*Cannabis sativa* L.	Cannabaceae	Bhang	Seeds	Seed oil massage on arthritis affected art of the body.
14.	*Cayaponia laciniosa* (L.) C. Jeffrey	Cucurbitaceae	Shivlingi	Seeds	Seeds used for fever and flatulence.
15.	*Centella asiatica* Linn.	Apiaceae	Brahmi	Leaves	Powdered leaves with cow's milk improve Memory.
16.	*Cheilocostus speciosus* (J.Koenig) C.D. Specht	Costaceae	Keu	Root	Root powder used in fever
17.	*Chenopodium album* L.	Chenopodieaceae	Bathu	Leaves	For the treatment of stone leaves juice is useful. For gastric leaves vegetable is useful
18.	*Cinnamomum tamala* (Buch.-Ham.) T. Nees & Eberm.	Lauraceae	Meetha patta	Leaves, Bark	Leaves use for cough problem.
19.	*Colebrookea oppositifolia* Sm.	Lamiaceae	Gaduse	Leaves	Paste of fresh leaves applied on the wound for stop the blleding.
20.	*Cryptolepis dubia* (Burm. f.) M.R. Almeida	Apocynaceae	Baker-Bel	Leaves	Leaves are useful for diabetes for controlling blood sugar.
21.	*Curcuma aromatica* Salisb.	Zingiberaceae	Jungali Haldar	Rhizome	Rhizome paste apply on joints for joint pains of human being.
22.	*Curcuma longa* L.	Zingiberaceae	Haldi	Rhizome	Powder mixed with mustard oil and applied on wound. For any internal injury powder mixed with the milk and drink.
23.	*Cuscuta reflexa* Roxb.	Convolvulaceae	Aakshbel, Amberbel	Stem	Paste of stem applied on injury i.e swelling part or dislocation of bones.
24.	*Cynodon dactylon* (L.) Pers.	Poaceae	Drub	Leaves	Entire above ground parts are crushed with water. Two to three drops of this extract are poured in the nostril to cure nasal bleeding.
25.	*Datura stramonium* Linn.	Solanaceae	Dhatura	Seeds	Powdered seeds are prescribed with cow's milk for fever
26.	*Dodonaea viscosa* (L.) Jacq.	Sapindaceae	Mehandu	Leaves	Paste of leaves apply on joints during the dislocation/fracture of bones
27.	*Euphorbia hirta* L.	Euphorbiaceae	Dudhali	Stem, Leaves	Use the juice of whole stem along with leaves with Deshi ghee for remove the poision effect of snakes, spider and scorpion.

