Common Coastal Flora and Fauna of Vieques

Introduction

Vieques, Puerto Rico is an island (33,000 acres), 7 miles east of Puerto Rico. It is geologically part of the Puerto Rican bank which includes Culebra, St. Thomas, St. John, Tortola, Virgin Gorda and Puerto Rico. In its diversity of flora, it resembles more the Virgin Islands than the larger island of Puerto Rico.

The municipality of Vieques was founded in 1843. Prior to that, Teófilo Jaime Le Guillou, a native of Quemperle, France, was the first Military and Political Governor of Vieques (1832-1843). When Le Guillou came to Vieques in 1823, he was on a ship which would take wood from Vieques. By 1851, ships entering Vieques were importing wood. In less than 30 years Vieques had used up much of its timber resources. By the beginning of the 20th century, much of the natural vegetation of Vieques had been converted to sugar cane fields. Areas that were not converted to sugar were largely inaccessible due to water (as in mangroves) or steep slopes (around some of the higher points).

This book includes some 50 organisms that are commonly found in the coastal ecosystems of Vieques. Each page contains one organism, its image and lists its habitat, range, description, ecological importance, common name, scientific name, family, and some interesting facts. A brief overview of the most common coastal ecosystems (beach and mangrove forests) is also included.



This book was produced by the generous support of the National Oceanic and Atmospheric Administration (NOAA), National Ocean Service, Office of Response and Restoration in an effort to inform and educate the community about the diverse organisms found in the coastal areas of Vieques.

The Vieques Conservation and Historic Trust is a non-profit organization founded in 1984 whose mission is to protect the unique archeological, physical and ecological environment of Vieques. Through mediums like this booklet, and other types of education, it strives to develop a community actively involved in the protection and conservation of the environment and culture of Vieques.





Anolis cristatellus Family /Familia: Iguanidae

Habitat and Range: The Common Anole is the well named since it is the most common species of anole and is the one most often seen. It is found all over Puerto Rico in a variety of habitats, including homes and dwellings.

Species Description: The Common Anole has a wide variety of colorations. It may be brown or greenish gray. Most males have a fan along their neck that varies in color from greenish-yellow merging into orange towards the edges or some may be a creamy color.

Ecological Importance: The anole lizards found in Puerto Rico stay very still and wait for their prey to come near. All types of insects are the largest source of food, but they've been known to eat spiders, earthworms, young anoles and food scrapes from households. Anoles are eaten by egrets, thrushes, cuckoos, snakes, spiders and centipedes. Anoles reproduce throughout the year but the peak of reproduction is during the wetter months. The female lizards usually lay one or two eggs under rocks, debris or logs.

Did you know that Anolis is one of the largest groups of lizards with some 200 known species identified worldwide? In Puerto Rico, there are 11 known species, ranging from the mountains to the coastal lowlands.

Largartijo jardinero

Anolis pulchellus Family /Familia: Iguanidae

Habitat and Range: This anole prefers grassy areas and low bushes. It is found throughout Puerto Rico in suitable habitats as well as most of the Virgin Islands.

Species Description: The Garden Lizard is a brownish gray or brownish yellow color. They also have a dark band from the corner of the eye to the shoulder in both the male and female. The fan along the male's neck is bluish pink or purplish near the body merging to bright red near the edges.

Ecological Importance: All the anole lizards in Puerto Rico are capable of some color change. They may change to different colors of brown, or from green to brown or almost black. It seems that these changes in color are influenced by changes in the ambient temperature or in their level of excitement.

Did you know that all male anole lizards have a fan that extends along the neck, and is exposed during courtship, when defending their territory, when intimidated or when showing aggression? Along with showing their fan, the male *Anolis* may also do pushups, bob their head, stick out their tongue and wag their tail to deter challengers.

Bananaquit Reinita Común

Coereba flaveola Family /Familia:Emberizids-Honeycreepers

Habitat and Range: The Bananaquit, also known as the Bahaman Honeycreeper, is found in almost all habitats of Puerto Rico. It ranges throughout the Caribbean (except Cuba) into Central and South America.

Species Description: Bananaquits, like most Honeycreepers, have a curved, long beak which they use like straws to suck out the nectar from flowers. They are very common all over Puerto Rico. The Bananaquit is about 4 to 5 inches tall with a yellow breast and white eye stripe on its otherwise gray and white body.

Ecological Importance: Bananaquits, with their long, curved beaks, help to cross pollinate many different types of flowers. However, sometimes their beaks cause the death of the flower, as in the case of some exotic flowers found around the home. Bananaquits will use a wide variety of flowers, from all sorts of plants, as a source for food.

Did you know that the Bananaquit has a specially adapted tongue which helps it to brush out the nectar from flowers? It is also the only member of the Honeycreepers found in Puerto Rico and the Virgin Islands.

Bananaquit Reinita Común

Coereba flaveola Family /Familia:Emberizids-Honeycreepers

Habitat and Range: The Bananaquit, also known as the Bahaman Honeycreeper, is found in almost all habitats of Puerto Rico. It ranges throughout the Caribbean (except Cuba) into Cental and South America.

Species Description: Bananaquits, like most Honeycreepers, have a curved, long beak which they use like straws to suck out the nectar from flowers. They are very common all over Puerto Rico. The Bananaquit is about 4 to 5 inches tall with a yellow breast and white eye stripe on its otherwise gray and white body.

Ecological Importance: Bananaquits, with their long, curved beaks, help to cross pollinate many different types of flowers. However, sometimes their beaks cause the death of the flower, as in the case of some exotic flowers found around the home. Bananaquits will use a wide variety of flowers, from all sorts of plants, as a source for food.

Did you know that the Bananaquit has a specially adapted tongue which helps it to brush out the nectar from flowers? It is also the only member of the Honeycreepers found in Puerto Rico and the Virgin Islands.

Four Toothed Nerite

Nombre Comun

Nerita versicolor Family /Familia: Neritidae

Habitat and Range: The Four Toothed Nerite is commonly seen on ocean-swept rocks from southern Florida and Bermuda throughout the Caribbean.

Species Description: This member of the Mollusk Phyllum is a gastrod with a shell that is from $\frac{3}{4}$ to 1 inch long. It has a black, white, and red upper shell and the lower shell is white to yellow with four strong extensions that look like teeth.

