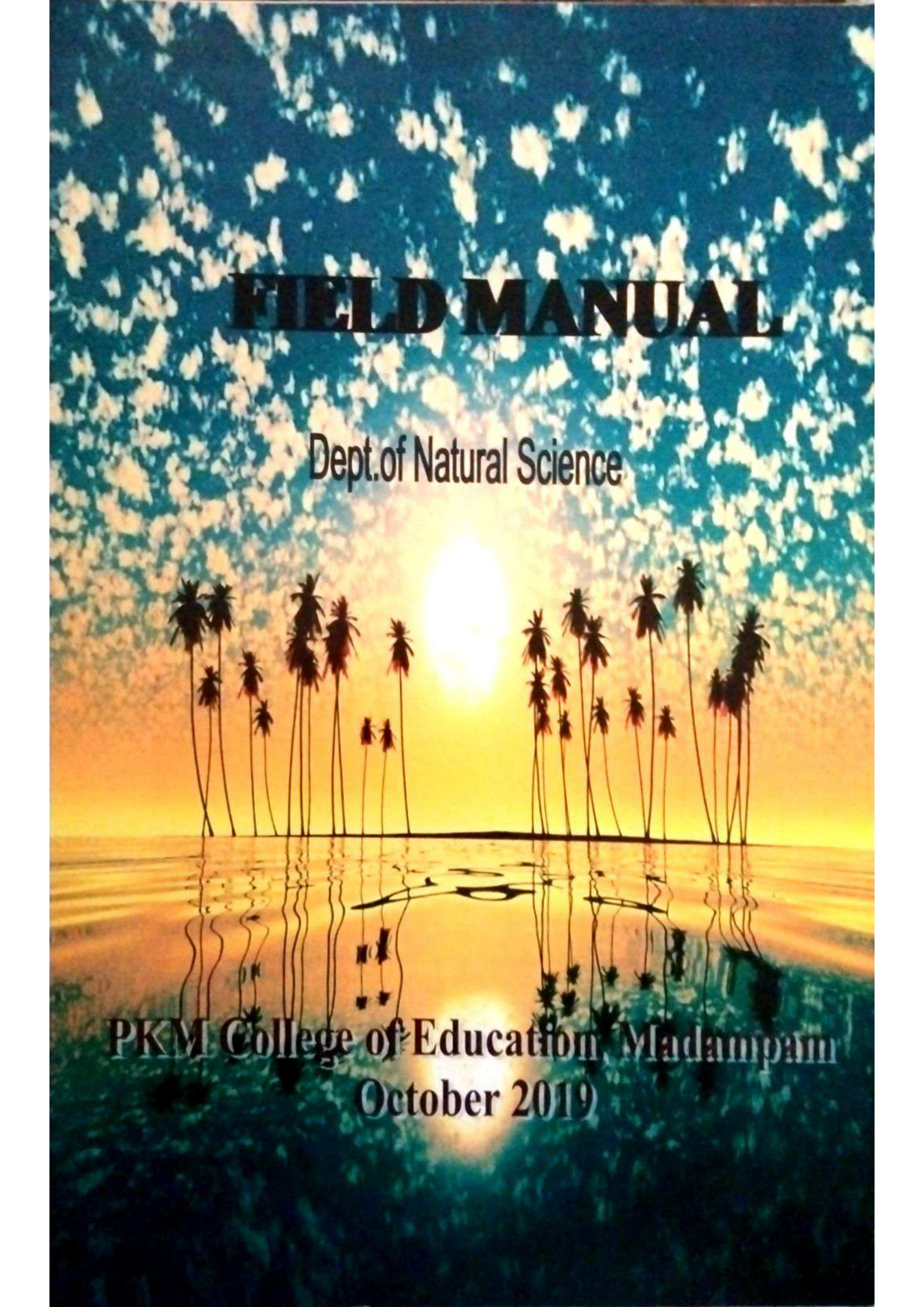




FIELD MANUAL

Dept.of Natural Science

PKM College of Education, Madampam
October 2019

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OBJECTIVES

It is important to know about the nature found around us. Diversities and marvelous existed in the environment is really amazing. There are many kinds of plants around our college campus. A study over them reveal how diverse and vast in their presence. Knowledge about the type of plants and their salient features are help everyone to consider them in their needed values and respect. Ideas about the plants and significances about the plants in our environment provide importance of their protection as well as respective considerations.

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Justicia procumbens

Family: Acanthaceae

Local names water willow, Karambal, Pitpapada.



Description: *Justicia procumbens* is an annual growing to 0.3 m (1 ft). The species is hermaphrodite (has both male and female organs).

Suitable for: light (sandy), medium (loamy) and heavy (clay) soils. Suitable pH: acid, neutral and basic (alkaline) soils. It can grow in semi-shade (light woodland) or no shade. It prefers moist soil.

Uses: The plant is alterative, anthelmintic, antiphlogistic, depurative, diaphoretic, diuretic, expectorant, febrifuge and laxative. A decoction or an infusion is used in the treatment of asthma, cough, backache, flatulence and many skin conditions. The juice of the leaves is used in ophthalmia. A decoction of the leaves is used in the treatment of curvature and diseases of the bone. The juice of the root is used in the treatment of coughs where blood is being coughed up.

Curculigo orchoides

Family: Hypoxidaceae

Local names : Golden eye grass



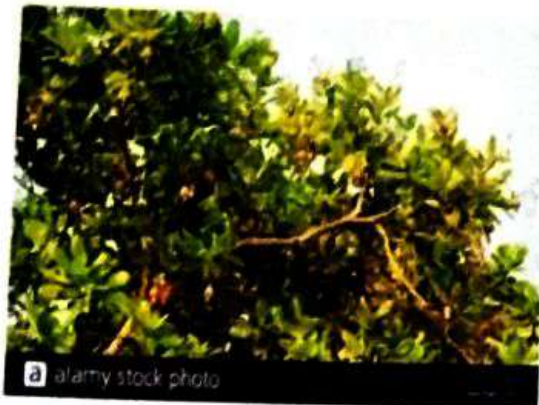
Description: it is a small herbaceous perennial plant belonging to 'Dasapushpa' group. Rhizome narrowly oblong, cylindrical and growing vertically, 4-5 cm long and 1 cm diameter. Leaves elliptic-lanceolate, acuminate, 30 x 5 cm; Inflorescence is a raceme with bisexual flowers towards the base and male flowers towards the apex. Perianth yellow, pubescent, 1 cm across, lobes oblong-obtuse, stamens yellow and conspicuous. Ovary pilose, fruit narrowly oblong. Pods contain 4-5 seeds which do not germinate under natural conditions.

Significance: used in ayurvedic formulation for treatment of cough, asthma, skin disorder, urinary disorder, jaundice etc

Anacardium occidentale

Family: Anacardiaceae

Local names: Kappalumavu, Kashumavu



Description: The cashew tree is a tropical evergreen tree grows up to 14 meters, that produces the cashew nut. Leaves are dark green ovate, elliptical, apex rounded, stem irregularly, multi-branched, flowers are small, white or pink, aromatic, flowering in May-June.

Significance: The root, bark, leaves and fruit of Vrttarushkarah are used to treat snake-bite, odontalgia, ulitis, leprosy, ringworm, corns, skin diseases, dysentery, hemorrhoids, anorexia and to increase hair growth.

Mangifera indica

Family :Anacardiaceae

Local names : Mango , Manga



Description: *Mangifera indica*, commonly known as mango, is a species of flowering plant in the sumac and poison ivy family Anacardiaceae. It is native to the Indian subcontinent where it is indigenous. Hundreds of cultivated varieties have been introduced to other warm regions of the world. Hundreds of cultivated varieties have been introduced to other warm regions of the world. It is a large fruit-tree, capable of growing to a height and crown width of about 30 metres (100 ft) and trunk circumference of more than 3.7 metres (12 ft). Mango is the national fruit of India, Pakistan and the Philippines and the national tree of Bangladesh.

Significance: In Ayurveda, it is used in a Rasayana formula sometimes with other mild sours and shatavari (*Asparagus racemosus*) and guduchi (*Tinosporacordifolia*). In traditional medicine, varied properties are attributed to different parts of the mango tree.

The tree is more known for its fruit rather than for its timber. However, mango trees can be converted to lumber once their fruit bearing lifespan has finished. The wood is susceptible to damage from fungi and insects. The wood is used for musical instruments such as ukuleles, plywood and low-cost furniture. The wood is also known to produce phenolic substances that can cause contact dermatitis.

Polyalthia longifolia

Family: Annonaceae

Local name: ashoka, the Buddha tree, Indian mast tree, and Indian fir tree.



Description: *Polyalthia longifolia*, the false ashoka native to India, is a lofty evergreen tree, commonly planted due to its effectiveness in alleviating noise pollution. It exhibits symmetrical pyramidal growth with willowy weeping pendulous branches and long narrow lanceolate leaves with undulate margins. The tree is known to grow over 30 ft in height. *Polyalthia* is derived from a combination of Greek words meaning 'many cures' with reference to the medicinal properties of the tree while *Longifolia*, in Latin, refers to the length of its leaves. *Polyalthia longifolia* is sometimes incorrectly identified as the ashoka tree (*Saraca indica*) because of the close resemblance of both trees. One might mistake it as a tree with effectively no branches, but in fact a *Polyalthia* allowed to grow naturally (without trimming the branches out for decorative reasons) grows into a normal large tree with plenty of shade.

Uses: The leaves are used for ornamental decoration during festivals. The tree can be cut into various shapes and maintained in required sizes. In past, the flexible, straight and light-weight trunks were used in the making of masts for sailing ships. That is why the tree is also known as the Mast Tree. Today, the tree is mostly used for manufacturing small articles such as pencils, boxes, matchsticks, etc. The oil of the seed has been confirmed to possess anti-oxidant, anti-lipoxygenase and antimicrobial (against various clinical isolates) activities among others. Methanolic extracts of this plant have yielded 20 known and two new organic compounds, some of which show cytotoxic properties. The fatty acid composition of the seed has also been reported.

