

E-CONTENT

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Topic: Medicinal Aspects-Study of common plants used by tribes (*Aegle marmelos*, *Ficus religiosa*, *Cynodon dactylon*, *Eclipta alba*, *Oxalis*, *Ocimum sanctum* and *Trichopus zeylanicus*)

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The mother earth is endowed with a rich wealth of medicinal plants. They are important sources of new chemical substances that have beneficial therapeutic effects. Medicinal plants are the source of many potent and powerful drugs. They present a healthier and safer alternate to the synthetic drugs. Different parts of medicinal plants like root, stem, flower, fruit, seed etc. are used to obtain pharmacologically active constituents. Medicinal activities of plants can be attributed to the secondary metabolites such as alkaloids, flavonoids, glycosides, tannins and terpenoids present in present in these plants. Medicinal plants are found useful in the treatment of variety of health problems such as bacterial infections, peptic ulcers, inflammations, arthritis etc.

Indian Medicinal plants are considered a vast source of several pharmacologically active principles and compounds, which are commonly used in home remedies against multiple ailments.

BAEL (*Aegle marmelos* (L.) Corr.)-Family: Rutaceae

This plant has enormous traditional values against various diseases and have many bioactive compounds.

It is a moderate sized tree, about 7m height with somewhat fluted bole. Grow wild throughout the deciduous forest of India. This is generally considered

as sacred tree by the Hindus, as its leaves are offered to Lord Shiva during worship. According to Hindu mythology, the tree is another form of Lord Kailashnath. Leaves, fruit, stem, and roots of this tree at all stages of maturity are used as ethnomedicine against various human ailments.

The different parts of Bael are used for various therapeutic purposes such as for treatment of **Asthma, Anaemia, Fracture, Healing of wounds, Swollen joints, High Blood Pressure, Jaundice, Diarrhoea, Healthy Mind and Brain Typhoid Troubles during Pregnancy.**

Aegle marmelos has been used as a herbal medicine for the management of diabetes mellitus in Ayurvedic, Unani and Siddha systems of medicine in India, Bangladesh, and Sri Lanka. The main uses of the parts of this tree is for medicinal purposes. The unripe dried fruit is astringent, digestive, stomachic and used to cure diarrhea and dysentery. Sweet drink prepared from the pulp of fruits produce a soothing effect on the patients who have just recovered from bacillary dysentery.

The ripe fruit is a good and simple cure for dyspepsis. The pulp of unripe fruit is soaked in gingelly oil for a week and this oil is smeared over the body before bathing. The oil is said to be useful in removing the peculiar burning sensation in the soles. The roots and the bark of the tree are used in the treatment of fever by making a decoction of them. The leaves are made into a poultice and used in the treatment of inflammation, asthma, hypoglycemia, febrifuge, hepatitis and analgesic. The mucilage of the seed is a cementing material. The wood takes a fine polish and is used in building houses, constructing carts, agricultural implements.

A yellow dye is obtained from the rind of the unripe fruits. The dried fruits, after their pulp separated from the rind are used as pill boxes for keeping valuable medicines, sacred ashes and tobacco. In Homeopathic treatments it is largely used for conjunctivitis and styes, rhinitis, coccygodynia, nocturnal seminal emission with amorous dreams, chronic dysentery. Ayurveda prescribes the fruit of the herb for heart, stomach, intestinal tonic, chronic constipation and dysentery; some forms of indigestion, typhoid, debility, cholera, hemorrhoids, intermittent fever, hypocondria, melancholia, and for heart palpitation. The unripe fruit is medicinally better than the ripe fruit. Leaf poultice is applied to inflammation; with black pepper for edema, constipation and jaundice.

Various proved therapeutic values of *Aegle marmelos*

- 1. Anti diabetic Activity;**
- 2. Hepatoprotective Activity;**
- 3. Antimicrobial Activity;**
- 4. Analgesic anti-inflammatory and antipyretic;**
- 5. Antifungal Activity;**

6. Anticancer Activity;
7. Radioprotective Activity;
8. Antispermatogenic Activity;
9. Antiulcer Activity;
10. Anti thyroid Activity



AEGLE

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PEEPAL (*Ficus religiosa* ?????-Family: Moraceae

Peepal tree is found in all over India. *Ficus religiosa* is a species native to the Indian subcontinent and South-East Asian countries such as Bangladesh, Bhutan, China, and India.

