

## Medicinal trees of Hazaribag district, Jharkhand, India

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### Abstract

This study contributes to knowledge of medicinal trees of Hazaribag district, Jharkhand, India. The goal of the research of medicinal trees was to learn more about the folklore around plant remedies. The majority of the territory is rich in plant diversity, and the residents of the economically disadvantaged villages of Hazaribag district primarily rely on agriculture and wild resources to meet their daily requirements. This document includes a list of 48 medicinal trees from 23 families and 41 genera. The botanical names, vernacular names, their respective family names, part of the plant used and their uses are indicated. Fabaceae was the dominant family followed by Moraceae, Meliaceae, Apocynaceae, Combretaceae, Euphorbiaceae, Myrtaceae, Rutaceae, Verbenaceae, Anacardiaceae, Annonaceae, Bignoniaceae, Boraginaceae, Lauraceae, Lythraceae, Moringaceae, Musaceae, Oleaceae, Rhamnaceae, Rubiaceae, Salicaceae, Sapotaceae, and Tiliaceae. The observations are based on local folklore and interview of various communities and tribes of the Hazaribag district. Therefore, the ethnobotanical knowledge of people and listing of plants of particular region are important tools that help in understanding human environment interactions.

**Keywords:** Medicinal trees, Hazaribag, Traditional, diversity

### Introduction

Plants are essential to nearly every kind of life on Earth, offering protection and nourishment to anything from bacteria to big mammals. Ethnobotany has expanded to a very wide extent in recent decades. It is widely accepted that all research pertaining to the interactions between plants and human societies falls under the umbrella of ethnobotany. One of the most florally rich areas in India is the district Hazaribag, Jharkhand. Since ancient times, man has used plants and their products in various ways depending on his needs, most notably for food and medicine. Over 50% of the people in this

district are dependent on traditional remedies, many of which heavily rely on medicinal plants. The study of ethnobotany is incredibly fascinating, and part of its technique involves observing, documenting, and analyzing a wide range of data that is gathered from multiple sources.

Several ethnobotanists from various regions of India, have made contributions to the subject of ethnomedicine. Few of them are Tarafder and Chaudhuri (1981), Srivastawa and Verma (1981), Tarafder (1983), Vidyarthi *et al.* (2004), Singh (2008), Shankar and Mishra (2011, 2012), Shankar and Singh (2012), Kumar *et al.* (2013), Bhushan and Kumar (2013), Maity *et al.* (2015), Divakara and Prasad (2015), Mandal and Mishra (2016), Jain *et al.* (2017), Hembrom and Kumar (2018), Ranjan and Mishra (2018), Das (2018), Kumar *et al.* (2018), Kumar (2020), Kumar (2020), Kumar and Saikia (2020), Swati *et al.* (2021) and Gupta and Khawas (2022).

## Materials and Methods

The research was done through a field study that was conducted from March, 2021 to February 2022 in a variety of seasons from different locations within the Hazaribag district of Jharkhand state. The work was conducted among local people, tribals and vaidhyas to gain valuable knowledge about medicinal plants growing in their native place. The native Vaidhyas, Hakims, Tribes, elderly village residents, and native people were persuaded to go on field trips to cover all of the areas on a regular basis and gather data on the traditional medicinal uses of the plants that were collected. The plants with medicinal values were collected and studies were made to know their medicinal and other uses by consulting relevant literature.

The standard protocol for plant collecting and herbarium technology was followed in the gathering and processing of the plant samples (Jain and Rao, 1977). Most of the time, the plants were harvested while they were in flower, and information about their type, application, preparation process, local name, and other details has been documented along with a photo of each specimen. The pertinent floras and standard literature (Flora of British India by Hooker 1872-1897, Flora of Upper Gangetic Plain and of the Adjacent Siwalik and Sub-Himalayan Tracts, Duthie 1903-1929, Haines flora, 1925, Flora of Hastinapur, Murthy and Singh 1961, Flora of Delhi, Maheshwari 1963, Flora of Assam, Kanjilal *et al.* 1982 and Flora of Hazaribagh district by Paria and Chattopadhyay, 2000) have been used to identify the plant specimens.

## Study Area

The location of the Hazaribag district is 23° 25` to 24° 48` North latitude and 84° 27` to 86° 34` East longitude. It is located on average 610 meters above mean sea level. Covering an area of 3,555 sq. kms., the district is bounded to the north by the districts of Koderma, Giridih, and Chatra, to the east by the districts of Ranchi, Ramgarh, and Bokaro, and to the west by the district of Chatra. The Hazaribag district is divided into 16 tehsils. This district is rich in plant diversity because of its high percentage of forest cover (48%) and favorable environmental conditions.



**Fig. 1: Map of Jharkhand state highlighting the district Hazaribag.**

## Taxonomic Enumeration of Medicinal Trees

### 1. Botanical Name: *Acacia catechu* (L.f.) Willd.

Vernacular Name: Khair

English Name : Cutch Tree

Family : Fabaceae

Plant Part Used : Bark, Leaf and Heartwood

Medicinal Uses:

- Bark is used in diarrhoea, dysentery, anti-diabetic activity and also helpful in healing of wounds.
- Leaves act as anti-oxidant, anti-bacterial and anti-ulcer and also treat mouth sore, gingivitis and dental caries.
- “Kattha” obtained from heartwood is effective against jaundice and other liver disorders.

**2. Botanical Name: *Acacia nilotica* (Linn.) Delile**

Vernacular Name : Kikar, Babool

English Name : Indian gum arabic tree

Family : Fabaceae

Plant Part Used : Bark, Gum , Fruits (pods) , Shoots.

Medicinal Uses:

- Bark decoction yields spongy gum which is useful in sore throat, for washing ulcers, to stop bleeding from wounds and skin diseases.  
It also acts as an astringent for diarrhoea and leucorrhoea.
- Powdered gum is used in dysentery and diabetes.
- The fried gum used as a nutritive tonic, particularly in sexual debility.
- Pods have potential to stop bleeding from bites of leeches.
- Tender shoots tops- used to treat cough.