Centella asiatica

Family: Apiaceae

Local Names: Muthil, kudangal



Description: The stems are slender, creeping stolons, green to reddish-green in color, connecting plants to each other. It has long-stalked, green, rounded apices which have smooth texture with palmately netted veins. The leaves are borne on pericladial petioles, around 2 cm (0.79 in). The rootstock consists of rhizomes, growing vertically down. They are creamish in color and covered with root hairs. The flowers are white or pinkish to red in color, born in small, rounded bunches (umbels) near the surface of the soil. Each flower is partly enclosed in two green bracts. The hermaphrodite flowers are minute in size, less than 3 mm (0.12 in), with five to six corolla lobes per flower.

Significance: In traditional medicine, *C. asiatica* has been used to treat various disorders and minor wounds. In the context of phytoremediation, *C. asiatica* is a potential phytoextraction tool owing to its ability to take up and translocate metals from root to shoot when grown in soils contaminated by heavy metals. *Centella* leaves are also used in modern sweet "pennywort" drinks and herbal teas. In addition, the leaves are served stir-fried whole in coconut oil, or cooked in coconut milk with garlic or dhal.

Hemidesmus indicus

Family: Apocyanaceae

Local name: naruneendi



Description: It is a species of plant that is found in South Asia. It is a slender, laticiferous, twining, sometimes prostrate or semi-erect shrub. Roots are woody and aromatic. The stem is numerous, slender, terete, thickened at the nodes. The leaves are opposite, short-petioled, very variable, elliptic-oblong to linear-lanceolate. The flowers are greenish outside, purplish inside, crowded in sub-sessile axillary cymes. It occurs over the greater part of India, from the upper Gangetic plain eastwards to Assam and in some places in central, western and South India.

Significance: A syrup extracted from the root is utilized as a flavouring agent. It is sometimes used as a substitute for true sarsaparilla (*Smilax* spp.) Mainly the roots, but also the leaves and the latex, are commonly used in Indian herbal medicine.

The dried roots serve as a good substitute for the drug sarsaparilla, which is obtained from *Smilax* species. Analysis has revealed the presence of a range of medically active substances in the root including: an essential oil; coumarin; sterols; fatty acids; saponins; a very slight amount of a glycoside; resins and tannin. The flavonoids rutin and hyperoside have been reported in the flowers and leaves. The root is a valuable alterative, blood purifier, demulcent, diaphoretic, diuretic and tonic. It is used in the treatment of appetite loss, dyspepsia, fever, skin diseases, syphilis, leucorrhoea, genitourinary diseases and chronic cough. A paste of the roots is applied externally to swellings and rheumatic joints.

Pothos scandens

Family: Asteraceae

Local names: e: Climbing Aroid, anapparuva, parivalli, paruvakodi, paruvai.



Description. Climbing Aroid is a climbing shrub having adventitious aerial roots. The internodes of the plant are 1.3-2.5 cms and its leaves are very variable. The leaves are obovate, elliptic or lanceshaped and leathery, bright green in color. The leaf tip is acute or long-pointed, with wedge-shaped or rounded base. The leaf-stalks are interesting. They are semi-stem-clasping and broadly winged. Leaves are 2.5-7.5 cm long and 0.6-1.7 cm wide at the base. The green Spathe is 0.4-0.7 cm long, ovate and erect, with cuspidate apex. The stipe of the plant is deflexed, to 0.6 cm long and the spadix is yellow, with an approximate length of 0.5 cm. The spadix is globose, ovoid or shortly oblong. The fruits or berries of the plant are oblong and 1.3-1.7 cm long and they are scarlet when ripe. The plant is mainly a native to the Indo-Malaysian region and Madagascar. However, it is commonly found on rocks, walls and tree trunks in moist and wet forests in northeastern, central and southern India. The plant is found in the Andaman and Nicobar Islands as well.

Uses: This plant is used medicinally in Yunnan for treating traumatic injuries and rheumatic arthralgia. The leaves are used as tea by the Dai ethnic minority.

Colocasia esculenta

Family: Araceae

Local names: Taro, chembu, gabi, talo, cheppanilangu.



Description: It is a perennial, tropical plant primarily grown as a root vegetable for its edible, starchy corm. The plant has rhizomes of different shapes and sizes. Leaves are up to 40 cm × 24.8 cm and sprout from the rhizome. They are dark green above and light green beneath. They are triangular-ovate, sub-rounded and mucronate at the apex, with the tip of the basal lobes rounded or sub-rounded. The petiole is 0.8–1.2 m high. The petiole can be up to 25 cm long. The spadix is about three fifths as long as the spathe, with flowering parts up to 8 mm in diameter. The female portion is at the fertile ovaries intermixed with sterile white ones. Neuters grow above the females, and are rhomboid or irregular orium lobed, with six or eight cells. The appendage is shorter than the male portion.

Uses: People usually consume its edible corm and leaves. The corms, which have a light purple color due to phenolic pigments, are roasted, baked or boiled. The natural sugars give a sweet, nutty flavor. The starch is easily digestible, and since the grains are fine and small it is often used for baby food. Young taro leaves and stems can be eaten after boiling twice to remove the acrid flavor. The leaves are a good source of vitamins A and C and contain more protein than the corms. In its raw form, the plant is toxic due to the presence of calcium oxalate, and the presence of needle-shaped raphides in the plant cells. However, the toxin can be minimized and the tuber rendered palatable by cooking, or by steeping in cold water overnight. Corms of the small, round variety are peeled and boiled, then sold either frozen, bagged in their own liquids, or canned.

Wattakaka volubilis

Family: Asclepidaceae

Local names: Green Milkweed Climber, Sneeze Wort, Akad Bel, Kakkalankodi, Vattakakkakoti, Kodippalai, Peria Palai/Pasandha Ambu, Vattakakkakodi, Kurinjaan, Kurinja, Kodi Palai



Description: It is a twining Shrub, Leaves to 10 x 7 cm, ovate, base cordate, apex acuminate, glabrous. Umbels 5-6 cm long, axillary; calyx lobes unequal, 2 mm, lanceolate; corolla rotate, tube 3 mm, lobes 4 x 4 mm, orbicular, corona single, staminal with 2 globular masses above anthers; pollinia erect. Follicles 10 x 3 cm, ribbed, blunt at apex. In axillary umbels, greenish. Flowering peaks from April-May (hills) and July-November (Plains), Fruit is a follicle, oblong, gradually narrow, with golden indumentum when young. Seeds obovoid, flattened, soft, dull white. Fruiting throughout the year. Leaf Apices are Shortly acuminate. Leaf arrangement is opposite decussate, Leaf Bases are Rounded, Leaf Margins are entire, Leaf types are simple.

Significance: Young shoots and leaves raw or cooked. Eaten in salads and curries. The rind of the unripe fruit is used as a vegetable in traditional Indian cuisine. Flowers - cooked and eaten as a vegetable. It has great medicinal value, *Dregea volubilis* has been used in traditional and Ayurvedic systems of medicine for healing a range of diseases. It

is considered to be alterative, refrigerant, sternutatory and tonic, and is extensively prescribed to treat conditions such as eye ailments, general debility, tumors, asthma, stress-related disorders, inflammatory and painful conditions, skin diseases and haemorrhoids. The whole plant is used in the treatment of general debility. A paste made from the leaves is combined with pepper and used to treat dyspepsia. The leaf paste is also used to treat rheumatic pain, cough, fever and severe cold. The young leaves are used in the treatment of pyoderms and fevers in children. The leaves are used externally in the treatment of eye infections and as an application to boils and abscesses, where it promotes suppuration. The roots and tender stalks are considered to be diaphoretic, diuretic, emetic and expectorant.

Chromolaena odorata

Family: Asteraceae

Local names: Siam weed, christmas bush, devil weed and common floss flower.



Description: *Chromolaena odorata* is a rapidly growing perennial herb. It is a multi-stemmed shrub to 2.5 m (100 inches) tall in open areas. It has soft stems but the base of the shrub is woody. In shady areas it becomes etiolated and behaves as a creeper, growing on other vegetation. It can then become up to 10 m (33 feet) tall. The plant is hairy and glandular and the leaves give off a pungent, aromatic odour when crushed. The leaves are opposite, triangular to elliptical with serrated edges. Leaves are 4–10 cm long by 1–5 cm wide (up to 4 x 2 inches). Leaf petioles are 1–4 cm long. The white to pale pink tubular flowers are in panicles of 10 to 35 flowers that form at the ends of branches. The seeds are achenes and are somewhat hairy. They are mostly spread by the wind, but can also cling to fur, clothes and machinery, enabling long distance dispersal. Seed production is about 80000 to 90000 per plant. Seeds need light to germinate. The plant can regenerate from the roots. In favorable conditions the plant can grow more than 3 cm per day.

Significances: A recent review indicates that the ethno-pharmacological, fungicidal, nematocidal importance of the plant and its use as a fallow species and as a soil fertility improvement plant in the slash and burn rotation system of agriculture has contributed to its continued use and spread in Nigeria.

Sphagneticola trilobata

Family : Asteraceae

Local name: Kammal poove



Description

Wedelia is a mat forming perennial herb with rounded stems. Leaves are fleshy, usually 2 to 4 inches long and 1 to 5 inches wide, with irregularly toothed margins. Flowers are solitary, one inch in diameter and yellow-orange in color. New plants arise from nodes that root at the soil surface. Seed production is low and generally does not reproduce prolifically via seed. However, wedelia is able to escape from gardens to nearby areas via runners and fragmentation.

Significance: Wedelia typically invades agricultural areas, along roadsides and trails, along streams, waste places, and disturbed sites. A dense thicket of vegetation forms which crowds out native and other plant species. This prevents regeneration and growth of desired species.

Synedrella nodiflora

Family :Asteraceae

Local names :Mudiyanpacha , mudiyorupacha



Description :S. nodiflora originated in tropical America from where it has spread throughout the warmer regions of the world. It is probably found in every tropical and subtropical country in situations which favour its growth.S. nodiflora is an erect branched ephemeral herb usually 30-80 cm tall. The erect or ascending, sometimes woody stems, branch dichotomously from the base of the plant.The leaves occur in opposite pairs and are 4-9 cm long, elliptic to ovate with three prominent veins and finely toothed margins, finely hairy with short petioles, and joined by a ridge across the stem.The flowers occur in small crowded bunches of 2-8 inflorescences at nodes and tips throughout the upper third of the plant.

