



A Review of the Regional Therapeutic Potential Herbal Drugs for Various Ailments

¹M. Samuel, K. Venkata Gopaiah¹, J. N. Suresh Kumar², Sk. Mujubur Rehman³, S. Sathvika³, V. Anasuya Vibhavari³, Y. Vyshnavi³, P. Siva Prasad³

¹ Associate Professor, ²Principal & Professor, ³Research Scholar

^{1, 2, 3} Narasaraopeta Institute of Pharmaceutical Sciences, Narasaraopet, Palnadu-A. P.

ABSTRACT:

The use of herbal drugs for medicinal purposes has been an integral part of traditional healthcare systems across the globe. This review aims to provide a comprehensive overview of the regional therapeutic potential of herbal drugs in treating various ailments. The study focuses on the diverse medicinal plants and their traditional uses in different geographical regions, shedding light on the rich cultural and botanical diversity that contributes to the global pharmacopeia. The review explores herbal remedies employed in distinct regions, emphasizing the importance of traditional knowledge in managing health and well-being. Drawing on a wide range of sources, including ethnobotanical surveys, scientific literature, and traditional healing practices, we present an evidence-based synthesis of the efficacy of herbal drugs for specific health conditions.

Key sections of the review include:

Botanical Diversity and Traditional Knowledge: An overview of the rich botanical diversity and indigenous knowledge associated with herbal remedies. Exploration of the cultural significance of medicinal plants in various communities. **Geographical Variation in Herbal Medicine:** Examination of how the use of herbal drugs varies across regions due to climate, soil conditions, and cultural practices. Highlighting the importance of considering regional specificity in the study of herbal medicine. **Efficacy of Herbal Drugs in Treating Ailments:** In-depth analysis of the therapeutic potential of herbal drugs for specific health conditions such as respiratory disorders, gastrointestinal issues, dermatological problems, and more. Critical evaluation of scientific evidence supporting the traditional uses of herbal remedies. **Challenges and Opportunities:** Discussion of challenges faced in integrating traditional herbal medicine into modern healthcare systems. Exploration of opportunities for collaboration between traditional knowledge and modern scientific research. **Future Directions and Implications:** Identification of gaps in current knowledge and potential avenues for further research. Implications for the development of evidence-based herbal medicines and the importance of sustainable practices. In conclusion, this review seeks to contribute to the understanding of the therapeutic potential of herbal drugs within a regional context. By combining traditional wisdom with contemporary scientific evidence, we aim to foster a holistic approach to healthcare that incorporates the valuable contributions of diverse cultures and ecosystems.

Keywords: Herbal drugs, traditional medicine, regional diversity, ethnobotany, medicinal plants, therapeutic efficacy, healthcare, cultural practices, sustainable practices, evidence-based medicine.

Ziziphus jujube: -



Synonym's: Rhamnus jujuba, Rhamnus zizyphus

Common name: Red date, Chinese date, and Chinese jujube

Biological source: Jujube is usually called red date or Chinese date, which is the fruit of *Ziziphus jujuba* Mill. That belongs to Rhamnaceae family.

Family: Rhamnaceae family

Geographical source: The jujube originated in China where they have been cultivated for more than 4000 years and where there are over 400 cultivars. The plants travelled beyond Asia centuries ago and today are grown to some extent in Russia, northern Africa, southern Europe, the Middle East and the south-western United States.

Chemical Constituents: There are 7 phenolic acids and flavonoids such as catechin, rutin, quercetin, luteolin, spinosin, gallic acid, and chlorogenic acid were detected in all *Ziziphus jujuba* tissues where quercetin and rutin occur in the leaves; catechin and rutin occur in the stems; and catechin, epicatechin, and rutin occur in the fruits.

Uses:

- ✓ *Ziziphus* contains chemicals that might lower sugar and fat levels in the blood, and also cause sleepiness.
- ✓ Jujube has been used to treat various diseases such as respiratory system diseases (asthma, cough, and laryngitis), gastrointestinal problems (constipation, colitis and liver diseases), as well as cardiovascular and genito-urinary system diseases
- ✓ But there is no good scientific evidence to support these uses.

