A Self-Guided Tour of the Biology, History and Culture of Graeme Hall Nature Sanctuary

Graeme Hall
Nature Sanctuary
BARBADOS

Graeme Hall Nature Sanctuary
Main Road
Worthing
Christ Church
Barbados

Phone: (246) 435-7078
www.graemehall.com

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Welcome!

It is with pleasure that I welcome you to the Graeme Hall Nature Sanctuary, which is a part of the Graeme Hall Swamp National Environmental Heritage Site.

We opened the new visitor facilities at the Sanctuary to the public in May 2004 after an investment of nearly US$9 million and 10 years of hard work. In addition to being the last significant mangrove and sedge swamp on the island of Barbados, the Sanctuary is a true community centre offering something for everyone. Favourite activities include watching wildlife, visiting our large aviaries and exhibits, photography, shopping at our new Sanctuary Store, or simply relaxing with a drink and a meal overlooking the lake.

Carefully designed boardwalks, aviaries and observation points occupy less than 10 percent of Sanctuary habitat, so that the Caribbean flyway birds are not disturbed. The Sanctuary is also a living laboratory available to scientists and government to help develop long-range water and environmental policies for Barbados, and for this reason we support government-led environmental initiatives. In addition, we do everything we can to provide formal and informal education programmes for visitors, students and teachers. This Pocket Guide is one such example of our educational initiative.

We hope you enjoy the Sanctuary, and invite you to return. If you have any questions go to www.graemehall.com or contact us at (246) 435-7078.

Sincerely,
Peter A. Allard
Chairman

Self-Guided Tour of Graeme Hall Nature Sanctuary

A numbered post system was built alongside the Sanctuary trails for those who enjoy touring the Sanctuary at their own pace. Each post is adjacent to an area of interest and will refer to specific plants, animals, geology, history or culture.

The Guide offers general information but does not have a detailed description of all species in the Sanctuary. Instead, the Guide contains an interesting variety of information designed to give “full flavour” of the biology, geology, history and culture of Graeme Hall Swamp, Barbados, and the Caribbean. For those who want more in-depth information related to bird watching, history or the like, good field guides and other publications can be purchased at the Sanctuary store.

Post No. 1 begins the tour, and is is located just north of the Sanctuary store near the bridge to the Lake Overlook.

Overview

The Windward Islands of the Lesser Antilles, which include Barbados, St. Vincent, St. Lucia, Dominica, Martinique, Guadeloupe, and Grenada, have long been famous for their sandy beaches and tropical landscapes. What you may not know is that these islands contain biodiversity hotspots-some of the world's richest areas for plants and animals. Overall, 25 hotspots comprise roughly 1.4% of the Earth's land surface area, yet concentrate nearly 2/3 of all known terrestrial species, many of which are threatened or endangered. The Caribbean is a top-ranking hotspot thanks to its island ecosystems, which have enabled species to evolve in relative isolation from one another and from the mainland. These specialized plants and animals-which live in one locality only-are called "endemics" and are of great conservation priority.

Graeme Hall Swamp is the only coastal mangrove and sedge swamp and one of the last significant wildlife habitats on Barbados. As part of the endangered Lesser Antilles Mangrove ecosystems, Graeme Hall is one of only three primary roost areas for migratory and native waterbirds in Barbados, and is a temporary rest stop for migratory birds travelling the Eastern Caribbean Flyway between North and South America.

The brackish waters of the Graeme Hall Swamp are located in a 1,156-acre drainage area, part of which includes the old 373 acre Graeme Hall Plantation dating back to the 1800's. In the last 200 years, the area has been used for hunting, fishing, agriculture, residential and commercial development, and as a sewage overflow site. Between 1820 and 1828, the Swamp was altered to create shooting trays, during which time heavy excavation of canals and berms created additional waterfowl habitat. Many of these canals are still evident in the eastern sections of Graeme Hall Swamp. For years, the Swamp was a marsh and mangrove ecosystem connected to the sea as well as to the St. Lawrence Swamp and surrounding wetlands. As a habitat for the now extinct Barbados raccoon and a myriad of birds and wildlife, the Swamp had always relied upon the daily exchange of fresh and saline water from the marsh to the ocean.

However, in 1920 three gate-controlled sluices were constructed across Worthing Beach, and in 1947 a central embankment was created that bisected the swamp. To this day the only remaining connection with the sea is a single sluiceway controlled by a manually-operated sluice gate located on the public beach. Natural water and fish exchange between the swamp and the sea was essentially altered to a one-way swamp-to-sea drainage flow, with the Swamp supplied primarily by fresh water springs, stormwater runoff, and salt water ground intrusion.

- Stuart Heaslet

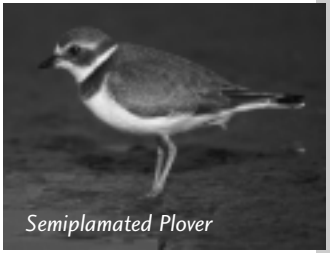
POST NO. 1

If you are beginning your tour, you have just crossed the main pedestrian bridge to the Sanctuary's natural ecosystem. Note the stark contrast—behind you are man-made improvements and an irrigated landscape, in front of you are the natural wetlands of the Graeme Hall Swamp Environmental Heritage Site.


Solitary Sandpiper

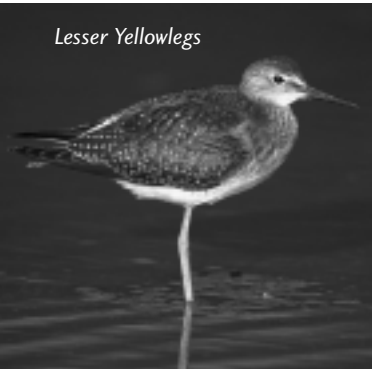
At least 84 bird species have been recorded at the Sanctuary, which is home to the widest diversity of resident and migratory birds in the island, including locally threatened species such as the Caribbean Coot (Fulica caribaea) and the Golden Warbler (Dendroica petechia). The oldest nesting colony for the Snowy Egret is at the Sanctuary, as is the first known breeding colony of Little Egret to become established in the Americas.

Significant winter resident migrant birds include Osprey, Great Blue Heron, Little Blue Heron, Tricolor Heron, Black-crowned Night Heron, Yellow-crowned Night Heron, Great White Egret, Sora Rail, Belted Kingfisher, Parula Warbler and Northern Waterthrush.


Semiplamated Plover

Migratory bird species passing down the Eastern Caribbean Flyway and using the Sanctuary for a staging point include Spotted Sandpiper, Solitary Sandpiper, Upland Sandpiper, Pectoral Sandpiper, Semipalmated Plover, American Golden Plover, Black-bellied Plover, Hudsonian Godwit, Whimbrel, White-tailed Curlew, Lesser Yellowlegs, Greater Yellowlegs, Short-billed Dowitcher, Stilt Sandpiper, Pied-billed Grebe, Green-winged Teal, Blue-winged Teal, American Wigeon, Northern Pintail, Northern Shoveler, Peregrine Falcon, and Merlin.

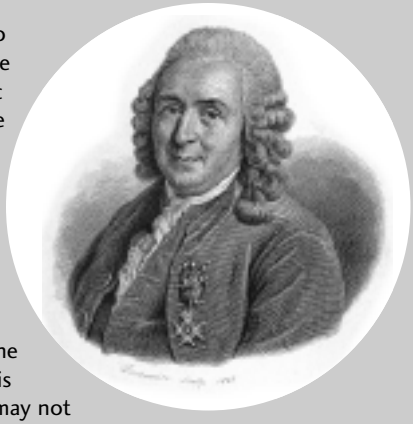
- Roger G. Sweeney


Lesser Yellowlegs

POST NO. 2

The Swedish Scientific Name Maker

In the 18th century, the Swedish naturalist Carolus Linnaeus designed a universal method of classification for all living organisms. Based on Linnaeus's system, every plant and animal at Graeme Hall Nature Sanctuary has a unique scientific name.



The Linnean names have two parts, genus or generic name (the first name) and specific epithet or species name, the second name. This is known as "binomial nomenclature," that is, two-name-name-calling. You can think of them as first and last names.

Linnaeus used words from the Latin language to develop his system. Each word may or may not have a meaning in Latin that pertains to a characteristic of the plant or animal. However, all names must be "latinized." A scientific name may also contain a human name, perhaps the person who first named the species for science, or it may contain a geographical place-name.

Pussley, a species of plant at Graeme Hall, has the scientific name Portulaca oleracea. Portulaca is derived from two Latin words, portare, to carry, and lac, milk, referring to the plant's milky sap. The species epithet, oleracea, pertains to kitchen gardens, referring to the plant's use as an edible vegetable. Linneaus himself named this plant.

