Broad leaved trees and shrubs
Adenanthera pavonina L.  

MIMOSACEAE

Synonym: Adenanthera gersenii

Common names: Red bead tree, coral wood, red sandalwood

Dhivehi name: Madhoshi

Status: Common; found as a component of the closed forests of Barringtonia asiatica and coconut forests; occasionally grows amidst shrubs of Hibiscus tiliaceus

Description: A medium to large sized deciduous tree that grows up to 20 m tall. Trunk is straight with round but uneven and spreading crown. Multiple stems are common. Bark smooth with fissures, is brown or greyish in colour and has large number of lichens. Leaves are bipinnate with two to seven pairs of leaflets, which are pale green in colour, oval-oblong in shape with blunt tip and alternate in arrangement along the branches. Leaves turn yellow with age. Flowers are small, star shaped with five petals, yellow in colour, fragrant and are borne in slender, dense racemes, which look like rat tails. Fruit is a pod, curved, with slight constriction between seeds, black when ripen and twist upon drying to show seeds. Eight to twelve seeds are present in a pod. Each seed is about 0.9 cm wide, dark to bright red, shiny, lens shaped and extremely hard. Ripened pod remains attached to the tree for a long time.

Uses: Timber is hard, strong reddish and durable. In Maldives it is used to build any part of a boat (dhoni). It is also used in carpentry. Although raw seeds are toxic and may cause intoxication, roasted seeds are commonly eaten and are also powdered to make coffee. Young leaves are eaten as vegetables. Children love to collect the seeds to use them in two of their games, namely, Ohvalhugondi and Thinhama. According to some of the elders, seeds were used in the past to weigh gold since nearly all the seeds have a uniform weight of 0.25 grams. The species is a nitrogen fixer so can improve soil nitrogen content.

Ecology, propagation and management: Adenanthera pavonina is found growing on a variety of soils from deep, well-drained to shallow and rocky soils, but prefers neutral or slightly acidic soil. It is capable of quickly forming large colonies in moist closed forests, where the trunk grows very straight. It can be propagated from seed and the seedlings have epigeal germination. Since the seed coat is extremely hard, scarifying the seed surface or immersing the seeds in boiling water for one minute is required to increase the rate and reduce the time of germination, which otherwise may take up to 12 months. Nursery stock out-plants well. Growth rate is fast after the first year.
Albizia saman - Bodu gas
Albizia saman (Jacq.) F. Muell

MIMOSACEAE

Synonyms: Samanea saman, Entrolobium saman

Common names: Rain tree, monkey pod

Dhivehi name: Bodu gas

Status: Occurs occasionally in nature; now it is widely planted

Description: A fast growing, semi-deciduous tree, which normally grows to 15 to 25 m in height but is capable of reaching up to 50 m. Crown is umbrella shaped; in open places the horizontal spread is greater than the height of the tree. Trunk is short and stout with grey, rough and fissured bark. Bark on younger tree is pale grey and smooth. Leaves are compound, arranged alternately along twigs with two to six pairs of pinnae. Each pinna has 6 to 16 pairs of leaflets, which are diamond shaped, shiny green on the upper surface and pale and finely haired on the lower surface. Leaflets are larger at apical end of the pinna. Leaflets fold during the night and sometimes on cloudy days. Flowers are pink in colour, numerous and clustered. Long stamens, which are red in the upper half and white below, give the whole flower head the appearance of a powder puff. Flowers bear honey. Fruit is a large pod, 10 to 20 cm in length, thick, black-brown in colour and filled with a sticky brownish sweet pulp. Each fruit contains 15 to 20 fatty, shiny, smooth and dark brown seeds.

Uses: Widely grown as shade providing and ornamental tree. Timber is light weight, durable and resistant to termites. It is used for carving, furniture, paneling and as veneer and plywood. It can be used for framing in boat building. It makes fairly good firewood but smokes a lot when burned. Tree yields a low-grade gum when wounded. Honey is also harvested from the tree. Pulp of the pod is edible but too astringent. In Maldives, it is mainly grown as an ornamental and shade tree. It is a nitrogen fixer.

