

# Assessment of Diversity, Distribution and Status of Sacred Plants in Tirthan Wildlife Sanctuary, Himachal Pradesh

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**Abstract**—All the nations in this universe have their own set of ecological, socio-economic and religious ethos and accordingly each of them have got every reason to celebrate each related occasion in their own way both at the national and even at regional level. It is beyond any doubt that celebrations of all such occasions are in one way or the other is related to the plants or trees of national or Regional significance. Similarly Himachal Pradesh-a small and hilly state is famous for its religious culture, traditions and pronounced as DevBhumi (Land of Gods).

Round the year by the local people in which plants have their defined roles and importance. Accordingly an attempt through a preliminary survey was made to document the role of sacred plants in the life style of local people and the relations to them with special reference to their religious activities and ethos. In the process it was observed that 45 plant species have high utility and importance in such religious activities. The study also reflects that the local beliefs not only show the time immemorial relationship between plants and humans but also help in conserving these species. This article attempts to highlight the diversity, distribution and importance of some plants known to be traditionally worshipped in the study area. Significance of these plants in different ceremonies and their role in festivals has also been discussed.

**Keywords:** Diversity, Distributed, Status, Sacred plants, Tirthan Wildlife Sanctuary.

## 1. INTRODUCTION

The human culture, customs, ethos, religious rites, legends and myths, food habits including folk tales, folk songs, and medicinal practices are deeply associated and influenced by the plants around [3]. It has also been observed by the earlier workers that Indian culture has got cosmic believes for all happenings in their life, including sickness and sufferings, besides also have a close association and respect for many animals and plants in religious activities [9]. Hindu religion, culture and beliefs from time immemorial firmly preach that all constituents of our ambient nature are part and creation of Supreme Power itself. The believe over a period

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of time got so intricately woven into the life style and life of community that the individual started believing that the God has bestowed specific powers to certain plants, animals and even rivers, mountain and places, and they play an important role towards their prosperity and well-being.

A plant that is venerated from time immemorial by the devotees and considered as holy like the presiding deity of a temple is termed as the **sacred plant**. Besides, religious practices attached to the same plays a vital role towards conservation of certain native plants. Through the ages Himachali tradition and culture have successfully preserved biodiversity. The sacred plants are symbolic of a single genetic resource and play an important role in the conservation of biodiversity. The social, economic, medicinal and environmental importance of these plants recognised locally and worshiping of these sacred plants has evolved as a means of conserving the land's rich genetic plant diversity. The process of conserving economically, ecologically and medicinally important plants by declaring them as sacred also protects the genetic value of several plant species. Thus the preservation of sacred plants helps in the conservation of local floral wealth.

There are specific mentions of plants like *Ficus religiosa*, *Azadirachta indica*, *Ocimum sanctum*, *Centella asiatica*, *Curcuma longa* and *Cynodon dactylon* in Hindu scriptures those have divine qualities, hence used in a number of religious activities and rituals from marriage, baptism to health care systems [10]. Rhizomes of *Nardostachys grandiflora* are generally used as incense mostly in the temples in high Himalaya due to the belief that its smoke drives away the evil spirits and attracts Godly powers [12]. Some researchers explained the recognition of some specific plants in human culture such as *Azadirachta indica* is worshipped in India and its leaves are used to keep away the evil spirits [8]. From the Indian Himalayan region 150 sacred plants have been reported by researchers [11]. Uses of plants in symbolic and superstitious activities have been reported from Naga tribe in Manipur [7]. Muslims of the Northern Israel use some sacred plants in cemeteries of graveyards to repel the evil spirits, by their good odour and divine medicinal qualities [5].

The importance of plants in human life as food, fibre, cosmetics, medicine etc. has been discussed time to time by many researchers. But the religious aspect of plants has not been given much attention and remains unexplored or less explored. Accordingly, an attempt has been made by the authors to highlight the plants which are preserved by the people, considering them sacred.

