



# CAUTION

You will be venturing to the wild side of Calabash Caye. As such, we urge you to be CAUTIOUS as more than one thing along this trail could cause some level of injury. Since we want you to thoroughly enjoy this trail, please have the following points in mind:

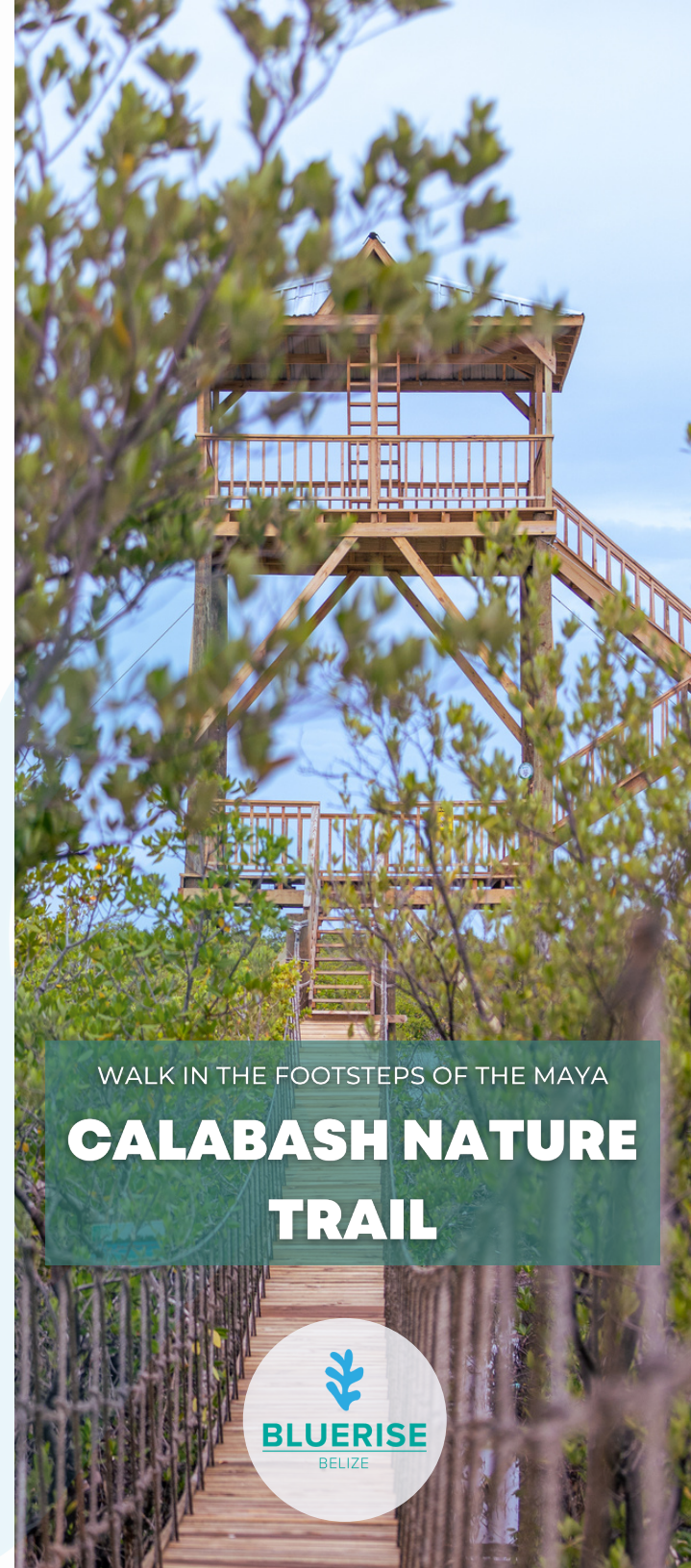
- 1. Plants.** Some plants along this trail have irritating toxins which can cause some painful blisters if your skin comes into contact with them. Such plants are well marked, and we ask that you keep a safe distance from them. Do not venture ask that you off trail as dangerous plants are not marked beyond the trail.
- 2. Trail.** We have worked hard to make the trail as safe and enjoyable as possible. However, we cannot control the native wildlife from working and living along the trail. Blue Crabs will sometimes dig into the trail when making burrows to live in. Beware of this as it can make the trail un-even and pose a danger of injury by falling. Always be aware of your next step.
- 3. Snakes.** There are NON-VENOMOUS snakes around Calabash Caye. The biggest threat they pose, is the instant scare they can give you. Give them space and they will naturally avoid you.
- 4. DO NOT wander off trail.** Some spots are swampy and soft.
- 5. Keep hydrated.** Its easy to forget this when you are enjoying a beautiful paradise island such as Calabash. Take some water and sip constantly, makes the walk more enjoyable.
- 6. Insects.** We do have Mosquitoes, Sand flies and Doctor Flies. We suggest taking a long sleeve shirt and some bug repellent to keep those buzzy beings a safe distance away.
- 7. Boardwalk and Tower.** Please be mindful at the tower. Always ensure you are using the railings to properly hold on and ensure your step is firmly set on the flat surfaces. As long as you follow these precautions, we are sure you will have an enjoyable and fun learning experience on the trail. Immerse in nature, and thanks for visiting us!

