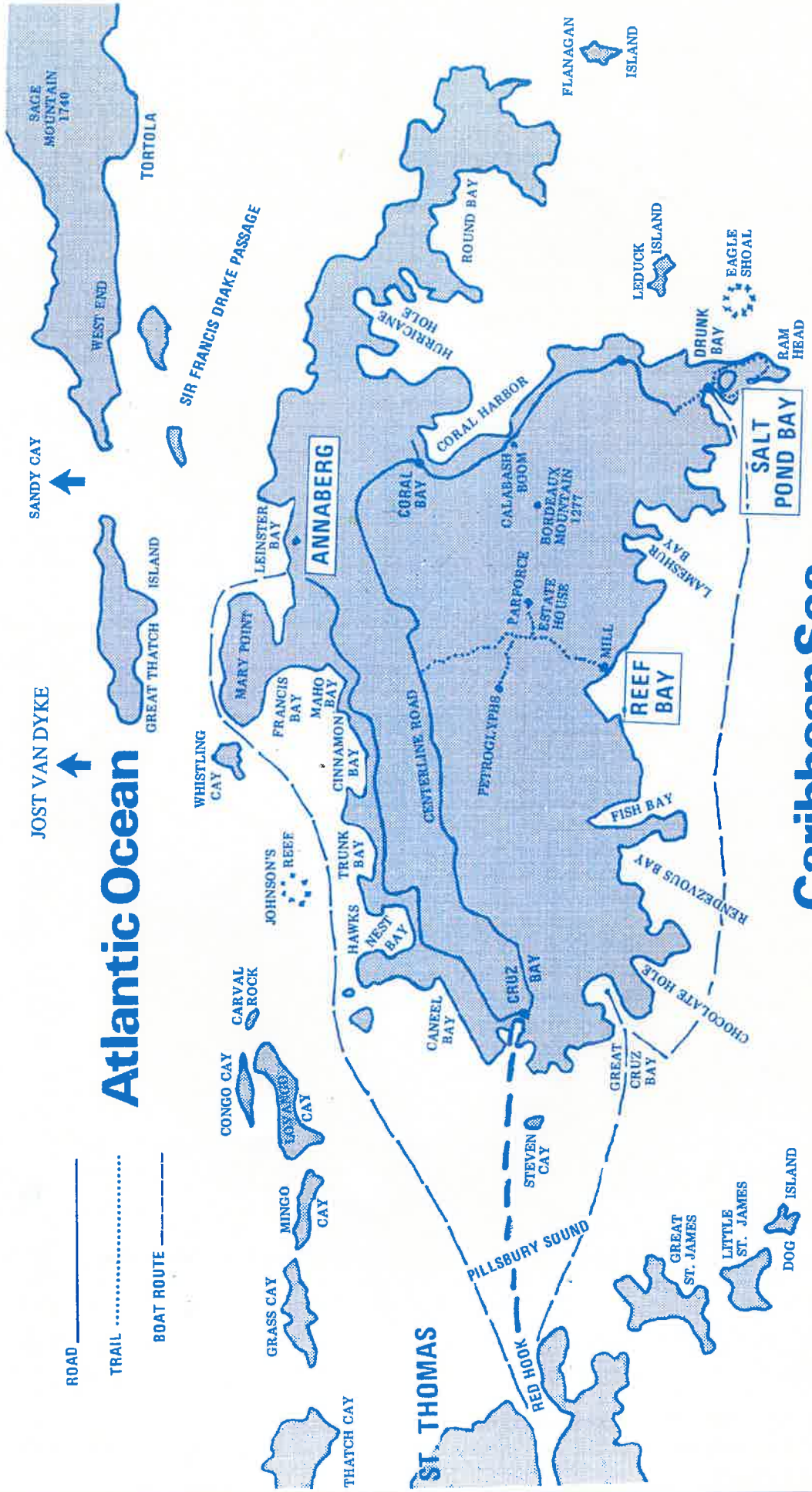




a guide to the **NATURAL HISTORY OF ST. JOHN**

by
**DORIS
JADAN**

ST. JOHN



Caribbean Sea



Photo Karsh, Ottawa

Laurance Rockefeller

DEDICATION

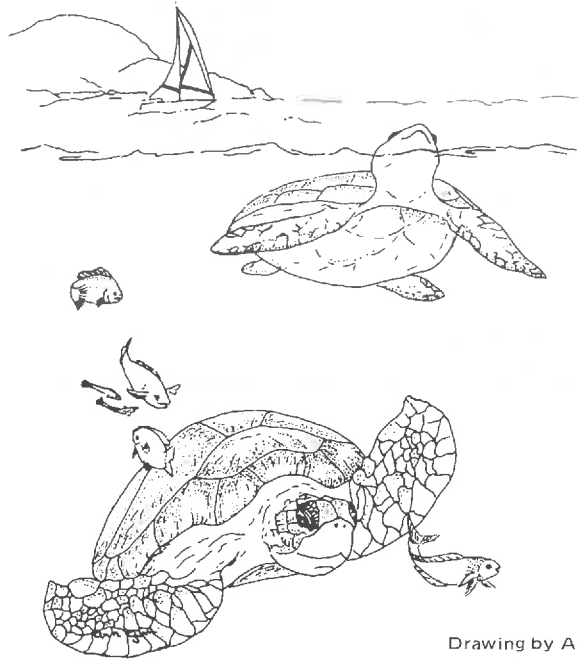
This fifth edition of *A Guide to the Natural History of St. John* is dedicated to Laurance Rockefeller, whose gift of land for a national park on St. John on December 1, 1956, has left happy options open for children growing up on St. John today and for generations to come.

One such St. John child, whose picture you see on the cover, is Ivo Philbert. Ivo in 1984 is a scholarship student at Hampshire College. Ivo plans to return to St. John, a home he is proud of.

Much of the natural and cultural history of St. John has been preserved for St. Johnians like Ivo only because we *do* have a national park. Ivo and generations to come on St. John will continue to have an opportunity to enjoy, study, and take pride in the magic of this island where happy natural and human events continue to make history.

Thank you, Laurance Rockefeller, for giving us the space and time to make the right decisions for St. John's future.

*Doris Jadan
December, 1984*



Drawing by Ann Guth

THE ST. JOHN BIOSPHERE RESERVE IS GOOD NEWS!

Not many people know about it yet, but the Virgin Islands National Park on St. John has been designated a Biosphere Reserve by the United Nations. And this St. John Biosphere Reserve is the *only* one in the Lesser Antilles.

As this fifth edition of *A Guide to the Natural History of St. John* goes to press in January, 1985, a new building is about to be built by the Park at Lind Point. This will be the Virgin Islands Biosphere Reserve Resource Management Station, a long name, but then this center opens up a long list of opportunities beginning with good local research. Everyone living on St. John or coming here to visit – teachers, scientists, tourists – all will have an opportunity to help the Biosphere Reserve program produce results.

How? The Biosphere Reserve program lays particular emphasis on the need for *local* understanding and involvement in setting goals.

The Biosphere Reserve on St. John challenges all segments of the community to recognize that improved employment and better incomes for Virgin Islanders really do depend on careful management of island natural resources for the not-so-distant future as well as for the immediate present. Out-of-control or haphazard development may produce a short term payoff for a few people, but that kind of development can destroy both human and natural resources rather quickly.

What kinds of St. John problems are already being studied as part of the Biosphere Reserve program? Projects for 1985 emphasize watershed management, development of long-time monitoring strategies for St. John's coral reefs, fisheries resources, and vegetation. The impact of fresh-water runoff on near shore marine ecosystems, to take just one familiar example, can be controlled by the way vegetation is protected, by the way roads are curved, by proper road drainage, and by the way bulldozers clear land.

St. John is way ahead of most islands in protecting its land and sea. The existence of a national park on St. John since 1956 has given people here space and time to think twice about the desirable kinds of development still possible on this small island.

TABLE OF CONTENTS

A GENERAL INTRODUCTION TO THE ISLAND OF ST. JOHN
Introduction page 1
Night Music — a Poem page 5

CANEEL BAY PLANTATION
A Revolution, a Resort, and a Lignumvitae Legacy page 6

SALT POND BAY
Introduction page 10
Guide page 11

ANNABERG
Introduction page 21
Guide page 22
From Sugar Cane to Brown Sugar and Rum
at Annaberg and Reef Bay Sugar Factories — A Diagram page 28

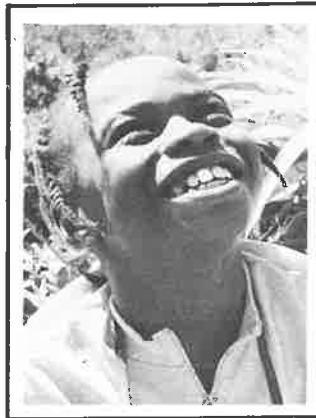
REEF BAY
Introduction page 32
Guide page 33

ST. JOHN BIRD CHECK LIST page 41

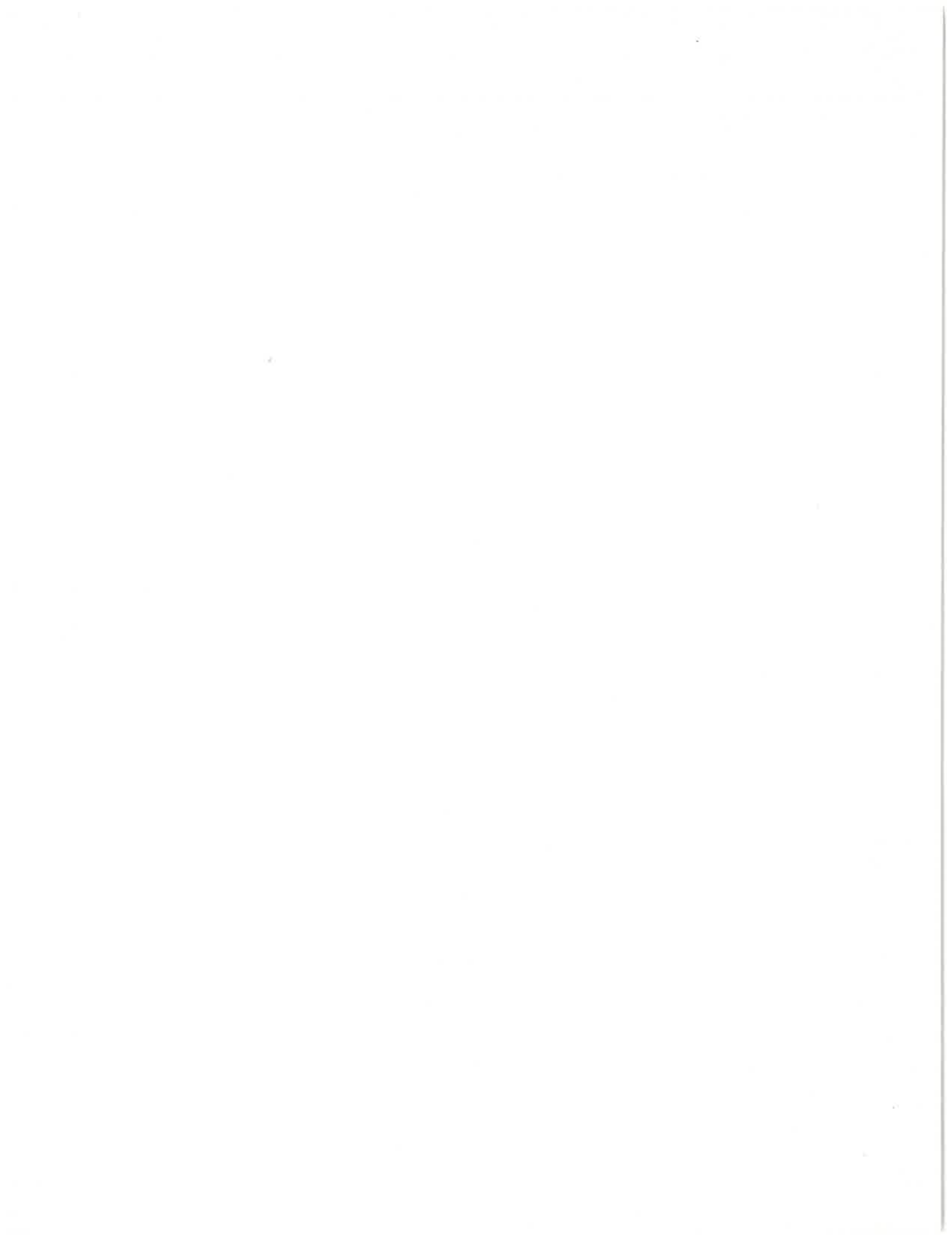
ST. JOHN PLANT CHECKLIST
133 plants found in and around Annaberg,
Salt Pond Bay and Reef Bay page 47

BIBLIOGRAPHY page 69

INDEX page 71



Royalties derived from the sale of “A Guide to the Natural History of St. John” will be used for scholarships to assist young St. Johnians like Ivo Philbert.
—Doris Jadan, President, Environmental Studies Program, Inc.



A GENERAL INTRODUCTION TO THE ISLAND OF ST. JOHN

Any Guide to the Natural History of St. John would be a misguided effort if it did not emphasize, as John Donne did, that no man and no Island is an isolated entity, whether from the point of view of cultural or natural history. Natural and cultural history grow around each other. St. John is different from other Islands, but St. John is geographically and culturally close to St. Thomas and St. Croix, and even closer to the British Virgin Island of Tortola. St. John is both Virgin and Westindian.



St. John

1. SIZE:

St. John is smaller than either St. Thomas or St. Croix, measuring only 9 miles from Cruz Bay to East End, and 5 miles at the widest point, with a total of 19 square miles, approximately the size of Manhattan! As many as 9,500 of its 12,000 acres may eventually be included within the boundaries of the V.I. National Park. Park boundaries also protect 5,000 underwater acres of coral reefs and spawning areas for fish, lobsters and turtles.



Manhattan

2. POPULATION:

In 1960, there were 925 persons. By 1970, there were 1,743 persons. In 1979, the population was close to 5,000 persons, including scores of part-time residents.

3. RELIGION:

The majority of St. Johnians are either Moravians or Lutherans, since these two churches were the first established in the Islands (Moravian: 1783; Lutheran: 1720). There are also growing numbers of Roman Catholics, Anglicans, Methodists, Baptists, Seventh Day Adventists and Jehovah's Witnesses.

4. EDUCATION:

There are two public schools, the Guy Benjamin School in Coral Bay, Grades K-6, and the Julius E. Sprauve School in Cruz Bay, K-9. High school students are boated and bused to high schools in St. Thomas.

5. ECONOMICS:

Virgin Islanders, including St. Johnians, have a per capita income of \$4,743, the highest in the Caribbean. The V.I. tourist income for 1977 was \$206,372,171. 999 licensed vehicles rolled up and down St. John in 1978; there were only 5 in 1955.

As of December, 1978, some 300 persons were employed by the local government. 52 St. Johnians work for the National Park Service on St. John. Private business, construction jobs, and tourist-oriented jobs employ several hundred persons.

6. TOPOGRAPHY:

Deep V-shaped valleys like the one you see from Centerline Road down to Reef Bay are typical. The highest point on St. John is Bordeaux Mountain, 1277 feet. The Salt Pond between Drunk Bay and Salt Pond Bay is the lowest point, about one foot below sea level. 86% of St. John's land surface covers slopes of more than 20% and most of these slopes have a grade of more than 30%.

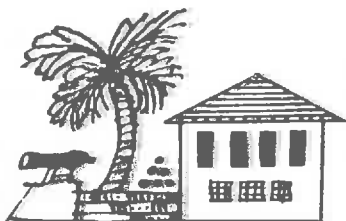
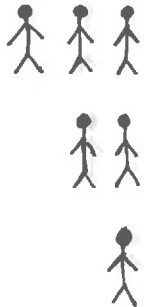
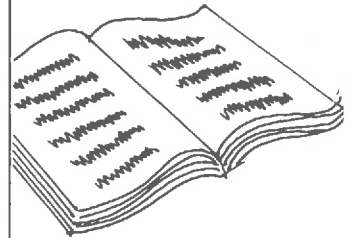
7. GEOLOGY:

St. John, like St. Thomas, is of volcanic origin and is part of the oldest continuously emerged land in the West Indies, having stood above water in the Ram Head area since the strata were uplifted and folded in the Middle Cretaceous Period some 108 million years ago. (Donnelly and Whetten, **FIELD GUIDE TO THE GEOLOGY OF THE VIRGIN ISLANDS**).

The trench between St. John and St. Croix is over 2,000 fathoms or more than 12,000 feet deep.



Moravian Church, Emmaus, is listed in the National Registry of Historic Sites, along with Fortsberg, Enigheid Ruins and the Battery.



Battery

8. CLIMATE:

Good! Temperatures from the weather station at Cruz Bay for 1939 show a mean annual temperature of 79.9 degrees F., a mean daily range of only 11.5 degrees and an extreme range from 65 to 93 degrees. Actually, since these 1942 records at Cruz Bay, individuals have recorded a low of 58 degrees at Catherineberg in the hills and a high of 98 degrees in Cruz Bay in the August shade.

9. RAINFALL:

The mean annual rainfall recorded at six localities on St. John for various periods between 1877 and 1940 ranged from 40 inches to more than 60 inches.

A Clark University study published by Caribbean Research Institute in 1969 states that 4 out of 12 weather stations on St. John with 10-year records show an average annual rainfall above 50 inches, whereas only one station out of 12 in St. Thomas and 2 out of 36 in St. Croix record over 50 inches average annual rainfall. St. John, therefore, does actually receive more rain than the other two islands, which is easy to believe after a record of 25.77 inches at Lille Maho during the first 12 days of October, 1970! The previous record for a 30-day period, not just 12 days, was 20.67 inches in Cruz Bay, May, 1933.

Despite these flood figures, drought is frequent and water shortages are chronic. Run-off after heavy rains is rapid since the nonporous clay and marl in many areas will not readily absorb water from hard rains. And brief showers don't do much good either since most of the moisture evaporates before it can reach plant roots. Also, there is no "rainy season," which makes it difficult to grow vegetables profitably. But while vegetables are scarce, vegetation is varied.

10. VEGETATION:

There are no virgin forests today anywhere in the Virgin Islands. There are five dead silver sentinel trunks of Bulletwood trees (*Manilkara bidentata*) atop Sage Mountain that are probably the only remains of the last virgin forest in these Islands.

As far as human beings are concerned, **ONLY ARAWAKS AND AFRICANS HAVE EVER MANAGED TO LIVE IN HARMONY WITH OUR ISLAND ECOSYSTEMS.** The Danes, the Dutch, and other planters stripped the virgin growth from almost every hillside in order to cultivate cotton and cane, beginning in 1717 and continuing through the 19th Century. About 15% of St. John, or some 1900 acres, were under cultivation for sugar. However, in addition to the acreage for sugar and a lesser acreage for cotton, much land was cleared for livestock and to provide lumber for homes, ships and fuel. Secondary forest and scrub now cover more than 65% of the total area of St. John. The distribution of wet and dry forest types is assumed to be fairly close to the original pattern of plant cover due largely to the fact that two-thirds of St. John is now part of the Virgin Islands National Park, with a hope that as much as three-fourths of the Island may eventually enjoy Park protection if remaining inholdings can be purchased.

Because of the wide differences in rainfall, soil and exposure, St. John's vegetational variety is astonishing for such a small area.

There are four principal types of forest: (1) **MOIST FOREST AREAS;** (2) **DRY FOREST AREAS;** (3) **CACTUS WOODLANDS;** and (4) **MAN-GROVE SWAMPS.**

MOIST FOREST AREAS are found along the North Shore from Hawk's Nest to Cinnamon Bay, along Centerline Road from Adrian to Bordeaux, and in the upper Reef Bay Valley. In these moist forests, more than 100 varieties of native and naturalized woody plants thrive, including such easily identified trees as the Bay Rum tree, the Teyer Palm, and the Mango. (See Plant Check List for other trees.)



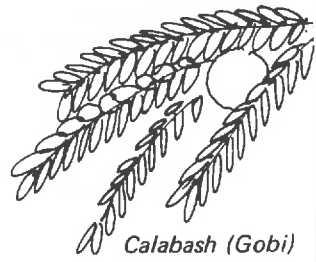
"My father planted these bay rum trees!" The late Robert Stevens, better known as Mr. Rellis, shows E.S.P. students bay rum trees near the Reef Bay trail planted more than 100 years ago.



Will it rain?



Noble Samuel of the National Park Service has taught Presidents and students of all ages how St. Johnians live in harmony with nature. He shows here how he used to trap the alien and undesirable mongoose with a string and a branch. After introducing the mongoose in the 1890's, the Danes realized their mistake and offered a bounty of 25¢ for each female mongoose.



Calabash (Gobi)

DRY FOREST AREAS are found in lower more exposed portions of St. John's southern and eastern slopes. Plants typical of these areas are the Turpentine Tree, the Wild Frangipani, the Calabash and Wild Tamarind.

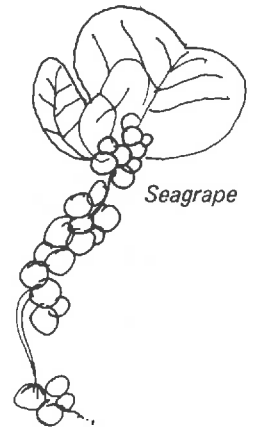
CACTUS WOODLANDS include such areas as the Salt Pond Environmental Study Area. Plants common to these arid areas are the Century Plant, which is not a cactus, and four common cacti, the Dildo, which looks something like a Joshua Tree, and is easy to spot with its pipe organ structure, the Barrel Cactus (Turk's Cap, Pope's Head) and the prickly pears (Opuntias) can be found around salt ponds and on rocky, windswept coastlines.

Mangrove Swamps and Beach Vegetation feature plants adapted to a salt water habitat such as Seagrape, Haiti-haiti, Red Mangroves, Buttonwoods, and others.

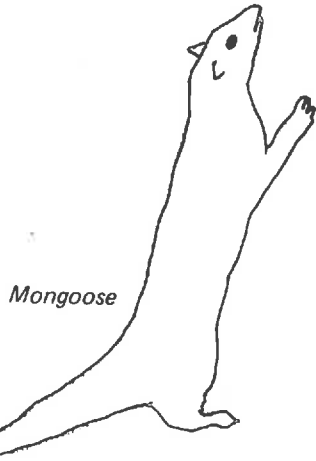
11. INTERESTING FAUNA include insects, people, bats, lizards, birds:

Animal life on St. John ranges from the minute but hyperactive sandfly, estimated in the millions, to the people, less than 5,000 in 1979. Mammals of interest include Mother Mongoose, an alien mammal introduced at the close of the last century to control rats, (not snakes) but this she failed to do. Furthermore, since St. John has no natural predators like cobras to keep the mongoose population in check, that population has exploded like rabbits in Australia.

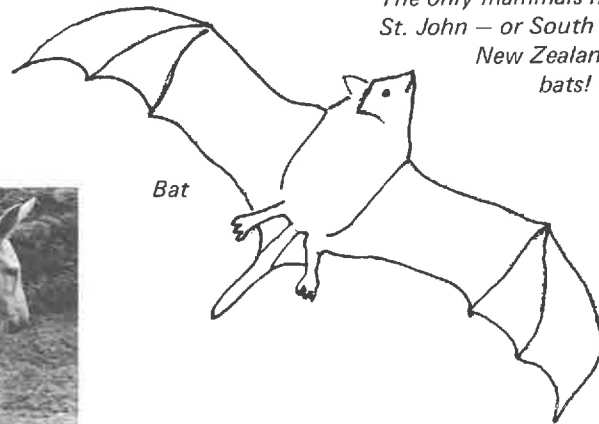
Goats grazing over large portions of the Island do provide meat (very few milk goats), but unfenced and foraging in private gardens and within the Park, goats destroy much valuable vegetation.* Donkeys since the 1950's, have been almost totally replaced by jeeps and cars. Sheep, cows and pigs are raised in modest number.



Seagrape

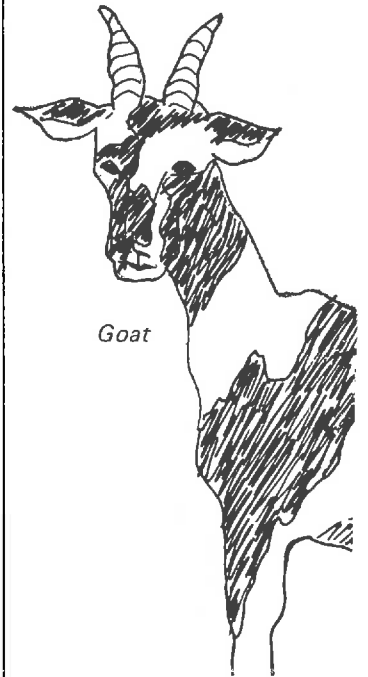


Mongoose



Bat

The only mammals native to St. John — or South Island, New Zealand — are bats!



Goat



The only mammals native to St. John are six species of bats! These bats are of far greater interest and importance than most of us realize. The Cave Bat (*Brachyphylla cavernum*), for example, is the pollinator for our Calabash trees, Poor Man's Orchid trees (Bauhinias), and Silk Cotton or Kapok trees. The Mastiff Bat (*Molossus molossus*), which is the common house bat, likes to hang under galvanized eaves. Scientists would like to know how these bats adapt to the very high temperatures experienced under eaves. Bat-Man has much to teach a Man-on-the-Moon! The other native bats are the Fish-eating Bat (*Noctilio leporinus*), the Fruit-eating Bat (*Artibeus jamaicensis*) who eats mespel apples, genips, etc., the Free-Tail Bat (*Tadarida brasiliensis*) who eats insects, and the Red Fig-eating Bat (*Stenoderma rufum*).

*It is interesting to note that goats were introduced to Venezuela during the 1950's as a means of supplementing the local diet with needed protein. However, the Venezuelan government has banned the goat because of his destructive impact on vegetation, including the fruit and vegetable supply of the land, according to Mahamad Hanif, Director of the Caribbean Conservation Association.

REPTILES: (chiefly Lizards)

On St. John, you are certain to notice lizards, including any, or perhaps all of the following six species. Three are members of the genus *Anolis*. *Anolis cristatellus*, sometimes called the Man Lizard, is the most common lizard on St. John. All male lizards have dewlaps which they inflate while they do push-ups, not for sexual attraction, but as a sign of territoriality. A male *Anolis* allows only one, two or three females in this territory. If another male comes by, there is a fight. You can identify *Anolis cristatellus* by his dragon-like tail. The female has a yellow stripe down her tannish, greenish body, and, of course, no dewlap. But females, like males, fight to defend their territory.

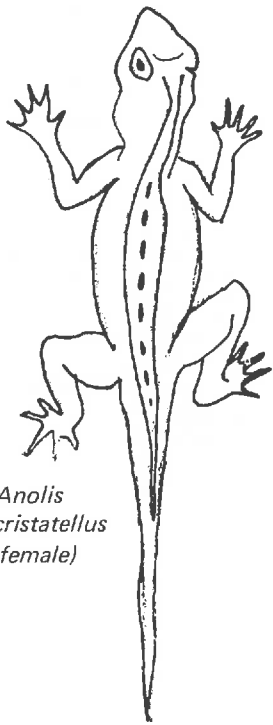
Anolis stratulus can be identified by the four black dots on its back and a salmon-colored dewlap with yellow border on the male. *Anolis pulchellus*, sometimes called the Snake Lizard, has a crimson dewlap. The Anoles lizards all change both color and pattern dramatically for emotional reasons (lizards blush!) All Anoles lay one egg, two or three times a year.

The lidless lizards known as Geckos have two representatives on St. John. The whitish, pinkish, plump "Wood Slave" or Night Lizard, is *Hemidactylus mabouia*. Wood Slaves, according to George Seaman, were probably introduced accidentally by Congo slave-dealers. Wood Slaves lay 6 to 8 eggs at a time, often behind books on a bookcase. The other Gecko is the Money Lizard, *Sphaerodactylus macrolepis*. This Gecko is diurnal, black or dark brown, 2 to 2½ inches long. (Touch her for money according to local legend; a light touch is best!)

The large scaly Ground Lizard is *Ameiva exul* which may survive best where there are fewer mongooses. Lizards, along with many local birds and bats help keep the insect population under control if we don't interfere. However, mongooses, cats, and pesticides all destroy lizards. Left alone, lizards eat roaches, crickets, ants, scorpions, spiders, grasshoppers, insect larvae, worms, mosquitoes, and, as a gourmet treat, small land snail, shells included. Lizards do not eat red cinch bugs, green stink bugs, or Jackspaniards. (Golden Orb Spiders will eat Jackspaniards.)

Besides this protein-insect diet, lizards eat bread, cake, spaghetti and anything else handy, including, on occasion, hummingbird eggs which closely resemble a lizard's own eggs. It takes approximately 2 hours for a male *Anolis* to shed his skin which he eats as the tissue-thin skin peels off, like human sunburn.

