



## ETHNO-MEDICINAL USES OF SOME PLANTS OF KANAG HILL IN SHIMLA, HIMACHAL PRADESH, INDIA

Verma Rachna<sup>1</sup>, Parkash Vipin<sup>2</sup>, Kumar Dinesh<sup>1\*</sup>

<sup>1</sup>Shoolini University, Post Box No. 9, Solan, Himachal Pradesh, India

<sup>2</sup>Rain Forest Research Institute (ICFRI), Jorhat, Assam, India

Received on: 18/01/12 Revised on: 24/02/12 Accepted on: 07/03/12

### \*Corresponding author

Dr. Dinesh Kumar, Associate Professor, Faculty of Biotechnology, Shoolini University, Post Box No. 9, Solan-173212, H.P., India  
E-mail: chatantadk@yahoo.com

### ABSTRACT

In this study an ethno-medicinal survey of plant diversity was carried out at Kanag Hill, Tehsil Theog, District Shimla in Himachal Pradesh. The study was mainly focused on the medicinal plants used for treatment of various ailments by the nearby village inhabitants. The information was collected by questionnaire and consulting local old people. The study was entirely focused on revealing the medicinal potential possessed by the plants growing wild in this area and their sustainability for the betterment of mankind.

**Keywords:** Ethno-medicinal plants, Kanag Hill, Shimla, H.P.

### INTRODUCTION

Himachal Pradesh is a hilly state situated in the Western Himalaya with an altitude ranging from 350m to 7000m above mean sea level (amsl) and, covers an area of 55,673sq.km. This hilly State comprises a good heritage of ethno-botanical flora and natural wealth in the North Western Himalayan region between 30°22'44N to 33°12'44N latitude and 75°45'44E to 79°04'20E latitude<sup>1</sup>. Geographically, the State is divided in to three distinct regions, the Shivalik or outer Himalaya, mid-hills and the greater Himalaya or high altitude zone. The mid hill region of Himachal comprises regions between the elevation range of 1500m to 3500m above mean sea level and includes Shimla district along with other districts. This district is a rich repository of medicinal and aromatic plants and traditional knowledge associated with these plants.

Nature has bestowed us a very rich botanical wealth and a large number of diverse plants that are used by different ethnic people for medicinal purpose grow wild in different parts of the country. This knowledge of valued plants has helped the people to develop a sense of responsibility in utilizing the plant resources and also to conserve and pass on the wisdom of plant resource utilization to the prosperity<sup>2</sup>. About 75% of drugs and perfumery products used World-wide are available in natural state in India. Medicinal and ethno-botanical uses of many of these species were documented by various researchers from different parts of the Himachal Pradesh based on the information provided by the local ethnic people<sup>3</sup>. A large number of plants are used in the traditional system of medicine, grown in wild state under undisturbed habitats in the Nature. The present study reports the documentation and ethno-medicinal

application of some plants of Kanag Hill in Tehsil Theog, District Shimla, Himachal Pradesh.

### METHODOLOGY

Ethno-botanical studies of the plants were done that grow wild in Kanag Hill. This area lies in Theog Tehsil of Shimla District in Himachal Pradesh along the National Highway-22 (Fig.1). The site is 6 km away from the Theog town, at an altitude of 6500ft and is clearly visible from the town. The area is dominated by thick forest of Angiospermic and Gymnospermic plants. Seasonal visits of the area were done to know the diversity of plants growing there. The Local people inhabiting this area and in the surrounding use various plants growing here in their routine life due to many ethno-medicinal values which have been customary to their ancestors.

Frequent visits were carried out to Kanag Hill during different seasons from March 2007 to October 2007. The plants were collected from different sites of the area, identified by their local names with the help of villagers. The data on ethno-botanical uses of plants was collected through general conversation and questionnaire with people of the area. The photographs of these plant species were taken during the field visits. Proper data regarding each plant species was collected by assigning botanical and local names along with habit, habitat, general description and distribution of each plant species. Collected specimens were maintained by Herbarium preparation. The identification of the collected specimens was done by using Standard flora written by researcher's available at the library of University of Horticulture and Forestry (UHF) Nauni, Solan and Himachal Pradesh University (HPU), Shimla.

## RESULTS AND DISCUSSION

Himachal Pradesh has very rich plant diversity and has a very rich ethno-medicinal flora due to its wide range of altitudes and climatic conditions. During survey it was observed that most of the plants growing in Kang hill were used as medicines and medicaments in one or the other form. Sometimes plant parts were dried and made in the powder form, stored and used when required. Beside this certain plant species were also used as food supplement. A few ethno-medicinal plants reported from Kanag Hill are shown in Figure 2. Almost all the aromatic and medicinal plants grow wild in valley, forest, pasture and occur as weeds in and around fields and village habitations. A list of some important plants documented from Kanag hill along with their ethno-medicinal importance are shown in the Table 1.