Ecological Importance: The Four-toothed Nerite, as well as many other members of the marine gastropods, exist by scraping off the algae that grows along the rocks at the inter-tidal area of the beach. Not many animals are adapted to survive in such harsh conditions. Within the Nerites, they tend to use a certain section of the rocks so they are not competing with other species.

Did you know that these are edible or not?

Nerita versicolor Family /Familia: Neritidae

Habitat and Range: The Four Toothed Nerite is commonly seen on ocean-swept rocks from southern Florida and Bermuda throughout the Caribbean.

Species Description: This member of the Mollusk Phyllum is a gastrod with a shell that is from $\frac{3}{4}$ to 1 inch long. It has a black, white, and red upper shell and the lower shell is white to yellow with four strong extensions that look like teeth.

Ecological Importance: The Four-toothed Nerite, as well as many other members of the marine gastropods, exist by scraping off the algae that grows along the rocks at the inter-tidal area of the beach. Not many animals are adapted to survive in such harsh conditions. Within the Nerites, they tend to use a certain section of the rocks so they are not competing with other species.

Did you know that these are edible or not?

Ocyppode quadrata Family /Familia: Ocypodidae

Habitat and Range: Ghost Crabs are found along sandy beaches from New Jersey to Brazil and throughout the Caribbean.

Species Description: The Ghost Crabs shell (carapace) may reach a length of 1 ³/₄ inches. Its' body and legs are the color of light sand and the sharp claws are whitish. It has stalked black eyes and is one of the few crabs you will see standing erect on the tips of its legs. It builds its burrow above the high tide mark.

Ecological Importance: Ghost Crabs are nocturnal scavengers that will eat whatever they can find which may include other crabs, clams, insects, vegetation and detritus (rotting plant or animal material). They also are very powerful predators and can smash open a clam to eat the tissue inside.

Did you know that the likely explanation for the common name is due to the quick disappearance of the animal when it is encountered? It seems to disappear like a ghost.

Gray Kingbird Pitirre

Tyrannus dominicensis Family /Familia: Tyrant Flycatchers

Habitat and Range: The Gray Kingbird is found in open habitats from northern South America, the Caribbean into Florida.

Species Description: This common bird has a distinctive call which sounds like its common name in Spanish, pi-ti-re. Adults are gray above, pale gray and white below, with a black patch around the check and eye. It is 9 to 9 ½ inches tall.

Ecological Importance: The Gray Kingbird can be found perched in open areas waiting to impale insects and other prey using its broad bill to do the job. You may even see it pursuing its prey on the wing in a show of drama and death.

Did you know that the Grey Kingbird is one of the most common and commonly seen birds in Puerto Rico?

Hawksbill Sea Turtle Carey

Eretmochelys imbricata Family /Familia: Cheloniidae

Habitat and Range: The Hawkbill is found in all the tropical seas and oceans and can also be seen in temperate oceans as well. Their habitat is typically around coral reefs, mangrove swamps and rocky coastlines.

Species Description: Of the four species known to occur around Vieques and Puerto Rico, the Hawksbill is the smallest reaching a weight of 160 pounds. The maximum length of its shell is about 3 ½ feet. The Hawkbills is an omnivore, that is, they will eat whatever is available be it aquatic plants or fish, mollusks or crustaceans. They like to eat sponges too.

Ecological Importance: The Hawksbill is listed as Endangered by the U.S. Fish & Wildlife Service. Around Puerto Rico, the female Hawksbill prefers to build its' nest and lay its' eggs on smaller beaches. The Hawksbill nest is usually not found in the sandy part of the beach, like the other two turtles that are known to nest in Puerto Rico. Instead, it builds its' nest in areas of vegetation, near the back of the beach. The female may lay up to 160 eggs in the nest and the young emerge in about 60 days.

Did you know that young sea turtle hatchlings generally emerge at night and head for the sea focusing on the light reflected by the surf to guide them? Artificial lights around beaches confuse the young turtles and misguide them. This is why you'll often see "lights out for sea turtles" bumper stickers and other public announcements regarding artificial lighting around beaches.

Hermit Crab Coopelite elypoetre

Coenobita clypeatus Infraorder: Anomura

Habitat and Range: The Hermit Crab is found from the southern coast of Florida and throughout the Caribbean. Adults can be found well inland. But all young Hermit Crabs begin their lives in the water and near the shore.

Species Description: The Hermit Crab often uses the West Indian Top Snail as its home. Like other types of hermit crabs, it uses its large claw (in this species it is a purplish color) to close the entrance to the shell and protect itself.

Ecological Importance: Hermit Crabs are a crustacean. The Hermit Crabs release their young larvae into the ocean and the young larvae drift and form part of the large floating sea of plankton that serve as the basis for the oceans food chain. After a time, the larvae that survive develop into young Hermit Crabs and make their way to shores. The young Hermit Crabs look for shells as cover along the beach. The young will return to the water occasionally, but as they grow older, they return less and less into the water until finally, as adults, they only return to the water to release their larvae.

Did you know that you can find these Hermit Crabs well inland in Vieques, even around homes? They burrow and hide under large trees.



Iguana Iguana

Iguana iguana Family /Familia: Iguanadae

Habitat and Range: The Iguana is native to coastal areas of Central and South America. In Puerto Rico there is a large colony in Culebra, Roosevelt Roads, and some other coastal areas (Cabeza de San Juan, Fajardo). The Iguana was introduced into Puerto Rico through the pet trade.

Species Description: Large adult Iguanas can reach a length of 6 ft. They range in color from green, grayish green to greenish yellow. They have dark bars on their back and legs.

Ecological Importance: The Iguana most often eats vegetation but it is an opportunist and will eat eggs, young birds or carrion if they're available. The female builds her nest in sandy areas that receive plenty of sun, since the incubating temperature for the eggs needs to be high. The female may lay from 17 to 68 eggs. Iguana, like sea turtles, may return to their birth site for nesting.

Did you know that Iguanas tend to stay near the water and will jump into the water at the slightest disturbance? They are very adept swimmers too. You may see them sunning themselves in low trees in areas where there are large colonies.

Land Crab Juey

Cardisoma guanhumi Family /Familia: Gecarcinidae

Habitat and Range: Land Crabs are found along the coast from southern Florida into the Caribbean. They also extend from the coast of Texas to Brazil.

Species Description: Land Crabs vary in size, depending on their age and diet. Large Land Crabs can reach several pounds. They vary in color as well, depending on what they eat. Some are yellowish, others whitish, and others bluish. They are an arthropod, with jointed legs and a segmented body.