28.	*Falconeria insignis* Royle	Euphorbiaceae	Balodhar	Latex	Latex apply on skin for removal of skin wart.
29.	*Gloriosa superba* L.	Colchicaceae	Nagardi, Kalihari	Root	Root is used in inflammatory disorder and powder of root also used in fever and snake bite.
30.	*Grewia optiva* J.R.Drumm. ex Burret	Malvaceae	Bayul	Bark,	Fresh bark used for nourishment of hair for hair fall prevention.
31.	*Holarrhena pubescens* Wall. ex G.Don	Apocynaceae	Kutaj	Bark	Bark powder of plant is used for the prevention of dysentery.
32.	*Jatropha curcas* Linn.	Euphorbiaceae	Chaplota	Stem	Twigs used as tooth brush and good for dental problems.
33.	*Juglans regia* Linn.	Juglandaceae	Khod	Bark & leaves	Bark and leaves used for cleaning teeth and as substitute of lip-stick by women because during cleaning the teeth it provides red colour to lips.
34.	*Justicia adhatoda* L.	Acanthaceae	Basati, Basuti	Leaves	Leaves boiled with water and juice give for the treatment of cough.
35.	*Murraya koenigii* (L.) Spreng.	Rutaceae	Gandhela	Leaves, Stems	Paste of leaves use for external wounds cuts. Stem use for pyorrhea treatment. Leaves use for digestive problems.
36.	*Myrica esculenta* Buch.-Ham. ex D. Don	Myricaceae	Kafal	Bark, Fruits	Fruits are edible and prepared for making refreshing drink. Bark is considered carminative and antiseptic. Its decoction is useful in toothache, asthma, diarrhea, fever, dysentery.
37.	*Ocimum tenuiflorum* L.	Lamiaceae	Tulsi	Leaves	Leaves are diaphoretic, stimulating and expectorant. Used in gastric problems,bronchitis and common cold [
38.	*Oroxylum indicum* (L.) Kurz	Bignoniaceae	Arlu	Bark	Bark used for the treatment of jaundice.
39.	*Oxalis corniculata* L.	Oxalidaceae	Changeri	Leaves	Leaves of plant are used for cure of scurvy and for intoxication of alcohol.
40.	*Phyllanthus emblica* L.	Phyllanthaceae	Amla	Fruit	Fresh fruits are rich source of Vitamin C. It is diuretic, laxative and cardiac and liver tonic. Useful in anaemia, diarrhoea, dyspepsia, haemorrhage, jaundice, leucorrhoea and menorrhea.
41.	*Pistacia integerrima* (J.L. Stewart ex Brandis) Rech. f.	Anacardiaceae	Kakar Singi, Kakre	Fruits	Galls on the leaves are used in asthma, phthisis, other diseases of respiratory tract and dysentry.
42.	*Plumbago zeylanica* Linn.	Plumbaginaceae	Chitra	Root	Root is useful in the treatment of Rheumatism and also useful for cleaning of teeth.
43.	*Punica granatum* Linn.	Punicaceae	Anar	Fruits, Seeds	Fresh fruit given to increase the blood. Dried seeds sold as ‘anardana for chutney preparation. Taken for checking blood from nostrils.
44.	*Pyrus pashia* Buch.-Ham. ex D. Don	Rosaceae	Kainth	Unripe fruit	Unripe fruit chewing for mouth ulcer.
45.	*Rhododendron arboreum* Sm.	Ericaceae	Murah	Flowers	Flowers juice and squash eaten for prevention of blood comes from nose.
46.	*Ricinus communis* Linn.	Euphorbiaceae	Arind	Leaves,Roots	Poultice of leaves good for healing cuts, bruises and swollen joints. Seed oil taken along with milk to check constipation.
47.	*Rosa alba* Linn	Rosaceae	Gulab	Flower	Decoction in eye inflammation.
48.	*Rumex hastatus* D. Don	Polygonaceae	Khatti-Meethi	Leaves	Used as anti inflammatory, cardiac tonic and diuretic
49.	*Sesamum indicum* Linn.	Pedaliaceae	Til	Seeds	Seeds oil massage for arthritics.
50.	*Syzygium cumini* (Linn.) Skeels	Myrtaceae	Jamnu	Seed	Powder of seeds is orally used for diabetes.
51.	*Terminalia bellirica* Roxb.	Combretaceae	Bahera	Fruit	Rosted fruit for cough and cold. One fruit powder of “Trifala Churna”
52.	*Terminalia chebula* Retz	Combretaceae	Harad	Fruit	Rosted fruit for cough and cold. One fruit powder of “Trifala Churna” along with Amala and Bahera.
53.	*Tinospora cardifolia* (Willd.) Miers.	Menispermaceae	Gulaje	Stem	Boiled stem juice give relief in fever.
54.	*Vernonia anthelmintica* (L.) Willd.	Asteraceae	Kalijeeri	Seeds	Seed eaten with hot water for the treatment of cough.
55.	*Vigna unguiculata* (L.) Walp.	Fabaceae	Kolath	Seeds	Decoction in empty stomach removes kidney stones.
56.	*Viola pilosa* Blume	Violaceae	Banaksha	Flower	Flower used for cough and cold.
57.	*Vitex negundo* Linn	Lamiaceae	Shure, Bane	Leaves	Leaves paste on swollen body part give pain relief, Paste appliying after heating.
58.	*Zanthoxylum latum* Roxb.	Rutaceae	Trimer	Leaves & soft Stem	Decoction used as gargle for throat irritation. Young stem used for the teeth brushing
59.	*Zingiber officinale* Rosc.	Zingiberaceae	Aadra	Rhizome	Roasted rhizome chewed and its juice mixed with honey for cough and cold respectively.
60.	*Ziziphus jujuba* Mill.	Rhamnaceae	Ber	Leaves, Root	Leaves paste apply on hairs with curd for hairs nourishment. Juice of roots use for stimulates the body.