Ethnic significance:

- The Brahma Purana and the Padma Purana, relate how once, when the demons defeated the Gods. God Vishnu hide in the peepal. Therefore spontaneous worship to Vishnu can be offered to a peepal without needing his image or temple.
- The Skanda Purana considers the peepal to be a symbol of Vishnu.
- Some believe that the tree houses the Trimurti-the roots being Brahma; the trunk being Vishnu, and the leaves being Shiva, The Gods are said to hold

their council under this tree, and so the tree is associated with spiritual understanding.

- The Skanda Purana states that the Sarasvati originates from the water pot of Brahma flows from Plaksa on the Himalaya. According to Vamana Purana the Sarasvati was rising from Plaksa tree (Peepal).
- In Astrology, the Peepal tree is closely linked with the planet Jupiter. Its presence is always very graceful as it is always rewarding. When Jupiter is afflicted in a horoscope then Peepal tree worship is recommended.

Ceremonial Uses & Practices

Upanayan ceremony

- A Peepal tree is planted to the east of the house or temple. Eight or 11 or 12 years after the tree has been planted, the *Upanayan ceremony* is performed for the tree. A round platform is constructed around the tree. Different gods like Narayan, Rukmini, Satyabhama are invoked and worshiped.

Shani-pujan

- Goddess Lakshmi and Lords Shani are also believed to inhabit the tree on Saturdays. Therefore, it is considered auspicious to worship it on Saturday. Women ask the tree to bless them with a son tying red thread or red cloth around its trunk or its branches.
- People are also asked to light a diya at the base of peepal tree on every Saturday in a belief that it would provide prosperity and wealth.

Nag-Panchmi Pujan

- In South India, Peepal and Neem trees are planted so close to each other that they mix up as they grow. A Naga (snake) idol is placed under them and worshipped. This is believed to bless the worshipper with wealth.

Manglik-dosh nivaran Pujan

- In hinduis, if a girl's horoscope predicts wadohood or manglik-dosha, she is first married to a Peepal tree on chaitra Krishna tritiya.

Other Ceremonial uses of *Ficus religiosa*

Neem and Peepal Marriage

- On Amavasya, hindus perform a symbolic marriage between the neem and the peepal, which are usually grown near each other. There are various beliefs on the significance of ‘marrying ‘ these trees.





Medicinal Uses of *Ficus religiosa*

- *F. religiosa* is being used to cure various infections and food poisonings.
- The bark is used to cure skin diseases, mouth ulcers, diabetes and bone fracture.
- Leaves are used in conditions like vomiting, gonorrhoea etc. Stem can be used in treatment of urinary disorders and problems of digestive system.
- The dried powder of fruits has been used in treatment of respiratory problems like asthma.

Scientific aspect related to *Ficus*

- The *F. religiosa* releases oxygen all the time which makes it different from other plant.

Conclusion

F. religiosa is widely branched deciduous tree with leathery, heart shaped, long tipped leaves, used in the Indian System of Medicine since very ancient times and also has ethnic religious beliefs. The multiple benefits of *F. religiosa* made it a true miracle of nature. It is one of the most versatile plant having a wide variety of medicinal activities therefore used in treatment of several types of diseases.

DOOB GHAS (*Cynodon dactylon* (L.) Pers.)-Family: Poaceae

Cynodon dactylon is a perennial grass that has variety of medicinal properties. Whole herb and its root stalk are used for medicinal uses.

It is also known as *Durva grass*, *Barmuda grass*, *Dog's Tooth grass*, *Bahamas grass*, *Devil's grass*, *Couch grass*, *Indian Doab*, *Scutch grass*, *Dhub*, *Doob* and *Durba* in different parts of the world.

Durva is a Sanskrit word that means, which is cut or eaten by the animals. It is the most sacred plant of India next to tulsi.

Hindus worship the God Ganesha with the leaves durva religiously.

PHARMACOGNOSTICAL CHARACTERISTICS

C. dactylon is a rapid growing perennial grass. The plant has creeping runner or stolons. It roots at nodes forming a dense tuft on the surface of the soil. According to the Ayurvedic Pharmacopoeia, the plant is pungent and bitter in nature with characteristic fragrance and has cold potency. According to Unani system of medicine, the plant possesses sharp hot taste with good odor.