Swietenia macrophylla:



Synonyms: *Swietenia belizensis* Lundell; *Swietenia candollei* Pittier; *Swietenia krukovii* Gleason; *Swietenia tessmannii* Harms.

Common name: *Swietenia macrophylla*, commonly known as mahogany, Honduran mahogany, Honduras mahogany, or big-leaf mahogany is a species of plant in the Meliaceae family.

Biological source: The fruits of *Swietenia macrophylla* are called "sky fruit", because they seem to hang upwards from the tree.

Family: Meliaceae family.

Geographical source: *Swietenia macrophylla* is an evergreen tree native to tropical America, Mexico, and South America. Atlantic coast of Central America, South America south to Bolivia

Chemical Constituents:

1. A new phenylpropanoid-substituted catechin, namely, swietemacrophyllanin [(2*R**,3*S**,7*R**)-catechin-8,7"-7,2"-epoxy-(methyl 4",5"-dihydroxyphenylpropanoate)] (1) was isolated from the bark of *S. macrophylla* together with two known compounds, catechin (2) and epicatechin (3).
2. Phytochemicals content of *S. mahagoni* are phospholipid, alkaloids, phenols, flavonoids, anthraquinones, saponins, terpenoids, cardiac glycosides, volatile oils and long chain unsaturated acid.
3. Chemical constituents in mahogany seeds are alkaloids, saponins, flavonoids.

Uses:

- ✓ Mahogany seeds are used traditionally in Southeast Asian countries to help control blood sugar and high blood pressure.

- ✓ Among antidiabetes plants, mahogany seed (*Swietenia macrophylla*) has been used as traditional medicine in Indonesia and India, though most popular utilized as timber wood. And also to make instruments
- ✓ Mahogany seeds are used traditionally in Southeast Asian countries to help control blood sugar and high blood pressure.
- ✓ Used for hypertension, amoebiasis, chest pains, parasitism, cancer. - In India, bark extracts used as astringent for wounds. - Used for malaria, anaemia, diarrhoea, fever and dysentery.

Acasia conica:-



Synonym's: Acacia catechu, Acacia farnesiana, gum acacia, mimosa bush, scented wattle, gum Arabic, fever tree, sweet acacia.

Common name: Acacia, commonly known as Shikakai

Biological source: Acacia is the dried gummy exudation obtained from the stems and branches of *Acacia conica*.

Family: Mimosaceae.

Geographical source: Sikakai is grown in Southern Asia including India, Myanmar and Thailand. African (144 species), Asia (89 species), the Americas (about 185 species) and the Australia – Pacific region (993 species).

Chemical constituents:

1. The fruit pods are rich in saponins like flavonoids and monoterpenoids. This contributes to their natural ability to cleanse and perform as surfactants. Besides saponins, the fruit pods are rich in alkaloids, glycosides, amino acids, tannins and phenolic compounds.
2. It also contains hexacosanol, spinasterone, oxalic acid, tartaric acid, citric acid, succinic acid, ascorbic acid and the alkaloids calyctomine and nicotine.

Uses:

- ✓ It is used to control dandruff, promoting hair growth and strengthening hair roots.
- ✓ Its leaves are used in malarial fever.
- ✓ Decoction of the pods are used to relieve biliousness and acts as a purgative.
- ✓ An ointment, prepared from the ground pods, is good for skin diseases.
- ✓ It is help to cure halitosis, dental caries, and mouth ulcers and gum bleeding.
- ✓ Its kashaya (astringent) properties help by: 1. Reducing oral inflammation. 2. Stopping excessive bleeding.

Ficus racemosa: -

Synonyms: Ficus racemosa has various synonyms like Udumbara (Udumbara is considered sacred to God Dattaguru), yajnanga, yajniya, yajnayoga, yajnyasara, gular, Cluster Fig tree, Country fig tree etc. It has been used in ritual sacrifice.

Common names: cluster fig, goolar (in Hindi) and atti (in Tamil).

Biological source: It consists of fresh fruits (figs) and dried leaves of ficus racemosa. Its fruits (figs) and leaves present important nutritional components (vitamins, minerals, sugars, amino acids, etc.) and health-related effects due to their photochemical composition.