Ecology, propagation and management: Rain tree grows on light, medium and heavy soils and also adapts to acidic and alkaline conditions. It can tolerate water logging for a short period and light salt spray but is intolerant to shade. It is propagated easily and commonly by seed but also by stem cuttings, root cuttings and stump cuttings. Seeds are placed in hot water for about three minutes and then soaked in cold water for 24 hours before sowing. Seedlings of about 15 to 30 cm can be used for outplanting. Seedlings of more than 1 cm stem diameter hold up better in wind and rain.
**Allophylus cobbe (L.) Bl.**

**SAPINDACEAE**

**Synonyms:** *Allophylus rheedii, Allophylus serratus*

**Common name:** Wild berry

**Dhivehi name:** Dhon’moosa

**Status:** Common in shrublands

**Description:** An evergreen, low branching small tree to shrub about 3 to 4 m tall. Trunk is straight with open canopy. In some old and larger trees buttress roots are found at the base of the trunk, which provide mechanical support to the tree. Bark is grey or brown in colour and rough and has a number of small swollen spot (pustular) and air pores. Outer layer of the bark is strongly aromatic and inner layer is fibrous. Branchlets are greyish brown in colour, slightly tapering and with numerous small orbicular air pores. Branchlets are hairy when young. Leaves are compound with three leaflets and each leaflet is 9 to 14 cm in length and 3 to 5 cm in breadth; upper surface is green and lower surface is pale green in colour. Terminal leaflet, which is larger than the lateral ones, is elliptic or elliptic-lanceolate in shape whereas lateral leaflets and ovate-lanceolate in shape. Leaf margin is sparsely curled. Leaves are arranged spirally along the branches and internodes are clearly visible. Inflorescence is axillary (between leaf base and branch), unbranched and its length is almost equal to that of the terminal leaflet. Flowers are small and white. Fruit is a small berry, round, fleshy and red in colour.

**Uses:** Fruit is edible and the flesh of the berry is eaten raw and tastes very sweet. Wood was occasionally used in the past for building traditional houses and to make bows. Leaves of the shrub, with other ingredients, are used in the treatment of bone fractures and other like ailments. The juice of the leaves is used to relieve rashes. Leaves ground with quicklime is applied with heat to relieve stomach aches. Roots are used to check diarrhoea.

**Ecology, propagation and management:** It is well adapted to grow in coarse and fine sandy and nutrient poor soil but prefers sandy loam with slightly high moisture content for better performance. It performs well in shade too. Its tolerance to draught is high. It is also tolerant to saline soil and salt spray. It is sometimes found growing as a minor constituent of strand vegetation. It is not cultivated but grows well in the wild. Seeds are normally dispersed by fruit-eating birds. According to some elders, it can be propagated by seeds. Seeds can be removed easily from mature fruits by squeezing them in water. Viable seeds will sink. These seeds are washed again and broadcasted on to the field. However, no attempt has been made so far to raise seedlings in the nursery.
**Annona glabra** L.  
**ANNONACEAE**

**Synonyms:** *Annona australis, Annona chrysocarpa, Annona peruviana*

**Common names:** Pond apple, bullock’s heart

**Dhivehi name:** Kalhuthumeyvaa

**Status:** Common in home gardens. It has also become wild and naturalized along the border of open wetlands as in Fuvamulah Island.

**Description:** A semi-deciduous tree about 10 to 15 m tall. Normally with a single trunk but seedlings can grow in clumps giving the appearance of a multi-stemmed tree. Bark is grey, thin and fissured with prominent lenticels (involved in gas exchange and appear as raised spots). Mature trees have slightly buttressed roots. Leaves are leathery, simple, alternate in arrangement along the branches and oblong-elliptical in shape; upper surface of the leaf is dark green and underneath is pale. Foliage contains yellow leaves during the summer. Flowers are single, large, 2 to 5 cm in diameter, pale yellow to cream-white in colour and attractive with three leathery outer petals and three smaller inner petals with a red inner base. Fruit is mostly spherical in shape and looks like smooth-skinned sweetsop and mango in shape; some fruits look like bullock’s heart. Fruit is green in colour when young but after falling from trees turn yellow and then black. Pulp is fleshy, pinkish-orange or orange, aromatic and pungent. Each fruit contains about 100 light brown coloured seeds, which are about 1 cm in length.