**3. Botanical Name: *Aegle marmelos* (L.) Correa. ex Roxb.**

Vernacular Name: Bael

English Name: Wood Apple

Family: Rutaceae

Plant Part Used: Fruits and leaves

Medicinal Uses:

- Ripe fruit pulps- consumed raw or by making juices.
- Fruits are laxative and is useful against indigestion and constipation.
- Leaves are useful in diabetes and also effective in treatment of jaundice.

**4. Botanical Name: *Albizia lebbbeck* Benth**

Vernacular Name: Siris, Sarihn

English Name: East Indian walnut

Family: Fabaceae

Plant Part Used: Seeds, Leaves, Flowers, Bark and Oil

Medicinal Uses:

- Seeds are effective against treatment of piles and acts as an astringent in diarrhoea
- Leaves are useful in ophthalmia.
- Flowers are helpful to cure boils, eruptions, swellings, and act as antidote to poisons.
- Powdered bark is useful in ulcers, snake-bite wounds and also helpful to strengthen gums.
- Seed oil is useful in leucoderma.

**5. Botanical Name: *Alstonia scholaris* R. Br.**

Vernacular Name: Chaitan

English Name: Devil's tree

Family: Apocynaceae

Plant Part Used: Bark and leaves

Medicinal Uses:

- Bark is applied to painful joints, wrist and ankles and under arm-pits; powdered bark or its juice is also applied to ulcer and rheumatic joints.
- Leaves are used in the form of liquid extract for chronic diarrhoea, asthma, cardiac troubles, dysentery and snake bite.
- These are used in beri-beri, dropsy and liver diseases.

#### 6. Botanical Name: *Anthocephalus cadamba* Miq

Vernacular Name: Kadam

English Name : Malay peach

Family : Rubiaceae

Plant Part Used : Bark and leaves

Medicinal Uses:

- The bark has been used as a febrifuge
- Paste of leaves is widely used by tribes for treating skin diseases.
- Plant extract has potent wound healing capacity

#### 7. Botanical Name: *Azadirachta indica* A. Juss.

Vernacular Name: Neem

English Name : Margosa tree

Family : Meliaceae

Plant Part Used : Bark, Leaves, Seeds and Flowers

Medicinal Uses:

- Bark is astringent, refrigerant, demulcent, insecticidal, liver tonic and urinary astringent.
- Leaves are useful in burning sensation, leprosy, skin diseases, leucoderma, dyspepsia, ulcers, tuberculosis, eczema, malarial and intermittent fever.
- The flowers are useful in dyspepsia and intestinal burns.
- The seeds are useful in leprosy, ulcer, diabetes and to kill insects.

#### 8. Botanical Name: *Bauhinia variegata* Linn

Vernacular Name: Kachnar

English Name : Mountain ebony

Family : Caesalpiniaceae

Plant Part Used : Bark and Roots

Medicinal Uses:

- Bark is anti-inflammatory, useful in skin diseases and ulcers.
- The bark also acts as blood purifier, anthelmintic and astringent.
- The bark decoction is given in ulcers, syphilis, leprosy and other skin diseases.
- These are used as an antidote to snake poisoning.

- Decoction of roots is used in dyspepsia

**9. Botanical Name: *Butea monosperma* (Lam.) Taub.**

Vernacular Name: Palash

English Name : Flame of forest

Family : Fabaceae

Plant Part Used : Stem bark and leaves

Medicinal Uses:

- The bark powder shows anti-bacterial, and anti-inflammatory properties.
- It improves the haemoglobin content in blood.
- The leaves and stem bark help in decreasing the raised blood glucose level by increasing glucose metabolism.

**10. Botanical Name : *Chukrasia tubularis* A. Juss.**

Vernacular Name: Chickrassy

English Name : Chittagong wood

Family : Meliaceae

Plant Part Used : Bark

Medicinal Uses:

- Bark is used as an antipyretic, astringent, diuretic, and anti-influenza drug.
- As astringent, the bark decoction heals stretch marks and other scars.

**11. Botanical Name: *Cinnamomum tamala* (Buch.-Ham.) Nees**

Vernacular Name: Tejpatt

English Name: Indian Bay leaf

Family : Lauraceae

Plant Part Used: Leaves

Medicinal Uses:

- The leaves are bitter, sweet, aromatic, anthelmintic, diuretic, stimulant and tonic.
- They are useful in cardiac disorders, inflammations, diarrhoea, and hepatopathy.

**12. Botanical Name: *Cordia dichotoma* Forst. f.**

Vernacular Name: Lasura

English Name :Fragrant Manjack

Family : Boraginaceae

Plant Part Used: Leaves, Bark , Fruits and Seeds

Medicinal Uses:

- Leaves are applied to ulcers and in headache
- Bark is mild astringent and tonic and its decoction is used in dyspepsia and fevers.
- Fruit is astringent, anthelmintic, diuretic, and used in affections of urinary passages,

diseases of lungs and spleen.

- Fruits mucilage is highly esteemed in coughs, diseases of chest, uterus, urethra etc.
- Powdered kernels mixed with oil is a remedy in ring worm

**13. Botanical Name: *Dalbergia sissoo* Roxb.**

Vernacular Name: Sheesham, Tahli

English Name : Indian rosewood

Family : Fabaceae

Plant Part Used : Leaves, Oil, Bark, and Roots

Medicinal Uses :

- The leaves are used to cure eye diseases and gonorrhoea
- The wood oil relieves the burning sensation of the body.
- The oil is also used in the treatment of scabies and leprosy
- Bark is alterative, antiemetic, astringent and aphrodisiac.
- Roots are effective in treatment of indigestion and also useful in diarrhoea and dysentery.

**14. Botanical Name: *Emblica officinalis* Gaertn.**

Vernacular Name: Amla,

English Name: Indian gooseberry tree

Family : Euphorbiaceae

Plant Part Used: Fruits and seeds

Medicinal Uses:

- The fruit is used in combination with that of *Terminalia chebula* and *T. bellerica* in the form of powder and decoction known as Triphala (three fruits) as a cooling and refrigerant.
- It is also used in diarrhoea, haemoptysis and haematemesis.
- The fresh fruit is used in fevers, vomiting, indigestion, constipation and other disorders of digestive system.
- An infusion of seeds is given in fevers, diabetes, bilious-affections and nausea.