Ecological Importance: Land Crabs spend part of their life on land and part in the ocean. The females carry the eggs externally on land then release the larvae into the ocean. When they migrate to the shore from June through September. This annual migration is called a *corrida* in Puerto Rico. These larvae become members of the large floating masses of plankton and eventually may wash up on a shore somewhere and grow to become an adult. Adults reach sexual maturity around four years of age. They burrow holes in the ground. Usually the bottom of their burrow is filled with water. They are scavengers and usually feed at night on just about anything they can find.

Did you know that Vieques was once known as Crab Island by the English? The English tried to establish a colony on Vieques in 1688 and again in 1717. Both attempts were squelched since the Spanish governors of Puerto Rico considered these attempts invasions and sent troops to stop them.

Least Tern Gaviota pequeña

Sterna antillarum Family /Familia: Gulls, Terns and Allies

Habitat and Range: The Least Tern is found along coastal areas from New England, the Caribbean to Central and South America in calmer waters, usually not far from where it nests.

Species Description: The Terns are graceful flyers and generally nest in colonies. The Least Tern is 8 $\frac{1}{2}$ to 9 $\frac{1}{2}$ inches long with a yellow beak and legs and a white forehead.

Ecological Importance: Many Terns glide and then dive into the water for fish. They nest in colonies on remote flats from May to August. In the 19th century, the feathers of the tail of the Least Tern were sought after as a decoration for ladies hats. Thousands were hunted and killed for their feathers.

Did you know that Gulls are typically bigger with broader wings and fan-shaped tails compared to Terns? Most Terns have long, notched tails, some black around the head and thin pointed bills.

Loggerhead Cabezona

Caretta caretta Family /Familia: Cheloniidae

Habitat and Range: The Loggerhead sea turtle is found in subtropical and tropical waters of the Caribbean, Atlantic, Indian and Pacific Oceans. It may range far from shore, but generally it stays close to rocky shores, river mouths, large bays and lagoons.

Species Description: The shell may reach a length of 6 ½ feet and weigh up to 330 pounds. The shell is a reddish brown or olive green.

Ecological Importance: Loggerheads feed mainly on sponges, crustaceans, mollusks and tunicates. It is considered one of the most endangered of the sea turtles due, in large part, to destruction of habitat. The Loggerhead female comes to shore, either during the day or night, to lay her eggs. She may do this up to six times per season. She digs a hole, about 8 inches deep, and lays a clutch of eggs that may number up to 200 eggs. She then covers the nest and returns to the sea. The eggs incubate in the nest from 50 to 70 days.

Did you know that there are two subspecies of the Loggerhead? One, *Caretta c. caretta*, is from the Atlantic and *Caretta c. gigas*, is from the Indian and Pacific Ocean. Did you know that sea turtles cannot retract their limbs inside their shells like their cousins, the land turtles, can? The sea turtles best defense is their agility and speed in the water.

Puerto Rican Flycatcher

Juí

Myiarchus antillarum Family /Familia: Flycatchers

Habitat and Range: The Puerto Rican Flycatcher is found in all parts of Puerto Rico and the Virgin Islands in coastal scrub vegetation and lower elevation forests.

Species Description: The characteristic song, "whee" (from which it gets its' Spanish name) is the best identification tool for this flycatcher. It grows to be 7 ¼ to 8 inches long with a dark back and head and light underparts.

Ecological Importance: The Flycatcher Family is better known as the Tyrant Flycatchers. Some species can be tyrants in the way they defend their territory, especially during the breeding season. Many Flycatchers, including the Puerto Rican Flycatcher, sit on their perches waiting to stab and kill insects with their bills, which have bristles at the base. The Tyrant Flycatchers are a large family from the New World, with a high number found in South America.

Did you know that the Puerto Rican Flycatcher is endemic to the Caribbean? Endemic means that it is restricted to this region and found no where else. Other members of the Flycatchers Family include the Gray Kingbird, the Greater and the Lesser Antillean Pewee, and the Caribbean Elaenia. Believe it or not, this bird was near extinction in the 1930's after a devastating hurricane in 1928.

Royal Tern Gaviota real

Sterna maxima Family /Familia: Gulls, Terns and Allies

Habitat and Range: The Royal Tern is found throughout the New World and the west coast of Africa in coastal areas.

Species Description: The high pitched cry of the Royal Tern (kri-i-ick) is very distinctive and helps in the identification of this tern with its bright orange bill. The Royal Tern reaches lengths of 18 to 21 inches.

Ecological Importance: There are only six nesting colonies known in Puerto Rico for the Royal Tern, one of them being in the cays around Culebra.

Did you know that along with the Royal Tern, the cays of Culebra are also important nesting grounds for Brown Noddy's, Sooty Terns and Tropic Birds? These isolated cays are very important breeding grounds. These lands are administered by the U.S. Fish & Wildlife Service, Culebra National Wildlife Refuge.

Zenaida asiatica Family /Familia: Pigeons and Doves

Habitat and Range: The White Wing Dove is known from arid scrub near the coast and mangrove swamps from the Greater Antilles, the Virgin Islands, and the Southern United States to the central portion of South America's west coast.

Species Description: The large patches of white on the wing and on the tail at the corners give the White Wing Dove its common name. As an adult, it stands from 11 to 12 inches tall.

Ecological Importance: These doves forage on the ground and sometimes in trees looking for seeds and fruit. Like many animals that eat fruits, they aid in the spread of the plant by excreting the seeds into new areas. They travel widely. One was tagged in Santa Isabel, on the northwest coast of Puerto Rico, and was identified later in the year in Vieques. The White Wing Dove is one of the four species of doves that can be legally hunted from September to November.

Did you know that the now extinct Passenger Pigeon was a relative of the White Wing Dove? In the autumn of 1813, John James Audobon wrote of his experience in Kentucky seeing Passenger Pigeons, "The air was literally filled with Pigeons, the light of the noon day was obscured as by an eclipse; the dung fell in spots, not unlike melting flakes of snow; and the continued buzz of wings had a tendency to lull my senses to repose".

Black Mangrove

Mangle prieto

Avicennia germinans Family /Familia: Verbenaceae

Habitat and Range: Black Mangrove can grow in a wide range of saline habitats. It can tolerate salt water concentrations higher than sea water. It is found along protected shores, near the mouths of rivers entering the sea, and inland near brackish mangrove swamps. Black Mangrove is common throughout the Caribbean, Florida, and Mexico to northern South America.

