



P.K.M. COLLEGE OF EDUCATION

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Campus Flora: A Treasure Trove

Plant Biodiversity in the College Campus

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INDEX		
TREES GARDEN		
Serial No.	Scientific Name	Page No.
1	Artocarpus heterophyllus	1
2	Psidium guajava	2
3	Anacardium occidentale	3
4	Millingtonia hortensis	4
5	Mangifera indica	6
6	Phyllanthus emblica	8
7	Musa paradisiaca	10
8	Carica papaya	12
9	Manilkara zapota	14
10	Citrus limon	16
11	Garcinia cambogia	18
12	Syzygium aqueum	20
13	Pouteria campechiana	22
14	Pouteria caimito	24
15	Annona muricata	26
16	Artocarpus altis	28
17	Synsepalum dulcificum	30
18	Polyalthia longifolia var. pendula	32
19	Tectona grandis	34
20	Cocos nucifera	36
21	Nephelium lappaceum	38
22	Simarouba glauca	40
23	Areca catechu	42
24	Libidibia coriaria	44
SHRUBS GARDEN		
Serial No.	Scientific Name	Page No.
1	Cordyline fruticosa	47
2	Codiaeum variegatum	48
3	Hibiscus rosa-sinensis	50
4	Acalypha wilkesiana	52
5	Bougainvillea spp.	54
6	Allamanda cathartica	56
HERBS GARDEN		
Serial No.	Scientific Name	Page No.
1	Chromolaena odorata	58
2	Mimosa pudica	60
3	Peperomia pellucida	62
4	Ageratum conyzoides	63
5	Synedrella nodiflora	64
6	Centratherum sp.	66
7	Imapatiens minor	68
8	Alternanthera bettzickiana	70
9	Centrosema molle	72
10	Chrysothemis pulchella	74
11	Phyllanthus myrtifolius	76

TREES GARDEN

1. JACK FRUIT

Common name: **Jack fruit**

Scientific name: *Artocarpus heterophyllus*

Family: **Moraceae**



Description:

Tree: Large evergreen, up to 20-30 meters tall.

Leaves: Large, glossy, dark green, elliptical.

Flowers: Monoecious with male and female flowers on the same tree.

Fruit: The largest tree-borne fruit, up to 90 cm long, spiky exterior with sweet, edible bulbs.

Seeds: Large, oval seeds, edible when cooked.

Importance of Jackfruit:

- 🌱 **Nutritional:** Rich in fiber, vitamins, and minerals.
- 🌱 **Culinary:** Eaten ripe as a dessert or unripe in savory dishes.
- 🌱 **Economic:** Supports local markets and livelihoods.
- 🌱 **Medicinal:** Used in traditional medicine for digestion and infections.
- 🌱 **Environmental:** Drought-resistant, promotes biodiversity.

2. GUAVA

Common name: **Guava**

Scientific name: *Psidium guajava*

Family: **Myrtaceae**



Description

Tree: Small to medium-sized evergreen tree, typically 3-10 meters tall, with smooth bark that peels in flakes.

Leaves: Oval, opposite, and leathery, about 7-15 cm long, with prominent veins.

Flowers: White, fragrant, with 5 petals and numerous stamens, appearing singly or in clusters.

Fruit: Round or oval, 4-12 cm long, with a green, yellow, or pinkish skin, and sweet, aromatic flesh that can be white, pink, or red.

Seeds: Numerous small, hard seeds embedded in the flesh.

Importance of Guava:

- 🌿 **Nutritional:** Rich in vitamin C, fiber, antioxidants, and potassium.
- 🌿 **Culinary:** Consumed fresh, made into juices, jams, jellies, and desserts.
- 🌿 **Economic:** Supports local agriculture and is traded globally for its fruit and products.
- 🌿 **Medicinal:** Used traditionally for digestive issues, cough, and skin conditions due to its antimicrobial and anti-inflammatory properties.

3. CASHEW

Common name: **Cashew**

Scientific Name: *Anacardium occidentale*

Family: **Anacardiaceae**



Morphology of Cashew Tree:

Height: Cashew trees are medium-sized, growing up to 12–14 meters tall, though dwarf varieties used in cultivation are much shorter.

Leaves: The leaves are simple, leathery, obovate (egg-shaped), and arranged alternately. They are glossy green with smooth margins.

Flowers: Small, pinkish-white flowers are borne in panicles (clusters). They are fragrant and attract pollinators.

Fruit: The cashew tree produces a unique "false fruit" known as the cashew apple (a fleshy, pear-shaped structure) and the actual nut (cashew seed) that hangs below the cashew apple.

Bark: The bark is rough and greyish-brown, often used in traditional medicine.

Importance of Cashew:

- ✚ **Economic Value:** Cashew is an important cash crop, with its nuts being a highly valuable product globally. The nuts are consumed as snacks or used in cooking, confectionery, and dairy alternatives (e.g., cashew milk).
- ✚ **Nutritional Benefits:** Cashew nuts are rich in healthy fats, protein, vitamins (especially vitamin E), and minerals such as magnesium, iron, and zinc.
- ✚ **Cashew Apple:** The cashew apple is used to make beverages, jams, and even fermented into alcoholic drinks.
- ✚ **Industrial Use:** Cashew nutshell liquid (CNSL) is extracted from the shell and used in the production of varnishes, lubricants, and medicines due to its antifungal and antibacterial properties

4. PANINEER CHAMPA

Common name: **Panineer champa**

Scientific name: *Millingtonia hortensis*

Family: **Bignoniaceae**



Description:

1. Tree: This tree can reach heights of 18 to 25 meters (59 to 82 feet) when fully mature. It has a straight, slender trunk with a wide, spreading canopy, making it suitable for providing shade. The crown is typically dome-shaped or irregular, depending on environmental conditions.

2. Bark: The bark is light greyish-brown and has a corky texture, which gives the tree its name. The cork is spongy and lightweight, though it is not extensively used for commercial cork production like the *Quercus suber*.

3. Leaves: The leaves are pinnate, typically 20–30 cm long, comprising several smaller leaflets that are ovate or lanceolate in shape. They are bright green and turn yellowish-brown as they age, eventually falling off during the dry season. The foliage provides a delicate, airy appearance to the tree.

4. Flowers: The most striking feature of the Panineer Champa is its clusters of tubular, white, star-shaped flowers that bloom at night. Each flower is around 4–5 cm long, with a sweet and intense jasmine-like fragrance, particularly noticeable in the early morning. The flowers hang in drooping clusters and add to the aesthetic appeal of the tree.

Importance and Uses:

- ✚ **Ornamental Value:** The tree is widely planted along roadsides, in gardens, and in parks due to its elegant appearance and sweet-smelling flowers. It provides shade in urban environments and enhances the aesthetic value of landscapes.
- ✚ **Medicinal Properties:** Respiratory Disorders: In Ayurveda, the bark and flowers are used in remedies to treat respiratory issues such as asthma, bronchitis, and other lung conditions. The flowers, when steeped in hot water, are said to soothe the respiratory tract and ease breathing difficulties.
- ✚ **Antimicrobial and Anti-inflammatory:** Various parts of the tree have been found to possess antimicrobial properties, making them useful for treating minor infections and inflammations.
- ✚ **Traditional Medicine:** The tree is also used to treat fevers, digestive issues, and even as a mild sedative. Extracts from the leaves are sometimes used as a treatment for sinus problems and coughs.
- ✚ **Perfumes and Aromatherapy:** The highly fragrant flowers are used in the perfume industry to extract essential oils that are valued for their soothing and uplifting properties.