## MAYA MOUNDS

Several Maya mounds have been discovered on Turneffe Atoll. On islands, the Maya used conch shells and coral reef rubble to build structures since limestone and rocks cannot be found here. Some of these buildings date back to 400 A.D. and show evidence of Mayan trade routes. Artifacts from Turneffe indicate that they traded goods with people from present-day Mexico and Guatemala. At these mounds, we have found granite "manos" (grinding stones), clay pottery, and chert arrowheads. There is also evidence that these islands were not really inhabited but rather used as temporary camps as they traveled along the coast or fished the deeper waters. The Maya on the islands and coast would also boil seawater or brine in pots to produce salt to meet the salt needs and appetite of the nearby inland settlements. Examination of skeletal remains indicates that island Maya were taller and healthier than their mainland counterparts. This is likely a result of a stable diet and ready access to fish and conch.

## WILD ART

Can you guess what made these markings on this Tropical Almond Tree? An insect? A small Mammal? These curious markings follow a neat pattern all around the tree trunk. They are produced when the animal that makes them is searching for food. It carefully goes around the tree, making precise carvings and extracting sap from just below the bark. The sap also attracts insects, which serve as the rest of the meal for this creature. This animal migrates almost 2,000 miles from Ithaca, New York and all the way to this tree on Calabash Caye... Its a yellow-bellied sapsucker!



WALK IN THE FOOTSTEPS OF THE MAYA  
**CALABASH NATURE TRAIL**



**BLUERISE**  
 BELIZE

# WELCOME TO THE CALABASH NATURE TRAIL

Enjoy winding your way through the littoral forest as you read the signs placed at points of interest on the way to the observation tower. With a guide, the trail takes around 50 minutes. If you choose to walk on your own, it takes half an hour.

The points of interest are labeled by signs along the boardwalk trail, but not everything you will find is marked. Keep an eye out for hidden lizards and birds in the treetops and remember that every plant and animal in this ecosystem is connected.

To make it even more interesting, pretend that you have just survived a shipwreck and you're stranded on this island. What on this trail could you use to survive? You will come across building materials, edible plants and animals, and even a replacement for sunscreen. Just like the Maya who roamed these islands and reefs, you can find everything you need to survive between the Nature Trail and the Underwater Trail.

## LITTORAL FOREST

Littoral Forest is one of the smallest and most endangered habitats in Belize, covering only 0.112% of the land surface.

By 2020, littoral and mangrove forests covered only 190 square miles of coast and cayes. This figure is dropping as coastal development continues reducing cover. A mixture of hardwoods, palms, large shrubs, and small trees gives this habitat a unique "island jungle" feeling. The trees growing here are shorter than their mainland counterparts, as the soil is thin on the Atoll.