Species Description: Black Mangrove is a shrub or small tree that may reach 45 feet in height. The lanceolate leaves are arranged opposite one another on the stem. The leaves appear white underneath due to tiny appressed hairs. It has been reported that the seeds are poisonous when eaten raw.

Ecological Importance: Because it can tolerate high salt conditions, Black Mangrove grows in areas that many other plants cannot. This helps to stabilize the soil and provide habitat for birds and other animals living in the Mangrove Forest. The flowers are a source of food for bees are an important resource for the production of white honey.

Did you know the hard, heavy wood of the Black Mangrove was once used to make posts, charcoal and firewood?

Ucar, Gregre

Bucida buceras Family /Familia: Combretaceae

Habitat and Range: Gree Gree is common in moist and coastal forests throughout the West Indies, Florida and Central America. It is also commonly planted as a shade tree around homes and buildings.

Species Description: Gree Gree can grow to be a very large tree, up to 60 feet with a diameter of 3 feet. The round, tough leaves tend to be found at the end of the branches. The small inconspicuous flowers are found in terminal clusters at the end of the branches.

Ecological Importance: Gree Gree is one of the dominant trees in the native moist forest plant community. This native forest type was once much more widespread than it is now. Roughly 80% of the original forest found in Vieques has been modified by man, most of this by the sugar cane industry in the 19th and 20th centuries.

Did you know that Gree Gree produces one of the most dense, heavy and resistant woods in Puerto Rico? It has been used to build piers and other types of structures.

Calotropsis procera Family /Familia: Asclepiadaceae

Habitat and Range: This large milkweed is native to tropical Africa, but is now found throughout the tropics. It is common in dry areas which have been disturbed.

Species Description: Giant Milkbush is a many branches shrub which may grow to 12 feet. The large leaves appear whitish. The flowers are white with shades of purple inside. When any part of the plant is broken, milky latex comes out.

Ecological Importance: The milky latex of this plant is poisonous. All parts of the plant contain cardenolides, which, in low doses are used to treat heart problems. An overdose of these chemicals stops the heart. The milky latex may cause dermatitis in humans. Even though milkweeds are poisonous to humans, butterflies often use these plants to feed on. VERIFY THIS: Monarch Butterflies feed on milkweeds and contain the toxic chemicals found in them. However, it does not affect them. Any bird, though, that may eat a Monarch would get a bad dose of the poison. For this reason, birds avoid eating the Monarch or any butterfly that appears like a Monarch.

Did you know Giant Milkbush, and other milkweeds, produce a winged seed that has silky, fluffy hairs attached to it? These silky hairs have been used for stuffing for pillows and dolls.

Chrysobalanus icaco Family /Familia: Chrysobalanaceae

Habitat and Range: This shrub to small tree is native to tropical America and Africa and is now found also in Asia and the Pacific. It is found along coastal areas and shores.

Species Description: Coco Plum is a shrub or small tree that may reach 15 feet. The alternate leaves are leathery and notched at the top, looking a little heart-shaped. The fleshy fruits are edible and have been used to make jellies.

Ecological Importance: The edible fruits of the Coco Plum serve as food for some birds and lizards. Humans also eat the fruit raw and prepared.

Did you know that this plant is used in landscaping today and in former times the Caribe Indians strung together the white seeds and burned them like candles? It is very likely that the small island of Icacos, off the coast of Fajardo, was named after this tree.

Dodonaea viscosa Family /Familia: Sapindaceae

Habitat and Range: This shrub or small tree is found in sandy or rocky soils and coastal sandy areas from the Caribbean to Central and South America. Its range extends into Arizona.

Species Description: Hopbush is a small tree or shrub that can reach 12 feet in height. It has reddish hairs on the woody stem and oblong, rounded yellow-green leaves. The winged fruits, which appear at first like American Hop hornbeam (or Ironwood), are straw colored and found in clusters at the ends of the stem.

Ecological Importance: Hopbush was used by the Taino Indians as a form of soap. If the leaves are rubbed very strongly between your palms, they produce a frothy substance that was used like soap. The fruits have been used to produce a poison to stun fish.

Did you know that Hopbush is in the same family as Genip (Quenepa)? The Quenepa fruits are used to make a local drink known as "Bili".

Death Apple, Manchineel

Manzanillo

Hippomane mancinella Family /Familia: Euphoribiaceae

Habitat and Range: Death Apple is a tree found around coastal sandy beaches and near to mangrove forests. It is found all over the Caribbean in suitable habitat.

Species Description: Death Apple is a tree which grows from 24 to 36 feet tall. The leaves alternate up the stem and are somewhat heart-shaped with a round gland at the top of the leaf stalk where it joins the leaf. The flowers are grow in spikes near the top of the stems. The fruit turn from green to yellow as it ripens and smells somewhat sweet.

Ecological Importance: This is a very poisonous tree. The fruit resemble an apple, and smells somewhat sweet, enticing people. The latex from the tree cause dermatitis and can cause temporary blindness if it gets in the eye. Manchanineel is in the Euphorbia plant family, a plant family which often produces milky sap. Manihot or cassava (yuca in Puerto Rico) is also in this plant family.

Did you know that in St. Thomas, in 1885, five German Marines died from eating the deadly fruit of Manchineel? This tree is thought to be one of the most poisonous trees in tropical America.

Laguncularia racemosa Family /Familia: Combretaceae

Habitat and Range: This small tree or shrub is found in brackish to salty mud which is affected, at times, by tides. White Mangrove grows throughout tropical America and in western Africa.

Species Description: White Mangrove has opposite, elliptical leaves. The upper surface of the leaves have glandular pits near the margin. It can grow to be 45 feet tall. Underneath the tree you will see woody roots sticking out of the ground. These are called pneumatophores and act like a respiratory organ for the plant.

Ecological Importance: White Mangrove is one of the most abundant mangroves in Puerto Rico. It is common along alluvial shores, lagoons and estuaries near the coast. It grows quickly and can flower within two years. Once a White Mangrove is cut, it will resprout from the original root, sending out many more branches.

Did you know that the White Mangrove is in the same plant family as the West Indian Almond tree, Gregery Tree, Button Mangrove and Rangoon Creeper, all which are common in Viegues?

