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## Ethnobotanical Studies of Plants Growing in the Forest Area of Bihar

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### **Abstract:**

*Valmiki Ramayana is a holy mythology of Hindu written by Valmiki in Ramayan-Era. There are 182 plants (including flowers, trees and fruits) mentioned in the Ramayana. The present paper deals with traditional uses of 06 plants species belonging to 6 genera and 06 families along with correct botanical identification, parts used and mode of administration in respect to different application. The documented ethnomedicinal plants are mostly used to cure Asthma, Skin diseases, Wounds, Headache, diabetes etc. are listed.*

**Keywords:** Ethnobotany, Valmiki Ramayan, Mahua, Forest area, Bihar.

### **1. Introduction**

The use of plants grown in forest area as many respects infact part of history of the population in the Bihar, an inevitable result of the dynamic processes of the structure of the society, the cultural relationships and the religious characteristics.

This study focuses on the wild vascular plants traditionally used for human consumption in Bihar and its aim to present data about the richness and diversity of plants used as a nutrition source and folk botanical knowledge, and to give an impression about their contemporary states and development in relation to natural plant resources and traditional culture.

### **2. Methodology**

#### *2.1. Study Area*

Bihar has notified forest area of 6,764.14 km<sup>2</sup>, which is 7.2% of its geographical area. The sub Himalayan foothill of Someshwar and the Dunranges in the Champaran district are another belt of moist deciduous forests. These also consist of shrubs grass and weeds. Here the rainfall is above 1600mm and thus promotes luxuriant sal forest in the area.

The most important trees are Khair, Pipal, Banyan, Sal, Semal, Bahera, Kendu, Arjun, Mahua, Ashok(traces), Ber, Tulsi, Bilva, Plash are the common flora across the forest of Bihar.

An ethnobotanical survey for using different respects by peoples of Bihar was carried out during 2012-15. The information on plants used as traditional medicines, food, clothes, sacred views was gathered on semi structured interviews with local people, vaidyas, ojhass, nuts, involved in traditional herbal medicine practices. The medicinal property of plants was confirmed by similar uses from at least 20 informants. Plants specimens collected from the field with help of regional and local floras.

#### 2.1.1. Ocimum Sanctum

→ Lamiaceae

(Aranykand Sarga-15 Shloka- 3.15.18 Panchvati)

*Ocimum sanctum* is also known as *Ocimum tenuiflorum*, holy basil on Tulsi. It is an erect, many branched subshrub with hairy stems and simple phyllotaxic green or purple leaves that are strongly scented. Tulsi has an important role within the Vaishnava tradition of Hinduism, in which devotees perform worship. Many Hindus have Tulsi plants growing in the front of, or near their home, often in special pots. Traditionally, Tulsi is planted in the centre of the central courtyard of Hindu houses. Vaishnavas traditionally use Hindu prayer beads made from Tulsi stems or roots, which are an important symbol of initiation.

Traditionally, Tulsi is taken in many forms as herbal tea, dried powder, fresh leaves or mixed with ghee. The essential oil that is extracted from *O. sanctum* is widely used in skin treatment due to its powerful anti-bacterial activity. The plant has also been shown to reduce blood glucose levels, making it an effective treatment for diabetes.

### 2.1.2. Sarca Indica (Ashok)

→ Caesalpinaceae

(Kiskindhakand Sarga 1 shloka 4.1.79- Pampa lake, Aranyakand Sarga 11 shlok 3.11.74- Agastya's hermitage, Aranyakand sarga 15 shlok 3.15.17- Panchvati, Aranyakand sarga 73 shlok 3.73.4 & 5- Matanga hermitage)

Ashoka is a medium sized evergreen tree. It is found in throughout India. In Bihar it is found in Betiah's forest. Ashoka is called the remover of sorrow and dispels women's grief. It is useful in management of all painful and edematous conditions, toxicities, blood diseases and excessive bleeding during menstruation. In pradar Roga of females, the bark powder should be taken. It is so effective in all types of abnormal discharges per

vegina. Ashoka has been associated with the Indian culture from very early periods.

As the name signifies, is believed to be capable of relieving the sorrow of people. It is considered a symbol of love, being dedicated to 'Kam', the Indian God of love. The tree has been mentioned in Indian epic Ramayana. In fact Sita the wife of lord Ram was kept interned by Ravana under the Ashoka tree. In Hindu religion the Ashoka tree is worshiped in Chaitra the first month of the Hindu calendar.

### 2.1.3. Madhuca Indica

→ Sapotaceae

(Kiskindhakand sarga 1 shlok 4.1.78- Pampa lake)

The *Madhuca indica* is popularly known as Mahua. It is also known as butter tree. This large deciduous tree usually is 20 m in height and has a large top. The leaves are thick and small. The musk scented flowers are fleshy and dull near the end of the branches.