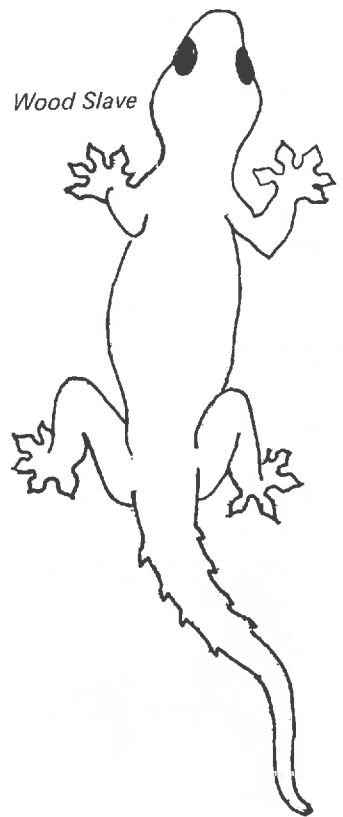
In addition to the six species of lizards noted, there are few, very few, Common Iguanas on St. John.



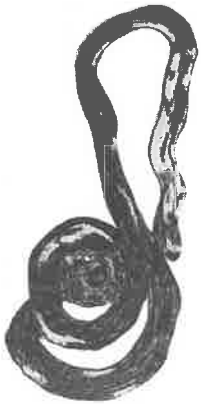
Anolis cristatellus
(female)



Anolis stratulus



Wood Slave



Blind Snake or Footless Lizard
Typhlops richardii
Found at Caneel Bay by
Dahven White, 1972



Anolis cristatellus (male)

Photo courtesy of Alex Bermudez

NIGHT MUSIC

by Alma

Stray dogs howling, bush cats crying,
Fowl cocks crowing, cool wind blowing,
Soldier crabs crawling through the guinea grass,
Land crabs scuttling from their muddy holes,
Bo-peeps* chirping in the Mampoo trees
Someone's voice and feet along the road . . .
Then it is quiet – and
I imagine I can hear the stars twinkling.



"I imagine I can hear the stars twinkling."

Photo courtesy of Alex Bermudez

In a manner of speaking and whispering, St. John is still the quiet Virgin Island.

In 1960, when St. John was quieter still, an 8th Grade student and her friends composed this poem during a few moments of an English class.

*Tree frogs. Either *Eleutherodactylus antillensis* or *portoricensis*.

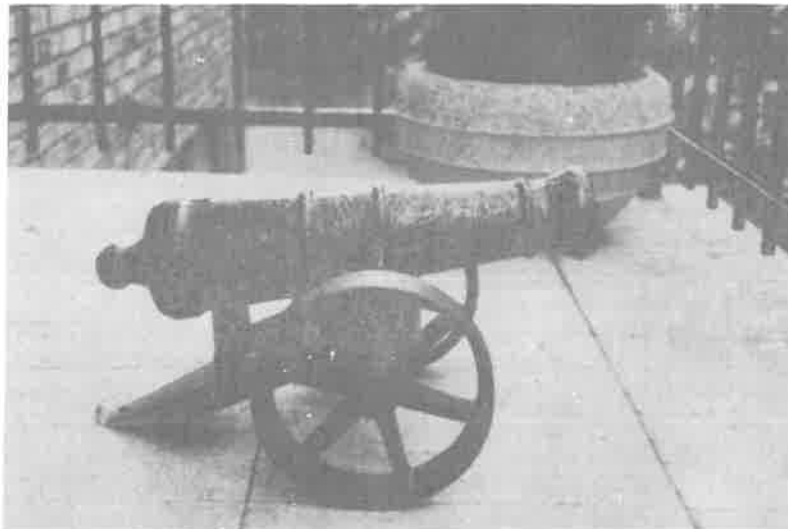
Caneel Bay Plantation

A Revolution, a Resort, and a Lignumvitae Legacy

The first freedom fight in the Caribbean took place on St. John (St. Jan) in November, 1733. Slaves under the leadership of former African royalty rebelled at Fortberg in Coral Bay. The rebellion almost succeeded and would have but for the intervention of French troops from Martinique who came to the aid of the Danes at Pieter Duurloo's plantation, now Caneel Bay.

National Park Cultural Historian Lito Valls calls the St. John slave rebellion "one of the most important slave insurrections in the world. It had the distinction of being well-organized, well-armed and long lasting. Within 24 hours, King Juni, one of the leaders of the rebellion, laid siege to Duurloo's plantation. Behind Juni and other leaders of the rebellion lay a fallen fort, devastated and deserted plantations, and not one living white person. To take Duurloo's plantation situated on a large cape was to assure victory.

"Under the leadership of Capt. Beverhoudt, however, the whites evacuated all surviving children, women and most of the creole slaves to the Duurloo cays. The remaining planters and slaves loyal to them holed up against the imminent attack by King Juni. When the attack came, armed with two cannons and no cannonballs, the Danes responded by firing off nails and other metal scraps. The rebels, however, were more demoralized by the fact that some of the slaves had remained loyal and were indeed fighting against the rebels and by the killing of Rev. Gronwald of the Dutch Reformed Church than by the cannonade. The rebels retreated to the bush overlooking the bay.



Pieter Duurloo's cannon,
found in Denmark.

"It was from this vantage point the following morning that King Juni and his troops saw the arrival of reinforcements for the Danes from St. Thomas. Juni did not know it then, but this was the beginning of the end."

* * *

Land use and ownership of what is today Caneel Bay Plantation has been summarized as follows by Lito Valls.

1) Around 1721, Pieter Duurloo occupied plantation number 18 on the northwest end of St. John. This included Hawk's Cape. The plantation was tax-free until 1728. Living there were "an overseer, 60 good slaves, 11 makroon (disabled) slaves, 5 head negro girls, 6 children and small boys." The Duurloo family appears to have held on to this plantation for most of the 18th century.

2) In 1835, William H. Ruan of St. Croix and J.R. Sempill are listed as owners of *Klein Caneel* or *Little Cinnamon* so called to distinguish it from *Store Caneel* or *Big Cinnamon* which today is Cinnamon Bay campground. After 1867, the only operational sugar plantations were Klein Caneel (Caneel Bay), Adrian, Parforce at Reef Bay, and Hammer Farm.

3) In 1898, "the Delinois family of St. Thomas bought K.C. together with lands, buildings, and six cows of which one was blind let it be known for the record." (!) In 1909, Abram Smith, a protege of St. Thomas merchant Antonio deLugo L, bought Caneel Bay from the Delinois family.

4) In 1936, Abram's place, or K.C. Bay, was sold to the Danish West Indies Company subsidiary, the V.I. Tourist Company, which cleared 250 acres and planted guinea grass, 2,000 coconut plants, 3,000 banana slips, mango and other fruit and ornamental trees. (Caneel visitors will note the old mango behind the plant nursery.)

In February, 1936, an early visitor to Caneel, coming over from Tortola, was Mrs. Winston Churchill.

5) In 1946, the prominent Trigo family of Puerto Rico (owners of Caribair) bought Caneel Bay.

6) In 1952, Laurance S. Rockefeller purchased Caneel, developed the property, and donated it to Jackson Hole Preserve, Inc., a non-profit conservation oriented organization funded by the Rockefeller family.

7) Between 1955 and 1956, the Rockefellers paid approximately \$1,000,000 for 5,000 acres on St. John, given to create the V.I. National Park, dedicated on December 1, 1956. In 1984 most of Caneel Bay land was turned over to the Virgin Islands National Park. Rock Resorts turns over the rights of operation for the hotel to the Park in 40 years.

8) In 1984, Caneel Bay employed some 450 persons, the majority of whom are West Indian. The hotel accommodates some 348 guests. As a Rock Resort, Caneel Bay has consistently demonstrated how well a resort complex can be designed and operated in total harmony with the natural and historic environment Caneel occupies. This indeed is the kind of careful and caring development that brings so many tourists to St. John. Laurance Rockefeller modestly but masterfully has shown that careful planning benefits our local population in many ways.

* * *

Photo Ray Pfortner, NYC



Lito Valls, National Park Cultural Historian, is author of "What a Pistarckle!," "Old Time Sayin's" and "St. John Backtime." Mr. Valls researched the material on Caneel Bay for this edition.

And how does the lignumvitae legacy relate to this history of 18th century revolution and a 20th century resort at Caneel Bay?

In 1957, Ivan Jadan, working in the plant nursery at Caneel Bay, began planting seeds of the almost extinct lignumvitae tree (See Plant Check List, page 57). Jadan's efforts amused his co-workers. They claimed that neither he nor they would ever live to see those lignumvitae trees bloom! Since the legendary lignumvitae has such deep roots, hard wood, and slow growth, no one thought the trees Jadan planted would bloom any time soon. Happily they were wrong!

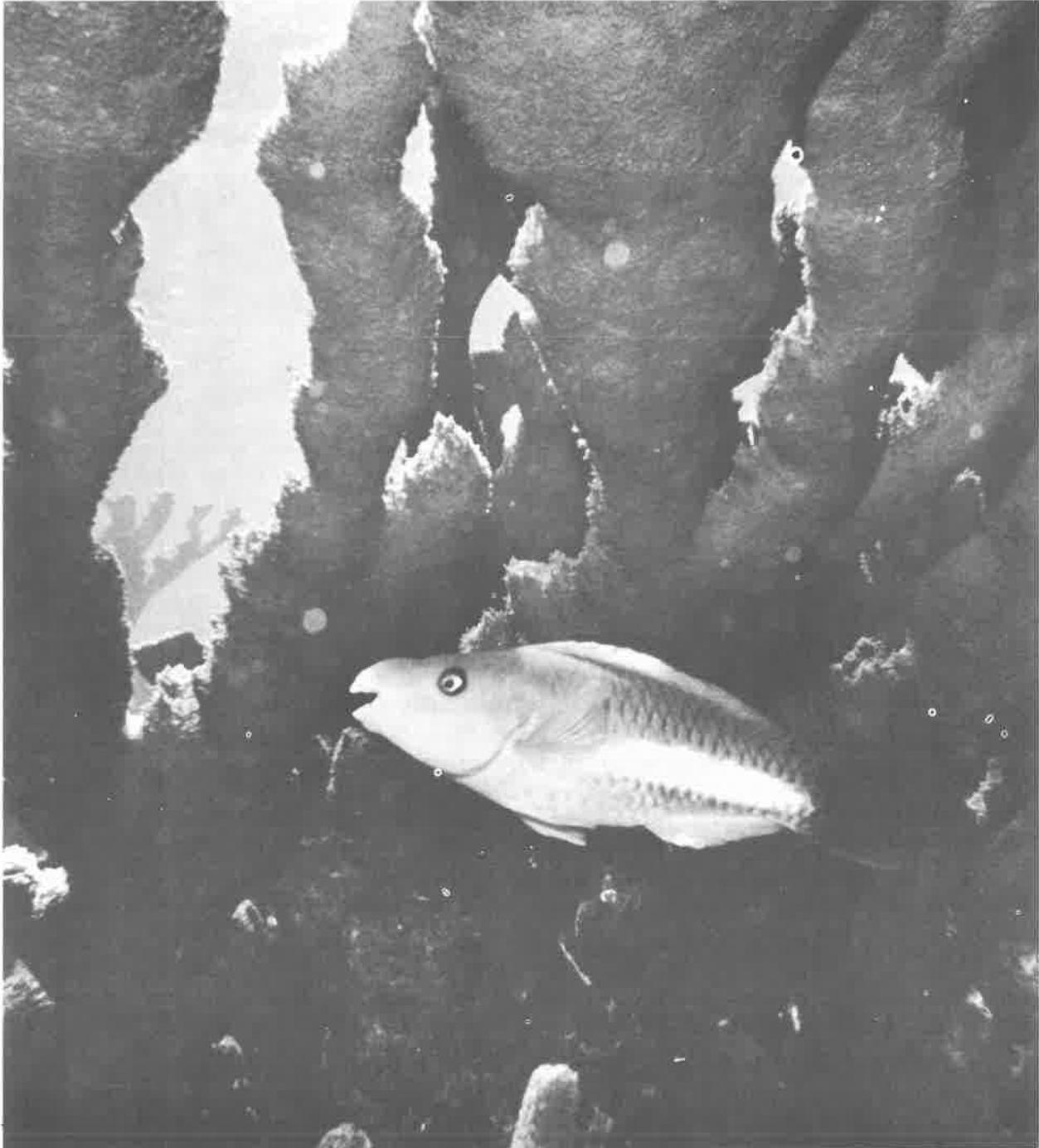
You see in the picture on this page Ivan Jadan at age 82 in 1984, standing beside one of many eloquent lignumvitae trees he planted at Caneel Bay in the late 1950's. With tap roots once again deep in St. John soil, these lignumvitae trees bind together the past and the present with the promising blooms of St. John's future.*

**According to Steve Edwards of the St. John Historical Society, there is standing today an ancient, twisted lignumvitae tree on windswept Ram Head, a tree where author John Anderson, "Night of the Silent Drums," Scribners, 1975, believes the slave leaders of the 1733-34 rebellion committed suicide rather than surrender to the French.*

Ivan Jadan touches a lignumvitae that grew from seeds he planted at Caneel Bay in the 1950's. Jadan, former Premier Lyric Tenor at The Bolshoi Theatre in Moscow, escaped from the Soviet Union in World War II and has lived on St. John since 1955. Human freedom and natural beauty on St. John are something Jadan can sing about!



Salt Pond Bay



A Goutu or Parrotfish at Salt Pond Bay

Photo courtesy of National Park Service

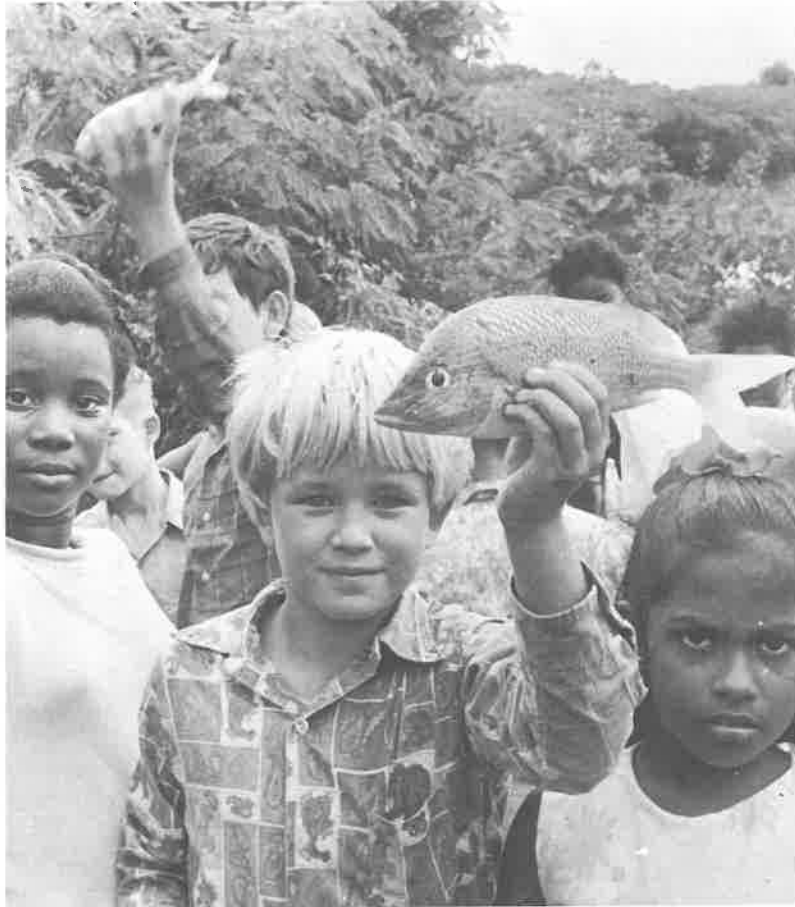


Photo courtesy of The Daily News of the Virgin Islands

A French Grunt that really does grunt! St. John fisherman, Gladstone Matthias, shares some of the colorful, grunting fish from his fish pot at Salt Pond Bay with pupils from Sibilly School in St. Thomas.

INTRODUCTION TO THE SALT POND BAY

SALT POND BAY is also called CONCORDIA BAY. "Concordia" means "of the same heart" or "of the same mind." Hearts together.

The concord of undisturbed ecosystems and the logic of ecology presuppose a concord based on human hearts that do beat together.

Such CONCORDIA makes possible the human recognition of all the unlikely relationships and interdependencies of birds, fish and man with thorns, spines and poison, with wind, sand, and salt.

Children can see how the spines of the Dildo cactus help it to adapt to its arid environs. Children can pick the fuchsia fruits of the Pope's Head cactus to eat. They can be careful to step around the long black spines of a sea egg. Children, and occasionally adults, can learn that man is *not* obliged to conquer nature, but to respect it, even when it is uncomfortable, inconvenient, or in his way.

The fact that Ram Head, the eastern arm of Concordia Bay, is St. John's most ancient rock lends the weight of more than one hundred million years of authority to concepts of an environmental ethic based on Concordia.

How a salt pond makes salt, how a cactus stores water, how far from afar reaches whelks on the rocks of Drunk Bay, these are episodes of environmental concord – and discord – on a few arid acres from Salt Pond Bay to Drunk Bay.

HELLO, DILDO! This cactus is commonly called a Dildo or Pipe Organ cactus (*Cephalocereus royenii*). The Dildo grows to a height of 6-20 feet and this Cactus Woodland has many.

ESA strands that can be developed here include *adaptation*: the adaptation of cacti to drought. The Dildo cactus stores water for long periods of drought. Its shallow, spreading root system collects every drop of rain that falls. The thick skin of the Dildo trunk slows evaporation. Having adapted its leaves to drought by growing needles instead of leaves, the cactus is able to slow down evaporation. An excellent example of plant *adaptation* to a difficult environment, the cactus is the camel of the plant family.

The ESA strand of *interaction* and *interdependence* can be shown in the use of thorns as built-in nails for the Yellow breasts, Sparrows and doves whose nests are supported and stuck together with the Dildo's spines. The spines which prevent children from climbing a cactus serve to protect the baby birds from thrushes and bush cats that might otherwise get into the nest.

Other cacti in this ESA include the Opuntia across the trail from the Dildo and the Pope's Head (*Cactus intortus*) on the trail to Drunk Bay and on the flat hilltop left of Drunk Bay. The Pope's Head supplies birds and people with a beautiful fuchsia-colored fruit. Students may be surprised to learn that fishermen cut off pieces of the Dildo to use as bait in their fishtraps. And in the Dutch islands of Aruba, Bonaire and Curacao, cactus is okra!

Dildo, minus thorns, is used in the seafood gumbo called Cadushi. The fruit of the Prickly Pear, not seen here, but along the beach in Cruz Bay, is used to make the drink known as a "Miss Blyden."

MARAN BUSH, one of the most widely distributed plants in dry areas of all Virgin Islands is also one of the most widely useful plants. Fuzzy leaves of Maran will effectively scour any burnt or greasy's pot. Maran, unlike Brillo, does not rust or drive small wires under the dishwasher's fingernails. And when you throw it out, the leaves are biodegradable. Maran Bush, like Pistaracle found further around the Salt Pond, makes a fine broom bush to sweep a house or yard. In years past, St. Johnians scrubbed wooden floors clean with Maran Bush.

Does your dog have fleas? Let sleeping dogs lie on a bed of Maran Bush and the fleas will depart. Do sandflies trouble you? St. Johnians from East End recommend that you throw Maran Bush on a campfire; the smoke will drive away sandflies. Children say that chewing the stems of Maran Bush will relieve a toothache quite as effectively as chewing Oil of Cloves.

One of the most interesting medicinal uses of Maran Bush is described by Mrs. Geneveva Marsh of Coral Bay who tells how Dr. Hugo Foster used Maran Bush some years ago. Dr. Foster, who was minister of the Emmaus Moravian Church during the last years of the last century, used Maran oil or gum from rain-fattened Maran Bush to help heal cuts. (Ministers in earlier times on St. John ministered to the physical needs of their parishioners as well as their spiritual needs because St. John had no resident physicians until 1955.) Mrs. Marsh, like many other Virgin Islanders, believes that Maran Bush and other bush medicines should be investigated. Dr. Foster, whose ghost is reputed to haunt the Moravian Mission, might be well-pleased at last to see his favorite remedy put to use again.

NICKERS (*Guilandia crista*) The silvery seeds in the thorny Nicker Tree pods look like bird eggs in a nest. The nickers are also called "nickels" or "scorchers." Children sometime call this the "Money Tree" – but don't bank on it! Be careful in walking near the tree because of sand-spurs or sand burrs – *Cenchrus echinatus* on the beach grass. Sap of the Nicker bush is poisonous. The Nickers can be rubbed and then used to "scorch" playmates. In West Africa, Nicker Beans from the Kalahari Desert are used in games like checkers.



Pope's Head cactus behind the salt pond.



Mrs. Geneveva Marsh of Coral Bay tells how Maran Bush heals cuts.

Nickers or "Scorchers" shown here can be roasted with the seeds of "Stinking Weed" to make a medicinal coffee used to draw off excess water from the tissues, Mrs. Mary Liverpool of St. Kitts tells pupils in the Environmental Studies Program on a visit to Salt Pond Bay.

Photo courtesy of
The Daily News of the Virgin Islands



Nothing Nut or Wild Nutmeg (*Elaeodendrum xylocarpum*) The small orange fruits that can be seen in spring and summer don't look much like nutmeg and they taste even less like it.



Water in a cactus canteen!



Kids on the rocks at Drunk Bay.

As you start along the trail to Ram Head, note sand crabs, sea urchins, nerites and limpets. Marker indicates aromatic *Wild Thyme*. The leaf is used in cooking and locally, for tea. Pick but *one* leaf for everyone to smell. The purple flowers on this plant look like the Purple Lantana growing around Salt Pond, but here is a good spot to use the Strand of *similarities* and *differences*. The same strand helps in studying differences between the Nerites and Baby Whelks (West Indian Topshell). The shells are different if you look closely; and the red spots inside the Nerite make the name of "Bleeding Tooth" appropriate.

Note broken conch and whelk shells. Why does the Park limit collection of conches and whelks? Why are such limitations desirable even outside Park boundaries?

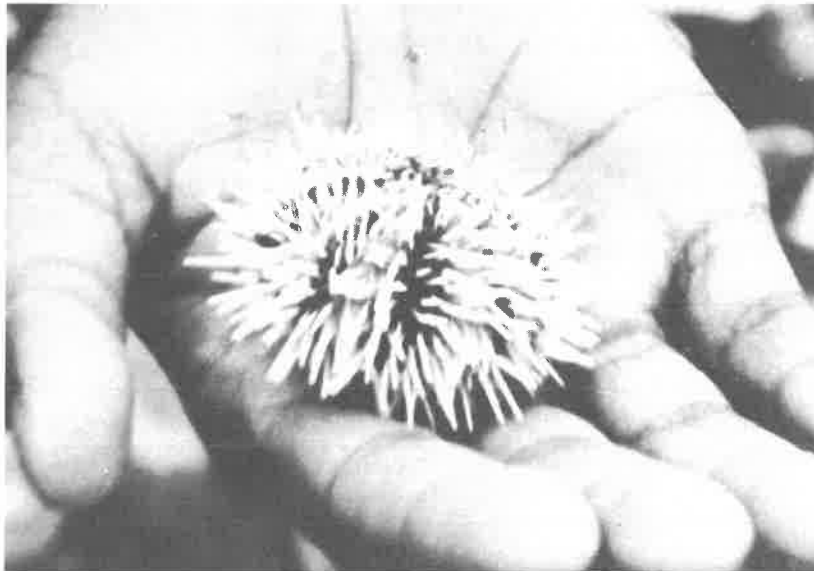
SEA EGGS – What good is a sea egg? Baby fish swim safely between its spines, protected from larger hungry fish. Why not smash all these sea eggs so people won't have to worry about stepping on them?

Why not walk around them instead? This was the advice of former Vice-President Hubert Humphrey even after he had stepped on sea eggs at Caneel and someone suggested clearing them all away.

Sea Urchins in the sea; *Poisonash* on the land. Some *Sea Egg* shells on the beach may still have the white inside bony part known as "Aristotle's Lantern" which helps the urchin scrape algae from the rocks. Urchins feed on detritus and algae. They are not usually a problem where there is only pure sandy beach, preferring rocks where they can find food.

Poisonash looks like holly, but it isn't! Usually the tips of some of the sharp pointed leaves are orange-red to warn you not to touch. Many persons get a severe rash from contact with this plant. Learn to recognize it. Since St. John has very few poisonous plants and no poisonous snakes, it is easier to avoid trouble in our outdoor classrooms than in any other ESA's in National Parks.

Photo courtesy of The Daily News of the Virgin Islands



What good is a sea egg? Baby fishes protected from predators by the long spines can answer that question.

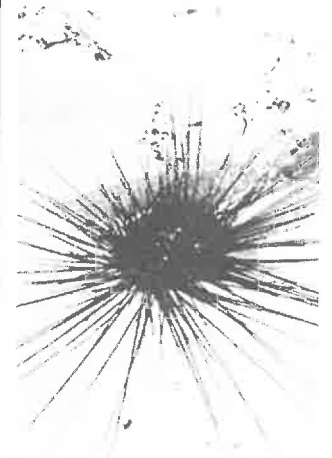


Photo courtesy of The Daily News of the Virgin Islands

The short white spines of this sea egg do not "choke" or stick. This sea egg is a tasty food, but rarely eaten in the Virgin Islands, although it is considered a delicacy down-Island.



Photo courtesy of The Daily News of the Virgin Islands

Meg smells the Wild Thyme used as a bush tea and as a seasoning.

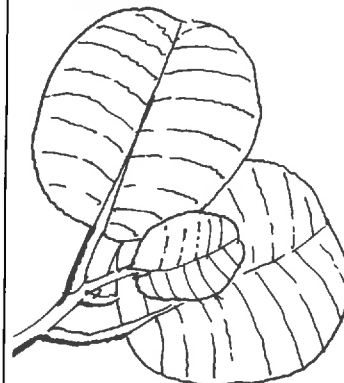
"Plant Wild Thyme by the garbage pan, "ESP pupils recommend, "and the garbage won't smell so stink!" Wild Thyme is also one of the plants fishermen use to bait their traps.

CORAL, Dead or Alive. You may collect coral pieces along the shore. These are skeletons of the living coral reefs. Why are so many pieces gray or black? (The same thing will be noticed at Drunk Bay.) Notice that the closer coral pieces are to salt water, the whiter they are. To stay white, coral may need both sun and salt water, but no studies on this have been made. Questions like this may be answered as a result of the research activities at the Caribbean Research Institute at the College of the Virgin Islands. The gray color may be due to algae.

This is a good place to discuss the *interdependency* of marine life forms and the health of the coral reef where many fishes and lobsters spend the early days of their lives. When reefs are destroyed by dredging and blasting, as they have been at Great Cruz Bay, man creates an underwater Sahara. The "fines," or suspended fine particles from the dredging, cut off the sunlight necessary for the coral polyps to keep up photosynthesis. Sand and silt cover and choke the reefs. Fresh water runoff in developed, paved areas plus silt from bulldozed hillsides help destroy reef resources that benefit man and fish alike when these marine ecosystems are respected.

Water Mampoo (*Pisonia subcordata*) The leaf of this mampoo is large and nearly round. A good lesson in the *strand of patterns* might be to compare leaves of different mampoo, leaves of Moist Forest plants and of Dry Cactus Woodland areas like Salt Pond (see Plant Check List).

Sea Birds – You may see Laughing Gulls and Brown Boobies (see Bird Check List).



Water Mampoo



THE SALT POND – The salty foam on the muddy southeastern shore of the Salt Pond looks like detergent. Taste the salt!

What are the environmental requirements for a pond to be a salt-producing pond?

(1) The pond must be supplied with seawater that does not flow out. (This pond, which is a foot below sea level, gets underground seawater, but the pond water does not flow back into the sea. Normal sea salinity is greatly concentrated.)

(2) To produce salt, the pond must be exposed to strong steady winds to assist in evaporation. Prevailing strong easterly trade winds of 30 mph most of the year speed up evaporation here for a salt harvest in the summer if there hasn't been too much rain.

(3) A pond producing salt must, therefore, be located in an arid area like this.

The sea holds enough salt to pave the whole earth with a layer 500 feet thick!

A March, 1968, study by the Amherst Geological Expedition says this salt pond has probably been a low place for many millions of years. In relatively recent times, Salt Pond was either an arm of Salt Pond Bay or a channel. Ram Head may therefore have been an island once upon a geologic time. The coral scraps like the brain coral near the marker are remnants of old reefs and are found in the pond at a depth of two to three feet.

