

## **Some Overlooked Ethno-medicinal Plants of District Bilaspur, Himachal Pradesh (INDIA)**

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**ABSTRACT:** This paper shows the importance of medicinal plants in traditional healthcare practices, providing clues to new areas of research and in biodiversity conservation is now well recognized. This survey was made in nine villages of Bilaspur district of Himachal Pradesh, a north Indian state known for its vast herbal flora. The study aimed to look into the diversity of plant resources that are used by local herbal experts for curing various ailments. Questionnaire surveys, participatory observations and field visits were planned to illicit information on the uses of various plants. About 50 plant species belonging to 18 families used in the homeopathic system of medicine are highlighted in the present study along with their taxonomic description including botanical name, vernacular name, plant parts used and ailment against which the medicines are used. The collected plant specimens are identified, taxonomically defined and submitted to the herbarium for future records.

**Keywords:** Traditional; bilaspur; ailments; herbal expert; medicinal plants

### **INTRODUCTION**

Bilaspur was the capital of a state of the same name founded in the 7th century, also known as Kahlur. The ruling dynasty was Chandela, Rajputs, who claimed descent from the rulers of Chanderi in present-day Madhya Pradesh. The town of Bilaspur was founded in 1663. The state later became a princely state of British India, and was under the authority of the British province of Punjab. On 13 May 1665; Guru Tegh Bahadur went to Bilaspur to attend the mourning and funeral ceremonies for Raja Dip Chand of Bilaspur. Rani Champa of Bilaspur made an offer to the Guru of a piece of land in her state, which the Guru accepted at the cost of 500 rupees. The land consisted of the villages of Lodhipur, Mianpur, and Sahota. Guru Tegh Bahadur broke ground on a new settlement on 19 June 1665, which he named Nanaki after his mother. In 1932, the state became part of the newly created Punjab States Agency, and in 1936 the Punjab Hill States Agency was separated from the Punjab States Agency. On 12 October 1948 the local ruler, HH Raja Sir Anand Chand, acceded to the Government of India. Bilaspur became a separate state of India under a chief commissioner, and on 1 July 1954, Bilaspur State was made a district of Himachal Pradesh state by an act of the Indian Parliament. When the Sutlej River was dammed to create the Govind Sagar, the historic town of Bilaspur was submerged, and a new town was built upslope of the old.

Ethno botany is the study of a region's plants and their practical uses through the traditional knowledge of a local culture and people.<sup>1</sup> An ethno botanist thus strives to document the local customs involving the practical uses of local flora for many aspects of life, such as plants as medicines, foods, and clothing.<sup>2,3</sup> Richard Evans Schulte's often referred to as the "fa-

ther of ethno botany", explained the discipline in this way: Ethno botany simply means investigating plants used by primitive societies in various parts of the world. Since the time of Schulte's, the field of ethno botany has grown from simply acquiring ethno botanical knowledge to that of applying it to a modern society, primarily in the form of pharmaceuticals.<sup>4,5,6,7</sup> Intellectual property rights and benefit-sharing arrangements are important issues in ethno botany.<sup>8,9</sup> The idea of ethno botany was first proposed by the early 20th century botanist John William Hershberger While Hershberger did perform ethno botanical research extensively, including in areas such as North Africa, Mexico, Scandinavia, and Pennsylvania, it was not until Richard Evans Schulte's began his trips into the Amazon that ethno botany become a more well known science.<sup>10, 11, 12, 13</sup>

### **MATERIAL AND METHODS**

**Study area:** The extensive survey was conducted in the nine villages of Bilaspur district i.e Jhandutta, Panthera, Ghumarwain, Dangar, Bam, Parnal, Bharari, Bhagot, Baroa. These plants were preserved as herbarium specimens in Botany Department, career Point University. Local inhabitants were interviewed about medicinal uses of plants. The standard method of Ethnobotanical studies was followed. These plants were identified by available literature and flora. Two broad approaches of ethno botanical studies were taken under considerations. In direct approach, the extensive and intensive fieldwork in the rustic villages was done. This is usually carried out by direct contacts with villagers and first hand information was collected from all the study sites. In Indirect approach, information was obtained in different ways i.e. through ancient literature, personal diaries of forest-

ers, traditional local doctors/hermits, plant collectors etc. In the present investigation, both direct and indirect approaches were employed to get the proper understanding of ethno medicinal uses of plants. Information about the plants were recorded with regards to their vernacular names, plant part used, process of preparation of medicine either individually or in combination with other plant parts, and mode of application and doses for the treatment. The collected information was analyzed for different genera and species of the medicinal plants in order to understand the pattern in medicinal plant uses and occurrences.