Significance :S. nodiflora is a common weed of gardens, lawns, parks and other disturbed places such as roadsides, rubbish dumps, around buildings and on wasteland.The seeds have been found as contaminants of legume cover crop seeds.Young shoots can be eaten as a cooked vegetable, and the shoots are fed to pigs in Papua New Guinea. Crushed leaves have been used as a treatment for rheumatism, and when mixed with those of other plants to relieve stomach pains.

Impatiens kleinii

Family: Geraniaceae

Subfamily: Balsaminae

Local names: Lesser Balsam, onathaaru



Description: It is a small, slender, erect herb, growing to only 10-15 cm tall, with glassy stem. Oppositely arranged, elliptic or ovate-lance-shaped leaves are 2-2.5 x 0.4-0.8 cm in size, and have distinctly sawtoothed margins with tiny glands in them. Leaf stalk is 0.2-1 cm long, often glandular. Flowers 6-8 mm long, pink or white, usually in leaf-axils, solitary. Flower stalks are 1 cm long. Sepals are 3, lateral ones 2-2.5 mm long, linear. Spur is 1-1.2 cm long, longer than the flower itself. Petals are 3, free, upper rounded, wings large, obovate, entire. Capsule 5-6 mm long, narrow, spindle-shaped; seeds 1 mm across, spherical.

Significance: Importance in soil texture maintenance especially in western ghats during rainy season. It holds water and protects area from soil erosion.

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Impatiens walleriana

Family :Balsaminaceae

Local names:Busy Lizzie, balsam, sultan, impatiens



Description : It is a flowering herbaceous perennial plant growing to 15–60 cm (6–24 in) tall, with broad lanceolate leaves 3–12 cm long and 2–5 cm broad. Leaves are mostly alternate, although they may be opposite near the top of the plant. The changeable, simple leaves are stalked 1.5 to 6 cm long. The leaf blade is ovate to broadly elliptic, sometimes obovate, 2.5 to 13 inches long and 2 to 5.5 inches wide, green and sometimes spotted or pink or reddish on the underside. Leaflets are missing.

Significance : Although perennial in frost-free growing conditions, it is usually treated as a half-hardy annual in temperate regions (though pot-grown plants can be successfully overwintered indoors). It is one of the most popular of all bedding plants for parks and gardens worldwide, typically grown in containers but also in bedding schemes. Propagation is by seed or stem cuttings (which often root readily in water).

Description : Evergreen or partly deciduous northward tree, often with suckers or multiple trunks. Leaves evergreen, some falling seasonally, up to 4 1/2 inches long, mostly smaller, ovate or narrower, upper surface rough, margins smooth, tip pointed. Flowers in clusters at the ends of the branchlets, white, fragrant. Fruit fleshy, spherical, up to 5/16 inch in diameter, orange to dark yellow, edible. Older trees have reddish, flaking bark and gnarled, stocky appearance.

Significance : Blossoms attract honeybees. Fruits attract numerous birds and mammals, nectar-bees, nectar-insects, fruit-birds and fruit-mammals. Yellowish orange fruit are sweet and good for jams. Used as ornamental and as bonsai in foreign countries.

Ehretia anacua

Family: Boraginaceae

Local names: Sandpaper tree, Paarothila



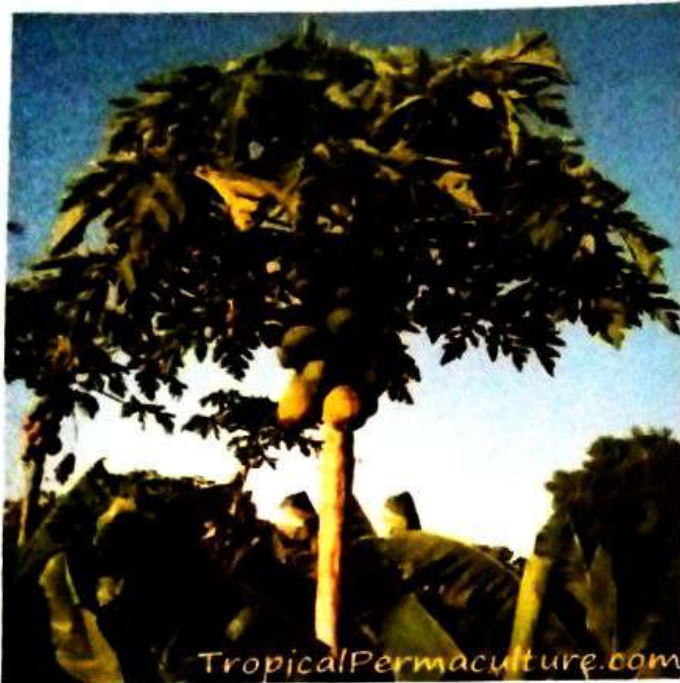
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Carica papaya

Family:Caricaceae

Local names:papaw or pawpaw ,Carica papaya.



Description: The papaya is a small, sparsely branched tree, usually with a single stem growing from 5 to 10 m (16 to 33 ft) tall, with spirally arranged leaves confined to the top of the trunk. The lower trunk is conspicuously scarred where leaves and fruit were borne. The leaves are large, 50–70 cm (20–28 in) in diameter, deeply palmately lobed, with seven lobes. All parts of the plant contain latex in articulated laticifers. Papayas are dioecious. The flowers are 5-parted and highly dimorphic, the male flowers with the stamens fused to the petals. The female flowers have a superior ovary and five contorted petals loosely connected at the base.[7]:235 Male and female flowers are borne in the leaf axils, the males in multiflowered dichasia, and the female flowers in few-flowered dichasia.[citation needed] The pollen grains are elongated and approximately 35 microns in length.[citation needed] The flowers are sweet-scented, open at night, and are wind- or insect-pollinated. The fruit is a large berry about 15–45 cm (5.9–17.7 in) long and 10–30 cm (3.9–11.8 in) in diameter.[6]:88 It is ripe when it feels soft (as soft as a ripe avocado or softer), and its skin has attained an amber to orange hue.[citation needed].

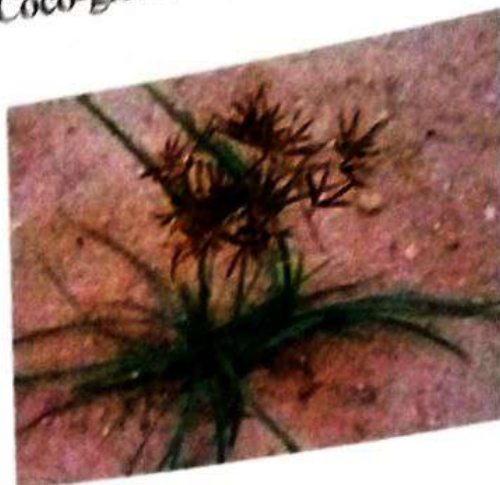
Uses: The ripe fruit of the papaya is usually eaten raw, without skin or seeds. The unripe green fruit can be eaten cooked, and is used as an ingredient in salads and stews. The black seeds of the papaya are edible and have a sharp, spicy taste. They are sometimes ground and used as a substitute for black pepper. Green papaya is used in Southeast Asian cooking, both raw and cooked. In some parts of Asia, the young leaves of the papaya are steamed and eaten like spinach. Papayas became a part of Filipino cuisine after being introduced to the islands via the Manila galleons. Unripe or nearly ripe papayas (with orange flesh but still hard and green) are julienned and are commonly pickled into atchara which is ubiquitous as a side dish

to salty dishes. Nearly ripe papayas can also be eaten fresh as ensaladang papaya (papaya salad) or cubed, and eaten dipped in vinegar or salt. Green papaya is also a common ingredient or filling in various savory dishes like okoy, tinola, ginataan, lumpia, and empanada, especially in the cuisines of northern Luzon. In Indonesian cuisine, the unripe green fruits and young leaves are boiled for use as part of lalab salad, while the flower buds are sautéed and stir-fried with chillies and green tomatoes as Minahasan papaya flower vegetable dish. In Thai cuisine, papaya is used to make Thai salads such as som tam and Thai curries such as kaengsom when still not fully ripe.

Cyperus rotundus

Family: Cyperaceae

Local Names: Coco-grass, Java grass, Nut grass, Purple nut sedge



Description: Highly variable perennial sedge with fibrous roots. Rhizomes are wiry, dark and persistent, connecting a network of daughter shoots and tubers. The tubers are dark brown to black, irregularly shaped and 1-2 cm (0.39 - 0.78 inch) long when fully grown. Each tuber has an apical bud and several lateral buds.

Significance: The plant is mentioned in the ancient Indian ayurvedic medicine Charaka Samhita (circa 100 AD). Modern ayurvedic medicine uses the plant, known as musta or musta moola churna, for fevers, digestive system disorders, dysmenorrhea, and other maladies. Several chemical substances have been identified in *C. rotundus*: cadalene, cyprotene, flavonoids, sesquiterpenes, terpenoids, mustakone, isocyperol, acyperone, rotundene, valecine, kaempferol, luteolin, quercetin, patchoulone, isopatchoulone, sugeonyl acetate, cellulose triacetate and sugebiol. A sesquiterpene, rotundone, so called because it was originally extracted from the tuber of this plant, is responsible for the spicy aroma of black pepper and the peppery taste of certain Australian Shiraz wines.

Euphorbia hirta

Family: *Euphorbiaceae*

Local name: *Chithirappala*



Description: Slender, erect, pubescent herbs about 20-35 cm tall. Leaves decussate, 1-2.5 x 0.7-1.5 cm, broadly oblong to elliptic-lanceolate, base obliquely truncate, margin serrulate, apex acute, hispid on both sides, basally 3-nerved; petiole to 3 mm long. Cyathia aggregated in single or paired axillary clusters. Involucre minute, c. 1 mm long; glands 5, red. Male flowers 4-6, ebracteolate. Female florets laterally pendulous; styles 2-fid from base. Capsule 1.5-2 mm across, pubescent. Seeds minute, red, 4-angled, minutely furrowed.