"It looks like Fab, but it tastes like salt!" These Sprauve School students have one answer to questions about the Salt Pond on the tips of their tongues.

Photo courtesy of
The Daily News of the Virgin Islands

Why is the pond reddish brown? The red is due to algae, like those that redden the Red Sea. Below the top red algal mat is sand, and below the sand are dark sulphurous-smelling old red algal mats. The red carpet treatment at Salt Pond is an old story! As the floor of the pond builds up, sedimentation will ultimately stop the salt water seepage from Drunk Bay, and the salt pond will cease to produce salt. The strand of *continuity* and *change* is in a geological context here.

WHAT GOOD IS SEA SALT? — Sea salt has traces of every mineral from gold to uranium, including iodine which disinfects the salt here even if we step in the edge of the pond. If we use sea salt, we can meet all of our body's mineral needs, many scientists believe. And besides, sea salt tastes better. French cooks value sea salt highly. Salt from the English Channel, in 1971, sells for \$1.98 a pound. And most of us in the Virgin Islands buy salt at the supermarket for 11 cents a pound. Maybe there is a student who would like to start a business selling V.I. salt? Salt from this pond in the Park cannot be sold, but there are many salt ponds in the BVI.

SEA PURSLANE
(*Portulaca oleraceae*)

"This Sea Purslane tastes very nice with boiled egg!" Brenda has discovered. The salty, succulent leaves take the place of lettuce and salt in egg salad with mayonnaise and sweet pickles.

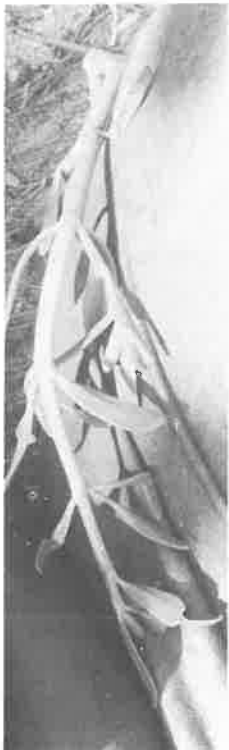


Photo courtesy of The Daily News of the Virgin Islands

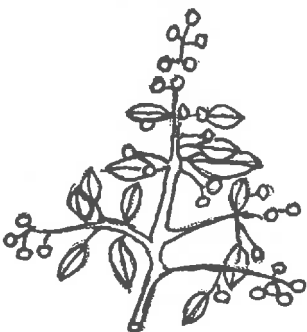
GROUND COVER along the beaches is as important as ground cover on hillsides in controlling erosion. Stripping beaches of their natural vegetation is unwise. Examples of hearty beach plants adapted to drought, wind and salt found at Salt Pond Bay include: --

(1) **SEA PURSLANE.** The salty, juicy leaves make an excellent addition to an egg salad. Sea Purslane may be the toughest of all beach plants since CRI scientists found this to be the only vegetation of any kind on Aves Island, the turtle-breeding island 175 miles south of St. Croix.

(2) **SEASIDE LAVENDAR,** an upright plant with a smaller purple flower and greenish-gray, small thick leaves. (Salt Pond Bay)

(3) **BAY BEAN VINE,** a purple blossom, blooms in October and November (pea-type flower). It is thought to be the first land plant seen by Columbus on San Salvador.

This **BUTTONWOOD TREE** has quarter-inch "buttons" on it most of the year. This is the only mangrove with alternate leaves.



Buttonwood Mangrove

"You are Columbus!" is the name of a 9 minute color documentary filmed by Walter Lewisohn about this boy and his classmates at the Salt Pond Bay Environmental Study Area.



Photo courtesy of The Daily News of the Virgin Islands

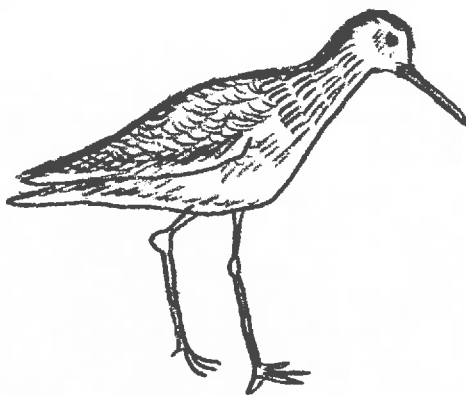
There are four species of Mangroves found on brackish, silty seashores:

- (1) The Buttonwood or Button-Mangrove
Combretum family – *Conocarpus erectus*
- (2) White Mangrove
Combretum family – *Languncularia racemosa*
- (3) Red Mangrove (see Plant Check List)
Rhizophoraceae family – *Rhizophora mangle*

This is the mangrove most often seen. The roots or radicals are fast-growing. The red mangrove "builds" new land by holding mud and detritus. Its roots are home for the delectable and vanishing mangrove oyster.

- (4) Black Mangrove
Verbena family – *Avicennia nitida*

BIRDS – The sandpipers here are able to wade in shallow water a few inches deep. They feed on insects, worms, and small crustaceans you can see along the smorgasbord at the edge of Salt Pond when the Pond is low.



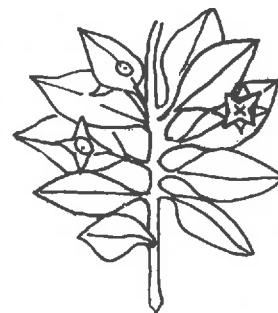
Allow at least 30 minutes to explore this stone beach at Drunk Bay. It will take about 15 years of grinding wave action to turn some of these stones to sand. (Leonard Engel, *The Sea*, Life Library)

SAND FORMATION – Most of the sand in the world is made from the grinding of stones, especially quartz.

In Hawaii and also in St. Vincent there are black beaches of volcanic sand.



Photo courtesy of The Daily News of the Virgin Islands



Red Mangrove



White Mangrove

"Junk Bay or Drunk Bay?" Students discover how much plastic junk has washed ashore at Drunk Bay from other islands and from garbage dumped from boats of every kind. Raising the standard of living has increased the amount of solid waste on St. John in recent years. However, on a pounds per capita basis, the amount of St. John garbage is still well below that on the U.S. mainland. These students recycle plastic bottles by using them instead of no-return bottles and cans for their drinks on field trips.

In the V.I. most of our sand is coral sand. Parrot fishes browsing on the coral reefs help produce sand. So do storms that break up coral. Storms and ground-seas transport sand from one beach to another.

Sand removal by man is another story. It only takes a few hours for trucks to haul off several thousand tons of sand; it may take 400 years, according to Dr. Arthur Dammann of V.I. Department of Conservation, for new sand to be made to take its place!

Finding new sites, offshore, for dredging sand that will not damage reefs or beaches is a top priority matter for the Virgin Islands. Two such areas have been located as of July, 1971; one south of St. John and one south of St. Thomas.

The name *Drunk Bay* possibly derives from the Dutch Creole word "drunken" meaning "drowned." Many people in small boats have doubtless drowned because of waves, wind and rocks here. Drunk Bay suggests the rockbound coast of Maine or the coast of Brittany.

Note that this is *Drunk Bay* and *not Trunk Bay*. When a Joseph Sibilly School 4th grader told his parents about his trip to *Drunk Bay*, the boy's father corrected him, "It was *Trunk Bay*, son. That's where all the tourists go. I'll give you a horse if it was *Drunk Bay*," the father promised, quite sure that he would not have to keep the promise. When the mother checked with the teacher and the National Park Service about the name of the Bay, the boy did receive a horse!



GEOLOGY – Ram Head at the far end of Drunk Bay is probably the oldest rock on St. John. The Amherst Geological Expedition says Ram Head spilites (rock extrusions) are some of the oldest flows of Water Island Formation, dating from the Lower Cretaceous Period, over 90 million years ago. (The age of the oldest rocks dated anywhere on earth is 3 billion 500 million years old; moon rocks are estimated to be 4 billion 500 million years old.)

Students collecting rocks may be interested to learn that, unlike people, young rocks are rough and wrinkled. Smooth rocks, smooth like young faces, are the oldest ones.

METEOROLOGY – Trade winds here are blowing at 30 mph almost all year round. A sparrow hawk or Killi-killi Bird flying overhead can face the wind here and make no headway, remaining suspended in space for minutes on end.

*Sparrow Hawk
or Killi-killi
Bird at rest.*

*Photo courtesy of
Robert Pfeiffer*



COLLECTING – Notice the kinds of flotsam and jetsam and speculate on origins and former owners and uses. Wood with copper nails may be from pieces of boats all the way from Bequia, northern-most of the Grenadines, where shipwrights still use copper nails for whaling boats. Dry sea fans were once used to whip eggs or sift cassava meal.



Dried sea fans like the one Nealia holds are used for sifting Cassava meal to make Cassava Bread and also to sift weevils from ordinary flour! Small dried sea whips were once used as egg beaters. Pupils in the Environmental Studies Program learn how resourceful their grandparents were in using St. John's natural resources.

Photo courtesy of The Daily News of the Virgin Islands

Note the large amount of plastic! Note the slow destruction of plastic materials and the problem of plastic and aluminium containers. The need for *bio-degradable* materials to reduce our Island and world dump heaps must be stressed.

Is Drunk Bay really JUNK Bay?

The small beaded *Periwinkles* are *Tectarius muricatus* – (some Virgin Islanders make a tasty broth from these).

The Bamboo poles are generally broken fish pot markers.

SEEDS – Coconuts, manchineel, locust, almonds, horse eyes, and seeds from other islands can be collected. (Why don't coconuts drifting here live to be trees?) The almonds can be pounded and eaten. The brown seeds with a black line around the middle are called "Horse Eyes" and are used like Nickers to "scorch" in children's games.

SHELLS – Scotch Bonnets and Cowrie Helmets are fairly common here.

WHELKS – The rocks and wave action make this a good home for whelks. But the tar is potentially poisonous to them and us. (cf. Marker 13)

View facing East. Small cay is Le Duck, also known as Buck (St. Thomas, St. Croix, and St. John each have their Buck Islands). Beyond Le Duck and to the left (north) is Flanagan Island. Locate the East End of St. John and Tortola beyond. The large island to the east is Norman Island. Waters washing up on Drunk Bay come straight from South America!

Tar from afar is the ugly story written on the tar-stained rocks at Drunk Bay. There was no tar here in the late nineteen fifties. Evidence indicates that this tar may come from an oil refinery at Curacao. NPS Rangers have observed similar tar deposits on the eastern rocky shores of Great St. James and Steven Cay which are exposed to the same ocean currents as Drunk Bay.

Photo courtesy of The Daily News of the Virgin Islands



Edmond Roberts of the National Park Service shows pupils tarred coral and rocks at Drunk Bay. Children learn that the worst effects of oil pollution in the ocean cannot be seen as plainly as this which is only a symptom of the oil that is troubling waters of the world.

In the January 31, 1970, issue of The New Yorker, Dr. Max Blumer, Senior Scientist at Woods Hole states: "A minimum of a million tons (of petroleum products) is spilled, or flushed, or leaked just in transport and port operations each year.

"The ocean is so big and its circulation so broad that it's very likely that pollution of whatever degree is *irreversible*. Four or five hundred years would be required to balance its effects."

The number 13 is a lucky number for this marker if students become interested enough to take the kinds of action necessary to halt this massive pollution of our waters.

WHELKS or "wilks" are West Indian Top Shells, *Cittarium pica*. (Whelks technically are a Florida shell unrelated to our "wilks.")

This highly prized littoral gastropod attains a size of 4 inches, sometimes more, and is second only to the Queen Conch, *Strombus gigas*, in economic importance.

Remind students of legal limit for whelk collectors: 1 gallon per person. This helps prevent depletion if observed. Preliminary plans are being made to cultivate (aquaculture) both whelks and conches. Ask students to consider what kinds of information they would need before starting to grow whelks commercially.

MARINE HABITAT – By observation here at Salt Pond Bay, Drunk Bay, and areas where children may have collected whelks, they can note that whelks prefer rocks in waters where there is some wave action (more of this at Drunk Bay than here). In general, smaller whelks are found higher in the intertidal zone.

FOOD HABITS – Studies indicate whelks feed mainly on blue-green algae (CYANOPHYTA) and other soft algae, but not coarse types such as sargassum. Whelks don't have much competition for the algal food found on the shore.

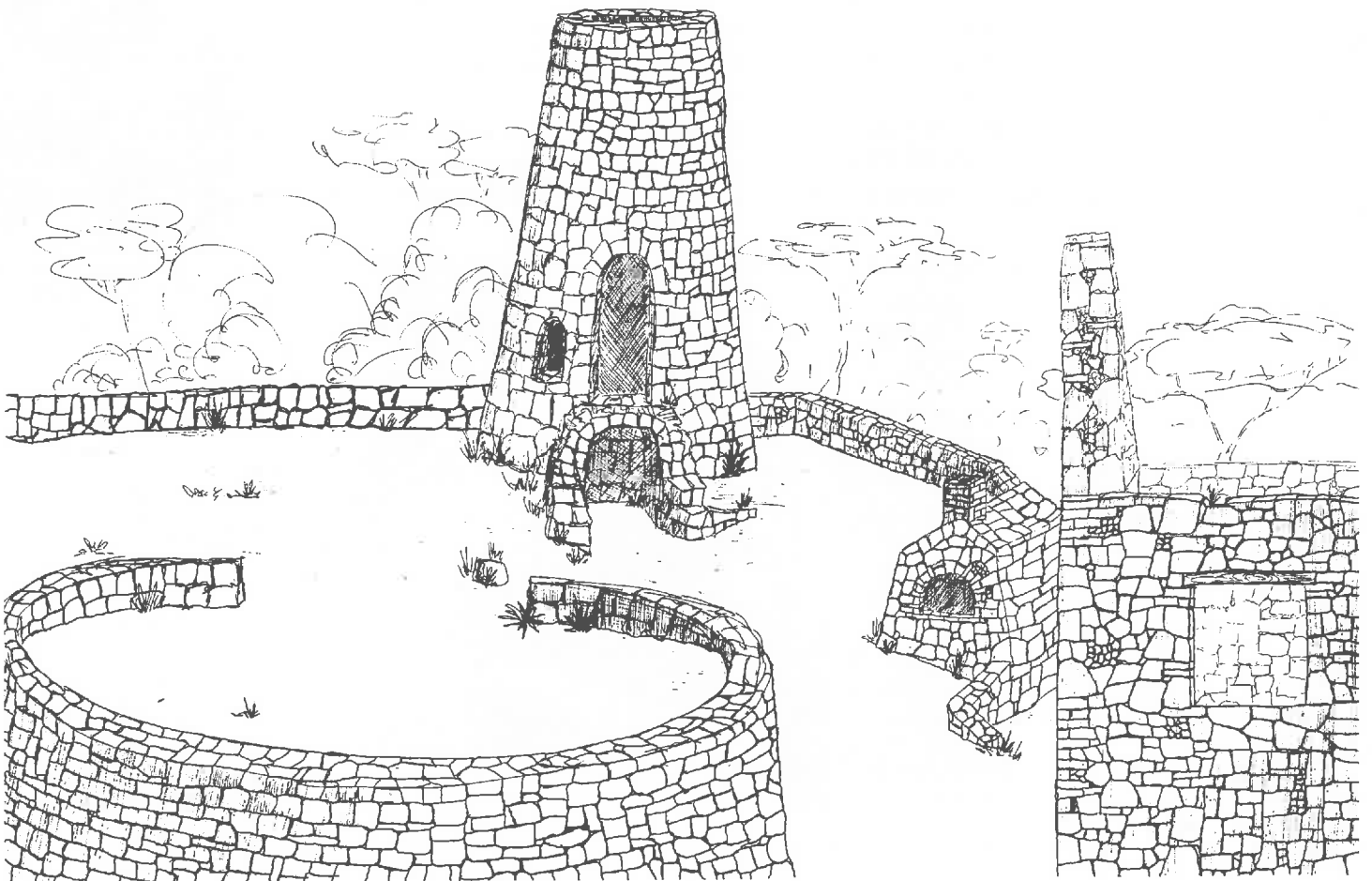


It takes about 20 years for a whelk to grow this big!



"A coral pencil holder for the teacher!" Andre explains.

Annaberg



Larry Pyle

INTRODUCTION TO THE ANNABERG ENVIRONMENT

A trip to Annaberg by boat, along the north shore of St. John, provides an excellent opportunity to compare the topography and shoreline of the north shore of St. John with that of the south shore, seen on route to Salt Pond Bay or returning from Reef Bay. Both sides of St. John have the same V-shaped valleys between steep, green almost uninhabited slopes, with very little land suitable for cultivation. You are likely to lose count of the beautiful sandy beaches between Cruz Bay and Leinster Bay, more than a dozen.

Comparisons of vegetation on north and south sides of St. John prove grass and trees really are greener on the northern slopes. This is true of most Islands in the West Indies. On the way to Annaberg, notice the tall slender Teyer palms at Mary Point which was named after the sweetheart of a 17th century homesick English sailor.

MINNA NEGER GUT, at Mary Point is the Creole name for the steep red stained rocky ravine where slaves of the Amina tribe are supposed to have jumped to their death rather than surrender to the French troops brought in after the Danes failed to suppress the Slave Revolt of 1733-34. According to the legend, the blood of these St. John Freedom Fighters stained the rocks red. Geologically, the red color here, like the red on the rocks at Red Hook, is due to the presence of the mineral hematite; psychologically red is still blood.



Annaberg windmill and big brick oven are framed by window of sugar factory.

WHISTLING CAY – The Danes tried to blow the whistle on smuggling between British islands and the Danish West Indies by maintaining a Customs House on this Cay where the prevailing winds do indeed whistle.

ANNABERG, seen from the waters of Leinster Bay, looks solemn and still. The name, Annaberg, goes back to 1721 when the land was granted to Christopher William Gottschalk who named it after his infant Daughter Anna, according to historian John Anderson. Annaberg first appears on the Oxholm

map surveyed in 1780. There were some 100 plantations in the 18th Century on St. John, but many of them grew cotton, tobacco and indigo instead of sugar. Owners who could afford to do so built sugar factories, and raised cane, but many planters could not afford to do this.

Although Annaberg was built in the 18th Century, the only 18th Century structures still standing are the Slave House at Marker No. 1 and the wall of the Horse Mill, Marker No. 6. All other buildings have either been built or rebuilt during the 19th Century, some of them several times.

While ANNABERG is primarily an historic site where the production of sugar and rum can be studied, the ruins are best approached from the shore by foot. On the right side of the trail, going up, is a large Sandbox Tree also known as a Monkey Pistol Tree (*Hura crepitans*). Note that prickles on this tree are very sharp. If you look along the path going uphill, you may see a few pieces of old Danish porce'ain. Please leave them where you see them! If you'd like to collect old broken china, there are a great many pieces of many different patterns in the sand along the Cruz Bay Beach. Children a generation ago used these bits of blue and white china as play money or "Chaynee".

If you step on any of the many beds of biting ants around the sugar factory at Annaberg, where some say the ants are still expecting to find sugar, it is interesting to know that helpful "bush medicines" grow nearby. *Soap Bush* and *Bata-bata* when rubbed on bites will relieve the sting. You may not recognize these beneficial weeds; even if you do, you shouldn't uproot them, but it is reassuring to know that natural remedies are found adjacent to the homes of biting ants.

MARINE HABITAT AND SEASHORE WALK

BIRDS – With binoculars, you have a good chance of seeing *Blue Herons*, *Lesser Yellowlegs*, *Gallinules*, *Black Stilts* and at least one *Little Green Heron*. Even if you don't see these birds, you will hear some of them back in cool green recesses of the Mangroves.

CRABS – The tidal pools between the shoreline and the road are happy homes for *Grapsis grapsis*, better known down-Island as the "Red Shenk." If you see what appear to be crab corpses, they are probably the red shed skins of the "Red Shenk."

SOLDIER CRABS – (*Coenobita clypeata*) Soldier Crabs are more often seen at night, but you may observe these interesting animals in shady areas during the day, crawling along with whelk shells on their backs.

Because of their characteristic tenacity and voracity respectively, Soldier Crabs can be used as educational toys, teaching a child or his parent how much better it is to hang on than it is to get "hung up." As apartment house police dogs, Soldier Crabs can be placed in a metal garbage can at night where they will recycle garbage with a bang that frightens prowlers.

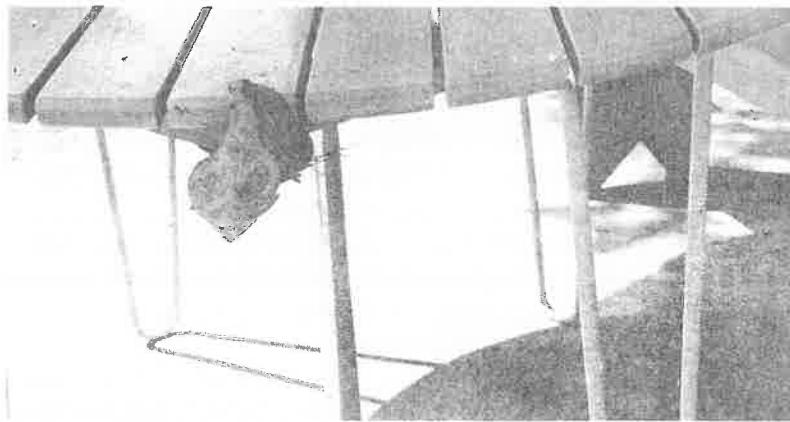


Photo courtesy of The Daily News of the Virgin Islands

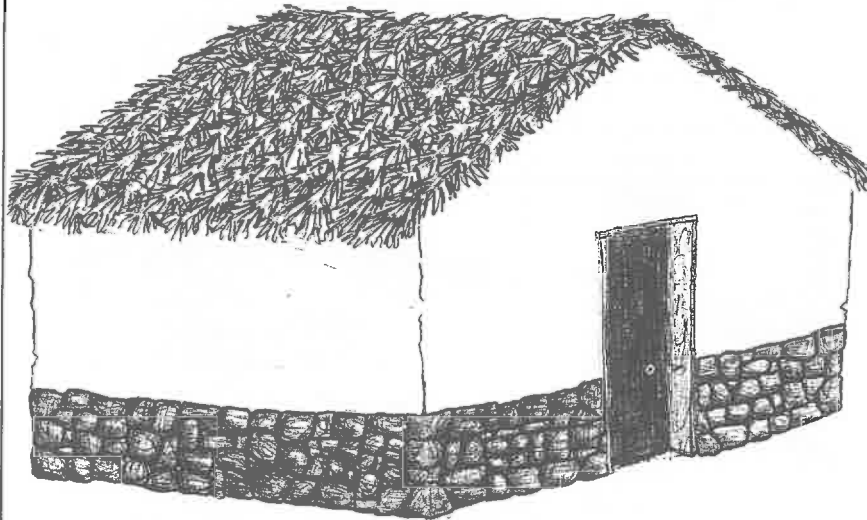
The Soldier Crab on the left served as an educational toy for a group of 4th graders. This Soldier Crab changed his old broken Whelk Shell for a fancy Tulip Shell. Using his feelers, he is touching the leg of the table as he prepares for a safe descent to earth.

THE ANNABERG HISTORIC TRAIL –

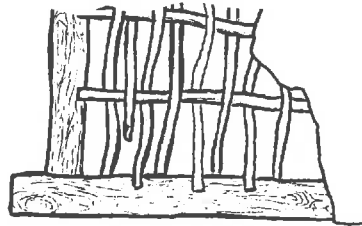
The trail, beginning from the Sandbox trees at the foot of the hill and up around the ¼-mile marked trail, and finally along the marine habitat at Leinster Bay, will take ONE HOUR. Lunch is eaten at the picnic tables near the Sandbox trees, not at the ruins!



Carmen Francis Jensen describes life at Annaberg when she was a child and her Father operated Annaberg as a cattle farm.



(1) **SLAVE QUARTERS** – One of 16 cabins found in the area. With a lime concrete floor and a door in one end, each cabin housed a slave family or served as bachelor quarters. Posts were set in masonry walls and branches were woven to form the wattle, then daubed with a lime and mud mixture. The roof was probably thatched with palm leaves from the Teyer palm.



(2) **THE VILLAGE** -- On the slope below this wall lie the ruins of the slaves' main village site. The women did some of their cooking at a small oven within the village. Slaves grew some fruits and vegetables here including cassava, yams, plantains, sweet potatoes, bananas, papayas, pineapples, bread-fruit, etc.

Where did the owners and overseers live? The nearest known ruins of a Great House are near Frederiksdal, half a mile away. Possibly the overseers lived there or at the Mary Point Estate. Absentee owners also operated many plantations on which no Great House was built.

(3) *Magas* or *Bagasse* was the crushed stock of sugar cane. The stocks were dried and stored in sheds to be used as fuel. These stone columns are all that remain of the shed at Annaberg.

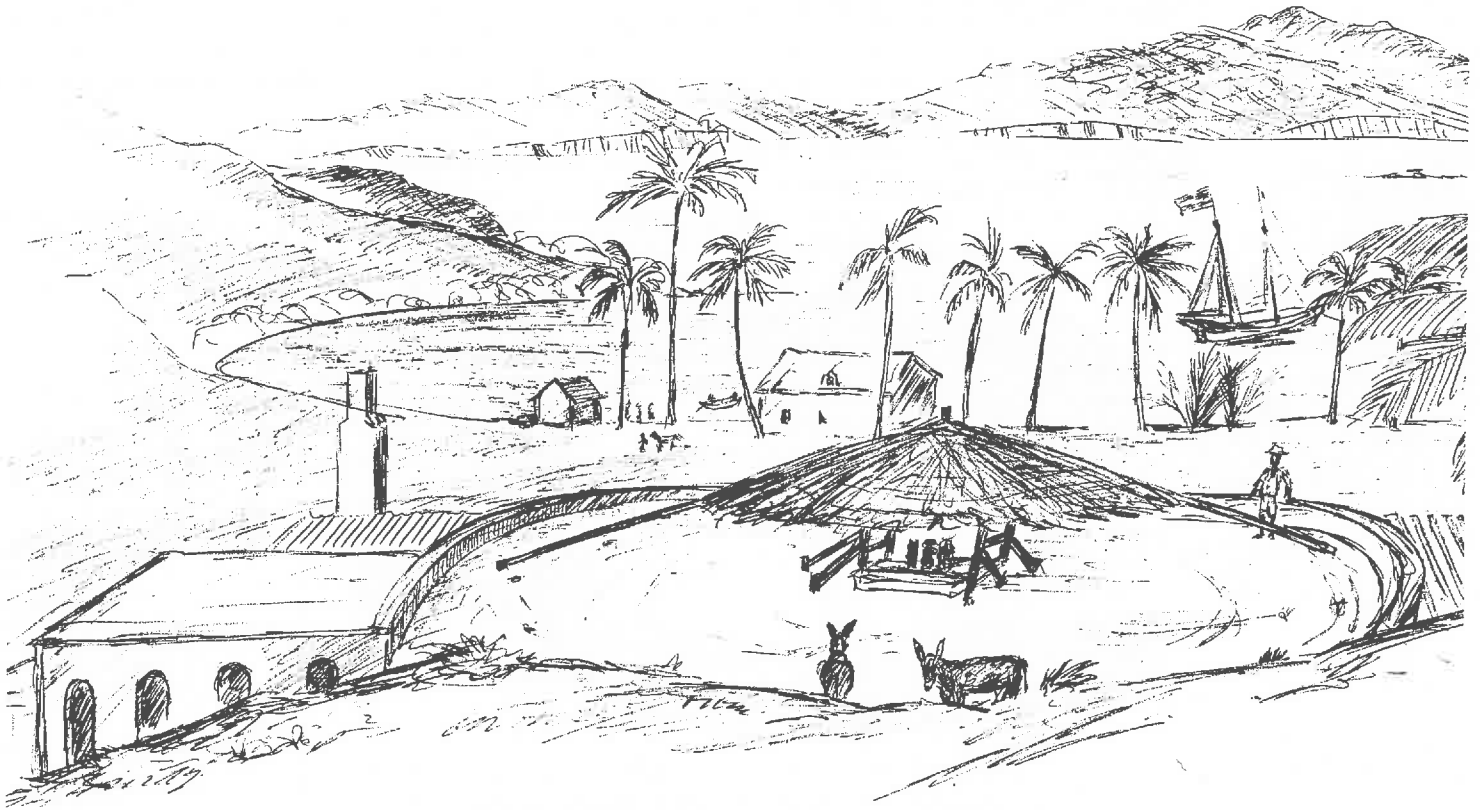
(4) Imagine all the slopes above you covered with cane. With a short handled knife, the slaves cut the cane, stripped the leaves, and tied the stocks into bundles. Then, loading 2 or 3 bundles on a mule or a cart, they hauled it to Annaberg for processing.

The National Park Service has stabilized the Annaberg factory ruins to prevent excessive weathering. For your own safety, **PLEASE DO NOT CLIMB ON THE RUINS** as loose materials are still present.