Mesquite Bayahonda

Prosopis juliflora Family / Familia: Fabaceae

Habitat and Range: This tree is native to the southwestern U.S. south through Mexico, Central America into Columbia and Venezuela. It likes dry, arid habitats.

Species Description: This tree is native to the southwestern U.S. south through Mexico, Central America into Columbia and Venezuela. It likes dry, arid habitats.

Ecological Importance: The pod of this member of the Pea Family is sweet. Livestock like the fruit and are probably responsible for its spread in former or current pastures. The wood makes an excellent charcoal. The Indians of the southwest U.S. and Mexico ground the pods into meal and used it as a staple food for baking and mixing with beverages.

Did you know that the Pea Family (Fabiaceae) is one of the largest in the Plant Kingdom with almost 17,000 species! It's a very confusing group of plants for identification.

Rhizophora mangle Family /Familia: Rhizophoraceae

Habitat and Range: The Red Mangrove is found in mangrove swamps and protected shallow coasts throughout subtropical and tropical America as well as West Africa.

Species Description: Of the four mangrove species, Red Mangrove is found in the wettest habitats. It is a tree that has very recognizable arching, prop roots out of the water. It has glossy, long leaves that look similar to Rhododendron leaves.

Ecological Importance: Red Mangrove, along with the other species of Mangroves, form a very important ecosystem for many species of animals, especially birds and fish. Young fish use the protected Mangrove Forests as a nursery. Mangrove Forests are also very important for the protection of coastal areas during heavy tidal surges.

Did you know that the leaves of mangroves produce tannins, harmless tea colored astringent complex phenolic substances, that have been used to dye leather?

Castor Bean Higuereta

Ricinus communis Family / Familia: Euphorbiaceae

Habitat and Range: Castor Bean, also known as Castor Oil Plant, is native to Africa. It is now found throughout tropical America in areas that have been disturbed.

Species Description: Castor Oil Plant is a shrub or small tree that may reach 7 ½ feet. It large, palm shaped leaves, with prominent veins radiating out from the center, are arranged alternately up the stem. Other plants which have these large, palm shaped leaves are papaya, cecropia and marijuana. This type of leave is called palmate. The flowers are arranged in spikes at the end of a branch.

Ecological Importance: The Castor Oil Plant has been grown as an ornamental around homes for its oil rich castor beans. The seed, however, is very poisonous. A pale, viscous oil is derived from the bean that has been used as a laxative and lubricant.

Did you know that Castor Oil Plant is in the same plant family as the Poinsettia? Other well known members of this family include rubber, cassava, the ornamental croton and tung oil. The Euphorbia plant family is very large with around 7,300 species. They are found all over the world but have two major centers of concentration: tropical America and Africa.

Drop Seed Grass

Grama

Sporobolus virginicus Family /Familia: Poaceae

Habitat and Range: This grass is found all over the tropics of the world, as well as parts of the temperate world. Here in Puerto Rico and Vieques, it is commonly found on sandy beaches and coastal dunes.

Species Description: Drop Seed Grass has very long, wiry roots (stolons) by which it holds to the soil and spreads. It has an erect leaf blades from 8 inches to 2 feet. The fruits occur along a spike and are very rounded and small.

Ecological Importance: Because Drop Seed Grass form long stolons through the sand, it helps to stabilize the sand and sand dunes during times of high wind and tides. The seeds are food for some species of birds.

Did you know that there are over 145 species of Sporobolus in the world? The species name for this one, *viginicus*, indicates that it was named after the state of Virginia.

No Common Name Cóbana Negra

Stahlia monosperma Family /Familia: Fabaceae

Habitat and Range: This Federally Threatened Tree is found in the Dominican Republic and Puerto Rico in low areas and near mangrove forests in dry coastal regions.

Species Description: It may reach a height of 25 to 30 feet. Its compound leaves (6-12 leaflets) are arranged alternately on the stem. The lower surface of the leaves have a raised, dark gland (dot) and the leaf stalk is a reddish color. It produce round, fleshy pods in summer and fall.

Ecological Importance: Stahlia monosperma is listed as Federally Threatened by the U.S Fish and Wildlife Service. Why is it endangered? During the late 19th and early 20th century, sugar cane was extensively planted in the dry coastal regions of Puerto Rico, Cobana Negras' habitat. During that time, it lost a large amount of its habitat to sugar cane.

Did you know that this tree is named after Agustín Stahl (1842-1917), a physician and botanist of Bayamón, Puerto Rico, who wrote "Studies About the Flora of Puerto Rico", an unfinished publication on the plants of the island?

West Indian Almond

Almendra

Terminalia catappa Family / Familia: Combretaceae

Habitat and Range: This tree is native to Malaysia, but is now found throughout the new world tropics. It is found in coastal areas.

Species Description: The tree may reach a height of 60 feet. Its pattern of branching is very distinct: the branches come out at 90° angles and are arranged in wholes. The oblong leaves turn red and orange in the spring when they all drop off.

Ecological Importance: The seeds of the West Indian Almond are edible and are eaten by humans and animals. The tough outer husk must first be removed to get to the nut inside.

Did you know that the true almond is in the Rose Family (*Prunus amygdales*) and is native to southwestern Asia? There are several other relatives of the West Indian Almond (family Combretaceae) on Vieques including White Mangrove, Button Mangrove and Gregery Tree.

Pelecanus occidentalis Family /Familia: Pelican

Habitat and Range: The Brown Pelican is commonly found in Puerto Rico and Vieques along protected shorelines. The species range is throughout the New World where coastal waters are warm.

Species Description: This large bird, from 42 to 54 inches, is usually found in groups flying in perfect formation and movement near the shore. They dive into the water, head first, fishing. If you see them lift their head up and shake something down their throat, then they caught something. Adults are a dark color and juveniles are grayish brown.

Ecological Importance: The Brown Pelican is listed as Threatened by the U.S. Fish & Wildlife Service in large part due to its poor reproductive success. In previous years, the pesticide DDT caused a large decline in its reproductive success as well. The Caribbean population includes some 1,500 pairs, a number which increases when the North American migrant Brown Pelicans arrive. In Puerto Rico, the only regularly used breeding colony is off the coast of Vieques at Cayo Conejo.

Did you know that the Brown Pelican is the smallest type of Pelican? The young, immature Brown Pelicans are clumsy and occasionally can be seen hanging dead from a mangrove tree due to their uncoordinated movements. sea using this buoyant material.



