



Plant description file: *Quisqualis indica*
 Linnaeus, Sp. Pl., ed. 2, 1: 556. 1762. (*)

IUCN Status (IUCN 2.3)

Low invasive.

↑ Usages

(*) Scientific name.

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Common names: Chinese honeysuckle, Rangoon creeper, Rangoon jasmine, drunken sailor (En). Badamier (?), badamier sauvage (?), liane vermifuge (Fr). « Caractère des hommes » [“Character of men”] (The West Indies and Guyana). Quiscual (in Spanish), Niyog-niyogan, Niog-niogan (in Filipino), Madhu Malti or Madhumalti (in Hindi), Madhuvi lota and Modhumonjori (মধু মঞ্জুরী in Bengali; named by Rabindranath Tagore), Malati (মালতী in Assamese), Madhumaloti (মধুমালোতি in Manipuri), Akar Dani (in Malay) and Radha Manoharam (in Telugu) (Source : Wikipedia En). Cocuisa (in Dominican Republic) (Source : Top tropicals). Madhubi, Madhobi (in Oman).

Vernacular name: Kaloni kakala (in Tonga). Indian Alkikowal or Indian Alqmbrít الهندي القمبريط أو الكيکوال (Arabe)

Trade name: Corazon de hombre, Cuiscualis (Spanish).

Synonym(s): *Combretum indicum* (L.) DeFilippis. *Kleinia quadricolor*, *Mekistus sinensis*, *Quisqualis ebracteata*, *Quisqualis glabra*, *Quisqualis grandiflora*, *Quisqualis longiflora*, *Quisqualis loureiroi*, *Quisqualis madagascariensis*, *Quisqualis obovata*, *pubescens Quisqualis*, *Quisqualis sinensis*, *Quisqualis spinosa*, *Quisqualis villosa*. Source : http://www.floraofgatar.com/quisqualis_indica.htm
Kleinia Crantz (1766), not Miller (1754); *Mekistus* Loureiro ex B. A. Gomes; *Sphalanthus* Jack.

Distribution and geographic areas:



Map of the Africa geographical distribution.



Flowers (source: Wikipedia En).



Leaves (source: Wikipedia En).

Geographic latitudes (°N/ °S):

Altitude range: m.

Origin: It is native to tropical Asia. Burma, Malay Peninsula, New Guinea, and the Philippine Islands (Source : toptropicals.com).

Known introduction regions: There is still doubt whether it is indigenous to East Africa or was introduced there long ago. It is nowadays widely cultivated throughout the tropics and subtropics, mainly as an ornamental plant, and has become naturalized in many localities (Source: Prota database). **Distribution:**

- In thickets and secondary forests throughout the Philippines.
- Ornamentally planted for its flowers.
- Also occurs in India to Malaya.
- Introduced in most tropical countries

(source : <http://www.stuartxchange.com/Niyog.html>)

Scientific classification	Phylogenetic classification	Physical characteristics / dimensions
Kingdom : <i>Plantae</i>	Clade :	Max high plant: m
Sub-Kingdom : Angiosperms	Clade : Angiosperms	Max high “trunk”: m
Division : <i>Eudicots</i>	Clade : <i>Eudicots</i>	
Class : <i>Rosids</i>	Clade : <i>Rosids</i>	Density: ~ kg/m3 (Years and % moisture)
Sub-class :	Clade :	Calorific power: kcal/kg
Order : <i>Myrtales</i>	Order : <i>Myrtales</i>	Lifetime:
Family : <i>Combretaceae</i>	Family : <i>Combretaceae</i>	
Genus : <i>Combretum</i>	Sub-family : <i>Combretum</i>	Tribe:
Binomial name : <i>Quisqualis indica</i> L	Species : <i>Quisqualis indica</i> L	Group: Leafy / Conifer.

