Soneva Fushi

Biodiversity Survey

Soneva Fushi

INTRODUCTION

Soneva Fushi's vegetation is revered by anyone visiting the island for its biodiversity and density. Such a high differentiation in species results in a very complex ecosystem.

The Little Green Book has so far been the primary catalogue of the terrerstrial flora of the resort. The present document aims at expanding the list of species identified on the island and understanding whether any species poses a threat to the ecosystem.

ISLANDS DEVELOPMENT & PLANT SUCCESSION

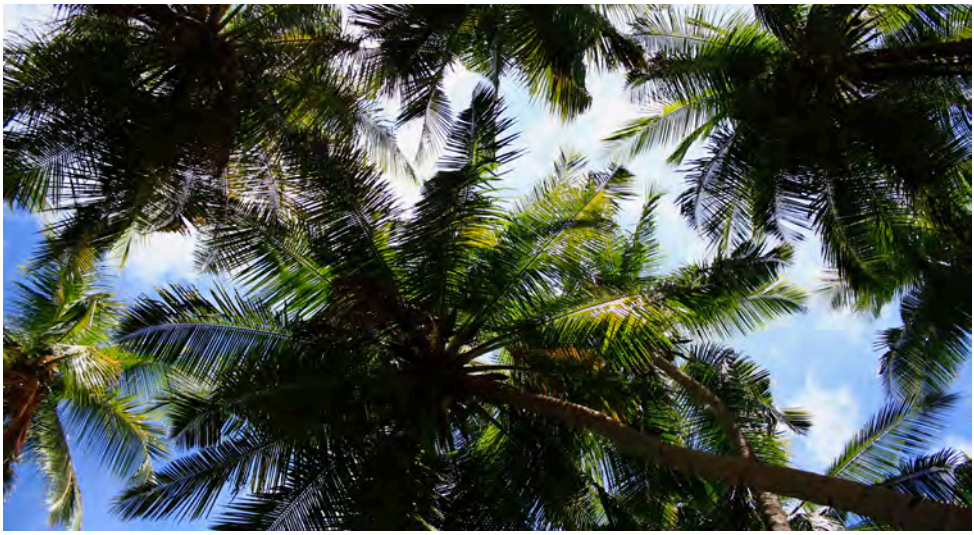
Tropical Islands are situated in an area of the world that is favourable for vegetation growth. Year-round warm climates are generally more biologically diverse, especially with abundant rainfall, although some areas have long dry seasons, which can have a serious impact on the vegetation.

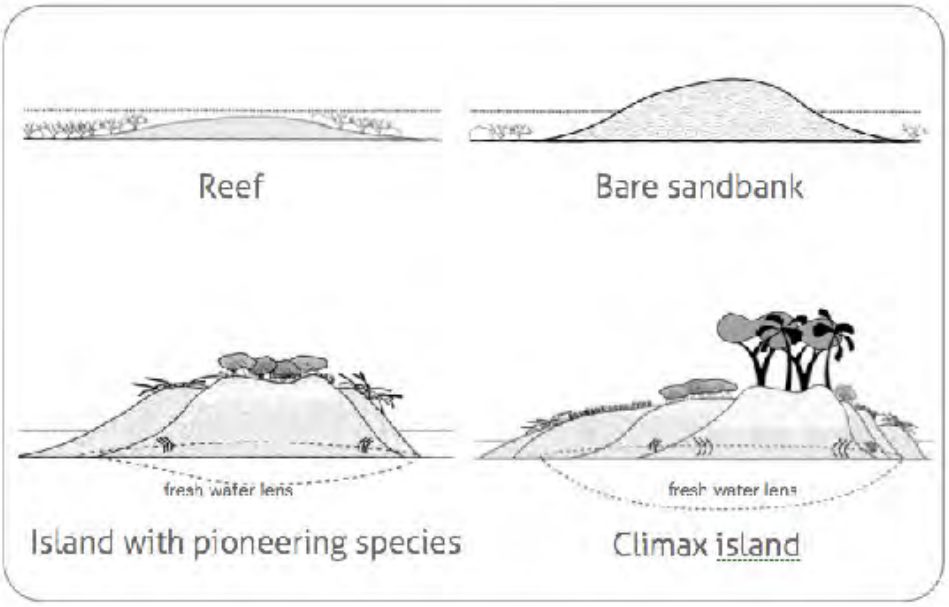
The Maldives lie in an equatorial climate that is humid and warm with an annual average temperature of 28°C. The annual rainfall is 1890 mm with a humidity ranging from 73% to 85%. There are two pronounced monsoon seasons, the North-East dry monsoon and South-West wet monsoons. The climate of the Maldives creates ideal conditions for abundant growth of tropical vegetation, but these conditions conflict with factors such as high calcium concentration in the soil, high salinity and harsh winds. These are the factors for the relatively low diversity and the reason why most native or naturalized species are limited. Species diversity on a tropical island is created by a delicate balance of colonisation and extinction. The richness of vegetation on any given island is dependent on the size of the island, the distance from a mainland, and the number of environments within the island.

The soils of the Maldives are fairly geologically young, born just 57 Million of years ago. According to Charles Darwins theory, the Maldives have a volcanic origin being formed in the South-West of the Indian Ocean by the Reunion Hot-Spot. From this Hot-Spot submerged volcanoes rose from the sea, coral reefs grew on their edges once

eruptions ceased as the ocean base moved North-Eastward towards what is today India. When the volcanoes submerged and eroded, the coral reefs encircled a water-filled basin, which grew to form patch reefs and submerged reefs (thila). Through tides and currents, dead corals formed sandbars made of limestone, which then slowly started being colonised by plants until they became fully developed islands in a process of vegetation succession stages. Ecological succession is the process of development in the species structure until it reaches its climax, stable stage.

Island vegetation is in fact conducive for island growth. An unvegetated sandbar is very inhospitable for plant growth. Sand is loose and friable, poor in nutrients and does not retain water, but some pioneer species are able to colonize this environment stabilizing the soil and providing organic matter, which will hold water and add nutrients. As the land area of an island increases, rainwater seeps through the sand and soil and a freshwater lens is produced below the surface. This convex layer of fresh groundwater floats under the island on top of the denser saltwater. This becomes a critical stage for the further development of the vegetation and the island itself. On a young island the first type of vegetation will be salt tolerant pioneering plant species. Small grasses, vines, and succulents that can survive in harsh conditions with low amount of freshwater will start to develop communities of vegetation, which stabilize the sand.





The Jam Tree (*Muntingia calabura*) is an example of a pioneering species here in the Maldives. Once some vegetation is established the decaying plants along with fertilization from sea birds and other animals brings nutrients, cementation, and structure allowing for more sensitive plants to grow. The next phase of island vegetation will be a grassy flat that grows just behind the pioneering species. These grassy flats consist of dense and low vegetation, usually made up of stalky blades that allow rainwater to drip down through the soil and fill the freshwater lens. Just behind the grassy flats will be a shrub ring, with woody bushes growing up to four meters. This ring of shrubs creates a wall around the centre of the island that protects more sensitive plants from sea spray, wind and strong waves. This vegetation is usually dominated by just a few species. Here on Soneva Fushi some of the most common are the Sea Trumpet (*Cordia subcordata*), the Corkwood (*Ochrosia oppositifolia*), and the Sea Lettuce *(Scaevola taccada)*. The central section of an island has more fertile soil, is protected from the harsh conditions and this allows for larger, slower growing trees to develop. These interior forests can consist of a few different species, such as Banyan trees, Indian Almond trees and Coconut palms, where the latest have now become the one of the most popular tree throughout the Maldives.

NEW SPECIES

With the present survey a total of 18 new species have been identified in the resort.

- *Calotropis gigantea (*Apocynaceae)
- *Tacca leontopetaloides* (Dioscoreaceae)
- *Canavalia virosa* (Fabaceae)
- *Cassia fistula* (Fabaceae)
- *Clitoria ternatea* (Fabaceae)
- *Leucaena leucocephala* (Fabaceae)
- *Nephrolepis hirsutula* (Lomariopsidaceae)
- *Ficus microcarpa* (Moraceae)
- *Moringa oleifera* (Moringaceae)
- *Bougainvillea glabra* (Nyctaginaceae)
- *Passiflora suberosa* (Passifloraceae)
- *Psilotum nudum* (Psilotales)
- *Colubrina asiatica* (Rhamnaceae)
- *Ziziphus mauritiana* (Rhamnaceae)
- *Allophylus cobbe* (Sapindaceae)
- *Manilkara zapota* (Sapotaceae)
- *Mimusops elengi* (Sapotaceae)
- *Premna serratifolia* (Verbenaceae)

FAMILY	SCIENTIFIC NAME	COMMON NAME	DHIVEHI NAME
Amaryllidaceae	*Crinum asiaticum*	Poison Bulb, Crinum Lily, Spider Lily	Maakandholhu
Apocynaceae	*Calotropis gigantea*	Giant Milkweed, Bowstring Hemp	Ruvaa
Apocynaceae	*Catharanthus roseus*	Madagascar Periwinkle	Malikuruva
Apocynaceae	*Ochrosia oppositifolia*	Cork Wood Tree	Dhun'buri
Apocynaceae	*Plumeria obtusa*	Frangipani, Temple Tree, Pagoda Tree	Bodu gulchampa
Araceae	*Alocasia macrorrhizos*	Giant Alocasia, Elephant's Ear Taro	Boafuredhdhe
Arecaceae	*Cocos nucifera*	Coconut Palm	Dhivehi ruh
Bignoniaceae	*Tecoma stans*	Yellow Trumpet-Flower, Yellow Elder	Bokarumaa
Boraginaceae	*Cordia subcordata*	Sea Trumpet, Beach Cordia	Kaani,Kauni
Boraginaceae	*Tournefortia argentea*	Beach Heliotrope, Velvetleaf Soldierbush	Boashi
Casuarinaceae	*Casuarina equisetifolia*	Beefwood Tree, Beach Sheoak, Common Ironwood	Fithuroanu
Clusiaceae	*Calophyllum inophyllum*	Alexandrian Laurel, Beauty Leaf, Ball Nut	Funa
Combretaceae	*Terminalia catappa*	Indian Almond Tree	Gobu gas, Midhili gas, Madhu gas