Family: Moraceae

Geographical source: It is native to Australia and tropical Asia. And widely spread from ancient times in the Mediterranean region. And also native to Australia, Malaysia, Southeast Asia and the Indian subcontinent.

Chemical constituents:

1. The different parts of the plant have numerous phytochemical compounds (alkaloids, tannins, saponins, β -sitosterol, lupeol, and other compounds) and it possesses numerous therapeutic properties.
2. Other metabolites present in leaf of Ficus racemosa were found to be phenol and saponins etc.,
3. Polyphenols and carotenoids are the two major categories of phytochemicals found in figs. The major classes of polyphenols in figs include phenolic acids, flavones, flavones, flavonols, anthocyanins, and proanthocyanidins.
4. Studies revealed that the presence of certain compounds in plant extract such as phenol (10.90 μg GAE/mg sample), total flavonoids of 2.75 μg CE/mg sample, alkaloids of 9.6% and saponins as 0.59% for g/100 g.

Uses: Ficus racemosa Linn. (Moraceae) is a popular medicinal plant in India, which has long been used in Ayurveda, the ancient system of Indian medicine, for various diseases/disorders including diabetes, liver disorders, diarrhoea, inflammatory conditions, haemorrhoids, respiratory, and urinary diseases.

Punica Grantum:-

Synonym: Grantum punicum, panics nanal.

Common name: pomegranate

Biological source: The pomegranate (Punica granatum) is a fruit-bearing deciduous shrub in the family Lythraceae, subfamily Punicoideae, which grows between 5 and 10 m (16 and 33 ft) tall.

Family: Punicaceae family

Geographical source: Grown in arid or semiarid environmental areas, this plant, which originated from Iran to the Himalayas in northern India, is today cultivated in most parts of the World, with the main producers being India, Iran, Turkey, China, and the United States of America.

Chemical Constituents: It contains numerous valuable ingredients such as flavonoids, ellagitannin, punicalagin, ellagic acid, Vitamins and minerals.

Uses:

- The pomegranate has been used as medicine to treat sore throats, coughs, urinary infections, digestive disorders, skin disorders, arthritis, and to expel tapeworms.
- However, modern research suggests that pomegranates might be useful in treating such serious conditions as prostate cancer, skin cancer, osteoarthritis, and diabetes.
- Clinical research shows that pomegranates, when part of a healthy diet, might help prevent heart disease, heart attacks and strokes. This is because pomegranates have the potential to thin the blood, increase blood flow to the heart, reduce blood pressure, reduce plaque in the arteries, and reduce bad cholesterol while increasing good cholesterol.
- A decoction of seed is used to treat syphilis. Juice used to treat jaundice and diarrhoea. Juice of flower is used to treat nose bleeds.

Rosa rubiginosa:-



Synonym: Rosa arabica Crep...

Common name: briar rose, eglantine, mosqueta rose, sweet briar, sweet briar rose, sweet brier, sweet brier rose, wild rose.

Biological source: The rose's botanical name is Rosa rubiginosa. There are roughly 360 species of roses in the genus Rosa and Rosaceae.

Family: Rosaceae.

Geographical source: Rosa rubiginosa (sweet briar, sweetbriar rose, sweet brier or eglantine; syn. R. eglanteria) is a species of rose native to Europe and western Asia. In [Southern Europe](#) it lives in higher altitudes, usually 1,000 to 1,700 m (3,300 to 5,600 ft).

Chemical Constituents:

- ✓ The highest percentage of compounds in the extracts of Rosa rubiginosa corresponded to phenolic acids and flavonoids.
- ✓ The chemical compound of rose absolute mainly includes citronenol, nerol, geraniol, eugenol, methyl eugenol, benzyl alcohol, beta-phentyl alcohol.

Uses:

- The flowers and hips are aperient, astringent and stomachic.
- An infusion of dried rose petals can be used to treat headaches and dizziness, with honey added the infusion is used as a heart and nerve tonic and a blood purifier.
- A decoction of the petals is used to treat mouth sores.

Citrus medica:-

Synonymn: *Citream vulgare* Tournefort ex Miller, *Citrus alata* (Tanaka) Tanaka, *Citrus aurantium* Subvar. *Amilbed* Engl.