**Figure 1: Field visits**

The observations drawn during these field visits are explored in Table 1.

## RESULTS AND DISCUSSION

In the present study forty two medicinal plants are used for the treatment of various diseases belonging to twenty seven families. Solanaceae, Myrtaceae, Poaceae, Rutaceae are major families which contributed large number of plant species and leaves, fruits and seeds are predominantly used. The utility lies through their roots, leaves, fruits, seeds, barks and even whole plants. These are taken orally or applied locally in the form of infusion, decoction, paste or powder. Utilization of medicinal plants plays a vital role in the lives of inhabitants of rural area.<sup>14, 15, 16</sup> Remote areas of developing countries are mostly deprived of health and transport facilities, particularly due to insufficient spending in the health sector. This makes them to depend for the most part on what they get from the plants. Forests are the only source for them to get vegetables, fruits and Herbal products are the symbols of purity and safety rather than synthetic drugs, which may become fatal sometimes with adverse effects.<sup>17, 18, 19, 20, 21, 22, and 23</sup> this is very essential to intensify our traditional knowledge and to come back to nature.

## CONCLUSIONS

Most of the herbal medicines reported in the investigation are prepared in the form of paste, powder, decoction, extract, and smoke. Some plants are used for treating more than one disease. This precious knowledge needs to be properly documented and conserved for the benefit of the present and future generations. Therefore, efforts should be made to survey the region thoroughly for more such plants, which should be introduced into the experimental gardens to have an idea about the optimum conditions for their growth, and for assessing the right period when the active principles in them at the maximum level. Hence, it becomes necessary to explore the alterations to provide healthcare for all and that lies with the wild species of ethno-medicinal plants. The traditional knowledge with its holistic and systems approach supported by an experimental base can serve as an innovative and powerful discovery engine for newer, safer, and more affordable medicines. The role of ethno-medicinal plants for the welfare of humanity will be of immense value in the years to come.

## ACKNOWLEDGEMENTS

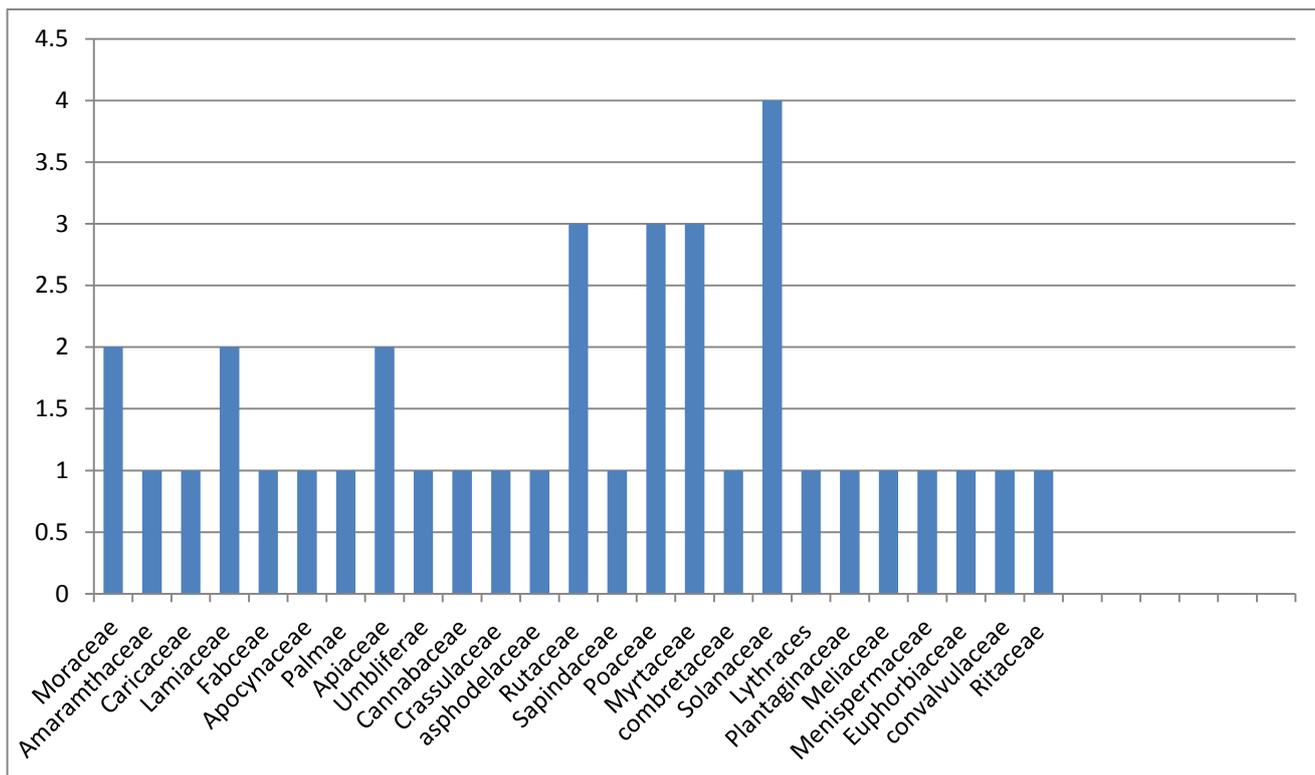
The authors appreciated the collaboration of the key informants (*Vaidya*) and village elders who spread their time and provided this valuable knowledge on ethno-medicinal plants and Career Point University to provide logistic and financial helps.