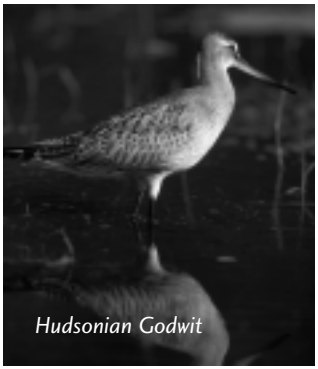
In addition, a species may have a third name. This is the subspecies name. For example, the full scientific name of the form of Lesser Antillean Bullfinch found on Barbados is Loxigilla noctis barbadensis. The third name, barbadensis, identifies this bird as a subspecies of the bullfinch that occurs only on Barbados. This finch is endemic to the islands of the Lesser Antilles, the only place on the planet where this bird is found.

Prior to the Linnean system, scientists worldwide, speaking different languages, had no standardized way of classifying plants and animals by name. Linnaeus's Latin-name system created a common scientific language understandable to all.

-John W. Perry and Wayne Burke

POST NO. 3

In front of you is the easternmost section of a brackish shallow pond network that is being engineered to attract greater concentrations of bird species. This pond is fed by fresh water originating at the Amity Lodge spring, and from rainwater runoff. As you walk west and north you will see this pond to your left, until it changes to a slightly elevated freshwater pond adjacent to the Migratory Bird Exhibit building. You will see that this brackish pond is dominated by mangroves, and when water levels are high tarpon come into the shallow water and feed on smaller tilapia. Sometimes a feeding frenzy erupts, usually in the early mornings and late afternoons.



Hudsonian Godwit

The large lake just north of where you stand anchors the Sanctuary. It is the largest inland lake in Barbados, and is the lowest point in the Graeme Hall Watershed. It is a shallow, roughly rectangular brackish lake is surrounded by a dense fringe of red (Rhizophora mangle) and white (Avicennia racemosa) mangroves. A detailed survey shows that the shores of the lake drop rapidly to a depth of 1 meter or more, except along the northeastern shore which remains very shallow (<0.5 meter) due to the presence of a deep layer of soft mud. A freshwater marsh is located in the eastern area of the swamp, which contains a large stand of mature white mangroves and a network of man-made drainage canals with lotus and water lilies, water lettuce, and filamentous green algae. The banks of the canals support a dense growth of sedges and strips of grassland.

-Stuart Heaslet

POST NO. 4

Early in the nineteenth century, newspapers (circa 1810) were advertising allotments of land that were rented for the shooting of migrating birds between the months of July to December. This was later formalized in the latter half of the last century with the creation of gun clubs set up for the specific purpose of bird shooting. The largest club was Graeme Hall which was run by Eric Manning and others, though at varying times there were a number of other shooting swamps in the environs of Graeme Hall, such as 'Bunyans', 'Worthing View', 'Cavaliers', 'Vietnam', 'Amity Hall' and 'Neva'. It was the practice of these shooting swamps to clear-cut the mangroves so that migrating birds would have a clear view of the water trays and be enticed to fly down.

As part of the Graeme Hall Estate, the freshwater marsh was extensively altered by canaled water flow into a series of freshwater trays (dykes) to attract water birds for shooting, and high grass banks from which mule fodder was cut and sold. Peat and mangrove poles were also cut and sold. Sometime later, a second hunting club was established in the western lake, and a number of shallow ponds were cleared and maintained to attract water birds, plus there was an annual cutting of the surrounding mangrove trees.

Spotted Sandpiper

A sluice gate was also installed in the narrow exit channel between the swamp and the sea in the 1930s and was opened only at low tide to control the water level in the shooting pools. Tilapia was introduced to the main lake around this time, and commercial seine harvesting took place. In 1972, the main lake was dredged and the sludge was used to fill in the western ponds and convert the land to pasture. The extensive annual mangrove cutting in the swamp ceased in the 1970s, and shooting in the swamp has been banned since 1981.

- Roger G. Sweeney and Stuart Heaslet

POST NO. 5

Clean water is essential to ecosystem health. Graeme Hall Nature Sanctuary's mangrove swamp once acted as a natural, biological filter, its freshwater exchanging freely with saltwater from the ocean as the tides changed. This daily cycling naturally aerated and cleansed the water and kept it moving through the swamp. The mangroves assisted the filtering process, absorbing contaminants and returning vital nutrients to the water. Sadly, surrounding development outside of the Sanctuary now flows polluted water in the Graeme Hall drainage, and the swamp no longer connects to the ocean-leaving the system stagnant much of the time. And, since the Swamp does not receive seawater each day, it is known as a drainage swamp. Contrast this with the tidal swamp of yesteryear - the Swamp no longer exchanges water or biologics with the sea, but is in fact becoming fresher with each passing year. The Atlantic tarpon living in the main lake have been doing so for decades, and have adapted to this condition.

During the dry season, water oxygen levels can plummet, directly killing fish and causing algae blooms that suffocate aquatic life for prolonged periods. Only during heavy rains, when the water level rises to flood stage, does the system empty its accumulated contaminants and take in fresh seawater. Fully restoring the Graeme Hall drainage to mimic the system of yesteryear would require restablishing natural water exchange with the ocean.

-Stuart Heaslet

POST NO. 6

Mangroves

In the New World, there are 11 recognized species of true mangrove trees. Two of these species, the red mangrove and the white mangrove, grow at Graeme Hall Nature Sanctuary.

Mangroves are terrestrial (land) plants that have moved back to seashore or near-seashore areas, adapting to life in saline water and mud. Mangroves can also live in freshwater.

The partial skeleton of a giant mangrove monster (a dinosaur) was discovered in 2002 in a desert in Egypt. This plant-eating dinosaur lived 94 million years ago when the present-day Egyptian desert was a coastal mangrove forest.

The origin of the word mangrove, a grove made of mangle, is unclear. The term mangle (Spanish for mangrove) may be Amerindian in origin. As early as 1519, the Spaniards in the Caribbean islands used mangle for mangrove.

In Barbados, the white mangrove is an uncommon, inland-growing species of mangrove found only in Graeme Hall Nature Sanctuary and several west-coast areas. A member of the Combretaceae family of trees and shrubs, white mangrove is distinguished by a reddish stem and breathing roots (pneumatophores) that protrude from the ground.

Unlike the red mangrove, which enjoys getting its feet (roots) wet, the white mangrove (Laguncularia racemosa) prefers well-drained soils on the upland fringe of the mangrove community. The white mangrove's idea of Botanical Paradise is life beside a brackish-water swamp, beneath a bright sun, with roots firmly planted next door to another salt-excreting tree, the red mangrove.

The white mangrove excretes salt through pores, called salt glands, located on the surface of leaves. Its neighbour, the red mangrove, excretes salt from roots. The white mangrove's salty, fallen leaves make a tasty snack for the Sanctuary's blue land crab (Cardisoma guanhumi), whose leaf leftovers are then eaten by swamp-living, microscopic organisms. Camels in Africa also enjoy eating white-mangrove leaves.

Why is white mangrove called white? Though not white, the tree's greyish-brown bark is lighter (or "whiter") in colour than many other species of mangrove, such as the black mangrove with dark bark. An easy way to identify this tree is by two distinguishing glands at the base of each leaf blade where the stem begins. These glands (extra-floral nectaries) secrete a sweet liquid that aids in insect pollination.

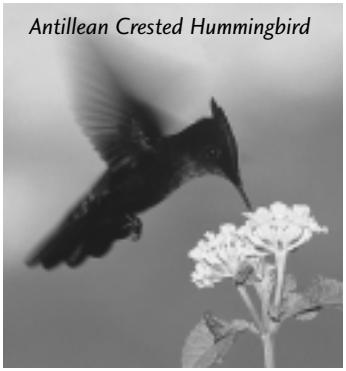
Surprisingly, the female white mangrove is not a real lady. Botanists have discovered it has both male and female reproductive organs. This means the female tree can self-pollinate, though more fruit is produced when fertilized with pollen from all-males trees. This he/she tree is what botanists call a hermaphrodite, a word derived from the name of a Greek mythological hero who has both female and male body.

The tree's intricately branched canopy provides an ideal nesting habitat for birds.

-John W. Perry

POST NO. 7

Additional resident species at the Sanctuary include important local breeding populations of Green-backed Heron, Masked Duck, Common Moorhen, Caribbean Coot, Scaley-naped Pigeon, Antillean crested Hummingbird, Emerald-throated Hummingbird, Grey Kingbird, Yellow Warbler, Lesser Antilles Elaenia, Black-whiskered Vireo, Black-faced Grassquit, Bananaquit and Lesser Antilles Grackle.



Antillean Crested Hummingbird

Other species include Green Monkey, Mongoose, Fisherman Bat, Bug Bat, several herptile species, a wide diversity of invertebrate life and aquatic life that includes several marine fish species such as Tarpon, Snook and White Mullet. Local biologists consider the main fish species of interest at the Swamp to be the marine species (such as tarpon) that have become isolated from the sea and are now living in the lake.