Common name: Citron

Biological source: Citron (*Citrus medica*) is one of the true, basic, or primary species of *Citrus*. Ripe fruits are big with a lemon-yellow peel which is the most important part of the citron fruit. The peel is very rough, tough, and exceptionally thick, constituting up to 70% of the entire fruit.

Family: Rutaceae

Geographical source: Citrus plants originate from the tropical and subtropical regions in Asia and Oceania. The major citrus-producing countries include China, Brazil and the United States of America. It also grows naturally in northeast India, Myanmar, and Yunnan (China).

Chemical Constituents:

- ✓ Citrus medica (Citron) is an underutilized fruit plant having various bioactive components in all parts of the plant.
- ✓ The major bioactive compounds present are iso-limonene, citral, limonene, phenolics, flavonones, vitamin C, pectin, linalool, decanal, and nonanal, accounting for several health benefits.
- ✓ The phytochemicals identified in citrus medica such as vitamins, essential amino acids, non-essential amino acids, and minerals, and non-nutritive compounds, such as flavonoids, alkaloids, terpenes, and coumarins.

Uses:

- Citrus fruits, including oranges, lemons, limes, grapefruits and clementines, are an excellent source of vitamin C. And vitamin C supports your immune system, which plays a role in maintaining healthy skin, bones and blood vessels.
- The fresh shoots, leaves, flowers, fruits and seeds of citron have all entered into a number of traditional medicinal preparations for the treatment of asthma, arthritis, headache, stomach-ache, intestinal parasites and certain psychological disturbances (insanity, possession by evil spirits).

Murraya koenigii:-

Synonymn: *Bergeron koenigii*, *Camunium koenigii*, *Chalcas koenigii*

Common name: Curry Leaf Tree, Daun Kari, Indian Curry Tree, Curry Bush, Karapincha, Karwa Pale, Garupillai, Kerupulai.

Biological source: Curry leaves are a part of a small deciduous aromatic shrub, scientifically named *Murraya koenigii*, belonging to the family Rutaceae.

Family: Rutaceae

Geographical source: The plant originated in the Tarai region of Uttar Pradesh, India, and at present it is cultivated in Burma, Sri Lanka, Bangladesh, Ceylon, China, Australia and the Pacific Islands.

Chemical Constituents: The medicinal properties of *M. koenigii* have been accredited to several chemical constituents of different carbazole alkaloids and other important metabolites, like terpenoids, flavonoids, phenolics, carbohydrates, carotenoids, vitamins, and nicotinic acid and also volatile oils from different parts of the *M. koenigii* plant.

Uses:

- Eating curry leaves every day has many health and beauty benefits like weight loss, reduced bad cholesterol, improved eyesight, reduced stress.
- It helps in the treatment of dysentery, diarrhea, diabetes, morning sickness, and nausea by adding curry leaves to your meals.
- They are used as anthelmintic, analgesics, digestives, and appetizers in Indian cookery.
- The green leaves of *M. koenigii* are used in treating piles, inflammation, itching, fresh cuts, dysentery, bruises, and edema. The roots are purgative to some extent.

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9. CALOTROPIS GIGNANTEA



Synonym- *Asclepios gigantea*

Common names: - crown flower.

Biological source: - It is a weed that grows in the wastelands of Africa and Asia and it belongs to the family (Asclepiadaceae).

Geographical sources: - *Calotropis gigantea* is native to continental Asia and South East Asia and has been introduced in the Pacific Islands, Australia, central and northern south America and Africa as an ornamental near villages and temples and as a weed.C

Chemical constituents: -

Calotropis gigantea, commonly known as the giant milkweed or crown flower, is a plant that is native to various regions in Asia and Africa. It has several chemical constituents, some of which are biologically active and have been studied for various purposes.