In absence of any concerted efforts leading towards the assessment of status of sacred flora in this sanctuary, an attempt has been made by the authors to highlight the sacred importance of plants in the area. Hence, floristic survey of sacred plants in Tirthan Wildlife Sanctuary will be quite useful as the same will provide a database for further research activities besides providing material for scientific management of this sanctuary.

## 2. MATERIAL AND METHODS

Kullu district of the state covers an area of 5,503 sq km and lies in between latitudes 31° 25' and 32° 35' North and longitudes 76° 9' and 77° 9' East. Tirthan Wildlife Sanctuary, which is the site for present study, in Kullu District of Himachal Pradesh, lies between 77° 27' to 77°

37° E longitudes and 31° 34' to 31° 39' N latitude. The sanctuary that covers an area of about 61 sq. km, was established in 1976 and was notified on 1.11.1999. The altitudinal range varies from 2100m to 4800m above mean sea level whereas its climate is temperate, sub-alpine and alpine types. The vegetation of this area mainly corresponds to the Ban Oak Forest, Moist Deodar Forest, Mixed Coniferous Forest, Kharsu Oak Forest, sub-alpine forests and alpine grasslands and meadows.

The present study was carried out in Tirthan Wildlife Sanctuary of District Kullu Himachal Pradesh. Frequent field trips were conducted out in the years 2008 and 2009, to find out the importance of plants in religion, culture and health care system of the local people. The information regarding the use of plants in the religious activities was collected through consulting the local people inhabiting the vicinity of the sanctuary. Among the local inhabitants one knowledgeable person was hired for collecting the live samples of plants. The species were identified with the help of flora [2,4,6,13].

### 3. RESULTS AND DISCUSSION

The present study revealed that 45 plant species belonging to 25 families and 32 genera (Table-1) are associated with the sacred beliefs and have religious importance in the study area. These plant species are regularly used by the local people in various religious activities. The uses of each plant are enumerated in Table 1.

**Table 1: Diversity, Distribution and Status of Sacred Plants in Tirthan Wildlife Sanctuary.**

Taxa	Altitudinal Range (m)	Local name	Habit	Part(s) used	Importance	Status
<b>Achyranthaceae</b>						
<i>Achyranthes bidentata</i> Bl.	2100-2600	Puthkanda	Herb	Twigs	Twigs are used in religious ceremonies.	Co
<b>Apiaceae</b>						
<i>Selinum tenuifolium</i> Wall.	3000-3500	Matoshal	Herb	Entire plant	The plant is dried and used as incense.	Oc
<b>Asteraceae</b>						
<i>Cremanthodium marnicoides</i> (DC. ex Royle) Good.	3000-3800	Saraangi	Herb	Flowers	Flowers are offered to local deity during fairs and festivals.	NT
<i>Erigeron annuus</i> Pers.	2100-3000	Shadoveet	Herb	Flowers	Flowers are used in religious offerings.	Co
<i>Jurinea dolomiaea</i> Boiss.	3500-4200	Dhoop	Herb	Roots	Roots are used as incense in religious functions.	CE

<i>Jurinellamacrocephala</i> Royle	3100-3800	Dhoop	Herb	Roots	Dried roots are used in dhoop&agarbatti preparations.	E
<i>Saussureacostus</i> (Falc.) Lipsch	2300-3000	Kuth	Herb	Flowers	Flowers are used in religious ceremonies	V
<i>Saussureaobvallata</i> (DC.) Edgew.	3500-4000	Brahm-kamal	Herb	Flowers	Flowers are used in religious ceremonies.	CE
<i>Tagetesminuta</i> Linn.	2100-2500	Kesar	Herb	Flowers	Flowers are an important ingredient of <i>HawanSamgri</i> and also used as religious offerings to the local deity.	Co
<i>Tanacetumlongifolium</i> Wall. ex DC.	2800-3500	Niar	Herb	Leaves	Powder of the dried leaves is used for preparation of incense sticks.	Co
<b>Balsaminaceae</b>						
<i>Impatiens balsamina</i> Linn.	2100-2800	Terda	Herb	Flowers	Flowers of this plant are used as religious offerings.	Co
<b>Berberidaceae</b>						
<i>Berberisaristata</i> DC.	2200-3000	Rasonth	Shrub	Roots	Roots are considered to keep the ghost away.	Oc
<i>Berberislycium</i> Royle	2100-2800	Kashmal	Shrub	Roots	Roots are used by the <i>gurs</i> (spiritual person) to ward off evil spirits.	Co
<b>Betulaceae</b>						
<i>Betulautilis</i> Don	3000-3600	Bhojpatra	Tree	Bark	Bark is used to write talismans by local <i>gurs</i> .	CE
<b>Buxaceae</b>						
<i>Buxuswallichiana</i> Baill.	2100-2600	Samad	Tree	Entire plant	Local deities are placed in the lap of tree, being considered pious.	Oc
<b>Cannabaceae</b>						