Furthermore, over 20 species of fresh and brackish water fish reside in the swamp, including the unique killifish (Rivulus marmoratus), which is the only vertebrate in the world to fertilize its own eggs.

- Roger G. Sweeney

Black-wiskered Vireo

POST NO. 8

Called the "silver king" by Caribbean sports-fishermen, the silvery-coloured Atlantic tarpon (Megalops atlanticus) is a premier inshore big-game fish. While most of the Sanctuary's tarpon tend to be near the Lake Overlook, you may get a glimpse of the fish coming through this small channel.

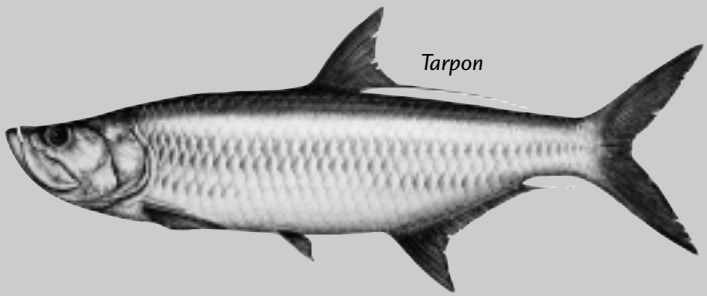
The bright flash that reflects from large silver scales when a hooked tarpon leaps into the air gives it the colourful silver-king nickname. As a game fish, it is esteemed for stamina, strength and leaping ability. In the shallow ocean, tarpons shimmer in sunlit water like huge gray ghosts enjoying a leisurely swim.

A tarpon has big eyes (Megalops is Greek for "large-eyed"), can live 30-50 years, grow to 2.4 metres in length and 130 kilograms in weight. Its aquatic range is near-shore or inland waters of the tropical Atlantic and Caribbean coasts. Called caffum on Barbados, it is the largest fish in Graeme Hall's brackish-water lake. As Graeme Hall's lake has no outlet to the sea, tarpon have been trapped for decades in the mangrove-laden waters. As a predatory fish, it hunts the lake's smaller fish, such as tilapia.

A tarpon's newly hatched larvae, called leptocephali, are curious creatures. The have transparent, ribbon-like bodies with slender, fang-like teeth. When hatched in their normal environment, offshore saltwater, the larvae survive on nutrients from seawater. After a remarkable transformation from larvae to juvenile tarpons, the young fish congregate in estuarine areas, mangrove swamps, marshes, tidal creeks, and lagoons which serve as nurseries. Protected from offshore predators, they rapidly grow in size.

While tarpons breathe underwater with gills like other fish, they are also equipped with an internal swim bladder. This allows the tarpon to take oxygen directly from the atmosphere, increasing tolerance for oxygen-poor waters, such as stagnant ponds cut off from the sea. Rising to the water's surface, the tarpon rolls, gulping air. This air-gulping technique has helped tarpon-like fish to survive for a 100-million years, far longer than Barbados's million-year geologic age.

- John W. Perry



Tarpon

POST NO. 9

Most migrant birds that reach Barbados in autumn do so along the Atlantic Flyway. Different families adopt different strategies. Swallows migrate during the day and feed on the wing as they move south in flocks. The Belted Kingfisher (Ceryle alcyon) is a solo flyer and may work its way both night and day along the coast.


Belted Kingfisher

Common Terns (Sterna hirundo) fly in flocks and, with their long, pointed wings, speed along the near shore waters, fishing as they go. Yellow-billed Cuckoos (Coccyzus americanus) nest in caterpillar-infested woodlands of the eastern United States. In autumn, with their rounded wings and long rudder-tail they return to the forests of South America for the winter.


Common Tern

From wetlands to woodlands and farmlands to backyards, all these habitats are essential stopover places for migrating birds. Eventually, though, all South America-bound Atlantic Flyway travellers face the prospect of water crossings. Whether from peninsular Florida to the Yucatan Peninsula of Mexico or through the Antilles, they make overnight, over water crossings. Those wintering in the Greater Antilles have a short passage. Some species are island-hoppers and others are accomplished transoceanic voyagers.

- Wayne Burke


Yellow-billed Cuckoo

POST NO. 10

Red Mangrove
The Baby-Sitting Walking Tree

The red mangrove (Rhizophora mangle) is the most common and widespread of the different species of mangrove trees that grow in the Caribbean. It is called red mangrove because a thin red layer of bark grows inside the tree's exterior grey bark. This is the colour that one sees when the tree's bark is scraped.

A visible oddity is the red mangrove's stilt-like prop roots that grow from the lower trunk. These salt-tolerant roots ("salt-excluders") allow the tree to grow in a salty environment. Because these leg-like prop roots create an appearance of standing or walking on the water's surface, the red mangrove is nicknamed "the walking tree."

The red mangrove is the Sanctuary's most valuable tree. Microscopic bacteria and mould decompose the trees' fallen leaves, forming a rich layer of mud. This "mangrove soup" of decayed plant materials, soil, water, fungus and bacteria makes food for marine organisms, such as crabs, shrimps and small fish. In turn, these tiny creatures provide food for larger fish that provide food for Graeme Hall's resident and migratory birds, such as the Snowy Egret and Great Blue Heron. It all begins with a falling red-mangrove leaf.

Interestingly, the tree's pencil-shaped seedlings (baby mangroves) grow into new plants while still attached to the parent tree. They remain attached to the "baby-sitting" parent until about three metres long. This stay-at-home nursery gives the seedlings a head start at growth in shallow water after detachment from the parent tree. The Amerindians who once fished around Barbados collected and ate sprouting red-mangrove seedlings, believing the leaves helped to prevent thirst during prolonged fishing trips at sea.

- John W. Perry

POST NO. 11

Feathered Folk Songs

Like songbirds, Homo sapiens (humans) sing, sometimes about birds. The Caribbean folk songs that celebrate birds have diverse beginnings, from field-worker songs to bedside lullabies for wide-awake babies. Black and yellow birds are popular in Caribbean song.


Yellow Warbler

The Barbadian folk song "Blackbird" was a work song sung by children sent to guard fields of ripe cobs of corn from marauding blackbirds. As they chased away the unwelcome birds, they would sing: "Blackbird come…when yuh hear he bite de corn, when yuh look he fly an' gone. Come out, yuh long tail blackbird, out de master corn row." Two species of blackbirds reside on Barbados: the Carib Grackle (Quiscalus lugubris) and the Cowbird, (Molothrus bonariensis).

In St. Vincent, Barbados' neighbouring island, another old-time blackbird song is the cry of a young girl guarding a bunch of ripe bananas, called figs. Her mother has warned the girl not to let blackbirds steal the bananas. "Do blackbird, do blackbird, don't take that fig," she sings, "My mommy will bury me alive." The blackbirds, pitying the girl, avoid the delicious-looking bananas.

One of the Caribbean's best-known avian folk songs, however, is about a yellow bird, not a black bird. Often recorded in modern times, the song tells of a lonely lover, apparently a birdwatcher, observing a yellow bird in a banana plant (the banana is a plant not a tree): "Yellow bird, up high in banana tree. Yellow bird, you sit all alone like me." Barbados has two yellow-feathered birds, the Golden Warbler (Dendroica petechia) and the Bananaquit (Coereba flaveola), whose Latin name, flaveola, refers to the colour yellow.

The Amerindian believed the hummingbird had magical powers, a belief reflected in an Afro-Caribbean folk song praising the "doctor bird" (hummingbird). "Doctor Bud a cunny bud, hard bud fe dead." (The hummingbird is a clever bird that is not easily killed.) The Antillean Crested Hummingbird (Orthorhyncus cristatus) that resides at Graeme Hall Nature Sanctuary is a clever bird with a voice that sounds like a ricocheting bullet, pit-chew, pit-chew.


Antillean Crested Hummingbird

- John W. Perry

POST NO. 12

Animal and Plant Wisdom
Barbadian Nature Proverbs for Smart Humans

The proverbs of Barbados are short, one-sentence sayings that express a well-known truth or fact. The imagery of animals and plants in proverbs is an age-old tradition, linking the natural world to this ancient form of folklore.

If crab don' walk 'bout 'e don' get fat.
A stay-at-home person accomplishes nothing.

Every bush is a man.
Be careful in conservation. You never know when you will be overheard.

De higher de monkey climb de more 'e show 'e tail.
The faults of showoffs are revealed. The green monkey (Cercopithecus aethiops sabaeus) is the only monkey on Barbados. It was imported to the Island from Africa in the 17th century, probably as a pet.

Coconut don' grow pon pumpkin vine.
Children inherit their parents' personality characteristics.

When a bird fly too fast 'e does fly past 'e nest.
Being overly ambitious, or traveling too fast in life, is not always wise.