1. **Cardenolides:** *Calotropis gigantea* contains a group of compounds known as cardenolides, which are toxic glycosides. Cardenolides can affect the heart and are used by the plant as a defense mechanism against herbivores. These compounds are similar to those found in other toxic plants like *Digitalis* and are known for their ability to disrupt heart function.
2. **Alkaloids:** Various alkaloids have been identified in different parts of the plant, including calotropin, calotoxin, calactin, uscharin, and others. These alkaloids have different biological activities, including cytotoxic and antimicrobial properties.
3. **Flavonoids:** Flavonoids are a group of polyphenolic compounds found in *Calotropis gigantea*. They have antioxidant properties and may have various health benefits.
4. **Triterpenoids:** Triterpenoids are compounds found in the latex and other parts of the plant. They have been studied for their potential pharmacological activities.
5. **Proteins and Enzymes:** The latex of *Calotropis gigantea* contains proteolytic enzymes, which can break down proteins. These enzymes have been traditionally used for their wound-healing properties.
6. **Sterols:** Sterols, such as β -sitosterol, have been identified in the plant. These compounds have various potential health benefits and are often used in traditional medicine.
7. **Volatile Compounds:** The plant also contains volatile compounds, which contribute to its aroma and may have insect-repellent properties.

It's important to note that while some of these compounds may have potential medicinal uses, other parts of the plant, especially the latex, can be toxic and should be handled with caution. *Calotropis gigantea* has been used in traditional medicine for various purposes, but the use of its constituents should be approached with care and under the guidance of qualified healthcare professionals due to its toxic nature.

Uses: -

- Used to treat fevers, nausea, vomiting and diarrhea.
- The milky latex of the herb is used in preventing cancer
- It has also been an effective antidote to cure snake bites

10. MANGIFERA INDICA



SYNONYMS: - Mango, Aam

BIOLOGICAL SOURCES: - It is a fruit obtained from the tree and belongs to the family Anacardiaceae-L.

CHEMICAL CONSTITUENTS: -

- *Mangifera indica*, commonly known as the mango tree, is a tropical fruit tree that belongs to the Anacardiaceae family. The fruit, mango, is one of the most popular and widely consumed fruits in the world. Mangoes are not only delicious but also contain a variety of chemical constituents, including vitamins, minerals, and phytochemicals.

- Vitamins:
- Vitamin C: Mangoes are a good source of vitamin C, which is an antioxidant that helps boost the immune system and promotes healthy skin and wound healing.
- Vitamin A: Mangoes are rich in provitamin A carotenoids, particularly beta-carotene, which is important for maintaining good vision and skin health.
- B Vitamins: Mangoes contain various B vitamins, including B6, folate, and riboflavin, which are essential for energy metabolism and overall health.
- Minerals:
- Potassium: Mangoes provide a moderate amount of potassium, an important mineral for maintaining healthy blood pressure and proper muscle and nerve function.
- Magnesium: Mangoes also contain magnesium, which is vital for muscle and nerve function, bone health, and energy metabolism.
- Phytochemicals:
- Polyphenols: Mangoes contain various polyphenolic compounds, such as quercetin, gallic acid, and catechins, which have antioxidant properties and may contribute to their health benefits.
- Carotenoids: In addition to beta-carotene, mangoes contain other carotenoids like lutein and zeaxanthin, which are important for eye health.
- Terpenes: Some mango varieties contain terpenes, such as myrcene and limonene, which contribute to the aroma and flavor of the fruit.
- Fiber: Mangoes are a good source of dietary fiber, which can aid in digestion and help maintain a feeling of fullness.
- Enzymes: Mangoes contain enzymes like amylases, which can assist in digestion, and proteases, which may have potential health benefits.
- Sugars: Mangoes are naturally sweet due to the presence of sugars like sucrose, fructose, and glucose.
- It's important to note that the specific chemical composition of mangoes can vary depending on the variety, ripeness, and growing conditions. Additionally, mangoes are not only consumed for their nutritional value but also for their delicious taste and culinary versatility.
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Uses: -

1. It is used as dentifrice, antiseptic stomachic, tonic and laxative.
2. It is also used to treat diarrhea, anemia, asthma, bronchitis, cough, hypertension, toothache, insomnia and piles.

11. AERVA LANATA



SYNONYMS: - Achyranthes Lanata L.

BIOLOGICAL SOURCES: - Aerva Lanata, the mountain knotgrass is a woody prostrate or succulent, perennial herb in the family (Amaranthaceae).