**Table 1: Ethno-medicinal information collected during research visits**

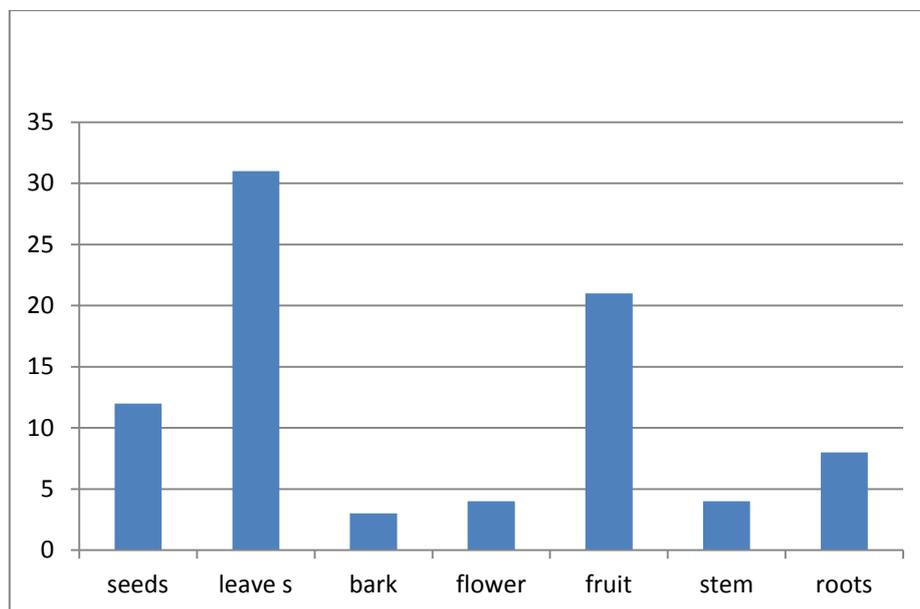
Sr. No.	Botanical Name	Local Name	Family	Life Form	Uses	Part used
1.	<i>Datura Stramonium</i> L.	Dhatura	Solanaceae	Herb	Pain Reliever, bone setting, antiasthmatic, antispasmodic, hypnotic and narcotic.	Seed, leaves, fruit
2.	<i>Terminalia Arjuna</i> (Roxb.) Wight & Arn	Arjun	Combretaceae	Tree	Antioxidant, hypertensive, anti-atherogenic, anti-inflammatory, anti-carcinogenic, anti-mutagenic and gastro-productive.	Bark, leaves
3.	<i>Pyrus calleryana</i> Decne.	Nashpati	Rosaceae	Tree	Mild digestion problems, diarrhea, severe diarrhea (cholera), colic, constipation, fluid retention, and nausea.	Leaves, fruit
4.	<i>Aloe vera</i> (L)	Kawaryia	Asphodelaceae	Herb	Speeds healing of wounds, burns, <i>aloe</i> creams can help heal cold sores	Leaves
5.	<i>Calotropis procera</i> Linn.	Aak	Asclepiadaceae	Herb	Abortifacient, spasmogenic and carminative, anti-dysentric, anti-syphilitic, anti-rheumatic, antifungal, diaphoretic, bronchial asthma and skin diseases	Leaves, flowers
6.	<i>Acacia catechu</i> (L.f.) Willd.	Khair	Fabaceae	Tree	A wood extract called catechu is used in traditional medicine for sore throats and diarrhea. The concentrated aqueous extract, known as khayer gum or cutch, is astringent	Stem
7.	<i>Withania somnifera</i> Dunal.	Ashwgandha	Solanaceae	Herb	used for the nervous disorder, joint pain, paralysis, treatment of high blood sugar, blood pressure, and cholesterol, anti-anxiety effect, antioxidant	Leaves, Root
8.	<i>Rubus ellipticus</i> Linn.	Aakhe	Rosaceae	Shrub	Plant is stringent and febrifuge. The juice of the root is used in the treatment of fevers, gastric troubles, diarrhea, and dysentery. A paste of the roots is applied externally to wounds.	Fruit
9.	<i>Rosa Indica</i> Linn.	Rose	Rosaceae	Shrub	Sore throat, runny nose and blocked bronchial tubes. Rose tea helps to fight the infection in the digestive tract	Flower,
10.	<i>Ficus Benglensis</i> Linn.	Banyan	Moraceae	Tree	Its leaf, bark, seeds and fig are used for the variety of disorders like diarrhoea, dental, diabetes and urine disorder	Bark, roots, leaves