Because of varied altitudinal gradients and climatic conditions, the state harbors rich plant diversity, which includes around 3400 species of flowering plants<sup>4</sup> ranging from tropical-subtropical to temperate alpine floral elements. Documentation of traditional knowledge on the utilization of plants has been initiated by several workers during last two decades<sup>5-10</sup>. However, due to unscientific activities and overexploitation some plants are getting endangered. To overcome this problem or to meet the

demand of medicinal plants in herbal preparations, conservation strategies are required to be implemented to protect his rich traditional ethnic plant diversity. The Department of Biotechnology, Government of Himachal Pradesh has selected some market oriented medicinal plants for commercial cultivation organically in different parts of the state which would entail huge quantities of their seed quality or planting material<sup>11</sup>.

However, due to recent developmental activities and market inclination, a decline in traditional knowledge has been observed. Therefore, great efforts are required to document traditional knowledge of the local people so as to prepare a comprehensive account of it, which will open new vistas in plant research<sup>12</sup>. In indigenous systems of medicines namely Ayurveda, Sidha, Unani and Homeopathy, the plants are in use for curing ailments of human kind since centuries. India is one of the main centers of the Ancient human civilization in the world where plants have been utilized for various purposes including herbal medicines. Traditional knowledge developed over years of observation, trial and error, inference and instance has largely used for their sustainable development and for the betterment of mankind.

**Table 1: Ethno-medicinal uses of some wild plants in Kanag Hill, Shimla, H.P., India**

Botanical name/Local name	Family	Uses
<i>Rhus succedanea</i> /Kakad	Anacardiaceae	The dried fruit powder is given to patients suffering from asthma. Pulp of the fruit is given in bronchitis and tracheal infections.
<i>Inula royleana</i> /Peelan	Asteraceae	Locally plant is used as a remedy for skin infections and fodder. Crushed roots and leaves are applied externally on disorders and decoction of the plant is often taken internally for wide variety of ailments.
<i>Gnaphalium luteo-album</i> /Dhoop	Asteraceae	Roots are aromatic in nature, used in Havans. Leaves are astringent, diuretic and haemostatic
<i>Bidens tripartite</i> /Kaljari, Burr marigold	Asteraceae	Decoction of the leaves is used as astringent for haemorrhage and conditions producing blood in the urine. Used in the fever and water retention when there is a problem in kidneys.
<i>Cannabis sativa</i> /Bhang, Hemp	Cannabiaceae	Plant (seeds) is used as sleep inducer, pain killer and reliever of the nausea. Soothing effect on nervous disorders.
<i>Opuntia dillenii</i> /Athua	Cactaceae	Used as medicine, intoxicant and its fluid is directly applied on the wounds.
<i>Celastrus paniculata</i> /Shikhru	Celastraceae	10-12 seeds are chewed or crushed in four cups of boiling water for 3hrs then sweetened to taste and taken to enhance mental capabilities and thinking. It is an aphrodisiac, acts as a powerful brain tonic to stimulate intellect, intelligence.
<i>Commelina bengalensis</i> /Chhura, Kallni	Commelinaceae	Leaves and tender shoots are cooked as vegetables. Whole plant is purgative and used in the leprosy treatment.
<i>Ficus palmate</i> /Phegda	Fagaceae	The fruits are used in constipation and in the diseases of lungs. It is sweet and juicy, having some astringency.
<i>Impatiens sulcata</i>	Geraniaceae	The whole plant is grounded to have a paste and applied over skin cracks and eruptions for healing.
<i>Brunella vulgaris</i> /Ganni	Lamiaceae	Herb is considered as antiseptic, expectorant, anti-rheumatic, alternative tonic astringent carminative anti-spasmodic and is used in fever and cough
<i>Plectranthus rugosus</i> /Rubri	Lamiaceae	Leaves and root decoction is used as a liver tonic. The leaves are used as mosquito repellent and have good germicidal properties. Its fresh leaf paste is applied on cuts and wounds
<i>Plantago tibetica</i> /Shailiya, Ishabgol	Plantaginaceae	Decoction of the plant is useful in the normal medical ailments.
<i>Rumex hestatus</i> /Aami, Ujda	Polygonaceae	Juice of the plant is astringent and is used in the treatment of bloody dysentery. The fresh tuber is chewed to relieve aches in the throat. The leaf extract is applied on the wounds and cuts to check bleeding
<i>Rumex obtusifolia</i> /Ban	Polygonaceae	Leaves are crushed against the surface that is effected by stings of common nettle ( <i>Urtica dioica</i> ).
<i>Thalictrum foliolosum</i> /Chirata	Ranunculaceae	Paste of the plant is used in skin diseases and for snake bite. The juice of the leaves is applied over boils and pimples. The root is diuretic, ophthalmic, purgative, salve, stomach ache. Tonic good remedy for dyspepsia and useful in the treatment of indigestion, fever and toothache.
<i>Ranunculus laetusa</i> /Diyudia	Ranunculaceae	Decoction of the plant is used against indigestion.
<i>Principia utilis</i> /Bhekhal, Bhekhlha	Rosaceae	Its oil possesses rufecient properties and externally applied in rheumatism and pain resulting from over fatigue. Oil obtained from the kernals is used for mytho-religious purposes in Havans.