CHEMICAL CONSTITUENTS: - *Aerva lanata*, commonly known as mountain knotgrass or kapok bush, is a plant that has been used in traditional medicine for various purposes.

Alkaloids: Alkaloids are nitrogen-containing compounds that often have pharmacological properties. *Aerva lanata* contains alkaloids like ephedrine, pseudoephedrine, and vasicine.

Tannins: Tannins are polyphenolic compounds that can have antioxidant and astringent properties. *Aerva lanata* contains tannins, which contribute to its medicinal properties.

Flavonoids: Flavonoids are a group of polyphenolic compounds with various biological activities. They have antioxidant and anti-inflammatory properties. Some flavonoids found in *Aerva lanata* include kaempferol and quercetin.

Saponins: Saponins are glycosides that can have anti-inflammatory and antifungal properties. *Aerva lanata* contains saponins.

Phenolic Compounds: Various phenolic compounds, including caffeic acid, chlorogenic acid, and gallic acid, have been identified in *Aerva lanata*.

Sterols: *Aerva lanata* contains sterols like beta-sitosterol, which may have anti-inflammatory and cholesterol-lowering effects.

Amino Acids: Amino acids are the building blocks of proteins. They are present in *Aerva lanata* and are important for various biological processes.

Essential Oils: The plant may contain essential oils with volatile compounds that contribute to its aroma and potential therapeutic effects.

Minerals and Vitamins: *Aerva lanata* contains various minerals and vitamins, including calcium, potassium, and vitamin C.

Fatty Acids: Some fatty acids may be present in the seeds of *Aerva lanata*, which can be used for cooking or medicinal purposes.

These chemical constituents contribute to the medicinal properties of *Aerva lanata*, which has been traditionally used to treat various ailments, including respiratory disorders, digestive issues, and skin conditions. It's important to note that the plant's chemical composition can vary, further research may provide a more comprehensive understanding of its phytochemical profile and potential health benefits.

USES: -

- It is used as a traditional medicine for snakebites.
- It is used as talisman against evil spirits
- The juice of crushed *aerva lanata* root is used for jaundice therapy.
- It is used as a talisman for well-being of widows
- It is used as a good-luck talisman for hunters

12. MORINDA CITRIFOLIA: -



Synonym: - *morinda centifolia*- F

Biological sources: -

Antibacterial activity Acubin L-asperuloside, and alizarin in the Noni fruit, as well as some other anthraquinone compounds in Noni roots, are all proven antibacterial agents. These compounds have been shown to fight against infectious bacteria strains such as *Pseudomonas aeruginosa*, *proteus morgaii* *Staphylococcus aureus*, *Bacillus subtilis*, *Escherichia coli*, *Salmonella*, and *Shigella*. These antibacterial elements within Noni are responsible for treatment of skin infections, colds, fevers, and other bacterial-caused health problems.

Chemical constituents: -

Morinda citrifolia, commonly known as noni or Indian mulberry, is a tropical fruit-bearing tree that has gained attention for its potential health benefits.

Phytochemicals and Antioxidants:

Xeronine: Noni is often associated with xeronine, a compound thought to have various health benefits.

Anthraquinones: These compounds have potential laxative and antibacterial properties.

Scopoletin: Scopoletin is believed to have anti-inflammatory and antioxidant properties.

Iridoids: Compounds like deacetylasperulosidic acid and asperulosidic acid have been found in noni and may have antioxidant and anti-inflammatory effects.

Polysaccharides: Noni contains various polysaccharides, which may have immune-boosting properties.

Phenolic Compounds: Phenolic compounds, including quercetin, kaempferol, and catechin, have been identified in noni and are known for their antioxidant effects.

Vitamins and Minerals: Noni is a source of vitamins and minerals, such as vitamin C, vitamin A, potassium, and calcium.

Amino Acids: The fruit contains amino acids like proline and serine, which are important for various biological processes.

Alkaloids: Alkaloids like xeronine, which is derived from the precursor xeronine, have been reported in noni.