Cattle Egret

Garza del ganado

Bubulcus ibis Family /Familia: Herons, Egrets and Bitterns

Habitat and Range: Unlike most of the Heron Family who inhabit shallow waters, the Cattle Egret is found on the land near pastures and fields. It is found all over the world in both temperate and tropical areas.

Species Description: The white Cattle Egret grows from 19 to 25 inches tall and has a stout, yellow beak. The color of the feet change from black to red and a tan color appears on the breast and neck when the bird is breeding.

Ecological Importance: The Cattle Egret is often seen around horses and cattle where it waits for a chance to land on the back of the animal and eat the insects found there. This is a relationship known in nature as mutualism (both creatures benefit from the situation). The Cattle Egret can also been found following tractors along fields and open areas where it devours the insects that are exposed. Cattle Egrets, near the dawn and dusk of each day, will fly in formation from the lands interior to their roosting areas, usually mangrove swamps or mangrove islands.

Did you know that all members of the Heron Family, when in flight, tuck up their necks and make a characteristic "S" pattern? The Cattle Egret was first reported in Puerto Rico in 1952. At one time, people thought it was introduced to reduce the number of ticks on cattle; this, however, was not true.



Fuzzy Chitin Quiton

Acanthopleura granulate Family /Familia: Mollusk-Gastropod

Habitat and Range: Fuzzy Chitons are found along rocky shorelines where they're attached to a solid surface. They are always covered at high tide, but may be exposed at low tide. Chitons are a very primitive animal and are found throughout the Caribbean.

Species Description: The shell is gray with streaks of black and is made up of eight jointed sections. The structural design of the plates allow the Chiton to grip, with great force, the rocks and withstand the heavy force of the waves.

Ecological Importance: On some islands of the Caribbean the Fuzzy Chiton is used for bait and food. In Puerto Rico, it is not. The radula (tongue-like organ in the mouth_contains a row of teeth which scrape the sides of the rocks for algae. The radula and also drill, grate or cut food.

Did you know that members of the Mollusk Family range from the slow moving slug to the jet propelled squid? Within the Mollusk Family, the gastropods are the largest group.



Green Turtle Peje blanco

Chelonia mydas Family/Familia: Cheloniidae

Habitat and Range: The Green Sea Turtle is usually found in the tropical waters of the Pacific, Atlantic and Indian Oceans but it may be seen in cooler areas off the shores of Great Britain, and very rarely, west Africa. Its habitat is the open ocean and areas off shore which contain plenty of submerged aquatic plants.

Species Description: The Green Sea Turtle has internal fat tissue that is a green color. That is the source for the common name, not their external color. The olive green or brown shell may reach a length of 5 ft. The weight, in large adults, may reach 660 pounds.

Ecological Importance: Green Sea Turtles feed mainly on aquatic plants and marine algae. The females come to shore to lay their eggs in a nest which they excavate. They may lay from 85 to 200 eggs per nest, and may nest from three to five times per season. Most young sea turtle hatchlings die during the first few months of their lives from predators. The Green Sea Turtle is listed as Threatened by the U.S. Fish & Wildlife Service

Did you know that turtles have inhabited the earth for more than 200 million years? All Sea Turtle must come to the surface to breath air. A sea turtle can rest underwater for several hours at a time, but as their activity level increases, they must surface and breathe more. Because of their need to breath air, many sea turtles that are trapped in fishing nets cannot surface and drown in the nets.



Dermochelys coriacea Family /Familia: Dermochelyidae

Habitat and Range: The Leatherback is found throughout the oceans and seas of the world. It tends to prefer tropical and subtropical waters though. It inhabits the deep waters and rarely comes near shores.

Species Description: The Leatherback is the largest of the sea turtles that are found around Puerto Rico. Its rubbery shell may reach 8 ft and weigh up to 1,500 pounds. Its shell is dark gray to black and has series of ridges running lengthwise down its smooth, rubbery looking back.

Ecological Importance: The rubbery shell of the Leatherback is more flexible than other sea turtles shells, which technically are called a carapace. This ability to expand helps the Leatherback survive its dives, of up to 1,000 feet, in search of jellyfish. The Leatherback can eat its weight in jellyfish! Its digestive system is able to squeeze out every nutrient available in the jellyfish.

Did you know that most sea turtle can live to be 75 to 100 years old? In the last 15 years, the population in the Indo-Pacific Leatherback has dropped dramatically. The Atlantic population is very important and within the Caribbean it appears to be increasing.



Fregata magnificens Family /Familia: Frigatebird

Habitat and Range: The Frigatebird is a common permanent resident of Puerto Rico and Vieques. It occurs around bays and inshore waters. Its range is throughout the subtropics and tropics of the New World and the Cape Verde Islands.

Species Description: The male has a large, red pouch at the base of the neck. Otherwise, they are black above with a white underside and a very distinctive long, forked tail. Immature birds have an entirely white head and breast. These large birds, from 3 to 3 ½ feet in length, appear to be motionless when gliding across an area.

Ecological Importance: Frigatebirds are thieves of the air. Their adept maneuvering in the air enables them to steal food, on the wing, from other seabirds. They cannot land or dive in the ocean, like other seabirds. They nest in low bushes in areas that rarely receive disturbances. In Puerto Rico they are know to nest only in Monito Island.

Did you know that the Magnificent Frigatebird has the largest wingspan compared to its body size of any bird? They are also one of the fastest birds in flight. The Spanish common name Tijeretas comes from the Spanish word for scissors - tijeras which refers to the tail.



Mongoose Mangosta

Herpestes auropunctatus Family /Familia: Herpestidae

Habitat and Range: The Mongoose is native to Arabia, the southern part of China, India, Malaysia, Indochina, Sumatra and Java. Today, it is found all over the tropics.

Species Description: The Mongoose is a carnivorous mammal that has a long, flexible body and a long tail. They are agile, active hunters. The color of the coat varies from place to place.

Ecological Importance: Mongoose are opportunists and will eat whatever is available. They have been known to eat spiders, snails, slugs, frogs, lizards, snakes, birds, the eggs of birds and reptiles, rodents, crabs, fish and fruit. They pose a health threat since they can be carriers of rabies and leptospirosis. If you see a mongoose, during the day, acting slow or lethargic, *leave it alone*. A healthy mongoose will avoid contact with humans.