FAMILY	SCIENTIFIC NAME	COMMON NAME	DHIVEHI NAME
Convolvulaceae	*Ipomoea alba*	Tropical White Morning Glory	Andapool, Fehanda
Convolvulaceae	*Ipomoea pes-caprae*	Goat's Foot Creeper, Beach Morning Glory	Bodu veliveyo
Dioscoreaceae	*Tacca leontopetaloides*	Bat Plant	Hiththala
Elaeocarpaceae	*Muntingia calabura*	Japanese Cherry, Jamaica Cherry Tree	Jeymu
Fabaceae	*Adenanthera pavonina*	Red Sandalwood, Red Bead Tree	Madhoshi
Fabaceae	*Canavalia virosa*	Maunaloa	Maa foavvalhihimeri
Fabaceae	*Cassia fistula*	Golden Shower, Indian Laburnum	Anmalthaash
Fabaceae	*Clitoria ternatea*	Blue Bell, Blue Pea, Butterfly Pea	Nanreethimaa
Fabaceae	*Leucaena leucocephala*	Lead Tree, Mimosa, River Tamarind	Ipil Ipil
Fabaceae	*Sophora tomentosa*	Necklace Pod, Silver Bush	Fusthulhaa
Goodeniaceae	*Scaevola taccada*	Sea Lettuce, Beach Naupaka	Magoo, Geraa
Hernandiaceae	*Hernandia nymphaeifolia*	Lantern Tree	Kandhu, Mas kandhu
Lauraceae	*Cassytha filiformis*	Love Vine	Velanbuli, Umbulivella
Lecythidaceae	*Barringtonia asiatica*	Fish Poison Tree	Kimbi, Kinbi

FAMILY	SCIENTIFIC NAME	COMMON NAME	DHIVEHI NAME
Lomariopsidaceae	*Nephrolepis hirsutula*	Scaly Sword Fern, Asian Sword Fern	Keesfilaa, Handifilaa
Lythraceae	*Pemphis acidula*	Coastal Iron Wood	Kuredhi, Keredhi
Malvaceae	*Hibiscus tiliaceus*	Coast Hibiscus, Cotton Tree	Dhigga
Malvaceae	*Thespesia populnea*	Indian Tulip Tree, Portia Tree	Hirundhu
Meliaceae	*Azadirachta indica*	Neem, Margosa Tree	Hithigas
Moraceae	*Artocarpus altilis*	Bread Fruit Tree	Banbukeyo
Moraceae	*Ficus benghalensis*	Banyan Tree	Nika, Kirigas
Moraceae	*Ficus microcarpa*	Indian Banyan Tree	
Moringaceae	*Moringa oleifera*	Moringa, Drumstick Tree, Horseradish Tree, Ben Nut	Muranga gas
Nyctaginaceae	*Bougainvillea glabra*	Paper-flower tree, Bougainvillea	Bouganvilla
Pandanaceae	*Pandanus tectorius*	Seashore Screwpine	Boa kashikeyo
Passifloraceae	*Passiflora suberosa*	Cork Passionflower	Ranguveyo, Kulavelau
Psilotales	*Psilotum nudum*	Cocks Crow, Whisk Fern	Rubbudufilaa
Rhamnaceae	*Colubrina asiatica*	Asian Snake Wood	Raarohi, Raaruhi
Rhamnaceae	*Ziziphus mauritiana*	Indian Jujube, Jujube	Kunnaaru
Rubiaceae	*Guettarda speciosa*	Beach Gardenia, Indian Lavender	Uni

FAMILY	SCIENTIFIC NAME	COMMON NAME	DHIVEHI NAME
Rubiaceae	*Morinda citrifolia*	Indian Mulberry, Noni	Ahi, Ehi
Sapindaceae	*Allophylus cobbe*	Wild Berry	Dhon' moosa
Sapotaceae	*Manilkara zapota*	Chiki, Sapota, Sapodilla	Sabudheli
Sapotaceae	*Mimusops elengi*	Bullet Wood, Bakul Tree	Moonimaa
Surianaceae	*Suriana maritima*	Bay Cedar	Halaveli
Turneraceae	*Turnera ulmifolia*	Sundrop, Yellow Buttercup	Bakarinukaa
Verbenaceae	*Lantana camara*	Lantana Weed, Wild Sage	Kashikothan
Verbenaceae	*Premna serratifolia*	Headache Tree	Dhakan'dhaa

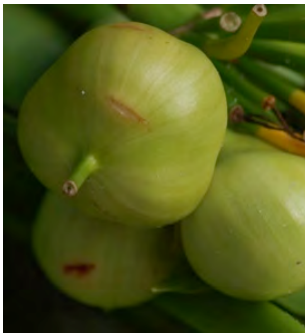
Amaryllidiaceae (Amaryllis family)

The Amaryllidaceae, commonly known as the Amaryllis family, consists of herbaceous, perennial, and bulbous flowering plants that includes 75 genera and 1,600 species. They are found in tropical to subtropical areas of the world. The family includes many ornamental garden plants such as daffodils and snowdrop. Various vegetable plants such as onions, chives, garlic, and leeks are also a part of the Amaryllis family. They are economically important for commercial vegetable production, floriculture, and bulb sales.

FAMILY: Amaryllidiaceae
SPECIES: *Crinum asiaticum*
ENGLISH: Crinum Lily, Spider Lily, Poison Bulb
DHIVEHI: Kandholhu

The Poison Lily can be easily recognised by its long slender leaves and its big white spider-like fragrant flowers. The shrub is up to 2 m tall and grows from an underground bulb. The lower leaves form a stout pseudo-stem from which the leaves emerge in a rosette. The fruit is a globe which turns shiny white when ripe and then splits open to reveal irregularly shaped seeds. The entire plant is poisonous but the crushed leaves and juice from the bulbs are widely used in local medicine as a poultice to treat aches, sores, chaps and haemorrhoids. The species is native in Southeast Asia but has been cultivated all over the tropics. It grows in swamps or along the coastline.





Apocynaceae (Dogbane family)

This family of flowering plants includes tree, shrubs, herbs, succulents and vines. Its common name is the dogbane family. Most genera in this family are native to the tropics and subtropics, with some members occurring in temperate areas. Members of this family are often characterised by having showy, radial symmetric flowers, making them popular ornamental plants. Most are highly toxic and therefore have limited economic use. One member of this family is notable because of its high concentration of ibogaine alkaloid compounds which are used as a hallucinogen in certain central African tribal ceremonies.

FAMILY: Apocynaceae
SPECIES: *Calotrpis gigantea*
ENGLISH: Giant Milkweed, Bowstring Hemp
DHIVEHI: Ruvaa

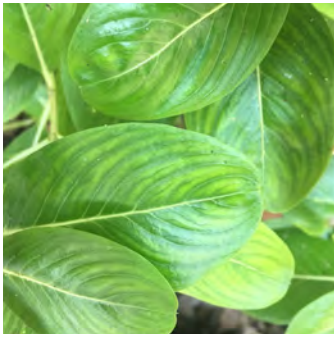
The Crown Flower is native to a number of south and south-east asian countries. It grows into a large shrub reaching up to 13ft tall. The flowers of these plants are used mostly as ornamental or decorative purposes.

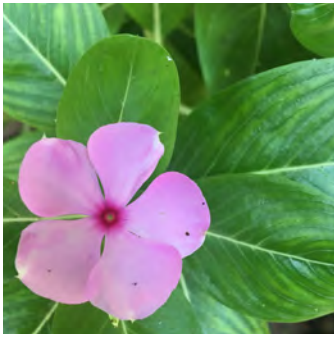
Growing in clusters, the small waxy flowers are either white or lavender in color and thus a home for a great variety of insects and butterflies (it is the host plant for Hawaii's non-migratory monarch butterflies).

The flower has five pointed petals and a 'crown' rising from the center that holds the stamens. They are long lasting and used in religious and cultural ceremonies. The crown flower is a versatile plant, with uses varying from fiber for rope making and fishing nets, to leather making and even fungicidal and insecticidal potions. Although a poisonous plant (the thick milky juice when the leaves or stems are broken can be toxic), the Crown Flower is one of nature's wonders that provides a variety of uses.

FAMILY: Apocynaceae
SPECIES: *Catharanthus roseus*
ENGLISH: Madagascar Periwinkle
DHIVEHI: Malikuruvaa Ruvaa

This periwinkle is a perennial, evergreen herb that was originally native to Madagascar. It has been widely cultivated for hundreds of years and can now be found in most warm regions of the world. The species grows 15–60 cm high, has glossy, dark green leaves and pale pink flowers all year long. The plant has historically been used to treat a wide assortment of diseases such as diabetes, lung congestion and inflammation, eye irritation and infections as well as an astringent, diuretic and cough remedy. It contains many useful alkaloids, some of which have anticancer properties.