**15. Botanical Name: *Eucalyptus citridora* Hook.**

Vernacular Name : Liptis

English Name : Lemon- scented gum

Family : Myrtaceae

Plant Part Used : Leaves and Oil.

Medicinal Uses:

- The leaf paste is applied on the forehead in headache.
- A decoction of leaves is given in cold and cough.
- The essential oil exhibit nematicidal activity against the larvae of root-knot nematode.

**16. Botanical Name: *Ficus benghalensis* Linn.**

Vernacular Name: Burr, Bohar, Bargad



English Name : Banyan tree  
Family : Moraceae  
Plant Part Used : Bark, latex, aerial roots, leaves and buds  
Medicinal Uses:

- The bark is an astringent.
- Its infusion is a specific cure for diabetes, diarrhoea, leucorrhoea and dysentery.
- The latex is commonly used locally for rheumatism, lumbago, sores, ulcers, pains, cracked soles and toothache.
- The tender ends of the aerial roots are given in obstinate vomiting.
- The leaves are good for ulcers, leprosy, allergic conditions of skin, burning sensation and abscesses.
- The buds are useful in diarrhoea and dysentery. The bark and roots are used against snake bites.

**17. Botanical Name: *Ficus carica* Linn.**

Vernacular Name: Anjir  
English Name : Punjab fig  
Family :Moraceae  
Plant Part Used: Fruits and Latex  
Medicinal Uses:

- The syrup of figs is a remedy for mild constipation.
- The fruit's emollient pulp helps to relieve pain, inflammation, and swellings.
- The milky latex from leaves and stems is reputed to be analgesic and has long been used to treat warts, insect bites and stings.

**18. Botanical Name: *Ficus palmata* Forsk.**

Vernacular Name: Anjeer  
English Name : Wild Himalayan Fig  
Family : Moraceae  
Plant Part Used: Fruits and plant sap  
Medicinal Uses:

- The fruits are used in the treatment of constipation and diseases related to lungs and bladder.
- They are also used in the variety of diseases like gastrointestinal, anti-tumour, anti-ulcer, anti-diabetic, lipid lowering and antifungal activities
- The sap is used in the treatment of warts.

**19. Botanical Name: *Ficus racemosa* Linn.**

Vernacular Name: Gular , Doomar  
English Name : Cluster fig  
Family : Moraceae



Plant Part Used: Bark , fruits , latex and roots.

Medicinal Uses:

- Bark is used for external burning, skin inflammation, diarrhoea, dysentery and leucoderma.
- It is astringent, carminative, vermifuge and an anti-dysentery drug.
- The extract of fruit is used in diabetes, leucoderma and menorrhagia.
- It is a good remedy for excessive appetite.
- A decoction of fresh bark is used in diarrhoea and acts as an antifertility agent.

## 20. Botanical Name: *Ficus religiosa* Linn.

Vernacular Name: Pipal

English Name : Bodhi tree, sacred ficus

Family : Moraceae

Plant Part Used: Bark, Fruits and Seeds

Medicinal Uses:

- The bark is astringent and its decoction is given in gonorrhoea, scabies and snake bite.
- Bark juice relieves toothache and strengthens the gums.
- Fruit is mild laxative and digestive.
- Powder of seeds taken for three days during menses sterilizes women for long time.

## 21. Botanical Name: *Grewia asiatica* Mast.

Vernacular Name: Phalsa , Patdhama

English Name : Lavender star flower

Family : Tiliaceae

Plant Part Used : Roots , Bark , Leaves , Fruits

Medicinal Uses:

- The root bark is also used for rheumatism.
- The fruit possesses astringent, cooling and stomachic properties and can reduce inflammations.
- These are good for heart and blood disorders, and effective against fevers and diarrhoea.
- The stem bark is said to be used as a demulcent.
- The leaves are used as an application to pustular eruptions.

## 22. Botanical Name: *Lawsonia inermis* Linn.

Vernacular Name: Mehndi

English Name : Henna , Mignonette tree

Family : Lythraceae

Plant Part Used : Leaves

Medicinal Uses:

- The juice of leaves is effective in jaundice.
- Leaves are applied to rheumatic joints, inflammatory swelling and burning of the feet.
- They are also used as a hair tonic.

**23. Botanical Name : *Mallotus philippensis* (Lam.) Mull. Arg.**

Vernacular Name: Kamala , Kamila

English Name : Kamala Dye Tree

Family : Euphorbiaceae

Plant Part Used : Leaves, Fruits and Bark

Medicinal Uses:

- Fruits are useful for abdominal diseases and abdominal pain.
- Fruits are effective against diabetes and a decoction of fruits and seeds of *Syzygium cumini* is taken twice a day for a period of about one month to treat diabetes.
- Indigestion can be treated by taking 3 teaspoons of bark juice four times a day.
- A decoction of leaves and stem-bark of the tree is useful for diabetic patients to reduce the level of glucose in blood

**24. Botanical Name: *Mangifera indica* Linn.**

Vernacular Name: Aam

English Name : Mango

Family : Anacardiaceae

Plant Part Used : Leaves, Bark, Gum, Fruits and Seeds.

Medicinal Uses:

- A powder of the tender leaves is given in diarrhoea and diabetes.
- The smoke from burning leaves is inhaled for the relief of throat diseases.
- The bark is given in dysentery, bleeding piles, haemorrhage from the lungs, intestines or uterus.
- An ointment made of resinous gums from the tree is a dressing for scabies and other skin diseases.
- The juice extracted from seeds is used to stop bleeding from the nose.