<i>Cannabis sativa</i> Linn.	2100-2500	Bhang	Herb	Leaves	Leaves are used as religious offerings especially to lord Shiva during Shivaratri festival.	Co
<b>Cupressaceae</b>						
<i>Juniperuscommunis</i> Linn.	2600-3600	Bethri	Shrub	Entire plant	Whole dried plant is used as incense during performing <i>Hawan</i> .	Oc
<i>Juniperusindica</i> Linn.	3200-4200	Bethru	Shrub	Entire plant	Whole dried plant is used as incense during performing <i>Hawan</i> .	E
<i>Juniperusrecurva</i> Buch.-Ham. ex D. Don	3000-4500	Bethar	Shrub	Entire plant	Whole dried plant is used as incense during performing <i>Hawan</i> .	CE
<b>Dioscoreaceae</b>						
<i>Dioscoreadeltoidea</i> Wall. exKunth.	2200-2900	Ratalu	Herb	Flowers	Flowers are used as religious offerings to Gods and Goddesses.	E
<b>Ericaceae</b>						
<i>Rhododendron anthopogon</i> D.Don	3000-4000	Tali	Shrub	Flowers	Flowers are used as religious offerings to Gods and Goddesses.	E
<i>Rhododendron arboreum</i> Smith	2100-3100	Burans	Tree	Flowers	Flowers are used as religious offerings to Gods and Goddesses.	NT
<i>Rhododendron campanulatum</i> D.Don	2800-3800	Bras	Shrub	Flowers	Flowers are used as religious offerings to Gods and Goddesses.	E

<i>Rhododendron lepidotum</i> Wall. ex Don	2500-3500	Taghisha	Shrub	Flowers	Flowers are used as religious offerings to Gods and Goddesses.	NT
<b>Fabaceae</b>						
<i>Indigoferagerardiana</i> Wall. ex Baker	2100-3200	Kali Kathi	Shrub	Wood	Wood is an important ingredient of <i>HawanSamgri</i> .	Co
<b>Fagaceae</b>						
<i>Quercus floribunda</i> Rehd.	2100-2700	Moru	Tree	Leaves	Leaves are made into garland and hanged outside the houses and is believed to bring prosperity and happiness.	E
<b>Hippocastanaceae</b>						
<i>Aesculusindica</i> (Colebr. ex Camb.) Hook.	2100-2800	Khanor	Tree	Wood	Wood is used to make palanquins of the local deity.	E
<b>Juglandaceae</b>						
<i>Juglansregia</i> Linn.	2100-2800	Akhrot	Tree	Fruits, Leaves	Fruits and leaves are used as religious offerings to deities in local fairs.	E
<b>Oleaceae</b>						
<i>Fraxinusmicrantha</i> Linglesh.	2200-2700	Angu	Tree	Wood, Stem	Local deities are placed in the lap of tree, being considered pious.	E
<i>Jasminumhumile</i> Linn.	2100-2800	Juhi	Shrub	Flowers	Flowers are used as religious offering to local deities.	Co
<i>Jasminumofficinale</i> Linn.	2100-2700	Juhi	Shrub	Flowers	Flowers are used as religious offering to local deities.	Co
<b>Orchidaceae</b>						