FAMILY: Apocynaceae
SPECIES: *Ochrosia oppositifolia*
ENGLISH: Cork Wood Tree
DHIVEHI: Dhunburi

Ochrosia trees are very common in the Maldives and grow in various places on the islands, e. g. along sandy beaches and in the understorey in the shade of the jungle. The leaves are distinctly veined and glossy, while the flowers are small, white and stalked. Probably the most remarkable parts of the plant are the egg-shaped fruits: They start off green and later turn yellow. When they are ripe, the outside layer is often eaten by fruit bats, and the fibrous part becomes visible. The seed is located in the centre. The trees are said to have medicinal properties.



FAMILY: Apocynaceae
SPECIES: *Plumeria obtusa*
ENGLISH: Frangipani, Temple Tree
DHIVEHI: Gulchampa

Frangipani trees are small or medium-sized deciduous trees and have their leaves and flowers arranged in clusters around the tip of the branches. The flowers are originally white and yellow, while those of cultivated plants are sometimes reddish; all of them spread a wonderful fragrance, which has made the plant popular in the perfume industry. They bloom all year round with only a short leafless phase in between. The Frangipani or Temple Tree is a symbol for eternal life and has therefore been planted near temples, graveyards and mosques. It originally derives from America, but nowadays grows in all tropical regions.



Araceae (Arum family)

The arum family is a family with very characteristic flowers. The "flowers" are actually not flowers but inflorescences (flower clusters) called a "spadix", which is very often accompanied by, or sometimes partially enclosed in a "spathe". A spadix is actually a cone-shaped inflorescence, which holds many small flowers, typically with female flowers at the bottom, and male flowers at the top. A spathe is actually a specialised and highly modified bract that resembles a large petal, and accompanies the spadix to serve as an attraction to pollinators.
This family consists of 107 genera and over 3700 species, most of which occur in the Americas.
Many well known indoor plants are from this family and the most impressive species, the largest inflorescence in the world, is native to Southeast Asia.

FAMILY: Araceae
SPECIES: *Alocasia macrorrhiza*
ENGLISH: Giant Alocasia, Taro, Elephant's Ear
DHIVEHI: Kahanala

Taro has been cultivated in Asia for thousands of years and serves as a staple food, in particular for Indo-Pacific island cultures. In many ways taro is a unique crop. The tubers contain a lot of starch and vitamins but also oxalic acid and only become edible after cooking or frying. Young taro leaves are used as a main vegetable and boiled or covered with coconut cream, wrapped in banana or breadfruit leaves and cooked on hot stones.
The size of the taro starch grain is one-tenth that of potato. Because of its ease of assimilation, taro can be used by persons with digestive problems. The plant with the broad arrow-shaped leaves grows on marshy fields and other moist areas.

Arecaceae (Palm family)

The palm family is one of the best known and most cultivated plant families in the world. As palms have so many common uses they are one of the most economically important plants. Examples of uses are coconut products, oils, dates, palm syrup, nuts, rattan cane, carnauba wax, raffia, and increasingly timber, which is known for its specific colour tones and lack of growth rings. The wide variety of uses is also the reason why they have been important to humans throughout much of known history.

Palms are flowering plants with roughly 200 genera and around 2600 species described. They grow in an extremely wide variety of habitats, from tropical rainforests to deserts. Most species however are restricted to warm climates as only few tolerate (mild) frost.

Most people have stereotypical view of palm trees with coconuts on a beach, which is indeed the most recognisable species. Few know that palms actually exhibit a wide range of physical characteristics and growth forms, namely shrubs, trees, and vines in many different shapes and sizes.

FAMILY: Arecaceae
SPECIES: *Cocos nucifera*
ENGLISH: Coconut Palm
DHIVEHI: Dhivehi Ruh

This palm tree is found throughout the tropics where it is interwoven into the lives of the local people. With its many uses, the Coconut Palm is often called "the tree of life" and has also been declared the national tree of the Maldives. It is particularly important in the low islands of the Indian and Pacific Ocean, where it provides all the necessities of life: food, drink, oil, medicine, fibre, timber, thatch, mats, fuel, domestic utensils and handicrafts. No parts of the plant are left unused.

The Coconut Palm is easily recognizable with its crown of feather-like fronds and bunches of large fruits carried atop long slender stems, which can be up to 30 m tall. Up until an age of about one year,

the leaves remain complete. Thereafter the fronds are progressively more pinnate. The Coconut Palm has both male and female flowers on the same inflorescence, which develops within a woody sheath-like leaf. At flowering, this sheath splits lengthwise to expose the inflorescence. Each inflorescence consists of about 40–60 branches, which each bear only few globular female and hundreds of male flowers. Under good growing conditions, first flowering occurs 4–5 years after planting. From pollination, it takes about 12 months for the fruits to mature. The almost spherical fruits consist of – from the outside in – a thin hard skin, a thicker layer of fibrous husk that facilitates the fruits' buoyancy in water, the hard shell, the white kernel and a large cavity filled with liquid. When the embryo embedded in the kernel is growing, it uses up most of the space and water inside the cavity.

The fruits can drift great distances in seawater and are therefore responsible for the wide distribution of the species.

Bignoniaceae (Bignonias family)

Bignoniaceae is a family of flowering plants. Members of this family are mostly trees or lianas, sometimes shrubs, and rarely subshrubs or herbs. Flowers are solitary or in inflorescences. Many species of Bignoniaceae have some use, either commercially or ethnobotanically, but the most important, by far, are those planted as ornamentals, especially the flowering trees.

FAMILY: Bignoniaceae
SPECIES: *Tecoma stans*
ENGLISH: Yellow Trumpet Flower, Yellow Elder
DHIVEHI: Bokarumaa

This perennial flowering shrub is native to the Americas and thrives in warm conditions. Lance shaped green glossy leaves, and bright golden yellow trumpet flowers make it a very popular ornamental species.
The flowers attract bees, butterflies and birds. Their pods contain light feathery seeds and are dispersed by the wind.
In the Maldives, its aesthetic value is appreciated and grown in public spaces, schools and parks.

Boraginaceae (Forget-Me-Not family)

Boraginaceae, the borage or forget-me-not family, includes a variety of shrubs, trees, and herbs, totaling about 2,000 species in 146 genera found worldwide.
These plants have alternately arranged leaves, or a combination of alternate and opposite leaves. The leaf blades usually have a narrow shape; many are linear or lance-shaped. Most members of this family have hairy leaves.

FAMILY: Boraginaceae
SPECIES: *Tournefortia argentea*
ENGLISH: Beach Heliotrope, Velvetleaf Soldierbush
DHIVEHI: Boashi

The Tree Heliotrope is native throughout the tropical Indo-Pacific region. It usually grows in coastal environments in saline conditions and in nutrient-poor sands and rocky soils. Being one of the tree species closest to the ocean, it serves as a windbreaker, a barrier to salt spray, a stabilizer of the coast and a habitat for shrub-nesting seabirds. The Tree Heliotrope plays a significant role in handicrafts, tools, canoe parts, traditional medicine and rituals of atoll island cultures. Due to the slow growth of the plant, the timber has limited use, yet it is an important source of firewood.



FAMILY: Boraginaceae
SPECIES: *Cordia subcordata*
ENGLISH: Sea Trumpet, Beach Cordia
DHIVEHI: Kaani

The Sea Trumpet is a small tree, which thrives in sunny, dry, coastal areas and is native throughout the tropical Indo-Pacific region. Characteristic are the orange, wrinkled, trumpet-shaped flowers; they are scentless and short-lived. The round fruits grow in clusters and become woody when mature; they float easily. There are many traditional uses of the Sea Trumpet such as the production of dye and medicinal products from the leaves. The main product of the tree is its wood, which is prized for its beautiful grain that is golden with dark markings and for its resistance to temperature changes and erosion. It is used in boat-building and furniture-making.

Casuarinaceae (She-oaks family)

She-oaks, cassowary, or ironwood trees are a small family of shrubs and trees consisting of 4 genera and about 70 species and are native to the (sub) tropical regions surrounding the Indian Ocean and Western tropical Pacific. Casuarina spp. trees are a common sight on the beaches of Southeast Asia, where they are often seen growing close to coconut palms. These trees superficially resemble pine trees with their thin, needle-like leaves and fruits that somewhat resemble pine cones. The trees are actually flowering plants and are characterized by so called "drooping equisetoid (meaning "resembling a horsetail") twigs", evergreen foliage, and cone-like fruiting bodies. Members of this family harbour a symbiosis with a nitrogen fixing bacterium genus called Frankia. The ability to fix nitrogen from the air is a specific adaptation to nutrientpoor conditions and is shared with the pea/bean family, but the nitrogen-fixing bacteria in Casuarina are from a different origin.

FAMILY: Casuarinaceae
SPECIES: *Casuarina equisetifolia*
ENGLISH: Beefwood Tree, Beach Sheoak, Common Ironwood
DHIVEHI: Fithroanu

Horsetail She-oak is a fast-growing evergreen tree up to 10 m high. Viewed from a distance, the plant looks like a pine tree with its long drooping needles and small cones. It is, however, not a conifer but a deciduous tree; the needles are jointed branches with a number of minute leaves at each joint. The cones are the clustered female flowers that become a woody structure when ripe. The tree tolerates strong winds and salt and can fix nitrogen, making it an ideal species for coastal protection and the reforestation of depleted soils. The hard and heavy wood is highly valued as fuel and is used in carpentry work.