PRINCIPLE CONSTITUENTS

The plant contains crude proteins, carbohydrates, mineral constituents, oxides of magnesium, phosphorous, calcium, sodium and potassium. The whole plant affords beta-sitosterol, flavanoids, alkaloids, glycosides and triterpinoides. Other compounds like vitamin C, carotene, fats, palmitic acid etc. are also reported.

TRADITIONAL USES

Doob is used as a folk remedy for *anasarea, calculus, cancer, carbuncles, convulsions, cough, cramps, cystitis, diarrhea, dropsy, dysentery, epilepsy, leucoderma, headache, hemorrhage, hypertension, hysteria, bronchitis, asthma, tumors, measles, rubella, snakebite, sores, stones, tumors, urogenital disorders, warts, wounds, eye disorders, and weak vision*. It is also useful against pains, inflammations, toothache, and gripe in children. The expressed juice of plant act as astringent and is applied to bleeding cuts and wounds to stop bleeding.

The paste made of the plant mixed with honey is used in epitaxis. Oral administration of the juice of the plant with honey 2-3 times a day for few days effective treats menorrhagia. Local application in the form of paste of the plant extract upon the lower abdomen reduces severe bleeding in vagina. A decoction of whole plant mixed with sugar is useful in the problem of urine retention.

According to Ayurveda System of Medicine it acts as an appetizer, anthelmintic, antipyretic, alexiteric agent. *Durvadi kvatha, Durvadya ghrta, Durvadya taila, Durvadi yoga* are some classical Ayurvedic preparations of the plant.

According to Unani System of Medicine, *Cynodon dactylon* is used as a *laxative, coolant, expectorant, carminative* and as a *brain and heart tonic*. In Homoeopathic systems of medicine, it is used to treat *all types of bleeding and skin troubles*.

PHARMACOLOGICAL ACTIVITIES

- ❖ Antidiabetic;
- ❖ Antioxodant;
- ❖ Antidiarrheal

BHRINGRAJ (*Eclipta alba* ?????)-Family: Asteraceae

Eclipta alba commonly known as **False Daisy**. *Eclipta alba* sprouts in moist places as a weed in warm temperate to tropical areas worldwide.

In Ayurvedic Medicine, the leaf extract is used as a powerful liver tonic, and especially good for hair and skin.

The whole plant is used as antiseptic, febrifuge, tonic, deodstruent in hepatic and spleen enlargement and is emetic. In combination with aromatics, the juice is given in anemia, catarrh and cough. The plant is also used as scalp tonic for promoting hair growth.

S. No.	Compound	Nature of compound	Major source	Pharmacological activity
1.	Wedelolactone	Coumestan	Leaf, Stem	Antihepatotoxic, Antibacterial, Trypsin Inhibitor, Antivenom
2.	Ecliptalbine	Alkaloid	Seed	Analgesic, Lipid lowering
3.	Demethylwedelolactone	Coumestan	Leaves	Antivenom
4.	Eclabatin	Saponin	Whole plant	Antioxidant
5.	Dasyscyphin C	Saponin	-do-	Anticancer, Antiviral
6.	Ecliptine	Aldehyde	-do-	Antioxidant

The Ethanol extract of *Eclipta alba* has been reported to have a neutralizing effect on the venom of rattle snake.

Other known activities

- Hepatoprotective/Anti-Hepatotoxic Activities;
- Hair Color and Growth Promoting Activity;
- Antimicrobial properties;
- Anti-inflammatory Activity;
- Anti-diabetic Activity/Anti-hyperglycemic activity;
- Anti-Cancer



Traditional uses

It is one of ten promising and said to be best herb in Ayurveda for liver cirrhosis and infectitious hepatitis. *Eclipta alba* is used in Ayurvedic classical as well as the patent medications. The plant has revitalizing property and has reputed as an anti-ageing agent in Ayurvedic medicine. Also known to have hair promoting compound. Tribals of Odisha state use whole plant to make paste with black pepper and make small pills to use as anti-fever and anti-jaundice. Tribes of Tripura state administer 5-10 ml of leaf juice daily against hepatic disorder.