Discussion

Several of the plants utilised by the locals in Mandi area are mentioned in historical medical literature and are also employed in other medical systems, including the Ayurvedic, Siddha, and Unani systems of medicine. Throughout the beginning of time, medicinal plants have been utilised to treat a wide range of illnesses. Because this knowledge is passed down from generation to generation, people who live in villages have been utilising these naturally growing medicinal plants as remedies for centuries, because of their widespread use and significance among the local people. A thorough phytochemical and pharmacological examination of the data gathered from the study on the medicinal plants utilised by the local population is necessary and might pave the way for the creation of new drugs. This might contribute to raising public awareness about the need to preserve and support ethnobotanical knowledge. For the benefit of future generations, a comprehensive database of plants utilised for diverse reasons may be created. The rural and tribal inhabitants of many sections of Tehsil Sarkaghat use and are aware of the herbal potential of plant-based household medicines, which demonstrates their resurgence interest in traditional medicine. The scientific verification and documenting of these treatments might aid in the search for novel plant-based medicines. Information on the medicinal properties of plants may hold considerable promise for the development of novel drugs and for raising public awareness of their potential as a simple and effective form of treatment.

In the present study we find 60 plant species belonging to 59 genera of 44 families (Fig. 1) being used by the people of Sarkaghat for the treatments of various diseases. Lamiaceae and Euphorbiaceae families of plants are mostly sought by healers. As the people belonging to various ethnic societies and rural communities have long been using plants for curing various ailments but this information related traditional medicinal uses of plants are not well documented. There is an urgent need for documenting these folklore and traditional knowledge in some form although such valuable knowledge extinct with the passing time in the modern era. The present analysis revealed that the native people of Sarkaghat are largely dependent upon the surrounding plant resources to cure various ailments.