Significance: The parts of the plant that grow above the ground are used to make medicine. *Euphorbia* is used for breathing disorders

Euphorbia hirta

Family: *Euphorbiaceae*

Local name: *Chithirappala*



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Significance: The parts of the plant that grow above the ground are used to make medicine. Euphorbia is used for breathing disorders

including asthma, bronchitis, and chest congestion. It is also used for mucus in the nose and throat, throat spasms, hay fever and tumors. Some people use it to cause vomiting

In India, it is also used for treating worms, severe diarrhoea(dysentery), gonorrhea and digestive problems.

Hevea brasiliensis

Family: *Euphorbiaceae*

Local name: Rubber



Description: Trees in this genus are either deciduous or evergreen. Certain species, namely *H. benthamiana*, *H. brasiliensis* and *H. microphylla*, bear "winter shoots", stubby side shoots with short internodes, scale leaves on the stem and larger leaves near the tip; on these, the leaves are shed leaving the tree bare before new shoots develop. The remaining species bear more vigorous side shoots which develop before the old foliage is shed and thus the tree remains green. The leaves consist of three, usually elliptical, leaflets which are held horizontally or slightly drooping in most species. The inflorescences have separate male and female flowers, with the females being at the end of the panicles. The fruits are capsules,

usually with three seeds, which in all except two species (*H. spruceana* and *H. microphylla*) split explosively when ripe to eject the large seeds.

H. brasiliensis is a tall deciduous tree growing to a height of up to 43 m (141 ft) in the wild, but cultivated trees are usually much smaller because drawing off the latex restricts the growth of the tree. The trunk is cylindrical and may have a swollen, bottle-shaped base. The bark is some shade of brown, and the inner bark oozes latex when damaged. The leaves have three leaflets and are spirally arranged. The inflorescence include separate male and female flowers. The flowers are pungent, creamy-yellow and have no petals. The fruit is a capsule that contains three large seeds; it opens explosively when ripe.

Significance:Source of Hevea or Para Rubber, obtained by tapping the trunks of the trees. The latex coagulates with the aid of acetic acid, formic acid, and alum. Cured rubber used for all types of rubber products. Seeds are source of Para Rubber seed oil, recommended for manufacture of soap. Although poisonous, seeds can be eaten as a famine food after processing. Boiling removes the poison and releases the oil which can be utilized for illumination. Seeds are sometimes eaten off the ground by cattle. Kernels (50-60% of the seed) contain 40-50% of a semi-drying pale yellow oil, used in soap making, paints, varnishes, and is effective against houseflies and lice. Press cake or extracted meal can be cautiously used as fertilizer or feed for stock (Reed, 1976).

Tamarindus indica

Family: Fabaceae

Local Names: Tamarind



Description: The tamarind is a long-lived, medium-growth tree, which attains a maximum crown height of 12 to 18 metres (39 to 59 ft). The crown has an irregular, vase-shaped outline of dense foliage. The tree grows well in full sun. It prefers clay, loam, sandy, and acidic soil types, with a high resistance to drought and aerosol salt (wind-borne salt as found in coastal areas).

The evergreen leaves are alternately arranged and pinnately lobed. The leaflets are bright green, elliptic-ovular, pinnately veined, and less than 5 cm (2.0 in) in length. The branches droop from a single, central trunk as the tree matures, and are often pruned in agriculture to optimize tree density and ease of fruit harvest. At night, the leaflets close up.

Significance: The fruit pulp is edible. As the fruit matures it becomes sweeter and less sour (acidic) and the ripened fruit is considered more palatable.

Tamarind paste has many culinary uses including a flavoring for chutnies, curries, and the traditional sharbat syrup drink. Tamarind sweet chutney is popular in India and Pakistan as a dressing for many snacks. Tamarind pulp is a key ingredient in flavoring curries and rice in south Indian cuisine, and in certain varieties of Masala Chai tea. Indonesia also has a similarly sour, tamarind-based soup dish called sayurasem.

Cassia fistula

Family: Fabaceae

Local names: Golden shower, Purging cassia, Indian laburnum



Description: The golden shower tree is a medium-sized tree, growing to 10–20 m (33–66 ft) tall with fast growth. The leaves are deciduous, 15–60 cm (6–24 in) long, and pinnate with three to eight pairs of leaflets, each leaflet 7–21 cm (3–8 in) long and 4–9 cm (1.6–3.5 in) broad. The flowers are produced in pendulous racemes 20–40 cm (8–16 in) long, each flower 4–7 cm (1.6–2.8 in) diameter with five yellow petals of equal size and shape. The fruit is a legume, 30–60 cm (12–24 in) long and 1.5–2.5 cm (0.6–1.0 in) broad, with a pungent odor and containing several seeds. The tree has strong and very durable wood, and has been used to construct "Ehela Kanuwa", a site at Adams Peak, Sri Lanka

Significance: In India, flowers of the golden shower tree are sometimes eaten by people. The leaves have also been used to supplement the diets of cattle, sheep, and goats fed with low-quality forages. In Ayurvedic medicine, the golden shower tree is known as aragvadha, meaning "disease killer". The fruit pulp is considered a purgative and self-medication or any use without medical supervision is strongly advised against in Ayurvedic texts. Though it has been used in herbalism for millennia, little research has

been conducted in modern times, although it is an ingredient in some mass-produced herbal laxatives. The golden shower tree is the state flower of Kerala. The flowers are of ritual importance in the Vishu festival of Kerala, and the tree was depicted on a 20-rupee stamp. The golden rain tree is the national flower of Thailand, its yellow flowers symbolize Thai royalty. A 2006–2007 flower festival, the Royal Flora Ratchaphruek, was named after the tree, which is known in Thai as ratchaphruek and the blossoms commonly referred to as dok koon. *C. fistula* is also featured on a 2003 joint Canadian–Thai design for a 48-cent stamp, part of a series featuring national emblems. The tree is frequently cultivated in Buddhist temples in Sri Lanka where the Sinhala name is *Ehela*. *Cassia acutifolia*, the pudding-pipe tree, furnishes the cassia pods of commerce. In Laos, its blooming flowers known locally as dok khoun are associated with the Lao New Year. People use the flowers as offerings at the temple and also hang them in their homes for the New Year in belief that the flowers will bring happiness and good luck to the households.

Canscora diffusa

Family: Gentianaceae

Local Names: Kilwar, Bhuin neem



Description: is a diffuse annual herb, growing up to 15-50 cm high. It has many slender branches. Stalk less leaves are oppositely arranged on the branches. The leaves are ovate, rounded at the base, 1-2 cm long. Flowers occur in lax cymes at the end of branches. Rosy pink flowers are 1-1.5 cm across with three visible petals. Actually there are 4 petals. Two of them merge to form a single notched petal. Four stamens emerge out of the flower. Flowering: October-November.

Significance: In the Philippines, a decoction of the whole plant is used as a tonic and antigastralgie; it is used as a substitute for tea. *C. decussata* (Roxb.) Roemer & Schultes from tropical Africa, Madagascar and mainland tropical Asia (not in Malesia) is used in India as a laxative, alterative and nerve tonic; *C. diffusa* is sometimes used there as a substitute. *C. lucidissima* (H. Lév. & Vaniot) Hand.-Mazz. is used as a medicinal plant in China and Vietnam.

Tectona grandis

Family: Lamiaceae

Local names: Burmese teak, Central Province teak (CP teak), as well as Nagpur teak.



Description Teak is a large deciduous tree up to 40 m tall with gray to grayish brown branches, known for its high quality wood. Its leaves are ovate-elliptic to ovate, 15–45 cm (5.9–17.7 in) long by 8–23 cm (3.1–9.1 in) wide, and are held on robust petioles which are 2–4 cm (0.8–1.6 in) long. Leaf margins are entire. Fragrant white flowers are borne on 25–40 cm (10–16 in) long by 30 cm (12 in) wide panicles from June to August. The corolla tube is 2.5–3 mm long with 2 mm wide obtuse lobes. *Tectona grandis* sets fruit from September to December, fruits are globose and 1.2–1.8 cm in diameter. Flowers are weakly protandrous in that the anthers precede the stigma in maturity and pollen is shed within a few hours of the flower opening. The flowers are primarily entomophilous (insect-pollinated), but can occasionally be anemophilous (wind-pollinated). A 1996 study found that in its native range in Thailand, the major pollinators were species in the bee genus *Ceratina*.

Uses Teak's high oil content, high tensile strength and tight grain make it particularly suitable where weather resistance is desired. It is used in the manufacture of outdoor furniture and boat decks. It is also used for cutting boards, indoor flooring, countertops and as a veneer for indoor finishings. Although easily worked, it can cause severe blunting on edged tools because of the presence of silica in the wood. Over time teak can weather to a silvery-grey finish, especially when exposed to sunlight. Teak is used extensively in India to make doors and window frames, furniture, and columns and beams in old type houses. It is resistant to termite attacks and damage caused by other insects. Mature teak fetches a very good price. It is grown extensively by forest departments of different states in forest areas. Leaves of the teak wood tree are used in making Pellakaigatti (jackfruit dumpling), where batter is poured into a teak leaf and is steamed. [24] This type of usage is found in the coastal district of Udupi in the Tulu Nadu region in South India. The leaves are also used in gudeg, a dish of young jackfruit made in Central Java, Indonesia, and give the dish its dark brown color. Teak is used as a food plant by the larvae of moths of the genus *Endocrita* including *E. aroura*, *E. chalybeatus*, *E. damor*, *E. gmelina*, *E. malabaricus*, *E. sericeus* and *E. signifer* and other Lepidoptera including Turnip Moth.