**25. Botanical Name: *Melia azedarach* Linn.**

Vernacular Name: Dharek , Bakain

English Name : Bead tree

Family : Meliaceae

Plant Part Used: Leaves, Bark, Flowers, Fruits and Seeds

Medicinal Uses:

- The leaves, fruits and bark are useful in relieving headache, rheumatism and leprosy.
- The leaf juice is applied for resolving cold swelling, a poultice of leaf is used for headache
- The bark of root is anthelmintic and antispasmodic.
- The flowers are used to kill head lice and for eruptive skin diseases.
- The berries are given in small doses in leprosy and scrofula.
- The seeds are given in helminthiasis typhoid fever uropathy and pain in pelvic regions.

**26. Botanical Name: *Mimusops elengi* Linn.**

Vernacular Name: Malsari

English Name : Spanish Cherry

Family : Sapotaceae

Plant Part Used: Leaves, Bark, Fruits, Flowers and Seeds

Medicinal Uses:

- Leaves possess antimicrobial activity and are used in fever.
- Bark powder is used as an efficacious cure for gum troubles.
- Pulp of ripe fruit is astringent, used in curing chronic dysentery.
- Powder of dry flowers is used to relieve headache.
- Both flowers and fruits together with other astringents are used in lotion for wounds and ulcers.
- Seeds are purgative and are locally applied within anus of children in cases of constipation.

**27. Botanical Name: *Moringa oleifera* Lam.**

Vernacular Name: Sainjna , Sohanjana

English Name : Drumstick tree

Family : Moringaceae

Plant Part Used: Leaves, Bark, Root, Gum, Flowers, Fruits and Seeds

Medicinal Uses:

- The tender leaves are useful in scurvy and catarrhal diseases.
- The bark of the stem acts as stimulant, diuretic and used as a cardiac stimulant in asthma and cough.
- The fresh root of young tree is given in intermitent fevers, epilepsy, hysteria, chronic rheumatism, gout, dropsy, dyspepsia and enlargement of the liver.
- The gum is used as dressings as efficacious treatment for glandular swelling and boils.
- The flowers are anthelmintic and their juice is used as a diuretic, and digestive.
- The fruits are given in diseases of liver and spleen.
- The seeds are used as antipyretic and purgative.

**28. Botanical Name: *Morus alba* Linn.**

Vernacular Name: Toot, Shehtoot

English Name : White mulberry

Family : Moraceae

Plant Part Used: Bark, Roots, Leaves, and Fruits

Medicinal Uses:

- The bark is used as purgative and vermifuge.
- The root possesses antihelmintic and astringent properties.
- A decoction of the leaves is used as a gargle in inflammations of throat.
- The fruit is cooling and laxative. It is used for sore throat and dyspepsia.

**29. Botanical Name: *Murraya koenigii* (Linn.) Spreng**

Vernacular Name: Mitha-Neem , Karhi patta

English Name : Curry leaf tree

Family : Rutaceae

Plant Part Used: Leaves, Bark and Roots

Medicinal Uses:

- Leaves promote appetite and digestion, destroy pathogenic organism.
- The tender leaves are eaten to check vomiting, for control of blood sugar.
- The bark and roots are useful as stimulants.
- Their paste of bark is applied over bruises and bite of venomous animals.
- The juice of roots is taken to get relief from renal pain.

**30. Botanical Name: *Nyctanthes arbor-tristis* Linn.**

Vernacular Name: Har-Shingar, Shephalika

English Name : Night jasmine

Family : Oleaceae

Plant Part Used: Leaves, Bark and Seeds

Medicinal Uses:

- Leaves are anthelmintic, laxative used in rheumatism and fever; their decoction is given in sciatica; the leaf juice is diaphoretic and diuretic.
- The bark is used as an expectorant.
- The powdered seeds are used for scurvy and affections of the scalp.

**31. Botanical Name: *Oroxylum indicum* Vent.**

Vernacular Name: Tentu , Arlu

English Name : Indian Trumpet Flower

Family : Bignoniaceae

Plant Part Used: Root bark, Stem bark, Seeds and Fruits

Medicinal Uses:

- Root bark astringent, tonic, useful in diarrhea, digestion, fever, cough and dysentery.
- Powdered stem bark or its infusion is diaphoretic, useful in acute rheumatism, bitter tonic.
- Seeds purgative.
- Fruit improves appetite.

**32. Botanical Name: *Musa paradisiaca***

Vernacular Name: Kela

English Name : Banana

Family : Musaceae

Plant Part Used: Whole plant, leaves, fruits, roots and flowers

**Medicinal Uses:**

- The green leaves find a useful application around eyes in ophthalmia and other eye diseases.
- The unripe fruit is astringent and ripe fruit is mild laxative.
- It aids in combating diarrhoea, dysentery and promotes healing of intestinal lesions and in ulceration colitis.
- Unripe fruit and cooked flower are useful in diabetes.
- Juice of flowers is used for the treatment of dysentery.

**33. Botanical Name: *Plumeria rubra* L.**

Vernacular Name: Gopur champa, Frangipani

English Name: Temple tree

Family : Apocynaceae

Plant Part Used: Leaves, roots, bark, flowers and latex

**Medicinal Uses:**

- Leaves are febrifuge and their paste is applied as a poultice to indolent swellings.
- Roots are demulcent, tonic, diuretic, diaphoretic, and a powerful cathartic.
- Bark has a stimulating action and is antidiarrhoeal.
- Flowers are contraceptive.
- Latex is employed as a rubifacient in rheumatism.

**34. Botanical Name: *Polyalthia longifolia***

Vernacular Name: Debdari, Ashoka tree

English Name: The Mast tree

Family : Annonaceae

Plant Part Used: Bark

**Medicinal Uses:**

- The bark is cooling, febrifuge and anthelmintic.
- It is useful in fever, skin diseases, diabetes, and hypertension.

**35. Botanical Name: *Populus alba* Linn.**

Vernacular Name: Popular

English Name: White popular

Family : Salicaceae

Plant Part Used: Leaves, Bark and Twigs

**Medicinal Uses:**

- The leaves are used in the treatment of caries of teeth and bones.
- The twigs used as depurative.
- It is used internally in the treatment of rheumatism, arthritis, gout, lower back pains, urinary complaints, digestive and liver disorders, debility, anorexia, also to reduce fevers

and relieve the pain of menstrual cramps.