**Uses:** Fruits are delicious and eaten raw. They are also used in the preparation of a sweet drink. There is heavy demand for ripened fruit during the Ramzan season. Softwood and roots are used as fish floats. Bark is an excellent home for orchids and other air plants. Seedling can be used as a rootstock for custard apple and sweetsop.

**Ecology, propagation and management:** Pond apple requires ample soil moisture and sunlight. It can tolerate prolonged freshwater flooding but is intolerant to permanent inundation. Propagation is by seeds and stem cuttings. Both fruit and seeds can float and remain viable in fresh, brackish and seawater for many months. Once seeds settle in fresh or saline wet soil, they germinate quickly and growth is rapid initially. This species is suitable for coastal agroforestry because both seedlings and adult trees can tolerate high salinity and can survive root immersion by high tide. However, it can be an aggressive invader in open and disturbed wetlands where moisture and sunlight are plentiful.
Annona muricata L. \ANNONACEAE

Synonym: *Annona bonplandiana*

Common names: Soursop, guayabano

Dhivehi name: Anoanaa

Status: Common in northern islands and found occasionally in southern groups. Grown in home gardens as a fruit tree.

Description: A small, low-branching (at the base of the tree), evergreen tree about 5 to 9 m tall. Trunk is straight. Bark is grey or greyish-brown, rough and fissured. Twigs bear large number of minute lenticels. Leaves are leathery, simple and arranged alternately; oblong, elliptic or narrow obovate in shape and pointed at both ends. Leaves are shiny, dark green on the upper surface, light green beneath; they produce a strong pungent smell when crushed. Flowers are large and single; emerge anywhere on the trunk, branches and twigs. Flowers are short stalked, plumb, triangular to conical in shape; have three outer petals that are fleshy, green or yellow-green and three inner petals that are pale yellow in colour. Fruit is covered with a reticulate, tender, inedible bitter skin with many stubby, curved, soft spines, whose tips break off easily when the fruit is fully ripe. Skin of the immature fruit is dark green in colour, becoming slightly yellowish-green in mature fruit. Flesh is whitish, fibrous and very juicy, smells like pineapple and subacid to acid in taste. Each fruit contains a few dozen to 200 or more seeds, which are shiny, hard, oblong and dark brown or black in colour.

Uses: Mature fruit, which is fragrant and delicious, is eaten fresh or used to make juices and sherbets. Fruit and fruit juice is taken to increase mother’s milk after childbirth. Along with guava and passion fruit, soursop is considered promising for large scale marketing in the form of preserved pulp, jelly and syrup. Barks, leaves and roots are used in traditional medicine.

Ecology, propagation and management: *A. muricata* grows well in loose, fairly rich, and deep and acidic soil and can tolerate dry soil conditions and a coastal environment. It is commonly raised from seeds. Seeds may be sown directly in the field, nursery bed or containers and should be kept moist and shaded. Germination takes place with 15 to 30 days and seedlings can be planted out after six to eight months. Selected types can be propagated by cuttings or shield-budding. As a small and early-bearing fruit tree, it can be grown as intercrops with larger fruit trees.
Annona reticulata - Dhan’digandu atha, vilaathu atha
Annona reticulata L.  