Clusiaceae (Mangosteen family)

The Clusiaceae, or mangosteen family is primarily a tropical family of plants including about 14 genera and 595 species of trees and shrubs. This family has a comparatively large variation in morphology, making species belonging to it difficult to classify. A particular feature sometimes found in this family, and very rarely in others, is the fact that it occasionally rewards its pollinators not with pollen or nectar, but rather with resin. This resin is used by some bee species in nest construction. However, as the large morphological diversity suggests, also pollen and nectar are common in different species of this family.

Some well-known and economically relevant species of this family are the South American mammee apple, and more famously the purple mangosteen. The purple mangosteen is a very popular fruit because of its mild but sweet flavour which is liked by many.

FAMILY: Clusiaceae
SPECIES: *Calophyllum inophyllum*
ENGLISH: Alexandrian Laurel, Beauty Leaf, Ball Nut
DHIVEHI: Funa

This large, evergreen tree with leathery leaves, fragrant white flowers and ball-shaped fruits is widely dispersed in the tropical Indo-Pacific region along coastlines and adjacent lowland forests. Since the tree is tolerant of wind and salt spray and grows well despite extremes in local weather conditions, it is used for coastal shelterbelts, windbreaks and strand reforestation. The timber of this tree is extensively used in carving, cabinet-making and boat-building. The oil pressed from the nuts is said to have pain-relieving effects and is widely used for medicinal purposes and for cosmetics.

Combretaceae (Leadwood family)

The leadwood family of flowering plants includes about 600 species of trees, shrubs, and lianas in 18 genera which are widespread in the subtropics and tropics. The family includes three genera of mangrove trees, and the African leadwood tree, which is valued for its hard timber.
Trees of this family are often rich in chemicals that can have a number of medicinal uses.

FAMILY: Combretaceae
SPECIES: *Terminalia catappa*
ENGLISH; Indian Almond Tree
DHIVEHI: Midhili

The most conspicuous features of the Indian Almond Tree are the branches that spread horizontally in whorls and the green almond-shaped fruits. The fruits turn yellow or red when ripe, as do the leaves before falling off. Unlike the commercial almond, the Indian almond seeds can be eaten raw. They are also consumed by birds and flying foxes. Oil extracted from the nuts is edible and used in cooking. Tannin and a black dye can be extracted from the bark, leaves and fruit. The hard wood is suitable for interior building and furniture. The Indian Almond Tree is among the most common tree in our region, growing wild as well as cultivated as a popular shade tree and coastline stabilizer.



Convolvulaceae (Morning Glory family)

The family contains some 60 genera and more than 1650 species. Most species in this family are herbaceous vines, but some are trees shrubs and herbs. Very often the stems of these plants are winding, hence their name which is derived from the Latin convolvere, "to wind".
Members of this family can be recognised by their funnel-shaped, radially symmetrical flower consisting of five fused petals.
Another member of this family that is widely used in cuisine is the sweet potato due to its starchy tuberous roots.

FAMILY: Convolvulaceae
SPECIES: *Ipomoea pes-caprae*
ENGLISH: Beach Morning Glory, Goat's Foot Creeper
DHIVEHI: Thanburu

This is a perenial, glabrous vine. It is found on tropical beaches and can colonize entire upper parts of the beach. The leaves are two lobed and resembles the shape of a goat foot. The flowers are very fragile, trumpet shaped, with a variety of colors including; white, yellow, and pink to purple with a darker center.
The fruits are small, round and glaborous. These seeds, enclosed woody capsule, are excellent floaters, staying viable after months at sea. Constantly drifting from one island to another, they have reached the farthermost islets in our vast Pacific Ocean.
Leaves, root and seeds of this plant have extensively been used in Southeast Asia to treat bladder infection, jellyfish sting, ulcers and boils. This is also a good preventer of soil erosion along the beach line.

FAMILY: Convolvulaceae
SPECIES: *Ipomoea alba*
ENGLISH: Tropical White Morning Glory
DHIVEHI: Fehanda

The White Morning Glory is a strong tendril climber that can achieve extensive growth by entwining around shrubs and small trees, many of which grow along the beach. Its large, tubular white flowers open widely at night and attract pollinators such as moths. They close again in the morning. The globular fruits are about 3 cm in diameter. The species is native to South and Central America; the local people there used it as an intoxicant. It is now distributed all over the tropics.

Dioscoreaceae

Dioscoreaceae is a family of monocotyledonous flowering plants. They are herbaceous or woody vines and shrubs, distributed throughout tropical and warm temperate regions. Members of the family have thick, sometimes woody roots or tuber-like underground stems and net-veined, often heart-shaped leaves that sometimes are lobed. The small green or white flowers of most species are borne in clusters in the leaf axils. The fruit is a winged capsule or a berry. Several species of yams are grown for their edible tuberous roots.

FAMILY: Dioscoreaceae
SPECIES: *Tacca leontopetaloides*
ENGLISH: Bat Plant
DHIVEHI: Hihthala

Tacca leontopetaloides is native to tropical Africa, South Asia, Southeast Asia, Northern Australia, New Guinea, Samoa,Micronesia, and Fiji. As an important food source, it was intentionally taken to tropical Pacific Islands with early human migrations.

This flowering plant has several long petioles 17–150 cm, which extend from the center of the plant, on which the large glossy leaves 30–70 cm long and up to 120 cm wide are attached. The leaf's upper side has defined bold, yellow veins. Flowers appear as tall clusters of greenish-purple bulbs, with long trailing silky tails. Hard potato like tubers formon the roots which are white inside.

These tubers are edible only after they are grating, soaked in water and then dried in the sun to make flour. This has always been an important food source for local islanders. Pudding, cakes and savory dishes are made from this arrow root starch.

Elaeocarpaceae

This is a comparatively small family of flowering plants with approximately 605 species of trees and shrubs in 12 genera. The species of this family occurs across the tropics and subtropics, with a few temperate-zone species. Elaeocarpus is by far the biggest genus within the family with a total of some 350 species.

FAMILY: Elaeocarpaceae
SPECIES: *Muntingia calabura*
ENGLISH: Japanese Cherry, Jamaica Cherry Tree
DHIVEHI: Jeymu

This small spreading tree with a remarkably rapid growth rate is native to tropical America and widely cultivated in South and Southeast Asia. It favours disturbed areas and is considered a pioneer species. The white flowers with many yellow stamens last only one day, the petals falling off in the afternoon. The abundant fruits are round with red or sometimes yellow, smooth skin and light-brown, soft, juicy pulp that has a very sweet flavour and is widely eaten by children out-of-hand and can be made into jam. The wood is valued mostly as fuel and for general carpentry work. The flowers are said to possess antiseptic properties.

Fabaceae (Pea family)

The legume, pea, or bean family is the third largest plant family in the world after the composites and orchids, with 630 genera and over 18,860 species.

The family includes trees, shrubs, herbs, and vines, which are usually easily recognised by their fruits (commonly known as pods, or more correctly, legumes), compound leaves, and often (but not always) characteristic flower shape. It has a worldwide distribution with many members of this family having the ability to fix nitrogen from the air and turn it into the essential plant nutrient nitrate.

This gives them the ability to grow in many areas that would be too infertile for other plants. Because the family has so many species, growth forms, and such a wide distribution, it contains many economically important species. Plants from this family have provided stable human foods for millennia. Therefore they have been closely related to human evolution. A relatively large number of species are important agricultural and food plants, including peanuts, peas, beans, liquorice, carob, alfalfa, tamarind and soybean. The ability to fix nitrogen is also widely recognised by farmers, who until the advent of artificial fertilisers often used plants from this family to increase the soil quality of their lands. This characteristic also makes them a key element of stability for many of the ecosystems in which they occur.

FAMILY: Fabaceae
SPECIES: *Adenanthera pavonina*
ENGLISH: Red Sandalwood, Red Bead Tree
DHIVEHI: Madhoshi

Red Sandalwood has long been an important tree in Southeast Asia and the Pacific islands. Cultivated in home gardens and often protected in forest clearings and village common areas, this useful tree provides quality fuel wood, wood for furniture and boats, food and shade for economic crops like coffee and spices. The tree has been planted extensively throughout the tropics as an ornamental tree and has become naturalized in many countries. The fruits are green, curved, hanging pods that turn brown, coil up and split open as they ripen to reveal small, bright red seeds. These seeds have been used for weighing gold and making jewellery and are edible when cooked.

FAMILY: Fabaceae
SPECIES: *Canavalia virosa*
ENGLISH: Maunaloa
DHIVEHI: Maa foavvalhihimeri

Found mainly in costal habitats intermingled with other coastal vegetation this attractive climbing vine can grow 6m long. In the Maldives Canavalia carthatica is mostly found near coastal thickets, coconut groves and thick forest.

The leaf is divided into three leaflets which are generally oval in shape with pointed or rounded tips. Several pink-purple bell shaped flowers appear along the shoots. The fruit is an inflated, turgid legume pod up to 13.5 centimeters long by 4.5 wide. The hard, smooth seeds are reddish brown, darkening to deeper brown.

This species has a symbiotic relationship with certain soil bacteria; these bacteria form nodules on the roots and fix atmospheric nitrogen. For this reason it is ideal to use as crop cover. It is also cultivated as an ornamental, valued especially for its showy flowers.