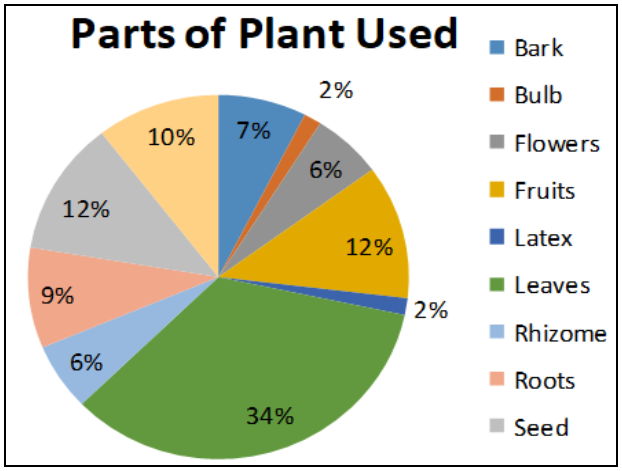


Fig 1: Percentage of plants part used as Ethno medicine in the study Area

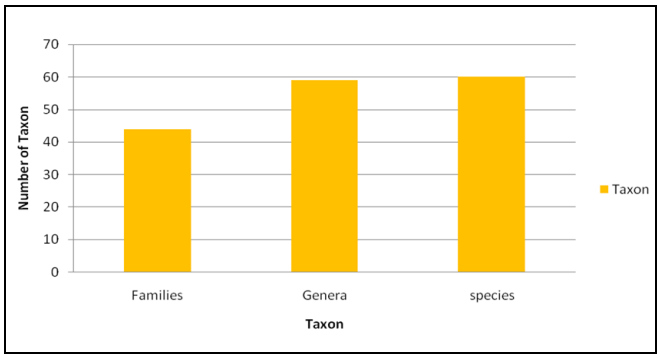
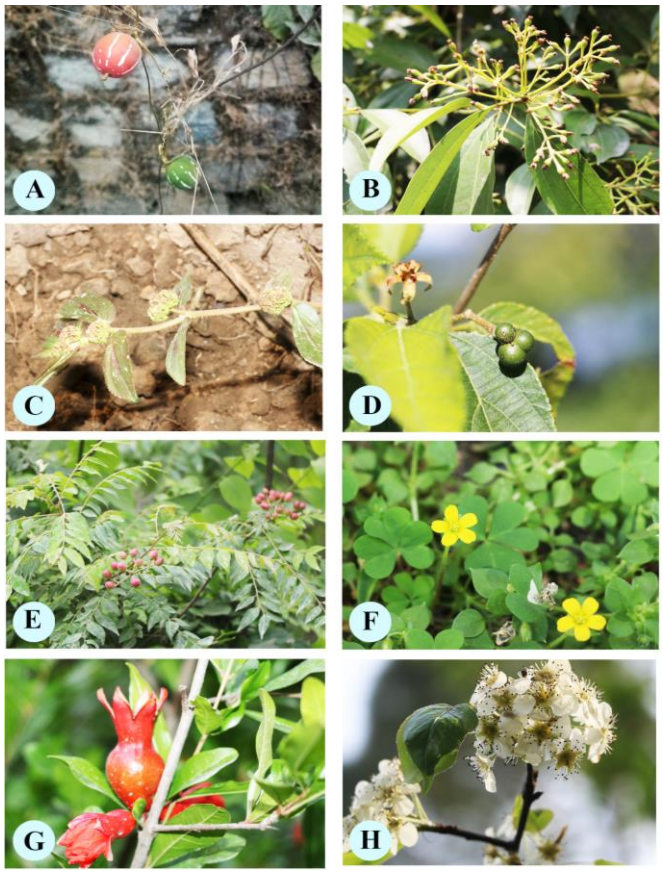


Fig 2: Number of taxon recorded from study area



Photoplate 1: A. *Cayaponia laciniosa* C. *jeffrey* B. *Cinnamomum tamala* (Buch-Ham) T. Nees & Eberm. C. *Euphorbia hirta* L. D. *Grewua optiva* J.R Deumm. Ex *Burret* E. *Murraya kornigii* (L.) Spreng. F. *Oxalis ornuculate* L. G. *Punica granatum* L. H. *Pyrus pashia* Buch-*Ham*.ex D. Don

Conclusion

The knowledge of the therapeutic worth of these untamed plants flourishing in Sarkaghat, as well as how important these ethnobotanical facts are to life, is crucial. Further phytochemical and pharmacological research into the plant's therapeutic uses may be suggested, which might be a step in the right direction for the creation of new drugs. Rural residents in Sarkaghat, Himachal Pradesh, frequently employ herbal treatments, which suggest resurgence in interest in conventional medicine. The scientific verification of these treatments might aid in the search for novel plant-based medicines. The knowledge of plants' therapeutic benefits holds considerable promise for the development of novel medications and for raising public awareness of their

potential use as medical treatments. Although individuals from different ethnic groups and rural areas have long used plants to treat a variety of illnesses, the traditional therapeutic applications of plants are not extensively recorded. The locals' usage of traditional herbal remedies plays a significant part in treating a variety of illnesses. Although individuals from different ethnic groups and rural areas have long used plants to treat a variety of illnesses, the knowledge on these traditional medical uses of plants is not well recorded

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