**ANNONACEAE**

**Synonyms:** *Annona humboldtiana, Annona humboldtii*

**Common name:** Custard apple

**Dhivehi names:** Dhan’digandu atha, vilaathu atha

**Status:** Occasional; grown as fruit tree in home gardens.

**Description:** An erect, deciduous tree of about 4 to 10 m height with round or spreading crown. Bark is smooth, thin and grey in colour. Leaves are quite pretty, larger and darker than that of *Annona muricata*, alternate in arrangement and oblong or oblong-lanceolate in shape. Flowers are in groups of two or three on lateral peduncles, drooping and fragrant; there are three narrow, fleshy outer petals which are light green in colour externally and pale yellow inside with a red or purple spot at the base. Flowers never open fully. Fruits are pulpy of various shapes, ovoid, symmetrically heart shaped, lopsided, or irregular with deep or shallow notch at the base. Skin is thin and in ripened fruit it is yellow or brownish in colour with a pinkish, reddish or brownish-red blush and has a reticulate pattern of clear indentation on the surface. The flesh is creamy-white, thick and divided into juicy segments around a pointed, fibrous central core. Each fruit contains many seeds, which are hard, smooth, shiny and dark-brown in colour.

**Uses:** Fruits are edible; flesh may be scooped from the skin and eaten as is or served with a sprinkling of sugar. It is added to milkshakes to make a delicious drink. Fruit should be picked from the tree after it has lost all green colour and ripens without splitting. Leaves, bark and green fruits are all boiled together to prepare extremely potent decoction to cure severe cases of diarrhoea and dysentery. Decoction of leaves is used to relieve toothache. Seed kernels are very toxic.

**Ecology propagation and management:** It grows well in deep, rich soil with ample moisture and good drainage. It is also capable of growing in light sand but less drought-tolerant and prefers more humid atmosphere. Propagation is mainly by seeds. It can also be propagated by inarching, or by budding or grafting onto its own seedlings or onto soursop, sweetsop or pond apple rootstocks. Its seedlings are often used as root stock for soursop and sweet sop.
Annona squamosa - Dhivehi atha
**Annona squamosa** L.  
**ANNONACEAE**

**Synonyms:** *Annona asiatica, Annona cinerea, Annona glabra*

**Common names:** Sweetsop, sugar apple, custard apple

**Dhivehi name:** Dhivehi atha

**Status:** Common; grown in home gardens.

**Description:** A small, deciduous tree about 3 to 6 m tall with open crown of irregular branches. Bark is light brown in colour with visible leaf scars, smooth or slightly fissured into plates. Leaves are single; alternate in arrangement; oblong, oblong-lanceolate or narrowly elliptic in shape; thin; dull green on the upper side, pale blue-green and covered with bloom underneath. Young leaves are slightly hairy and are aromatic when crushed. Flowers emerge on slender branches singly or in groups of two to four and are oblong in shape. Sepals are hairy and pointed. There are three outer petals, which are fleshy, yellow-green on the outside and pale-yellow inside with a purple or dark-red at the base and there are three inner petals, which look like minute scales or are absent. Fruit is compound; round, ovoid or heart shaped; soft but with thick rind composed of knob-like segments; pale-green, grey-green or yellowish-green in colour and always with a bloom. Ripe fruit consists of conically segmented, creamy-white, glistening, and fragrant, juicy, sweet, delicious flesh. Each segment has an oblong, shiny and smooth, black or dark-brown seed.

**Uses:** Fruits are eaten fresh. Fruit flesh is also pressed through a sieve to remove seeds and is then added to ice cream or blended with milk to make a beverage. Seed kernels contain a whitish to yellowish, non-drying oil, which can be used as a substitute for peanut oil in the manufacture of soap. Bark and roots are highly astringent. Seeds are poisonous.

**Ecology, propagation and management:** Grows both in wet and dry soil but requires adequate moisture during the growing season. It is highly tolerant to drought, but requires adequate moisture during the growing season. It is intolerant to water logging. It grows on a variety of soils, including rich, well drained, deep rocky soils, but performs better on loose, sandy loams. It is shallow rooted and does not need deep soil. Trees are generally grown from seeds, which germinate better a week after removal from the fruit. Germination may take two to four weeks or more and the seedlings are ready for outplanting after six months. It is generally a slow growing tree. Vegetative propagation is preferred when sweetsop is grown as a commercial crop. Cleft-grafting, shield-budding, inarching are the common methods used. Trees grown by cuttings and air-layering have low rates of success.
Artocarpus altilis - Ban'bukeyo
Artocarpus altilis (Z.) Fosb.  MORACEAE

Synonyms: Artocarpus communis, Artocarpus incisa

Common name: Breadfruit

Dhivehi name: Ban’bukeyo

Status: Abundant; found in all places, except very near to beaches.