5. MANGO TREE

Common name: **Mango tree**

Scientific name: *Mangifera indica*

Family: **Anacardiaceae**



Description:

Height: Mango trees can grow up to 35–40 meters (115–130 feet) tall, with a broad, dense, and rounded canopy.

Leaves: The leaves are simple, glossy, dark green, lanceolate, and arranged alternately. Young leaves are reddish or copper-colored and turn green as they mature.

Flowers: Small, fragrant, whitish-green flowers are borne in large, branching inflorescences called panicles.

Fruit: The mango fruit is a fleshy drupe, varying in size, shape, and color (green, yellow, orange, or red). Inside, it contains a large, hard stone that houses the seed.

Bark: The bark is grey to brown, rough, and thick.

Importance of Mango Tree:

- ✚ **Economic Value:** Mango is one of the most economically important fruit crops globally. It is consumed fresh, dried, or processed into juices, jams, pickles, and more.
- ✚ **Nutritional Value:** Mangoes are rich in vitamins A and C, antioxidants, and dietary fiber, contributing to a healthy diet.
- ✚ **Cultural Significance:** The mango tree is revered in many cultures, especially in India, where it is considered a symbol of prosperity and love. Mango leaves are often used in religious ceremonies and decorations.
- ✚ **Medicinal Uses:** Various parts of the tree, including leaves, bark, and fruit, are used in traditional medicine for treating ailments like diarrhea, diabetes, and inflammation.

6. NELLI

Common name: **Nelli**

Scientific name: *Phyllanthus emblica*

Family: **Euphorbiaceae**



Description:

Height: Nelli trees are medium-sized, typically growing up to 8–18 meters tall.

Leaves: The leaves are small, simple, and arranged alternately on thin, feathery branches. They resemble leaflets of a pinnate leaf.

Flowers: The tree bears small, inconspicuous, greenish-yellow flowers, which are either male or female, occurring in clusters along the leaf axils.

Fruit: The fruit is round, smooth, pale green to yellow, with vertical lines running along the surface. It has a sour, astringent taste, and is rich in vitamin C.

Bark: The bark is thin and greyish-brown, with a slightly rough texture.

Importance of Nelli (Indian Gooseberry):

- ✚ **Medicinal Value:** Nelli is a cornerstone in Ayurveda, used to treat a wide range of ailments. The fruit is rich in vitamin C, antioxidants, and has anti-inflammatory, digestive, and immune-boosting properties.
- ✚ **Nutritional Benefits:** The fruit is consumed fresh, dried, or processed into products like juice, powder, and preserves. It is beneficial for skin health, digestion, and strengthening the immune system.
- ✚ **Economic Use:** Nelli is commercially grown for its fruits, which are used in the production of supplements, cosmetics, and food products like pickles and jams.
- ✚ **Cultural Significance:** In Indian traditions, the Nelli tree is considered sacred and is often associated with longevity and good health.

7. BANANA PLANT

Common name: **Banana plant**

Scientific name: *Musa paradisiaca*

Family: **Musaceae**



Description

Height: Banana plants are large herbaceous plants that can reach heights of 2 to 9 meters, depending on the variety.

Leaves: The leaves are large, broad, and paddle-shaped, typically measuring 2–3 meters long and 0.5–1 meter wide. They are arranged in a spiral pattern and can be easily damaged by wind.

Flowers: Banana plants produce clusters of flowers that emerge from a large, hanging inflorescence. The flowers are yellow or white and develop into clusters known as hands, each containing several individual bananas.

Fruit: The banana fruit is a berry that grows in bunches, usually containing 10 to 20 bananas per cluster. The fruit is elongated, curved, and typically yellow when ripe, though there are varieties that are red or green.

Pseudostem: The banana plant has a pseudostem made up of tightly packed leaf sheaths, which gives it a sturdy appearance despite being a herbaceous plant.

Importance of Banana:

-  **Nutritional Value:** Bananas are rich in essential nutrients, particularly potassium, vitamin C, and dietary fiber. They are known for their energy-boosting properties and are often consumed as a healthy snack.
-  **Economic Significance:** Bananas are one of the most important fruit crops worldwide, serving as a major cash crop in many tropical and subtropical countries. They are a significant source of income for millions of farmers.
-  **Culinary Uses:** Besides being eaten raw, bananas are used in a variety of culinary applications, including baking, smoothies, desserts, and savory dishes. Green bananas are often cooked as a vegetable.
-  **Cultural Importance:** In many cultures, bananas hold symbolic significance and are used in rituals and festivals. The banana plant is often associated with fertility and prosperity.
-  **Medicinal Uses:** Various parts of the banana plant, including the fruit, peel, and leaves, have been used in traditional medicine for their potential health benefits, such as soothing digestive issues and providing antioxidant properties.

8. PAPAYA

Common name: **Papaya**

Scientific name: *Carica papaya*

Family: **Caricaceae**



Description

Height: Papaya plants are fast-growing, herbaceous plants that typically reach heights of 2 to 10 meters (6.5 to 33 feet).

Leaves: The leaves are large, lobed, and palmate, with a deep green color. They are arranged in a rosette at the top of the stem and can measure up to 1 meter in diameter.

Stem: The stem is thick, hollow, and unbranched, with a smooth green surface. It is succulent and supports the weight of the large leaves and fruit.

Flowers: Papaya plants produce small, fragrant flowers that can be male, female, or hermaphrodite. The flowers are usually white or yellow and appear in clusters.

Fruit: The fruit is a large, fleshy berry, usually oval or pear-shaped, with a smooth, thin skin that ripens from green to yellow. The flesh is sweet, orange to yellow, and contains numerous small black seeds in a central cavity.

Importance of Papaya:

- ✚ **Nutritional Value:** Papayas are rich in vitamins A, C, and E, as well as dietary fiber and antioxidants. They are known for their digestive health benefits due to the enzyme papain, which aids in digestion.
- ✚ **Economic Significance:** Papaya is an important fruit crop in tropical and subtropical regions, providing income for farmers and contributing to local economies. It is widely cultivated for both domestic consumption and export.
- ✚ **Culinary Uses:** The ripe fruit is consumed fresh, used in salads, smoothies, desserts, and juices. Green papaya is often cooked in various dishes, especially in Southeast Asian cuisines.
- ✚ **Medicinal Uses:** Papaya leaves and seeds are used in traditional medicine for various purposes, including digestive issues, anti-inflammatory effects, and potential benefits for malaria and dengue fever.

9. SAPPOTTA

Common name: **Sappotta**

Scientific name: *Manilkara zapota*

Family: **Sapotacea**



Description

Height: The sapodilla tree typically grows to a height of 15 to 30 meters (49 to 98 feet).

Leaves: The leaves are evergreen, alternate, and elliptical, measuring about 7 to 15 cm long. They are dark green and glossy, contributing to the tree's attractive appearance.

Flowers: Sapodilla flowers are small, fragrant, and bell-shaped, usually white or yellowish, growing in clusters. They are often found in the leaf axils.

Fruit: The fruit is a brown, round to oval berry that can weigh between 150 to 400 grams. The skin is rough and brown, while the flesh is sweet, juicy, and usually light brown or yellow. It contains several black seeds.

Bark: The bark is rough and brown, exuding a latex-like sap known as chicle, which was historically used in chewing gum production.

Importance of Sapodilla:

- ✚ **Nutritional Value:** Sapodilla is rich in dietary fiber, vitamins (especially vitamin C), and minerals such as calcium and iron. Its sweet flavor makes it a popular fruit.
- ✚ **Economic Significance:** Sapodilla is cultivated in tropical regions for its fruit, providing income for farmers. It is often sold in local markets and has export potential.
- ✚ **Culinary Uses:** The fruit is typically eaten fresh but can also be used in smoothies, desserts, and fruit salads. It is enjoyed for its sweet taste and unique texture.
- ✚ **Medicinal Uses:** Various parts of the sapodilla tree have been used in traditional medicine. The fruit is believed to have digestive benefits, while the latex has antibacterial and astringent properties.