(5) **WINDMILL** – If a steady wind blew, the cane came to the windmill to be crushed. Revolving sails turned a central shaft which rotated the rollers crushing the stocks. Juice then ran down the rollers to the gutter and flowed by gravity to the factory.



Matt Marsh and Herman Prince demonstrate use of brick oven. Fresh black bread is removed on a wooden "peel".



The Horse Mill at Caneel Bay Plantation in 1844

Drawing by the Rev. Henry Morton, 1844

Courtesy of Caneel Bay Plantation

The windmill at Annaberg, built sometime after 1844, was among the largest in the islands. Thirty-four feet in diameter at the base and twenty feet at the top, it is thirty-eight feet high.

The wooden structure carried the axle and sails and could be turned into the wind. The long slits in the stone wall made it possible to remove the sails or blades for repair. The built-in fireplace has no known function, but perhaps was used to heat water for washing the rollers. Rollers had to be washed whenever the mill stood idle; otherwise the juices soured.

(Before going on to Marker 6, walk to the wall beside the Frangipani tree and look across Leinster Bay to Great Thatch Island, the cay to your left which is the nearest British Virgin Island. It is believed some slaves attempted to swim from Annaberg to Great Thatch in order to reach freedom. Slaves were freed in the British Islands in 1834, but emancipation did not come to the Danish Islands until 1848.)

Windmills were not unusual in the Virgin Islands. Some 140 ruins are on St. Croix alone. St. John, being more mountainous and less productive, had only five which were located at Annaberg, Denis Bay, Susannaberg, Cathrineberg and Carolina. Although windmills required greater capital outlay, they produced more juice in a shorter time and were cheaper to operate (less manpower and no animals.) But the wind was not always dependable.

(6) In calm weather cane stalks were crushed on this circular HORSE MILL. Here, mules, oxen, or horses, harnessed to the poles, plodded the circular course, turning the upright iron rollers in the center of the platform. Slaves passed the cane between rollers which crushed the stalks and released

the juice. A box at the base of the rollers caught and held the juice until the factory called for it. Then, through the brick pipe and wooden gutter, the juice flowed to the first of five “coppers,” or iron kettles, inside the factory. Three to five hundred gallons of juice could be produced per hour.

(7) **BOILING BENCH** – Here in the factory building you will learn how the cane juice was made into brown sugar. The boiling bench directly in front of you held the five coppers, for the boiling process. Coming through a hole in the wall directly above the boiling bench, the cane juice flowed into the largest copper (the one remaining) at the far side of the boiling bench. (Note the *Oyster Plants* growing in and around the coppers.) Fires, fed with dried cane stalks (magas), heated the coppers from beneath. Workers added lime and brought the cane juice to a boil, evaporating some of the water. After skimming off the impurities used for making mortar or saved with other sweet drippings to ferment, they ladled the juice from one copper to the next – down the line to the last and smallest copper. They then poured the concentrated and purified juice into flat wooden pans to cool, crystallize, and drain off excess moisture. During this process a worker occasionally spaded the sugar to make sure that uniform small crystals formed, after which he scraped the finished sugar into wooden barrels. Each barrel, or hogshead, held up to 1600 pounds of sugar.

Planters counted *a pound of sugar from a gallon of raw juice* as good recovery.

Watching the last copper was a very important job. Removing the concentrated juice too early prevented sugar crystals from forming and caused molasses to form instead. (Of course, when they wanted molasses, that’s what they did). On the other hand, if the juice was left too long, it burned. To get good sugar crystals, juice had to come off the last copper at just the right moment.

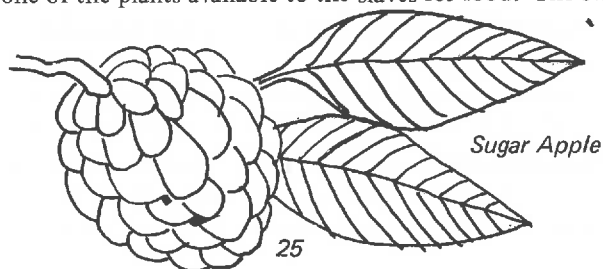
(8) **DRIPPINGS CISTERN** – Workers stored the hogsheads of wet sugar on trestles in back rooms of the factory. Liquids dripping from the hogsheads funneled into the cistern on the right in the room below. And the owners used this sweet liquid, adding to it the washings and all other sugary drippings, to produce rum. *They wasted nothing.*

(9) A great quantity of water was needed to process sugar and rum, and to support the people living and working on the estate. As ground water was not readily available, rain from the roof flowed through wood, metal, and masonry gutters into this CISTERN. Also, during torrential downpours, other cisterns collected water and brought it down to this area by an aqueduct. This cistern holds about 20,000 gallons.

(10) **OVEN** – Most of the estate’s bread was baked in this oven. The baker filled the large chamber with wood and charcoal, then lighted it. When only the hot coals remained, he raked the embers through the grating into the ash box below. Dough in the hot oven soon sent the delicious aroma of baking bread through the air. Similar ovens are still seen on St. John at Coral Bay and Cruz Bay.

(11) **DUNGEON?** – A chain and a pair of handcuffs were found fastened to a post in the left corner of this small chamber, making the rooms use as a VAULT or DUNGEON a good guess. The drawings of schooners and the street scene may well date back to Danish times.

(12) The small trees along this part of the path are *Sugar Apples* (*Annona squamosa*), one of the plants available to the slaves for food. The sweet pulp is eaten raw.



Students read a Social Studies lesson from an open book of red and yellow bricks.



Photo courtesy of The Daily News of the Virgin Islands

Noble Samuel shows a younger generation of St. Johnians how all bread on St. John was baked a generation ago.



Photo courtesy of The Daily News of the Virgin Islands

Wesley points to a brain coral used on a corner of the window.



Photo courtesy of The Daily News of the Virgin Islands

(13) Have you noticed the building materials? Native stone known as “Blue Bit” and other stones from down-Island were used in the construction. Rocks were set with a mortar consisting of sand, fresh water, and lime fired from sea shells and coral, and the scum skimmed from the “coppers.”

Where arches and corners called for square or special shaped stones, both BRICK and CORAL were used. The bricks came into the area as ship ballast from Denmark and the brain coral was taken from offshore or brought in from the Bahamas. Coral, when taken from the sea, is relatively soft and easily cut to shape. When dry it becomes a very durable part of the building. Note the corals lining the doors, which may possibly be from the reef at Cinnamon Bay where erosion has recently occurred. Ecologic backwash may take time, but it teaches us the logic of maintaining the integrity of our marine ecosystems. The Danes didn’t know any better; WE DO!

(14) STORAGE ROOM – This room and the one to the right were used to store sugar and to age rum before shipment to North American and European markets. To your right you can still see the faint plaster outline of two old cisterns; they probably held the molasses overflow from the cistern in the next room. Some of the molasses was used in making mash for rum. One mash was made of *one part molasses, 5 parts water*, and sometimes *Cush-cush* (fine pieces of cane stocks). Most common mash, however, was made from the drippings and waste, as mentioned at Post No. 8. When this had fermented, it was taken to the still.

(15) RUM STILL – This platform supported the factory’s rum still. Here, above a slow fire, workers placed the fermented molasses in a copper still. Copper tubing led the alcohol vapors from the still to the cistern behind it. There, the coils or worms of copper, immersed in cool water, converted the vapors to rum. The raw rum, or “kill devil,” was piped into casks located in the adjacent room. Normally, the rum was aged in the cask for several years before being sold. Why was rum called Kill Devil? Perhaps to appease the missionaries working on the Island!

(16) LIME TREE – Limes came to the New World more than 400 years ago. The fruit, yellow when ripe, makes a refreshing drink, and a tangy flavoring. A tea, or tonic, can be prepared from the leaves. Lime trees now grow wild around old ruins on the Island.

(17) FIRING TUNNELS – Here slaves fed magas to the fire to heat the boiling bench (No. 7). At one time a chimney was located near this post to provide the draft to pull the fire into tunnels under the coppers.



Andre places “magas” or dried cane used as fuel in a firing tunnel at the Callwood Distillery on Tortola where students could see how cane is crushed and rum is made, much as this was done long ago at Annaberg.

Photo courtesy of The Daily News of the Virgin Islands

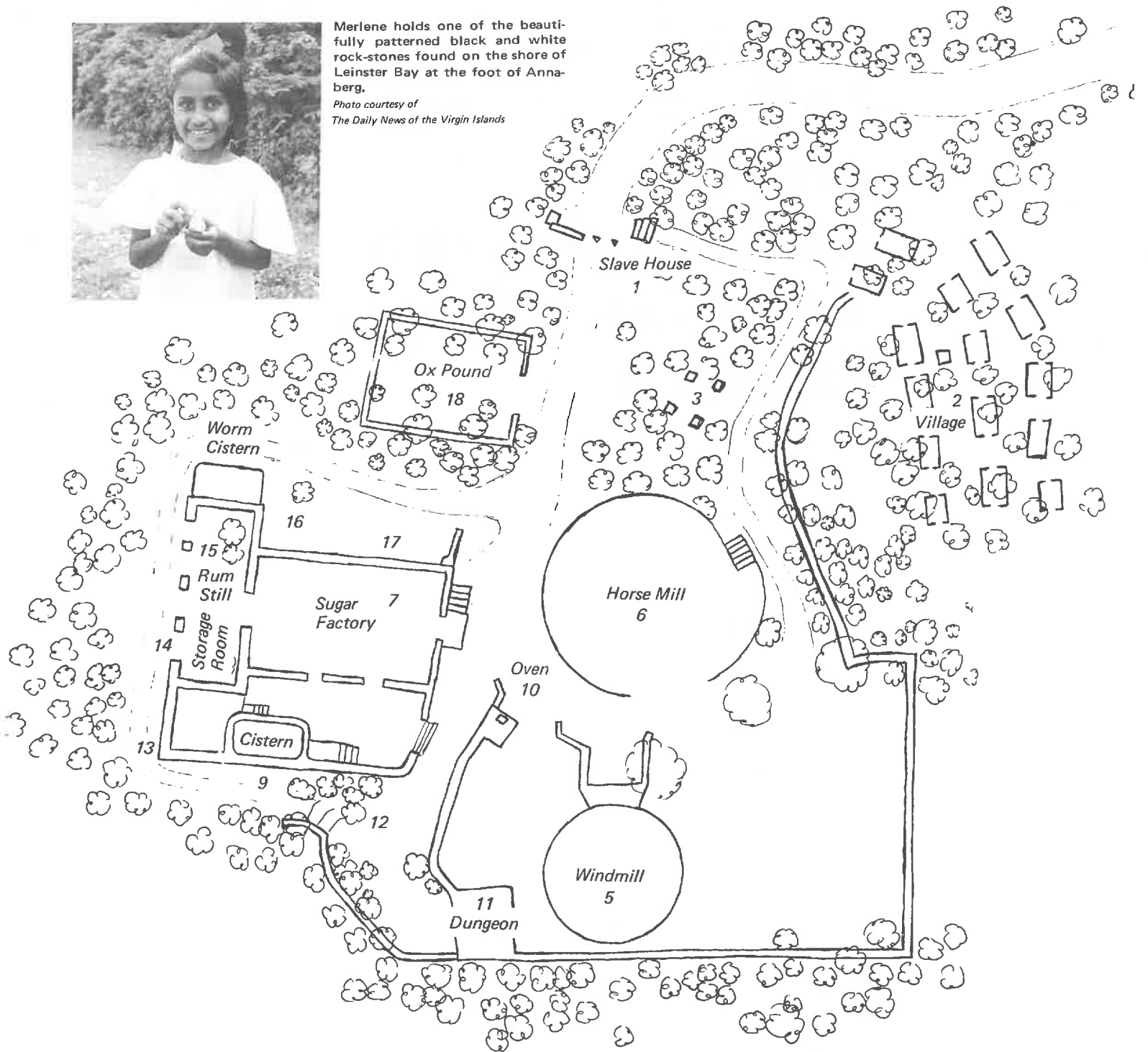
(18) OX POUND – Though we call it the ox pound, mules were most commonly used, but there were also horses, donkeys and yes, oxen. This stone enclosure that held the animals measures about 50 x 100 feet.

Our picture of ANNABERG’S history is incomplete. We do know that, when Oxholm mapped the island in 1780, the owners were Ben Lind and a person named Jonah, or Jones. In 1786 Lind sold both the Annaberg and Mary Point Estates (518 acres) to Robert Milner. Milner later sold to Thomas Sheen, the Danish Colonial Adjutant. At an auction in 1827, Annaberg went to Hans Henrik Berg. Then followed a succession of owners – some operated Annaberg as a cattle farm – until it became part of Virgin Islands National Park in 1956.



Merlene holds one of the beautifully patterned black and white rock-stones found on the shore of Leinster Bay at the foot of Anna-berg.

Photo courtesy of
The Daily News of the Virgin Islands



Students in the Environmental Studies Program study pieces of red and yellow brick brought over as ballast in the days when empty ships sailed from Denmark to Annaberg for cargoes of sugar, molasses, and rum.

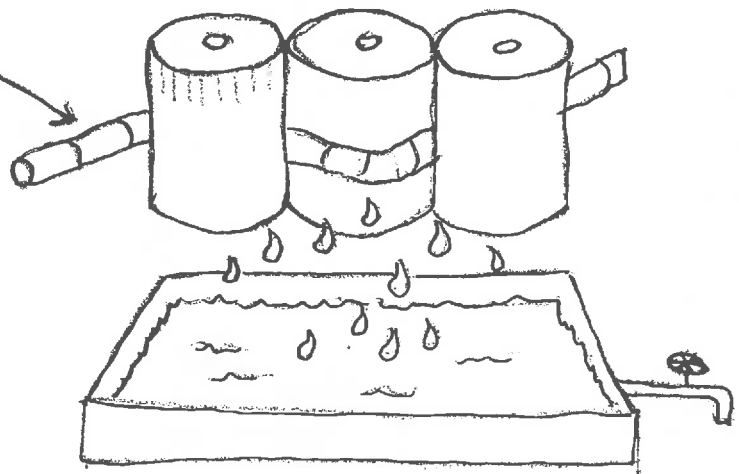
Photo courtesy of The Daily News of the Virgin Islands

from Sugar Cane to Brown Sugar and Rum at Reef Bay and Annaberg Sugar Factories

- (1) The SUGAR CANE is harvested and trimmed. The tops and leaves are dried for cattle feed. Note how Danes “recycled” all the wastes of the 18th and 19th Century sugar-making process!



- (2) CRUSHERS
The stem of the cane is crushed, either at the windmill (Annaberg), the horsemill (Annaberg and Reef Bay) or at the steam mill (Reef Bay). The crushers work like the wringer on a modern washing machine. The cane juice is collected in a tray and piped to the coppers, huge iron pots lined with copper.



- (2a) The crushed cane stalk is called MAGAS or BAGASSE. It is collected and dried in an open shed (Annaberg, Trail Marker No. 3).

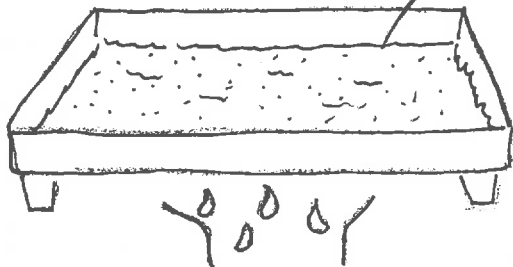
(3) **BOILING BENCH with 5 COPPERS.**

The cane juice is boiled first in the largest copper over a hot fire (the magas is used as fuel). Much of the water vaporizes. The boiling process is repeated 4 more times. In the last and smallest copper, only boiling fluid sugar remains.

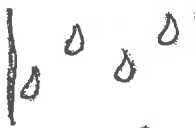
Impurities in the juice are skimmed off the first copper and mixed with crushed lime to make mortar. Otherwise scum, sediment and drippings from the crystallizing pan and hogsheads, and water used to wash the coppers are all funneled into a fermentation tank to form an alcohol solution.



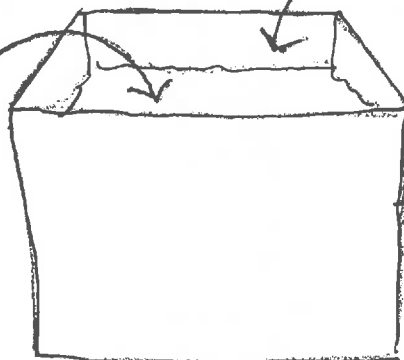
(4) **CRYSTALLIZING PAN.**



The boiling fluid sugar is ladled into shallow pans and allowed to cool and solidify. Drippings from this pan, as noted above, are dumped into the fermentation tank.



(4a) **FERMENTATION TANK**



Here the sugar solution ferments and changes into an alcoholic solution.

SUGAR

(5) **HOGSHEADS.**

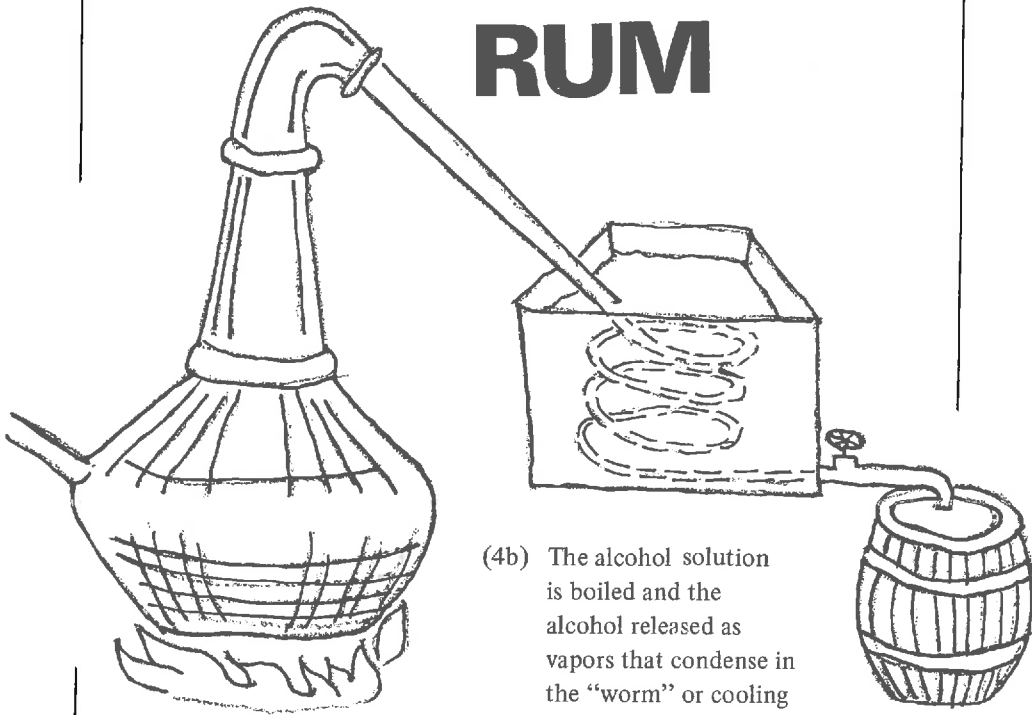
After cooling and solidifying in the crystallizing pans for 8 to 12 hours the sugar, still wet, is packed into hogsheads to dry or cure. Curing takes from 3 to 4 weeks. A hogshead holds 1600 pounds of sugar.

(6) **BROWN SUGAR.**

This raw, light brown sugar (muscovado) is still available in Tortola where a sugar factory operates. For many local recipes, it is the preferred sugar.



RUM



(4b) The alcohol solution is boiled and the alcohol released as vapors that condense in the “worm” or cooling cistern.

(4c) The raw rum is called “Kill-Devil”! If cured in barrels, it mellows and is ready for export.

Approximately 30% of a sugar factory’s profit was derived from rum production.

Introduction to the reef bay environmental study area



*"Petroglyphs
Old, mysterious, rock-stone history.
Crosses, faces, symbols, African."*



*by Charles, a sixth
grade student at
Gramboko School*

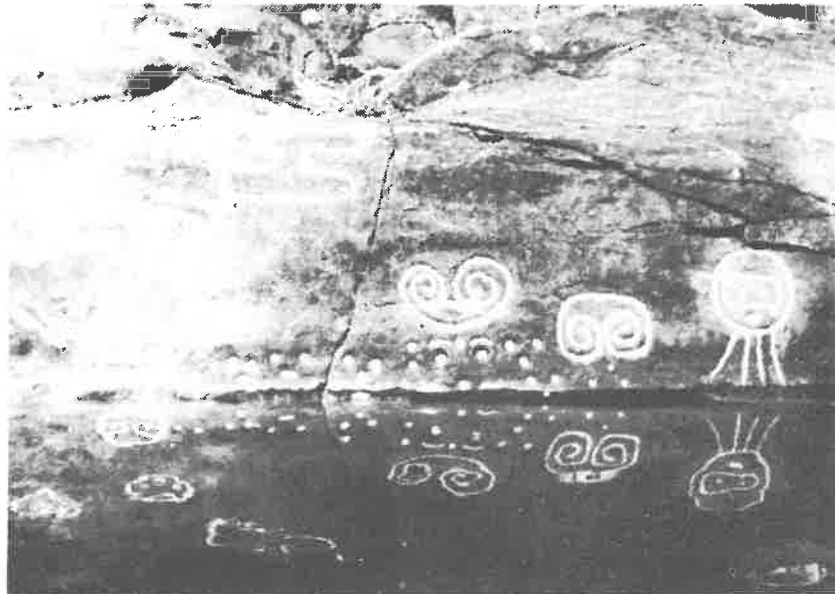
A TOUCHSTONE FOR READING REEF BAY ROCKSTONES?

Who made the Reef Bay petroglyphs? Indians? Perhaps. Perhaps some of the carvings were made by pre-Columbian Africans! Who says so? Dr. Barry Fell. Fell is considered the world's leading epigrapher. He identified the dot and crescent carvings shown below as the Tifinag branch of a medieval Libyan script used as early as the First Century and as late as the 13th Century.

Double spirals, exactly like the ones at Reef Bay, are found on Libyan tombstones of the Second Century. These spirals are purification symbols used by pre-Islamic sun worshippers. Fell also identifies the carving to the right of the script as a sun symbol.*

Will Fell's decipherment of the Reef Bay dot and crescent script be as helpful to 20th Century Caribbean historians as Champollion's decipherment of the Rosetta stone was to 19th Century Egyptologists? Perhaps!

*Journal of African Civilizations, Vol. 1, No. 1, April 1979. Editor Ivan Van Sertima, Douglass College, Rutgers University, New Brunswick, N.J. 08903.



Rockpool at Reef Bay, St. John (V. I. National Park)



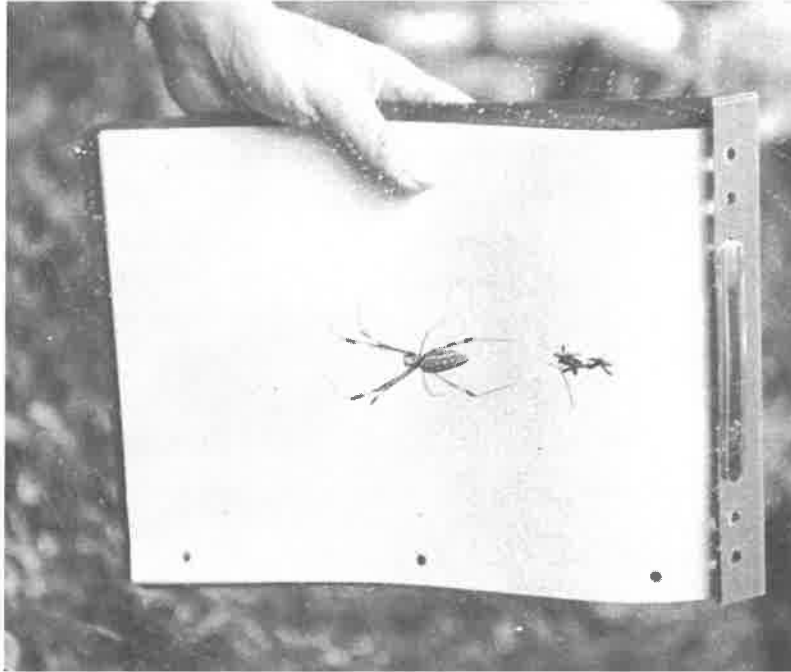
B-B —K K^W D^K D^{W-S-A} D^{D'A-D} S-K K^{Gq} W^A ← Start
 Reading from right to left, in Libyan Arabic,
 W-a-q K-s d-a-d a-s-w K-d w-d K -K-b-b, or, rendered in modern Arabic

وانق دس زلا اسم لسنق ود كو دكيز

"Plunge in to cleanse and dissolve away impurity and trouble; this is water for ritual ablution before devotions."

Barry Fell's Decipherment

In the medicinal plant life of the Reef Bay Valley, we find great evidence of green roots of cultural ties between West Africa and the West Indies. At least 80% of the medicinal plants growing along the Reef Bay Trail, from Congo Root to Stok-Ma-Hark also grow in Ghana according to Michael Cudjoe, a Ghanaian teacher who participated in the 1971 visits to Reef Bay by E.S.P. pupils. Many of the plants are used in similar ways in Ghana and on St. John to the present time.



A Golden Orb Spider eats a Jackspaniard for lunch on the Reef Bay Trail.

Photo courtesy of The Daily News of the Virgin Islands

Photo courtesy of The Daily News of the Virgin Islands



Mahlon holds a Bell Apple (passion-fruit) gathered from a vine along the Reef Bay Trail in April.

REEF BAY –

Note old stone wall on the left at the head of the trail. This wall is actually on private property, one of approximately 75 inholdings within the boundaries of the Virgin Islands National Park authorized by Congress on August 2, 1956.

The Park presently owns 5,366 acres and is authorized to reach a total of 9,485 acres of St. John's total 12,000 acres. (The Park Service has no right of eminent domain and the 4,119 acres of inholdings can only be acquired through voluntary negotiations with the owners.) For purposes of acquiring land for recreation, the V.I. Government DOES have right of eminent domain and could, therefore, acquire such important cays as Great and Little St. James before they are commercialized.

Now back to the wall! Walls of FIVE different sugar factories remain in this area, but two of these are hidden in bush off the trail. The Park does not clear bush near ruins unless funds are available to stabilize the wall since exposure to sun and wind causes a more rapid deterioration. (Note that the walls of the sugar factory further down the trail nearer Reef Bay Beach have been stabilized.)

The beginning of the trail is a good place to tell students that from 1956 to 1979 many thousands of people of all sizes, ages, and interests have walked down the winding, rocky trail ahead, but there are still many undiscovered facts of history and natural history which they may well discover. One old lady in her seventies with the aid of a cane took the trip to see for herself the faces on the petroglyphs. A baby in a rucksack on his mother's back took this walk during a hard rain. The Ranger guiding the tour thought the baby would be bawling, but instead, when he looked around, the child had his mouth open catching rain. If it rains, you might do the same!

ANTHURIUMS or “Scrub Brush.” Note the dried, long-leafed *Anthurium acaule* on the trail. The design of the dried fibers in the scrub brush is worth noting. Dr. Magda Pendall, an ecologically oriented physician in St. Croix, is proud to have a perfect “skeleton” of this anthurium in her office. One or two of these can be collected to take home and try out on a greasy pot. Leave the rest; they are part of the natural soil enrichment program! Scrub brush, unlike Brillo, won’t hurt your hands with nasty metal splinters. And it’s free!



People 20-30-40- years ago took advantage of free home-grown, natural materials like this.

Maran Bush, like that found near Salt Pond, was also used as a cleanser for utensils and for wooden floors of houses.

The *Heart-shaped Anthuriums* are *Anthurium cordatum*. (These plants are sold as nursery ornamentals in Florida). Other varieties of *Anthurium* in Hawaii have large, spectacular, red pistils. Children like to use the brown pistils as whips. They call them “snakes.”

Watch for the thousands of anthuriums along the trail in natural landscaping effects on walls and down hillside slopes to the gut below.

CULVERTS – Drainage preserves good roads! This trail was formerly a ROAD that accommodated wagons. Park Historian Clarence Johnson wrote in 1950 that the Reef Bay Road (this trail) was the best on the Island! The rocks laid across the road like this were the old way of providing for drainage in place of concrete culverts used today. (Cf. Today’s lack of drainage on many of our new roads.) In those days, roads were built to last. And they were contour-designed to respect the shape of the land.

PLANTS TO NOTE:

Cat’s Claw Vine on the tree left of the culvert has bright yellow blossoms in Spring.