Description: A massive evergreen or semi-evergreen tree reaching a height of 30 m with often a clear trunk up to 4 to 6 m from the base. Bark is thick, smooth and light coloured. Branches are spreading, thick with lateral foliage bearing branchlets. Leaves are arranged alternately and they are thick, leathery and deeply cut into 5 to 11 pointed lobes; upper side is dark green and shiny with conspicuous yellow veins and underside is dull with elevated midrib. Flowers are tiny and clustered together. Female and male inflorescences are present separately on the same tree. Male flowers are arranged densely on drooping, cylindrical or club-shaped spike, which may reach a length of 25 cm. Female inflorescence stands upright, is round or cylindrical and about 8 to 10 cm in length with numerous green flowers embedded. Fruit is compound, ovoid to oblong in shape, may be 10 to 35 cm in length. Outer skin of the fruit is thin and patterned with irregular, four-six sided faces each of which has in the centre a sharp, black pointed, minute but flexible spine. Fruit is green in colour when young, turning to yellowish-green or yellow when ripe. All parts of the plant contain latex.

Uses: Breadfruit is a staple in the Maldivian diet. It can be cooked and eaten at all stages of its development. It can be eaten raw, boiled, steamed and roasted. Boiled breadfruit with fish broth of tuna and coconut forms an appetizing traditional food. A traditional delicious sweet, bondibai, is also made from breadfruit. Breadfruit can be roasted and made into chips, and both the traditional sweet and the chips have good market. Wood is very light, soft and durable and widely used in making doors, door and window frames and boats. Wood is also good for making surfboards. Gum from the tree is used for caulking boats.

Ecology, propagation and management: The cultivar found in Maldives has adapted to shallow, calcareous sandy soil but drainage is essential to avoid shedding of fruits. It is normally propagated vegetatively. It is often propagated by transplanting root suckers, which spring up naturally. Trees grown from root suckers will bear fruit in five years and will be productive for more than 50 years. Seedlings are also produced from root cuttings but it takes a long time to produce a seedling of about two feet to be outplanted. Other methods of propagation are air-layering, inarching, budding, stem cuttings and marcotting.
Artocarpus heterophyllus - Sakkeyo
Artocarpus heterophyllus Lam.  MORACEAE

Synonym: Artocarpus integrifolia

Common name: Jack fruit

Dhivehi name: Sakkeyo

Status: Occasional; grown in home gardens.

Description: A gorgeous evergreen tree, 10 to 20 m tall with a straight large trunk. Canopy is dense and mostly dome shaped. Bark is greyish-brown, rough and somewhat scaly. Leaves are leathery, shiny and smooth; oblong, oval or elliptical in shape; and flat or wrinigled with sides curled upwards. In young plants leaves are lobed whereas in mature trees leaves are entire with pointed tip. Top of leaves is dark green, underside is pale green. Male and female flowers are borne in separate flower heads. Male spikes with tiny flowers are on new wood among the leaves. They are elongated, oblong, cylindrical or elliptical in shape and are hanging or drooping. Female spikes are solitary or paired, oblong or cylindrical and appear on short, stout twigs or even from the soil covered base of very old trees. Fruit is the largest of all tree-borne fruits; it may reach 90 cm in length, 45 cm in width and exceed 50 kg in weight. The outer skin of this compound fruit is green or yellow when ripe and is characterized by the presence of numerous hard, cone-like points. The interior contains large bulbs, which are golden-yellow or yellow-orange in colour, waxy, firm or soft, aromatic and sweet. Each bulb has a smooth, oval, light-brown seed covered by a thin white membrane. All parts of the tree, including fruits exudes copious, white, sticky latex.

Uses: Pulp, which smells pineapple and banana, is eaten fresh. The seeds are eaten boiled or roasted, are used to make curries, and sometimes dried and salted as table nuts. Timber is medium hardwood, resistant to termite attack and fungal and bacterial decay. It is lustrous when sanded and varnished. In Maldives, it is used in carpentry and sometimes for boat building. Latex can be used for caulking boats. Heartwood produces a rich yellow dye. Leaves, roots and sap are used in traditional medicine.