Sometimes de same tamarind rod yuh cut does turn round and cut yuh own ass.
A person can be harmed by situations he or she has created. The "tamarind rod" is a branch of the tamarind tree (Tamarindus indica) that makes a strong switch sometimes used on the person who cut it from the tree.

If blackbird fly wid pigeon 'e will get shoot.
Socializing with the wrong people can lead to bad results.

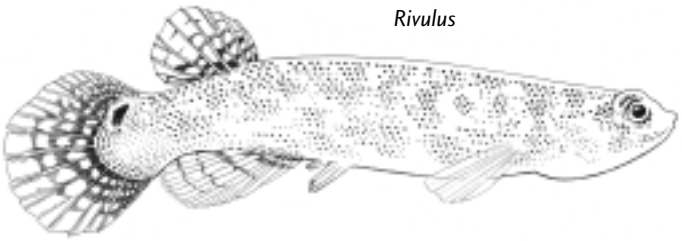
Better fish in de sea dan wha' ketch.
Somewhere there is a better lover than the present lover.

Early bird get de sweetest flower.
The early morning person gets the best reward. In Africa, there is a similar proverb: **"A person who arrives early to the spring never gets dirty drinking water."**

- John W. Perry

POST NO. 13

Like a creature from the English children's book Alice's Adventures in Wonderland, the mangrove rivulus (Rivulus marmoratus) has created its own swamp-mud wonderland at the Sanctuary. A tiny fish, it sometimes emerges from the water and jumps and flips about on moist surfaces—a happy rivulus, it seems.

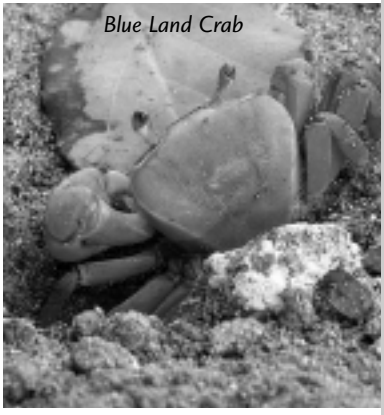


Rivulus

Unlike other vertebrates (animals with a backbone), the mangrove rivulus does not need a mate to reproduce. It is a hermaphrodite (part male and part female), producing its own eggs and sperm. It is the only vertebrate that fertilizes its own eggs. This unique sex life produces offspring that are a genetic duplicate of their combined mother-father.

Its best friend in the mangrove swamp is the Blue Land Crab (Cardisoma guanhumi), nicknamed "swampee" in Barbados. A rivulus likes to set up housekeeping in the crab's burrow, which is filled with water even if the surrounding swamp water dries up. In exchange for shelter, the Rivulus feeds on leftovers carried by the crab into the burrow. This helps to maintain water purity inside the burrow. They make a delightful hole-in-the-mud couple.

When outside its crab-hole habitat, the fish's love affair with mangroves is impressive. It is found inside rotting mangrove logs and camped on fallen mangrove leaves. If stranded in moist mangrove leaves, a Rivulus can breathe through its skin and survive for up to 60 days.



Blue Land Crab

"Curiouser and curiouser!" observed the curious Alice-in-Wonderland, forgetting the proper English word.

- John W. Perry

POST NO. 14

The fishing bat (Noctilio leporinus) is a stealthy hunter. In darkness, it hunts by chirping as it zigzags over swamp water, navigating by its own reflected sound. This is called echolocation. When the bat detects movement in the water, usually a small fish swimming near the surface, it descends low over the water and rakes its talons through the water, gaffing the fish. Raising the fish to its mouth, the bat chews it while flying, storing the masticated fish in cheek pouches as it continues fishing.

In 18th century Barbados, owners of watchdogs added powdered bats to dog food, mistakenly believing this doggie snack improved a watchdog's nighttime vision. Interestingly, another modern-day name for the fish bat is "bulldog" bat because of its cheek pouches.

The Amerindians who once lived on Barbados revered the bat. It served as a link between the world of living humans and the mysterious, non-human other world. A pre-Columbian bat-faced adorno recovered in Barbados is carved with uncanny, slit-like eyes.

- John W. Perry

POST NO. 15

Egrets

Each evening an African newcomer, soaring with its white wings, returns to roost in Graeme Hall Nature Sanctuary's mangrove forest. Insatiably hungry and never still, the Cattle Egret (Bubulcus ibis) is a commonly seen bird with a hunched posture that has made itself at home in the nest tree in the main lake.


Cattle Egret

Prior to the 20th century, no Cattle Egrets existed in the Caribbean islands or in North America. For unknown reasons, many of these birds came from their African homeland at an unknown time and colonized Suriname and Guyana in South America, far-distant lands across the Atlantic Ocean. Unlike the Africans enslaved and shipped to the New World to work in cotton and sugarcane fields, the Cattle Egret willingly winged its way into the Americas, where it enjoys a blissful life of eating bugs, such as grasshoppers, spiders and flies.

The Sanctuary is the only documented location where Little Egrets nest in the Western Hemisphere. Each December, in a nest of twigs, the female lays two-to-three white eggs, adding little Little Egrets to the New World's population.

"Only one higher species of vertebrate, man, has colonized continents with such success," observed a longtime egret-watcher, praising this bird's remarkable achievement.


Snowy Egret

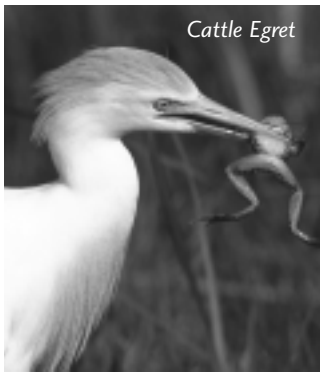
Spreading outward from South America, the first Cattle Egrets arrived in Barbados in the 1960s. Today, Graeme Hall's mangrove trees are the Cattle Egrets' oldest nesting sites on the Island.

Why Cattle Egret? The bird acquired the name by association with livestock. It often follows in a grazing animal's footsteps (or rides on its back) feasting on edible insects stirred-up by the animal's feet or body. In Africa, it is called elephant bird, rhinoceros egret or hippopotamus egret, depending on the animal selected as its mealtime companion. It follows plows, tractors and lawn mowers, too. Lawn mower bird?


Little Egret

Two species of similar-looking, white-feathered wading birds, the elegantly plumed Snowy Egret (Egretta thula) and Little Egret (Egretta garzetta), nest among Graeme Hall's mangroves and forage in shallow water for a favourite fish snack, sailfin mollies. The Snowy Egret is a native North American wading bird, while the Little Egret is a Caribbean newcomer, arriving from the Old World (Europe and Africa) in 1954.

In the late 19th and early 20th century, in the United States, the Snowy Egret suffered a decline in population when hunted for its long neck and body feathers, called aigrettes, used to decorate ladies' hats. The bird grows this wispy plumage during the breeding season. As its modern-day population increases in the Caribbean islands, the Snowy Egret is a commonly seen long-necked fisher-bird with a guttural guarr voice and bright yellow feet that startle prey in the water.


Cattle Egret

Novice bird-watchers often misidentify the Snowy Egret, Little Egret and Cattle Egret (Bubulcus ibis). Both the Snowy and Little Egret are black billed, while the Cattle Egret has a short, thick, yellowish bill. In addition, during the breeding season, the Cattle Egret is tan colored on crown, breast and upper back. The black legs and yellowish feet distinguish the Snowy Egret, while two longish head plumes often top the Little Egret. The Cattle Egret has no head or neck plumes and hunts for food on land not in water.

- John W. Perry


Snowy Egret

POST NO. 16

Two of the most spectacular birds to visit the Sanctuary are the Peregrine Falcon (Falco peregrinus) and Osprey (Pandion haliaetus). Each in its own way is a master of the sky as they soar and glide effortlessly on air currents. Both species make long migrations from North America in the autumn and may be seen at the Sanctuary through the winter season.


Peregrine Falcon

From the vantage point of the bridge immediately to your right, you may see an Osprey sitting on one of the top branches. The Osprey, with a wingspan that can reach up to 6 feet, is a fish-eater and has specialized "sand paper" talons for grasping this slippery prey. It soars high over the lake or along the seacoast and when an unlucky fish is spotted near the surface, plummets feet first onto the water and grabs its meal with a splash. It then takes its catch of the day to a high tree-perch with a view.


Osprey

As if soaring high and gliding far is not enough, Peregrine Falcons also excel at fast, powered flight. On a wingspan that can extend nearly 4 feet, these falcons take ducks, pigeons or doves in flight and may even swoop on a bat if hungry enough! It takes larger prey items to a tree or cliff perch for consumption while smaller snacks like bats are eaten while on the wing.

Sadly, the populations of Ospreys and Peregrine Falcons plummeted in North America and Europe during the 1960s due to a buildup of pesticides in the food chain. There has been a slow recovery since DDT, one of the chief culprits, was banned in 1972.