Did you know that the Mongoose was introduced into Puerto Rico in the 1870's to control the rat population in areas cultivated with sugar cane? In the beginning, the mongoose controlled the rat population. But, after several years, the situation changed. Since rats are nocturnal and mongoose are diurnal (active during the day), the likelihood of them interacting lowered after the large concentration of rats decreased. The mongoose began eating the cane and the population took off. Today, they are trapped all over Puerto Rico to determine whether they are vectors of rabies.



Horse

Equus caballus Family /Familia: Equidae

Habitat and Range: The wild horses found on Vieques are descendants of horses introduced by the Spanish to Puerto Rico in 1534. The horse is thought to have been domesticated by the nomadic people of central Asia around 3000 BCE. Horse are native to the steppe zone from Poland to Mongolia. Horses did populate the New World some 10,000 years ago but they became extinct.

Species Description: Horses are divided into breeds based on build and size. They height is measured in units called hands (equal to four inches). Belgian horses are considered heavy builds and are up to 20 hands high; ponies are less than 14.2 hands high and light build horses, like the Arabian and Thoroughbred, are rarely taller than 17 hands.

Ecological Importance: The wild horses of Vieques are not quite wild, since most of them have owners. Social behavior in horses is a social harem system. In this social unit, there is one dominant male and several females and their offspring. The female horses usually have one foal after an 11 month gestation period.

Did you know that a mature male horse is a stallion; a mature female is a mare; a castrated stallion, a gelding; a young horse, a foal; a young male, a colt and a young female, a filly? The rich vocabulary we use to describe horses comes from our long relationship with them which has lasted thousands of years.



Caesalpinia bonduc Family / Familia: Fabaceae

Habitat and Range: This shrub is found along sandy beaches throughout tropical coastal areas.

Species Description: Gray Nicker is a shrub that can reach 18 feet tall. The branches and trunk are covered with spines. Its leaves are called leaflets and are made up of about 3 to 7 pairs per leaf. The fruit is an inflated pod that is covered with prickles. Inside the pod are the seeds which are smooth, gray, round and hard

Ecological Importance: Usually when plants are covered with spines or prickles it is a defense against being eaten by animals

Did you know that young children throughout the Caribbean like to take the seeds of Scorcher and rub them along a hard surface? They become very, very hot and when touched to the skin, scorch it.



Canavalia rosea Family /Familia: Fabaceae:

Habitat and Range: Bay Bean is common along the sandy beaches of the Caribbean and throughout the warm coastal areas of the world. Most of the species of the genera Canavalia are native to the New World.

Species Description: This trailing vine has a leaf made up of three leaflets. The pink to purplish-pink pea-like flowers are found in pairs at the swollen nodes. The seed look like a pea (legume).

Ecological Importance: Bay Bean and Beach Morning Glory are two of the main plants you will find growing along the sandy beaches in Vieques. They are very important in protecting and stabilizing these beaches. Many plants cannot tolerate the heavy wave action and wind found here. Bay Bean can tolerate strong winds and high salinity.

Did you know that peas, peanuts, lentils, beans, soy beans, and the colorful Flame Tree are all members of the Legume Family (Fabaceae)? This large plant family provides food, fodder, resins, oils, dyes and gums and is considered one of the most important family of plants economically to man.



Australian Pine Casuarina

Casuarina equisetifolia Family / Familia: Casuarinaceae

Habitat and Range: Casuarina is native to Australia. It is now found throughout the tropics along coastal shores.

Species Description: This tree may reach a height of 70 feet. It looks like a pine, but it's not. The long, drooping needle-like leaves can withstand high salt sprays. It produces a woody, cone-like fruit that holds the tiny seeds.

Ecological Importance: Very little vegetation can grow under this tree since it produces a chemical that acts like a natural herbicide. Ants eat almost all of the seeds. It can tolerate drought and heavy salt spray, making it very durable.

Did you know that some plants produce chemicals to prevent other plants from growing around them? This phenomenon is called allelopathy.

Sand-spurs Abrojos

Cenchrus brownii Family /Familia: Poaceae

Habitat and Range: This member of the grass family is found along roadsides and beaches from the southern United States to Brazil and the West Indies.

Species Description: Sand-spurs is best known by its seed of interlocking spines that hurts when it enters your foot! It is an annual grass that grows to a height of 1 to $3\frac{1}{2}$ feet tall. Often, it grows low to the ground in a reclining way and produces an inflorescence of seeds that are covered with interlocking spines.

Ecological Importance: This annual grass produces a lot of seeds which stick to animal fur or clothing and aid in its distribution and spread. This type of strategy of producing a large number of seeds helps the species assure its future survival. Plants that do this are called ruderal species and are often found in places that have been heavily disturbed by man or nature.

Did you know that the grass family (Poaceae) provides man with rice (genus *Oryza*), corn (genus *Zea*), wheat (genus *Triticum*), rye (genus *Secale*), oats (genus *Avena*), barly (genus *Hordeum*), sugar and molasses (generi *Saccharum* and *Sorghum*),. The grass family is the largest and most widely distributed vascular plant family in the world.



Sea Grape Uva de playa

Coccoloba uvifera Family/Familia: Polygonaceae

Habitat and Range: Seagrape is native to Puerto Rico and tropical America. It is a common tree found along sandy beaches, dry coastal areas and inland in dry forests

Species Description: This shrub or small tree, with its grayish bark that peels of irregularly, may reach a height of 45 feet. Its thick rubbery leaves are large and rounded. Plants are either male or female. The females produce long clusters of purplish fruit.

Ecological Importance: Seagrape is one of the first plants to become established on sandy shores since it is well adapted to the salt spray and winds. The edible fruit can be eaten raw or used to make jellies or fruit drinks

Did you know that early Spanish colonists would use the fresh picked leaves to scratch out messages or notes? The imprint on the leaves is very clear and lasts for months.

Coconut Palm Palma de coco

Cocos nucifera Family /Familia: Palmaceae

Habitat and Range: The Coconut Palm is thought to be native to the Indonesia and Malaysia region. It is now found throughout the old and new world tropics in a variety of habitats, especially in sandy soils.

Species Description: The tree may reach a height of 80 feet or more. The trunk is often bent and thickened at the base. The large leaves are made up of many leaflets. It produces clusters of fruits near the top of the tree.

Ecological Importance: The fruits of the coconut are used by many animals, including humans, as food and the liquid inside the nut is a refreshing drink. The leaves have been used traditionally by humans for thatching roofs, making baskets and other types of household items. The oil is commercially extracted from the fruits and is made into oil which is used in the food and cosmetic industry.