Ecology, propagation and management: Grows on a variety of soil but does not tolerate drought and flooding. It is moderately tolerant to saline soils and can be planted closely as windbreaks. It is propagated mainly from seeds; large seeds are selected, are washed thoroughly, the outer skin is removed, and seeds are sown fresh. Cuttings and air-layering can also produce seedlings. The seedlings should be planted by the time four leaves have appeared, after which it is difficult to plant out successfully due to the long and delicate tap root.
Averrhoa bilimbi - Bilamagu, bilimagu
**Averrhoa bilimbi L.**

**OXALIDACEAE**

Common names: Bilimbi, cucumber tree

Dhivehi names: Bilamagu, bilimagu

Status: Common in home gardens.

Description: An attractive, strong but small tree about 4 to 7 m tall with a few upright branches. Bark is thick and brownish-red in colour. Leaves are compound, arranged alternately, have single terminal leaflet. Leaves are about 30 to 55 cm long and are clustered mainly at the branch tips. Each leaf has 15 to 21 leaflets, which are arranged alternately or slightly oppositely along a rachis. They are ovate or oblong in shape with rounded base and pointed tip and are medium green on the upper surface and pale on the under surface. Flowers are small with five red to dark red petals. Flowers emerge directly from the stem and on oldest branches. Fruit, “bilimbi”, is 5 to 10 cm long, cylindrical and slightly five-sided with hair-like floral remnants at the lowest end. It is bright green when unripe and turns ivory or white when ripe; skin is very thin, soft and tender. Fruit is juicy and highly acidic.

Uses: Bilimbi is too acidic to be eaten raw but is used to make curry, chutney and salad. It is also cooked with chilli, which can be kept for a long time. To reduce acidity bilimbi is prickled and soaked in water overnight or boiled with salt for a few minutes. Fruit is also used to make jam and jelly. The fruit juice is used as a refreshing beverage and also used to clean metals and remove stain.

Ecology, propagation and management: It requires full sun for fast growth and prefers seasonally humid climates. It grows well in rich, moist, slightly acidic, well-drained soil but also grows and fruits well on sand and limestone. It does not tolerate flooding and salinity. Bilimbi is grown mainly from seeds. Stem cuttings are also used. It is a vigorous tree that requires no horticultural treatment. In Maldives attempts have been made to cultivate bilimbi on a commercial scale but with little success.
Averrhoa carambola - Kaamaranga
Averrhoa carambola L.  

**Common names:** Carambola, start fruit  

**Dhivehi name:** Kaamaranga  

**Status:** Occasional; grown in home gardens.

**Description:** A small, evergreen tree 4 to 6 m tall with a dense, bushy, broad and rounded canopy. Trunk is short, multi-stemmed with many drooping branches. Bark is light brown, smooth or finely fissured. Leaves are compound and arranged alternately and spirally. Leaves have 7 to 11 nearly opposite leaflets (including a terminal single leaflet), which are ovate or ovate-oblong in shape, soft, medium green and smooth on the upper side, finely haired and whitish on the lower surface. Leaves are sensitive to light and touch; leaflets tend to fold together during night or when the tree is shaken or abruptly shocked. Inflorescence is a panicle borne in the axils of old branches, which are mostly without leaves or on young branches. Flowers are small, fragrant, downy, red-stalked with light-red or purple coloured jointed petals; calyx with five pink coloured sepals. Fruit is ovate or ellipsoid in shape, about 6 to 12 cm long, has five prominent longitudinal ridges (wings) so when cut, the cross sections of the fruit is star shaped. Fruit skin is thin, waxy, yellowish-green when young, becomes orange-yellow when ripe. Flesh is yellow, juicy and crisp with pronounced oxalic acid odour and taste ranges from sour to slightly sweetish.