- Wayne Burke

POST NO. 17

Flitting in the mangroves around you is a small, prim, golden-feathered dynamo-the Golden Warbler (Dendroica petechia). Active as a shimmering sunbeam, this resident warbler seems constantly on the move as it gleans insects from the foliage. Listen for the tsip call of this bird and its brief song: eazy eazy sweet sweet sweet.


Yellow Warbler


Black-whiskered Vireo

The Black-whiskered Vireo (Vireo altiloquus) is more sombrely plumaged in olive-green with a neat black "moustache." It is less hurried than the warbler as it scans the foliage of the mangroves for insects. Interestingly, after nesting in Barbados many of these vireos migrate off the island to northern South America for the winter season.

While one tropical bird departs, a different mangrove denizen arrives from Canada. The Northern Waterthrush (Seiurus noveboracensis) is warm brown above with a narrow whitish "eyebrow" and streaked brown on whitish under parts. It passes the day tiptoeing through the mangroves searching for insects. A loud, metallic chink call betrays its presence as it walks along on the ground teetering and bobbing its tail.


Northern Waterthrush

- Wayne Burke

POST NO. 18

Of Barbados' 700 plant species, only three are endemic, or unique to Barbados: the maypole (Agave barbadensis), a slender climber (Metastelma barbadense) and a gully shrub (Phyllanthus anderson). None are considered rare or endangered; yet 23 plants on the island demand protection at a national level. People affect Barbados' wildlife everywhere, and sadly, native plant and animal species are vanishing as the human population grows. For example, the non-poisonous grass snake (Liophis pretuscus), once unique to Barbados, is now presumed extinct. Today, the only remaining indigenous vertebrates are six species of bats. Still, efforts to preserve and restore native species are invaluable. Distinctive, native species give Barbados character as they also indicate environmental well-being. Properly managed natural resources promote sustainable human behaviours, and help to illustrate how people can live in harmony with nature.

- Stuart Heaslet

POST NO. 19

On Barbados' colourful banknotes, a single flyingfish with outstretched fins glides above the waves on 2-, 5-, 10-, 50- and 100-dollar notes. The four-winged flyingfish (Hirundichthys affinis) is the island's "money fish." It is commercially important to the local fishing industry as well as a favourite food of Bajans and foreign visitors. The island's nickname, "Land of the Flyingfish," celebrates this silvery-blue fish with a flair for gliding.

While flyingfish are finned sea gliders, the tern depicted on Barbados's 10-cent coin is a real sea flier. Two species of tern visit Graeme Hall Nature Sanctuary:

Common Tern (Sterna hirundo) and Least Tern (Sterna antillarum). Because of their in-flight gracefulness, these seabirds are often called "the swallows of the sea," a flight-skill comparison to the Caribbean Martin (Progne dominicensis), a species of swallow seen at Graeme Hall.

The island's banknotes and coins display the national coat of arms and a diverse collection of wildlife and plant life imagery. The unofficial national bird, the Brown Pelican, faces a stylized dolphin fish (Coryphaena hippurus), a fishing-industry symbol. Above the shield is an upraised Afro-Bajan arm holding a handful of sugarcane shaped like a cross. The cross honours Saint Andrew, a crucified Christian. Barbados' day of independence, 30 November, is celebrated on Saint Andrew's Day.

However, it is a fruit that is depicted on a now-rare Barbados copper coin minted in England in 1788. Commissioned by a well-to-do Bajan plantation owner, the coin circulated on the island as a private token issued without status as legal tender. It displays a pineapple (Ananas comosus) above the words "Barbadoes Penny." The pineapple is a native, tropical American fruit originally cultivated by the Amerindians, who ate it as well as used its spike-like leaves to fortify villages. The comosus in the name A. cosmosus means "with long hair," in reference to the pineapple's bushy crown of up-raised leaves. Today, rare-coin collectors call the 1788 Barbados coin the "pineapple penny."

- John W. Perry

POST NO. 20

Flora of the Gods
Blood of Christ, Seed of Oya

In early morning at Graeme Hall Nature Sanctuary, almost in secret, the white waterlily (Nymphaea ampla) silently blooms. Centuries ago, Amerindian shamans used this plant's mind-altering ingredients to induce a trace-like state of mind. During this period of waterlily-induced ecstasy, they communicated with the supernatural world, a land of gods, demons and spirits of nature.

Many of mankind's religious beliefs and ceremonies are historically associated with plants and trees.

Old-time Barbadians of the Christian faith believed that the physic-nut tree (Jatropha curcas) provided the original wood for the cross on which Jesus Christ, the founder of Christianity, was crucified. Good Friday, a day observed by Christians in commemoration of the crucifixion of Jesus, had special significance for the tree. According to local tradition, if axed on Good Friday the tree's trunk bled a reddish fluid (the tree has red sap), symbolizing the blood of Christ.

Among the body ornaments worn by Oya, an orisha or god of Lukumi, an Afro-Caribbean religion, is the dried seedpod of the flamboyant tree, Delonix regia. While wearing seedpods, Oya likes to drink chequete, a beverage made from sour-orange juice, molasses, corn meal and the graded and squeezed nutritive tissue ("milk") of the coconut, Cocos nucifera.

The members of Barbados's Anglican Church believe that in 1627 the Island's first Christian cross was cut from the bearded-fig tree, Ficus citrifolia. Today, the bearded fig is the Island's national tree.

On Montserrat, an expression of jombee belief, a folk religion, is a trance ritual called the jombee dance. (A jombee is the spirit of a dead person that has returned in invisible form.) A Montserratian jombee dancer might carry a bouquet of wild lilies during a procession around a house and afterwards drink teas made from the leaves of local plants. Inside the house, a jombee table set with food and decorated with plants encouraged the jombees to enter the house, eat and enjoy the dance. Human-spirit possession, or trance, highlights the dance. On non-dance days, bananas buried in a yard feed the jombees, who "come and eat dat food."

- John W. Perry

POST NO. 21

The Little Blue Heron


Little Blue Heron

In season, up to five species of white herons are seen at the Sanctuary. One of these, the Little Blue Heron (Egretta caerulea) is white in its first year of life. After moulting these feathers, new blue-grey plumage grows on the adult bird.

The Great Egret (Ardea alba) is the largest of the white herons at the Sanctuary and, like the Little Blue Heron, is a winter visitor. Three other species of white herons are resident in Barbados and nest at the Sanctuary.


Great Blue Heron

The Great Blue Heron (Ardea herodias) is one of the largest herons in the world. It also passes the winter months in the Sanctuary. Like the Great Egret, it often stands patiently in one spot waiting for a fish to pass within reach of its long neck and bill.

The Tricolored Heron (Egretta tricolor) is another winter visitor. It races through the shallow water in pursuit of its fishy meals. The smaller, short-necked, resident Green Heron (Butorides virescens) tends to avoid open areas in the ponds and lurks in dense vegetation and mangrove roots along the edges. When disturbed, this heron often announces its displeasure with a loud quowk!

Two other visitors, the Yellow-crowned Night-Heron (Nyctanassa violacea) and Black-crowned Night-Heron (Nycticorax nycticorax), are mostly nocturnal feeders. These two spend the days concealed in the mangrove thickets and emerge at night to feast on crabs. You can see Black-crowned Night-Herons in the Sanctuary's Marshland Aviary.

Herons depend on wetlands for feeding and breeding. The health of the heron population is critically tied to the preservation of wetland habitats. Unfortunately, wetlands have historically been treated as "waste lands."

An amazing 14 species of herons have been identified at Graeme Hall over the years. Graeme Hall Nature Sanctuary is a true refuge. Not only in name, but also in reality.

- Wayne Burke


Great Egret

POST NO. 22

The early settlers of Barbados brought much more than their families to the island. They also brought livestock, pets, and plants-species that never before occurred in the region. Island ecosystems are fragile, and the introduction of non-native plants and animals to which native species have no natural defenses-can be devastating. Aggressive mammals, such as mongoose, mice, rats, and European hares-not to mention the island's ubiquitous green monkeys from West Africa-have devastated local bird and reptile populations. Remaining native species depend upon intact habitats protected from unwanted intruders, which is why Graeme Hall Nature Sanctuary maintains an aggressive invasive-species control program.

The Indian Mongoose (Herpestes javanicus auropunctatus) is perhaps Barbados' most notorious introduced species, first introduced in 1878 to help exterminate rats infesting sugar cane plantations. Theoretically, voracious mongoose would devour the rats, but since mongoose are diurnal (active during the day) and rats are nocturnal (active at night), things didn't work out quite as planned. Today the mongoose is regarded as a pest capable of wiping out entire populations of ground-nesting birds and vulnerable reptiles and crustaceans. With no natural predators here, mongoose have reproduced explosively, breeding 2-3 times per year with litters of 1-4 young, which mature by ten weeks of age. You may encounter a mongoose or two during your visit to the Sanctuary. Folklore has it that the mongoose will not cross the road unless someone is watching!