**36. Botanical Name: *Psidium guajava* Linn.**

Vernacular Name: Amrood

English Name : Guava

Family : Myrtaceae

Plant Part Used: Roots, leaves, flowers and fruits

Medicinal Uses:

- The roots are astringent, constipating and are useful in haemorrhages, diarrhoea, dysentery (especially in children), ulcers and vomiting.
- An infusion of the leaves is used in cerebral affections, applied in rheumatism and extract is used in epilepsy.
- The flowers are used in bronchitis and applied to sore eyes.
- The fruits are astringent and used for diarrhoea and dysentery.

**37. Botanical Name: *Putranjiva roxburghii* Wall.**

Vernacular Name: Putranjiva

English Name: Poutijia

Family : Euphorbiaceae

Plant Part Used: Leaves and nuts

Medicinal Uses:

- Leaves are given in decoction for cold and fever and are also used in rheumatism.
- The nuts are made into rosaries and necklaces.
- The term "Putranjiva" comes from the ability of leaves to help sterile women conceive and are associated with the birth of a male child.

**38. Botanical Name: *Saraca asoca* (Roxb.) De Wilde.**

Vernacular Name: Ashoka-laal, Jasundi

English Name : Ashoka tree

Family : Caesalpiniaceae

Plant Part Used: Bark and Flowers

Medicinal Uses:

- Flowers pounded and mixed with water are used in haemorrhagic dysentery and for bleeding piles and retention of urine.
- Bark is refrigerant, astringent, anthelmintic, cures dyspepsia, burning sensation, diseases of blood, tumours, enlargement of abdomen, piles, ulcers, bloody discharges from uterus and menorrhagia.

**39. Botanical Name: *Syzygium cumini* (Linn.) Skeels**

Vernacular Name: Jamun

English Name : Java plum  
Family : Myrtaceae  
Plant Part Used : Bark, Leaves, Fruits and seeds  
Medicinal Uses:

- Bark is useful in diabetes, dysentery, fever, dermatopathy, burning sensation, dyspepsia, cough and asthma.
- The tender leaves are used for vomiting.
- The fruits are used in diabetes, diarrhoea, and ring worm diseases.
- Powdered seeds are used in diabetes.

**40. Botanical Name: *Tabernaemontana divaricata* (Linn.) Alston**

Vernacular Name: Chandni  
English Name : Crape jasmine  
Family : Apocynaceae  
Plant Part Used: Root bark, flowers, gum and milky juice  
Medicinal Uses:

- For tooth-ache, root is chewed and gum is applied to wounds which act as refrigerant and helps granulation in healing.
- Root bark is anthelmintic
- Juice of flowers is mixed with oil to relieve burning sensation.
- During eye inflammation, flowers are crushed and tied over eyes and gum is mixed with oil and applied to scalp.
- Milky juice is used for eye diseases and applied to wounds to prevent inflammation.

**41. Botanical Name: *Tamarindus indica* Linn.**

Vernacular Name: Imli  
English Name: Tamarind  
Family : Fabaceae  
Plant Part Used: Leaves, bark, fruit and seeds  
Medicinal Uses:

- The decoction of leaves acts as anthelmintic for destroying worms in children and also used for jaundice.
- The bark of the tree is astringent and tonic.
- The pulp of the fruits is used in dysentery and for preventing and curing scurvy.
- The seeds are astringent, cooling, stomachic, constipating and tonic.

**42. Botanical Name: *Tectona grandis* Linn. f.**

Vernacular Name: Sagun, Sagwan  
English Name : Teak  
Family : Verbenaceae



Plant Part Used: Bark, flowers, seeds and seed oil

Medicinal Uses:

- Bark is astringent, diuretic, hepatic, stimulant, local refrigerant and sedative.
- Flowers are acrid, bitter and diuretic, useful in bronchitis, biliousness, urinary discharges.
- Wood boiled in water is used as a local application to relieve headache and toothache.
- Oil of nuts is used in scabies and to promote growth of hair.
- Roots are given in anuria or retention of urine.

**43. Botanical Name: *Terminalia arjuna* (Roxb.) Wight & Arn.**

Vernacular Name: Arjun

English Name : White marudar

Family : Combretaceae

Plant Part Used: Bark, leaves, fruits and seeds

Medicinal Uses:

- Juice of leaves is used in earache.
- Leaves are given in a compound decoction for flatulent distension of abdomen.
- Bark is astringent, febrifuge, anti dysenteric.
- Fruits and seeds are used as children's anathelmatic for ascaris.

**44. Botanical Name: *Terminalia bellerica* Roxb.**

Vernacular Name: Bahera

English Name: Belliric Myrobalan

Family : Combretaceae

Plant Part Used: Bark, fruits and seeds

Medicinal Uses:

- The bark is used as an astringent for dressing wounds and sore throat.
- Seeds are popularly used in diarrhoea and dysentery, also for gonorrhoea, piles and in chronic constipation.
- The fruit is an ingredient of 'Trifala'.

**45. Botanical Name: *Terminalia chebula* Retz.**

Vernacular Name: Hararh, Haritaki

English Name : Myrobalan

Family : Combretaceae

Plant Part Used: Fruits

Medicinal Uses:

- Fruit is astringent, anodyne, thermogenic, anti inflammatory, laxative, carminative, digestive, cardio tonic, aphrodisiac and febrifuge.
- The fruit is an important constituent of Ayurvedic medicine "Trifala".

**46. Botanical Name: *Toona ciliata* M. Roem.**

Vernacular Name: Toon

English Name : Red Cedar

Family : Meliaceae

Plant Part Used: Bark, Flowers and Seeds

Medicinal Uses:

- Bark and seeds are useful in ulcers, leprosy, cures fevers, headache, and blood complaints.
- The flowers are effective in menstrual pain.

**47. Botanical Name: *Vitex negundo* Linn.**

Vernacular Name: Nirgundi

English Name : Negundo Chaste Tree

Family : Verbenaceae

Plant Part Used : Flowers, Leaves and Roots

Medicinal Uses:

- The roots are given in dyspepsia, dysentery, wound, ulcer, cough, malarial fever and leprosy ophthalmopathy.
- The flowers are useful in diarrhoea, cholera, cardiac disorders.
- The leaves are useful in rheumatism.