**Uses:** Ripe fruits are eaten fresh, sliced and served in salads or used as garnish on seafood. They can be cooked with fish and shrimp. Underripe fruits are salted and pickled. Fruit flavour can be enhanced by removing the longitudinal wings, which contain most of the oxalic acid. Wood is whitish but becomes reddish with age and is medium hard and is used in construction and carpentry. Fruits, leaves and roots are used in traditional medicine to counteract fevers, headache and skin disorders and to relieve bleeding haemorrhoids. Carambola fruit is also used to quench thirst, stop vomiting and settle stomach disorders.

**Ecology, propagation and management:** Grows well on poor sandy soil, heavy clay and limestone but growth is faster and yield is higher in rich loams. It requires full sunshine and cannot tolerate flooding. It is widely propagated from seeds but also by budding and by grafting on to its own seedling rootstock. Flowering continues throughout the year and fruit is available most of the year. It is an ideal tree for landscaping.
Azadirachta indica A. Juss.  
MELIACEAE

Synonyms: Melia indica, Melia azadirachta

Common names: Neem, morgosa-tree

Dhivehi name: Hithi gas

Status: Occasional. Found mostly in home gardens and also in residential areas. It is considered as recently introduced into the Maldives but its presence was recorded in 1957 (Forsberg, 1957).

Description: A large tree that may grow up to 20 m tall but most trees found in the Maldives are less than 10 m. Canopy is dense with thick foliage and is round in shape. Bark is brown in young trees but with age turns to grey and develops deep furrows and scaly plates; inner bark is pink in colour. Leaves are pinnately compound, alternate and spirally arranged and fall during summer or drought. Each leaf has seven to nine pairs of 6 to 8 cm long leaflets, which are curved and lance shaped, have saw-toothed margins and pointed tip. Leaflets are smooth and dark green in colour. Flowers are small, white and fragrant, arranged in panicle flower heads, which arise from the corner of leaves. Fruit is a small drupe, oblong-ovoid in shape, green when young and yellow-green when ripe with white latex. Each fruit contains a single ellipsoid seed.

Uses: Multiple use tree; it can be grown as a windbreak, shade and fodder tree, used to improve soil condition and reclaim wasted land. It is also a timber tree. Wood is durable, seasons well but does not take polish well; highly pest resistant; used for construction, carpentry, toys, boards and panels. In some islands of the Maldives the wood is used for boat building. Oil is extracted from the seeds, which is used in soap industry. Leaves, kernels and oil cakes soaked in water can be used as a natural pesticide and pest repellent. Azadirachtin, a chemical extracted from the seeds and leaves affect the reproductive cycle of insects, nematodes, fungi, bacteria and even viruses and thereby control their multiplication. Leaves, bark, oil and roots are used widely in traditional medicine.

Ecology, propagation and management: Grows everywhere, on dry, stony, sandy, clayey, slightly acidic or alkaline, shallow soils. It is slightly saline-tolerant, can tolerate drought and high rainfall but cannot tolerate waterlogging. Propagated mainly by seeds; immediately after collection, fleshy part of the fruit should be removed, seed should be washed (not soaked) to remove casing and dried in shade for five to ten days. Seeds can be stored in well-aerated places for a short period, two to six months. However, it is recommended to sow the seeds as soon as possible to have a good germination. Seeds can be directly sown or seedlings may be raised in nursery beds or in containers. Transplanted wildlings also perform well.
Barringtonia asiatica - Kim’bi, Kin’bi
**Barringtonia asiatica (L.) Kurz**