10. LEMON

Common name: **Lemon**

Scientific name: *Citrus limon*

Family: **Rutaceae**



Description

Height: Lemon trees are small to medium-sized, typically reaching heights of 3 to 6 meters (10 to 20 feet).

Leaves: The leaves are dark green, glossy, and oval-shaped, measuring about 5 to 10 cm long. They have a serrated edge and a distinctive citrus aroma when crushed.

Flowers: Lemon trees produce fragrant white or pale purple flowers that have five petals. The flowers are usually borne in clusters and attract pollinators like bees.

Fruit: The lemon fruit is oval or elliptical, with a bright yellow, textured skin (rind) when ripe. The flesh is juicy and acidic, divided into segments filled with citrus juice. Each fruit typically contains several seeds.

Thorns: Young lemon trees often have thorns on the branches, which may decrease with maturity.

Importance of Lemon:

- ✚ **Nutritional Value:** Lemons are rich in vitamin C, potassium, and antioxidants. They are known for their immune-boosting properties and health benefits.
- ✚ **Culinary Uses:** Lemons are widely used in cooking and baking for their juice and zest. They enhance the flavor of dishes, beverages, and desserts, and are key ingredients in many cuisines.
- ✚ **Economic Significance:** Lemons are an important agricultural crop, contributing to the economy through local sales and exports. They are cultivated in various climates worldwide.
- ✚ **Medicinal Uses:** Traditionally, lemon juice is used to treat colds, digestive issues, and skin problems. The fruit has antibacterial and anti-inflammatory properties.

11. KUDAMPULI

Common name: **Kudampuli**

Scientific name: *Garcinia cambogia*

Family: **Clusiacea**



Description

Height: Kudampuli, also known as Malabar tamarind or Garcinia, is a small to medium-sized tree that typically grows to a height of 4 to 10 meters (13 to 33 feet).

Leaves: The leaves are glossy, dark green, and ovate to elliptical, measuring about 10 to 20 cm long. They are arranged oppositely on the branches and have a smooth margin.

Flowers: Kudampuli produces small, yellow to white flowers that are typically fragrant and grow in clusters. The flowers are star-shaped and attract various pollinators.

Fruit: The fruit is a round to oval berry, about 5 to 10 cm in diameter, with a thick, greenish-yellow rind that turns orange as it ripens. The flesh is acidic, and the fruit contains several seeds inside.

Bark: The bark is smooth and can be brown or greyish in color, exuding a yellowish sap that contains hydroxycitric acid (HCA).

Importance of Kudampuli:

Nutritional Value: Kudampuli is known for its high levels of hydroxycitric acid, which is believed to aid in weight loss and appetite suppression. The fruit is low in calories and rich in vitamins.

Culinary Uses: The dried rind of Kudampuli is a popular ingredient in South Indian and Sri Lankan cuisines, particularly in curries and soups. It adds a tangy flavor to dishes and serves as a natural preservative.

Medicinal Uses: Traditionally, Kudampuli has been used in herbal medicine to promote digestion, reduce inflammation, and manage weight. Its extract is commonly found in dietary supplements aimed at weight loss.

Economic Significance: The demand for Kudampuli in both culinary and health markets has led to its cultivation and export, providing economic benefits to farmers in regions where it grows.

Cultural Significance: In various cultures, Kudampuli is valued not only for its culinary uses but also for its role in traditional medicine and folklore, being regarded as a health-promoting fruit.

12. WATERY ROSE APPLE

Common name: **Watery rose apple**

Scientific name: **Syzygium aqueum**

Family: **Myrtaceae**



Description

Tree: The tree is medium-sized, reaching up to 10-12 meters in height, with a dense, spreading crown.

Leaves: The leaves are opposite, simple, elliptical to oblong, with a glossy green surface and prominent veins. They can grow up to 10-25 cm long and 5-12 cm wide.

Flowers: The flowers are small, white to pale pink, with numerous stamens. They grow in clusters and have a mild fragrance.

Fruits: The fruit is bell-shaped, about 4-6 cm in length. The skin is smooth and waxy, varying in color from pale green to pink or red. The flesh is crisp, watery, and slightly spongy, with a mild, sweet flavor. Inside, there is a small central cavity that may contain one or two seeds.

Importance of Watery Rose Apple

- ✚ **Nutritional Value:** The fruit is rich in vitamins, particularly Vitamin C, and minerals like calcium, iron, and potassium. It is also low in calories, making it a healthy snack option.
- ✚ **Medicinal Uses:** Traditionally, the watery rose apple is used in folk medicine for its potential anti-diabetic, anti-inflammatory, and antioxidant properties. The leaves and bark are sometimes used in herbal remedies for various ailments.
- ✚ **Culinary Uses:** The fruit is often eaten fresh, used in salads, or made into pickles, jams, and preserves. Its mild flavor and high water content make it refreshing in hot climates.
- ✚ **Ecological Role:** The tree provides shade and is often used in agroforestry systems. It supports local biodiversity by providing food and habitat for various insects and birds.
- ✚ **Economic Value:** While not a major commercial crop, it is grown in small-scale orchards and home gardens, contributing to local economies and food security

13. EGG FRUIT

Common name: **Egg Fruit**

Scientific Name: *Pouteria campechiana*

Family: **Sapotaceae**



Description

Tree: Small to medium-sized evergreen tree, growing up to 10-25 meters in height.

Leaves: Simple, alternate, and leathery, typically lanceolate to obovate in shape.

Flowers: Small, pale yellow to white flowers, often clustered at the leaf axils.

Fruit: Oblong, ovoid, or spindle-shaped with a glossy, smooth skin. When ripe, the flesh turns yellow-orange, has a firm texture, and is sweet and dry. It resembles a boiled egg yolk, hence the name "egg fruit."

Seeds: The fruit contains 1-4 large, dark brown seeds

Importance of Egg fruit

- ✚ Nutritional Value: Rich in vitamins A, C, and B-complex, and contains dietary fiber.
- ✚ Culinary Uses: Can be eaten fresh or used in smoothies, desserts, jams, and pastries.
- ✚ Medicinal Uses: Traditionally used in folk medicine for treating respiratory issues, skin diseases, and digestive disorders.
- ✚ Economic Importance: Cultivated in tropical regions for commercial fruit production.
- ✚ Environmental Role: The tree provides habitat and food for local wildlife.

14. ABIU

Common name: **Abiu**

Scientific Name: *Pouteria caimito*

Family: **Sapotaceae**



Description

Tree: Medium-sized, evergreen tree that can grow up to 10-20 meters in height. Has a straight trunk with a dense, rounded canopy.

Leaves: Simple, alternate leaves that are oblong to elliptical in shape. Dark green and glossy on the upper surface and lighter underneath.

Flowers: Small, inconspicuous, and usually white or cream-colored. Flowers are borne in clusters, often near the axils of the leaves.

Fruit: The fruit is round to oval, about 6-10 cm in diameter, with a smooth, bright yellow skin when ripe. The flesh is translucent, white, and gelatinous with a sweet flavor, similar to caramel or vanilla. Contains 1-4 dark brown seeds in the center, which are not edible.