					ders.	
11.	<i>Musa acuminata</i> Colla	Banana	Musaceae	Tree	Especially beneficial in improving digestive function, relieving constipation, aiding weight loss, improving heart health, and preventing kidney disorders	Flower, fruit, leaves
12.	<i>Carica Papaya</i> Linn.	Papaya	Caricaceae	Tree	Cutaneous infection, stomach ailments	Leaves, fruit, seeds
13.	<i>Aegle marmelos</i> (L.) Correa	Bil	Rutaceae	Tree	The decoction of leaves and unripe fruit is used for treatment of jaundice and other liver disorder.	Fruit, leaves
14.	<i>Cuscuta reflexa</i> Roxb.	Akash bail	Convolvulaceae	Herb	The decoction of whole plant made with aromatics is used in indurations in liver.	Fruit, seeds, leaves, stem
15.	<i>Hordeum vulgare</i> Linn.	Jou / joui	Poaceae	Herb	Powder of dried seeds mixed in sugar solution is used in case of jaundice, hepatitis and other liver disorders.	Seeds, Leave
6.	<i>Morus alba</i> Linn.	Chitta toot	Moraceae	Tree	Juice extracted from its fruit is used for the treatment of jaundice, hepatitis and other liver disorders.	Fruit, bark, root
17.	<i>Emblica officinalis</i> Linn.	Ambla	Euphorbiaceae	Tree	Powdered dry fruit is mixed with sugar and water for the treatment of jaundice.	Fruit,
18.	<i>Saccharum officinarum</i> Linn.	Ganna, kamandi	Poaceae	Herb	Juice extracted from stem considered good remedy for jaundice.	Stem
h19.	<i>Tinospora cordifolia</i> Linn.	Giloe	Menispermaceae	Climber	Fresh stem decotion is considered good for the treatment of jaundice and seminal weakness	Stem
20.	<i>Azadirachta indica</i> Linn.	Neem	Meliaceae	Tree	Joints pain	Leaves, seed
21.	<i>Eucalyptus ser.heterostemon</i> Benth.	Safeda	Myrtaceae	Tree	Head pain Leaf oil is massaged on the head at bedtime.	Leaves
22.	<i>Syzygium cumini</i> Linn.	Jamun	Myrtaceae	Tree	Diabetes Leaves powder with tea is taken once a day in the morning for a few days.	Fruit, leaves
23.	<i>Foeniculum Vulgare</i> Linn.	Somf	Apiaceae	Herb	Reliving urinary disorders, pain and fever reducing and also has antimicrobial properties.	Seed, leaves
24.	<i>Solanum lycopersicum</i> Linn.	Tomato	Solanaceae	Climber	Cancer, skin diseases, strong bones, antioxidant, good for heart	Roots, leaves, flower, fruit, seeds
25.	<i>Bacopa monire</i> Linn.	Brahmi	Plantaginaceae	Herb	Nerve treatment, used in blood circulation, used to	Leaves, roots