- Stuart Heaslet

POST NO. 23

Afro-Caribbean Cultural Hero
Anansi the Spiderman

The enslaved West Africans transported to the Caribbean islands to work on white-owned plantations brought with them stories of Anansi, a cunning spider that walks with a limp, speaks with a lisp and often takes the shape of a small, bald-headed old man. Though small in size, Anansi tricks and outwits his larger and stronger animal companions as well as not-so-bright humans.

A story about Anansi told on Barbados in 1925 tells how he gets his friend Rabbit into trouble and then gets him out of trouble by outsmarting a mean hog. On Barbados, and other Caribbean islands, Anansi is often called Nancy or Berr Nancy.

In a humorous tale from St. Vincent, Anansi (called Compê Anansi) enters a "dance-the-stone-into-smoke" contest sponsored by the island's king. The prize is the king's beautiful daughter. With sugarcane ashes secretly hidden on his body, he dances around the stone, singing "Ying-ee-ding-ee-ding…the girl-a for me." As he dances, he releases the ashes, engulfing the stone in "smoke." Declared the winner, he takes home the royal "girl-a for me."

In a tale from Tobago, Anansi (called Nansi) tricks the island's smartest animal, a snake, into revealing its length, a measurement wanted by the king of the island. Anansi then claims a selfish reward from the king: All trickster tales will be called Anansi Tales.

At Graeme Hall Nature Sanctuary, Anansi's modern-day insect kinsmen are the golden orb-weaver spider and the grey house spider. The beautifully coloured female orb-weaver (Nephila clavipes) spins a magnificent, orb-shaped web, while the grey house spider (Zosis geniculatus) builds a web in a cool, dark, sheltered place, such as under a house. "Ying-ee-ding-ee-ding"

- John W. Perry

POST NO. 24

A Caribbean Icon
The Big Fisher-Bird

The pelican is the unofficial national bird of Barbados. It is depicted on the island's governmental coat of arms along with a fish and the island's national tree, the bearded fig, and national flower, pride of Barbados.

Brown Pelicans (Pelecanus occidentalis) visit the coastal waters of Barbabdos occasionally, but no permanent populations exist on the island.

As if perched atop a mangrove tree, a pelican proudly sits atop the armorial bearings of the University of the West Indies, which has campuses on Barbados, Jamaica and Trinidad. The designer of the university's armorial bearings, in 1947, suggested that a pelican be included because Christian colleges in England used the pelican as a symbol of religious devotion.

John W. Perry Archival Images

The Brown Pelican is a magnificent fisher-bird famous for its accordion-pleated pouch below its large bill. As one of the world's largest birds, a Brown Pelican must takeoff and land faced into the wind. When landing, its extended, cupped wings serve as speed brakes to slow the rate of descent.

Brown Pelicans have a delightful body language: wing flag for balancing in mangrove trees, wing-and-leg stretch (a body comfort movement) and bill toss to dislodge materials stuck in the pouch. The body shake helps to dry a wet pelican after it lands on a perch.

Contrary to a popular belief, a Brown Pelican does not use its pouch to store captured fish after a below-water dive. It surfaces, drains the seawater from the pouch, then swallows head first the fish catch. A humorous 1910 verse celebrates the Brown Pelican's pouch: "A wonderful bird is the pelican. His bill will hold more than his belly can." On the French-speaking islands of Guadeloupe and Martinique, this bird, in Creole, is called grand gosier ("big gullet") in honour of its gawky throat.

The Brown Pelican is an aerial master of spectacular air-to-sea dives, a way of foraging underwater for food. It can dive from a height of 180 metres to scoop fish into its expandable, "dip-net" pouch. When airborne, it uses ocean air currents to conserve energy between dives.

It is a wise weather-bird, too, possessing an uncanny ability to predict storms. When Brown Pelicans are huddled close inshore foul weather may be brewing at sea. When they fly to sea to "pursue their finny prey," as one 19th century pelican-watcher observed, the weather should be clear and safe for local fishermen.

In 1832, John James Audubon, a Haitian-born wildlife artist, painted his now-famous portrait of a Brown Pelican perched in a red mangrove tree. The happy bird is surrounded by mangrove leaves and seedlings.

Unfortunately, or ironically as the case may be, pelicans no longer frequent Barbados.

- John W. Perry

POST NO. 25

In front of you, beyond the berm, is the highest freshwater pond in the Sanctuary. It is supplied by rainwater and mechanical water transfer from the Amity Lodge spring located approximately 350 meters north, beyond the Observation Hut. Elevation changes in a wetland are small and subtle, but if you look closely you can see that the pond beyond the berm contains freshwater plants, while the brackish pond under the bridge is surrounded by mangroves.

The vegetation differences are less than two meters apart, yet because of the relative change in elevation of the two waterbodies, it is possible to see a full category change of ecosystem, from fresh to brackish, all because of a 5 centimeter elevation difference. This is a prime example of the delicate nature of wetland ecology. At the present time, environmental engineering work is underway to improve water flows so that the freshwater pond and brackish ponds are full all year long. Pending a governmental hydrology study, this work is expected to be complete by 2007.

- Stuart Heaslet

POST NO. 26

Humans and Conservation

Islands are on the front line in the fight to save what remains of nature. Species now disappear 100 to 10,000 times faster than they form, with island endemics being the first to vanish. Half of the world's forests are now gone, with remaining rainforests and coral reefs eroding at 1% or more per year. If current trends continue, half of all known plant and animal species may be extinct by 2100. As microcosms illustrating the delicate balance between humans and nature, islands predict our future. Without aggressive conservation, many of the world's natural areas will become insular islands in a sea of humanity. Learning how to save island resources is fundamental to protecting biodiversity worldwide-thereby giving man and nature a fighting chance.

-Stuart Heaslet

POST NO. 27

Barbados is host to several endemic species. Three species of plant are unique to the island, the most conspicuous being the large cactus-like maypole (Agave barbadensis), which is widespread in dry, rocky coastal areas. A shrub (Phyllanthus andersonii) and a climber (Metastelma barbadense) are also endemic and can be found in woodland and gullies.

Of the six species of bat on Barbados, one (Myotis martiniquensis) shares its endemic status with Martinique. The lizard family is well represented with three of the five indigenous species endemic to Barbados. There were two species of non-venomous snakes on the island. The Barbados racer (Liophis perfuscus) was found only in high rainfall areas and is endemic. A worm snake (Leptotyphlops bilineata), said to be the smallest snake in the world, lives only on the islands of Barbados, St. Lucia and Martinique. Despite several recent surveys, the Barbados racer has not been reported since the 1960s. Sadly, it may now be extinct. Of birds, The Antillean Crested Hummingbird, Green-throated Carib and Lesser Antillean Bullfinch are residents of Barbados and are endemic to the islands of the Lesser Antilles.

The tropical deciduous forest that once covered Barbados was almost totally removed for agriculture by 1667, less than forty years after European settlement in 1627. Though modified by humans, about 50 acres of tropical deciduous woodland can be seen at Turners Hall Wood. Similarly, the 35-acre Graeme Hall Nature Sanctuary is the largest remaining area of mangrove woodland on the island.

- Wayne Burke

POST NO.28

Cocos Nucifera
The Wonderful and Fabulous Coconut

The street vendors in Barbados who sell coconuts, opening the hard nut with a whack-whack-whack of a machete, are selling one of nature's most remarkable tree-grown creations, the only nut with a liquid-filled centre. The coconut (Cocos nucifera) is used by millions as a food, inspires artistic expression, has military value and is important in magical spells.

Do you have an evil spirit in your house? An Afro-Caribbean spell to rid a house of "evil" spirits depends of a coconut's magical powers: Crush chicken eggshells into a white powder, sprinkle the powder on a coconut, kick the nut like a ball around the house and, finally, kick it out the door. This will "kick out" all evil spirits dwelling inside the house.

In future years, the oil extracted from coconuts may help replace petroleum as a fuel. Coconut oil, along with other tropical-plant oils, might be processed into a petrol-like fuel. An automobile engine powered by coconuts!

The coconut palm and the sugarcane plant that grow at Graeme Hall Nature Sanctuary are two of the 12 cultivated food plants that supply most of the food humans consume worldwide.

Less appetizing, the palm in napalm is coconut. This military jelly is used in incendiary bombs (and during World War II in flame throwers) and is made, in part, from the fatty acids of coconut oil.

Song-writer Irving Burgie, who wrote Barbados' national anthem, celebrates this fabulous nut in his song "Coconut Woman," about a street vendor with plenty of coconuts for sale. Burgie's coconut seller recommends drinking a mixture of coconut water and rum as a refreshing tropical tonic when feeling glum. If you wish to feel strong as an African lion in Barbados, says the vendor, eat rice curry cooked with coconut water in a pot.