Importance of Abiu

- ✚ **Nutritional Value:** Rich in vitamins A and C, dietary fiber, and various antioxidants. Low in fat and calories, making it a healthy snack option.
- ✚ **Culinary Uses:** Eaten fresh or used in desserts, smoothies, and fruit salads. Its sweet, custard-like flavor makes it popular in tropical fruit markets.
- ✚ **Medicinal Uses:** Traditionally used in folk medicine for its potential anti-inflammatory and digestive properties. The latex from the tree is used as a purgative and for treating skin issues in some cultures.
- ✚ **Economic Importance:** Cultivated commercially in tropical regions, especially in South America, Southeast Asia, and Australia. The fruit is highly valued in local and international markets for its unique flavor and nutritional benefits.
- ✚ **Ecological Importance:** The tree provides shade and contributes to the ecosystem by supporting various species of insects and birds. Its latex is sometimes used in traditional practices for sealing wounds on other plants.

15. SOURSOP

Common name: **Soursop**

Scientific Name: *Annona muricata*

Family: **Annonaceae**



Description

Tree: Small, evergreen tree that grows up to 8-10 meters in height. It has a slender trunk with spreading branches and glossy, dark green leaves.

Leaves: Simple, alternate, oblong, and leathery with a smooth texture. Emit a strong aroma when crushed.

Flowers: Large, yellow-green, and cone-shaped, with thick, waxy petals. Flowers are solitary and can appear on the trunk, branches, or twigs.

Fruit: Large, heart-shaped, or oval, typically 15-30 cm in length, with a spiky, green exterior. The pulp is soft, white, and fibrous, with a tangy-sweet flavor, often compared to a mix of strawberry, pineapple, and citrus. It contains numerous black, inedible seeds embedded in the pulp.

Importance of Soursop

- ✚ **Nutritional Value:** Rich in vitamins C and B, as well as dietary fiber. Contains potassium, magnesium, and small amounts of iron. Low in calories but packed with antioxidants, especially acetogenins.
- ✚ **Culinary Uses:** The pulp is used to make juices, smoothies, ice creams, and desserts. It can be eaten raw, though it is often processed due to its sour flavor. Popular in tropical countries for its refreshing taste.
- ✚ **Medicinal Uses:** Traditionally used in herbal medicine for its potential antimicrobial, anti-inflammatory, and anticancer properties. The leaves, bark, and fruit have been used in various cultures to treat ailments such as fever, respiratory issues, digestive problems, and infections.
- ✚ **Economic Importance:** Grown commercially in tropical regions, particularly in South America, Southeast Asia, and the Caribbean. Soursop is an important crop for small farmers and contributes to local economies through fresh fruit markets and value-added products like juices and supplements.
- ✚ **Ecological Importance:** The tree provides food for wildlife, such as birds and insects. Acts as a source of shade and contributes to the biodiversity of tropical ecosystems.
- ✚ **Cultural Significance:** In many tropical countries, soursop is not only valued for its health benefits but is also used in traditional dishes and beverages. It has gained international recognition in recent years due to its association with health and wellness trends.

16.BREADFRUIT

Common name: **Breadfruit**

Scientific Name: *Artocarpus altilis*

Family: **Moraceae**



Description

Tree: Breadfruit trees are medium to large, growing up to 26 meters in height. They have a spreading canopy and thick, large, dark green leaves that are deeply lobed.

Leaves: The leaves are large (up to 60 cm long), simple, alternate, and deeply lobed, with 3-9 lobes. They are dark green, glossy on the upper surface, and rough underneath.

Flowers: Breadfruit trees are monoecious, meaning they produce both male and female flowers. The male flowers are small and in dense spikes, while the female flowers are larger, spherical, and develop into the fruit.

Fruit: The breadfruit is large, round to oblong, and can grow up to 30 cm in diameter. The skin is green to yellowish-green, and the flesh inside is starchy, similar to potatoes. When mature, the fruit can be eaten cooked, roasted, baked, or fried.

Importance of Breadfruit

- ✚ **Food Source:** Breadfruit is a staple food in tropical regions due to its high starch content. It can be boiled, baked, roasted, or fried. It is a rich source of carbohydrates and a good alternative to rice, potatoes, or bread.
- ✚ **Nutritional Value:** Breadfruit is a good source of dietary fiber, vitamins (especially C and B), and minerals like potassium. It is also low in fat.
- ✚ **Cultural and Economic Significance:** Breadfruit plays an important role in the cultures of the Pacific Islands and other tropical areas, where it has been used as a food source for centuries. The wood of the breadfruit tree is also used in construction and making traditional canoes.
- ✚ **Ecological Importance:** Breadfruit trees help in controlling soil erosion in tropical areas and are used in agroforestry systems for sustainable agriculture.

17. MIRACLE FRUIT

Common name: **Miracle fruit**

Scientific Name: *Synsepalum dulcificum*

Family: Sapotaceae



Description

Plant: Small, evergreen shrub that grows between 2 to 5 meters in height. Dense foliage with slender, erect branches.

Leaves: Simple, glossy, dark green, and oblong, typically 5-10 cm long. Arranged alternately on the branches.

Flowers: Small, white, and inconspicuous, usually in clusters. The flowers are fragrant and bloom intermittently throughout the year.

Fruit: The fruit is small, about 2-3 cm in length, red when ripe, and oval-shaped. The pulp is thin, surrounding a single seed. It contains a glycoprotein called miraculin, which is responsible for the fruit's unique taste-altering effect.

Importance of miracle fruit

- ✚ **Nutritional Value:** The fruit itself has low caloric content and minimal nutritional value in terms of vitamins and minerals. Its primary significance comes from its ability to modify taste perception.
- ✚ **Taste-Altering Effect:** Miraculin, the active glycoprotein in the fruit, binds to the taste buds and temporarily alters taste perception, making sour or acidic foods taste sweet. This effect lasts for about 30 minutes to 2 hours after consuming the fruit. It is commonly used to enhance the flavor of sour fruits like lemons and limes without adding sugar.
- ✚ **Medicinal and Dietary Uses:** Used as a natural sweetener for people with diabetes, as it allows them to enjoy sweet flavors without the intake of sugar. May help in weight management by reducing the need for added sugars in diets. There is ongoing research into its potential therapeutic applications, such as for chemotherapy patients experiencing taste distortions.
- ✚ **Culinary Uses:** Popular in novelty culinary experiences called "flavor-tripping," where people consume miracle fruit before eating sour or bitter foods to experience their altered taste. Used in some desserts and drinks to provide sweetness without sugar.
- ✚ **Economic Importance:** Miracle fruit is commercially cultivated in tropical regions, particularly in West Africa (its native region), Southeast Asia, and parts of the Caribbean and the U.S. The fruit is sold fresh or in tablet form for its taste-altering effects, with a growing market among health-conscious consumers.
- ✚ **Ecological Importance:** As a small shrub, miracle fruit can be integrated into agroforestry systems and contributes to biodiversity in its native habitats. It is also resilient to tropical climates and requires minimal care, making it an easy-to-grow crop in suitable regions.
- ✚ **Cultural Significance:** Native to West Africa, where it has been used for centuries to sweeten sour food and drinks. In modern times, it has gained popularity worldwide for its unique taste-modifying properties.

18. INDIA MAST TREE

Common name: **India mast tree**

Scientific Name: *Polyalthia longifolia* var. *pendula*

Family: **Annonaceae**



Description

Tree: Tall, evergreen tree with a straight, slim trunk that can grow up to 12-20 meters in height. The tree has a characteristic columnar or conical shape, often compared to a "mast" due to its vertical appearance. The branches grow close to the trunk, drooping downward, giving it a graceful, slender look.