Clerodendrum infortunatum

Family : Lamiaceae

Local name: Vattapperuku



Description

Clerodendrum infortunatum is a flowering shrub or small tree, and is so named because of its rather ugly leaf. The stem is erect, 0.5–4 m (1.6–13.1 ft) high, with no branches and produce circular leaves with 15 cm (5.9 in) diameter. Leaves are simple, opposite; both surfaces sparsely villous-pubescent, elliptic, broadly elliptic, ovate or elongate ovate, 3.5–20 cm (1.4–7.9 in) wide, 6–25 cm (2.4–9.8 in) long, dentate, inflorescence in terminal, peduncled, few-flowered cyme; flowers white with purplish pink or dull-purple throat, pubescent. Fruit berry, globose, turned bluish-black or black when ripe, enclosed in the red accrescent fruiting-calyx. The stem is hollow and the leaves are 15–20 cm (5.9–7.9 in) long, borne in whorls of four on very short petioles. The inflorescence is huge, consisting of many tubular snow white flowers in a terminal cluster up to 0.6 m (2 ft) long. The tubes of the flowers are about 10 cm (3.9 in) long and droop downward, and the expanded corollas are about 5 cm (2.0 in) across. The fruits are attractive dark metallic blue drupes, about 1 cm (0.4 in) in diameter. Fruit usually with four dry nutlets and the seeds may be with or without endosperm. It flowers from April to August.

Significance:

Clerodendrum infortunatum is used in Ayurvedic and Siddha traditional medicines. Fresh leaves are given for diarrhea, liver disorders, and headache. The leaf and root are used as antidandruff, antipyretic, ascaricide, laxative, vermifuge, anticonvulsant, antidiabetic, and for gravel, malaria, scabies, skin diseases, sores, spasm, scorpion sting, snake bite, and tumors. In many traditional practices the leaves and root are widely used as antihyperglycemic.

Desmodium triflorum

Family: Leguminosae

Local name: Nilamparanda



Description: Much branched glabrescent prostrate herbs, rooting at nodes. Leaves 3-foliolate; leaflets 0.3-1.5 x 0.3-1.4 cm, obovate, base cuneate, apex truncate or emarginate, lateral leaflets smaller than the terminal one; petiole 1.5 cm long; stipule c. 5 mm long, ovate-lanceolate. Flowers 3-4 mm long, 1-4 together in the axils of leaves; pedicels 4-6 mm long, capillary; bracts c. 2 mm long, ovate, ciliate. Calyx c. 3 mm long, covered with long silky hairs; lobes unequal, lanceolate. Petals pink to violet; standard c. 3 mm long, obovate; wings c. 2 mm long; keels to 4 mm long. Pods 1-1.5 cm long, 3-5-

jointed, lower margin deeply indented, upper entire; joints hairy or glabrous, reticulate-veined, longer than broad.

Significance: The plant is antipyretic, antiseptic, expectorant. A decoction is commonly used to treat diarrhoea and dysentery; and to quench thirst. A decoction is used as a mouthwash; and the crushed plant, or a poultice of the leaves, is applied externally on wounds, ulcers, and for skin problems in general. The whole plant is used medicinally for inducing sweat and promoting digestion.

Pterocarpus marsupium

Family: Leguminosae

Local names: Indian Kino Tree, Karavenga, Venna, Venga



Description: It is a deciduous tree, up to 30 m tall, bark 10-15 mm, surface grey or greyish-black, rough, deeply vertically cracked, exfoliations small, irregular, fibrous; blaze pink; exudation blood-red. Leaves are compound, alternate, stipules small, lateral, falling off, axis 6.5-11.1 cm long, slender, hairless. Leaflets are 5-7, alternate, estipulate; leaflet-stalk 6-10 mm, slender, hairless; blade 3.5-12.5 x 2-7 cm, elliptic-oblong, oblong-ovate or oblong, base blunt or pointed, tip blunt and notched, margin entire, hairless, leathery; lateral nerves 9-20 pairs, parallel, prominent. Flowers are bisexual, yellow, at branch-ends and in leaf-axils, borne in panicles; 1.0-1.2 cm long; bracts small, dioecious; bracteoles 2, falling off; sepal tube bell-shaped, sepals short, the upper 2 often fused; flowers are protruding; petals 5, all long-clawed, crisped along the margins; standard round, wings oblique, obovate, eard; keel petals oblique, small, slightly fused; stamens 10. Fruit is a pod, 2.5-5 cm across, round-kidney-shaped, broadly winged, seed one, somewhat kidney-shaped.

Significance: Parts of the Indian Kino Tree (heart wood, leaves and flowers) have long been used for their medicinal properties in Ayurveda. The heart wood is used as an astringent and in the treatment of inflammation. The wood and bark of the tree are known for their anti-diabetic activity.

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Erythrina variegata

Family: Leguminosae

Local names: Corky coral tree, Murukk, Nimbataru, Paribhadram



Description: It is a medium sized thorny tree with distinctly orange, corky bark and an irregular crown. The tree is a captivating sight when in bloom, with clusters of bright, orange-scarlet up-facing flower clusters sitting at the end of branchlets like exotic waterlilies. Leaves are compound with three broad leaflets, the middle one the largest. Flowers have 5 petals of unequal length, and 10 stamens. Corky Coral Tree is native to the dry, mixed forests throughout India.

Significance: It is called a friend of the farmer. Popularly grown as a shade tree for tea and coffee in koorg.

It reduce cholesterol, help fight obesity, improve digestive strength, get relief in liver disorders, cure women problems, help cure worm infestation, relief from fever, treat swelling and inflammations and cure anorexia.

Strychnos nux-vomica

Family: Loganiaceae

Local names: nux vomica, poison nut, semen strychnos, and quaker buttons



Description: *Strychnos nux-vomica* is a medium-sized tree with a short, thick trunk. The wood is dense, hard white, and close-grained. The branches are irregular and are covered with a smooth ashen bark. The young shoots are a deep green colour with a shiny coat. The leaves have an opposite decussate arrangement (each opposing pair of leaves at right angles to the next pair along the stem), are short stalked and oval shaped, have a shiny coat, and are smooth on both sides. The leaves are about 4 inches (10 cm) long and 3 inches (7.6 cm) wide. The flowers are small with a pale green colour and a funnel shape. They bloom in the cold season and have a foul smell. The fruit are about the size of a large apple with a smooth and hard shell that when ripened is a mild shade of orange in colour. The flesh of the fruit is soft and white with a jelly-like pulp containing five seeds covered with a soft, woolly substance. The seeds have the shape of a flattened disk completely covered with hairs radiating from the center of the sides. This gives the seeds

a very characteristic sheen. The seeds are very hard, with a dark gray horny endosperm where the small embryo is housed that gives off no odor but possesses a very bitter taste.

Significance: It is a major source of the highly poisonous, intensely bitter alkaloids strychnine and brucine derived from the seeds inside the tree's round, green to orange fruit. The seeds contain approximately 1.5% strychnine, and the dried blossoms contain 1.0%. However, the tree's bark also contains brucine and other poisonous compounds. Strychnos is promoted within alternative medicine as a treatment for many conditions, but the claims are not supported by medical evidence. The use of strychnine is highly regulated in many countries, and it is mostly used in baits to kill feral mammals, including wild dogs, foxes, and rodents. Most accidental poisoning is caused by breathing in the powder or by absorption through the skin.

Lagerstroemia speciosa

Family:lythraceae

Local names:adamboe; ajhar; arjuna; ary; bondaro; challa; cholaventekku; hole dasal; hole matti; jarul; jarulo; kadali; manimaruthu; marathi-bendara; motabondara; moto-bhandaro; nirmaruthu.



Description: *L. speciosa* is a shrub to large tree with multiple trunks or stems diverging from just above ground level, up to 40(45) m tall and 100(-150) cm in diameter. Leaves opposite, distichous, simple, entire, stipules minute or absent. Flowers in a large, axillary or terminal panicle, often showy, calyx funnel or bell shaped, 6(9) lobed, petals often 6, inserted near the mouth of the calyx tube, white to pink or purple, clawed, wrinkled, stamens many, in several rows, ovary superior, 3-6 locular with many ovules in each cell, style 1. Fruit a large woody capsule on the persistent calyx. Seed with an apical wing.

Uses: *L. speciosa* is grown commercially as an ornamental and shade tree due to its showy flowers and wide spreading crown. Pruned branches of this plant can be composted and used as fertilizer. The tree produces a reddish-brown wood regarded as similar to teak in characteristics, and is used in medium-heavy construction and for tools and handicrafts. In India, *L. speciosa* is considered a "holy tree" and it is said that Buddha attained enlightenment while meditating beneath a *Lagerstroemia* tree. It is also used in traditional medicine. A decoction of the bark is used against diarrhoea and abdominal pains. A leaf poultice is used to relieve malarial fever. A preparation from dried leaves, known as "banaba" is widely used across Asia to treat diabetes and urinary problems. *L. speciosa* is planted for erosion control and as a support for rattan. In Java it has been used in reforestation of degraded hills.

Naregamia alata

Family : Meliaceae

Local name: nilanaragam



Description. Goanese Ipecac is a rare shrub, 15-45 cm tall, found mainly on rocky or grassy slopes in western peninsular India. Leaves are divided into 3 leaflets, each of which is wedge-shaped-obovate, quite entire, and stalkless. The leaf stalk is winged. White flowers, 2.5-5 cm long, arise solitary in leaf axils. Sepal five, 5 mm long. Petals are 5, very long, strap-shaped, distinct, free from the stamen tube. Filaments are united into a long tube, inflated and spherical at the tip. Capsule is 3-cornered, 3-valved valves circular, 8 mm long. Seeds 2 in each cell, curved. Goanese Ipecac is endemic to Peninsular India. Flowering: April-May.

Significance: The root is cholagogue, emetic and expectorant. It is used in the treatment of rheumatism and acute dysentery. The root bark contains the alkaloid naregamin. The leaves and stems, combined with bitters and aromatics, are given in decoction for the treatment of biliousness.

Swietenia mahagoni

Family: Meliaceae

Local name: Mahogany



Description: Mahogany grows as tall as about 66-98 ft (20-30 m), and can achieve a diameter of more than 24 in (60 cm), exclusive of the large, basal buttresses the tree usually develops. Mahogany is a slow-growing tree, and it usually occurs in older, closed forests. The wood of mahogany is very hard, heavy, and strong, and has a rich, red-brown color, with an attractive, crooked grain. Mahogany wood is among the world's most prized and hardest-wearing timbers, and is principally used to manufacture fine furniture. The bark of mahogany is a dark brown color and rather scaly.