FAMILY: Fabaceae
SPECIES: *Cassia fistula*
ENGLISH: Golden Shower, Indian-Laburnum,
DHIVEHI: An'malthassh

This fast growing tree is native to the Indian subcontinent and Southeast Asia. The tree can grow 5m to 10 m tall.
The light green dropping branches and the long (30-60 cm) golden yellow hanging flower bunches makes it an ideal shade and ornamental tree. Flowering is abundant and occurs when the branches are bare and as new shoots emerge covering the whole tree in a bright yellow blanket. This beautiful flower is the national flower of Thailand, as yellow resembles Thai royalty.
In the Maldives the hardy red wood obtained from this tree is used for furniture making. The fruits are 30-60cm long cylindrical, brown hard pods.
In Ayruvedic medicine the bark is used to treat skin infections and the leaves are used for relief from rheumatism. Flesh of the fruit and flowers are used as a laxative.

FAMILY: Fabaceae
SPECIES: *Clitoria ternatea*
ENGLISH: Butterfly Pea, Blue Bell, Blue Pea
DHIVEHI: Nanreethi maa

Although native to tropical Asia, this plant has also been introduced to the African, Australian and American Continents. The plant is a vine, or a creeper, that blooms a striking vivid blue flower with light yellow markings.
The plants grow well in neutral moist soil. Its flowers are used in a variety of drinks for its natural food coloring whilst on the medicinal side, the plant is used as an anti-stress/antidepressant and in Ayurveda cultures for its tranquilizing and sedative properties.

FAMILY: Fabaceae
SPECIES: *Leucaena leucocephala*
ENGLISH: Lead Tree, River Tamarind, Mimosa
DHIVEHI: Ipil ipil

Leucaena leucocephala is a small to medium shrub. It can reach 20m height, given the right conditions. It is native to southern Mexico and northern Central America (Belize and Guatemala), but due to its adaptability, it is now naturalized throughout the tropics. Dhivehi language shares the same name for this plant as the Maranao, Tagalog (parts of Philippines) languages.

It's used as forage and fodder, green manure and biomass production. It is a good species for agroforestry as it is very effective in fixing soil nitrogen.

The young pods are edible and occasionally eaten in parts of Indonesia, Thailand Laos. As this plant grows quickly, forming dense thickets, which crowd out any native vegetation, L. leucocephala is considered one of the 100 worst invasive species by the Invasive Species Specialist Group of the IUCN (International Union for Conservation of Nature) Species Survival Commission

FAMILY: Fabaceae
SPECIES: *Sophora tomentosa*
ENGLISH: Necklace Pod, Silver Bush
DHIVEHI: Fusthulhaa

The Necklace Pod has a natural distribution in coastal areas, sometimes even in sand dunes, in subtropical and tropical climates around the world. The compound leaves are covered on both sides with short silvery hairs that give the shrub a silver-green appearance. The yellow flowers bloom throughout the year. The brown pods hold one to nine compressed seeds, the seeds bulging like beads of a necklace. The seeds and roots contain cytisine, a strong toxin, which can be particularly dangerous to young children. In small doses, parts of the plant can be used for relieving cholera and diarrhea as well as wounds from poisonous fish. Like other members of the pea and bean family, Necklace Pod has a symbiotic relationship with nitrogen-fixing bacteria.

Goodeniaceae

This family of flowering plants contains 12 genera and about 404 species. Most species are found in Australia, except for Scaevola, which occurs throughout the tropics. Most species in this family are well-adapted to water stress, meaning that they are often found in (semi-)dry or saline conditions, as salt also causes water stress for plants. Most species in this family are herbs with spiral leaves and symmetrical flowers.

FAMILY: Goodeniaceae
SPECIES: *Scaevola taccada*
ENGLISH: Sea Lettuce, Beach Naupaka
DHIVEHI: Magoo

Sea Lettuce is a very common shrub in the Maldives and along other Indo-Pacific shorelines and grows along the high-tide mark of sandy beaches. The seeds are dispersed by birds and by water; the fruits are floatable and can survive in seawater for more than a year. The species is easily identified by the glossy, somewhat succulent leaves and the "half-flowers", whose white petals are arranged in a semicircle. Branches cut off from the shrub are widely used as firewood and for making fences, while the leaves are edible when cooked and can be smoked as tobacco. The juice of the ripe fruits is used for curing pink eye. The shrub is also important for preventing coastal erosion.



Hernandiaceae

The Hernandiaceae are a family of flowering plants, angiosperms, in the order Laurales. Consisting of five genera with ca. about 58 known species, they are distributed over the world's tropical areas, some of them widely distributed in coastal areas, but they occur from sea level to over 2000 m. Trees of the Hernandiaceae family predominate in the world's laurel forests and cloud forests, which occur in tropical, subtropical, and mild temperate regions of the Northern and Southern Hemispheres, highlighting the African, Indian, and Pacific Ocean islands, New Caledonia, Madagascar, and central Chile.

The main economical uses for this family are essential oils, found in many species that are important for spices and perfumes, and the hardwood of many species is a source for timber around the world. A great number of species is in danger of extinction due to overexploitation as medicinal plants or timber extraction and loss of habitat.

Some fruits open very violently, expelling the seeds away. Others are small nuts or nonfleshy bodies (achenes) provided with hooks or filaments that stick to the fur of animals or are shaped to float in water or facilitate transport by wind. The fruits are eaten by birds, passing through their digestive tracts.The bark, seeds, and young leaves are purgative. The root is chewed as a remedy against eating poisonous crabs and fishes. The juice of the bark and leaves has depilatory properties. The available information on the plant parts used by Samoan healer. The Hernandiaceae are a family of flowering plants consisting of five genera and around 58 species. They are distributed in tropical areas all across the world ranging from coastal sea level to over 2000m.

Many species of this family are economically important for essential oils, perfumes, and spices. The hardwood of several species is also a source for timber around the world. Due to the high demand of timber and various uses, a large number of species are now in danger of extinction.

FAMILY: Hernandiaceae
SPECIES: *Hernandia nymphaeifolia*
ENGLISH: Lantern Tree
DHIVEHI: Kandu

In this large evergreen tree species with glossy leaves, separate male and female flowers are developed on the same plant; they open at different times of the day. The hard black seed is enclosed in a white to pink lantern-like vescicle, which enables the fruit to float in the ocean water and in this way increases the species' range. On some Pacific islands, the seed-bearing, marble-like endocarps are polished and strung into necklaces. The Lantern Tree is widespread in coastal plant communities of the Indo-Pacific region. The wood is quite soft and used in woodcraft, while the leaves are used for local medicine.

Lauraceae (Laurel family)

Lauraceae is the laurel family, that includes the famous true laurel. They are flowering dicotyledons, and occur mainly in warm temperate and tropical regions, especially Southeast Asia and South America. Many are aromatic evergreen trees or shrubs. The Lauraceae are important components of tropical forests ranging from low-lying to montane. In several forested regions, Lauraceae are among the top five families in terms of the number of species present.

FAMILY: Lauraceae
SPECIES: *Cassytha filiformis*
ENGLISH: Love-vines
DHIVEHI: Velan'buli, Umbulivella

This is a parasitic vine with a pan-tropical distribution. Found widely in seashore and areas behind the shore, often forming a dense blanket over thickets. Flowers occur in clusters and the round berries are attached to the stems. These stems or vines can grow 3-8 meters long. It climbs over its host plant, feeds upon it and often forms dense mats that can kill the host. The stems, mashed in water, are the source of a brown dye.

It has a long history of use in traditional medicine. In Fiji it is used to treat jellyfish stings. An infusion of the stems is used in the treatment of digestive problems such as indigestion, biliousness and diarrhea; feverish conditions including malaria; urinary system problems; headache, hepatitis, piles, sinusitis and spermatorrhoea.

Lecythidaceae

The Brazil nut family contains about 20 genera and around 250-300 species of woody plants. The family has by far the largest representation of species in tropical South America, where it is of enormous ecological importance. Species of this family are dominant in many areas among the canopy and also serve for many traditional human uses in their native range.

FAMILY: Lecythidaceae
SPECIES: *Barringtonia asiatica*
ENGLISH: Fish Poison Tree
DHIVEHI: Kimbi

The Fish Poison Tree is distributed along the sandy and rocky shores of the Indian to Western Pacific Oceans. It grows up to 25 m and has large bronze to yellowish leaves held in rosettes at the end of branches. The flowers look like white puff balls of stamens tipped with pink. They open at night to attract pollinators with their heavy scent and usually fall off the next morning. The fruits have a typical lantern or box shape and float on the water. All parts of the tree contain saponin, a poison, which is used to stun fish. The timber is used for lacquer work, and the smoke that is released by burning the dried fruits serves as a mosquito repellent.



Lomariopsidaceae

Lomariospsidaceae is a family of ferns. Davalliaceae is native to tropical and subtropical regions of the Pacific, Australia, Asia, and Africa. They are small to medium in size. In the wild, they are usually epiphytic, sometimes epipetric or terrestrial.

FAMILY: Lomariopsidaceae
SPECIES: *Nephrolepis hirsutula*
ENGLISH: Scaly Sword Fern, Asian Sword Fern,
DHIVEHI: Keesfilaa, Handifilaa, Handifangivah, Kulhahavaali

This fern is a terrestrial, gregarious herb. It is commonly found near water sources. It is an uncommon plant in the Maldives but found in larger islands in thick forestations. It thrives mainly during rainy season. The leaves are oblong, pale green in color, and the fronds are sparsely covered with brown scales and hair. Each plant has about 25 narrow pinnae, which grow narrower towards the base and apex. The rhizomes are also covered with woody scales.
In the Maldives this fern is grown in pots for ornamental purposes.