Leaves: Narrow, lance-shaped, and glossy with wavy edges. Young leaves are coppery or bronze, gradually turning dark green as they mature. The leaves are arranged alternately and can be 15-20 cm long.

Flowers: Small, star-shaped, and pale green or yellowish in color. Flowers are often fragrant and appear in clusters. The flowering season typically occurs in spring.

Fruit: Small, ovoid, or spherical berries that turn from green to dark purple or black when ripe. Each fruit contains 1-2 seeds and is commonly eaten by birds, aiding in seed dispersal.

Importance of India mast tree

-  **Ornamental Value:** Widely planted as an ornamental tree due to its elegant, tall, and symmetrical appearance. Commonly used as an avenue or roadside tree in India for landscaping in urban areas, parks, and gardens. Its dense foliage provides shade and aesthetic appeal in architectural settings.
-  **Environmental Benefits:** Acts as a natural noise barrier, commonly planted along roadsides and highways for sound reduction. Helps in pollution control by filtering dust and pollutants from the air. The tree is evergreen, ensuring year-round greenery and shade in hot climates.
-  **Cultural and Traditional Uses:** In India, the tree holds cultural significance and is often planted near temples and sacred places. Known for its durability and straight growth, the wood was traditionally used for making ship masts, giving the tree its common name "Mast Tree."
-  **Medicinal Uses:** Traditionally, various parts of the tree have been used in Ayurveda for treating conditions like fever, skin diseases, and digestive issues. The leaves, bark, and seeds contain bioactive compounds that have potential antimicrobial, anti-inflammatory, and antioxidant properties.
-  **Economic Importance:** The wood, though not very durable, is used for making small-scale items like poles, matchsticks, and construction material. Because of its rapid growth and low maintenance, it is economically valuable in landscaping and urban planning projects.
-  **Ecological Role:** The tree provides a habitat for birds, insects, and small animals, enhancing local biodiversity. Its fruit is a food source for birds, helping with seed dispersal and forest regeneration. It helps reduce urban heat island effects due to its dense, evergreen foliage.

19. TEAK

Common name: **Teak**

Scientific Name: *Tectona grandis*

Family: **Lamiaceae**



Description

Tree: Large deciduous tree that can grow up to 30-40 meters in height with a trunk diameter of 1-1.5 meters.

leaves: Large, ovate leaves, 30-60 cm long, with rough texture. They are shed during the dry season.

Flowers: Small, white, and fragrant, arranged in clusters called panicles. Bloom during the rainy season.

Fruit: Small, hard, and round drupes, about 1.5-2 cm in diameter, with a woody outer layer.

Importance of Teak

- ✚ **Timber:** Teak wood is highly valued for its durability, resistance to rot, termites, and water, making it ideal for furniture, shipbuilding, and outdoor construction.
- ✚ **Economic Value:** One of the most expensive hardwoods, contributing significantly to the economy in regions where it is cultivated.
- ✚ **Medicinal Uses:** Teak leaves, bark, and wood have been used traditionally in folk medicine for various treatments, including as an astringent and to treat skin diseases.
- ✚ **Ecological Role:** Supports biodiversity by providing habitat for various species.

20. COCONUT TREE

Common name: **Coconut tree**

Scientific Name: *Cocos nucifera*

Family: **Arecaceae**



Description

Tree: Tall, single-trunked palm tree that can grow up to 30 meters in height. The trunk is slender and ringed with leaf scars.

Leaves: Large, pinnate (feather-like) leaves, 4-6 meters long, with numerous narrow leaflets.

Flowers: Small, yellowish-white flowers that grow in large clusters. Coconut palms are monoecious, meaning they have both male and female flowers on the same plant.

Fruit: The coconut is a large, fibrous drupe with a hard, woody shell. Inside, it contains a white, edible kernel (the coconut "meat") and a liquid endosperm (coconut water).

Importance of Coconut tree

Economic: Coconut is a major cash crop in tropical regions, supporting millions of farmers. It is used in various industries like food, cosmetics, and biofuels.

Food: Coconut oil, coconut water, coconut milk, and the flesh (copra) are widely used in cooking and processed food products.

Industrial: Coconut husk fibers (coir) are used to make ropes, mats, brushes, and mattresses. Coconut shells are used in handicrafts and as a source of activated carbon.

Cultural: In many tropical countries, the coconut palm is called the "Tree of Life" because of its wide range of uses, from food to construction materials.

Environmental: Coconut palms are important for coastal protection and soil stabilization, helping to prevent erosion.

21. RAMBUTAN

Common name: **Rambutan**

Scientific Name: *Nephelium lappaceum*

Family: **Sapindaceae**



Description

Fruit: Round to oval, typically 3 to 6 cm in diameter. Covered in a thick, hairy, or spiky rind that is red or yellow when ripe. Juicy, translucent, and typically sweet, surrounding a single seed.

Seed: Generally large and glossy; not edible

Tree: Grows up to 20-30 meters tall.

Leaves: Compound leaves with 3-9 leaflets, dark green, and glossy.

Flowers: Small, yellowish-white flowers that cluster together, often appearing in large inflorescences.

Importance of rambutan

- ✚ **Culinary:** Consumed fresh as a fruit or used in salads, desserts, and beverages. Popular in Southeast Asian cuisine for its sweet flavor and unique texture.
- ✚ **Nutritional Value:** Rich in vita... Rich in vitamin C, iron, and antioxidants, contributing to overall health. Supports the immune system and aids in digestion.
- ✚ **Economic:** Cultivated in tropical regions, contributing to local economies through fruit sales and export. Increasingly popular in international markets, enhancing agricultural diversity.
- ✚ **Cultural:** Holds significance in various cultures in Southeast Asia, often used in festive dishes and traditional practices.
- ✚ **Medicinal Uses:** Traditionally believed to have health benefits, including anti-inflammatory properties and skin health improvement.

22. LAKSHMI TARU

Common name: **Lakshmi Taru**

Scientific Name: *Simarouba glauca*

Family: **Simaroubaceae**



Description

Simarouba glauca, commonly known as Paradise Tree or Lakshmi Taru, is a tropical evergreen tree native to Central and South America, and widely grown in Asia and Africa for its multiple uses.

Leaves: The leaves are large, pinnate (feather-like), and glossy green, composed of multiple lance-shaped leaflets. They are arranged alternately on the branches.

Flowers: The tree produces small, white to yellowish-green flowers that are borne in clusters. It is dioecious, meaning separate male and female flowers occur on different trees.

Fruits: The fruit is a small, fleshy drupe, turning purple to black when ripe. Each fruit contains a single seed.

Height: *Simarouba glauca* can grow up to 15-20 meters in height, with a straight trunk and spreading canopy.

Importance of Lakshmi taru

- ✚ **Edible Oil:** The seeds of Simarouba produce oil that is edible and used for cooking. It is rich in oleic acid, making it nutritionally valuable.
- ✚ **Medicinal Uses:** Traditionally, parts of the tree, including the bark and leaves, have been used for treating ailments like dysentery, malaria, and fever due to their potential anti-inflammatory and antimalarial properties.
- ✚ **Environmental Benefits:** The tree is drought-resistant and helps in soil conservation, making it useful in reforestation and agroforestry projects.
- ✚ **Biofuel Production:** Simarouba oil is also explored for its potential in biofuel production, contributing to sustainable energy solutions.
- ✚ **Timber and Fodder:** The wood is used for light construction, and the leaves can be used as fodder for livestock.

23. BETAL NUT PALM

Common name: **Betal nut palm**

Scientific Name: *Areca catechu*

Family: **Arecaceae**



Description

Areca catechu, commonly known as the Betel Nut Palm or Areca Palm, is a tropical palm species widely cultivated in South and Southeast Asia for its seeds (betel nuts), which are commonly chewed for their stimulating effects.