Dendrological characteristics / Morphological characteristics
Port / Shape of crown / silhouette: <u>vine</u> with red flower clusters. <u>Ligneous</u> vine that can reach from 2.5 meters to up to 8 meters (Wikipedia En). Lianas woody (Flora of China). An extremely beautiful shrubby vine with pale-pink to deep crimson star shaped flowers that are borne in tight clusters, covering the entire plant when in full bloom. It's scent is unforgettable, sweet, fruity and intoxicating (Source: toptropicals.com). Deciduous (Source : <i>Quisqualis indica</i> , greening, Hong Kong). Niog-niogan is a large climbing, woody shrub reaching a length of 2 to 8 meters. Brown hairs give the younger parts a rusty appearance (Source : http://www.stuartxchange.com/Niyog.html).
Aspect / direction & number of branches: Climbing with support.
Type / Form (shape) of trunk / shaft (barrel):
Aspect of the bark:
Type / Form (shape) of flower: Inflorescences terminal or axillary, simple or sometimes compound spikes. Calyx tube (1.7–)5–9 cm, ± uniformly narrowly tubular except funnelform at apex, deciduous above ovary, hairy or subglabrous; lobes 5, deltoid or triangular-lanceolate, small, apex sometimes cuspidate. Petals 5, white or red, larger (often much more so) than calyx lobes. Stamens 10, not or scarcely exerted from calyx tube. Style partly adnate to inside of calyx tube (in Chinese species) (Flora of China). The fragrant flowers are born in clusters and each flower has many variations of color, depending on how old the flower is. The flower starts out white and or pink striped and turn solid pink and finally dark pink on maturity. Flowers - short, axillary and terminal drooping racemes, white first and then rosy or scarlet, with a narrow tube (Source: toptropicals.com). The flowers are fragrant and tubular and their color varies from white to pink to red (Source: Wikipedia En). Flowers are fragrant, tubular, showy, first white, then becoming red, reddish-purple or orange, exhibiting the range of colors in clusters, on the same flower stalk (Source : http://www.stuartxchange.com/Niyog.html).
Type / Form (shape) of fruit / pod: The 30 to 35 mm long fruit is ellipsoidal and has five prominent wings. The fruit tastes like <u>almonds</u> when mature (Source: Wikipedia En). Fruit is narrowly ellipsoid, 2.5 to 3 centimeters long, with five, sharp, longitudinal angles or wings (Source : http://www.stuartxchange.com/Niyog.html).
Type / Form (shape) of seed: Fruit fusiform to subglobose or ovoid, longitudinally 5-ridged or - winged, dry, leathery (Flora of China). Fruit; oblong, with sharp angles, glabrous, black (Source: toptropicals.com). Seeds are pentagonal and black (Source : http://www.stuartxchange.com/Niyog.html).
Appearance and type of leaf: Leaves opposite or subopposite; petiole persistent and thorn-like; leaf blade ± elliptic, glabrous or hairy (Flora of China). Leaves - opposite, oblong or obovate (Source: toptropicals.com). The leaves are elliptical with an acuminate tip and a rounded base. They grow from 7 to 15 centimeters and their arrangement is opposite (Source: Wikipedia En). Leaves are oblong to elliptic, opposite, 7 to 15 centimeters long, rounded at the base and pointed at the tip (Source : http://www.stuartxchange.com/Niyog.html).
Length of leaves (cm): 7 to 15 cm. Leaf petiole size (cm):
Color of the top surface of the leaf: . Color of leaves below the surface:
Root system:
Phenology
Foliage (period of) or / and Phenology [deciduous / evergreen ...]:
Flowering period: Flowers and fruits during May to September (max flowering: June). It will die back in lower temperatures but should come back in the spring (Source: toptropicals.com).
Fructification (period of): idem.
Fertilization (period of):
Soil characteristics
Texture :
Ph :
Drainage (drain):
Characteristic (s) or type of soil:
Climate
Type(s) of climate(s) : Hot and humid or irrigated (source: toptropicals.com). Tolerant to wind and salt spray (Source: <i>Quisqualis indica</i> , greening, Hong Kong).

Annual rainfall:
Number of dry months:
Average annual temperature: Grows best at temperatures above 40 degrees °F (4°C) (source : toptropicals.com).
Average temperature of the coldest month:
Type of sunshine (heliophilic / ombrophilic temperament, etc.): Sun to partial shade (source: toptropicals.com)
Forestry
<i>Nursery</i>
Seeds sources:
Weight of 1000 seeds or number of seeds / kg:
Seed Conservation (Orthodox / Recalcitrant):
Pre-germination treatment of seeds:
Seeds germination:
Multiplication from seeds:
Vegetative multiplication or other propagation methods:
Where to buy or find seeds:
Miscellaneous information (on nursery techniques):
Optimum space dimension for regeneration:
Transplantation (planting):
Planting
Planting type:
Vegetative propagation / propagation / Reproductive biology: The niyog-niyogan is usually dispersed by water (Source : Wikipedia En).
Particularities / Character [pioneer, nomad ...]:
Varieties [subspecies] and neighboring species (s) / cultivar (s): The most popular Thai hybrid has double flowers. Very difficult to propagate. Highly fragrant in warm humid afternoon. (Source: toptropicals.com).
Hybridation:
Genetic and chromosomal data: <i>Genetic resources:</i> Chromosome number: 22, 24, 26 <i>Combretum indicum</i> is commonly planted as an ornamental throughout the tropics and subtropics, and is therefore not threatened by genetic erosion. Source : http://uses.plantnet-project.org/e/index.php?title=Combretum_indicum_(PROTA)&printable=yes
Phytosanitary problems (fragilities and diseases / pests): <i>Diseases and pests:</i> <i>Combretum indicum</i> is a host to a wide variety of insects, including aphids, scale insects and caterpillars, as well as nematodes, fungi and various crop viruses. These pests and diseases are mainly documented from Asian countries, but probably several of these problems also occur in tropical Africa. Source : http://uses.plantnet-project.org/e/index.php?title=Combretum_indicum_(PROTA)&printable=yes
Fire resistance:
Various resistance (s) [to flooding ...]:
Rejuvenating Cutting Capacity:
Resistance to mutilation:
Care / Management: Recommended Soil Depth: 450 – 600. Fertilising Demand: average. Irrigation Demand: yes. Pruning Demand: low. Climbing on <i>a support</i> . Cultivation in (stack) planters possible (Source: <i>Quisqualis indica</i> , greening, Hong Kong). Management: <i>Combretum indicum</i> can be maintained as a large shrub with vigilant pruning. It can also be grown over a trellis or wall. It prefers a fertile humus-rich soil, and regular fertilization is needed for optimal flowering. In the Philippines, <i>Combretum indicum</i> has been planted for medicinal purposes at a spacing of 2–3 m × c. 4 m with 1.5 m high trellises along the rows Propagation and planting: <i>Combretum indicum</i> can be propagated by seeds, stem cuttings, air layering and root suckers. Seeds germinate easily when fresh. Stem cuttings root with difficulty, and best results have been obtained with 2-year-old cuttings with at least 3 nodes, planted in a sandy soil with silt added. After 1 month, an adequate root system is developed. Cuttings in coarse sand showed about 50% rooting success; adding a rooting hormone increased rooting. Source : http://uses.plantnet-project.org/e/index.php?title=Combretum_indicum_(PROTA)&printable=yes
Usages:

Diet:
<p>Harvesting: Fruits can be collected for medicinal purposes half-ripe, when they are still bitter. Mature fruits are ready for picking when they have turned reddish-brown. Source : http://uses.plantnet-project.org/e/index.php?title=Combretum_indicum_(PROTA)&printable=yes</p>
<p>Handling after harvest: Mature fruits are air-dried for a month to attain a moisture content of less than 10%. Immature fruits should be checked thoroughly for parasitism. Dried fruits can be stored for up to 1 year, but the effect of storage on the quissqualic acid content is not yet known. Source : http://uses.plantnet-project.org/e/index.php?title=Combretum_indicum_(PROTA)&printable=yes</p>
<p>Yield / Productivity (organic matter/fruit ...): from m3/ha/year (to years), for m3/ha/year to 10 years or kg/year:</p>
<p>Growth (increase): <i>Growth and development:</i> <i>Combretum indicum</i> is a vigorous climber, and can be found flowering throughout the year if the temperature remains high enough and enough water is available. It flowers mainly on new growth. The stems twine to the left. The flowers, which open at dusk, are initially white but gradually turn pink then red during the next day. In the meantime, the orientation of the flower changes from upwards or horizontal to pendulous. Each flower lasts 3 days; the largest amount of nectar is present at the morning of the first day. The inflorescence usually opens a few new flowers at the same time, so multiple colours are always present on a plant. Fruiting plants are rare in many localities. The fruits are buoyant in both fresh water and seawater, and are thus dispersed. Source : http://uses.plantnet-project.org/e/index.php?title=Combretum_indicum_(PROTA)&printable=yes</p>
Uses
<p>Economic and commercial aspects: <i>Production and international trade:</i> In tropical Asia, the dried fruits of <i>Combretum indicum</i> are sold in small drug stores. For ornamental purposes, the plant is sold through the internet for US\$ 15 (single-flowered cultivar) to US\$ 40 (double-flowered cultivar). Source : http://uses.plantnet-project.org/e/index.php?title=Combretum_indicum_(PROTA)&printable=yes</p> <p><i>Prospects:</i> The prospects for <i>Combretum indicum</i> seeds as an anthelmintic are limited, due to the toxic side-effects of quissqualic acid. As it shows low antifungal and antibacterial activity in vitro, its traditional use to stop infections has not been confirmed. The species is interesting for its ornamental value, although in small gardens it needs to be pruned regularly as it is very vigorous. Source : http://uses.plantnet-project.org/e/index.php?title=Combretum_indicum_(PROTA)&printable=yes</p> <p><i>Breeding:</i> <i>Combretum indicum</i> is very variable in flower size and shape, and several varieties have been distinguished in tropical Asia. The International Cultivar Registration Authority (ICRA) for <i>Quissqualis</i> is the American Association of Botanical Gardens and Arboreta, USA. However, no cultivars have been registered so far. A few types have been distinguished, including one with white petals and without scent, and 'Thai double flower', which has 10 petals, sometimes more, due to petaloid stamens. It also has thicker leaves. Source: http://uses.plantnet-project.org/e/index.php?title=Combretum_indicum_(PROTA)&printable=yes</p>
<p><i>Properties:</i></p> <ul style="list-style-type: none"> - The taste resembling coconuts. - Oil from the seeds are purgative. - Considered anthelmintic, anti-inflammatory. - Study on ascariasis reported the plant to possess anthelmintic properties. - Excessive dosing reported to cause hiccups. - Fruit is considered tonic and astringent. <p>(Source : http://www.stuartxchange.com/Niyog.html).</p>
<p>Tree (shade, agroforestry, ornamental ...): Vertical greening. Dense foliage provides good green coverage (Source : <i>Quissqualis indica</i>, greening, Hong Kong). <i>Combretum indicum</i> is widely cultivated as an ornamental, often planted in hedges or allowed to grow over a support (Source : Prota database, http://uses.plantnet-project.org/).</p>
Wood:
<p>Other products or use: Food: Flowers are edible (Source : http://www.stuartxchange.com/Niyog.html). Ripe seeds are reported</p>

