

**Research Article**

## **STUDY OF LOCAL PLANTS OF HAMIRPUR DISTRICT OF HIMACHAL PRADESH WHICH ARE USED TRADITIONALLY AS SOURCE OF DYE AND TANNIN**

**\*Nitesh Kumar<sup>1</sup>, Bhagwati Prashad Sharma<sup>2</sup> and Sangeeta Chandel<sup>3</sup>**

<sup>1</sup>Departement of Botany, Gautam Group of Colleges, Hamirpur (H.P)

. <sup>2</sup>Departement of Botany, NSCBM Govt. College, Hamirpur (H.P)

<sup>3</sup>Hamirpur (Himachal Pradesh State Forest Corporation)

\*Author for Correspondence

### **ABSTRACT**

Hamirpur district is the smallest district of Himachal Pradesh which falls in the Shivalik hills. This region is rich in diversity of flora and traditional knowledge associated with the use of local plants for various purposes such as food, fuel, fodder, timber, religious, medicinal, shelter, tannin and dye which forms the basis of various commercial industries. The local people of study region depend upon traditional use of local plant parts for meeting their daily requirements. This paper reveals the use of 12 plant species belonging to 11 families which yield dye and tannin.

**Keywords:** Dye, Tannin, Traditional Knowledge, Shiwalik Range

### **INTRODUCTION**

Tannin are the organic compound which are chiefly glucosidal in nature which have an acid reaction and very astringent. They may be concerned with the formation of cork or pigments or with the protection of plants. Tannins are of economically interest because of their ability to unite with certain types such as those in the animal skins, to form a strong flexible, resistant and insoluble known as “Leather”. Tannin consists of two categories (1) Hydrolysable tannin- that tannin which are easily hydrolysed and split easily by water into alcohol. They are the complex esters of phenolic acid. (2) Condensed tannin- these are the tannin which condensed and not easily broken down. These are the polymers of cyclic compound. Dye constitutes the colored pigments which act as coloring agent for various articles. In order to gain the knowledge about the consumption of the traditionally important and indigenous plants survey was carried out in the different areas of Hamirpur district. The traditional knowledge about plants was used by the local people of this region. The information was gathered through several visits, questionnaire, and group discussions with local people of study region (Kumar and Choyal, 2012). The local people of the area use the large number of plant species for yielding dye and tannin. This study emphasizes the use of 12 plant species belonging to 11 different families which yield dye and tannin.

### **Review of Literature**

Ethnobotany is a new field of research. If in this field plants are investigated thoroughly and systematically, it will yield result of great value for the archeologists, anthropologist, plant geographer, ethnobotanist, linguistics, botanists and phytochemists. After the time of Harshberger (1986) to the present date, several authors have tried to give a description of subject ethnobotany and its scope, methodology, its various disciplines sub-disciplines and potential etc.

Schutles (1960) had written on tapping our heritage ethnobotanical stores. He had suggested three methods of ethnobotany among the primitive people. He also gave some examples of the plant used during ancient period. Schutles (1962) outlined the role of ethnobotanist in the search of new medicinal plants. So, this was a paper on subject of ethnobotany on a specialized line i.e. medicinal plants, archeological plant remains, notes on plant collections and herbaria, literature survey, field studies. Jain (1964) wrote on the role of botanist in folk lore research. He writes that folklore research involves the study of all aspect of intellectual and material culture of indigenous or backward people. Sharma (1976) studied some useful wild plant of Himachal Pradesh. Uniyal and Chauhan (1982) studied commercially important medicinal plant of the Kullu forest division in H.P. Jain (1986) gave an overview of the subject

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ethnobotany, an indication of the significant research during last thirty years in this field and also showed how ethnobotany is an interdisciplinary science. Uniyal (1989) highlighted the Garwhal Himalaya in his “Notes on the Ethnobotany of Lahaul, a province of the Punjab”. BrijLal *et al.*, (1996) described the plants used as ethnomedicine and supplement food by Gaddis of Himachal Pradesh, India. Chauhan (1999) described the medicinal and the aromatic plants of Himachal Pradesh. Thakur (2001) described the ethnobotany of Rawalsar (Mandi District), Himachal Pradesh. Sharma *et al.*, (2003) gave an account on the commercially importance of medicinal and aromatic plants of Parvati Valley (Himachal Pradesh).

Warman (2004) studied the medicinal commercial religions and ornamental properties of various trees of India in “Trees of India”.

Kala (2005) described on the ethno-medicinal botany of the Atapani in the Eastern Himalya Region of India. Kaur *et al.*, (2011) studied the uses of plants in control of different diseases in Mandi district, Himachal Pradesh. Kharwal and Rawat (2012) studied ethnobotanical uses of herbal shampoo of Shivalik hills, Himachal Pradesh. Kumar and Choyal (2012) emphasized the traditional use of some plants of Hamirpur district of Himachal Pradesh used for the treatment of Jaundice, Hepatitis and other liver disorders.

### **Study Area**

Hamirpur district is situated between 76°18’ – 76°44’ East longitude and 31°52’30” North Latitudes. The track is hilly covered by Shivalik range and the elevation varies from 450-1100 meters. This region is rich in diverse flora and which is suitable for ethnobotanical exploration of traditional knowledge about the various plants which yield dye and tannin.