BAY RUM TREE (*Pimenta racemosa*, Myrtle family). The teacher may take one or two bay leaves to pass around for students to smell. Recall how bay rum was formerly distilled on St. John. Today, all bay rum is manufactured from imported bay oil; at the Warner-Lambert factory, near the airport on St. Thomas, the name *St. John Bay Rum* is still used because St. John bay leaves are judged by experts to be the finest in the world. Synthetic bay rum oil is only used for soap. All other bay rum products use real bay oil. Although bay leaves are no longer collected from St. John, the chief chemist of Fritze Bros., largest producers of bay oil, says, “St. John bay leaves are to bay rum what Sterling is to silver – the best”.

The bay rum leaves are also used to season meat and fish soups, stews, sauces and hot cereal. An interested student might be given the few leaves collected by the teacher to try out in soup or sauce and report to the class.

When green, the Scrub Brush leaf is soapy and can be used for laundry as well as for dishes.

Anthurium acaule or “Scrub Brush” has a long leaf.

Photo courtesy of *The Daily News of the Virgin Islands*



This Hart’s Tongue Fern looks like an *Anthurium* – until you notice the golden spores on the underside of the long leaf.



Anthurium cordatum has a heart-shaped leaf.

Photo courtesy of *The Daily News of the Virgin Islands*

GENIPS (*Melicocca bijuga*). Note the huge numbers of genip trees of ALL sizes along the entire trail, except around the Petroglyphs and the sugar factory at the beach. Note also the absence of sandflies on this trail as compared with swarms of the same at Cinnamon Bay, Salt Pond, and on the beach at Reef Bay. Entomologists are investigating possible bug-repellent properties of genips. Dr. Harry Smith at Oregon State University in Corvallis, Oregon, August 1970, reported promising results based on preliminary studies with supplies of leaves, bark, and fruits collected by St. Johnians and sent to Oregon State University. Note the silvery, rose, green and grey lichen-colored bark of the genip on the right side of the trail. These patterns on Reef Bay genips may be due to shade and moisture in this area.

SEED DISPERSAL:

Beggar's Lice. The pretty grass that resembles a young palm has seeds that stick to anything, including shoes, socks, and pants. This means of seed dispersal insures widespread propagation of the plant.

The Sandbox or Monkey Pistol Tree shoots its seeds! Kapok or Silk Cotton seeds float through the air, though after 50 years, a Kapok is not likely to produce seeds. The Kapok at Reef Bay is "retired."



A Yellow-bellied Sapsucker has pecked this pattern on the bark of the large West Indian Locust on the left side of the Switchback before you reach Marker 4. When the Yellow-bellied Sapsucker pecks and drills, sap oozes from the tree, not for him, but for ants. When the ants come to sip the sap, the Yellow-bellied Sapsucker eats the ants!

Photo courtesy of Alex Bermudez

Kapok or Silk Cotton Tree or *Rocket Tree*: (Note shape: "Rocket Tree" is name given by 4th grade students.)

Compare this Kapok with the dead one on the right of the road coming out to Red Hook. On the bus trip, note how often WIDENING roads means REMOVAL of big trees. Note also that thus far there is NO program in the Virgin Islands for replanting trees or for planting them along new roads. Parents, teachers, students and conservation groups might get a program started to plant new trees to replace some of those destroyed in recent years.

The sun splits Kapok pods open and the wind blows the seeds as it does mahogany and "cedar" seeds. Kapok was once a prized pillow stuffing, locally and nationally, but pillows now are more likely stuffed with synthetic materials. Kapok is still used in life preservers. Kapoks may not live as long as redwoods, but one 102-year-old Tortolan remembers a Kapok this size when he was a child, and the same tree is still growing.

WEST INDIAN LOCUST TREE. One Locust stands opposite the Kapok, and several others will be found along the trail. Most children will recognize the large, shiny leathery-looking pods. The sweet tan powdery insides are eaten as a confection, and are usually ripe in May. However, ALL local fruits trees bear at very different times, depending on rainfall, which varies vastly.

TERMITE'S NEST. Why don't we get rid of termites? (1) Termites don't hurt a live healthy tree. (2) Without termites, dead wood would not be destroyed. We don't have forest fires in the Virgin Islands, although grass fires are common. (The role of shelf fungi as decomposers can also be mentioned).

A Termite's Nest

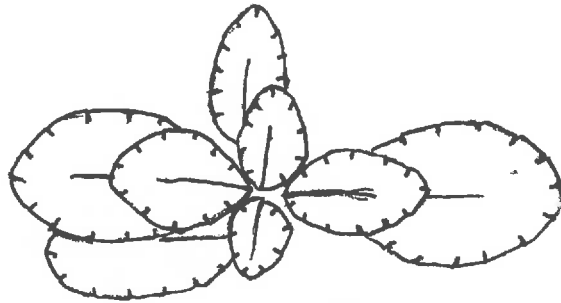


Photo courtesy of Robert Pfeiffer

This is a good place to point out that many creatures may annoy or inconvenience human beings in certain situations, but this is no reason to ELIMINATE these creatures. In fact, when man has attempted to eliminate pests, his efforts have generally boomeranged. Keep termites out of your home, yes, and there ARE ways to do this, but DON'T assume that termites, sea eggs (sea urchins), cactus or even sandflies must be eliminated for a better world.

TREE SNAILS (*Liguus fasciatus*) which appear to be so numerous that any number might be collected need protection as do the periwinkles so prevalent at the Salt Pond ESA. One snail per class from Reef Bay and one periwinkle from Drunk Bay for class room exhibits is enough!

LAUNDRY POOL. Down the gut at the right of the trail there is usually fresh water. Thirty to forty years ago, women came here to wash clothes. First they beat them with stones, then the clothes were boiled in large kerosene tins and hung to dry. Friends made a picnic of washday. Without telephones, messages in those days were left by dropped leaves and crossed sticks so that one friend would know another friend was already at the pool and come to join her.



PLANTS TO NOTE:

BRYOPHYLLUM. Leaf of Life, Love Bush, Clapper Bush. Love Bush grows in many places on all Virgin Islands. Pinned on a shade or curtain it will live indefinitely, hence the name Leaf of Life. If you wrote the name of your sweetheart on the leaf and it grew, this meant your love was returned. An almost fool-proof guarantee!

HORSEMILL WALL:

The rock wall passed a few minutes ago was part of the corral for horses kept here. Horses were taken down to the sugar factory to operate the horse mill before the steam mill was used. They were also used to draw carriages and for riding.

TEYER PALM:

This is the ONLY palm native to these islands. The others were all introduced. Teyer palms are widely useful as well as ornamental. Fronds were formerly used for thatched roofs. Brooms are still made from the fronds at the Julius Sprauve School under the direction of Mr. Herman Prince. A Teyer palm frond is a good, non-electric fan. The petiole (or stem) was formerly used to weave fish trap mesh. Today, chicken wire takes its place. The palm mesh traps and whist mesh traps would last 4 to 5 months if the trap was washed every day or two to get rid of the algae on it. Otherwise, fish nibbling on the algae might begin eating the trap itself.

SUGAR FACTORY:

This is the second sugar factory along the trail. The walls are made of imported red and yellow brick brought over as ballast on Danish ships, plus native stones, native beach coral and some coral brought as ballast in cargo ships from the Bahamas (See Marker No. 13. Annaberg).

Photo courtesy of The Daily News
of the Virgin Islands



Rub your cheek against the smooth red bark of this Pepper cinnamon Tree below Marker 6.

TREES:

The tall tree with prickles that do NOT have a sharp tip and can be touched is the Yellow Prickle tree. The prickles, when broken off and boiled, were formerly used to dye whist for baskets. South of the large building is the Sandbox tree with very sharp needles on the trunk. This is also called the Monkey Pistol because the pods explode noisily. (See Plant Check List)

LIME TREES here and further down the trail grew from seeds spit out by workers drinking limeade for lunch long ago while they watched over their coal pits. Charcoal, during the 1930's was one of the few cash crops a St. Johnian could depend on — though it wasn't much cash. A full burlap bag of charcoal at that time brought 25¢.

OLD MARSH HOUSE:

Mr. Munro Marsh, who celebrated his 102nd birthday July 16, 1971, was born in this house. Why was it so small? Houses then were mainly places to sleep. The cookhouse was separate. Most of the time, people were outdoors. Note the giant mango tree some 100 feet or so before you reach the house. Mr. Marsh, and later his nieces, were accustomed to gather fruit here. The tree still bears fruit. Mr. Marsh's sister, who was 99 in 1970 and lived in St. Thomas, was the last resident of the Estate House at Reef Bay in the 1950's where her sister was murdered.

This house, like the slave cabin at Annaberg, was made of wattle and daub construction, but the October 1970 floods washed it away. Such construction generally lasts less than 50 years, but then what about those new \$38,000 homes at Tutu?

BLACK WATTLE, PINGUIN, CRAB EYE, JUMBIE BEAD:

BLACK WATTLE or "Sook Sook," is on the left as you turn to the trail to the PETROGLYPHS. It is used for one of the tastiest of many local bush teas. It is also good for coughs.

PINGUIN is a Bromeliad, cousin of the pineapple. The orange berries, when stewed, make a pleasant, slightly tart drink. The seeds can be roasted like genip seeds. Where there is much pinguin, according to Historian John Anderson, it was planted to keep out prowlers. The prowlers and the houses are gone, but the pinguin keeps growing.

CRAB-EYE. This small, hard red seed with a black spot like a crab-eye contains the deadly poison *abrine*. Its use in necklaces is now outlawed because children chewing the beads have died. (Cf. Plant Check List)

JUMBIE BEAD. The vine behind the sign to the PETROGLYPHS produces small, ALL-RED SEEDS which are NON-POISONOUS and can be used in necklaces and for mosaic design work. Sometimes the seeds were floated in kerosene lamps as a decoration, according to Senator Elroy Sprauve.

PETROGLYPHS — petro (stone) + glyphs (carvings)

This is where we-don't-know-for-sure WHO was doing we-don't-know WHAT, but the anthropological-archaeological research possibilities are promising.



Avida investigates the velvet white inflorescence of a Pinguin Wild Pine at Reef Bay. Orange fruits called "dates" will ripen later.





PLANTS:

CLUSIA ROSEA (False Mammee, Strangler Fig, Pitch Apple) grows near the falls. Oviedo, the first natural historian of the West Indies, in 1526 wrote that Spaniards made playing cards of the thick leaves. The leaves were also used for writing letters. (On the rocks above the Baths at Virgin Gorda, leaves with names and dates several years old hang on a Clusia wedged between boulders.)

The yellow latex of the Clusia bark and fruit harden when exposed to air, and the latex was formerly used to caulk boat seams, hence the name Pitch Apple.

The Clusia seeds often germinate in the fork of another tree and send long aerial roots to the ground. In time the roots may strangle the host as is happening to one tree you may have noticed on the trail not far from the Kapok.

BLACK CALABASH. The ping pong-sized, gourd-like fruits of the Black Calabash are the smallest of all calabashes. (The largest specimens, giant salad bowl sizes, are found on Jost Van Dyke, BVI). Calabashes insulate and keep cool water cool all day. They are also oven-proof, and fine bread can be baked in a round loaf in a greased calabash.

GRASS. This Razor Grass (actually a sedge) at the north end of the pool is not found anywhere else in the area according to Noble Samuel. Ducks may have "planted" the seeds with their excreta. (Cf. Seed Dispersal of Beggar's Lice, Kapok, and Monkey Pistol)

WATER really falls down the waterfalls above the Pool after heavy rains and did so continually for over two months after the Fall, 1970, saturation rains.

INSECTS. Mosquito hawks, known locally as "Auntee Nonnees", flit across the pool constantly. Songs about "Auntee Nonnees" are sung by children in the Virgin Islands and throughout the West Indies.

On St. John, children sing:

*"Auntee Nonnee, come pound guinea corn,
Ring-ting-a-ling-a-ling."*

From Tortola to Antigua, children sing:

*"Auntee Nonnee, thread your needle
Long, long time
Hand on Lucy-Ba-Lucy-Ba-Lucy
Long, long time."*



When water doesn't fall down these rocks above the Petroglyphs, the aerial roots of the Pitch Apple (*Clusia rosea*) hang across the rocks like falling water.

Photo courtesy of The Daily News of the Virgin Islands

CRAYFISH, fresh water shrimps, sometimes called Kribishees, can be seen in the pool. Crayfish larvae are reported from St. Croix to remain viable through 20 years of drought. Crayfish here measure up to 8 inches. They are also found in the guts behind Great Cruz Bay and in Cruz Bay near Islandia.



Black Wattle tea bush is nice. The tea is also good medicine for colds and coughs.

LAND CRAB HOLE

This area was once a salt water pond. (Coastal areas can change in relatively short periods of time). Later it was a fresh water pond, and now it is dried up, more or less. The many holes close together make this look like a Housing Project for crabs, according to St. Thomas children from Oswald Harris Court.

The "CASHA" (Acacia) growing here which tolerates salt water makes very good charcoal. Hunting land crabs at night with light ("torching") was common here 30 years ago.

Crabs caught are penned and purged on a diet of cornmeal and coconut, because crabs may have eaten manchineel which doesn't hurt them, but is poisonous to people.

SANSEVERIA (Mother-in-Law Tongue, Snake Plant, Iguana Tail)
Sanseveria can be beaten to shake off smooth portions leaving fibers that make good rope, or whips? (Cf. Plant Check List)

GRINDING PLATFORM

The grinding platform is a roughly circular platform approximately 80 feet in diameter, raised 6 feet above the surrounding ground level and bounded by a retaining wall. The cane was crushed here and the juice piped into the boiling house.

Several years ago herbicides, including 2-4-D, were used here on weeds, but they killed these tall palms as well. Use of such herbicides and all hard pesticides is now strictly prohibited in the VINP.

DRIPPINGS from the wet ground sugar were collected here.

A WELL nearby and cistern for water needed to produce steam. Pipes led from the boiling house into this cistern.



Steam turned this wheel until 1916 when sugar operations at Reef Bay ceased.

Photo courtesy of The Daily News of the Virgin Islands

HORSE MILL. Note the circular walls (See Annaberg).

SOUTH WALL OF BOILING HOUSE

Steam turned this wheel. The equipment was made by W. & A. McOnie in Glasgow, Scotland in 1861. It was in operation until 1916.* Operations stopped at this time because it was difficult to get labor. (The population of only 700 persons scattered over a wide area). In 1907 a member of the Dalmida family was killed at this spot when his shirt was caught in the wheel as he stooped to pick up some old cane, and thereafter many persons were reluctant to work at the mill.

BOILING HOUSE MACHINERY against north wall. This sugar mill was the last one operating on St. John and could still be put to work if a decision is reached to make Reef Bay a Living Farm, producing sugar and rum.

Here is where Kill-Devil Rum dripped after going through the "worm" cistern, so-called because of the worm-shaped copper coils that cooled the alcohol vapors.

*Park Historian, Clarence Johnson, in a 1950 report, p.16. Reference Library, Virgin Islands National Park, No. 564.



Photo courtesy of The Daily News of the Virgin Islands

END OF THE TRAIL. This stark dead tree helps hold sand on the beach and stands in striking profile against the ground seas common here.



A boy from Belgium studies a gear manufactured in Scotland in 1861 and brought to Reef Bay, St. John.

Photo courtesy of The Daily News of the Virgin Islands

Bird check list



Edmond Roberts wears a Parula Warbler on his shoulder like a rainbow. When the blue warbler flew against a window and was stunned, Roberts dropped water in its beak to revive the bird which flew up to say, "Thank you very much, Ed!"

Photo courtesy of The Daily News of the Virgin Islands

THE PEARLY-EYED THRASHER, better known as "Thrushee," is properly speaking *Margarops fuscatus*, "fus" for the considerable fuss he makes. The Thrushee is a pest in many ways because of the fruits he eats — papayas, soursops, tomatoes — everything but thick-rinded items like watermelons and pumpkins. He is the most numerous of all birds on St. John, according to William Robertson, and few persons would challenge that statement. Like the Thieving Magpie in Rossini's Overture, Thrushees are mischief-makers thieving food from the pot. Noble Samuel reports that he has seen a Thrushee at Hawks Nest blow soap bubbles after a snack of soap.

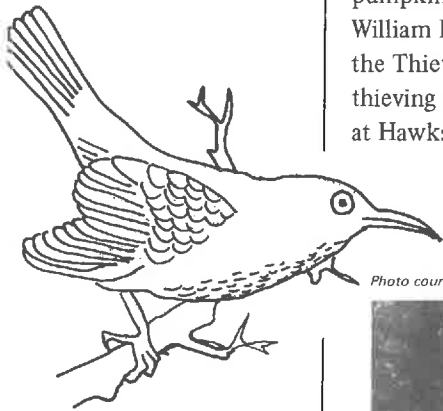


Photo courtesy of Tom Condit

Pearly-eyed Thrasher or Thrushee



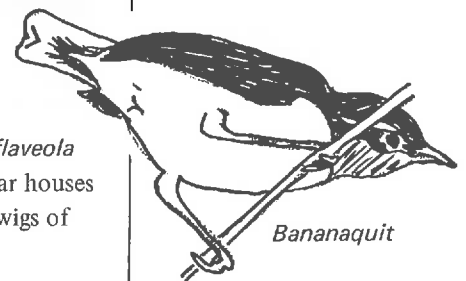
Bananaquits in a sugar bowl.



Baby hummingbird — second of two nestlings — Photographed moments before taking flight.

THE YELLOWBREAST Sugar Bird or Bananaquit (*Coereba flaveola newtoni*) is the official V.I. bird that often builds its shaggy nest near houses as well as in the Dildo cactus whose spines serve as "nails" for the twigs of the nest.

Of the 21 birds that breed on St. John, the smallest, and in many ways, the loveliest is the ANTILLEAN CRESTED HUMMINGBIRD (*Orthorhyncus cristatus*) who lays her two tiny, lizard-sized eggs five or six times a year in a neat thimble-sized nest lined with milkweed down or spider webs.



Bananaquit

One of the larger birds is the MANGROVE CUCKOO (*Coccyzus minor*) whose warm eyes, peach-colored breast and wide, black tail with huge white polka dots is a striking creature. The loud, low “Ca-ca-ca!” gives this bird its local name of “Morning Ca-Ca Bird.” Gardeners appreciate the large numbers of insects this bird consumes. Other birds most likely to be seen are listed below by common local name:

WHITE-TAILED TROPICBIRD – *Phaethon lepturus*
Rookery on Congo Cay behind Lovango.

BROWN PELICAN – *Pelecanus occidentalis*

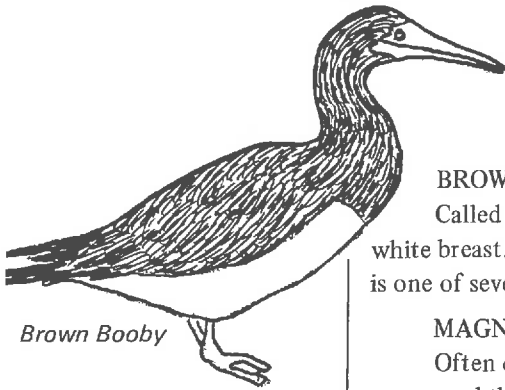
DDT hasn't yet hit the pelicans breeding here as it has in Louisiana, California, Texas and Florida.



Pelican



Pelicans ready to dive for fish in Fungi Passage near Mary Point.



Brown Booby

BROWN BOOBY – *Sula leucogaster*

Called “brown,” the mature bird has a dark brown back and a snowy white breast. His bill and feet are yellow. “Booby Rock” near Salt Pond Bay is one of several rookeries near ESA's.

MAGNIFICENT FRIGATEBIRD – *Fregata magnificens*

Often called “a Weather Bird” or “Man-of-War Bird”, males have an orange-red throat patch. Frigatebirds chase and harass boobies and other sea birds, until exhausted, they drop fish which the frigatebirds snatch up.

Photo courtesy of Alex Bermudez

Photo courtesy of The Nature Conservancy



Little Blue Heron

The Little Blue Heron is white when young.



Green Heron at rest



Green Heron in flight

GREEN HERON – *Butorides virescens*

A small (16-19”) glossy green bird with some violet on his back. Found in many fresh, brackish, and salt water areas, including NPS Visitors Center.

LITTLE BLUE HERON – *Florida caerulea* (GARLIN)

The blue garlin is the mature bird; the white garlin is the immature heron. Seen in swamps like the one near Annaberg seashore trail. Also called a Pond Shakee.



Frigatebirds

Note scissor tails in flight.
Photo courtesy of Alex Bermudez



Photo courtesy of Alex Bermudez

CATTLE EGRET – *Ardeola ibis (Bubulcus ibis)*

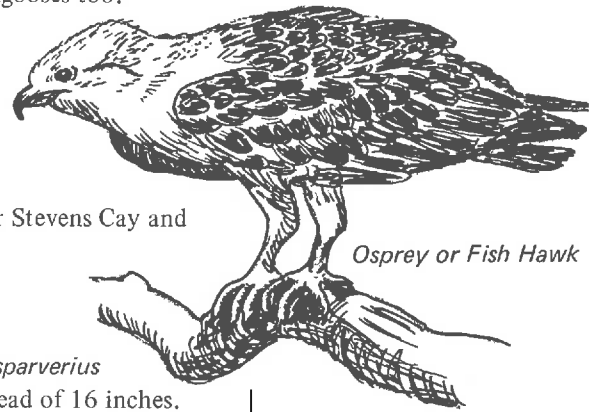
Or called cowbird, found among cattle. Said to eat ticks off cows (symbiotic relationship).

RED-TAILED HAWK – *Buteo jamaicensis*

The so-called Chicken Hawk really eats more rodents than chickens and should not be shot. 48” wing-spread. He eats mongooses too.

OSPREY or FISH HAWK – *Pandion haliaetus*

Even here a rare bird, but sometimes spotted near Stevens Cay and along north shore.



Osprey or Fish Hawk

KILLI-KILLI BIRD or SPARROW HAWK – *Falco sparverius*

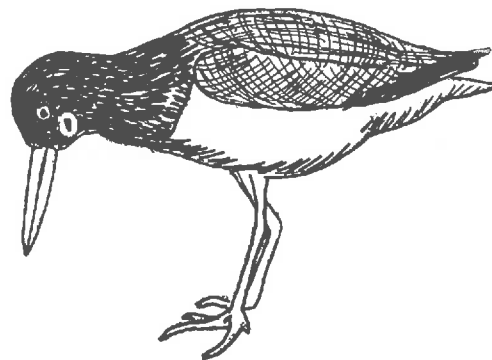
A handsome soaring bird, easy to spot with wingspread of 16 inches.

COMMON GALLINULE – *Gallinula chloropus*

Slate gray, 12 to 14½ inch duck-like birds with a red bill, white feathers on the flanks. Found in open water or among reeds. Pumps his head and neck when swimming.

COMMON OYSTERCATCHER – *Haematopus ostralegus*

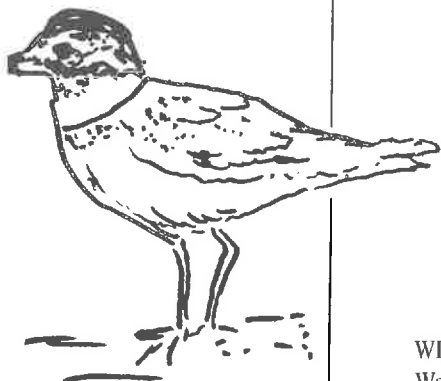
On St. John Oystercatchers catch whelks or “wilks” instead of oysters and crack them open by dropping them on a rock. The red beak, black head, and loud wheep are unmistakable. With binoculars you can even see the red eyelids.



Common Oystercatcher

WILSON'S PLOVER – *Charadrius wilsonia*

Watch for this white collared plover with a thick black bill at the Salt Pond in late spring, early summer. Walk carefully to avoid stepping on the 3-4 spotted eggs laid in a nest camouflaged with coral scraps.



RUDDY TURNSTONE – *Arenaria interpres*

A squat, robust orange-legged shorebird larger than the spotted sandpiper. Black face, russet back and harlequin pattern on breast. Found on pebbly beaches where he turns stones with his beak.



Ruddy Turnstone

STILT (BLACK-NECKED STILT) – *Himantopus himantopus*

A large slim wader, black above and white below, with extremely long red legs. 13½ to 15½”.

Photo courtesy of Alex Bermudez



SPOTTED SANDPIPER – *Actitis macularia*

7-8” olive brown above and whitish below. Sandpiper teeters when it walks. Large round spots on breast during breeding season.

SOLITARY SANDPIPER – *Tringa solitaria*

Looks like a Lesser Yellow-Legs, but has a dark rump instead of a white one and dark legs instead of yellow ones. Avoids salt margins.

GREATER YELLOWLEGS – *Tringa melanoleuca*

Bright yellow legs mark this large sandpiper. It has no wing stripe. Found in mudflats near Coral Bay.

LESSER YELLOWLEGS – *Tringa flavipes*

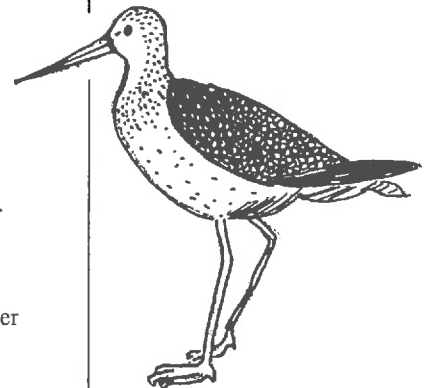
Seen in the marshy area west of Annaberg picnic area. Like Greater Yellowlegs, but only 9½” to 11”.

LAUGHING GULL (THE DAVID) – *Larus atricilla*

Gulls differ from terns in having slightly hooked bills which point straight ahead in flight. Gulls have square tails. Laughing gulls laugh, at Salt Pond in the spring and summer.



Solitary Sandpiper



Lesser Yellowlegs

ROSEATE TERN – *Sterna dougallii*

Tern bills point down. Tern tails are forked. Terns plunge headfirst into the water. Roseate tern is white with pale gray mantle, black cap, black bill and red feet. Tail extends beyond wings.

SOOTY TERN – *S. fuscata*

The only tern that is black above and white below. Bill and feet are black or sooty.

ROYAL TERN – *Thalasseus maximus*

Slender orange or yellow-orange bill. Black headfeathers form a crest almost like horns.

BROWN NODDY (NODDY TERN) – *Anous stolidus*

The only BROWN tern except the immature sooty tern. The only tern with a rounded tail. A whitish cap.

WHITE-CROWNED PIGEON – *Columba leucocephala*

Starting to come back after years of absence. Completely dark except for its shining white crown.

RED-NECKED PIGEON (SCALY-NAPED PIGEON) –
Columba squamosa

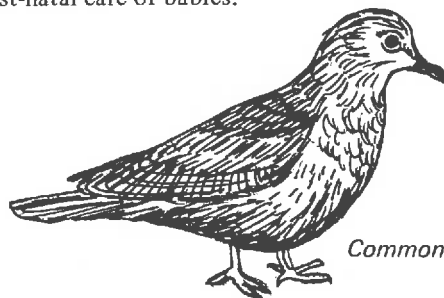
Slate grey pigeon with dull red neck and chest.

MOUNTAIN DOVE OR ZENAIDA DOVE – *Zenaida aurita*

Curi-coo-coo call like mourning dove. 11-12" stocky cinnamon-colored dove. Black spots on wings. Violet-blue streaks near ears. Will come to feed on watermelon and pumpkin seeds.

GROUND DOVE – *Columbigallina passerina*

Not much bigger than a sparrow, often nests on the ground or in a cactus. Both male Mountain Doves and male Ground Doves assist in the pre- and post-natal care of babies.



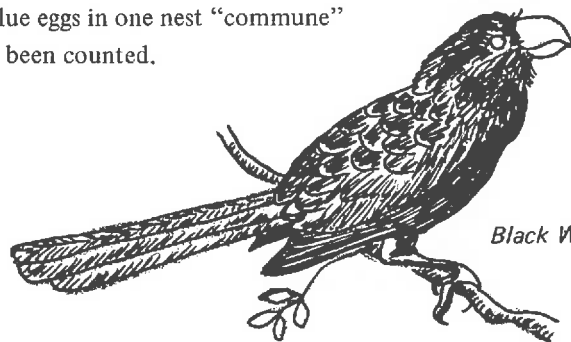
Common Ground Dove

MARMY DOVE OR BRIDLED QUAIL DOVE – *Geotrygon mystacea*

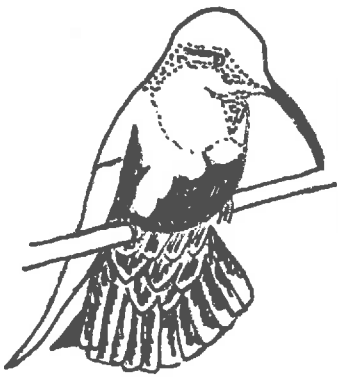
Anterior portion iridescent, but otherwise the Marmy Dove is dusky olive brown with white stripe below eye. Sometimes seen and heard in the gut at Reef Bay.