<i>Dactylorhizahatagirea</i> (Don) Soo	2500-3500	Satpanja	Herb	Tubers	Tubers kept at home are considered to bring prosperity and happiness.	CE
<b>Poaceae</b>						
<i>Cynodondactylon</i> Pers.	2100-2600	Dhruv	Grass	Entire plant	The plant is used for sprinkling holy water from local deities on the people present in religious ceremonies, weddings, fairs and festivals; considered that their sins have been cleansed.	Co
<b>Ranunculaceae</b>						
<i>Calthapalustris</i> Linn.	2500-3500	Baringu	Herb	Flowers	Flowers are offered to local deities during fairs and festivals.	R
<b>Rosaceae</b>						
<i>Prinsepiautilis</i> Royle	2100-2600	Bhekhal	Shrub	Shoots	Shoots are used to ward off evil spirits.	Co
<i>Rosa brunonii</i> Lindl.	2100-2600	Kujja	Shrub	Flowers	Flowers are used as religious offerings and garlands are also used to decorate the temple.	Co
<i>Rosa webbiana</i> Wall. ex Royle	2500-3500	Jungligulab	Shrub	Flowers	Flowers are used as religious offerings and garlands are also used to decorate the temple.	NT
<b>Rutaceae</b>						
<i>Zanthoxylumarmatum</i> Roxb.	2100-2500	Timbber	Shrub	Entire plant	Local deities are placed in the lap of tree, being considered pious.	CE
<b>Scrophulariaceae</b>						

<i>Verbascumthapsus</i> Linn.	2100-2500		Herb	Aerial,part	Importat ingredient of <i>HawanSamgri</i> .	Co
<b>Taxaceae</b>						
<i>Taxusbaccata</i> subsp. <i>Wallichiana</i> Linn.	2300-3300	Thuner	Tree	Wood	Wood is used to make palanquins for the local deity.	E
<b>Urticaceae</b>						
<i>Urticadioica</i> Linn.	2100-3200	Ainh	Herb	Entire plant	Plant is believed to keep evil spirits away.	Co
<i>Urticaparviflora</i> Roxb.	2100-2800	Shisoon	Herb	Entire plant	Plant is believed to keep evil spirits away.	Co
<b>Valerianaceae</b>						
<i>Nardostachysgrandiflora</i> DC.	3500-4000	Jatamansi	Herb	Rhizomes	Rhizomes are dried, powdered and mixed with ghee to make <i>dhoop</i> .	CE
<i>Valerianahardwickii</i> Wall. exRoxb.	2200-3200	Jatamansi	Herb	Roots	Rhizomes are dried, powdered and mixed with ghee to make <i>dhoop</i> .	Oc
<i>Valerianajatamansi</i> Jones	2500-3200	Nihani	Herb	Roots	Rhizomes are dried, powdered and mixed with ghee to make <i>dhoop</i> .	E

Abbreviations used: Co-Common, CE-Critically Endangered, E-Endangered, Oc- Occasional, NT-Not Threatened, R-Rare, V-Vulnerable,

#### 4. DISCUSSION

Out of the 45 plant species having sacred importance in the area; maximum 8 species belongs to Asteraceae followed by Ericaceae (4 species), Cupressaceae, Oleaceae, Rosaceae and Valerianaceae (3 species each). The traditional culture and religion of human beings have deep faith in the nature and its components in every walk of life. Many of these sacred plants are found in almost every household in the study area and are used in religious activities as well as health care. These sacred plants are even worshipped by the local people for getting blessing of health and wealth by positive powers of nature. In this way these sacred plants play a major role in the mental as well as physical health of local people. These traditional believes support CBD (Convention of Biodiversity) in the sustainable utilization of natural resources. The religious customs protect the part of the forests, where a deity resides and are

worshiped and tend to preserve that area as sacred grove [1]. The religious activities as well as hypothesis also act as conserving tool for bio-diversity. So, it is necessary to preserve and promote these aesthetic values to conserve bio-diversity and nature, which will surely play a role in betterment of human beings.

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