as sweet and pleasant to eat if the seed coat is removed. The flowers are also reported as edible, although they have no flavour, and they can be mixed into salads to add color. In Indonesia, very young shoots are eaten raw or steamed.

(Source : Prota database, [http://uses.plantnet-project.org/e/index.php?title=Combretum indicum \(PROTA\)&printable=yes](http://uses.plantnet-project.org/e/index.php?title=Combretum_indicum_(PROTA)&printable=yes)).

Soil protection:

Cosmetics (Beauty):

Energy (fuelwood, agro-fuels):

Forage (provender, feed):

Other uses (dye, rope ...): In West Africa, the long, flexible stems are used for basketry, fish weir and fish traps.

(Source : Prota database, <http://uses.plantnet-project.org/>).

Ecological role: At night, the white flowers are visited by hawk moths, during the day the pink and red flowers are visited by a wide range of pollinators such as solitary bees, honey bees, flies and sunbirds.

(Source : Prota database, [http://uses.plantnet-project.org/e/index.php?title=Combretum indicum \(PROTA\)&printable=yes](http://uses.plantnet-project.org/e/index.php?title=Combretum_indicum_(PROTA)&printable=yes)).

Medicinal uses: The plant is used as an herbal medicine. Decoctions of the root, seed or fruit can be used as antihelmintic to expel parasitic worms or for alleviating diarrhea.^[citation needed] Fruit decoction can also be used for gargling. The fruits are also used to combat nephritis.^[citation needed] Leaves can be used to relieve pain caused by fever. The roots are used to treat rheumatism.^[citation needed]

The seeds of this and related species, *Quisqualis fructus* and *Q. chinensis*, contain the chemical quisqualic acid, which is an agonist for the AMPA receptor, a kind of glutamate receptor in the brain. The chemical is linked to excitotoxicity (cell death).^{[1][2]} The seeds from the pod are useful for treating Roundworm and Pinworm. It is toxic to the parasite and kills it in the digestive tract (Source: Wikipedia En).

Uses:

The bitter half-ripe fruits and seeds are widely known as being anthelmintic and are used as such, usually in decoction, particularly to treat ascariasis. In large doses, they cause nausea, vomiting, hiccough and even unconsciousness. The seed of the dried ripe fruit is used to reduce vomiting, and roots in decoction are also taken as a vermifuge. Although the seeds are often applied to stop diarrhoea, an oil extracted from the seed has purgative properties. Leaf juice or seeds, macerated in oil, are applied externally to treat boils, ulcers, parasitic skin infections and fever. Various preparations of the plant are applied both externally and internally for pain relief. In the Indian Ocean islands a decoction of the leaves is used to bath children with eczema.

In tropical Asia, *Combretum indicum* is considered an important medicinal plant. In the Philippines, the fruits are chewed as a remedy for coughs, and the crushed fruits and seeds are externally applied to alleviate nephritis. In Vietnam, a root decoction is taken to treat rheumatism. In Papua New-Guinea plants are eaten daily by men and women as a method of birth control.

(Source : Prota database, [http://uses.plantnet-project.org/e/index.php?title=Combretum indicum \(PROTA\)&printable=yes](http://uses.plantnet-project.org/e/index.php?title=Combretum_indicum_(PROTA)&printable=yes)).

Parts utilized: Seeds (dried nuts) and leaves.