**48. Botanical Name : *Zizyphus mauritiana* Lam.**

Vernacular Name: Ber

English Name : Indian Jujube

Family : Rhamnaceae

Plant Part Used : Leaves, bark, fruits and roots

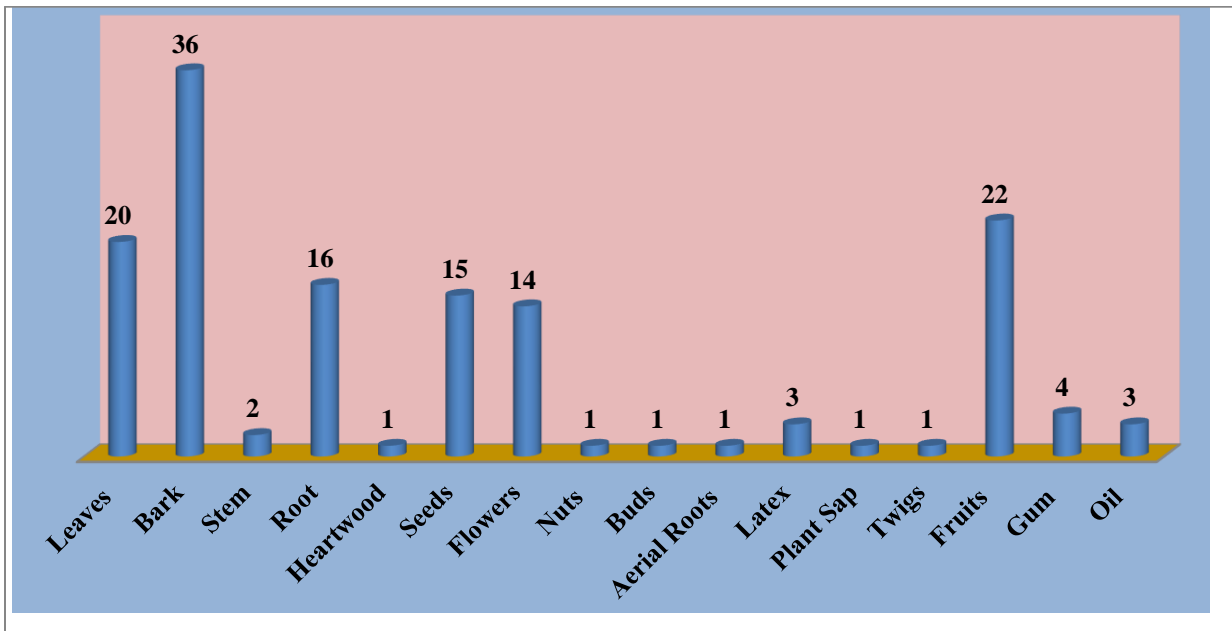
Medicinal Uses:

- The leaves are given in milk against gonorrhoea.
- The bark is astringent, used for diarrhoea, dysentery and gingivitis.
- The fruits are reputed to be a blood purifier, seeds mixed with oil make a useful in rheumatism.
- Roots are given in fever and to promote menstruation.

**Results and Discussions**

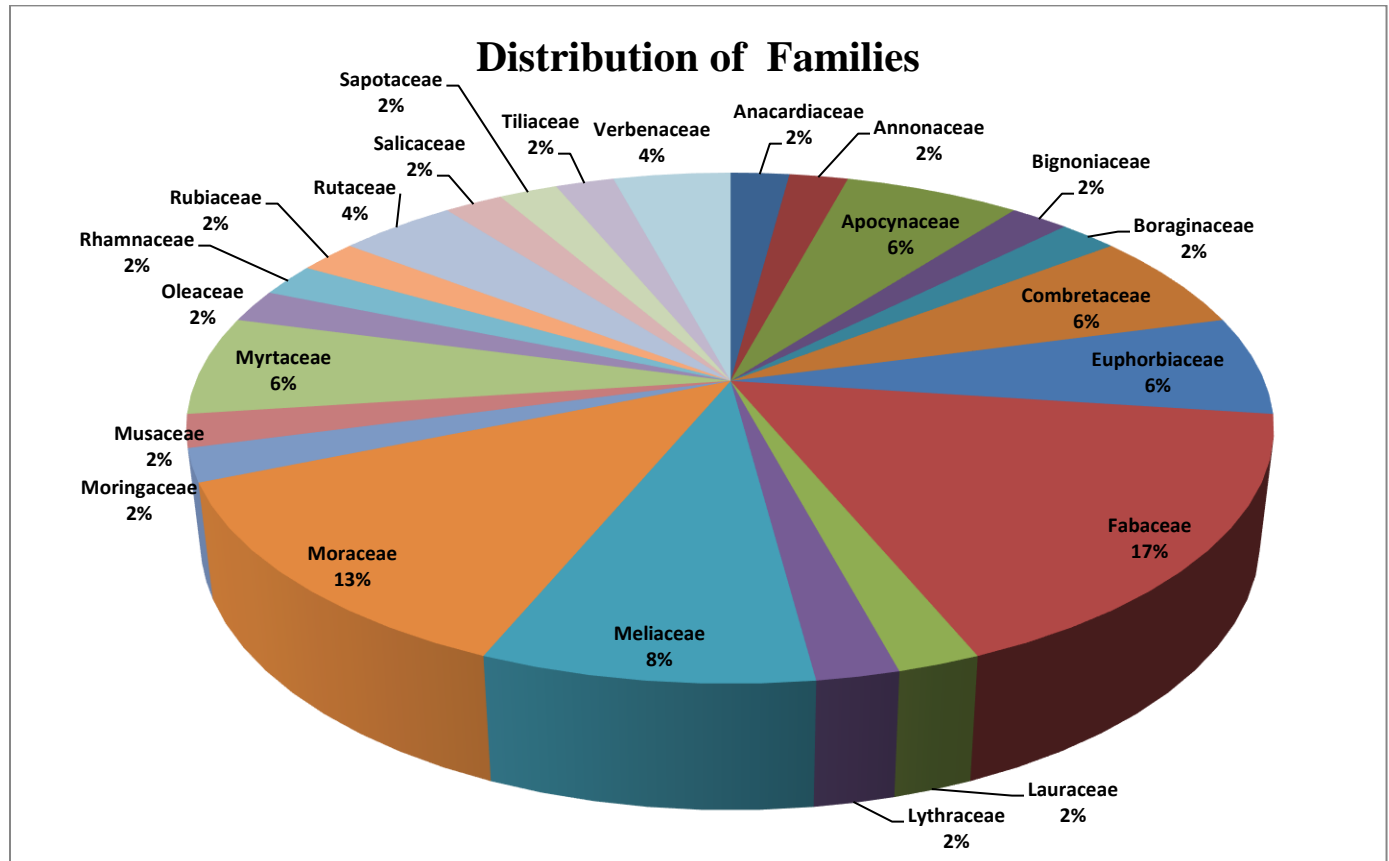
Present investigation provides comprehensive information on the diversity and indigenous uses of the medicinal trees of Hazaribag district, Jharkhand. The study reveals 48 plant species, belonging to 23 families and 41 genera of angiosperms. Different plant parts are used to treat various kinds of ailments. The most dominant plant part used is Bark (36) followed by fruits (22), leaves (20), roots (16), seeds (15), flowers (14), gum (4), oil (3), latex (3), stem (2), heartwood (1), nuts (1), buds (1),