Fatty Acids: Noni seeds contain fatty acids, which can be used for cooking and may have nutritional value. **Enzymes:** Noni contains enzymes like pro-xeronase and ascorbic acid peroxidase, which play essential roles in various metabolic processes. **Lignans:** Some lignans have been identified in noni, including Americanin A and Americanin B. **Triterpenes:** Compounds like ursolic acid and oleanolic acid are triterpenes found in noni with potential health benefits.

Nitrogen Compounds: Nitrogen compounds, such as pyrazines, contribute to the aroma and flavor of noni fruit.

It's important to note that the chemical composition of noni can vary depending on factors like geographical location, ripeness, and processing methods. Noni has been used in traditional medicine for various purposes, and it has gained popularity as a health supplement. However, more research is needed to fully understand its potential health benefits and the specific roles of its various chemical constituents.

USES: -

- It is used to prepare the health drink called noni juice.
- It is used in Polynesian herbal remedies to treat diseases such as cancer, Gastric ulcers depression etc.

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13. NYCTANTHES ARBORTRISTIS



Synonym; Nyctanthes arbortristis L..., parijatham

Common names; Night blooming jasmine, Tree of sadness, coral jasmine

Biological source; Nyctanthes arbortristis Linn.is commonly known as night jasmine or parijat. The shrub is naturally found in tropical and subtropical regions of the world.

Family; Oleaceae

Geographical source; Nyctanthes arbor-tristis L. - (Night-flowering jasmine or "sad tree") native to Bangladesh, India, Nepal, Bhutan, Assam, Arunachal Pradesh, Java, Sri Lanka and Sumatra.

Chemical constituents; The leaves of nyctanthes arbortristis contains the following chemical active constituents

- Flovanol glycosides, D-mannitol, Astragaline, oleanolic acid, nyctanthic acid, ascorbic acid and tannic acid.

Uses;

- It is a mythological plant has high medicinal values in Ayurveda.
- The popular medicinal use of this plant are anthelmintic and antipyretic besides its use as a laxative in rheumatism skin ailments and as a sedative.

14. LAWSONIA INERMIS



Synonym; Lawsonia Alba

Common names; Henna tree, inai, mignonette tree

Biological source; Lawsonia inermis L. commonly known as henna belongs to family Lythraceae. This plant well known for its cosmetics and therapeutic virtues is native to North Africa and South Africa.

Geographical source; *L.Inermis* is a small, multi-stemmed shrub or small tree 2-6 m tall, commonly known as henna. It originates from the Persian Gulf region (and possibly northeast Africa) to northwest India and is now cultivated widely throughout the tropics and subtropics.

Chemical constituents; It contains carbohydrates, phenolic, flavonoids, saponins, proteins, alkaloids, terpenoids, quinones, coumarins, xanthenes, fat, resin and tannins. It also contains 2-hydroxy-1, 4-naphthoquinone

Uses; It is used for as dye skin, hair, and finger nails as well as fabrics- silk, wool, and leather.

Medicinal use; It is an ethno medicinal plant, traditionally known as curing several ailments such as skin diseases, bacterial infections, renal lithiases and inflammation etc...

15. COCOS NUCIFERA



Synonym; Coco palm, coca palm, coconut tree

Common names; Coconut, coconut palm, kelapa

Biological source; *Cocos nucifera* L. is commonly called the coconut tree and the most naturally widespread fruit plant on earth.

Family; Aracaceae

Geographical source;

- It is mainly cultivated extensively in tropical areas for its edible fruit the coconut.
- Coconut palms are found in tropical coastal areas nearly worldwide and probably originated somewhere in indomalaya.
- The states of Kerala, Karnataka, and tamilnadu, practice large scale intensive farming of coconut, Andhra Pradesh, Maharashtra, Orissa, west Bengal, Gujarat, Assam, Pondicherry, and Goa and the island territories of Lakshadweep and Andaman nicobar are other areas of coconut production.

Chemical constituents; Coconut kernel contains 90% saturated fatty acids and 10% unsaturated fatty acids. These saturated fatty acids are mostly MCTs with range of 6to12 carbons atoms in their chains. A significant proportion of these MCTs is made out of 12 carbon long lauric acid (C12).

Uses; Coconut products such as oils, fiber, and evenchorcoal, are widely used in consumer products such as soap, cosmetics, foods and medications today.

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