Swietenia mahagoni

Family: Meliaceae

Local name: Mahagony



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The dark-green colored leaves of mahogany are arranged in an alternate fashion on the twigs. Mahogany leaves are compound, meaning six to eight oval-shaped, leathery leaflets arise from a single petiole. The entire leaf has a length of 4-7 in (10-18 cm). Mahogany leaves are evergreen, that is, they are not shed all at once at some particular season.

Indian Mahogany grow up to the height of 30 -40 feet. It is fast upright growing tree with abroad rounded symmetrical crown. It is 20 -30 feet in spread. The fruit is a large greenish brown capsule, splitting into 5 parts releasing flat, long winged, light brown seeds. Its wood is red brown in colour. Both the male and the female flowers are produced on the same plant. The bark is smooth dark brown in colour. The leaves are pinnate which are 12 -25 cm long, with four to eight leaf.

Significance: Its wood is used in making furniture, fixtures, musical instruments, inlay, boat, caskets and many more. Its wood is a very popular material for drum making.

The bark extracts are used as an astringent for wounds. It is used to cure malaria, anaemia, diarrhoea, fever, dysentery and depurative. The leaves contain several limonoids; seven phragmalin limonoids of swietephragmins A-G as well two other different types of 2-hydroxy-3-O-tigloylswietenolide and deacetylsecomahoganin.

Cyclea peltata

Family: *Menispermaceae*

Local name: *Padathali*



Description: A slender climbing shrubs or twiner. Branches longitudinally ribbed or grooved, pubescent when young or glabrate. Leaves alternate, peltate, deltoid-elongate or triangular, 6-16 x 4-8 cm across, base oblique or subcordate, margin entire, apex deeply acuminate or apiculate, coriaceous, thin, dark green, glabrous or sparsely pilose above, paler thinly pilose or glaucous beneath, strong basal veins 5-9, impressed above and prominent beneath, veinlets fine and close, petiole pubescent or pilose, about 2-5 cm long. Inflorescence axillary, extra axillary, compound panicle of corymb cymes unisexual flowers. Male inflorescence axillary panicle of congested cymes, puberulous, peduncled, about 15-30 cm long, flowers greenish, calyx campanulate, lobed for quarter of the tube, sepals 4-6, pubescent inside, puberulous outside, petals cyathiform, glabrous, stamens 4, peltate synandrium, 6-8 loculed. Female flowers in a axillary panicle inflorescence, pubescent, about 3-5 cm long,

bracteoles lanceolate-ovate to linear, pedicels absent or sessile, petal 1, orbicular or broadly ovate, glabrous, staminodes 6, carpels 3, globose or ovoid, pubescent, style short. Fruits drupes, subglobose, obovoid, pilose, about 3-4 mm across, endocarp subovoid with three series of tubercles hooked on each edge, style scars subbasal. Seeds curved, radical angular or terete, embryo curved, cotyledons ovate-oblong.

Significance: Roots are used as medicine for treating skin diseases, wounds and snake bite. Root juice used as nasal drops for headache. Studies have shown that it is good anti-inflammatory.

The roots of patha have great medicinal value and are used for medicinal purpose, both internally as well as externally. External application of the paste of its roots and leaves is extremely beneficial, in infected wounds, sinuses and skin diseases like erysipelas and pruritus.

Acasia pennata

Family: Mimosaceae

Local names: Rusty mimosa, Kattusinikka, Kareencha, Karinja, Peincha, Kakkinja, Mala Inja, Kaariinja, Climbing Acacia, Climbing Wattle, Seengai, Feather Acacia, Narrow-leaved Soap Pod.



Description: Woody climbers, stem to 4 cm diameter, smooth, branchlets, rachises and inflorescence densely, minutely, light brown tomentellous; the branches and the underside of the rachises with recurved, hooked, smooth prickles, those on the branchlets 2-4 mm long, their base broad. Leaves alternate, bipinnate, petiolar part which has scattered c. 1 mm long prickles and a large, flattish, oval gland near its base; smaller, more rounded flattened glands are found between the bases. Flower heads globose. Flowers subsessile; bracts spatulate, apical part fimbriate. Buds brown red. Calyx thin, campanulate, glabrous or pilose, the teeth distinct, 1 mm long, brown red. Corolla hardly 1 mm longer than the calyx, light green, the tips of the lobes green or red brown. Pod strap-shaped, flat with slightly raised sutures, smooth, reddish brown, thin, straight with few or no indents, dehiscent, along both sutures, distinctly stalked, apex acute; seeds flat, round; the pod slightly bullate over the seeds.

Uses: Used to treat asthma and bronchitis. Mixed with other medicinal ingredients to neutralize snake venom. Leaf: Ingested to prevent formation of calluses and to control gas, as well as to treat indigestion and bleeding gums. Leaf and Root: Bitter and astringent, they are employed to correct irregularities in the blood, treat gas and bile problems, relieve coughs, stimulate appetite, and alleviate female disorders. Root: Made into a paste, together with the gall bladder of a python, and used to cure tongue sores or roughness. Also, an ingredient in medicines used to treat urinary disorders and enlargement of the testicles.

Mimosa pudica

Family: Mimosaceae

Local names: Touch-me-not plant, Thottavadi



Description : It grows to a height of 50 cm with a spread of 30 cm. The stem is erect, slender and branching. The leaves are bipinnate, fern like and pale green- closing when disturbed. Stalked pale pink or purple flower-heads arise from the leaf axils. The round to ovoid heads are 8-10 mm in diameter (excluding the stamens). The floret petals are red in their upper part and the filaments are pink to lavender. The fruit consists of clusters of 2-8 pods from 1-2 cm long each, these prickly on the margins. The pods break into 2-5 segments and contain pale brown seeds some 2.5 mm long. The flowers are pollinated by the wind and insects. The seeds have hard seed coats which restricts germination.

Significance : It is used as an ornamental plant due to its thigmonastic and nyctinastic movement. In some areas this plant is becoming a noxious weed.

It is used to avoid or cure several disorders like cancer, diabetes, hepatitis, obesity, and urinary infection. It is famous for its anticancer alkaloid, mimosine, along with several valuable secondary metabolites like tannins, steroids, flavonoids, triterpenes, and glycosylflavones.

A wide array of pharmacological properties like antioxidant, antibacterial, antifungal, anti-inflammatory, hepatoprotective, antinociceptive, anticonvulsant, antidepressant,

antidiarrheal, hypolipidemic activities, diuretic, antiparasitic, antimalarial, and hypoglycemic have been attributed to different parts of *M. pudica*.

Glucuronoxylan polysaccharide extruded from seeds of *M. pudica* is used for drug release formulations due to its high swelling index.

Acacia sensu lato

Family: Fabaceae

Local Names: Mimosa, thorn tree or wattle



Description :The leaves of acacias are compound pinnate in general. In some species, however, more especially in the Australian and Pacific Islands species, the leaflets are suppressed, and the leaf-stalks (petioles) become vertically flattened in order to serve the purpose of leaves. These are known as "phyllodes". The vertical orientation of the phyllodes protects them from intense sunlight since with their edges towards the sky and earth they do not intercept light as fully as horizontally placed leaves. A few species (such as *Acacia glaucoptera*) lack leaves or phyllodes altogether but instead possess cladodes, modified leaf-like photosynthetic stems functioning as leaves.

Significance :Acacia seeds are often used for food and a variety of other products.

In Myanmar, Laos, and Thailand, the feathery shoots of *Acacia pennata* are used in soups, curries, omelettes, and stir-fries. Various species of acacia yield gum. Acacia species have possible uses in folk medicine. Acacias can be planted for erosion control, especially after mining or construction damage.

Artocarpusheterophyllus

Family: Moraceae

Local



Names: Jackfruit

Description:

The evergreen leaves are alternately arranged and pinnately lobed. The leaflets are bright green, elliptic-ovular, pinnately veined, and less than 5 cm (2.0 in) in length. The branches droop from a single, central trunk as The jackfruit (*Artocarpusheterophyllus*), also known as jack tree, is a species of tree in the fig, mulberry, and breadfruit family (Moraceae). Its native range is unknown but most sources place its center of origin in the region between the Western Ghats of southern India to the rainforests of Borneo. *Artocarpusheterophyllus* grows as an evergreen tree that has a relatively short trunk with a dense treetop. It easily reaches heights of 10 to 20 meters and trunk diameters of 30 to 80 centimeters. It sometimes forms buttress roots. The bark of the jackfruit tree is reddish-brown and smooth. In the event of injury to the bark, a milky juice is released.

Significance: Ripe jackfruit is naturally sweet, with subtle flavouring. It can be used to make a variety of dishes, including custards, cakes, or mixed with shaved ice as *es teler* in Indonesia or *halo-halo* in the Philippines. Jackfruit dosas can be prepared by grinding jackfruit flesh along with the batter. Ripe jackfruit arils are sometimes seeded, fried, or freeze-dried and sold as jackfruit chips. The golden yellow timber with good grain is used for building furniture and house construction in India. It is termite-proof and is superior to teak for building furniture. The wood of the jackfruit tree is important in Sri Lanka and is exported to Europe. Jackfruit wood is widely used in the manufacture of furniture, doors and windows, in roof construction, and fish sauce barrels.

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Psidium guajava

Family: Myrtaceae

Local Names: Guava, Pera



Description: A small tree or shrub with prominently scroll-marked, overall smooth, grey and rust-brown bark and bright yellow-green crown with hanging leaves and twigs. Leaf lamina is 4-10 x 2.5-6 cm, oblong lanceolate to elliptic. Flower is 3 cm diameter. Fruit is 4 cm diameter. Fruit is pear-shaped and hard.

Significance: *Psidium guajava* has been used for inflammation, diabetes, hypertension, caries, wounds, pain relief, fever, diarrhoea, rheumatism, lung diseases, and ulcers. Guava is an edible fruit and can be eaten raw or cooked. The processing of the fruits yields by-products that can be fed to livestock. It is very useful to our health. The leaves can also be used as fodder.