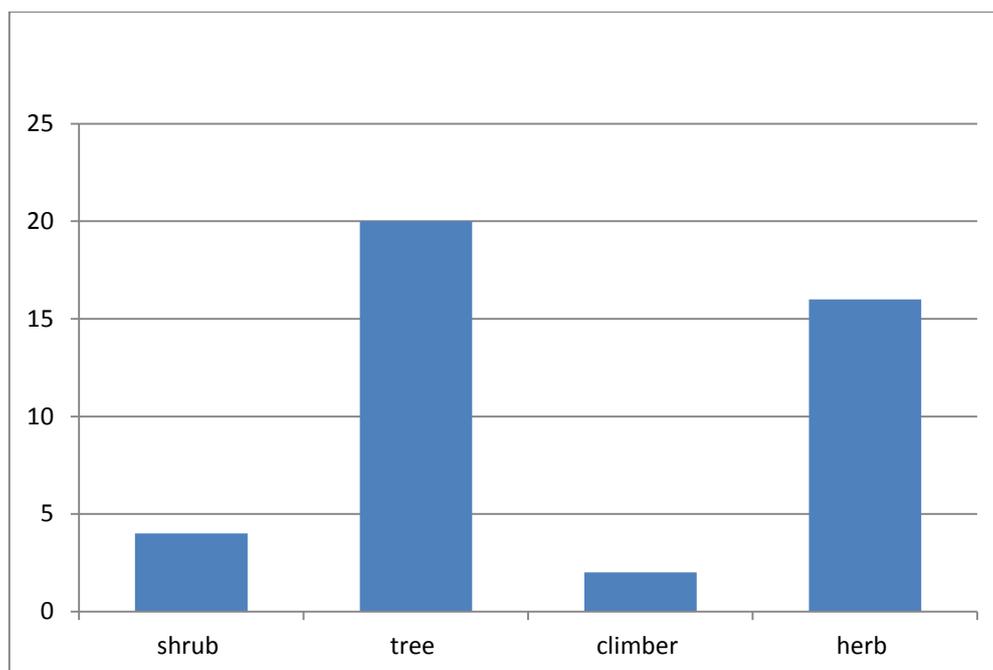
					stimulate skin cells, used to treat fever.	
26.	<i>Prunus armeniaca</i> Linn.	Apricot	Rosaceae	Tree	Cancer, diabetes, constipation, fever,	Leaves, fruits
27.	<i>Punica granatum</i> Linn.	Pomegranate	Lythraceae	Tree	Cure anaemia, cough, urinary infection, skin disorder.	Fruits
28.	<i>Capsicum annum</i> Linn.	Hari mrich	Solanaceae	Herb	Reducing pain, swelling, lowering triglyceride and cholesterol levels and fighting viruses and harmful bacteria	Fruit
29.	<i>Citrus limon</i> Linn.	Lemon	Rutaceae	Tree	Treating coughs and sore throat.	Fruit, leaves
30.	<i>Citrus trifoliata</i> Linn.	Bitter orange	Rutaceae	Tree	Treatment for allergic inflammation	Fruits, leaves
31.	<i>Ocimum basilicum</i> Linn.	Tulsi	Lamiaceae	Herb	As herbal tea, dried powder, fresh leaf or mixed with ghee	Leaves, seeds, roots
32.	<i>Psidium guajava</i> Linn.	Guava	Myrtaceae	Tree	Diarrhoea	Fruits, leaves
33.	<i>Triticum aestivum</i> Linn.	Wheat grass	Poaceae	Herb	Antioxidant and anti-inflammatory	Seeds, leaves
34.	<i>Litchi chinensis</i> Linn.	Lichi	Sapindaceae	Tree	Blood regulation, Antiviral, heart health, cough.	Fruits, leaves
35.	<i>Citrus sinensis</i> (L.) Osbeck	Orange	Rutaceae	Tree	Strengthens the stomach, increases urination, and is refreshing; Purifies the blood, increases thirst in fever, heals inflammation of the mucus membrane	Fruits, leaves
36.	<i>Spinacia oleracea</i> Linn.	Palak	Amaranthaceae	Herb	Lowers Blood pressure, treatment of urinary calculi, great source of iron.	Leaves
37.	<i>Bryophyllum pinnatum</i> Linn.	Patthar chatt	Crassulaceae	Herb	Used to cure stones in kidneys.	Leaves
38.	<i>Cannabis sativum</i> Linn.	Bhang	Cannabaceae	Herb	Minor illnesses like colds, fevers, stomach problems, and headaches, powder are used for bleeding piles.	Leaves, seeds, roots
39.	<i>Coriandrum sativum</i> Linn.	dhaniya	Umbelliferae	Herb	Digestion problem, joint pain, infection caused by viruses and bacteria	Leaves, seeds
40.	<i>Trachyspermum ammi</i> Linn.	Ajwaine	Apiaceae	Shrub	Curing of wounds, joint pains, cold cough and asthma.	Seeds
41.	<i>Phoenix sylvestris</i> Linn.	Khajur(date)	Arecaceae	Tree	Treatment of general debility, fever and thirst.	Fruits
42.	<i>Carissa opaca</i> Stapf ex Haines	Garnu	Apocyanaceae	Shrub	Kill worms in the cattle wounds, act as intergradient in some purgative preparation	Fruits, roots, leaves



**Figure 2: Column chart showing different families of medicinal plants**



**Figure 3: Column chart showing plant parts used for making medicines.**



**Figure 4: Column chart showing plant parts used for making medicines**

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