aerial roots (1), plant sap (1), and twigs (1) as given in Fig. 2. The numbers put in parentheses represent the number of species.



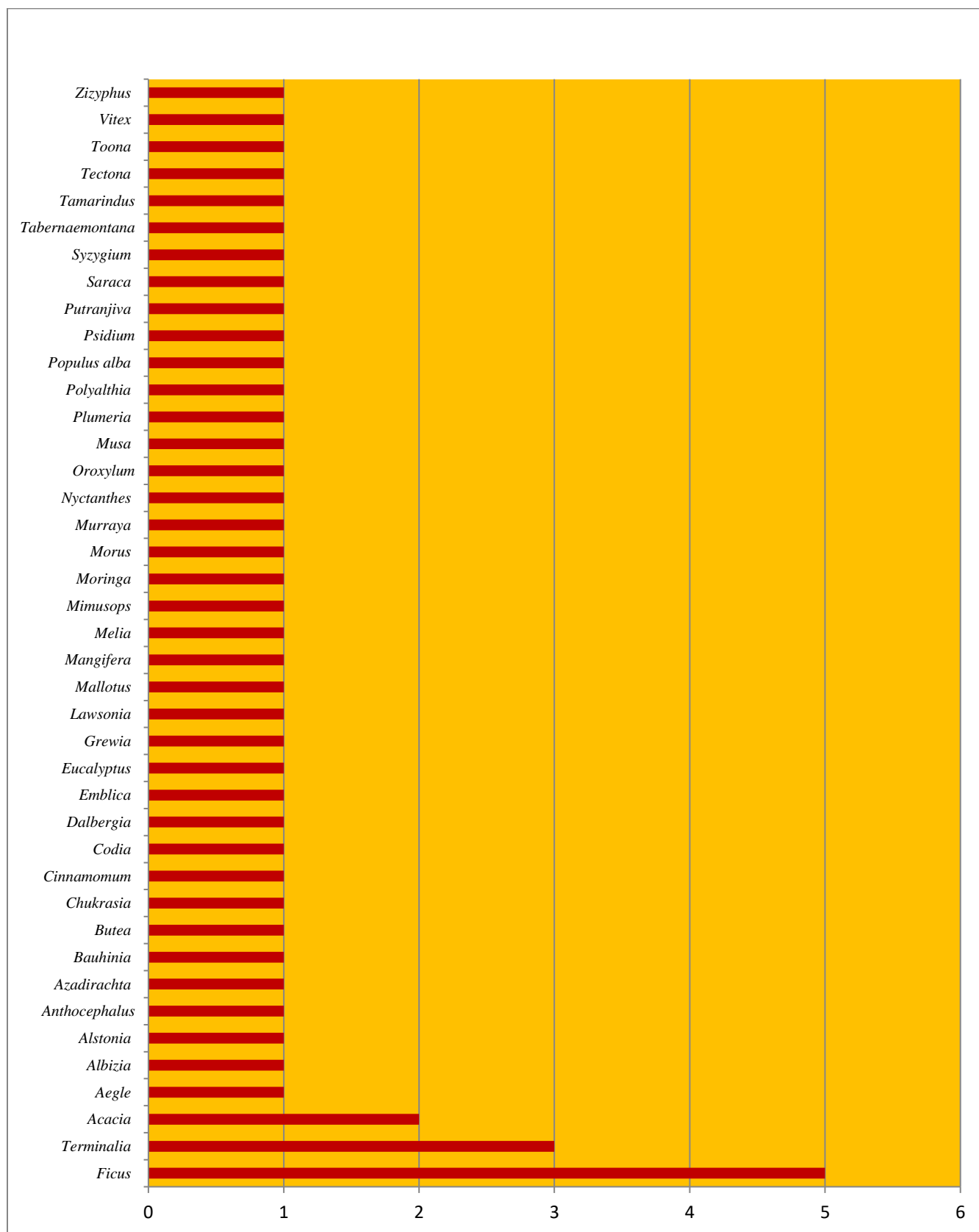
**Fig. 2: Distribution of plant parts used for various ailments in Hazaribag district, Jharkhand.**

Out of 23 families, the most dominant family with maximum number of plant species is Fabaceae (8) followed by Moraceae (6), Meliaceae (4), Apocynaceae (3), Combretaceae (3), Euphorbiaceae (3), Myrtaceae (3), Rutaceae (2), Verbenaceae (2), Rutaceae (2), Verbenaceae (2), and Anacardiaceae, Annonaceae, Bignoniaceae, Boraginaceae, Lauraceae, Lythraceae, Moringaceae, Musaceae, Oleaceae, Rhamnaceae, Rubiaceae, Salicaceae, Sapotaceae and Tiliaceae are represented by single species as shown in Fig. 3. The numbers put in parentheses represent the number of species.