The diverse trees, shrubs and palms which make up this forest provide vital feeding stops for migratory and resident birds. The Maya would use islands with Littoral Forest for longer periods, as they could find higher ground, edible fruits, and firewood on these islands.

- Are Littoral forests found mostly along coastal areas and cayes? - Yes
- Why are Littoral forests important? - This forest features salt-tolerant vegetation and protects soil during overwash events, such as hurricane surges.

## COCONUT

*Cocos nucifera* - ARECACEAE



Coconut was first domesticated in Southeast Asia and has since been dispersed across the world by humans and currents. Today this plant is found in all tropical ecosystems and has uses from food to housing.

The grated semi-dry flesh of the coconut can be used to make coconut cream for piña colodas as well as bread, crust, or candy. Not only is the "nut" used by islanders, but the trunks can also function as hurricane-proof columns that hold up thatched roofs made of the palm's fronds.



- Are coconuts common in Belize? - Yes, Belize also exports coconut oils and other byproducts internationally.
- Can you list some delicious Belizean food made with coconut? In Belize, some of the most popular coconut foods include hudut, tablata, and coconut crust.

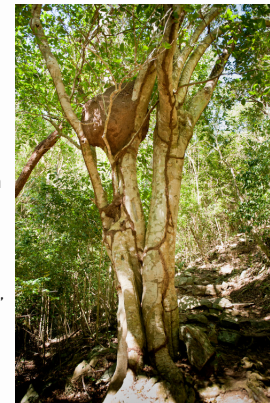


## TERMITE NEST



Termites are the ecosystem engineers of the littoral forest. These decomposers manage leave litter which recirculates nutrients back into the ecosystem. They also aerate the soil by digging tunnels as they forage, bringing oxygen to roots and reducing the effects of drought.

- Are termites good to have in the ecosystem? - Yes, they help to keep fallen natural debris in forests under control by feeding on it.
- How do termites communicate? Termites use pheromones to talk to one another and control each other's behavior. Termites leave scent trails to guide other workers using glands on their chests. Each colony produces a distinct scent, identified by a chemical on their cuticles. In some species, the queen can even control the growth and role of her young by feeding them her pheromone-rich feces.



## WILD SAGE

*Lantana involucrata* - VERBENACEAE

This compact shrub grows naturally in well-drained and dry areas because its adapted to withstand prolonged exposure to heat and salinity. Here at Calabash Caye, many birds enjoy its berries and its flowers are essential for pollinators, especially the Dorantes Longtail butterfly. The compact flowers are mostly white but will turn rosy-pink throughout the day. The leaves have an aromatic, spicy, sage-like aroma when touched.

# SALTWATER PALMETTO

*Thrinax radiata* – ARECACEAE



This palm grows on the coasts of the Caribbean and southern Florida. The fronds are used to make brooms in coastal Maya communities but can also be used as thatch roofing. The small white seeds are edible and are a favorite snack for many native birds and small mammals.



# CRAB COLONY

The holes you see on the ground are made by the Blue Land Crab (*Cardisoma guanhumi*). This crab lives inland of the shore where it burrows in dense shrubbery or mudflats above the tide line. These burrows often extend to six feet underground and may have small pools of water at the bottom. These burrows typically have very high concentrations of carbon dioxide since they are often sealed with mud.

The life cycle of this crab begins during the rainy season, when females release their eggs into the sea, coinciding with the lunar cycle. For some species of crab, it needs to be a waning crescent which brings gentle tides that make life easier on the baby crabs. For the spawning of many other species, a full moon provides extra light and higher tides.

The second species of crab you can find here is the Caribbean Hermit Crab (*Coenobita clypeatus*). This species hides under tree roots and feeds on plant and animal remains, fruit, and animal feces. This crab uses a variety of shells as its "home". It will constantly outgrow a shell and look for a larger shell to live in. It uses its claw to seal the entrance and defend itself from predators.