## **MATERIALS AND METHODS**

### **Methodology**

The surveys were conducted throughout the study period in different area of Hamirpur district, among the local people.

The plant specimens were collected during fruiting and flowering stage. The specimens were identified and preserved in form of herbarium which is deposited in the department of Gautam Group of Colleges, Hamirpur. The field data was compared with literature traditional use of plants of Himachal Pradesh; some literatures of ethnobotany have also been considered like Parveen *et al.*, (2005) and Kumar and Choyal (2013). The method, which are used to collect the data:

- 1) Plants were collected and preserved in the form of herbarium.
- 2) The information was collected from the personal contact or through personal interview of old persons of the area.
- 3) Interviews were conducted through structured questionnaire prepared for local people
- 4) Plants were identified and named with the help of Choudhary and Wadhwa Flora of Himachal Pradesh and Flora of B.S.I.

## **RESULTS AND DISCUSSION**

### **Results**

Study carried out in this region throws light on 12 plants species which are used as source of dye and tannin shown in the table:

### **Discussion**

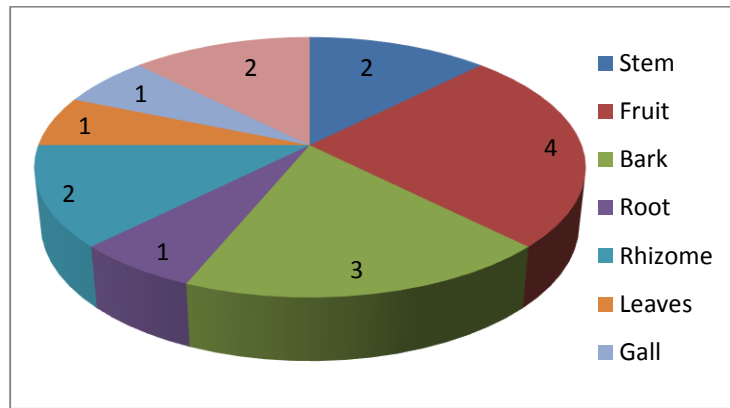
The present study revealed the information of plants used as a source of dye and tannin. These plants are arranged in alphabetical order, with their family, local name, part/parts used and folk uses. The study includes 12 plants (Figure 1) belonging to 11 families for yielding tannin and dye. Out of the 12 plant species, fruits are used as dye & tannin in 4 plant species and flowers are used as dye & tannin in 2 plant species and roots /rhizomes and stem/bark are used in 3-3 plant spp.

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**Table 1: A list of local plants along with part/parts which are used as source of Dye and Tannin**

Sr. No.	Plants Name	Family	Local Name	Parts Used	Folk Use
1.	<i>Acacia catechu</i> Linn.	Fabaceae	Khair	Stem and Fruit	Heart wood extracted from stem is used as a source of condensed tannin. Pod of this plant after ripening is crushed for yielding tannin
2	<i>Albizia lebbek</i> Benth.	Mimosaceae	Sirin	Bark	Bark of this plant when crushed into powder is used as tannin.
3	<i>Berberis lycium</i> Royle.	Berberidaceae	Kashmalya, Daruhaldi	Stem, bark and root	The extract of bark, root and stem which is known as rasount which is used as good source of tannin.
4.	<i>Curcuma domestica</i> Linn.	Zingiberaceae	Hardalya, Busar.	Rhizome	Dried rhizome powder of this plant is used as dye for stuff such as curries and providing orange-red or yellow color to clothes.
5	<i>Dioscorea deltoidea</i> Wall.ex.Kunth.	Dioscoreaceae	Sigli-mingli	Rhizome	Dried rhizome powder is used as dye wool and hair.
6	<i>Lawsonia inermis</i>	Lythraceae	Mehndi	Leaves	. Powder of dried leaves are used as hair dye for colouring the hair
7	<i>Pistacia integerima</i> Stewart.	Anacardiaceae	Kakar singhi	Gall	Dried powder of gall is used as a source of dye and tannin
8	<i>Prunus cerasoides</i> D.Don.	Rosaceae	Pajja	Bark	Dried bark is used as source of tannin.
9	<i>Punica granatum</i> Linn.	Punicaceae	Dhardan, Dhardu	Fruit and flowers	Dried rind powder of fruit yield tannin. Flowers of this plant are used as red dye for colouring clothes.
10.	<i>Randia dumetorum</i> (Retz) Poir.	Rubiaceae	Raada	Fruit	Pulp of fruit is used as a source of tannin.
11	<i>Terminalia chebula</i> Retz.	Combretaceae	Harad	Fruit	Dried powder of fruit is used as a source of tannin.
12.	<i>Woodfordia fruticosa</i> Kurtz.	Lythraceae	Dhai, Dhataki	Flowers	Flowers of this plant are used as source of dye and tannin.

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**Graph  
Pie Diagram**



**Figure 1: Showing photographs of studied plants**

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### Conclusion

The popular use of local plant wealth among the rural people in Hamirpur district of Himachal Pradesh reflects their great interest in the traditional medicine and other traditional and commercial purposes. Documentation and recording of traditional knowledge associated with use of local plant species should be the necessary step for the conservation of plant species and traditional knowledge associated with them for future use.

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