Traditional uses:

- Anthelmintic: Dried seeds preferable for deworming.
- Adults: Dried nuts-chew 8 to 10 small- to medium-sized dried nuts two hours after a meal, as a single dose, followed by a half glass of water. If fresh nuts are used, chew only 4-5 nuts. Hiccups occur more frequently with the use of fresh nuts.
- Children 3-5 years old: 4-5 dried nuts; 6 - 8 years old: 5-6 dried nuts; 9-12 years old: 6-7 dried nuts.
- Roasted seeds for diarrhea and fever.
- Plant used as a cough cure.
- Leaves applied to the head to relieve headaches.
- Pounded leaves externally for skin diseases.
- Decoction of boiled leaves used for dysuria.
- Ifugao migrants use it for headache.
- Ripe seeds roasted and used for diarrhea and fever.
- In **Thailand**, seeds used as anthelmintic; flowers for diarrhea.
- In **India** and **Ambonia**, leaves used in a compound decoction to relieve flatulent distention of the abdomen. Leaves and fruits are reported to be anthelmintic; also used for nephritis.
- In **India** and the **Moluccas**, seeds are given with honey as electuary for the expulsion of entozoa in children.
- In **Indo-China**, seeds are used as anthelmintic and for rickets in children.
- The **Chinese** and Annamites reported to use the seeds as vermifuge.
- In **China**, seeds macerated in oil are applied to parasitic skin diseases. Seeds are also used for diarrhea and leucorrhoeal

discharges of children.

- In Amboina compound decoction of leaves used for flatulent abdominal distention.
- In Bangladesh, used for diarrhea, fever, boils, ulcers and helminthiasis.

(Source : <http://www.stuartxchange.com/Niyog.html>).

Chemical compounds: Constituents:

- Phytochemical screening yields major classes of constituents: alkaloids, carbohydrates, protein, amino acid, saponins, glycosides, steroids, tannins, flavonoids and phenolic compounds.
 - A water extract of gum from the seeds gave an alkaloidal reaction; 3.87% of potassium sulphate was found.
 - Seeds yielded the presence of oleic acid and palmitic acids in the oil; and sitosterol and isolated acetyl derivative from the saponifiable matter.
 - Plant yields a fatty oil, 15%; gum; resin.
 - The nut yields 12.96 percent moisture; a yellow oil, 28.37 percent of the original nut.
 - Studies yield quisqualic acid, quisqualin A.
 - An analysis of the seed reported the presence of oleic and palmitic acids in the oil, in addition to sitosterol, and an acetyl derivative from the saponifiable matter.
 - Leaves yield rutin, trigonelline, L-proline, L-asparagine, and quisqualic acid.
 - Flower gum yields pelargonidin-3-glucoside.
 - Floral volatiles by n-hexane extraction yielded 24 constituents, amounting to 74.88% of the total composition. Major components of the oil were hydrocarbons (61.38%) among which α -pinene, the major terpenoid, and 1-ethyl-1-phenyl decane (8.13 %), the dominant aromatic. Petroleum ether extract of leaves yielded palmitic acid (27.73%) as the major component of the saponifiable component, and α -amyrin, of the unsaponifiable portion. Crude protein was 2.06%. An unusual protein, dihydro-quisqualic acid, was isolated for the first time. Galactose, glucose, arabinose and L-rhamnose were identified as free sugars.
- (Source : <http://www.stuartxchange.com/Niyog.html>).

Properties

The seeds contain as main components quisqualic acid, a 1,2,4-oxadiazolidin-3,5-dione derivative, and arachidic acid. The presence of trigonelline was not confirmed in all tests. The pale brown seed oil contains oleic acid, palmitic acid, stearic acid, linoleic acid, myristic acid, and arachidonic acid. From the fruits α -xylofuranosyluracil and the triterpenoids clerosterol, betulinic acid and methylursolate were isolated. The flowers are rich in the flavonoid glycosides pelargonidin-3-glucoside and rutin. The leaves and stem bark are rich in tannins. Rutin was also isolated from the leaves. From the leafy stem several diphenylpropanoids were isolated, as well as kaempferol and further the triterpenoids arjunolic acid, 23,24-dihydrocucurbitacin F and 25-O-acetyl-23,24-dihydro-cucurbitacin F.

Quisqualic acid exhibits marked anthelmintic activities. This active principle somewhat resembles the actions of the anthelmintic α -santonin. In China, seeds of *Combretum indicum* are used as a substitute for α -santonin as drug. In screening tests, parts of the fruit, e.g. the gum isolated from it, have failed to exhibit anthelmintic activity. Furthermore, quisqualic acid has shown excitatory effects on cultured neurons as well as in a variety of animal models. It causes various types of limbic seizures and neuronal necrosis.

In a test for active anticancer compounds 25-O-acetyl-23,24-dihydro-cucurbitacin F showed significant cytotoxicity activity in vitro. A flower extract showed significant and dose-dependent activity in acute and chronic anti-inflammatory models in Wistar rats. A methanolic flower extract inhibited acetylcholinesterase in vitro. A fresh or dried flower extract gave high total polyphenol contents and showed moderate antioxidant activity in vitro. Pharmacological investigation of the chloroform fraction of a hot aqueous water extract showed that this fraction inhibits cyclic AMP phosphodiesterase by about 80%.