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Oxalis corniculata

Family: Oxalidaceae

Local Names: Creeping woodsorrel, Puliyarila



Description: *Oxalis corniculata* is a annual or short-lived perennial plant growing only 5 - 10cm tall but spreading at the roots to form a mat of growth 30cm or more wide. The plant is sometimes harvested from the wild for food, medicine and various other commodities.

Significance: The leaves of woodsorrel are quite edible, with a tangy taste of lemons. A drink can be made by infusing the leaves in hot water for about 10 minutes, sweetening and then chilling. The entire plant is rich in vitamin C. Any woodsorrel is safe in low dosages, but if eaten in large quantities over a length of time can inhibit calcium absorption by the body.

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Biophytum Sensitivum

Family : Oxalidaceae

Local name: Mukkutti



Description:

The Little Tree Plant grows up to a maximum of 20 cm and possesses an unbranched woody and erect stem. The Little Tree Plant has pinnate leaves with each having around 8 to 17 pairs. Each leaflet is up to 1.5 cm long and can reach a maximum length of 5cm. The pair at the end of the leaf is generally the largest. The flowers are many and crowded at the apices of the numerous peduncles. The colours of these flowers are generally yellow, white or orange with a red streak in the center of each of the five petals. The sepals are subulate-lanceolate, striate, and about 7 mm long. Fruits are ellipsoid capsules which are shorter than the persistent calyx.

Significance

Mukkutti has been used in traditional folk medicine to treat numerous diseases. These include:

- Mukkutti is used as a tonic and stimulant
- It is used for chest complaints, convulsions, cramps, and inflammatory tumors.
- A decoction made with the herb's ashes and mixed in lime juice is given as a cure for stomach ache.
- The leaves and roots of this plant are styptic and are therefore used to treat various bleeding diseases.
- for individuals suffering from dysentery.

Apart from these uses, Mukkutti is also used to treat Arthralgia, Arthritis, Back Pain, Bone Spur, Bursitis, Carpal Tunnel Syndrome, Cervical Spondylosis, Degenerative Joint Disease, degenerative Neck Disease, Fibromyalgia, Leg Cramps, Leg pains, Osteoarthritis, Rheumatoid Arthritis Scientific name: *Sphagneticola trilobata*, Sprains, Stiff Neck, Tendonitis and Tennis Elbow in Ayurveda.

Phyllanthus emblica (22pt)

Family: Phyllanthaceae (18pt)

Local names: Gooseberry, Nelli, Amla (18pt)



Description (13pt) **Bold:** The tree is small to medium in size, reaching 1–8 m (3 ft 3 in–26 ft 3 in) in height. The branchlets are not glabrous or finely pubescent, 10–20 cm (3.9–7.9 in) long, usually deciduous; the leaves are simple, sub sessile and closely set along branchlets, light green, resembling pinnate leaves. The flowers are greenish-yellow. The fruit is nearly spherical, light greenish-yellow, quite smooth and hard on appearance, with six vertical stripes or furrows.

Significance (13pt) **Bold:** In Ayurvedic polyherbal formulations, Indian gooseberry is a common constituent, and most notably is the primary ingredient in an ancient herbal rasayana called Chyawanprash.

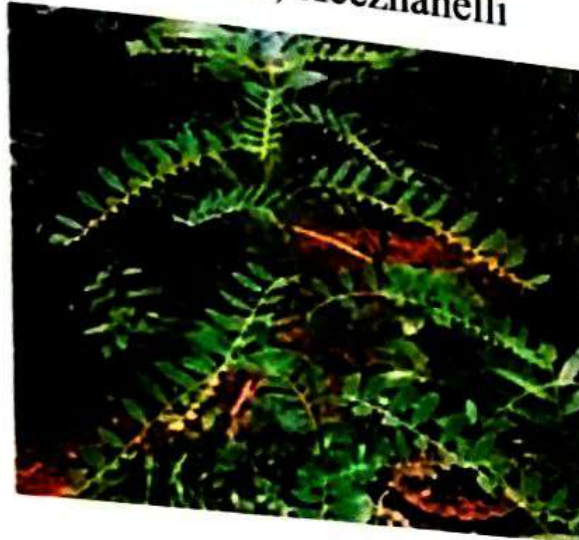
The fruit is commonly pickled with salt, oil, and spices. The amla fruit is eaten raw or cooked into various dishes. Popularly used in inks, shampoos and hair oils, the high tannin content of Indian gooseberry fruit serves as a mordant for fixing dyes in fabrics.

alleviate pressure on food production as there is 2Gha of non-arable land suitable for energy crop production. Thermal pyrolytic conversion is used to produce charcoal, biogas and bio-oil. Although this technology is not currently in use, it could be implemented as a means of providing energy to African communities, while enriching the soils of the local landscape. It is also used as source of fuel. The young leaves and shoots are edible and are cooked to make soups and stews.

Phyllanthus niruri

Family: Phyllanthaceae

Local Names: Bhumyamalaki, Keezhanelli



Description: Stipules are produced with each leaf, but in some, these fall before the leaf is fully mature. Leaflike stems called cladodes that bear flowers along their edges. The leaves are compound. The leaf margin is almost always entire, rarely toothed. A petiole is nearly always present, often with a pulvinus at its base. The inflorescences are usually in the axils of leaves, rarely below the leaves or at the ends of stems. The flowers are actinomorphic in form. The sepals are three to eight in number, usually free from each other. Petals may be absent or present. If present, there are usually four to six, and their color is yellow to green, or rarely, pink or maroon. A nectary disk is often present. It may be in the form of a ring, or divided into segments. The stamens are three to ten in number, or rarely more, free or variously fused. ovary is superior. The fruit is a schizocarp, berry.

Significance: *Phyllanthus niruri* has been used in Ayurveda, Siddha for problems of the stomach, genitourinary system, liver, kidney, and spleen, and to treat chronic fever. It is used to treat kidney stones and gallstones.

Scoparia dulcis

Family: Plantaginaceae

Local names: Sweetbroom weed, Kalluruki



Description : It is a branched herb with wiry stems, growing up to 1 m tall. Small white, hairy flowers occur in leaf axils. The stamens are greenish and the ovary is green. Flower-stalk is 5-10 mm, hairless. Calyx is lobed to the base, sepals 4, ovate-oblong, about 2 mm, margin fringed with hairs, tip blunt. Flowers are white, about 4 mm across. Tube is densely hairy at throat, petals 2-3 mm, obovate roundish, upper petal slightly larger than others. Stamens protruding. Style erect. Narrowly elliptic, almost stalkless leaves are arranged oppositely or in whorls of 3. Leaves are 3-4 X 1-1.5 cm wide, with serrated margins.

Significance : It is traditionally used in treatment of diabetes, dysentery, earache, fever, gonorrhea, headaches, jaundice, snake bite, stomach problems, toothache, warts. Efficiently used for treating urinary calculi by folklore practitioners.

Pennisetum purpureum

Family: poaceae

Local name: Napier grass, elephant grass or Uganda grass



Description: *Pennisetum purpureum* is a monocot C4 perennial grass in the family Poaceae. It is tall and forms in robust bamboo-like clumps. It is a heterozygous plant, but seeds rarely fully form; more often it reproduces vegetatively through stolons which are horizontal shoots above the soil that extend from the parent plant to offspring. This species has high biomass production, at about 40 tons/hectare, can be harvested 4-6 times per year. Additionally it requires low water and nutrient inputs.

Napier can be propagated through seeds, however as seed production is inconsistent, collection is difficult. Alternatively, it can be planted through stem cuttings of the stolons. The cuttings can be planted by inserting them along furrows 75 cm apart, both along and between rows.

Significances: Napier grass is the most important fodder crop for the dairy farmers in East Africa. Its high productivity makes it particularly suited to feed cattle and buffaloes. It is also an important forage for elephants in Africa, hence its name "elephant grass". Hairless varieties, such as Ugandan hairless, have much higher value as fodder. As it is able to grow with little water and nutrients, grazing has made productive use of arid lands for food production. Furthermore, livestock can be incorporated into the pull-push management system providing another economically viable purpose for the 'trap' plant. Napier grass is valuable to African landscapes as it prevents soil erosion. It can also serve as a fire break, a wind break, and to improve soil fertility. More recently, Napier has been used to

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Chassalia curviflora

Family :Rubiaceae

Local name :curved flower



Description :Chassaliacurviflora is a species of flowering plant in the family Rubiaceae, the coffee family. Its common names include curved flower woody chassalia and wan guan hua. It is native to South and East Asia. Its Subshrubs, erect, 1-2 m tall; branches weakly flattened to subterete, glabrous or rarely sparsely puberulent. Leaves opposite; petiole 1-4 cm, glabrous, blade drying membranous to thinly papery and often yellowish green, oblong-elliptic, elliptic, oblanceolate, or narrowly lanceolate. Corolla white with pink, red, or orange on lobes, outside glabrous to sparsely puberulent and longitudinally ridged to winged along tube then midribs of lobes; tube shallowly to markedly curved, straight or bent at base

Significance :Alstroline A was isolated from Chassaliacurviflora. This plant is potentially good source of antibacterial agents and demonstrates the importance of such plants in traditional medicines.