SMOOTH-BILLED ANI OR BLACK WITCH – *Crotophaga ani*

Coal black-violet bird with a huge bill and parrot-like profile. Several females usually lay in one nest in layers. Bottom layers fail to hatch. Up to 29 blue eggs in one nest "commune" have been counted.



Black Witch



Green-throated Carib

GREEN-THROATED CARIB – *Sericotes holosericeus*

The larger of the two “doctor birds,” with a slightly curved beak.

BELTED KINGFISHER – *Ceryle alcyon*

Flies up and down, fishes in the water, size of thrushes.



The Green-throated Carib in her nest high up in a Genip Tree.
Photo courtesy of William Kasselmann

GREY KINGBIRD or “CHINCHERI” – *Tyrannus dominicensis*

Perches on top branches of tree and sings in the morning. “Chincheri” is the sound of its cheerful song. A busy bug-eater.

CARIBBEAN ELAENIA – *Elaenia martinica*

A plain-colored flycatcher with dark olive grey upper parts and a faint yellow wash to greyish underparts. Wee-wee-ee up.

LESSER ANTILLEAN BULLFINCH – *Loxigilla noctis*

First seen nesting in 1971-72 at Ram Head. Black with inverted red triangle at throat. Eats manchineel apples and nothing happens.

PARULA WARBLER – *Parula americana*

Seasonal, very small 4½”, greyish bluish with an olive green patch and two white wing bars.

YELLOW WARBLER – *Dendroica petechia*

Almost entirely yellow. Clear bright song. Locally called a Canary.

BLACK-FACED GRASSQUIT or SPARROW – *Tiaris bicolor*

Small greenish-black bird.

HERRING GULL – *Larus argentatus*

Grey mantle, black wing tips, pink legs.

COMMON TERN – *Sterna hirundo*

Wings extend beyond tail.

BANK SWALLOW – *Riparia riparia*

A transient: September to October, February to May. Small swallow, greyish brown with white underparts and black band across chest.

CAPE MAY WARBLER *Dendroica tigrina*

Chestnut cheeks, underparts yellow, narrowly striped with black.

PALM WARBLER – *Dendroica palmarum*

Constantly flicks its tail up and down. Spends most of its time on the ground.

This Almaniactal survey must close! Hard facts, like the rocky soil on St. John hillsides, tend to erode, but the important history and natural history remain and continue to grow, and sometimes bloom.

Before visiting the three ESA’s (Annaberg, Reef Bay, Salt Pond Bay) check through the Plant Check List (which follows) for plants, listed by their common local names.

Photo courtesy of Alex Bermudez



A “Chincheri” likes to perch on the topmost branch of a tree.



Black-faced Grassquit or Sparrow

St. John plant check-list

There are more than 250,000 known plant species in the world. On St. John alone there are 1,058 species of plants representing 132 families. Included in this check list are only 133 of those plants. We hope you will see, smell, touch, taste or hear about many more.

The plants listed here are all found either in, or on the way to, one of the St. John Environmental Study Areas, at Annaberg, Salt Pond Bay, or Reef Bay. Plants are listed here by local and botanical names. The first word in a botanical name gives the genus; the second word indicates the species. Genus and species are both italicized.

It seems likely that some of the food plants and many of the medicinal plants found on St. John today were introduced from Africa by slaves and/or slavers. As many as 80% of the plants used in traditional Virgin Islands folk medicine are also used in Ghana according to Michael Cudjoe, a Ghanaian teacher who visited the Reef Bay Environmental Study Area several times with students and teachers in 1970-71.



Mike tells his friends from Gramboko School about Bush medicine. One plant, Congo Root or Strong Man Bush can numb the "bum" before a beating, according to Mike.

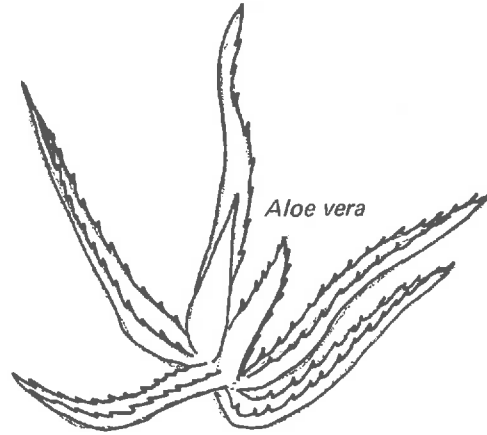


African Tulip

LOCAL NAME	FAMILY	BOTANICAL NAME
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African Tulip	<i>Bifoniacea</i>	<i>Spathodea campanulata</i>
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Large, brilliant, orange-red flowers of the African Tulip hold water. Birds bathe in the blossoms. Unopened buds hold water that give off a foul smell, and can be squeezed or pinched like water pistols. The seed pods look like toy boats, but they close up in water. The tree is a native of tropical West Africa.



Aloe vera

Aloe (Semper-vivy)	<i>Liliaceae</i>	Aloe vera
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A native plant of the Mediterranean, Aloes are grown as houseplants from Moscow to Glasgow for medicinal use in effective treatment of colds and sore throats.

A Russian scientist, Dr. V.P. Filatov, conducted experiments with Aloes at the Institute for Biochemical Research which specializes in medicinal plant research. Aloes, in these experiments, were found to promote internal healing of tissues in certain eye diseases, bronchial asthma, chronic gastritis, and ulcers. Also excellent for coral cuts.

Aloes are commercially grown in the Dutch West Indies to supply the cathartic agent in Carter's Little Liver Pills and Alophen Pills. According to the University of Pennsylvania, Department of Radiology, Aloes are considered one of the most effective preparations available for treatment of radiation burns. V.I. housewives know how helpful the jelly-like insides of Aloes are in healing kitchen burns.

The *Aloe vera* used by Cleopatra is today used in a variety of cosmetics. Aloes soothe sunburn more than Solarcaine, according to V.I. tourists who have tried it.

The plant is a tough, drought-resistant ornamental. The yellow blooms which appear in early Spring are a favorite food of birds and a tasty crisp addition to fruit salad.

Anise	<i>Umbelliferae</i>	<i>Pimpinella anisum</i>
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This herb, used for seasoning, looks like dill, but tastes like licorice.

Anthurium (Scrub Brush)	<i>Araceae</i>	<i>Anthurium acaule</i>
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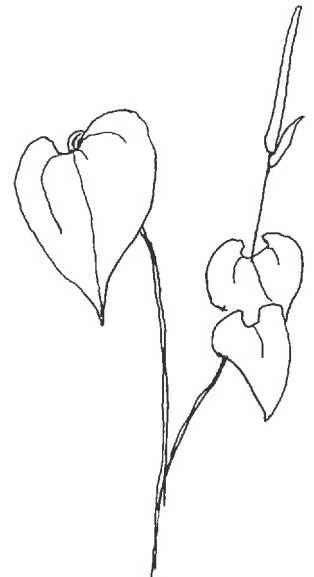
Thousands of these elegant long-leaf plants ornament the Reef Bay Trail as though placed there by a landscape gardner. The skeletons of this Anthurium serve as an organic Brillo for scouring pots clean.

Anthurium	<i>Araceae</i>	<i>Anthurium cordatum</i>
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This Anthurium has a heart-shaped leaf. Both varieties have serpentine pistils which children call "snakes" and use as whips.



Anthurium acaule
or Scrub Brush



Anthurium cordatum

LOCAL NAME	FAMILY	BOTANICAL NAME
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Bananas	<i>Musaceae</i>	<i>Musa sapientum</i> and <i>Musa paradisiaca</i> (Plantains)
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The origin of the banana is unknown. The College of the Virgin Islands, V.I. Extension Service reports that recent finds in gypsum deposits of the Tertiary Age, about 60 million years ago, in Southern France show that the banana is a primitive plant.

There are more than 30 varieties of plantains and bananas of the genus *Musa* grown in Puerto Rico and the Virgin Islands, though only a few varieties are cultivated today on St. John. These include Donkey, Horse, Red, and Fig bananas.

Pigafelta's account of Magellan's feast in the Philippines speaks of the thin-skinned "long, delicious figs." This was the first time bananas were called Figs.

Bananas, like papayas, soursops, and limes, bear fruit most of the year. Many more bananas could be grown in most yards with little trouble.

Basil (Sweet Balsam)	<i>Senna</i>	<i>Adipera bicapsularis</i>
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The tomato-seasoner, used locally to make a "bush tea". Basil grows at the end of the Reef Bay Trail near the area of the land crab holes.

Bay Bean	<i>Fabaceae</i>	<i>Canavali maritima</i>
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One of the first indications of land vegetation seen by Columbus may have been floating seeds of the Bay-Bean which is a vine with purple blossoms along sand beaches on St. John, at Cruz Bay, Leinster Bay, Reef Bay, and Salt Pond Bay. The blossoms smell sweet!

Bay Cedar	<i>Simaroubaceae</i>	<i>Suriana maritima</i>
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A beautiful beach ground cover found on the rocks near marker 11 at Drunk Bay. The yellow-green plant flourishes despite wind, sun, drought and salt spray.

Bell Apple	<i>Passifloraceae</i>	<i>Passiflora laurifolia</i>
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A native of Tropical America, this vine, found at Reef Bay, below the first switchback and again near the Marsh birth-house blooms in May with purple and violet blossoms. Immature fruits look like mini-watermelons. When ripe, the fruits are yellow. The tart juice makes an excellent beverage.

Birchberry	<i>Myrtaceae</i>	<i>Eugenia lingustrina</i>
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Birchberry branches are used in making the frame for fish traps. The small, edible berry is not too tasty. The Birchberry is often host to a parasite known as Chinchery Cou-cou which is used as a cold remedy.

Black Calabash	<i>Bignoniaceae</i>	<i>Crescentia linearifolia</i>
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The Black Calabash or Mini-Gobi is found by the fresh-water pool near the Petroglyphs, Reef Bay Marker 10. The tree bears pale green tubular flowers followed by 1-2 inch calabashes or mini gobis.

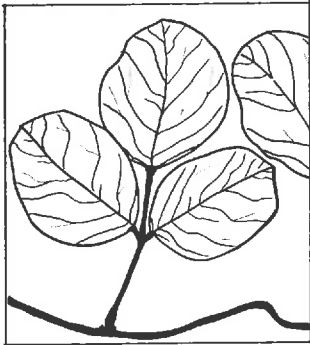
Black Mangrove	<i>Verbenaceae</i>	<i>Avicennia nitida</i>
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The Black Mangrove is a small tree, 10-40 ft. high, found on the southwest side of the Salt Pond. Both sides of the lance-shaped leaves give off salt, even after a leaf is plucked from the tree and licked once. The upper surface of the 2-4½ inch leaf is yellow green and the lower surface gray-green. There are 3 other varieties of Mangroves found on St. John:

- Buttonwood – Combretum – *Conocarpus erectus*
- White Mangrove – Combretum – *Laguncularia racemosa*
- Red Mangrove – Rhizophoraceae – *Rhizophora mangle*



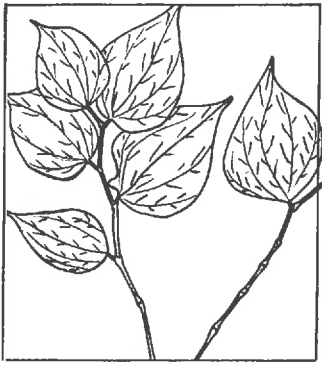
Plantains



Bay Bean



Black Mangrove



Black Wattle

The leaves make one of the most delicious of all Bush Teas. The tea is also used to relieve coughs.

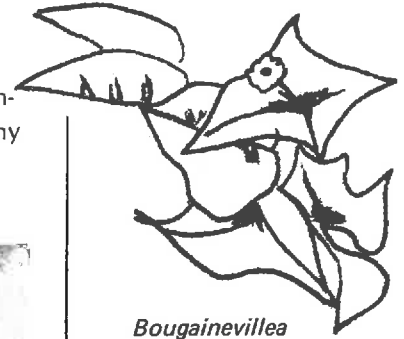
LOCAL NAME FAMILY BOTANICAL NAME

Black Wattle *Piperaceae* *Piper amalga*

Black Wattle is a shrub or small tree found at Cinnamon Bay along the road to the camp and along Reef Bay Trail by the Marsh birth-house Marker 7.

Bougainvillea *Nyctaginaceae* *Bougainvillea spectabilis*

Bougainvillea is named after the French navigator, Louis de Bougainville, who found it in Rio de Janeiro in the 18th Century. Brick red, tawny orange, lavender, or white, Bougainvillea blooms when droughts dry up other ornamentals.



Bougainvillea



Breadfruit *Moraceae* *Artocarpus altilis*

A tall, handsome breadfruit tree can be seen a few feet from the road in front of the Nazareth Lutheran Church as it leans toward the church with its elegant lobed leaves and large round green fruits. Another breadfruit tree grows in the ruins of the mill at Caneel Bay.

Breadfruit was introduced to the West Indies from Tahiti in 1793 by Captain Bligh who brought the plants aboard the *Providence*.

Breadfruit can be grown from cuttings or air-layering and the plants will grow rapidly.

Broom Palm (Teyer Palm) *Palmae* *Coccothrinax alta*

This tall, slender palm is the only palm native to the Virgin Islands. Coconut, date, cabbage, and royal palms are all exotic varieties. The broom palm flourishes on the north side of St. John and in the upper part of the Reef Bay Trail. The fronds are used in making brooms, hats and fishpots.

Butterfly Pea *Legumino-sae* *Clitoria ternatea*

The true-blue blossoms of this vine can be eaten. They make an attractive fence cover.

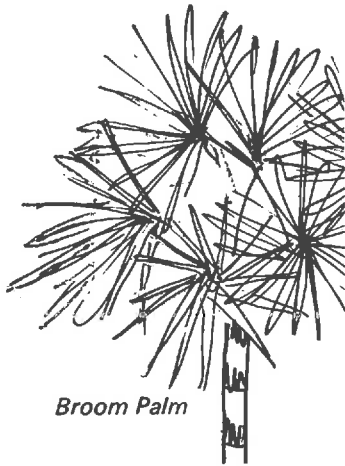
Buttonwood *Combretaceae* *Conocarpus erecta*
(White Mangrove)

The wizened raspberry-like buttons of the Buttonwood are one of the three foods essential to the diet of the Anegada Iguana. Buttonwoods grow at Salt Pond Bay, overhanging the picnic table, at Lameshur, and Annaberg.

Calabash (Gobi) *Bignoniaceae* *Crescentia cujeta*

Native to tropical America, the gourd-like fruit of the calabash is used for bailing out boats and for cups and bowls. It is even possible to bake bread and freeze it in the same calabash.

The biggest ones are found on Jost van Dyke. Different shapes can be formed by tying ropes around growing calabashes. "They make such graceful and handsome ones of such high polish that any prince would be pleased to drink from them. They attach gold handles to these vessels. They are very clean and the water tastes very good in them." — Oviedo, p. 87. Bats pollinate Calabashes as well as Bauhinias and Kapok trees.



Broom Palm



Calabash (Gobi)

LOCAL NAME	FAMILY	BOTANICAL NAME
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Casha	<i>Mimosaceae</i>	<i>Vachellia farnesiana</i>
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This was used to make charcoal. Goats eat it in spite of its vicious thorns. Orange blossoms are rather attractive. Casha flourishes at the end of the Reef Bay Trail, just before you reach the Mill, in the muddy area where land crabs live.

Cassava	<i>Euphorbiaceae</i>	<i>Manihot utilissima</i>
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A native of tropical America, Cassava is a shrubby perennial, 6-7 feet high. Bitter cassava (*Manihot utilissima*) contains a fair amount of prussic acid but when the roots are grated and washed, boiled or roasted, or made into a coarse bread, the poison is completely dissipated. It is impossible to be poisoned from cassava bread; it is only possible to be nourished and delighted.

Only a few persons, mainly Tortolans, cultivate Cassava on St. John today, but there is a growing recognition of the economic opportunities for Virgin Islanders in raising Cassava and marketing Cassava Bread locally and exporting it to the mainland. According to Dr. Arnold Krochmal who conducted studies on Cassava for the local government, Cassava is one of the very few crops that can today be grown profitably.

Cassava Bread, a staple food for both Indians and Africans for centuries, has recently achieved gourmet status as a Virgin delicacy when toasted and served with butter, cheese, honey, caviar, or "as is."

The "bread" is actually a large 18" thin, slightly limp sheet "baked" on an iron over charcoal.

If toasted or kept dry, Cassava Bread will outlast hardtack.

Cassava on St. John is cultivated in a small garden of native vegetables at the Virgin Islands Ecological Research Station at Lameshur.

Catch-and-Keep (Country Policeman)	<i>Mimosaceae</i>	<i>Acacia riparia</i>
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The thorns of Catch-and-Keep have caught and torn the uniforms of V.I. soldiers in Vietnam.

Cat's Paw	<i>Bignoniaceae</i>	<i>Bactoclydia unguis</i>
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Native to tropical America, this vine clings to trees and walls with a three-pronged tendril like a cat's paw. The vines are the "whist" used in basketry. (See the vines on the Cinnamon Bay dry wall.) Cat's Paw is easy to identify when in bloom by the small butter-yellow blossoms.

"Cedar"	<i>Bignoniaceae</i>	<i>Tabebuia heterophylla</i>
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Beautiful masses of showy pink petunia-like blossoms cover the tall (up to 60'), slender (1½') trunk, rough and furrowed bark of the native cedar tree, which, of course, is not a cedar at all.

Century Plant	<i>Amaryllidaceae</i>	<i>Agave americana</i>
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The Century Plant takes ten years, not a century, to blossom, and then dies. The spikes with blooms are 10 to 20 feet tall, and bloom in April on the arid hillsides, down to rocky shores like those at Salt Pond Bay. One plant in bloom provides thousands of free lunches for birds.

Century Plant	<i>Amaryllidaceae</i>	<i>Agave missionum</i>
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This plant is smaller, grows on rocks, and is less spectacular.

Chocolate Tree	<i>Sterculiaceae</i>	<i>Theobroma cacao</i>
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This native of tropical America and the West Indies may be seen on the Cinnamon Bay Trail. The pod is warty, 6 to 9 inches by 3 to 4 inches, red, yellow or gray when ripe, with 25 to 36 seeds. Montezuma is said to have consumed over 500 pitchers of chocolate a year.

Photo courtesy of
The Daily News of the Virgin Islands



Cassava

Capt. Benjie brings Cassava Bread from Tortola where his mother makes the bread to St. John.



Chocolate grows on chocolate trees!



Century Plant
(*Agave americana*)

LOCAL NAME	FAMILY	BOTANICAL NAME
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Christmas Candle	<i>Euphorbiaceae</i> (Spurge)	<i>Pedilanthus tithymoides</i>
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The red flame-like tips of these plants attract hummingbirds. The green and white leaves with pink root grow anywhere readily and ornament a barren spot with color and life.

Christmas Candle	<i>Fabaceae</i> (Legume)	<i>Cassia alata</i>
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The showy yellow flowers of this Christmas Candle shrub shine like bright yellow flames. The flowers are always in bloom for Christmas.

Christmas Tree (Inkberry Tree)	<i>Rubiaceae</i>	<i>Randia aculeata</i>
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Small tree growing in dry areas. Long slender branches, fragrant white flowers, followed by white berries that produce a blue dye. Encourage students not to cut these trees since few are left. Plant a small live one as has been done at the Lutheran Church in Cruz Bay.

Citrus fruits

Citrus fruits probably originated in Malaysia. From the Arabs, Crusaders learned the pleasures of lemons (*Arabis laymun*) and orange (*Sanskrit naranga*). Columbus, on his second voyage, took seeds of citrus to the New World. Limes do much better on St. John than any other citrus.

Crab Eye	<i>Fabaceae</i>	<i>Abrus precatorius</i>
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The Crab Eye is a small red seed with a black eye that grows on a vine. (Cf. Jumbie Bead which is a larger seed, all red, and grows on a tree).

The deadly poison in the Crab Eye is Abrine. One seed chewed thoroughly is sufficient to kill an adult.

Both the poisonous Crab Eye and the non-poisonous Jumbie Bead are found along the Reef Bay Trail.

The leaves of the Crab Eye vine are used in a tea for colds. When combined with seagrape leaves, bay rum leaves, lime leaves, Crab Eye leaves are also used as a bath for rheumatism.

Congo Root (Strong Man Bush)	<i>Petiveria alliacea</i>
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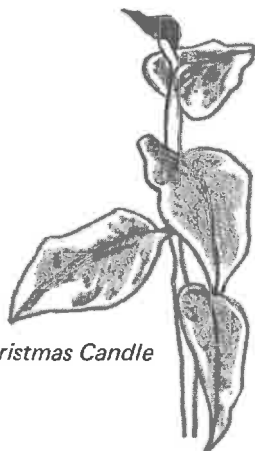
Congo root, widely used for stomach disorders, is one of some 200 local medicinal plants. The crushed leaves rolled on the palms of one's hands or elsewhere desensitize the skin enough that children claim they won't feel licks if they rub themselves first with strong man bush. The plant grows in the middle of the Reef Bay Trail from Marker 7 down to the Mill.

Crumberry	<i>Myrtaceae</i>	<i>Eugenia rhombea</i>
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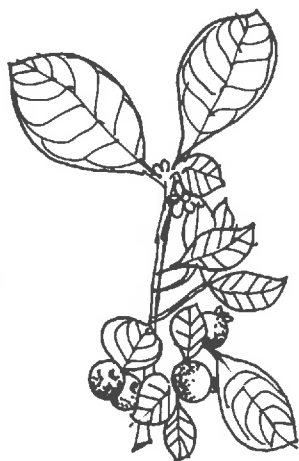
Seeded, fleshy fruits of this small tree change from red to black as the fruit ripens. Fruits ripen in July and January. (Related to guavaberry). Not many crumberries are left, since, like their cousins, guavaberries, they are often cut down, but seldom planted. They grow slowly from seed, and seeds must be planted within 2 to 3 weeks since, they store little protein.

Dogwood (Fish Poison Tree) Pea	<i>Fabaceae</i>	<i>Ichthyomethia piscipula</i>
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The Caribbean Research Institute is investigating the fish-stunning properties of the pale green scalloped pod of Dogwood. Flowers appear early March to April. Pound bark, use in fish traps, or place bark between coral to drive fish out so they can be caught. It works!



Christmas Candle



Christmas Tree



Cassia alata



Crab Eye



Congo Root

LOCAL NAME	FAMILY	BOTANICAL NAME
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Dodder (Yellow Love)	<i>Cuscutaceae</i>	<i>Cuscuta americana</i>
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A parasitic plant, Yellow Love often kills its host plant, but while it is a garden pest, it may help to control overgrowth caused by long periods of heavy rainfall. Children use Yellow Love as play food for spaghetti and carrots. Boiled with "Worry Vine" as a Tizane, Dodder has been used to treat jaundice.

Dodder usually dies down during periods of drought.

False Cocaine	<i>Erythroxylaceae</i>	<i>Erythroxylon brevipes</i>
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False Cocaine is a small tree with fragrant, white blossoms during late April or early May. The leaves do have a little cocaine. You will smell these blossoms on the Reef Bay Trail before you see them. The tree resembles the native Christmas tree, but has no thorns and a smaller blossom. The tiny red fruits can be used to color fruit jelly red.

Fiddlewood	<i>Verbenaceae</i>	<i>Citharexylum fruticosum</i>
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Fiddlewood is used for instruments, including fiddles, and has an intense fragrance, like Jacquinia and False Cocaine. It blossoms from February to March and again in August and September. Fiddlewood is ornamental, but caterpillars like it, and removing the caterpillars by hand is tiresome. Clusters of orange berries that thrushes enjoy follow the sweet blossoms.

Flamboyant	<i>Leguminosae</i>	<i>Delonix regia</i>
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The Royal Poinciana is a native of Madagascar. The tree has brilliant orange-red blossoms during June and July. The roots may crack cistern walls, so the tree should be planted 15 feet or further from the house.

Frangipani	<i>Apocynaceae</i>	<i>Plumeria rubra</i> , <i>Plumeria acutifolia</i>
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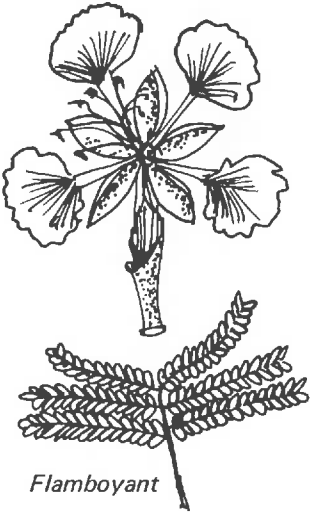
Garden varieties of Frangipani are pink, yellow and red. This fragrant plant is named for Charles Plumier, a French botanist who visited the Caribbean in the 17th Century. Note the beautiful specimen at Annaberg.

Frangipani	<i>Apocynaceae</i>	<i>Plumeria alba</i>
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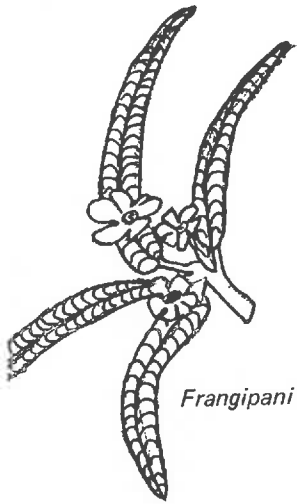
The "Milk Tree" or wild frangipani has thin leaves and white blossoms. Caterpillars may strip leaves off trees, but they rarely kill the plant. Hardy plants survive all along the arid, salty fringe of the Salt Pond.

French Cactus	<i>Cactaceae</i>	<i>Opuntia tuberculata</i>
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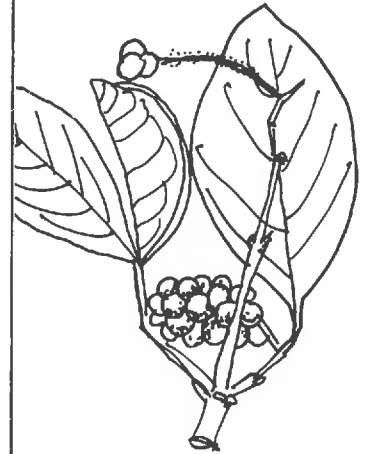
This smooth, thornless cactus developed by Burbank can be used for soup and for shampoo, too, with results that Breck would envy.



Flamboyant



Frangipani



Fiddlewood



Daphne holds the seed pod of a Rubber Vine. Raffie holds the shiny horns that form the seed pod of a cultivated pink frangipani like the one near the windmill at Annaberg.

Photo courtesy of
The Daily News of the Virgin Islands

LOCAL NAME	FAMILY	BOTANICAL NAME
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Ginger-Thomas (Yellow Cedar)	<i>Bignoniaceae</i>	<i>Tecoma stans</i>
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Yellow cedar is the official flower of the U.S. Virgin Islands. The yellow flowers smell like raspberry jam and attract bees. Note the Ginger-Thomas at the foot of the hill leading up to Annaberg.



Ginger Thomas
(Yellow Cedar)

Genip	<i>Sapindaceae</i>	<i>Melicocca bijugata</i>
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Genip leaves of the female trees may help repel sand flies, according to an Oregon State University Entomologist's report on specimens sent from St. John in 1970. The fruits of St. John genips are justly reputed to be the sweetest of all. Two-seeded juicy genips are called Filipinos, and according to legend, young women who eat them will bear twins! (Cf. Paul Ehrlich)



Genip

Gooseberry	<i>Euphorbiaceae</i>	<i>Phyllanthus acidus</i>
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Gooseberry is a naturalized plant, introduced into the West Indies in 1793. It spreads along roadsides and waste places. There are now only 2 or 3 in Cruz Bay. The fruits make jelly, preserves, candy and pickles. Propagation from seed is easy.

Guana Tail	<i>Lilaceae</i>	<i>Sanseveria guineensis</i>
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This plant grows at the end of the Reef Bay Trail and in many other areas. Formerly, rope was made from the fibers by beating off the pulpy flesh which looks like an Iguana tail. Clowns at Carnival use Guana Tails for whips. Sanseveria was boiled with clothes to bleach them white before the advent of Clorox on St. John.

Guava	<i>Myrtaceae</i>	<i>Psidium guajava</i>
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The Guava is native to tropical America. The outer layers of the fruit are preserved commercially, as is the juice. Guava powder and dehydrated fruits are also prepared. Guavas have much Vitamin C when eaten raw. On St. John, most guavas are found in Coral Bay.