The diphenylpropanoids isolated from the leafy stem showed low antibacterial activity against several multidrug-resistant and methicillin-resistant *Staphylococcus aureus* strains. A seed extract showed moderate anticoccidial effect against *Eimeria tenella* in chicken.

Various extracts of the aerial parts showed low to moderate antifungal, antiviral and antifeedant activity in a range of tests. It also showed low larvicidal activity against larvae of *Aedes aegypti*.

(Source : Prota database, <http://uses.plantnet-project.org/>).

Chemotype :

Distilled part:

Toxicity:

Wood characteristics

Aspect wood / sapwood / duramen:

Color of the duramen: . Sapwood color:

Density (gr/cm³), flexural modulus (Kg/cm²) and compressive strength (Kg/cm²):

Durability: Durability class heartwood:

Preservation (conservation):

Impregnation (painting, lacquering ...):

Drying:
Ease of work (sanding, polishing, nailing, screwing ...):
Ecology and preservation of the environment
<p>Ecological Habitat (s): Rangoon creeper is found in thickets or secondary forests of the Philippines, India and Malaysia. It has since been cultivated and naturalized in tropical areas (Source : Wikipedia En).</p> <p>Ecology: <i>Combretum indicum</i> occurs in shrub and tree savanna, forest margins, along stream banks, also in disturbed habitats, including roadsides, waste places, rice fields and railway tracks, from sea-level up to 1800 m altitude. It prefers full sun, but light shade is tolerated. Once established, it is fairly drought tolerant, salt tolerant and tolerant of temporary flooding. <i>Combretum indicum</i> is considered not cold tolerant, but well-established plants can survive an occasional frost period to about –8°C. <i>Combretum indicum</i> grows on a wide range of soils, but preferably on well-drained soils.</p> <p>Source : http://uses.plantnet-project.org/e/index.php?title=Combretum_indicum_(PROTA)&printable=yes</p>
Threats to the species:
Status and conservation measure:
IUCN Status:
CITES Classification:
Invasive species status (if applicable):
Close species [of the same phylogenetic family] (but being different species):
Risk of confusion at morphological identification with other species:
Risk of confusion at common name level or vernacular name with other species:
<p>Taxonomic note: <i>Quisqualis</i> genus: About 17 species: tropical Africa, tropical Asia; two species in China (Flora of China). Jongkind (Bull. Mus. Natl. Hist. Nat., B, Adansonia 12: 275–280. 1991) proposed uniting <i>Quisqualis</i> with <i>Combretum</i> on the grounds that the two genera cannot be separated morphologically in a consistent manner. Tan et al. (loc. cit., see note under family heading) found <i>Quisqualis</i> and <i>Combretum</i> to be monophyletic sister taxa, but noted that their sampling (two species of each genus in five samples) was insufficient to examine problems of generic circumscription (Flora of China).</p>
<p>Similar plants:</p> <ul style="list-style-type: none"> • Quisqualis hybrid Thailand (Thai Double Flower Rangoon Creeper) • Combretum apiculatum (Red Bushwillow) • Combretum aubletii (Monkey's brush) • Combretum caffrum (Riverbushwillow, African bush willow, Cape Bushwillow, Bushveld willow) • Combretum constrictum (Thailand Powderpuff) • Combretum erythrophyllum (Bush willow) • Combretum fruticosum (Orange Flame Vine, Chameleon Vine) • Combretum grandiflorum (Showy combretum) • Combretum kraussii (Forest Bushwillow) • Combretum microphyllum, Combretum paniculatum subsp. microphyllum (Flame Creeper, Burning Bush).
Other botanical information
<p><i>Combretum</i> is a very large genus, comprising about 250 species and distributed worldwide in the tropics and subtropics. About 140 species occur in tropical Africa; c. 20 species are endemic to Madagascar. <i>Combretum indicum</i> was formerly included in <i>Quisqualis</i>, a genus occurring in tropical Africa and Asia. After a revision all 6 African <i>Quisqualis</i> species were transferred to <i>Combretum</i>, although this transfer is disputed by some taxonomists. Several other <i>Combretum</i> species, formerly included in <i>Quisqualis</i>, also have medicinal uses.</p>
Combretum latialatum
<p><i>Combretum latialatum</i> Engl. ex Engl. & Diels (synonym: <i>Quisqualis latialata</i> (Engl. ex Engl. & Diels) Exell) occurs in Nigeria, Cameroon, Equatorial Guinea, Gabon, Congo and DR Congo. In Gabon, Congo and DR Congo a leaf decoction is taken to treat diarrhoea, dysentery, intestinal worms, costal pains and female sterility. Leaf sap is applied to haemorrhoids. Leaf or bark powder is eaten to treat blood in the urine. A root decoction or plant sap is drunk to treat coughs and tuberculosis. Leaf sap is applied to wounds to help cicatrisation.</p>
Combretum hensii
<p><i>Combretum hensii</i> Engl. & Diels (synonym : <i>Quisqualis hensii</i> (Engl. & Diels) Exell) occurs in Congo, DR Congo and northern Angola, and has similar uses as <i>Combretum latialatum</i>. It is also considered a good bee plant.</p> <p>(Source : http://uses.plantnet-project.org/e/index.php?title=Combretum_indicum_(PROTA)&printable=yes).</p>
Ethnological note:
<p>Historical note: Dr John Ivor Murray sent a sample of the "nuts" to the Museum of Economic Botany in Edinburgh in 1861, with a note that they were "used by the Chinese for worms" and a description of the means of preparation and dosage (Source : Traill, Dr William (1863). "I. Notes on Horticultural Experience at Russelconda, South India". <i>Transactions of the Botanical Society of Edinburgh</i>. 7 (1-4): 109. doi:10.1080/03746606309467805).</p>
Etymological note:
Expert or specialist:

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External links:

On the chemistry of the molecules discovered in this species:

Videos, DVD and CD-ROM:

Photos or /and images:





Quisqualis indica seeds



Combretum indicum
Photo: Suresh Koley @ Hesperly



Source: <https://fsgreenworld.en.alibaba.com/>
(Foshan Greenworld Nursery Co., Ltd.).



Vertical greening at Sha Tin Sewage Treatment Works



Vertical greening on fence wall at Chief Executive's Office



Planting on a shelter for shading in Mei Foo Sun Tsuen



Quisqualis indica seeds

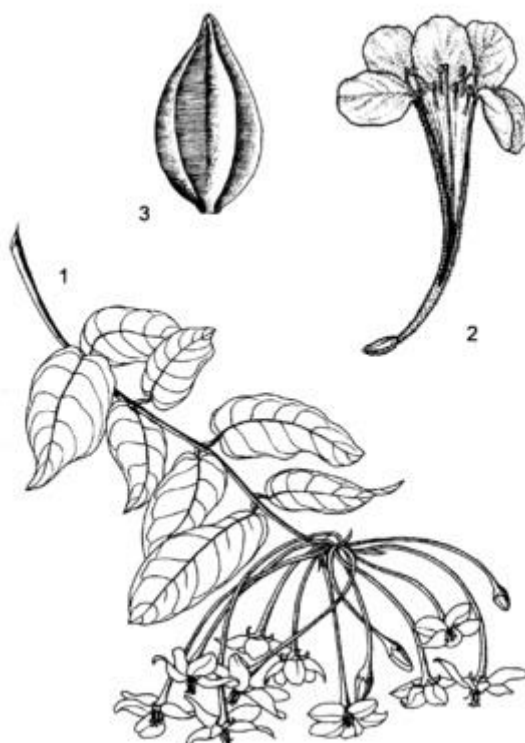
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1, flowering twig; 2, opened flower; 3, fruit. Source: PROSEA

Caution

Adverse reactions - diarrhea, abdominal pain, distention and hiccups - are more likely if nuts are eaten in

consecutive days or when fresh nuts are eaten.