Lythraceae

The loosestrife family of flowering plants contains 31 genera and 620 species, most of which are herbs, and only few are shrubs and trees. The family has a worldwide distribution, but most members are found in the tropics. Well-known members of this family include henna and pomegranate.

FAMILY: Lythraceae
SPECIES: *Pemphis acidula*
ENGLISH: Coastal Ironwood
DHIVEHI: Kuredhi



The wind- and salt-resistant Ironwood is distributed along tropical coastlines around the world and serves as an important windbreaker and coastal stabilizer. Its numerous low-lying branches and small, succulent leaves help deposit the sand on the beach. The evergreen bush usually grows in dense thickets. Its wood is very hard and used as firewood as well as in boat-building for internal beams and pegs for holding the planks together.

Malvaceae

The hibiscus or mallow family is a large and very easily recognisable by the shape of its flowers. The family is estimated to contain 243 genera and more than 4,200 species. Well-known members of the family include durian, kola nut, cotton, cacao, okra and baobab. The flowers of many species often have five large and colourful petals. The stamens are five to numerous and often form a long tube around the stigma. The flowers are so scenic that they are often used in art and as decoration, often being associated with tropical islands and exotic tribes. Of course many variations exist to this most stereotypical flower shape.

FAMILY: Malvaceae
SPECIES: *Hibiscus tiliaceus*
ENGLISH: Coast Hibiscus, Cotton Tree
DHIVEHI: Dhiggaa

Coast Hibiscus is a hardy evergreen tree or tall shrub with a short, crooked trunk. The tree's size, spreading habit, yellow or orange flowers and large heart-shaped leaves are its distinguishing features. The flowers only last for one to two days and then drop to the ground. They open in the morning and change their colour from bright yellow to orange to maroon in the evening. The timber of the plant is hard and rich in colour and widely used in household furniture. The bark contains strong fibres, which are made into thread for mat-weaving and for ropes used on boats. Because of its floatable seeds, the Cotton Tree is found almost all over the tropical world.



FAMILY: Malvaceae
SPECIES: *Thespesia populnea*
ENGLISH: Portia Tree, Indian Tulip Tree
DHIVEHI: Hirundhu

With its large, yellow to orange flowers, which only last for one day and then fall off the tree, the Portia Tree can easily be confused with the Coast Hibiscus. However, the centre of the flower is much lighter in colour in the Portia Tree, the leaves are more pointed at the tips and have pronounced veins, and the floatable fruits are spherical. The species also occurs less frequently on Soneva Fushi. The plant is important as a shade and ornamental tree on many local islands, as a coastal stabilizer and for medicinal purposes. The rich, dark wood of the fast-growing tree is carved into bowls, tools and figures. The Portia Tree is widespread in the tropical Indo-Pacific region.

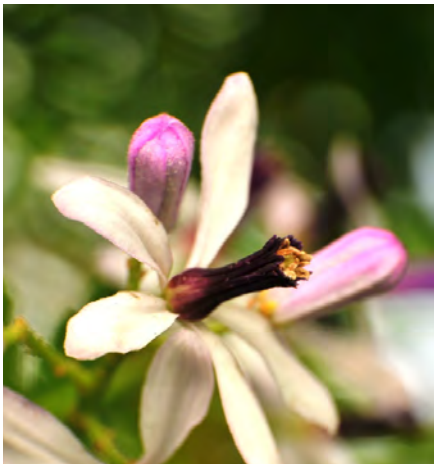
Meliaceae (Mahogany family)

Meliaceae, aslo known as the Mahogany family, are flowering plants mostly comprised of trees and rarely shrubs or herbs. With 51 genera and about 575 species this family is native to the tropical and subtropical regions.

Most memebers of the family have alternate, pinnate leaves without stipules, arranged in the form of a feather and branched flower clusters. The fruit can either be fleshy and coloured or a leathery capsule.

The most famous use of these plants is for the prized Mahogany wood. Other trees are a source of timber, medicinal oils, and resins. Some species produce edible fruits and ornamental aesthetics in tropical areas. Other species are used for vegetable oil, soap, and insecticides.

FAMILY: Meliaceae
SPECIES: *Azadirachta indica*
ENGLISH: Neem Tree, Margosa Tree
DHIVEHI: Hithigas



The Neem Tree is native to India and Myanmar but was introduced to other tropical and semitropical regions of the world. The species is so remarkable in its curative capabilities that the locals of India call it the "village pharmacy". It has numerous medicinal properties, aiding conditions ranging from digestive disorders to diabetes, high cholesterol and cancer. All parts of the tree (seeds, leaves, bark and flowers) are used, whilst neem oil is used for preparing cosmetics. Besides its use in ayurvedic medicine, the species is of great importance as a pesticide, for its anti-desertification properties, as a timber species and possibly as a good carbon dioxide sink. It is a fast-growing evergreen tree with serrated leaves that can reach a height of 15–20 m.

Moraceae

The hibiscus or mallow family is a large and very easily recognisable by the shape of its flowers. The family is estimated to contain 243 genera and more than 4200 species. Well-known members of the family include durian, kola nut, cotton, cacao, okra and baobab. The flowers of many species are typical in that it often has five large and colourful petals. The stamens are five or more and often form a long tube around the stigma. The flowers are therefore often used in art and as decoration, often being associated with tropical islands and exotic tribes. Of course many variations exist to this most stereotypical flower shape.

FAMILY: Moraceae
SPECIES: *Artocarpus altilis*
ENGLISH: Breadfruit Tree
DHIVEHI: Bambukeyo

This tall evergreen tree, up to 20 m with a trunk as large as 2 m in diameter, can be easily recognised by its wide, deeply lobed leaves and the large, warty fruits. White milky latex is present in all parts of the tree. Even though the Breadfruit Tree provides medicine, construction materials and animal feed, it is mostly the abundant, nutritious and tasty fruits that have made the species of high value for islanders in the Indo-Pacific region. The fruits can be cooked and eaten at all stages of maturity, are high in carbohydrates and are a good source of minerals and vitamins. While only rather small individuals grow on Soneva Fushi, larger trees can be found on local Maldivian islands.



FAMILY: Moraceae
SPECIES: *Ficus benghalensis*
ENGLISH: Banyan Tree
DHIVEHI: Nika

This fig tree can be more than 30 m high and has therefore always been used as an important landmark for Maldivian boatmen. Due to its numerous aerial roots supporting more and more branches, the plant can have huge dimensions. The seeds of the Banyan Tree germinate on the branches of other trees, from where they send aerial roots to the ground. These roots quickly become very strong and squeeze the host tree to death. The Banyan Tree produces small red fruits that are a favourite of the local birds and fruit bats, facilitating the dispersal of seeds. The species is distributed in tropical Asia and has its origins in India.



FAMILY: Moraceae
SPECIES: *Ficus microcarpa*
ENGLISH: Indian Banyan Tree

Ficus microcarpa is native from Ceylon to India, southern China, Ryukyu Islands, Australia, and New Caledonia. In its native range, southern Asia, Ficus microcarpa thrives in moist regions.
Variable in habit, often epiphytic, subscandent shrubs when young, in maturity spreading evergreen trees with large branches and numerous aerial roots hanging from the trunk and branches, which sometimes reaching the soil to form pillar-like roots.

Moringaceae

The family has only one genus, the Moringa. They are distributed in tropical and subtropical climates that range in size from tiny herbs to massive trees.

FAMILY: Moringaceae
SPECIES: *Moringa oleifera*
ENGLISH: Moringa, Drumstick Tree, Horseradish Tree, Ben Nut
DHIVEHI: Muran'ga gas

Moringa oleifera is an economically important tree that is more common in the northern islands of Maldives. It is a fast growing tree native to the southern hills of the Himalayas, and widely cultivated in tropical and subtropical areas.
Many parts of the tree are edible and used extensively. The fruit is a hanging 20-45cm long, three-sided brown pod called 'drumstick' which holds the dark brown globular seeds, and is used to make curries and salad. A plentiful tree can yield 1000 or more pods annually. The leaves are the most nutritious part of the plant, being a significant source of essential nutrients.
Moringa is widely used in ayurvedic medicine. Oil is pressed from the seeds, the leaves are used as a purgative to counteract poisonous effects, and decoction of the root is taken to increase urination as well. Leaf powder is as effective as soap for hand washing when wetted, and produces anti-septic and detergent properties from phytochemicals in the leaves. The plant is famed 'miracle tree' for its various healing qualities.

Nyctaginaceae

The Four O'Clock family, is a family of around 33 genera and 290 species of flowering plants, widely distributed in tropical and subtropical regions, with a few representatives in temperate regions. Four-O'Clocks species of Bougainvillea are grown as ornamental plants and so they are commonly cultivated in warmer regions.

FAMILY: Nyctaginaceae
SPECIES: *Bougainvillea glabra*
ENGLISH: Bougainvillea
DHIVEHI: Bougainvilla

This is a woody, evergreen, climbing shrub with thorny stems. It usually grows 3.0–3.7 m tall, occasionally up to 9 m. The tiny white flowers usually appear in clusters surrounded by colorful papery bracts, hence the name paperflower. The flowers are about 0.4 cm in diameter (the pink petal-like structures are not petals, but bracts. The leaves are dark green, variable in shape, up to 10 cm long.