TULSI (*Ocimum sanctum* L.)-Family: Lamiaceae

Plants are of the important sources of medicine and a large number of drugs in use are derived from plants. The therapeutic uses of plant are safe, economical and effective as their ease of availability.

Among the plants known for medicinal value, the plants of genus *Ocimum* are very important for their therapeutic potentials. *Ocimum sanctum* has two varieties, Black (*Krishna Tulsi*) and Green (*Rama Tulsi*), their chemical constituents are similar. *Ocimum sanctum* is widely distributed covering the entire Indian sub continent.

Tulsi is a Sanskrit word which means, “the incomparable one” and has a very special place in the Hindu culture. *Ocimum sanctum* is one such plant showing multifarious medicinal properties, viz. **Analgesic activity, Immunomodulatory activity, Antiasthmatic activity, Anticancer activity, Anticonvulsant activity, Antidiabetic activity, Antihyperlipidemic activity, Antistress activity** in addition to possessing useful memory enhancer, neuroprotective activity, radio-protective activity etc.



TULSI

Changeri, Khatti booti *Oxalis corniculata* L.-Family: Oxalidaceae

Khatti booti (*Oxalis corniculata*) is a delicate appearing, low growing herbaceous plant, found throughout warmer parts of the country and also in all tropical and temperate climate. It is called as the Creeping wood sorrel or Procumbent yellow sorrel in English. Its Sanskrit names are *Ambashta*, *Amlapatrika*, *Amlika* etc. It is *Amla* (sour) and *Kashaya* (astringent) in *Rasa* (taste) and *Ushna* (hot) in *Virya* (potency). It possesses properties like *Deepana* (enhancing digestion and metabolism), *Grahi* (absorptive or binding capacity), *Ruchya* (taste enhancer), *Vata-Kaphahara* (pacifies Vata and Kapha) and *Pittakara* (increase Pitta).

The entire plant is edible and is rich source of Vitamin C. Various studies carried out on this medicinal plant reveals that it possess **anti-inflammatory, anxiolytic, anticonvulsant, antifungal, antiulcer, antinociceptive, anticancer, antidiabetic.**



The plant is used for treatment purposes in single as well as in compound form (eg. *Changeri ghrihata*) in various diseases conditions like Irritable bowl disorders, diarrhea, haemorrhoids, skin diseases etc.

AROGYAPPACHA (*Trichopus zeylanicus* Gaertn)-Fam. Dioscoreaceae
[The 'GINSENG' OF KANI TRIBES OF AGASHYAR HILLS (KERELA)
FOR EVER GREEN HEALTH AND VITALITY]

In Kerela, 'Kani' tribe of Agastyar hills use Arogyappacha for getting instant stamina, health and vitality. It is an very good example of **Ethnomedicine**.

The unripe fruit is eaten fresh to remain healthy and agile by locals particularly during their long trekking trips in the high mountaineous forests of Agastyar hills.

AROGYAPPACHA= GREENER OF HEALTH, i.e. the one that gives very good health and vitality.

It is claimed by 'Kani' tribe that one can live days together without food and still remain energetic and could perform even very rigorous physical work exercises by eating few fruits of this plant daily. They also claim that if one eats the fruits of this plant regularly, he will remain always healthy, agile, young and that no disease will affect him.

MORPHOLOGY

Small. Perennial herbs with many slender stems (5cm to 25cm long) arising from a nodose rhizome. There is one terminal leaf on each stem. The long petiole appears like a continuation of the stem. Leaves are dark brownish to grey-purple, broadly triangular, ovate with acute or obtuse apex and basally cordate with wide sinus. Flowers small, bisexual, mostly one, fascicled at the base of the leaves. Perianth dark-brown, sub-equally 6-lobed. Stamens 6 with subsessile anthers. Overy inferior three celled. Stigma three lobed. Fruits are somewhat winged, triangular and indehiscent. The tender kernel of immature fruit is sweet to taste and has pleasant flavor. On ripening it becomes stony and unpalatable.

Sushruta has recorded the distribution of the divine 'Varahi' may be about 'Arogyappacha'. He described the plant that with its trailing stem with the raised leaves appers – 'Krishnasarpa swarupena' – like a black Cobra with its raised hood.



Declaration

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