The fruits of the plant are also fleshy and are greenish brown in colour with shiny seeds.

The *Madhuca indica* is used to arrest the excessive bleeding or secretion of tannin. The bark of the Mahua tree is known for its astringent and tonic properties. The flower of the plant help in removing catarrhal matter as well as phlegm from the bronchial tubes.

They are known to soothe the skin and work positively on the mucous membranes. A spirit made from the flowers of the tree is considered highly nutritional and can be used as a tonic.

When corollas fall on the ground in showers during March and April, they are collected in baskets by men on previously cleaned, ground and spread in the open for drying. During this process flowers shrink in size and turn reddish brown in colour.

Mahua seed oil is used for edible and cooking purposes. It is laxative and considered useful in habitual constipation and piles. It is also used in skin diseases, rheumatism and headache. Oil cake is used as manure.

### 2.1.4. Ziziphus Mauritiana

→ Rhamnaceae

(Balkand sarga 24 shlok 1.24.16- Malda & Karusha)

*Ziziphus mauritiana* is a spiny, evergreen shrub or small tree upto 15 m high, with trunk 40 cm or more diameter, spreading crown. Stipular spines and many drooping branches.

Bark dark grey or dull black irregularly fissured. Leaves variable, alternate in 2 rows.

In the uses of this plant, the fruit skin cut into pieces & infuse into water 2-3 hrs. and this water is given the child when feel thirsty in dehydration.

Extract prepared from bark is taken one teaspoonful twice daily until cured from diarrhea. Green and ripe fruits are eaten and the timber is used as fuel. Pounded roots are added to drinking water and given to poultry suffering from diarrhea and to humans for indigestion. The bark is used for tanning. The tree is useful as a living fence; it spiny stems and branches deter livestock.

### 2.1.5. Aegle Marmelos

→ Rutaceae

(Balkand sarga 24, shlok 1.24.15- Malda & Karusha, Aranyakand sarga 11 shlok 3.11.74- Agastya's hermitage, Kiskindhakand sarga 1 shlok 4.1.78- Pampa lake)

Aegle marmelos is commonly known as Bael. It is deciduous spiny medium sized tree.

Leaves glabrous, leaflets three, ovate-lanceolate. Flowers white, sweet-scented. Berries grey or yellow, globose. Ripe fruits edible and pickled, and considered refrigerant and prescribed for gastrointestinal ailments, Sharbat and 'candies' prepared from ripe fruits commonly eaten throughout the state. The leaves of this plant is dedicated to lord Shiva, whose worship cannot be completed without the leaves of this plant. Bilva leaves are useful in jaundice and in the treatment of wounds. The extract of leaves is beneficial in the treatment of leucorrhoea, conjunctivitis and deafness. Fruits give feeling of freshness and energy. It is used as carminative and astringent. It finds good utility in thyroid related disorder. The other fine therapeutic uses reported are cardiac stimulant, swollen joints, pregnancy trouble, typhoid and coma. The dried power of leaves is used in the treatment of irritable bowel syndrome. Raw fruit or half ripe fruit, promotes the rate of appetite. Antibiotic elements are present in the leaves, fruits and roots. The wood, coal of this plant is used to prepare producer gas. The pulp of the fruits is used as gum to prepare cementing material for joint wood and varnish on it. The resins are used to make past to book binding.

### 2.1.6. *Ficus Religiosa* (King of Tree)

→ Moraceae

(Aranyakand sarga 73 shlok 3.73.3- Matanga hermitage)

This plant is known as Pipal. It is a large, fast growing deciduous tree. It has a heart shaped leaves. It has a large crown with the wonderful wide spreading branches. It shed its leaves in the month of March and April. The fruits of the plant are hidden with fig.

The fig are ripen in the month of May.

This tree held sacred by Hindus, and viewed as the female to the

Banyan tree (*F. bengalensis*). This tree is especially worshipped on every Saturday, and on every somvati amavashya. The Hindu who plants a papal tree expects so that just as he affords shade to his fellow-creatures in this world, so after death, he will not be scorched by excessive heat in his journey to the kingdom of Yama. It believes that the root are Brahama, the trunk Vishnu, the branches Mahadeva, in the bark lives the Ganga, and the leaves are the minor deities. *Ficus religiosa* emerged as a good source of traditional medicine for the treatment of asthma, diabetes, diarrhea, epilepsy, gastric problems, inflammatory, disorders, infection disorders and sexual disorders.

The juice of its leaves extracted by holding them near the fire can be used as the ear drop. Its powder bark has been used to heal the wounds for years. Its leaves are used to feed the camels and the elephants. Some others traditional uses of the different parts of this plants are in the treatment of dysentery, vomiting, fever, tuberculosis, and paralysis.

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