- John W. Perry

POST NO. 29

The Flora of Childhood
Guttaperc and Scratch Wiss

The trees and plants of Barbados provided yesteryear's children with cheap, homemade toys and sporting equipment, especially when store-bought brands were unavailable or too expensive. Many adult Barbadians have fond memories of childhood play-things made from the islands' flora.

The whitewood tree (Tabebuia heterophylla), a commonly seen tree on Barbados, has forked branches that made usable stocks for guttapercs (slingshots), a young boy's arm-powered catapult. The tree's wood was also used to make ribs for fishing boats built by skilled fathers.

A scratch-wiss vine (Cissus verticillata), stripped of leaves, was once a favourite skip-rope plant of young Barbadian girls. "Ice cream soda, lemonade, punch," went the girls' skipping chant, "tell me the name of your honey-bunch." The vine quickly frayed with use, lasting for only one skip-rope session.

The large leaves of the sea-grape tree (Coccoloba uvifera) made excellent sails for homemade toy sailboats. The leaf would be skewered on double masts made from the strong stems of a leaflet of the coconut palm.

Interestingly, the Barbados cherry tree (Malpighia emarginata) had a playtime connection to young Bajan marble players. The children nicknamed a clear-glass marble "cherry seed" because the marble's coloured centre resembled the seed of the cherry tree.

Prior to 1960, according to the book A-Z of Barbadian Heritage (1990), wooden cricket bats sold on Barbados were too expensive for island boys to purchase. Instead, homemade bats were crafted from the soft, easily shaped wood of the clammy cherry (Cordia obliqua), a tree native to India, where cricket is also played. No clammy cherry? A dried stalk of sugarcane bent double made a playable bat, too.

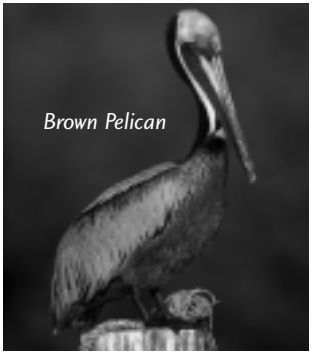
Less memorable—and not a toy or plaything—is the childhood "tamarind rod" made from a branch of the tamarind tree, (Tamarindus indica). In the hand of a stout headmaster, this switch of discipline daily punished wayward schoolboys, sometimes the same boys who had been sent to cut a fresh rod from the tree.

- John W. Perry

POST NO. 30

Lesser Antilles National Birds
Sugar Thief and Turtle Dove

Many islands in the Lesser Antilles, as well as other Caribbean islands, have a favourite bird as a national or official symbol. Birds are popular symbols of state worldwide. Graeme Hall Nature Sanctuary's checklist of resident and migratory birds includes several of these honorary birds as a year-round resident or an infrequent visitor. One national-bird species is a captive resident in a special breeding program.


Brown Pelican

Hatched from a chalky white egg, the Caribbean's Brown Pelican, the unofficial national bird of Barbados and the national bird of St. Maarten/St. Martin, has a curious scientific name, Pelecanus occidentalis. It loosely means: A bird from the west (where the sun sets) with a bill shaped like an axe. Today, the brown pelican inhabits mangrove forests, eats fresh-catch fish and enjoys western-sky sunsets, a part of its name-origin heritage.

A feathered thief as a national symbol? In the United States Virgin Islands, the Bananaquit (Coereba flaveola) is the official bird of this former Danish colony. The fast-paced, seemingly nervous Bananaquit is nicknamed "sugar-thief bird" because of an impolite habit of raiding sugar pots on outdoor tables. Despite the sugar-thief crimes, the Bananaquit remains the territory's avian symbol, proudly displaying a sugar-filled belly of yellow feathers.

A beautiful, endangered parrot, Amazona guildingii, is the national bird of St. Vincent, Barbados' neighbouring island. To help St. Vincent's rare Amazona produce hatchlings for long-term survival, Graeme Hall conducts a captive-breeding program, with some individuals on display at the Sanctuary except during part of the year.

Poll, an Amazona parrot, is the pet of the famous Caribbean-island castaway Robinson Crusoe, hero of the English writer Daniel Defoe's 18th century fictional tale. Poll says Robin Crusoe! Robin Crusoe! while the flight call of the St. Vincent Parrot is gua, gua, gua.


Magnificent Frigatebird

The Frigatebird (Fregata magnificens), the national bird of Antigua and Barbuda, is named for a 17th century sailing war vessel. The glossy-black male has a scarlet throat that is inflated to attract females, who liked red-throated males. An avian pirate, a frigatebird will attack a seabird in flight, frightening the bird into dropping a newly caught fish, which the frigatebird catches and devours in mid air. Also called the man-o'-war bird, the frigatebird is an frequent visitor to Barbados.

A cooing dove is Anguilla's national bird. Called turtle dove on Anguilla and zenaida dove on Barbados, Zenaida aurita is often rudely described in Caribbean travel articles as "the fat brown bird" seen peacefully ground-feeding on seeds. Its call is coo-oo, coo, coo, coo, rendered by some Afro-Caribbeans as "Mar-y boil brown rice." Doves are avian symbols of peace worldwide.

- John W. Perry

POST NO. 31

Afro-Caribbean Bird Tales
Kitty Katty Kee Wang Wah

The Afro-Caribbean folktales about birds traveled to the Caribbean islands from West Africa. They crossed the Atlantic Ocean in the memory of the Africans transported as enslaved laborers. Today, the birds in these tales are a mixture of African and Caribbean birds. These bird stories are often retold in books and articles that describe African traditions and folklore in the New World.

A favourite folklore theme is a fasting-and-singing contest by rival birds. In a songbird tale, a Common Ground Dove (Columbina passerina) and a Mountain Dove (Zenaida aurita) challenge each other to a popular sing-but-no-eat contest. The Ground Dove wins by secretly eating seeds and insects while the singing (and starving) Mountain Dove dies from malnutrition.

A widow with five sons always wanted a daughter. In exchange for a daughter, she gives her sons to a wizard, who transforms them in wild ducks. Years later, the grown daughter restores her wild-duck brothers to human form by providing them with magical coats woven from flowers. However, she forgets to weave the left arm of one coat and one brother has a human arm and, yes, a duck's wing.

Another tale tells of a wife who is a gaulin, which is a Green Heron. The woman never eats with her husband, only cooks his food. When he leaves the house, she sings a nonsense song, Kitty Katty kee wang wah, and transforms into a hungry gaulin. Flying to the nearest swamp or waterhole, she eats crabs and tiny fish—heron food. The happy marriage abruptly ends when the husband sings the bird-woman's song. In horror, he watches a beak and feathered wings magically replace his lovely wife's mouth and arms.

The hummingbird, a bird of the Americas not Africa, is the hero of a high-flying tale about a contest to find the bird that can fly the highest. A boastful hawk claims the prize after flying into overhead clouds. However, a hummingbird is a secret stowaway on the hawk's back during the flight, reaching by a few centimetres a higher altitude. The smart, high-traveling hummingbird wins the contest.

- John W. Perry

POST NO. 32

The responsibility for establishing sound environmental practices rests squarely on human shoulders. Today the average human eco-footprint-the amount of productive land and water needed to sustain a single human life-is 2.3 hectares, even though only 1.9 hectares/person exist to support the 6.4 billion humans presently on Earth. Unless we reduce current consumption rates and learn to conserve now, life will become unsustainable in many places.

-Stuart Heaslet

Blue-winged Teal

POST NO. 33

In 1750, in England, an Anglican clergyman published a curious natural-history book about Barbados. Avoiding scientific names (still rare), he used only local names for the island's flora and fauna, such as fat-pork tree, cow-itch vine, forbidden-fruit tree, bachelor's pears, cotton-tree bird and two-penny chick. He titled the book, The Natural History of Barbados.

Hughes' Natural History briefly describes many plants and trees seen at Graeme Hall Nature Sanctuary. The wood of the fustic tree (Maclura tinctoria), he says, is used to make cartwheels, while powered doveweed (Chamaesyce prostrata) "is a great drier-up of old sores." The bushy herb Ludwigia octovalvis is named "many seed" by Hughes because, according to his math, one plant produces 12,888 seeds. To Hughes's nose, the blooms of the dunk tree (Ziziphus mauritiana) have a "fetid, offensive smell."

Hughes has an eye for birds, too, especially birds' feathers. The plumage of the Golden Warbler (Dendroica petechia), he says, "hath a beautiful mixture of yellow and red, especially about the head." The hummingbird's feathers are attractive "when reflected to the eye by the rays of the sun."