Pandanaceae

Pandanaceae is a family of flowering plants that originate from the tropics and subtropics of the Old World, from West Africa to through the Pacific. This family includes almost 1000 species from five genera which includes trees, shrubs, lianas, vines, and perennial herbs.
The inflorescences can be brightly coloured and terminally borne spikes or umbels. The most common Pandanus, also known as screwpine, here in the Maldives, has various economical uses. The leaves are very long, narrow, leathery and rigid with fibrous spines which can be used for making mats, nets, baskets.

FAMILY: Pandanaceae
SPECIES: *Pandanus tectorius*
ENGLISH: Seashore Screw Pine
DHIVEHI: Kashikeyo

The most important and characteristic features of the Screw Pine are its many thick and branched prop roots that firmly anchor the tree into loose sand and hold the stem erect. The large long leaves with small upturned spines along the leaf edges and midrib are spirally arranged on the stem. The fruiting heads, resembling an orange-coloured pineapple, consist of numerous woody segments, which are used as basic food on many Indo-Pacific islands and made into a popular juice drink. In the Maldives, the leaves, when cut lengthwise and dried in the sun, are used for mat-weaving. The Screw Pine is very common along the coasts of the Indian and Pacific Oceans.



Passifloraceae

The Passifloraceae are a family of flowering plants, containing about 750 species classified in around 27 genera. They include trees, shrubs, lianas, and climbing plants, and are mostly found in tropical regions. The family takes its name from the passion flower genus (Passiflora) which includes the edible passion fruit (Passiflora edulis), as well as garden plants such as maypop and running pop.

FAMILY: Passifloraceae
SPECIES: *Passiflora suberosa*
ENGLISH: Cork Passionflower
DHIVEHI: Ranguveyo, Kulavela

A wild passionflower species native to the Americas grows in moist well-drained sandy or limestone soils that are rich in organic content. It is a creeper - considered an aggressive weed that may smother natural vegetation. This species is considered to be invasive species in South Africa. However, this species has been sometimes cultivated as an ornamental plant. Growing well and locally established in many tropical countries, the creeper develops a corky bark at the bases as it grows older. Long tendrils or stems can cover ground and climb onto surrounding trees and objects and flourishes in the sub-canopy layers. The wild passionflower is small, about 1.5 cm across. They are greenish or whitish in color and resemble a micro passiflora edulis. A seedy fruit is borne which changes from green to indigo, purple and finally black as it ripens. Birds are known to disperse the plants as they eat the seed packed fruit and are likely that they have introduced these plants to the Maldives.

Psilotaleaceae

Psilotaceae is a family of Pteridophyta (in order Psilotales) consisting of two genera, Psilotum and Tmesipteris with a dozen species.

All Psilotaceae share a few characteristics. They are vascular plants and they lack leaves, having instead small outgrowths called enations. The enations are not considered true leaves because there is only a vascular bundle just underneath them, but not inside, as in leaves. Psilotales also do not have true roots. They are anchored by rhizoids. Absorption is aided by symbiotic fungi called mycorrhizae.

FAMILY: Psilotales
SPECIES: *Psilotum nudum*
ENGLISH: Cocks Crow, Whisk Fern
DHIVEHI: Rubbudufilaa

This primitive fern like plant lacks most of the organs of the modern plant. Descended from the first vascular land plants (Rhyniophytes), which appeared about 400 million years ago, the whisk fern is unique amongst living vascular plants due to its lack of roots and leaves. This plant photosynthesizes through aerial stems, mineral and water absorption is carried out in the rhizomes. Small yellow knobs form at the tip of the branch stem which contain the sporangia. Reproduction is similar to fungi and algae. This is a very small group consisting of two genera (Psilotum and Tmesipteris), mostly found in the tropical and subtropical regions, growing in rich soil or as epiphytes. In Soneva Fushi they are found growing on dead roots stumps of coconuts and various other area all around.

Rhamnaceae

The Rhamnaceae family consists mostly of trees, shrubs, flowering plants and some vines. The family contains about 55 genera and 950 species, with a worldwide distribution, most commonly in the subtropical and tropical regions. The petals are usually small and inconspicuous but can be white, yellowish, greenish, pink or blue. The fruits are mostly berries, fleshy drupes, or nuts.

FAMILY: Rhamnaceae
SPECIES: *Colubrina asiatica*
ENGLISH: Asian Snake Wood
DHIVEHI: Raarohi, Raaruhi

Asian nakedwood is a low shrub with climbing branches. The vine-like branches can reach up to 30 ft. (9 m) in length. The leaves are dark green, shiny and ovate, the flowers are small, greenish and bloom in clusters.
Seeds float and are salt tolerant, allowing this plant to inhabit a variety of regions. This plant is native to tropical and subtropical regions of the Old World, from eastern Africa to India, southeast Asia, tropical Australia, and the Pacific Islands.
This plant is considered a medicinal plant in the Maldives. The leaves produce a lather when mixed with water, hence the name lather leaf. In rural places it is put to practice and used as soap. Warmed up leaves are used to alleviate topical skin diseases. To give relief for swelling, leaves are grounded and the juice is rubbed on the swollen area. Leaves and fruits can also be used to poison fish.

FAMILY: Rhamnaceae
SPECIES: *Ziziphus mauritiana*
ENGLISH: Indian Jujube,
DHIVEHI: Kunnaaru

This thorny, evergreen shrub can grow 15m tall and withstand extreme temperatures, it can also thrive in dry conditions. The drooping branches of this tree are covered with small sharp spines. The leaves are ovate, dark green and smooth on the upper side, grey and hairy on the underside. Flowers are small and star shaped. Fruits vary in size and shape from round to oblong. When ripe, fruits are sweet and sour in taste and the glossy skin appears to be a reddish brown. The white flesh is spongy and juicy. There is a single hard stone similar to an olive stone.

The species is believed to have originated in Indo-Malaysian region of South-East Asia. It is now widely naturalized throughout the Old World tropics.

Ripe and unripe fruits are used to make pickles, drinks, candy, and syrup. The wood is hard and used for construction and furniture in the Maldives. The plant produces cyclopeptide alkaloids known as ziziphines and has a long history of use as an herbal medicine. It has higher concentration of vitamin C than citrus or apples. Different jujube cultivars are grown in Maldivian home gardens for its shade and fruits.

Rubiaceae

This is the fourth largest family of flowering plants with 611 genera and more than 13,000 species. It is more commonly known as the coffee, bedstraw, or madder family. The family has a worldwide distribution and many different growth forms.

The largest diversity is concentrated in the subtropics and tropics. Despite the large variety in growth forms, the family is actually easily recognisable by botanists due to a number of morphological characteristics being very consistent throughout the family.

The family has large ecological importance for a number of reasons. The flowers are very often rich in nectar and therefore provide a food source for bees, butterflies, and birds. Some of the species have developed mutualistic relationships with ants. The seeds provide a habitat to certain ant colonies with food and shelter, leading to the ants protecting the plants from parasites and herbivores.

Economically important genera include the coffee plant, Cinchona, the source of quinine used in malaria treatment, some dye plants, and many ornamental cultivars.

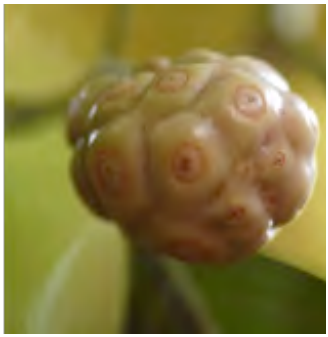
FAMILY: Rubiaceae
SPECIES: *Guettarda speciosa*
ENGLISH: Beach Gardenia, Indian Lavender
DHIVEHI: Uni

The Beach Gardenia is a native of the Indo-Pacific region and grows along sandy and rocky seashores, almost all the way to the high tide level in places. This small, evergreen, spreading shrub has white trumpet-shaped flowers, which are one of the most fragrant on the island. They last only a very short time, however, and are very sensitive to an excess of sun. The small 2 cm round fruits can float and therefore enable the species to spread out to other islands. The timber of this tree is used as firewood and especially in lacquer work, for which Baa Atoll is famous.

FAMILY: Rubiaceae
SPECIES: *Morinda citrifolia*
ENGLISH: Noni Tree, Indian Mulberry
DHIVEHI: Ahiva

Known commercially as noni, Morinda citrifolia grows widely on Maldivian islands. It is a native from South-eastern Asia and Australia and now has a pantropical distribution. This small tree is noted for its extremely wide range of environmental tolerances, but usually grows in close proximity to shorelines. All parts of the plant have traditional and/or modern uses, including roots and bark (dyes, medicine), trunks (firewood, tools) and leaves and fruits (food, medicine). The medicinal applications can aid a vast array of conditions and illnesses. The tree has attained significant economic importance in recent years through several health and cosmetic products made from leaves and fruits.





Sapindaceae

With roughly 140–150 genera containing 1400–2000 species, the Sapindaceae family includes the well known lychee fruit, chestnut, and maple tree. They occur world-wide, specifically in temperate and tropical regions. Many species contain a milky sap, called latex, as well as a mildly toxic sap with soap-like qualities residing in the foliage and/or the seeds, or roots.

FAMILY: Sapindaceae
SPECIES: *Allophylus cobbe*
ENGLISH: Wild Berry
DHIVEHI: Dhon'moosa

Allophylus cobbe is well adapted to a variety of contitions. It grows commonly along the rivers and streams (tidal included), on hillsides, and forest edges. It is broadly distributed in India, South Africa, South America, Southeast Asia, and Papua New Guinea.