Trunk: *Areca catechu* is a slender, tall palm with a single, smooth, greyish trunk that can reach heights of 15 to 20 meters.

Leaves: The palm has pinnate (feather-like) leaves, which are large, arching, and can grow up to 2-3 meters in length.

Flowers: The flowers are small, white to yellowish, and appear in large, branched clusters (inflorescences) from the base of the crownshaft.

Fruit: The fruit is an oval or round drupe, usually orange to red when ripe, containing a single seed (the betel nut), which is the main product of the tree.

Importance of Betal nut palm

-  **Cultural and Traditional Use:** The seeds (betel nuts) are commonly chewed with betel leaves in many Asian cultures as a mild stimulant. Chewing betel nuts is a longstanding tradition in countries like India, Sri Lanka, and Thailand.
-  **Economic Value:** Areca nuts are a significant cash crop in many countries, supporting livelihoods and economies through their cultivation and trade.
-  **Medicinal Use:** In traditional medicine, the betel nut is used for its astringent and digestive properties. However, excessive chewing has been linked to oral health issues and other health risks.
-  **Ornamental Value:** Areca palms are also used as ornamental plants in landscaping due to their graceful appearance.

24. JATOBA

Common name: **Jatoba**

Scientific Name: *Libidibia coriaria*

Family: **Fabaceae**



Description

Libidibia coriaria, commonly known as Jatoba or Brazilian Cherry, is a tree species belonging to the legume family, Fabaceae. It is native to tropical regions of South America, particularly in Brazil.

Leaves: The leaves are compound, pinnate, and typically consist of 5 to 9 leaflets, which are oval to elliptical in shape, with a glossy green appearance.

Flowers: The flowers are small, yellow, and appear in dense clusters, usually during the rainy season. They are fragrant and attract various pollinators.

Fruits: The fruit is a flat, woody pod that contains several seeds. When mature, the pods split open to release the seeds.

Height and Structure: *Libidibia coriaria* can grow into a medium to large tree, reaching heights of up to 20 meters. The trunk is straight and cylindrical, with a rough, brownish bark.

Importance of Jatoba

- ✚ **Timber:** The wood of *Libidibia coriaria* is valued for its durability and is used in construction, furniture making, and flooring. It is known for its resistance to decay.
- ✚ **Ecological Role:** The tree plays a role in the ecosystem by providing habitat and food for various species of birds and insects.
- ✚ **Cultural Significance:** In traditional medicine, parts of the plant have been used for their potential medicinal properties, including anti-inflammatory and analgesic effects.
- ✚ **Soil Improvement:** As a leguminous plant, it can fix atmospheric nitrogen, enhancing soil fertility and benefiting nearby crops.

SHRUBS GARDEN

1.CABBAGE TREE

Common Name: **Ti plant or cabbage tree**

Scientific name: *Cordyline fruticosa*

Family: **Asparagaceae**



Description

Leaves: Long, narrow, and lanceolate; can be green, purple, or variegated with a glossy texture.

Stems: Woody, upright stems that can grow several meters tall, often branching at the top.

Flowers: Small, fragrant flowers, usually white or purple, arranged in panicles; they produce small berries after pollination.

Roots: Adventitious root system, extensive and supportive in tropical soils.

Importance Of cabbage tree

- ✚ **Cultural Significance:** Integral to Polynesian culture for ceremonies, traditional medicine, and decorative uses.
- ✚ **Culinary Uses:** Young leaves and roots are edible and used in various local cuisines.
- ✚ **Ornamental Value:** Widely grown as an ornamental plant for its striking foliage and tropical appearance.
- ✚ **Erosion Control:** Effective in preventing soil erosion in tropical areas due to its robust root system.

2.CROTON

Common name: **Croton**

Scientific name: *Codiaeum variegatum*

Family: **Euphorbiaceae**



Description

Tree/Shrub: A small, evergreen shrub, typically growing up to 1-2 meters in height, with a bushy, compact form.

Leaves: Leathery, glossy, and highly variegated with colors like red, yellow, green, orange, and purple. The leaves are typically large and can have various shapes such as oval, lobed, or long and narrow.

Flowers: Small, insignificant, white to pale yellow, typically growing in clusters, but often hidden by the foliage.

Fruit: Small, round capsules that split open when mature, releasing seeds.

Seeds: Contained within the fruit capsules, generally not used in propagation, as crotons are mostly grown from cuttings.

Importance of Croton:

- ✚ **Ornamental:** Highly valued for its vibrant and colorful foliage, often used as an ornamental plant in gardens, patios, and indoor spaces.
- ✚ **Aesthetic:** Enhances visual appeal with its multicolored leaves and unique patterns, adding a tropical touch to landscapes.
- ✚ **Cultivation:** Prefers warm, humid climates with bright, indirect light; commonly grown in pots or as part of outdoor landscaping in tropical regions.
- ✚ **Medicinal:** While not widely used in modern medicine, croton has been historically used in some traditional practices, though caution is needed as parts of the plant can be toxic if ingested.

3.HIBISCUS

Common name: **China Rose or Hibiscus**

Scientific name: *Hibiscus rosa-sinensis*

Family: **Malvaceae**



Description

Shrub/Tree: Evergreen shrub or small tree, typically 2-5 meters tall, with glossy green leaves and a woody stem.

Leaves: Oval, dark green, with serrated edges, about 8-10 cm long.

Flowers: Large, showy, and trumpet-shaped, 10-20 cm in diameter, with five petals in colors ranging from red, pink, white, yellow, or orange. The central staminal column is prominent and distinctive.

Fruit: Rarely produces fruit in cultivated varieties; when present, it is a dry capsule containing several seeds

Importance of Hibiscus:

- ✚ **Ornamental:** Widely grown for its beautiful, vibrant flowers, making it a popular plant in gardens and landscapes across tropical and subtropical regions.
- ✚ **Culinary:** Hibiscus flowers are used to make teas, syrups, and jams in many cultures, particularly for their tart flavor.
- ✚ **Medicinal:** Used in traditional medicine for its potential health benefits, such as reducing blood pressure, improving digestion, and having anti-inflammatory properties.
- ✚ **Cultural:** In various cultures, *Hibiscus rosa-sinensis* is symbolic of beauty, love, and delicate femininity. It is the national flower of Malaysia and a prominent flower in many tropical regions.

4.COPPER LEAF

Common name: **Copper Leaf**

Scientific name: *Acalypha wilkesiana*

Family: **Euphorbiaceae**



Description

Shrub: Evergreen, tropical shrub, typically 2-3 meters tall, with a bushy appearance and striking foliage.

Leaves: Large, oval, and serrated, with vibrant colors ranging from coppery-red to bronze, green, and pink, depending on the variety.

Flowers: Small, reddish, and insignificant, growing in long, drooping spikes.

Fruit: Small and inconspicuous, with seeds that are rarely used

Importance of Copper Leaf:

- ✚ **Ornamental:** Popular for its colorful and attractive foliage, often used in landscaping, gardens, and as decorative hedges.
- ✚ **Cultural:** Grown in tropical and subtropical regions for its beauty and adaptability to various climates.
- ✚ **Medicinal:** Traditionally used in some cultures for its potential healing properties, including treating skin ailments, although not commonly used in modern herbal medicine.
- ✚ **Propagation:** Easily propagated by cuttings, making it a popular plant for home gardeners.

5.PAPER FLOWER

Common name: **Paper flower**

Scientific Name: *Bougainvillea spp.*

Family: **Nyctaginaceae**



Description

Growth Habit: Bougainvillea is a woody, climbing shrub or vine that can reach heights of up to 40 feet (12 meters). It can also be grown as a ground cover or in a more compact form as a shrub.