<i>Bergenia ciliata</i> /Pasanved	Saxifragaceae	Rhizome and root extract acts as astringent, diuretic, tonic also used in fever and applied to boils and ophthalmia. In backache the roots are also useful. Important drug for dissolving kidney and bladder stones.
<i>Datura stramonium</i> /Dhatura	Solanaceae	The leaves, flowering tops and seeds are antispasmodic, hallucinogenic and narcotic. Excess may cause giddiness, dry mouth, hallucinations and coma.
<i>Nicotiana tobaccum</i> /Tambaku	Solanaceae	The leaves have high nicotine content and are used for chewing, snuff and smoking purpose.
<i>Solanum khasianum</i> / Badi Kantkari	Solanaceae	The fruits are eaten in stomach ache. Entire plant is used in indigenous system of medicines and in steroidal /hormonal preparations in allopathy.
<i>Solanum nigrum</i> /Mokoi	Solanaceae	Fruits of the herb with seeds used in curing asthma, gonorrhoea, dropsy, kidney and bladder disorders. Herb is considered as good cardiac tonic, diuretic, sedative and good expectorant. Fruits are a effective laxative and improves appetite.
<i>Solanum surratense</i> /Kantkari	Solanaceae	It cures asthma, cough, sore throat, constipation and used as an effective expectorant and diuretic. Fruits are eaten during indigestion. Root paste is used an expectorant, also used in
<i>Girardinia heterophylla</i> /Bhabber	Urticaceae	Ashes of the plant used externally in the treatment of ringworm and eczema. A decoction of the roots is mixed with <i>Centella asiatica</i> and is used to treat gastric troubles and fever.



Figure 1: Study area: Kanag Hill, Theog, District Shimla, Himachal Pradesh, India



Figure 2: Some ethno-medicinal plants from Kanag Hill, Shimla, H.P., India

- a) *Ajuga parviflora* b) *Datura stramonium* c) *Solanum nigrum* d) *Impatiens sulcata* e) *Plantago tibetica* f) *Rumex hestatus* g) *Bergenia ciliata*  
h) *Solanum khasianum* i) *Rhus succedanea* j) *Berberis lycium* k) *Rumex obtusifolia* and l) *Commelina bengalensis*

## ACKNOWLEDGMENT

The authors are highly indebted to the rural people of Tehsil Theog of District Shimla, H.P. for providing traditional information on ethno-medicinal use of above plants and also for their cooperation during the exploration trip

## REFERENCES

1. Parkash V, Aggarwal A. Traditional uses of ethno-medicinal plants of lower foot hills of Himachal Pradesh-I. *Indian J Traditional Knowledge* 2010; 9: 519-521.
2. Katewa SS, Chaudhary BL, Jain A, Galav P. Traditional uses of plant biodiversity from Aravalli hills of Rajasthan. *Indian J Traditional Knowledge* 2003; 2: 40-50.
3. Rothe SP. Ethnomedicinal plants from Katepurna wildlife sanctuary of Akola district. *Indian J Traditional Knowledge* 2003; 2: 378-382.
4. Uniyal MR, Chauhan NS. Commercially important medicinal plants of Kullu, Forest Division of Himachal Pradesh. *Nagarjuna* 1972; 4: 28-32.
5. Lal B, Vats SK, Singh RD, Gupta AK. Plants used as ethnomedicine and supplement food by the Gaddis of Himachal Pradesh, India. In: Jain SK, editor. *Ethnobiology in Human Welfare*. New Delhi; 1996.
6. Chauhan NS. *Medicinal and aromatic plants of Himachal Pradesh*. New Delhi: Indus Publishing Company; 1999.
7. Singh SK. Ethno-botanical study of useful plants of Kullu district in Northwestern Himalaya, India. *J Econ Tax Bot* 1999; 23:185-198.
8. Singh KK, Kumar K. *Ethnobotanical wisdom of Gaddi tribe in western Himalaya*. Dehra Dun: Bishen Singh Mahendra Pal Singh Publishers; 2000.
9. Sharma PK, Chauhan NS, Lal B. Commercially important medicinal and aromatic plants of Parvati valley, Himachal Pradesh. *J Econ Tax Bot* 2003; 27: 937-942.
10. Chowdhery HJ. Himachal Pradesh. In: Mudgal V and Hajra P K, editors. *Floristic diversity and conservation strategies in India*. Vol II. Calcutta: BSI; 1999. p. 845-94.
11. Sethi GS. Potential application of biotechnology in medicinal plants of Himachal Pradesh. In: *Proc National Seminar on Emerging Trend in research and business management of medicinal and aromatic plants*. Haryana: CCSHAU, Hisar; 2003. p.11-13.
12. Sharma PK, Lal B. Ethnomedicinal notes of some medicinal and aromatic plants of Himachal Pradesh. *Indian J Traditional Knowledge* 2005; 4: 424-428.

Source of support: Nil, Conflict of interest: None Declared