This evergreen, low branching shrub can grow 10 meter tall with small (3 millimeter) white to yellow flowers. When ripe the berrylike round fruits turn red, making it a favorite food for birds. The sweet berries are eaten raw. The bark, roots and leaves of the tree are used to treat fever and stomach ache. Traditionally in the Maldives, wood was used for roofing, firewood and bows. It can also be used for making rafts and fish traps.

Sapotaceae

A mostly tropical family of evergreen trees and shrubs, consisting of 54 genera and around 1,100 species. Most of the berries this family produces are edible and are dispersed by various mammals, bats, birds, and even fish (specifically in the Amazon).

FAMILY: Sapotaceae
SPECIES: *Manilkara zapota*
ENGLISH: Chiki, Sapota, Sapodilla
DHIVEHI: Sabudhelli

This evergreen, slow growing fruit tree is native to Central America, Mexico and Caribbean islands. The average height is 9-15 meter. The tree forms a distinctive dark green pyramid shaped foliage when young and grows denser and more irregular as the plant matures. The flowers are small, hairy and green to white in color. The rough, brown, round fruits are hard when unripe and turn dark brown and softer as it ripens. The flesh of the fruit is very sweet and juicy, used to make fruit juices, syrups, jam, and sherbets and mostly eaten raw. The white latex (known as 'chicle') which comes from all parts of this plant was previously used as the base for chewing gum. It is a wind resistant strong tree and the hardy wood is ideal for furniture and heavy construction.

FAMILY: Sapotaceae
SPECIES: *Mimusops elengi*
ENGLISH: Bullet Wood, Bakul Tree
DHIVEHI: Moonimaa

This berry tree is mostly grown for shade and for aesthetics. The grey trunk is distinctively straight. Flowers are cream; star-shaped, and have a very pleasant scent. The egg shaped orange-red berries are sweet with a starchy texture. This tree can grow 16 meters tall and is native to tropical forests of South Asia, Southeast Asia and Northern Australia.

The flowers are used locally as a home air freshener. The flowers retain their scent for many days therefore used for perfume making. Decoction of the mature bark is used as a mouthwash to treat gum diseases while ripe fruits are eaten for stomach problems.

Surianaceae

The Surianaceae are a family of plants with only eight known species in five genera.

FAMILY: Surianaceae
SPECIES: *Suriana maritima*
ENGLISH: Bay Cedar
DHIVEHI: Halaveli

Bay Cedar is native to the Caribbean and Central America but has spread to other warm coastal regions as well. It is commonly found growing in thickets, on sand dunes or rocky shores and has a high salt, wind and drought tolerance. It therefore serves as a windbreaker and barrier to salt spray. Due to its shallow and extensive root system, the species also plays a vital role in the prevention of beach erosion. This small shrub has narrow, succulent leaves and small yellow flowers. The dark red, hard wood polishes well and is used to make small articles. The bark and leaves are also used medicinally.



Turneraceae

Turneraceae is a family of flowering plants found in tropical or subtropical areas in parts of the Americas, Africa, Madagascar and areas in the Indian Ocean. Most commonly this is a family of shrubs with a few species of trees. The family consists of over 200 species in 10 genera.
Most species have hairy toothed leaves that lack a stipules but have a strong secondary venation. The petals of the flower overlap regularly and overtime start to wilt instead of drying out.

FAMILY: Turneraceae
SPECIES: *Turnera ulmifolia*
ENGLISH: Sundrop, Yellow Buttercup
DHIVEHI: Bakarinukaa

The Yellow Alder is a perennial shrub that grows up to 60 cm in height. The leaves are pointed and up to 5–7 cm long. The yellow flowers are produced daily, bloom for a few hours and close at night. The Yellow Alder usually grows in disturbed areas in full sun or partial shade and attracts butterflies and other insects. The species is native to the West Indies and Mexico.

Verbenaceae

Verbenaceae is a family that consists mainly of flowering plants residing in the tropical regions of the world. It is most notable for clusters of small flowers with aromatic scents, but also includes trees, shrubs, and herbs. The family contains 35 genera with 1,200 species and are usually grown for their aroma or flavoring qualities.

FAMILY: Verbenaceae
SPECIES: *Lantana camara*
ENGLISH: Lantana Weed, Wild Sage
DHIVEHI: Kashikothan

Lantana is a 2–4 m tall branched, prickly shrub. The inflorescence is made up of 20–40 flowers, ranging in colour from white, cream or yellow to orange, pink and red. The fruit has many berries, which are shiny purple-black when ripe and contain a single pale seed. The foliage is finely pubescent and bad smelling. Despite its limited occurrence on most Maldivian islands, Lantana is regarded as one of the worst weeds in many tropical regions of the world because of its invasiveness and potential threat to native biodiversity, agriculture and forestry. It usually forms dense, impenetrable thickets.

FAMILY: Verbenaceae
SPECIES: *Premna serratifolia*
ENGLISH: Headache Tree
DHIVEHI: Dhakan'dhaa

A common deciduous shrub found in island forest. It mostly grows in moist sandy soil and jungles along seacoasts and mangrove forests. The green - yellow to white flowers are small and appear clustered. The leaf shape and size varies greatly. Obtuse, sharp pointy leaves can be seen from a single tree. This tree is a host plant for many butterflies and bees.

In the Maldives, the durable wood of this plant is used widely for firewood, handicraft and small tool making. In Ayurveda medicine one teaspoon of leaf infusion is taken after meals to prevent the formation of excessive gases in the digestive system.

Ficus benghalensis
Banyan Tree

Mimusops elengi
Tanjong tree

Calophyllum inophyllum
Ball Nut, Alexandrian Laurel, Beauty Leaf Fun

Barringtonia asiatica
Fish Poison Tree

Pandanus tectorius
Tahitian screwpine, Thatch screwpine

Artocarpus altilis
Breadfruit Tree

Casuarina equisetifolia
Horsetail She-oak

Adenanthera pavonina
Coral Bead Tree, Red Sandalwood

Hernandia nymphaeifolia
Chinese Lantern Tree

Terminalia catappa
Indian Almond Tree

Cassia fistula
Golden Shower, Indian-Laburnum, Pudding Pipe Tree

SONEVA FUSHI NATURE WALK

Walking or cycling around Soneva Fushi's lush vegetation is a special treat. Discovering some of its majestic and exceptional trees can become a real adventure, part of our SLOW LIFE philosophy.

The map below indicates a few key trees and areas for you to explore. A small wooden plaque in the jungle will describe the key features of each tree.

INVASIVE and THREATNED SPECIES

SPECIES	STATUS	DESCRIPTION
Catharanthus roseus (Apocynaceae)	Invasive Alien	This flowering plant is widely used worldwide as an ornamental species, yet its orgins are in Madagascar, being an alien species in the Maldives.
Casuarina equisetifolia (Casuarinaceae)	Invasive Alien	Casuarina produces dense shade; its thick blanket of leaves and hard pointed fruits cover the ground under it and prevent germination and growth of other native species. Also, dense thickets of the tree displace native dune and beach vegetation including mangroves. Once established, the tree radically alters the light, temperature and soil chemistry regimes of beach habitats. The pollen may cause allergic reaction in humans.
Saphora tomentosa (Fabaceae)	Threatened	Only 2 plants were found in Soneva Fushi, growing along the beach line. One plant was observed to be smothered by a canavalia virosa (another invasive spieces).
Adenanthera pavonina (Fabaceae)	Invasive	An invasive tree which invades intact and undisturbed natural habitats and quickly establishes colonies. Management: Seedlings and saplings can be removed by hand pulling or digging. Herbicide application on the basal bark is effective to kill mature trees.
Leucaena leucocephala (Fabaceae)	Invasive	The plant can form dense thickets eliminating native plants and cover large areas within a short duration. It can affect the biodiversity and disturb the ecological equilibrium of the invaded areas.

SPECIES	STATUS	DESCRIPTION
Scaevola taccada (Goodeniaceae)	Invasive	The plant can form dense thickets on sand dunes and compete with native coastal vegetation. Its growth in coastal areas can end up in an increased flow of sediments and nutrients to the sea due to dune destabilization. Spread of the weed is mainly through fruits and stem segments dispersed through ocean currents
Cassytha filiformis (Lauraceae)	Invasive	The plant smothers native shrubs and trees. Management: Removal of the plants before they produce seeds is helpful. Use of herbicides is also effective in managing Cassytha.
Passiflora suberosa (Passifloraceae)	Invasive	It is invasive and is capable of smothering native species including large trees. The thick corky stems of the climber can pull down trees with its bulk.
Ziziphus mauritiana (Rhamnaceae)	Invasive	The dense growth of the plant and its efficiency in outcompeting native plants adversely affect the biodiversity and functioning of ecosystems
Lantana camara (Verbenaceae)	Invasive alien	The species poses serious threat in most of the tropical ecosystems. Lantana spreads through seeds and vegetative means. Birds and other small animals consume and pass the seed in their droppings spreading it far and wide. Mature plants can produce up to 12,000 seeds annually. Seeds remain viable for several years under natural conditions. Management: Up-rooting or continuous weeding is suitable in small infestations. Glyphosate is effective as an overall foliar spray. Fungal pathogens like Prospodium tuberculatum and Puccinia lantanae have been identified as potential biocontrol agents

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