Did you know that at one time life vests were filled with the brown fibrous husk material found around the coconut? The coconut can float for months at sea using this buoyant material.

Conocarpus erectus Family /Familia: Combretaceae

Habitat and Range: Button Mangrove is not only found in brackish saltwater habitats, it also grows on rocky shores well above the high tide mark. This small tree or shrub is an intermediate

between mangrove and dry forests. It ranges throughout America and the western coast of Africa.

Species Description: Button Mangrove grows to about 24 feet. The elliptical leaves are arranged alternately along the stem. The fragrant flowers are arranged in dense heads, and once fertilized, the fruits appear together in a cone like head.

Ecological Importance: Together, the four mangroves found growing together in the Caribbean region, are salt tolerant trees that form coastal or estuarine forests. The Mangrove Forest, generally speaking, is a wetland with a high salt content that is rather low in plant diversity, compared to other ecosystems. Even so, it is a very important ecosystem in the protection of shorelines and serving as a breeding site (or nursery) for many kinds of birds and fish.

Did you know that Button Mangrove is the only Mangrove that does not have opposite leaves? The hard, heavy wood has been used to make posts, boats and in wood working. It burns very slowly and is an excellent source of charcoal.



Heliotropium curassavicum Family /Familia: Boraginaceae

Habitat and Range: This trailing herb can be found in open disturbed areas and along sandy beaches. It ranges from the southeastern U.S. to Central America, the Caribbean. It is also found in Asia.

Species Description: Seaside Heliptrope is an herb, sometimes almost appearing woody, that trails along the ground. The leaves do not have a petiole and are succulent usually with a grayish or bluish tint. The white flowers are arranged in a curled spike.

Ecological Importance: Seaside Heliotrope is often found in areas that are periodically inundated with salt water. These areas are called salt flats. Many migratory sea birds use these salt flats as stop over areas on their migration to South or Central America. They look for small crustaceans and fish to eat in these shallow, salty pools.

Did you know that heliotrope is an actual color? It is a reddish purple shade. The Garden Heliotrope is often planted as an ornamental plant. The flowers tend to bend towards the path of the sun.

Beach Morning Glory

Bejuco de playa

Ipomoea pes-caprae Family /Familia: Convolvulaceae

Habitat and Range: This common vine is found along sandy beaches throughout the tropics. The genus is mostly native to tropical America.

Species Description: Beach Morning Glory grows as a long, trailing vine with thick, cloven shaped leaves that alternate up the stem. When broken, the stem and leaves produce a milky sap. The funnel shaped flower is either pink or lavender.

Ecological Importance: The stems produce roots along the swollen nodes of the stem which hold the plant to the ground and help to stabilize the sand around it reducing wind or water erosion.

Did you know that the sweet potato (*Ipomea batatas*) is in the same family and genus as the Beach Morning Glory? Most Morning Glory's bloom when the sun first strikes them, thus the common name.

Tan Tan, Wild Tamarind

Zarcilla

Leucaena leucocephala Family /Familia: Fabaceae

Habitat and Range: TanTan is native to Central America but has been widely grown throughout the tropics. It is found from moist forests to dry coastal areas throughout Puerto Rico.

Species Description: This small tree, which may grow to be 15 feet tall, has very small, feathery leaflets that make up the leaves. Its' flower is a small cluster of flowers that look like a little white ball. The fruits are a flat, green turning to yellow, pea like pod.

Ecological Importance: Tan Tan is very common along roadsides. For this reason, it is a weedy species that colonizes areas that have been disturbed, naturally or by man.

Did you know that the seed of Wild Tamarind is poisonous? Horses, pigs and mules that have eaten the pods loose the hair around their tail.

Headache Tree Noni

Morinda citrifolia Family / Familia: Rubiaceae:

Habitat and Range: This small tree or shrub is native to Asia and Australia. It is found throughout the Caribbean along sandy beaches and in disturbed coastal areas.

Species Description: Headache Tree may reach a height of 12 feet. The oppositely arranged leaves are broad and long, up to almost 8 inches. The fragrant flowers, once fertilized, produce a large, potato-like fruit. The mature, fleshy fruit has a strong unpleasant odor.

Ecological Importance: Noni, as it's known in Vieques, is a medicinal plant. The mashed leaves and bark are used in the treatment of ulcers, superficial wounds, headaches and "la gota". The internal bark has been used to treat fever and tuberculosis.

Did you know that Noni grows easily by cuttings? This medicinal plants makes an attractive shrub in a garden with its glossy leaves and unusual fruit.



Sesuvium portulacastrum Family /Familia: Amaranthaceae

Habitat and Range: Sea Purslane is found in salty soils along the coast all over the tropics (both Old World and New World).

Species Description: The species name, *portulacastrum*, come from the word portulaca. Portulaca is a very common flower that is grown in gardens all over the world. The genera *Sesuvium* was formerly called *Portulaca*. This plant has very fleshy, succulent leaves. It spreads out along the ground from a central taproot. The stems are yellowish, greenish and/or reddish. The plant sends out roots at the stem nodes, stabilizing the soil and allowing it to spread. The flowers are lavender or white inside and green on the lower surface.

Ecological Importance: Sea Purslane grows along with Seaside Heliotrope in areas that are periodically inundated with salt water. These areas are called salt flats and are very important ecologically to many species of migratory birds. Salt Flats serve as feeding and resting sites on the long trip between North America and Central or South America.

Did you know that portulaca is also commonly known as Rock Rose or Desert Rose?



Sea Hibiscus Emajaguilla

Thespesia populnea Family /Familia: Malvaceae:

Habitat and Range: This very salt resistant small tree or shrub is thought to be native to the old world tropics but is now found throughout the tropics of the world along sandy beaches and near mangrove forests

Species Description: Sea Hibiscus is a member of the Hibiscus family and produces a pale yellow flower with a purplish base. The leaves are somewhat heart shaped. It may reach a height of 36 feet.

Ecological Importance: Because it is so resistant to salt and winds, it can tolerate conditions that other plants cannot. Birds use the flower nectar as a source of food. Traditionally, the woven, dried bark was used to make very strong rope. The wood is resistant to termites and has been used to make boats and cabinets.

Did you know that the family Malvaceae is also known as the cotton family? Okra and the marshmallow are also from this large family of almost 2,000 species.