Guavaberry	<i>Myrtaceae</i>	<i>Eugenia floribunda</i>
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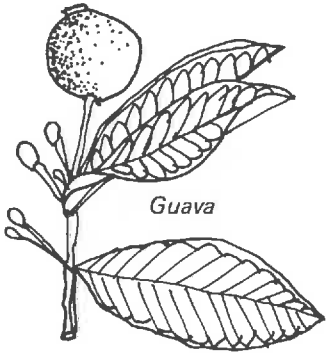
Orange and black guavaberries on Bordeaux Mountain and along the Reef Bay Trail are unusually good. Guavaberry Liqueur is made from these berries with pure grain alcohol, rum, raw sugar, and spices — a local Christmas treat, not unlike Danish Cherry Heering, which some believe may be derived from Danish Yule joy with Guavaberry Liqueur. Preserved guavaberries make prize-winning tarts!

Guinea Grass	<i>Poaceae</i> (Grass)	<i>Panicum maximum</i>
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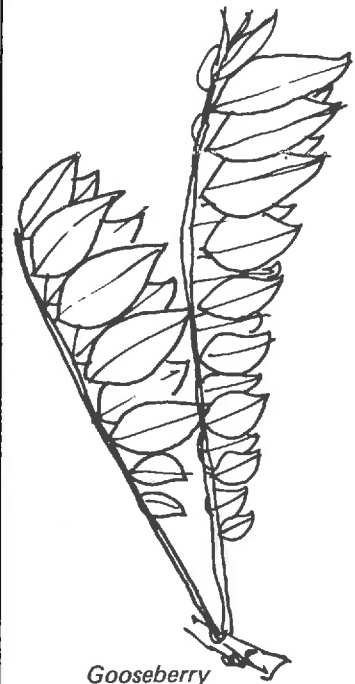
Guinea grass is native to tropical America and is considered the best fodder grass in the tropics. It may be cut every 3 to 4 weeks if manured. Forty tons per acre is common, but yields up to 80 tons are possible. Guinea grass is the tall grass on Grass Cay and in many pasture areas of St. John.

Gushee-Gushee (Sensitive Plant)	<i>Leguminosae</i>	<i>Mimosa pudica</i>
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Gushee-gushee is a small plant, native to tropical America, with thorny stems that creep through the grass. The leaves are sensitive to touch and close up at once. Children on St. John, St. Thomas, and St. Croix sing a song, "Gushee-gushee, shut your do'/Ole man comin' to bite your toe". The Sensitive Plant bears a small lavender dandelion-type bloom. Found on the Reef Bay Trail, if you look carefully, to the left of the path, a few hundred feet below Marker 6.



Guava



Gooseberry



Gushee-Gushee

LOCAL NAME FAMILY BOTANICAL NAME

Haiti-haiti Tree *Malvaceae* *Thespesia populnea*
(Portia, Seaside Maho,
or Seaside Hibiscus)

The shade of the Haiti-haiti tree is welcome along Cruz Bay Beach and Reef Bay Beach. Tea from the blossoms is good for colds. If you need a rope in a hurry, the bark can be stripped. Amerindians in the Amazon still do this. Try it; it won't harm the tree, even though it may tie you up in knots.

Hibiscus *Malvaceae* *Hibiscus rosa-sinensis*

The Hibiscus is native to Hawaii. Many Hibiscuses are red, but there are 5,000 hybrids. Red Hibiscus are found on the road to Cinnamon Bay. There are many grafted varieties in private gardens. The blossoms are used by children as a shoe polish, and it works! Red Hibiscus also makes a pleasant colorful tea, especially if flavored with lemon grass.

Hogplum or Yellow Mombin *Anacardiaceae* *Spondias mombin*
(Jobo Tree)

The Hogplum bears a choice wild fruit. A good fence-row tree, Hogplums grow up to 60 feet in height with a 2½ foot trunk at Trunk Bay and Reef Bay. Trees are propagated readily by cuttings and are fast-growing unless planted in deep shade. They can be dwarfed by slowly twisting young trees. They bear small, yellow plums. "The jobo trees are large, beautiful, graceful trees casting a very healthful shadow. (Healthy, if you're hot!) There are a great many of them (not any more!) and the fruit is very tasty, of good odor and color. They are like small yellow plums but the stone is very large . . . Shoots of the plant boiled in water make a fine dressing for the beard and to wash the legs, for it is of good odor." The bark of this tree boiled in water "when rubbed on the legs . . . greatly relieves weariness . . . This is the best tree . . . to sleep under, for it does not give a headache as is the case with some other trees. As soon as Christians find hogplum trees they hang their hammocks under them in order to sleep there," writes Oviedo of the hogplum in 1523. All recommendations are still valid. The plums ripen in early autumn with a rare fragrance. Hogplum jam is one of the most distinctive of all tropical fruit jams, but most of the fruits are lost since no device has yet been invented to catch the ripe plums as they fall from the tall trees.

Horseradish Tree *Moringeae* *Moringa oleifera*

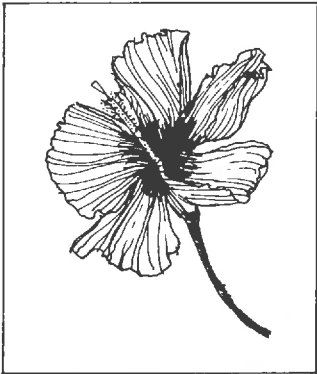
The green pods of this slender tree are generally eaten by East Indians as a curry vegetable. The roots are a substitute for horseradish. The fragrant white blossoms attract bees.

Indigo *Fabaceae* *Indigofera tinctora*

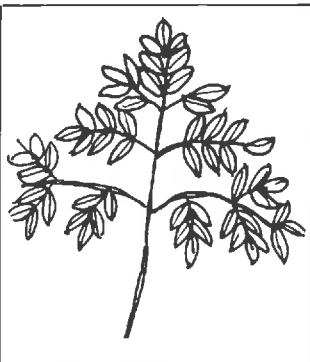
A native of Africa, Indigo was grown here for its dye. At one time, indigo was worth more than sugar cane on St. John. The flowers appear from April to August. Indigo is less valuable today because of synthetic dyes.

Ironwood *Rhamnaceae* *Krugiodendron ferreum*

Leopold Krug was a German consul to Puerto Rico who studied West Indian plants. The ironwood tree grows 10 to 15 feet high and resists termites. One of the heaviest, densest woods in the world, along with *Lignum vitae*.



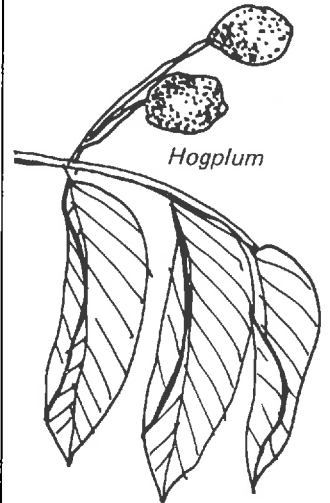
Hibiscus



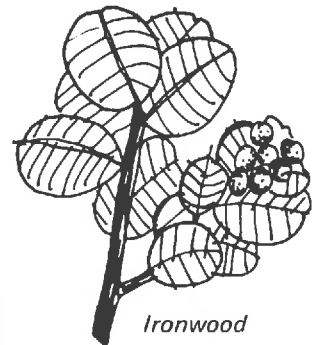
Horseradish Tree



Haiti-haiti Tree



Hogplum



Ironwood

LOCAL NAME	FAMILY	BOTANICAL NAME
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Jacquinia	<i>Theophrastaceae</i>	<i>Jacquinia barbasco</i>
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Jacquinias are probably the slowest growing trees on St. John where they grow one inch or less a year, as compared with *Cassia siamea*, one of the fastest growing trees on the island, reaching a height of 10 feet sometimes within a year. Jacquinias, which are hardy, drought resistant, native trees, produce one of the most intensely pleasant fragrances of any plant on St. John. The small white flowers are followed by green fruits that turn orange as they mature. Blossoms appear in November and March at Hawksnest and Salt Pond Bay. The Jacquinia by Chase Bank is the oldest tree in Cruz Bay.

Jacquinia	<i>Theophrastaceae</i>	<i>Jacquinia berterii</i>
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This Jacquinia grows taller, like the one by Chase Manhattan Bank in Cruz Bay and may be close to 300 years old.

Jumbie Beads (Ko-kre-ko)*	<i>Leguminosae</i>	<i>Adenathera pavonina</i>
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The all-red seeds, usually known as Jumbie Beads, grow on tall (40 ft.) trees. These all-red seeds are non-poisonous and were once used as a floating decoration in kerosene lamps. The smaller red seeds with a black center (crab eye) are poisonous and should not be collected!

Jump-Up-and-Kiss-Me!	<i>Portulacaceae</i>	<i>Portulaca oleracea</i> (Purslane)
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The stems and leaves are eaten in India by the poor. It is a dwarf, creeping herb with psychedelic fuschia blooms.

Kallaloo	<i>Bacala alba</i>
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Kallaloo is probably an African word for a wild spinach. Many different greens are used for making kallaloo which is also the name of a New Year's dish using crab, fish, and pork along with wild or tame spinach.

Kakker-lakka	<i>Bolanaceae</i> (Night shade)	<i>Solanum polygamum</i>
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A member of the tomato family, this small very seedy fruit grows on a plant with thorny leaves and is edible.

Kapok, Silk Cotton (or Rocket Tree)	<i>Bombacaceae</i>	<i>Eriodendron anfractuosum</i>
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Kapok is found at Cinnamon, Caneel and Reef Bays. 5,000 seeds per pound. Fourth graders from Jane E. Tuit School in St. Thomas call this the "Rocket Tree" because of its shape, a good contemporary illustration of how common plant names are derived from striking physical characteristics. Kapok was one used locally for pillows and is still used for life preservers. The pod is thin, black and a little smaller than the locust pod.

Lemon Grass	<i>Gramineae</i>	<i>Cymbopogum citratus</i>
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Lemon Grass makes a fine tea, as well as an aromatic flavoring for gin and vodka. When left in the bottle for a few days, a few blades will flavor the liquor. LEMON GRASS TEA is used medicinally to break a fever.

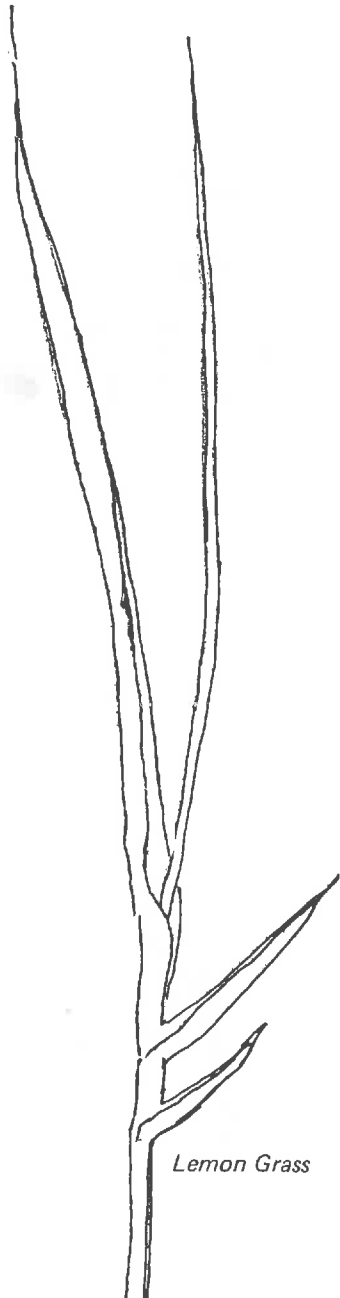
*The Crucian name for Jumbie Beads, according to Anton Teytaud *Adenathera* grows in West Africa and Ko-kre-ko may be its African name.



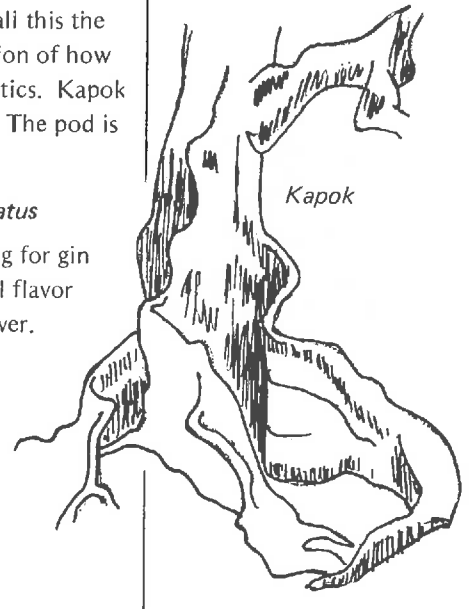
Jumbie Bead



Crab Eye



Lemon Grass

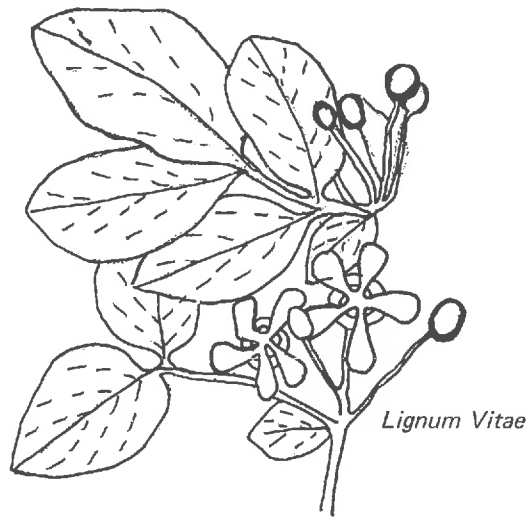


Kapok

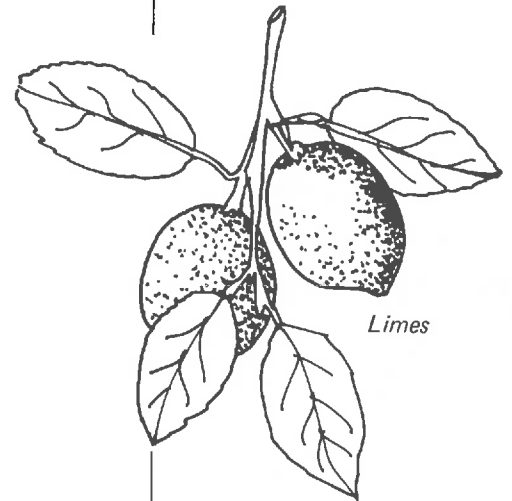
LÒCAL NAME	FAMILY	BOTANICAL NAME
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Lignum Vitae	<i>Caltrop</i> (Zygophyllaceae)	<i>Guaiacum officinale</i>
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Lignum Vitae is a tree with small blue flowers and bright orange fruits. The wood is so dense it sinks in water (specific gravity 1.2 to 1.3). This "Wood of Life" has a unique resin content which makes it self-lubricating, and has been used in bearings and bushing blocks for propeller shafts of steamships. Most gavels in U.S. courtrooms are made of Lignum vitae. In the V. I. years ago, Lignum vitae was used for bound posts and in construction work where non-rotting wood was essential. (Cf. Annaberg). Giant mortars of Lignum vitae were used on St. John for crushing pond salt crystals and mixing seasonings. In the 1950's only 2 Lignum vitae remained on St. John, but today hundreds are in bloom. Lignum vitae trees can be seen at Caneel Bay and the Nazareth Lutheran Church. These trees are all the children or grandchildren of the old Lignum vitae between the clinic and the post office. The seeds were gathered and planted by Ivan Jadan in 1957-58. Although Lignum vitae is considered a slow-growing tree, it grows much faster than most people realize and will bear blue blossoms 6 years after seeds are planted and reach a height of 10-12 feet in as many years.



Lignum Vitae



Limes

Lipstick Plant	<i>Annatto</i>	<i>Bixa orellana</i>
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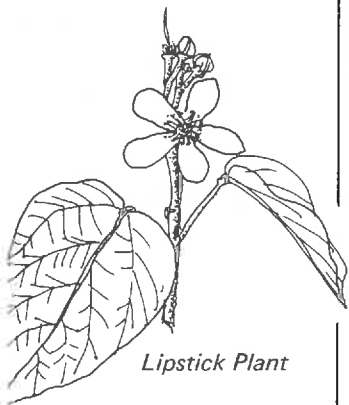
The Annatto is a native to tropical America. It is found at Caneel and blooms in December for Christmas. The seeds were once used for coloring margarine, butter, and cheese. Oviedo tells how the seeds were used to make the red man redder. *Bixa genipa americana* seeds were used to color Carib bodies (BRAZIL). *Bixa* doesn't wear off for days. It tightens the skin and looks good on Indians. It makes a fine lipstick for little girls, as pupils in the Head Start Program on St. John have discovered.

Limes	<i>Rutaceae</i>	<i>Citrus aurantifolia</i>
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The lime trees on the lower portions of the Reef Bay Trail have probably grown from seeds spit from the lemonade (V. I. name for limeade) drunk by St. Johnians burning charcoal in this area during the 1930's and 1940's. "Limes Ashore!" was the call of British seaman in the 17th Century who, according to Historian John Anderson, stopped to pick limes and prevent scurvy. The Danes wrote down "Lime Shore" as Lameshur without understanding what the sounds meant, and it's still Lameshur, but no limes ashore anymore.

The leaves of St. John limes make a fine tea or tonic.

The fruits, 1-1½ inches in diameter are thin-skinned and extremely juicy.



Lipstick Plant

LOCAL NAME	FAMILY	BOTANICAL NAME
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Locust (Stinkin' Toe)	<i>Leguminosae</i>	<i>Hymenea courbail</i>
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The tall West Indian locust and the Locust of West Africa produce shiny, brown, thick-walled pods 2-5 inches long, with a sweet, tan, mealy powder inside which tastes good, but smells bad.

Giant locusts on the Reef Bay Trail produce thousands of these free candy bars each year which children collect. The seeds of the locust and the pods are used in a game called "cock".

Love Leaf (Clapper Bush)	<i>Crassulaceae</i>	<i>Bryophyllum pinnatum</i>
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This air plant with thick leaves will sprout if pinned somewhere with a sweetheart's name written on the leaf (an ideal valentine).

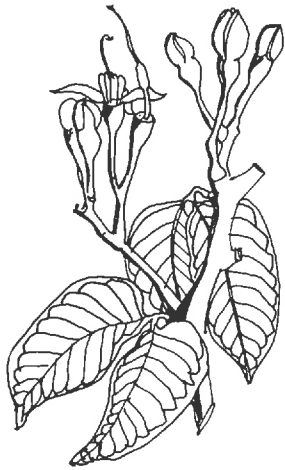
The leaves are used medicinally in a tea for "cooling" and for kidney stones. The flowers on a stalk, 12-20 inches high look like bells. Banana-quits peck the blossoms for honey.

Mahogany	<i>Meliaceae</i>	<i>Swietenia mahogani</i>
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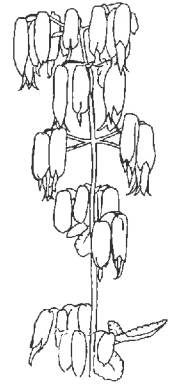
West Indian mahogany was introduced to the V.I. and Puerto Rico over 200 years ago. Pods fall and open into 8 sections in late September with 1,900 seeds to a pound. Our mahogany is better than Honduran. Mahogany cross in Nazareth Lutheran Church office should be seen and believed.

Maiden Apple, Lizard Food, or Jumbie Pumpkin	Gourd (<i>Cucurbitaceae</i>)	<i>Momordica charantia</i>
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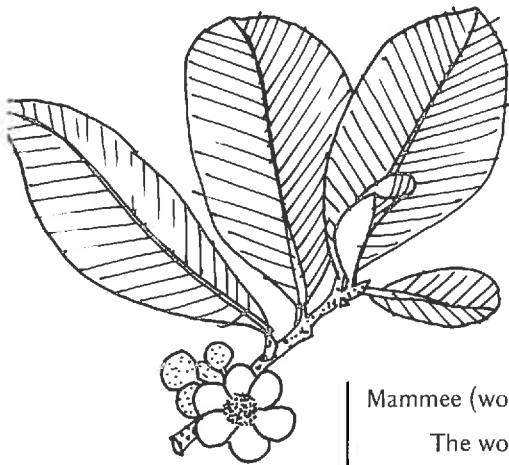
This annual vine has attractive yellow blossoms and orange, ribbed fruits. The leaves have a substance capable of reducing blood sugar. Large amounts of the fruit act as a purgative.



Locust



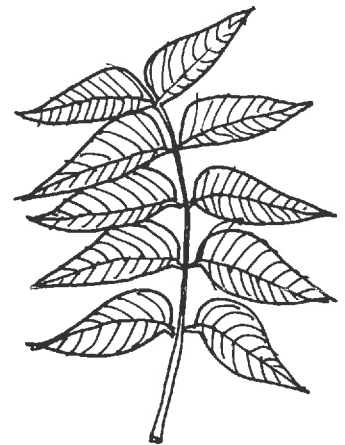
Love Leaf



Mammee Apple



Maiden Apple



Mahogany

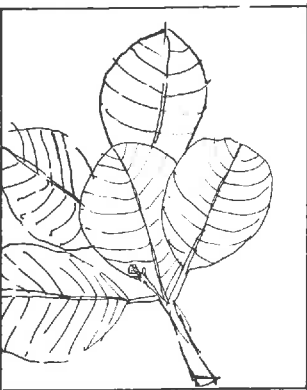
Mammee (word)

The word "Mammee" is a Taino word. Tainos are extinct aboriginal Indians of the West Indies. Taino is an Arawak language. The Mammee is also called the marmalade tree because of jam made from the fruit.

Mammee Apple (Mamey)	<i>Guttiferae</i>	<i>Mammea americana</i>
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Mammee Apple is a native tree of tropical America. The fruits are 3 to 10 inches in diameter. Erect trunks grow to sixty feet with a dense, shiny green columnar crown. In the French West Indies liqueur "eau de creole" or creme de creole is distilled from the flowers. Gummy latex from bark and powdered seeds are used to extract chiggers and insects from skin and kill ticks and parasites. The leaves are twisted into cones and used as post for planting tobacco seedlings to protect them from root-destroying insects.

Mammee apples grow along Centerline Road near Estate Adrian and on the Cinnamon Bay trail leading to the Danish tombs. Oviedo, in the sixteenth century, praised the fruits as "firmer and much better in taste than peaches", and he was right. Fruits which look like rough brown grapefruits ripen in July.



Mampoo

LOCAL NAME FAMILY BOTANICAL NAME

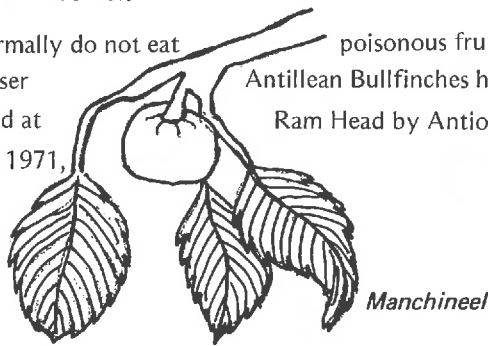
Mampoo *Nyctayinaceae* or
Four o'clock *Pisonia albida*

This mampoo tree bears many small greenish flowers when leaves are shed February to May. It grows to 30 feet in height. (Deciduous). The roots and trunk enlarge like an elephant's toe while the sticky fruit clusters can kill chickens tangled in them. The wood is very soft.

Manchineel Spurge or
(Euphorbraceae) *Hippomane mancinella*

Hippomane is Greek for horse poison. Manchineel is an English corruption of manzanilla, Spanish for "little apple". Antidote for the poison is arrowroot. Poultices of arrowroot starch in water suspension are used for manchineel burns in the Grenadines. Manchineel honey is not poisonous. In 1733, a royal ordinance ordered these trees destroyed in St. Barts. In 1940, during World War II, survivors of sunken ships ate the apples but were saved in hospitals. In 1885, 54 German seamen were poisoned in Curacao, and five died. In 1954, two people were saved in St. Thomas by stomach pumps after eating manchineel apples. In 1970, a member of the Danish Gymnast team visiting St. John took a bite of manchineel apple out of curiosity, which almost killed that "cat". Avoid contact with manchineels on the seashore walk below Annaberg and at Hawksnest.

Birds normally do not eat
However, Lesser
been observed at
ornithologist, 1971,
eating
Manchineel
Apples with
no apparent
ill effects.



Mango *Anacardinaceae* *Mangifera indica*

A naturalized fruit tree introduced from India, mangoes of all varieties are popular on St. John. One of the oldest bearing mango trees is found on the Reef Bay Trail near Marker 12.



Two Gobis full of mangoes will make plenty of chutney and tarts. Emanuel has 3 varieties of mango in his Gobi, Kidney Mango, Peach Mango and Cottage Mango.

Photo courtesy of
The Daily News of the Virgin Islands

LOCAL NAME

FAMILY

BOTANICAL NAME

Mangrove or Red Mangrove

Rhizophoraceae Rhizophora mangle

The Red Mangrove defends the shoreline where it grows from the ravages of storms and helps, in time, to extend the land. The Mangrove Lagoon provides a hospitable habitat for fish to breed in. The tasty mangrove oysters (*Ostrea frons*) were once gathered from the roots of the mangroves destroyed when the Park Service dredged the Creek to make a marina. A few mangroves can be observed on the Creek below the Battery, at Anna-berg, and a beautiful stand at Lameshur, shown in the photo below.



National Park Service photo of Red Mangroves at Lameshur.

Photo courtesy of National Park Service

Manjack

Boraginaceae Cordia sulcata

The tall, white manjack can be seen on the Reef Bay Trail, right side, between the old mango tree and Marsh birth-house, marker 7. It is easier to find the tree by finding the small, green fruits, half-inch or less on the ground most of the year. The fruits are extremely sticky and the mucilage is used for children's kites here and in the West Indies and Guyana. The fruits also contain pectin and can be used to help jell low pectin fruit jellies like genip.

Maran

Spurge or *Euphorbiaceae Croton discolor*

Maran scours pots cleaner than Brillo and is non-rusting. It is also used to make a bed for domestic animals to keep off fleas while they sleep. The leaves are burned to smoke out sandflies. It is a valuable weed in plentiful supply in all drier areas on St. John like Salt Pond Bay.

Milkweed or Mountain Cabbage

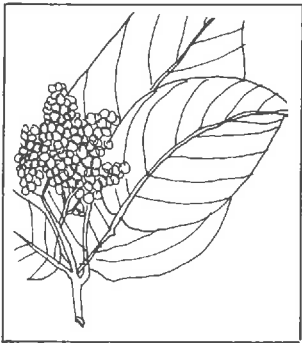
Asclepidaceae Calatropis procera

Giant milkweed pods are like soft green rubber balls. Fluffy insides are used by birds to make nests. Sap is poisonous.

Mespele Apple

Sapotaceae Manilkara zapota

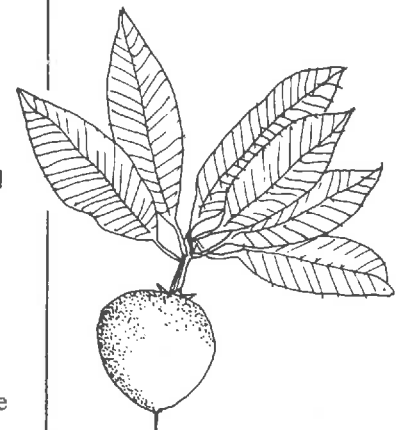
A native of Central America, the mespele apple tree is the source of the chicle used in chewing gum. The chicle comes from the white latex tapped from the trunk of the tree. The edible apple-sized fruit has a rough brown skin. The slender tree has shiny leaves pointed at both ends.



Manjack



Maran Bush



Mespele Apple

LOCAL NAME FAMILY BOTANICAL NAME

Monkey pistol Spurge or *Hura crepitans*
(Sandbox tree) *Euphorbraceae*

The bark is covered with sharp prickles. The blossoms are red. The exploding, circular pods and seeds shoot off like a monkey pistol. The seed capsule was used to hold sand as a blotter before the advent of blotters or ball point pens. The sap and seeds are poisonous. The seed capsules are sometimes used for jewelry.

Morning Glory *Convolvulaceae*

Small wild blue vines occur all over St. John. Magnificent, large morning glories cover the fence at Estate Susannaberg on the Centerline Road.

Mother of Cocoa *Fabaceae* *Gliricidia sepium*

Mother of Cocoa produces showy, pink and purple, pea-shaped flowers. It grows quickly from cuttings and seeds. Mata-raton or mouse-killer is another name used because the seeds, bark and leaves poison mice and rodents. Aztecs called it Cacahuanatl (Mother of Cocoa) because cacao grew well under the trees. Nodules on roots contain nitrogen-fixing bacteria to enrich soil. The trees can be used to support vanilla vines and shade coffee, or as decorative shade trees.