Stems: The stems are thorny and can be either green or brown, depending on the species and environmental conditions.

Leaves: The leaves are simple, alternate, and ovate, typically measuring 4-10 cm in length. They are usually dark green and have a smooth texture.

Bracts and Flowers: The most distinctive feature of Bougainvillea is its colorful bracts, which are often mistaken for petals. These bracts can be found in various colors, including magenta, purple, red, orange, pink, and white. The actual flowers are small, tubular, and generally located in clusters surrounded by the bracts.

Importance Of Paper flower

- ✚ **Ornamental Use:** Bougainvillea is widely used in landscaping and gardening for its vibrant colors and ability to create lush displays. It is popular for trellises, walls, and as ground cover.
- ✚ **Erosion Control:** The plant's extensive root system helps stabilize soil, making it effective for erosion control on slopes and banks.
- ✚ **Cultural Significance:** In many cultures, Bougainvillea is associated with beauty and celebration. It's often used in festivals and as decorative foliage in ceremonies.
- ✚ **Environmental Benefits:** Bougainvillea attracts pollinators like bees and butterflies, contributing to biodiversity in garden ecosystems.
- ✚ **Drought Tolerance:** Once established, Bougainvillea is drought-tolerant, making it suitable for xeriscaping and low-water gardens.

6. GOLDEN TRUMPET

Common name: **Golden Trumpet or Yellow Bell**

Scientific name: *Allamanda cathartica*

Family: **Apocynaceae**



Description

Leaves: Allamanda has simple, lanceolate, glossy green leaves, typically arranged in whorls.

Flowers: It produces large, trumpet-shaped flowers that are bright yellow with five lobes. The flowers are showy and fragrant, blooming throughout the year in warm climates.

Growth: It is a fast-growing, evergreen shrub or vine, often trained to grow as a climber on trellises. The stems contain a milky sap that can be toxic if ingested.

Importance Of Yellow bell

- ✚ **Ornamental Value:** Allamanda cathartica is widely cultivated for its striking yellow flowers, often used in landscaping to add vibrant color to gardens, parks, and public spaces.
- ✚ **Medicinal Uses:** In traditional medicine, parts of the plant have been used as a laxative or purgative, though caution is advised due to its toxicity.
- ✚ **Environmental Role:** It attracts pollinators like bees and butterflies, contributing to the health of garden ecosystems. However, in some areas, it has become invasive, outcompeting native plant species.

HERBS GARDEN

1.SIAM WEED

Common Name: **Siam Weed or Christmas Bush**

Scientific Name: *Chromolaena odorata*

Family: **Asteraceae**



Description

Leaves: The leaves are simple, triangular to ovate, with serrated edges and a rough texture. When crushed, they release a distinctive, strong odor.

Flowers: It produces clusters of small, white to pale purple tubular flowers that form dense, fluffy flower heads. These flowers are often seen during the dry season.

Stems: The stems are woody at the base and become herbaceous toward the tips, allowing rapid spread and growth.

Height: It can grow up to 3 meters tall and spreads aggressively in open or disturbed areas.

Importance Of Siam weed

- ✚ **Invasive Species:** *Chromolaena odorata* is one of the most problematic invasive species in tropical regions, outcompeting native vegetation, reducing biodiversity, and affecting agricultural lands.
- ✚ **Medicinal Uses:** Despite its invasiveness, it has traditional medicinal uses, particularly in wound healing, due to its antibacterial and anti-inflammatory properties.
- ✚ **Soil Stabilization:** In some cases, it can help prevent soil erosion in degraded lands, although its aggressive nature makes it difficult to control.
- ✚ **Ecological Impact:** It significantly alters ecosystems, making it challenging for native plants and animals to thrive. Its control and management are major concerns in areas where it has spread.

2.TOUCH -ME- NOT

Common Name: **Touch -Me -Not**

Scientific Name: *Mimosa pudica*

Family: **Fabaceae**



Description

Leaves: The compound leaves are feathery, with small leaflets that fold inward or droop when touched, a phenomenon called thigmonasty. This response is a defense mechanism against herbivores.

Flowers: It produces small, pink or lavender, spherical, puffball-like flowers composed of many tiny stamens.

Stems: The stems are slender, often spiny, and grow low to the ground, forming a creeping or trailing habit.

Roots: Mimosa pudica has a taproot system.

Importance of Touch me not

- ✚ **Ornamental Value:** Its unique movement makes it a popular ornamental plant, especially for educational purposes to demonstrate plant responses.
- ✚ **Medicinal Uses:** In traditional medicine, it has been used for treating ailments like wounds, burns, and inflammation due to its anti-inflammatory and analgesic properties.
- ✚ **Scientific Interest:** *Mimosa pudica* is widely studied for its rapid plant movement and its role in plant behavior and neurobiology research.
- ✚ **Weed Status:** In some areas, it is considered invasive and can become a weed, overtaking other vegetation.

3.WATER PEPPER

Common Name: **Water pepper or shining pepper.**

Scientific Name: *Peperomia pellucida*

Family: **Piperaceae**



Description

Leaves: Heart-shaped, succulent, and glossy; typically bright green with a translucent appearance.

Stems: Upright, fleshy stems that can grow to about 30 cm tall.

Flowers: Small, cylindrical flower spikes (spadices) that are usually pale green or white.

Roots: Shallow, fibrous root system that helps it thrive in moist environments.

Importance of Water pepper

- ✚ **Medicinal Uses:** Traditionally used in folk medicine for its anti-inflammatory and analgesic properties.
- ✚ **Culinary Uses:** The leaves can be consumed raw or cooked and are sometimes used as a flavoring in dishes.
- ✚ **Ornamental Value:** Often grown as a houseplant due to its attractive foliage and easy care.
- ✚ **Ecological Role:** Provides ground cover in tropical and subtropical habitats, contributing to soil stabilization.

4. FLOSS FLOWER

Common Name: **Floss flower or billy goat weed**

Scientific Name: *Ageratum conyzoides*

Family: **Asteraceae**



Description

Leaves: Ovate to elliptical, with a rough texture and serrated edges; typically bright green.

Stems: Erect, hairy stems that can grow up to 1 meter tall.

Flowers: Clusters of small, fluffy, blue to purple flowers that bloom in dense heads, attracting pollinators.

Roots: Fibrous root system, helping the plant to establish in various soils

Importance Of Floss flower

- ✚ **Medicinal Uses:** Traditionally used in herbal medicine for its anti-inflammatory and antimicrobial properties.
- ✚ **Ecological Role:** Acts as a pioneer species, contributing to soil stabilization and providing habitat for various insects.
- ✚ **Ornamental Use:** Grown in gardens for its attractive flowers and as ground cover.
- ✚ **Weed Potential:** Can be invasive in some regions, competing with native vegetation and affecting local ecosystems.

5. NODDING SYNEDRELLA

Common Name: **Rigid plantain or Nodding synedrella**

Scientific Name: *Synedrella nodiflora*

Family: **Asteraceae.**



Description

Leaves: Broadly ovate to lanceolate, with a rough texture and serrated margins; arranged alternately along the stem.

Stems: Erect and can grow up to 1 meter tall; often hairy.

Flowers: Small, daisy-like flower heads that are typically white or yellow, appearing in clusters at the ends of branches.

Roots: Shallow, fibrous root system that helps the plant thrive in various soil types.