# TROPICAL ALMOND

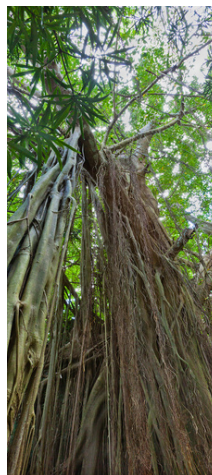
*Terminalia catappa* – COMBRETACEAE

This tree is native to Asia and Australia but is common in many tropical countries, both along the coast and far inland. The leaves contain good amounts of flavonoids (much like Kale) and smaller amounts of phytosterols (which can aid in lowering blood cholesterol). For this reason, tea is made in Taiwan with its leaves. The fruits produce a small nut that is enjoyed by squirrels, small rodents, and kids, of course.

# BEARDED FIG

*Ficus crassinervia* – MORACEAE

The Bearded Fig tree is a favorite tree of up to 22 bird species. White-crowned Pigeons, Yucatan Vireos, Black Catbirds, warblers and other Yucatan endemics are often seen while the tree is fruiting. The many crevices among the trunk compartments provide safe refuge for Black Iguanas and Blue Land Crabs. The name "bearded" comes from the aerial roots which extend from its branches to the ground and resemble long beards.



# SWAMP FERN

*Acrostichum aureum* – PTERIDACEAE

This massive fern grows in dense patches of mud where the canopy opens and offers a nice sunny area. Plants grow larger in seasonally flooded swamps rather than in stagnant ponds. The leaves can grow up to 6 feet long and resemble palm fronds. In Cambodia, the very young leaves are eaten in salads. The roots break and aerate the mud they grow on, making it more attractive to Blue Land Crabs for their burrows.



# CALABASH

*Crescentia cujete* - BIGNONIACEAE

This tree is the island's namesake, but no one knows how the tree got here. Calabash trees usually grow inland in Belize's pine savannahs. It was likely brought by the Maya who established small villages and fishing camps throughout Turneffe Atoll. The large gourd-like fruits were widely used by the Maya. Once sun-dried, they would remove the top and extract the pulp to make storage containers. They could store anything from fish, water, salt, and corn tortillas to canistel fruits. The halved calabash can also be used to hold water or soup. In other Central American countries, artists will paint stories on the outside of these gourds that could be read by slowly turning the calabash. In Columbia, the young green fruits are pierced at the base and where they extract the pulp and leave only the seeds. The fruit is sun-dried with the seeds inside, and you end up with a maraca!



# CANISTEL

*Pouteria campechiana* – SAPOTACEAE

The elegant canistel tree provides shade with its wide leaves. The hardwood is also widely used as rafters and planks. However, it's most commonly appreciated for its sweet fruits. Reminiscent of sapodilla, which happens to be a close cousin, the castinel's fruits are edible, sweet, and loaded with vitamin C, iron, niacin and calcium. Locally known also as caramelo, for the custard-like texture. Although this tree is native to the Yucatan Peninsula, the fruits are so delicious that it is widely cultivated in many tropical countries. If you are ever lost on an island, this is one of the trees that could help you survive.



# DOGWOOD

*Piscidia piscipula* – FABACEAE

This large tree grows just as well on the mainland as on the coast and cayes. Its tough timber is suitable for boat building, fence posts and outdoor furniture. The dense, tight-grained wood is also used as firewood, to make charcoal, and as carving material. The tree has some tolerance to short-term storm surges of seawater and is also highly tolerant of drought. During the dry season, it sheds its leaves and bursts into bright pink flowers that attract butterflies, bees, and hummingbirds. The green bark can be used as natural rope for tying or fastening wood or other material together. Additionally, the bark, roots, twigs and leaves of the dogwood tree contain rotenone, used to sedate fish, making them easier to catch. This same sedative is being researched for insomnia treatment.



# SEAGRAPE

*Coccoloba uvifera* – POLYGONACEAE

This almond-like tree can act as a second layer of defense during hurricanes. The wood is sturdy and provides a windbreak on the upper beach after the mangroves. Smaller branches make excellent firewood, while thicker trunks make quality charcoal. Seagrape plants can produce either male or female flowers, so bees and other insects are necessary for cross-pollination to occur.