Mitracarpus

Family: Rubiaceae

Common name :Girdlepod



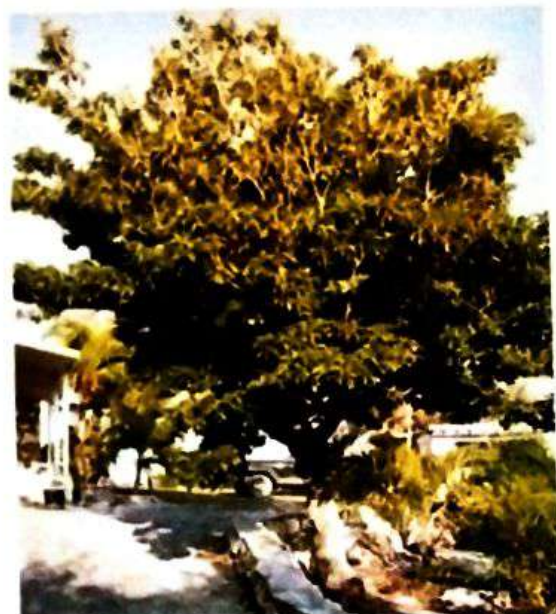
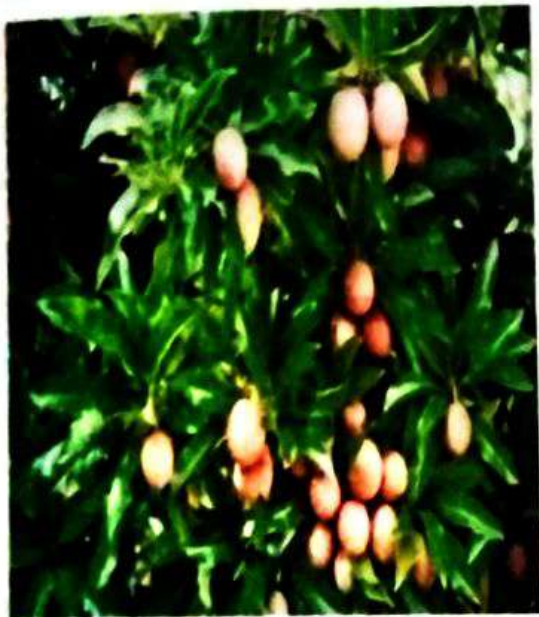
Description: Mitracarpus contains generally erect, annual plant that can be simple or sometimes much branched. The relatively stout stems can be 30 - 60cm tall. The plant is sometimes gathered from the wild for local medicinal use. Usually a weed in waste or cultivated ground, it is sometimes in pastures, on open banks, or in thickets. Most commonly found at lower elevations, especially on the coastal plains, but can ascend to 1,900 metres in Guatemala.

Significance: The dried leaves are said to heal old ulcers rapidly. Most of the plant in this genus is an antidote for arrow poison.

Manilkara zapota

Family: *Sapotaceae*

Local name: *Chikoo, Sapota*



Description: Sapodilla can grow to more than 30 m (98 ft) tall with an average trunk diameter of 1.5 m (4.9 ft). It is wind-resistant and the bark is rich in a white, gummy latex called chicle. The ornamental leaves are medium green and glossy. They are alternate, elliptic to ovate, 7–15 cm (2.8–5.9 in) long, with an entire margin. The white flowers are inconspicuous and bell-like, with a six-lobed corolla. An unripe fruit has a firm outer skin and when picked, releases white chicle from its stem. A fully ripened fruit has saggy skin and does not release chicle when picked.

The fruit is a large berry, 4–8 cm (1.6–3.1 in) in diameter. Inside, its flesh ranges from a pale yellow to an earthy brown color with a grainy

texture akin to that of a well-ripened pear. Each fruit contains one to six seeds. The seeds are hard, glossy, and black, resembling beans, with a hook at one end that can catch in the throat if swallowed.

The fruit has an exceptionally sweet, malty flavour. The unripe fruit is hard to the touch and contains high amounts of saponin, which has astringent properties similar to tannin, drying out the mouth.

The trees can survive only in warm, typically tropical environments, dying easily if the temperature drops below freezing. From germination, the sapodilla tree will usually take anywhere from five to eight years to bear fruit. The sapodilla trees yield fruit twice a year, though flowering may continue year-round.

Significance: A leaf decoction is taken for fever, haemorrhage, wounds and ulcers. For neuralgia, leaf with tallow is applied as a compress on the temples. The flowers are used as one of the ingredients of a powder that is rubbed on the body of a woman after childbirth.

The bark is astringent, febrifuge and tonic. Tannin from the bark is used to cure diarrhoea and fever. Seeds are antipyretic, and when ground with water they act as a diuretic. The pulverized roots are used to treat thrush in babies. The plant is a source of saponin, a glucoside used in medicine as a febrifuge.

Chrysophyllum cainito

Family: Sapotaceae

Local names: cainito, caimito, tar apple, star apple, purple star apple, golden leaf tree, abiaba, pomme de lait, estrella, milk fruit and aguay.



Description: The star apple tree is erect, 25 to 100 ft (8-30 m) tall, with a short trunk to 3 ft (1 m) thick, and a dense, broad crown, brown-hairy branchlets, and white, gummy latex. The alternate, nearly evergreen, leaves are elliptic or oblong-elliptic, 2 to 6 in (5-15 cm) long, slightly leathery, rich green and glossy on the upper surface, coated with silky, golden-brown pubescence beneath when mature, though silvery when young. Small, inconspicuous flowers, clustered in the leaf axils, are greenish-yellow, yellow, or purplish-white with tubular, 5-lobed corolla and 5 or 6 sepals. The fruit, round, oblate, ellipsoid or somewhat pear-shaped, 2 to 4 in (5-10 cm) in diameter, may be red-purple, dark-purple, or pale-green. It feels in the hand like a rubber ball. The glossy, smooth, thin, leathery skin adheres tightly to the inner rind which, in purple fruits, is dark-purple and 1/4 to 1/2 in (6-12.5 mm) thick; in green fruits, white and 1/8 to 3/16 in. (3-5 mm) thick. Both have soft, white, milky, sweet pulp surrounding the 6 to 11 gelatinous, somewhat rubbery, seed cells in the center which, when cut through transversely, are seen to radiate from the central core like an asterisk or many-pointed star, giving the fruit its common English name. The fruit may have up to 10 flattened, nearly oval, pointed, hard seeds, 3/4 in (2 cm.) long, nearly 1/2 in (1.25 cm) wide, and up to 1/4 in (6 mm) thick, but usually several of the cells are not occupied and the best fruits have as few as 3 seeds. They appear black at first, with a light area on the ventral side, but they dry to a light-brown.

Uses. The ripe fruit is edible. The ripe fruit, because of its mucilaginous character, is eaten to soothe inflammation in laryngitis and pneumonia. It is given as a treatment for diabetes mellitus, and as a decoction is gargled to relieve angina. It is taken to halt diarrhoea, dysentery and hemorrhages, gonorrhea and "catarrh of the bladder". The bitter, pulverized seed is taken as a tonic, diuretic and febrifuge. The leaves in order to administer the decoction as a cancer remedy. The latex of the tree is applied on abscesses also used to treat dysentery.

Helicter

Family : Malvaceae

Local name : Idampiri valampiri



Description

H. isora is a small tree or large shrub, five to eight metres in height. It has grey bark and alternately arranged, hairy, ovate leaves with serrate margins. Its flowers are brick red or orange-red, and its fruits are green when raw, brown or grey when dried, and twisted, with a screw at its pointed end. Seeds of the plant are black or brown and are highly polished, roughly rhomboid, and rectangular or triangular. Pollinators of the flower include the jungle babbler, the golden-fronted leafbird, the ashy drongo, and the white-bellied drongo.

Significance

The fruits and roots of *H. isora* are used in traditional medicine systems of Asia, Iraq and South Africa, where they are credited with having value in treatment of a wide variety of conditions, including gastrointestinal disorders, diabetes, cancer, and infections . There appear to have been no scientific investigations of these beliefs. However, laboratory studies have confirmed that both bacteria and cancer cells may survive less well in the presence of extracts of the fruits . Animal studies have shown that extracts of the roots can improve glucose tolerance in diabetic rats

Adiantum philippense

Family :pteridaceae

Local name :walking maidenhair fern



Description: *Adiantum philippense* is a small and delicate fern. Rhizome short, sub-erect, the apex covered with scales, scales linear, a little broader at base. Stipes are tufted, slender, dark brown, shining, glabrous, 5 to 21 centimeters long. Fronds tufted, herbaceous, arching. Stipe up to 20 cm long, dark brown to black, shiny, glabrous. Lamina pinnate, linear to lance late in outline; 36 × 11 cm, excluding a glabrous extension of the rachis of varying length, which often ends in a proliferous bud or lamina.

Significance: *Adiantum philippense* is well known for its antioxidant potential. Decoction of fresh leaves used as stomachic and diuretic and also used as a cure for dysentery. Fronds extract used in fever, asthma, bronchitis dysentery, epilepsy, leprosy, ulcers, and erysipelas. Dried rhizome mixed with water taken orally by women once during menstruation for sterility.

Selaginella

Family: Selaginellaceae

Local names: spikemosses or lesser clubmosses



Description: *Selaginella* species are creeping or ascendant plants with simple, scale-like leaves (microphylls) on branching stems from which roots also arise. The stems are aerial, horizontally creeping on the substratum (as in *Selaginella kraussiana*), sub erect (*Selaginella trachyphylla*) or erect (as in *Selaginella erythropus*). The vascular steles are polystelic protosteles. stem section shows the presence of more than two protosteles. Each stele is made up of diarch (centre of origin on the inside, later cells are added centrifugally) and exarch (centre of origin located laterally, later cells are added centripedally) xylem in centre.[clarification needed][citation needed] The steles are connected with the cortex by means of many tube-like structures called trabeculae, which are modified endodermal cells with casparian strips on their lateral walls. The stems contain no pith. Unusually for the lycopods, which generally have microphylls with a single unbranched vein, the microphylls of *Selaginella* species contain a branched vascular trace. In *Selaginella*, each microphyll and sporophyll has a small scale-like outgrowth called a ligule at the base of the upper surface. The plants are heterosporous

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with spores of two different size classes, known as megaspores and microspores. Under dry conditions, some species of *Selaginella* can survive dehydration. In this state, they may roll up into brown balls and be uprooted, but can rehydrate under moist conditions, become green again and resume growth. This phenomenon is known as poikilohydry, and poikilohydric plants such as *Selaginella bryopteris* are sometimes referred to as resurrection plants.

Significance: The resurrection plant, *Selaginella lepidophylla*, is famous for its ability to appear to come back from the dead. It has an incredible ability to tolerate draught and can remarkably grow fresh, green leaves after multiple years of zero rain.

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