Studies

- **Polyphenols / Antioxidant:** Flower extract yielded high polyphenol contents and showed strong antioxidant activity.
- **Anti-Acetylcholinesterase Inhibitor:** Acetylcholine is one of the most important neurotransmitters in the central or peripheral nervous system. The methanolic extract of *Q. indica* flower dose-dependently inhibited acetylcholinesterase activity. (1)
- **Fixed Oil Storage Effect:** Study showed one year storage does not significantly affect the physical constants of the fixed oil. (2)
- **Larvicidal Activity / Aedes aegypti Mosquito:** In a study screening 11 plant species of local flora against the IV instar larvae of *Aedes aegypti*, *Quisqualis indica* was one of the plants that showed some larvicidal activity against *Ae. aegypti*, albeit, at comparatively higher doses. (4)
- **Antipyretic:** Study evaluated the antipyretic activity of the methanolic extract of leaves of *Q. indica* in brewer yeast-induced pyrexia model in rat. Results showed significant dose-dependent antipyretic activity. (5)
- **Anti-Inflammatory:** Study evaluated the anti-inflammatory activity of a hydroalcoholic extract in Wistar rats. Oral administration of the extract showed dose-dependent and significant anti-inflammatory activity in acetic acid-induced vascular permeability and cotton-pellet granuloma model, comparable to Diclofenac. The anti-inflammatory activity was attributed to bradykinin and prostaglandin synthesis inhibition property of the polyphenols. (6)
- **Immunomodulatory:** Study evaluated the immunomodulatory activity of a hydroalcoholic extract of flowers in Wistar rats in a cyclophosphamide-induced myelosuppression model. Results showed significant immunomodulatory activity. (7)
- **Phytochemicals / Anti-Inflammatory / Analgesic / Anticonvulsant / Antihyperglycemic / Antipyretic:** Phytochemical studies floral volatiles and leaves were done. (See constituents above) Alcoholic extract showed remarkable anti-inflammatory, analgesic, anticonvulsant and antipyretic effects. The isolated mucilage exhibited significant anti-hyperglycemic effect. Antimicrobial testing showed pronounced effects against most of the tested microorganisms. (11)
- **Intestinal Ascariasis / Comparative Study with Pyrantel Pamoate:** In a comparative study of *Q. indica* and pyrantel pamoate in the treatment of intestinal ascariasis, 85% complete cure was seen with *Quisqualis indica* and 90% for Pyrantel pamoate. There was 15% and 10% decrease in ova count for *Q. indica* and *P. pamoate*, respectively. A second dose resulted in complete eradication. QI had 10% side effects compared to 55% with PP. (12)
- **Anti-Diarrheal / Leaves:** Study evaluated a petroleum ether extract of leaves of *Q. indica* against experimentally induced diarrhea. The plant extracts showed dose-dependent significant anti-diarrheal effects in all treated groups, with results compared to loperamide PO and atropine sulfate IP. (13)
- **Analgesic / Anti-Inflammatory / Leaves:** Study evaluated a methanolic extract of *Q. indica* leaves in rodents. Results showed significant anti-inflammatory and both central and peripheral analgesic activities. (14)
- **Hypolipidemic Effect/ Aerial Parts:** Study evaluated the hypolipidemic effect of methanolic extracts of aerial parts and flowers on passive smoking induced hyperlipidemia in rats. Results showed significant concentration- and dose-dependent reduction of harmful lipid layer in blood serum. There was reduction of LDL, VLDL, cholesterol, and triglycerides with elevation of HDL. (16)
- **Antimicrobial Effect / Flowers:** In a study of methanol extract of flowers of *Q. indica*, *C. gigantea*, *P. tuberosa*, the dry flower extract of *Quisqualis indica* showed the best antimicrobial property of the flowers studied. (17)
- **Antimutagenic:** Expressions from 17 plants, including *Quisqualis indica*, reduced the mutagenicity potential of mitomycin C, dimethylnitrosamine and tetracycline and exhibited antimutagenic effects. (18).

Source : <http://www.stuartxchange.com/Niyog.html>

Scientific names	Common names
<i>Quisqualis indica</i> Linn.	Balitadham (BIS.)
<i>Quisqualis densiflora</i> F.-Vill.	Bawe-bawe (Pamp.)

<i>Quisqualis malabarica</i> F.-Vill.	Bonor (P. Bis.)
<i>Quisqualis pubecens</i> Burm. f.	Kasumbal (Bik.)
<i>Quisqualis spinosa</i> Blanco	Niog-niogon (Tag.)
	Pinion (Bis.)
	Piñones (C. Bis., Spanish)
	Tagarau (Tag.)
	Tagulo (Tag.)
	Talulong; (Ibn.)
	Talulung (Ibn.)
	Tanglon (Bik.)
	Tangolo (Tag., Bik.)
	Tañgulo (Bik.)
	Tartaraok (Bik., Ilk.)
	Tartarau (Iloko)
	Taungon (Manobo)
	Tangolan (Tag.)
	Tontoraok (Tag.)
	Burma Creeper (Engl.)
	Chinese honeysuckle (Engl.)
	Liane Vermifuge (Engl.)
	Rangoon creeper (Engl.)
	Yesterday, today, and tomorrow (Engl.)
	Shih-chun-tzu (Chin.)

Yesterday, today and tomorrow is a name shared by *Brunfelsia pauciflora* and *Niyog-niyogan*

Niyog-niyogan is a shared common name by (1) [Ficus pseudopalma](#), [niyog-niyogan](#), [niog-niogon](#), [Lubi-lubi](#), and (2) *Quisqualis indica*, *niyog-niyogan*, *niog-niogon*.

Other vernacular names

BENGALI: Madhumanjari.

CHINESE: Xi shu shi jun zi, Mao bi jun zi, Si jun zi, Liu qiu zi.

GERMAN: Indische fadenrohre.

HINDI: Madhu, Malati.

INDIA: Rangoon ki bel, Ranganbel, Irangummali, Rangun mali chettu.

INDONESIAN: Ceguk, Wudani, Akar dani.

MALAYSIA: Wudani, Akar dani.

MARATHI: Vilayati chambeli.

PORTUGUESE: Arbusto-Milagroso.

SPANISH: Quiscual.

TAMIL: Irangun mali.

THAI: Lep mue nang.

URDU: Ishq penchaan.

Source : <http://www.stuartxchange.com/Niyog.html>