**Synonym:** *Barringtonia speciosa*

**Common names:** Sea putat, sea poison tree

**Dhivehi names:** Kim’bi, Kin’bi

**Status:** Abundant in the southern islands but found only occasionally in northern islands.

**Description:** A huge tree about 20 m tall, with crooked often leaning trunk, often buttressed with low branches. Crown is dense and massive. Bark is thick, dark brown, slightly rough or somewhat scaly with elongated lenticels. Leaves are large and simple, terminal part is broader than the basal end, with entire margin and held in rosettes at the ends of branches; veins are prominent. Young leaves are bronze in colour with pinkish veins. Inflorescence is a raceme, erect and found at the tips of the branches. Flowers are large and attractive with stout stalk. Sepals and petals are small and distinctive, white or cream coloured. Stamens more than 100 in numbers and filaments are up to 15 cm long, which are white coloured at the base and pink at the tip. Flowers open in the night and attract large moths and nectar-feeding bats with their heavy scented and copious nectar. Fruit, called in Maldives as *kin’bi* or *kim’bi*, is large, four sided, lantern-shaped, about 10 to 15 cm long and 10 cm wide with persistent sepals and styles. Young fruits are green, turns to brown when mature. Middle layer of the fruit is spongy and contains air sacs, and inner layer is hard and thick and contain one seed.

**Uses:** It can be grown as a windbreak, and wave barrier and shade tree. Wood was once used in Maldives for boat building when there was a scarcity of boat-building timber. Wood is sometimes used for handicrafts and also as firewood. Local people apply well pounded seeds on the body for relief from pain and swelling. Water in which flowers were soaked overnight are used to wash face and eyes for relief from inflammation and discomfort resulting from reflection of sun light from white sand and sea. Fully developed fruit, which contains high amount of saponin, used elsewhere to stun fish in tidal pools and reefs.

**Ecology and Management:** *Barringtonia asiatica* is a typical littoral tree, forms thick forest in all types of soil even among boulders of rugged beach. In many islands of Maldives closed forests of *Barringtonia asiatica* with overlapping crowns is found behind *Scaveola* scrubland. In these places soil is rich and moisture content is relatively high. It grows in the wild from seeds. Fruits, after maturing on the tree, drop off and float in the sea for long periods, more than two years; they drift along the shore for long distances and finally washed ashore and sprout. *Barringtonia asiatica* is considered as one of the early colonizers of the islands of Maldives.
Caesalpinia bonduc - Kashi kaburan
Caesalpinia bonduc (L.) Roxb.  CAESALPINIACEAE

Synonym: Caesalpinia bonducella

Common name: Grey nickernut

Dhivehi name: Kashi kaburan

Status: Occasional; it was once “common in whole archipelago” (Forsberg, 1957) but now it is found only occasionally mainly in some northern islands.

Description: A woody scrambling shrub growing up to 5 m tall with an irregular crown. Plant is covered with small 1 to 6 cm long recurved thorns (prickles). Leaves are 20 to 45 cm long with 4 to 11 pairs of pinnae and each pinna has five to ten pairs of leaflets, which are elliptic to oblong or ovate in shape with sharp or blunt tip. Spines are found scattered along the midrib (rachis) of leaf and pinnae. Leaves are more or less covered with short soft hairs both on the upper surface and underneath. Inflorescence is a raceme, produced in the axils of leaves, 12 to 20 cm long, and branched. Flowers are large, yellow coloured and pubescent. Sepals are shorter than petals and pubescent. Petals are about 1 to 5 cm in length and greenish-yellow to yellow in colour. Fruit is a pod, oblong-elliptic in shape, 4 to 10 cm long, 3 to 4 cm wide, turgid, thick and covered with bristly spines. Each pod has two hard, smooth, shiny seeds, which are ovoid or globose in shape. They have a distinctive attachment scar and faint concentric striations.

Uses: Seeds of the nickernut are called as “poor man’s quinine” since they were once used as a substitute to treat malaria. The seeds are roasted, ground and boiled and used to control diabetes and hypertension. The seeds are used to treat mouth ulcers. In the Maldives, tips of the shoots are given to women as a medicine after child birth to hasten recovery. Seeds are widely used in many traditional indoor games.

Ecology, propagation and management: It is a hardy plant that grows well in sandy soil. It is saline tolerant and capable of forming dense thickets along the shoreline and thus, can used grown as a wind breaker and wave barrier. Not highly tolerant of stagnating water. Propagation is by seeds. Mature seeds are scarified and soaked in water for several days before sowing. It needs no special horticultural treatment. Seeds are very buoyant, have a hard imperious seed coat and can retain their viability after floating in sea for several months.
Caesalpinia pulcherrima - Fa’thangu