Importance Of Nodding synedrella

-  **Medicinal Uses:** Traditionally used in folk medicine for its anti-inflammatory and analgesic properties.
-  **Ecological Role:** Serves as a ground cover, helping to stabilize soil and prevent erosion; attracts pollinators.
-  **Ornamental Use:** Occasionally grown in gardens for its attractive flowers.
-  **Weed Potential:** Can be invasive in some areas, competing with native plants and disrupting local ecosystems.

6.CENTRATHERUM

Common Name: **Centratherum or Common Centratherum**

Scientific Name: **Centratherum sp.**

Family: **Asteraceae**



Description

Leaves: Typically lanceolate to ovate, with a rough texture; arranged alternately along the stems.

Stems: Erect, branched, and can reach heights of up to 1 meter; often hairy.

Flowers: Bright purple or blue flower heads resembling daisies, borne in clusters, attracting various pollinators.

Roots: Fibrous root system that helps the plant establish in different soil types.

Importance of Centratherum

- ✚ **Medicinal Uses:** Some species in the genus are used in traditional medicine for their anti-inflammatory and healing properties.
- ✚ **Ecological Role:** Provides habitat and food for pollinators and other wildlife.
- ✚ **Ornamental Use:** Grown in gardens for its attractive flowers and ground cover potential.
- ✚ **Weed Potential:** Can be invasive in certain regions, outcompeting native flora.

7. BALSAM

Common name: **Balsam**

Scientific name: *Impatiens minor*

Family: **Balsaminaceae**



Description

Habit: Herbaceous, typically small to medium-sized annual or perennial plants.

Leaves: Alternately arranged along the stem. Its shape is ovate to elliptic, sometimes with a slight serration on the margins.

Flowers: Zygomorphic with a tubular structure, characteristic of the *Impatiens* genus.

Fruit: Capsule. Explosively dehiscent, meaning the fruit bursts open when ripe, dispersing seeds. Small and oval-shaped.

Seeds: Small and round or oval.

Importance of Balsam

- ✚ **Ecological Importance:** It contributes to the biodiversity of moist, shaded habitats like forests and streamsides
- ✚ **Medicinal Uses:** Anti-inflammatory, like other species in the Impatiens genus, it may have anti-inflammatory properties and has been traditionally used to treat skin irritations.
- ✚ **Economic Importance:** Erosion control and support pollinators

8. JOSEPH'S COAT

Common name: **Joseph's Coat**

Scientific name: ***Alternanthera bettzickiana***

Family: **Amaranthaceae**



Description

Alternanthera bettzickiana, commonly known as Joseph's Coat, is a herbaceous perennial plant often grown for its vibrant foliage.

Leaves: The leaves are small, ovate to lanceolate, and come in various colors like green, red, purple, or yellow, often with variegated patterns.

Stems: The plant has slender, branching stems that spread out horizontally, making it an ideal ground cover.

Flowers: The flowers are small, inconspicuous, and white, blooming in clusters, but they are not the main ornamental feature of the plant.

Growth: It is a low-growing, spreading plant, usually reaching 30-40 cm in height.

Importance of Joseph's Coat

- ✚ **Ornamental Value:** *Alternanthera bettzickiana* is popular in landscaping for its colorful foliage, used in borders, ground covers, and decorative garden designs.
- ✚ **Easy Maintenance:** It is drought-tolerant and requires minimal care, making it a favorite in tropical and subtropical gardens.
- ✚ **Environmental Role:** It helps control soil erosion due to its spreading nature and serves as ground cover in gardens and landscapes.

9. BUTTERFLY PEA

Common name: **Butterfly Pea**

Scientific name: *Centrosema molle*

Family: **Fabacea**



Description

Centrosema molle, commonly known as Butterfly Pea or Spurred Butterfly Pea, is a tropical leguminous plant found in Central and South America.

Leaves: It has trifoliate leaves, each consisting of three oval to lance-shaped leaflets with a smooth surface.

Flowers: The plant produces distinctive, large, butterfly-shaped flowers that are usually purple or pinkish-lavender. These flowers bloom singly or in clusters.

Stems: *Centrosema molle* is a perennial, climbing or trailing vine with slender stems that can twine around nearby plants or structures.

Fruit: The fruit is a flattened pod that contains several seeds.

Importance of Butterfly Pea

-  **Forage Crop:** It is used as a forage plant for livestock due to its high protein content and ability to fix nitrogen, improving soil fertility.
-  **Soil Improvement:** As a legume, it plays an important role in nitrogen fixation, enriching soil health and reducing the need for chemical fertilizers.
-  **Erosion Control:** Its fast-growing, vining nature helps control soil erosion in tropical regions.
-  **Ornamental Use:** Due to its attractive flowers, it is sometimes grown as an ornamental plant in gardens and landscapes.

10.GOLDEN FLAME

Common Name: **Golden Flame or Copper Leaf**

Scientific Name: *Chrysothemis pulchella*

Family: **Gesneriaceae**



Description

Growth Habit: *Chrysothemis pulchella* is a perennial herb that typically grows to about 30-60 cm in height. It has a bushy appearance and is often used as a ground cover.

Leaves: The leaves are ovate to elliptic, with a glossy dark green surface. They can measure around 10-20 cm in length and have a distinct wavy margin.

Flowers: The plant produces attractive, tubular flowers that can be orange to yellow in color, often with darker markings. The flowers are borne in axillary clusters and attract pollinators.

Fruits: The fruit is a capsule that contains several seeds.

Importance Copper Leaf

- ✚ **Ornamental Use:** *Chrysothemis pulchella* is primarily grown for its striking foliage and vibrant flowers, making it a popular choice in gardens, landscaping, and as a houseplant.
- ✚ **Attracts Pollinators:** The flowers are known to attract hummingbirds and various pollinators, contributing to local biodiversity.
- ✚ **Low Maintenance:** This plant is relatively easy to care for and can thrive in various conditions, making it suitable for both novice and experienced gardeners.
- ✚ **Medicinal Uses:** In some cultures, parts of the plant may be used for traditional medicinal purposes, although specific uses can vary regionally.
- ✚ **Ecological Role:** As part of the Gesneriaceae family, *Chrysothemis pulchella* plays a role in its native ecosystem, contributing to soil stabilization and providing habitat for various organisms.

11. MYRTLE LEAF PHYLLANTHUS

Common Name: **Myrtle Leaf Phyllanthus**

Scientific Name: *Phyllanthus myrtifolius*

Family: **Euphorbiaceae**



Description

Growth Habit: *Phyllanthus myrtifolius* is a small to medium-sized shrub or tree, typically reaching heights of 2-5 meters.

Leaves: The leaves are simple, alternate, and ovate to elliptical in shape, resembling those of the myrtle plant. They are glossy and dark green, with a smooth texture.

Flowers: The plant produces small, inconspicuous flowers that can be yellowish-green. They are usually unisexual and borne in axillary clusters.

Fruits: The fruit is a small, round capsule that contains one or more seeds. The capsules are often green when young and turn brown as they mature.

Importance Of Myrtle Leaf Phyllanthus

-  **Culinary Uses:** In some regions, the leaves and fruits may be used in traditional dishes or for flavoring.
-  **Medicinal Uses:** *Phyllanthus myrtifolius* is known in traditional medicine for its various health benefits. It has been used for treating ailments such as digestive issues, inflammation, and liver problems. Some studies suggest it may have antioxidant and antiviral properties.
-  **Ecological Role:** This species can contribute to local ecosystems by providing habitat and food for various wildlife species.
-  **Ornamental Use:** Due to its attractive foliage, it may be grown as an ornamental plant in gardens and landscapes.
-  **Soil Erosion Control:** The root system can help stabilize soil and reduce erosion in certain environments.