- *Are seagrapes edible for humans?* - Yes. The ripe fruits are edible and tasty and can make delicious jams and jellies, but also quite good wine.
- *What months of the year are they ready for harvesting?* Summer Months: July-August

# BLACK MANGROVE

*Avicennia germinans* – VERBENACEAE

The Black Mangrove grows in lower salinity habitat than other mangroves and prefers muddy and inundated sandy soils exposed by low tides. Unlike other mangroves, it does not grow on prop roots but possesses pneumatophores that allow its roots to breathe even when submerged. It is a hardy species that can take up saltwater and then expel the absorbed salt from its leathery leaves. As the tide rises, it traps detritus within the pneumatophores, providing a safe nursery and feeding ground for many fish species. The white, tubular flowers are occasionally visited by green-breasted mangos and cinnamon hummingbirds.



BLACK MANGROVE



RED MANGROVE

# RED MANGROVE

*Rhizophora mangle* – RHIZOPHORACEAE

The red mangrove is one of the most emblematic trees of any healthy tropical coastline. They purify runoff before it reaches the reef, fortify the sediment and protect the coastline from storms. Entire islands disappear when mangroves are deforested. This tree can grow over 30 feet tall in ideal conditions. Prop roots grow off the main stem, while aerial roots grow downwards from the branches. Both types of root stabilize the tree, which usually grows in dense patches. Red Mangroves also have a peculiar way of propagating. After the flowers are pollinated, the fruits germinate on the tree develop a root that can grow up to 10 inches before hitting the water. The propagule is transported by the current until it reaches soft mud and develops its roots.

- *Are Red Mangroves important for coastal protection?* Yes, they prevent erosion and act as shields when storms hit. The mangrove forest of Turneffe acts as a buffer for the coastline of Belize City which could be destroyed if it was not protected.
- *How can you identify red mangroves easily?* Red Mangroves grow along the edge of the shoreline where conditions are harshest, the red mangrove (*Rhizophora mangle*) is easily distinguished from other species by tangled, reddish prop roots. They also act as a nursery for juvenile fish!

# ZIRICOTE

*Cordia sebestena* - BORAGINACEAE

This hardwood is incredibly dense and will never float whether green or dry! Once dried, the wood has a unique appearance referred to as a "spider-webbing" grain figure. It is used to make crafts (fruit bowls, cutting boards), guitars, carvings, and expensive flooring. The bright orange flowers are visited by hummingbirds and other pollinators. The large fleshy fruits are edible, but not tasty, so many will boil it with sugar, spearmint, and cinnamon.



# BLACK POISONWOOD

*Metopium brownei* – ANACARDIACEAE

DO NOT TOUCH!

This large tree can tolerate dry, rocky conditions but grows well in deep, sandy island soils. The dry wood can produce beautiful art and is used to make carvings, cutting boards, frames and kitchen bowls - but you must be careful that the wood is very dry. If the bark is injured, it will exude a black resin containing urushiol and can cause contact dermatitis; therefore, live trees and fresh-cut logs are handled carefully. The fruits are a favorite of many species of birds, such as the white-crowned pigeon.



# GUMBOLIMBO

*Bursera simaruba* – BURSERACEAE

Locally known as the tourist tree, a comical name referring to the tree's peeling bark resembling the sunburnt skin of tourists. Bees love the flowers, and more than a dozen species of birds eat the fruits, including tityras, orioles, tanagers, trogons, toucans, and vireos. It grows almost anywhere and tolerates dry, salty, and windy conditions. The branches are super flexible and able to withstand hurricanes without snapping. If they do break, they grow back very quickly. Due to their adaptation to wind, they are also very popular as living fence posts. But perhaps the most common use is as an antidote to the Black Poisonwood. The leaves and bark contain Hexane, which possesses anti-inflammatory properties. Also, if you are ever sunburnt, the bark of this tree provides a soothing remedy.