Yellow Warbler

A curiosity of Hughes's book is the "animal flower," the filter-feeding tubeworm, Sabellastarte magnifica. He "discovered" this odd sea creature in today's so-called Animal Flower Cave, a sea-cliff tourist attraction. When feeding from its coral-head burrow, the worm's fan-like tentacles resemble a bouquet of frilly flowers growing from a submerged garden of coral. To Hughes, the animal-flower's body resembles a colourful bird's feather with attached spider's legs.

- John W. Perry

POST NO. 34

One of the first English-language books to describe Barbados' birds is Richard Ligon's A True and Exact History of the Island of Barbados, published in London, England, in 1657. Ligon, a visitor to Barbados in mid 17th century, wrote the history book while in debtors' prison in England. He had little interest in avian wildlife, but, being a caged jailbird himself, he included in his book a check-list of island birds that is still of interest to modern-day ornithologists, bird experts.

He observed an abundance of doves, today still common on Barbados, and listed two species: the Ground Dove (Columbina passerina) and the Wood Dove (Zenaida aurita). These plentiful birds, he wrote, "are a great store in the Island".

Another Ligon-listed bird is the blackbird or Carib Grackle, Quiscalus lugubris. The voice of this bird is a harsh-sounding wee-tsi-ke-tsi-ke-tsi-ke translated by old-time Barbadians into a simple sentence helpful in remembering the bird's call: Besty White guinea corn too sweet. Today, a favourite Barbadian Christmas food, jug-jug, is made with flour of guinea corn (Sorghum guineense) and green peas. The people of Bequia, near to St. Vincent, say that the blackbird sings: Bequia sweet sweet too sweet.

Ligon praises the appropriately named Magificent Frigatebird, (Fregata magnificens). This seabird, he writes, "flies out to sea upon discoveries." While in prison, Ligon wished that he, too, could escape to the sea, where he could be as free as a Barbados seabird.

- John W. Perry

POST NO. 35

Like other lizards in the genus Anolis, the Barbados Anole (Anolis extremus) is a "sit-and-wait" predator. This species of common green lizard is endemic to Barbados and is found in grassland, on rocks and perched on mangrove-tree branches. Quietly, it scans the foliage and ground for insects. When a desirable insect is sighted, it rapidly pursues, captures and devours it—an environmentally friendly, non-polluting bug killer.

Barbados Anole

The male's trademark is a golden-coloured throat fan used in territorial displays and courtship. It extends and retracts the fan in special lizard-to-lizard signals: This is my tree branch, stay off! or Ready for love?

The lizard is a natural-born sunbather. Unlike a warm-blooded bird, which requires energy from food to stay warm, a lizard is cold-blooded, warming itself by basking directly in sunlight. This allows energy produced by food to be used for growth and reproductive activities, not wasted on maintaining a high body temperature.

In Barbados, this tree lizard, along with other Anolis species in the Caribbean islands, fills an ecological niche left vacant by the absence of large numbers of ground-feeing, insect-eating birds, so common in North America. One hundred of the lizards, incredibly, can live on the same quantity of insects required by a single ground-feeding bird.

A Barbadian folk belief warns that touching lizards will cause skin eruptions that leave the healed skin scarred by pockmarks. In addition, when seen inside a house this lizard is a sign that a female household member is pregnant or that a household male has impregnated a woman.

- John W. Perry

POST NO. 36

Forget Me Not Sailors' Valentines of Barbados

Sailors' valentines! The name evokes 19th century images of the British and American whaling era, when sailors, daydreaming of loved ones back home, hunted the world's largest ocean-dwelling animal, the whale.

When British and American whaleships stopped in Barbados en route to England or to New England in the United States after a long Pacific Ocean whaling voyage, the whalemen often purchased take-home souvenirs called sailors' valentines. Made on Barbados for the whaling trade, a typical valentine was a wooden case hinged together in pairs and filled with seashells arranged in pleasing geometric patterns. When closed, the case could safely be transported on ships.

The seashells spelled short sentiments popular in Victorian England on St. Valentine's Day, such as "With Love" or "Truly Thine" or "Forget Me Not." However, one sailor's valentine, preserved in a private whaling-era collection, has no sentimental message, only "A Present from Barbados" spelled in shells.

In addition to seashells, such as the Barbados keyhole limpet (Fissurella barbadensis), a variety of island flora and fauna was used to make a sailor's valentine. The eight-sided case, probably constructed by Barbadian male woodworkers, was made from the island's cedar tree (Cedrela odorata), a fine-smelling, insect-resistant wood once used by the Amerindians to make dugout canoes. The red seeds of the crab-eye vine (Abrus precatorius) added a heart-red colour to the valentine. Also, the women who assembled the seashell displays might add fish scales and the dried body-parts of crabs to complete the valentine.

Today, sailors' valentines are valuable collectors' items, sold for high prices at antique auctions. They also make attractive whaling-era displays in maritime museums.

- John W. Perry

POST NO. 37

Like the winner of a human beauty-queen pageant, a handful of botanical species that grow at Graeme Hall Nature Sanctuary hold the prestigious title of official flora of their island homeland. Many islands of the Lesser Antilles, like other Caribbean islands, have an honourary botanical symbol, some proudly depicted on governmental coat of arms, banknotes and coinage.

The curiously named bearded-fig tree (Ficus citrifolia) reigns as the national tree of Barbados. The tree's claim to fame is its "beard-like" aerial roots that may have inspired early European voyagers to name the island Los Barbados, meaning "the bearded ones" or the island of the bearded figs. The tree is depicted on Barbados's national coat of arms.

Barbados' national flower, the pride of Barbados (Caesalpinia pulcherrima), blooms on a small, woody plant that flowers throughout the year. In bloom it is a beautiful garden plant; in fact, pulcherrima means beautiful or handsome.

The national weed of Antigua, widdy-widdy (Corchorus siliquosus), is a purplish-stemmed shrub called broomweed in Barbados. It is revered in Antigua as a symbol of the sugarcane workers' struggle for a livable wage. Why? In 1951, Antigua's sugarcane workers ate widdy-widdy to survive while on strike for higher wages. Widdy-widdy quickly softens when heated and has a palatable taste.

The royal poinciana (Delonix regia), the national tree of St. Kitts and Nevis, is called poinciana after an old-time St. Kitts's French governor (Poincy). Royal in both scientific name (regia means royal) and common name, this tree's colourful canopy of flame-red flowers provides welcome shade for weekend picnickers throughout the Caribbean islands. Red poinciana blossoms are depicted on the islands' coat of arms.

- John W. Perry

POST NO. 38

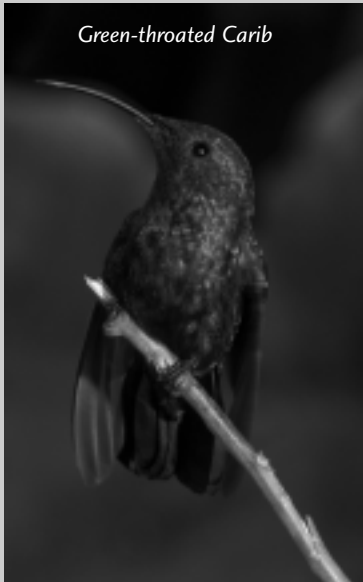
Amerindian Symbol
Islands of the Sacred Hummingbird

According to Amerindian mythology, a sun deity created hummingbirds from tiny black flies, dispatching them among the Caribbean islands as sacred pollinators happily spreading new life on earth. Today, the colibri, the Amerindian word for hummingbird, is a proud symbol of the cultural rebirth of the Caribbean's indigenous people, some describing themselves as "hummingbird warriors."

On Barbados, a modern-day visitor sees the same two species of hummingbirds the pre-Columbian (pre-1492) Amerindians saw when they inhabited the Island. With its distinctive pit-chew call, the Antillean Crested Hummingbird (Orthorhyncus cristatus) is short-billed and extracts nectar from short-tubed flowers, while the Green-throated Carib (Eulampis holosericeus) has a longer bill and extracts nectar from long-tubed flowers. The Green-throated Hummingbird still has an Amerindian-related name, Carib, the carib in Caribbean.

The Amerindians that inhabited the Caribbean islands centuries before the arrival of Europeans had many traditions about the hummingbird. It symbolized earthly rebirth. A dead human's soul returned to the world of the living in the form of a hummingbird. When the weather turned exceptionably dry, the hummingbird bird died, only to be reborn when it rained.

Today, hummingbirds have a medical nickname, "doctor bird." This curious, English-language name is traced to a belief by Amerindians that their ancient ancestors received the tobacco plant as a gift from the hummingbird. Because Amerindian healers or "doctors" used tobacco as a medicinal plant, the hummingbird, which fed and nested in the plant, became associated with the practice of medical healing and the prescribing of herbal remedies—a doctor bird.



Green-throated Carib

Calling Dr. Hummingbird!

- John W. Perry