**Fig. 3: Distribution of families belonging to medicinal trees of Hazaribag district, Jharkhand.**

Out of the 41 genera, the most dominant genus is *Ficus* represented by 5 species followed by *Terminalia* (3), *Acacia* (2) and *Aegle*, *Albizia*, *Alstonia*, *Anthocephalus*, *Azadirachta*, *Bauhinia*, *Butea*, *Chukrasia*, *Cinnamomum*, *Cordia*, *Dalbergia*, *Embllica*, *Eucalyptus*, *Grewia*, *Lawsonia*, *Mallotus*, *Mangifera*, *Melia*, *Mimusops*, *Moringa*, *Morus*, *Murraya*, *Nyctanthes*, *Oroxylum*, *Musa*, *Plumeria*, *Polyalthia*, *Populus*, *Psidium*, *Putranjiva*, *Saraca*, *Syzygium*, *Tabernaemontana*, *Tamarindus*, *Tectona*, *Toona*, *Vitex* and *Zizyphus* are represented by single species each as given in Fig. 4.



**Fig. 4: Genera showing number of species belonging to each genus of medicinal trees.**

### **Conclusions**

While local knowledge might be helpful in preserving diversity, it's crucial to keep in mind that traditional resources and knowledge are essential to maintaining cultural diversity and maintaining cultural identity. Worldwide recognition of the worth and significance of traditional knowledge is currently growing. Despite the area's intense urbanization, medicinal plants are still essential to the local population's health in the district of Hazaribag. For this reason, efforts must be made to raise public awareness of the potential of medicinal plants from all perspectives in order to prevent these life-saving plants from being completely destroyed.

### **Acknowledgement**

The authors express their sincere gratitude to the residents of the neighboring villages of Hazaribag, particularly the tribals, vaidyas, and elders, for providing important information regarding the local names for plants and their traditional usage.



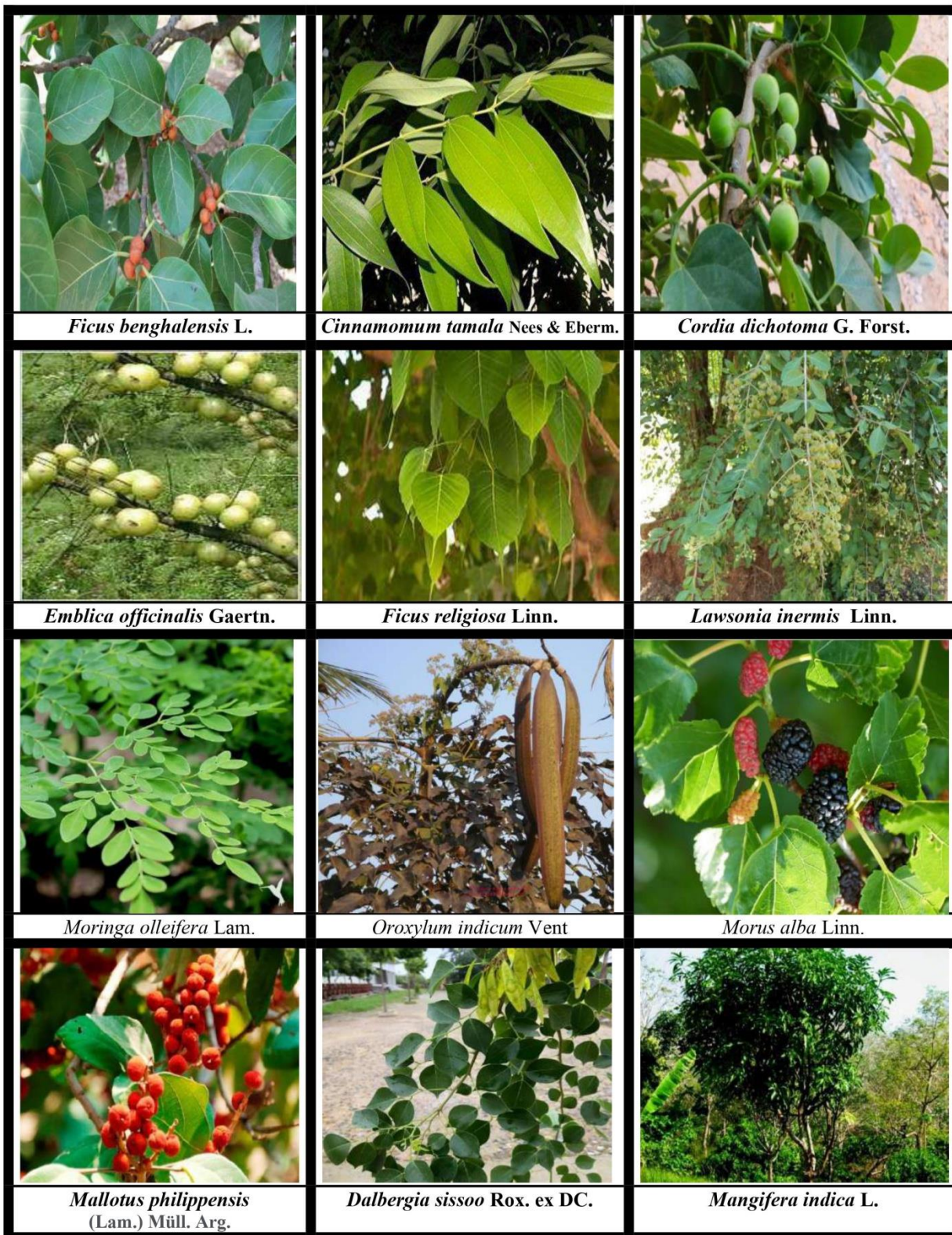


Plate 1: Photographs of some medicinal trees of Hazaribag district, Jharkhand.



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