Nicker Seeds (Scorcher) *Caesalpinaceae* *Guilandia crista*

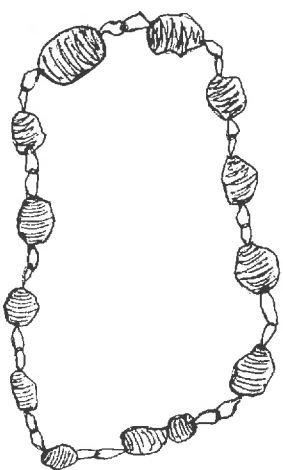
Nickers are the ash-gray smooth globular seeds produced by a large woody climber. Both the vines and the large seed pods full of nickers are studded with vicious spines. When the pods open, the nickers look like small bird eggs. Children collect the nickers or "scorchers", rub them on a rough surface and then scorch a playmate. Try it! Nickers are also parched together with stinking weed seeds (*cassia occidentalis*) to make a medicinal coffee used to draw out excess water from the tissues.

Night-blooming Cereus *Cactaceae* *Hylocereus undatus* or
trigonus

The Cereus is found at the Battery in Cruz Bay. It blooms in June and July after dark. Other varieties are found along Centerline Road, Reef Bay, and at Lameshur. *Hylocereus undatus* is used for shampoo and commercial face cream.

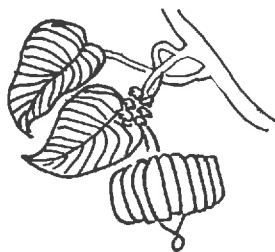
Nothing Nut (Ton-Ton) *Celastraceae* *Elaeodendrum xylocarpum*

Nothing nuts are found at Hawk's Nest, Salt Pond Bay, Annaberg, along with seagrapes and buttonwood. The orange round fruits of this small, tough, drought-resistant tree are relished by the *Cyclura pinguis*.

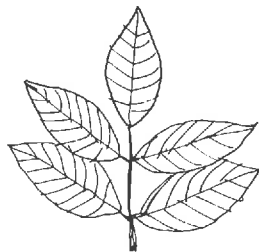


Nicker Seed Necklace

Nit-pickers turn Nicker Pickers! Nicker seeds strung on monel wire make beautiful necklaces . . . A single nicker seed placed in a land-crab hole will drive the crab in the hole out of his mind and finally kill him as he tries unsuccessfully to clutch the smooth marble-shaped nicker. The nicker is therefore used to rid an area of crabs, where crab holes prove destructive. (The crab meat is eaten.)



Monkey Pistol



Mother of Cocoa

LOCAL NAME	FAMILY	BOTANICAL NAME
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Christmas orchid	<i>Orchidaceae</i>	<i>Epidendrum ciliare</i>
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This orchid is found near the petroglyphs at Reef Bay, and around the pool above the waterfall where the wild boarhogs drink. The Christmas orchid has up to 15 white flowers on a spike. The flowers turn creamy just before they die. The flowers are fragrant at night. Why? Night fragrances attract the nocturnal pollinators, in this case, moths.



Christmas Orchid

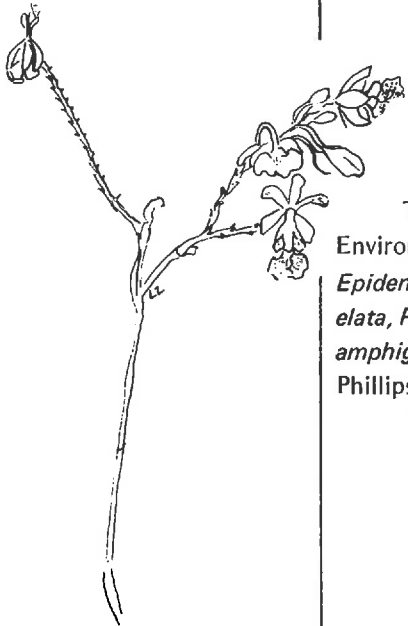
Epidendrum bifidum

The distinctive purple coloring of this lovely orchid starts on St. John and for this reason, *Epidendrum bifidum* should have another varietal name according to orchidologist Bob Hogin. The petals are very purple framed with a narrow white border. The greenish brownish sepals are striped with purple. The stems are 48 inches or longer. This is probably the most common orchid on St. John.

Dancing Lady

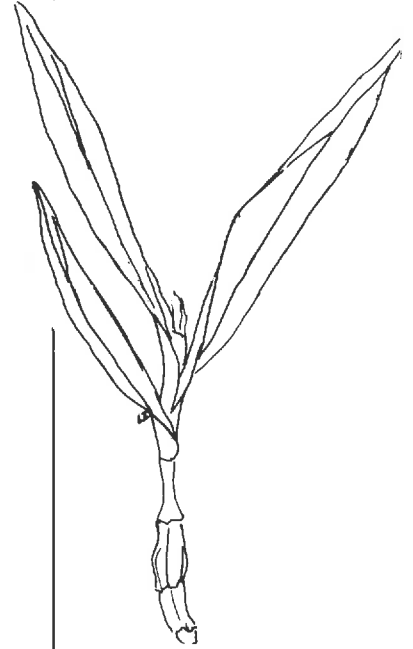
Oncidium brionochilium

The petals of the Dancing Lady are pure butter yellow with a few brown and purple dots on the sepals. The design of the bloom suggests a costume ball mask. The small curved leaves look like little swords.



Epidendrum bifidum

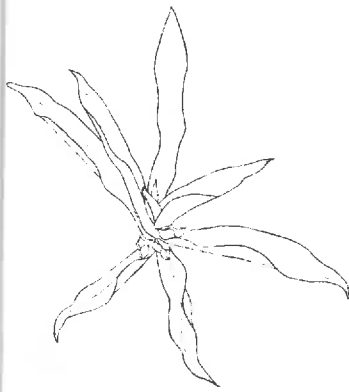
These three are the only native orchids likely to be seen in any of the Environmental Study Areas. However, the *Oncidium variegatum*, *Epidendrum difforme*, *Brassavola nodosa*, *Habenaria monorrhiza*, *Liparis elata*, *Polystachis luteo (minuta)*, *Tetramarca elegans* and *Epidendrum amphiglottis* have all been reported on St. John according to Dr. Walter Phillips.



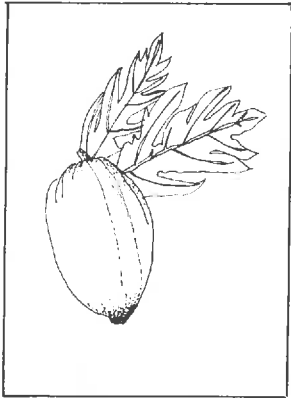
Epidendrum bifidum



Oncidium brionochilium



Oyster Plant



Papaya



Parkinsonia

LOCAL NAME

FAMILY

BOTANICAL NAME

Oyster Plant, (Moses
in the Bulrushes)

Commelinaceae *Rhoeo discolor*

An attractive purple plant with small white blooms that looks like a baby in a boat. Flowers April to August, in coppers of old sugar factories, as at Annaberg. Also a drought-resistant garden plant.

Painkiller

Rubiaceae *Morinda citrifolia*

A tall, broadleaf tree, native to the East Indies, naturalized in West Indies. A hot leaf heated over a fire or a wilted leaf pressed against strained, sprained or swollen joints brings pain relief.

The large, waxy, green leaves are also applied to the head for relief of headache. Hogs eat the cheesy-smelling fruit. Painkiller trees flourish at Cinnamon Bay where campers with stiff necks, in this case, young psychiatrists, testify to the effectiveness of painkiller leaves.

Papaya (Paw-paw)

Caricaceae *Carica papaya*

The papaya is native to the West Indies. From seed to fruit takes nine months. Fruits vary in size from that of a lime to that of a watermelon. Papayas toward the bottom of the plant ripen first and are usually larger and sweeter than fruits that ripen later toward the top. Papaya seeds (8,000 seeds make a pound) somewhat resemble caviar and they are edible with peppery amounts of pepsin! The papain in the large ornamental papaya leaves is a meat-tenderizing enzyme. A tough leg of goat wrapped in a papaya leaf and cooked will be fork-tender. Papaya leaves are also boiled and used to whiten and tenderize the skin of a pig before it is roasted.

Parkinsonia
(Jerusalem Thorn)

Leguminosae *Parkinsonia aculeata*

Tea from the leaves is a home medicine. Thorns on the Parkinsonia keep out goats, donkeys and people. There are about 5,600 seeds per pound. The yellow orchid-like blossoms and willowy green branches make this drought-resistant tree a good roadside dust and noise filter.

Petrea (Sandpaper Plant)

Verbenaceae *Petrea volubilis*

This beautiful vine-like shrub is native to tropical America. Petrea flowers at least twice a year, often 6 to 8 times depending on the rain. Flower sprays are lavender with dark purple centers that drop off in one day.

Pig-Turd, (Dog Almond,
Bastard Mahogany)

Fabaceae or
Legume *Andira inermis*

Many of these slender trees grow on the Reef Bay Trail. The seeds account for the local name.



Painkiller

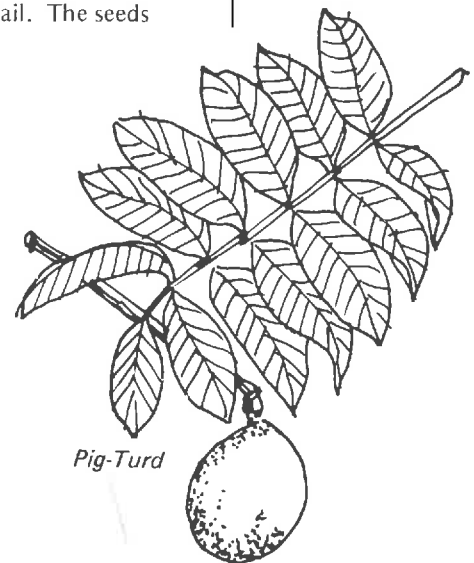


Boiled papaya leaves are used to tenderize and whiten the skin of a pig before a pig roast.

Photo courtesy of
The Daily News of the Virgin Islands



Petrea



Pig-Turd

LOCAL NAME	FAMILY	BOTANICAL NAME
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Pigeonberry	<i>Boraginaceae</i>	<i>Bouffieria succulenta</i>
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The small white flowers of the Pigeonberry tree attract butterflies and bees. The fruit (drupe) is orange-red.

Pineapple	<i>Bromeliaceae</i>	<i>Ananas ananas</i>
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Like the papaya, the pineapple or "pine" is a true native of the West Indies. ("Wild Pine" or "Pinguin" is a relative). The local "pine", although a small fruit, is considered superior in flavor to the bigger fruits grown in Puerto Rico, Cuba and Hawaii. Caneel Bay Plantation makes a special effort to serve local pineapples from St. John and Jost Van Dyke. The plants grow readily even in rocky soil. The tops of fruits can be planted or small suckers growing around the top, producing fruit in two years in the first instance or in one year if the sucker is planted.

Pistarcle (Broom Bush)	Spurge or <i>Euphorbia</i>	<i>Croton belutinus</i>
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This bush is used for making brooms. Pistarcle bush is found on the trail around the Salt Pond. The leaves are smaller and more pointed than Maran leaves. The expression, "What a pistarcle!" means what a confusion.

Pitch Apple, (False Mammee or Strangler Fig)	<i>Guttiferae</i>	<i>Clusia rosea</i>
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"Pitch" can be squeezed from the apple-like pods after they have fallen from the tree or the green pitch apples can be boiled and used to calk boats as St. John fishermen were accustomed years ago to do. The shiny broad leaves were used in the sixteenth century by the Spanish on the other Islands as playing cards. The seed pods are star-shaped when they open, with anywhere from 4 to 9 bracts on a pod. The bracts soon curl up and the pods begin to smell like brown sugar.

At several points along the Reef Bay Trail, the strangling aerial roots can be seen twisting around another tree or dropping to the ground like ribbons from a maypole.

Poisonash (Christmas bush)	<i>Anacardiaceae</i>	<i>Comocladia dodonaea</i>
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This branching shrub with holly-like leaves can produce severe lesions on sensitive persons. Marker 5, Salt Pond, identifies Poisonash.

Pommes Cythere	<i>Anacardiaceae</i>	<i>Spondias clulcis</i>
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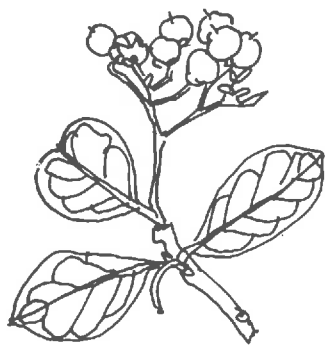
Thick-skinned orange fruits, 2 x 4 inches, are found along the Reef Bay Trail in May as they fall from trees originally brought to the West Indies from the Society Islands.

Pond Apple or Dog Apple	<i>Annonaceae</i>	<i>Annona palustris</i>
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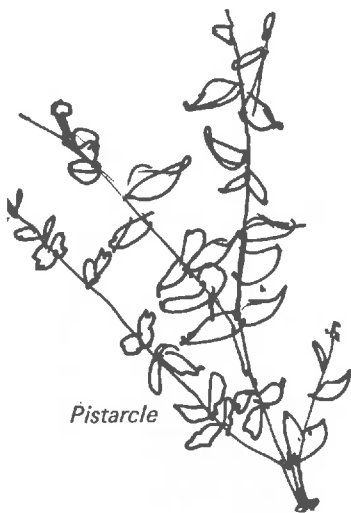
The wood of the Pond Apple Tree is light, pithy and suitable for corks and floats. It grows in swamps, like the Annaberg bird marsh. The apples are edible, but just barely.

Pope's Head, Turk's Cap or Barrel Cactus	<i>Cactaceae</i>	<i>Cactus intortus</i>
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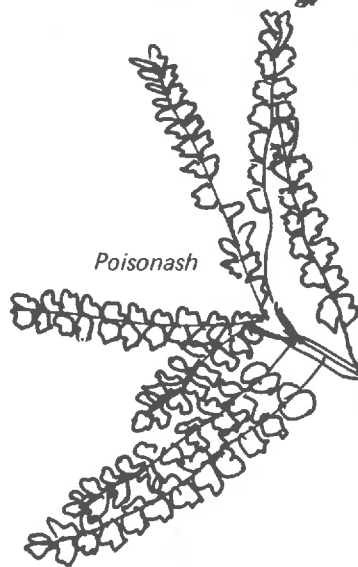
The small round (barrel-shaped) cacti with red heads look like rotund prelates parading down rocks where these cacti often grow. The smooth fuschia-colored fruits in the red "heads" are relished by both birds and children. Many Pope's Head cacti grow on the flat hill above the rocks at Drunk Bay.



Pigeonberry

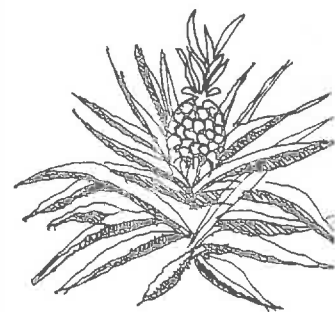
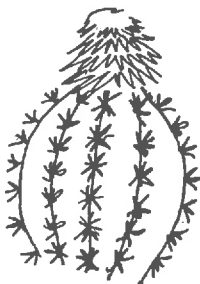


Pistarcle



Poisonash

Barrel Cactus



Pineapple



Pitch Apple



Pommes cythere
or Golden Apple

LOCAL NAME	FAMILY	BOTANICAL NAME
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Prickly-pear or Blyden-bush	<i>Cactus</i>	<i>Opuntia rubescens</i>
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The blossoms of this cactus are used for "Buds and Rice" served with conch. Slice the cactus pads and rub on scalp for a good shampoo. The strong needles are used by grandmothers to pierce a granddaughter's ears for golden earrings. A tasty drink known as "Miss Blyden" is prepared from the ruby red fruits, but beware of the rum and needles.

Purple Queen	<i>Orchideae</i>	<i>Setcreasea purpurea</i>
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This three petaled orchid whose pale lavender flowers open in the morning and close at noon grows with grace in dry, rocky places. Purple Queen is a natural for easy beautification projects needed to provide colorful ground cover as it does in the triangle by the Julius Sprauve School in Cruz Bay.

Rain Tree (Saman)	<i>Mimosa</i>	<i>Samanea saman</i>
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A specimen Saman at Cinnamon Bay has been preserved by the National Park Service during major construction at the campsite. An equally beautiful Rain Tree was removed in Cruz Bay to provide more parking space, another example of the triumph of concrete over chlorophyll.

The long seed pods of the Saman are a tasty confection. In Jamaica, the Saman is important as protein-rich cattle food.

Rose Apple	<i>Myrtle</i>	<i>Eugenia jambos</i>
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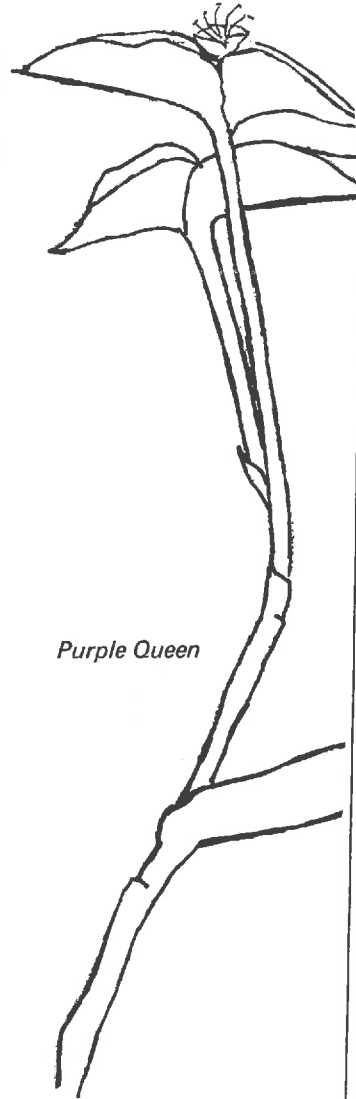
The Rose Apple is one of many non-apples that grow on St. John. The small (15-20 ft.) trees have showy flowers with a brush-like mass of white stamens throughout the year. The insipid fruits can make a good jam. Rose Apples can be seen by the Payne Cottages in Cruz Bay.

Rubber Vine (Purple Allamanda)	<i>Milkweed</i>	<i>Cryptostegia grandiflora</i>
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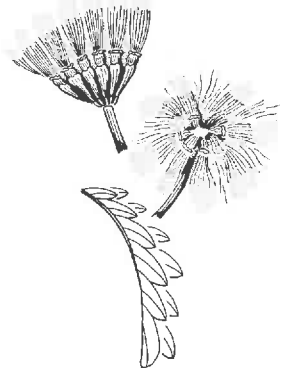
This hardy shrub has seed pods that behave like barometers, opening up in dry weather to release seeds and closing during rain. The thin woody lining of the seed pod can be saved and used to predict scattered showers as accurately as radio weather reports. Rows of these shrubs with purple flowers were planted to conceal the drainage ditches at Caneel Bay.

Seagrape	<i>Buckwheat</i>	<i>Coccolobis uvifera</i>
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The Seagrape is related to Buckwheat, as in pancakes, and Seagrape jelly belongs on pancakes. It is somewhat uncertainly reported that the Seagrape was the first tree seen by Columbus on St. Croix in 1493. Roots of the Seagrape tree help hold sand on beaches and when young seagrapes are tram-



Purple Queen



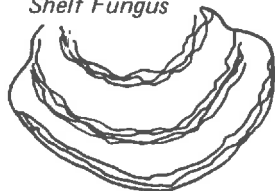
Rain Tree



Seagrape Tree

pled by human traffic, feet and wheels, at Trunk Bay and Cinnamon Bay, the beach berm is threatened. Learning to use beaches without destruction of the berm is possible. Moving campsites and cottages well back from the edge of the beach helps. Growing young seagrapes in nurseries to replant along beaches will help. And don't use Seagrape branches as a towel rack. Seagrapes provide fruit, shade and roots worth taking care of.

Shelf Fungus



Shelf Fungus	<i>Fungus</i>	<i>Polyporus</i>
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Shelf fungi, also Jumbie Umbrellas and other fungi found along the moist Reef Bay Trail help decompose and recycle deadwood. Without fungi and termites, deadwood in a moist forest area like Reef Bay would pile up even faster than deadwood in the local bureaucracy. Since there are no forest fires, only grass fires that stop at the edge of the forest in the Virgin Islands, the creative decomposing activities of fungi and termites are vital.

Soursop	<i>Annona</i>	<i>Annona muricata</i>
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The juicy pulp of the soursop is used for Soursop Beverage, a favorite local milk drink flavored with almond essence; also for ice cream and jelly. Soursops flourish in the green pastureland at Susannaberg alongside Centerline Road where cows and pigs are raised. What peanuts do for the unique flavor of Smithfield smoked hams, soursops can do for the flavor of St. John roast pig! Four soursop leaves simmered in a cup of water make a non-addictive but effective soporific. Miss Mary Magdalene Harvey sipped soursop tea until she was 103.

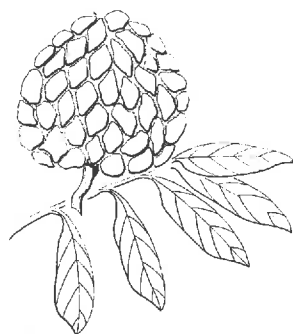


Soursop

Suckers	<i>Cactus</i>	<i>Opuntia repens</i>
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If you happen to see one before you step on one, suckers are finger-sized cacti with long stiff spines that penetrate sneakers and sandals of unwary walkers at Annaberg and Salt Pond Bay. Animals help transplant suckers when they get caught in their feet or fur. Suckers have rather pretty yellow blossoms.

Sugar Apple	<i>Annona</i>	<i>Annona squamosa</i>
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Sugar Apple

There are 42 shiny black seeds in one sugar apple. How many of these will sprout? If the fruit drops from the tree, perhaps one seed will sprout. If planted without too much care, perhaps 30 seeds will sprout. Since the fruit is delicious and the trees grow readily, plant seeds whenever you eat the fruit, and don't wait more than a few days to plant them. Since most tropical fruit seeds contain very little protein, they do not store well. Sugar Apples belong to the same family as Soursops and Custard Apples.

Sugar Cane	<i>Gramineae</i>	<i>Saccharum officinarum</i>
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Sugar was first brought from Syria by the Crusaders during the Middle Ages, SUKKAR (Arabic), SAIKARA (Sanskrit), became AZUCAR (Spanish), SUCRE (French), ZUCKER (German), or SUGAR. See diagram, p.28 to see how sugar was made at Annaberg and Reef Bay factories. Natural brown sugar, (muscovado), as obtained from other Westindian Islands, is superior to refined white sugar, in flavor, color and nutritional fringe benefits. Chewing on sugarcane won't result in cavities the way refined sugar candy will, according to Dr. George Knight and other dental authorities. Many of the minerals and nutritional values of molasses are lost in refined sugar. Raise cane both for chewing and for ornament! A few plants can be found in Cruz Bay opposite the Post Office and at Caneel Bay by the Durloe sugar factory ruins.

LOCAL NAME	FAMILY	BOTANICAL NAME
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Sweet Lime	<i>Rutaceae</i> or Citrus	<i>Triphasia infolia</i>
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This spiny shrub is a slow-grower. The fruits are preserved in China and sometimes on St. John. Sweet limes grow at Hawk's Nest year 'round. The sticky fruits were once used to seal letters. When stewed, they make a choice fruit for coffee cakes baked with banana cake mix. Share the small red oval fruits with the Thrushees at Hawk's Nest.

Tamarind	<i>Leguminosae</i>	<i>Tamarindus indica</i>
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Tamarinds are natives of India, but naturalized in the West Indies. A Tamarind tree takes seven to ten years to bloom. Tiny pink, yellow, and purple flowers look like orchids. The fruit inside the pod can be used to make a drink by soaking in water. Tamarinds make preserves also, and are the reason why Lea and Perrins Worcestershire Sauce is the best. Tamarind trees fruit and blossom simultaneously throughout the year. Old specimen trees can be seen by the Cruz Bay Cemetery, at Honeymoon Beach, and in the middle of the dirt road behind Great Cruz Bay.

Tannier or Tannia	<i>Araceae</i>	<i>Xanthosoma violaceum</i>
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The Tannier is a tuber cultivated in the West Indies as a potato substitute. (Potatoes are in many ways a poor substitute for tanniers!)

Trumpet Tree	<i>Moraceae</i>	<i>Cecropia peltata</i>
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The huge leaves can be used as sandpaper. Decorators use the curled silvery leaves in dried arrangements. Trumpet Trees have a hollow or trumpet-like trunk. Trumpet Trees like the one at the head of Reef Bay Trail, before Marker 1, are often an indication that a cut-over forest is on its return to a rain forest. The Reef Bay moist forest area which has not been cut for the past 20 years may be on its way to becoming a tropical rain forest like it was in Arawak days.

Turpentine Tree, (Gum Tree, Gumbo-Limbo, Naked Indian, Tourist Tree, Fence Post, or W.I. Birch)	<i>Burseraceae</i>	<i>Bursera simaruba</i>
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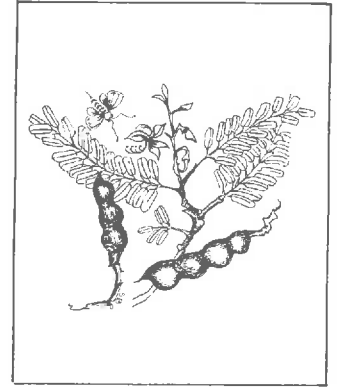
Why so many names? Why is tourist tree (note the red peeling bark) a newer name than fence-post tree? (Note how many chain link fences you see today!) According to C.V.I. students from the British islands, Gum tree resin is used in book-binding because its turpentine-like odor keeps away bugs that eat books (silverfish, termites, cockroaches). The slippery, papery bark prevents rats from climbing the tree, and this may be the reason Pelicans appear to prefer roosting and nesting in the Gum Tree. Note the Gum Tree by the garbage can at the foot of the Annaberg Trail.

Turtle Grass	<i>Hydrocharitaceae</i>	<i>Thalassia testudinum</i>
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Found in shallow salt water, Turtle Grass is needed for turtle farms! Turtle farms are needed. All Caribbean turtles are now endangered species. Turtle grass at the Mangrove Lagoon, St. Thomas, is endangered by destruction of Mangroves. Turtle grass marine pastures can be seen at Lameshur Bay.

Wandering Jew	<i>Commelinaceae</i>	<i>Zebraia pendula</i>
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Wandering Jew with its purple stripes is an attractive ground cover (Zebra is an African word for stripe). Wandering Jew tea lowers high blood pressure, according to older St. Johnians. Medicinal plants of the Virgin Islands are being studied at the University of Puerto Rico Department of Pharmacology. Wandering Jew grows on the Reef Bay Trail, to the right, where the trail goes up to the Par Force Estate House.



Tamarind



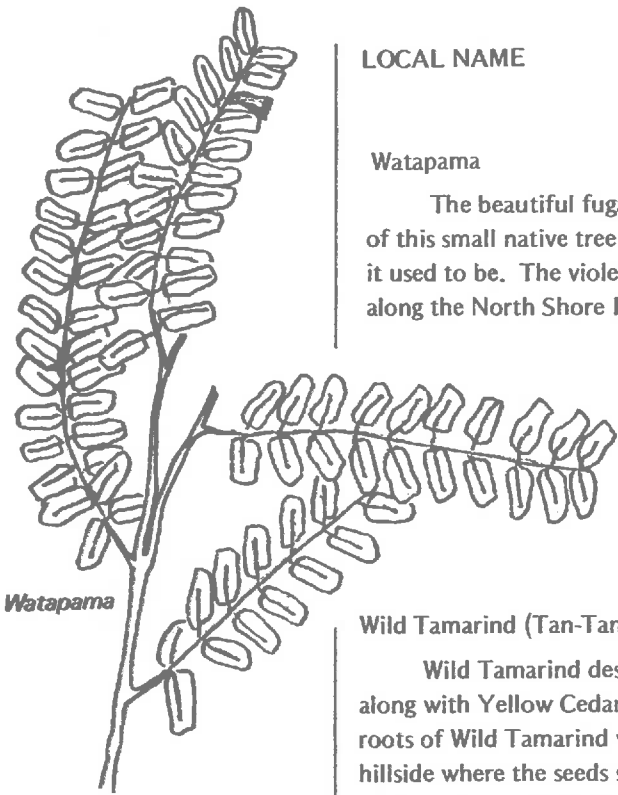
Trumpet Tree



Turpentine Tree
Gum Tree
Naked Indian
Tourist Tree
Fence Post Tree
West Indian Birch



Wandering Jew



LOCAL NAME

FAMILY

BOTANICAL NAME

Watapama

Fabaceae

Sabina florida

The beautiful fugacious or-violet blooms cover the slender branches of this small native tree in March. This exquisite tree is not as common as it used to be. The violet blooms cover branches. Wattapama can be seen along the North Shore Road.

Wild Tamarind (Tan-Tan)

Leguminosae

Leucaena glauca

Wild Tamarind deserves status as the official weed of the Virgin Islands, along with Yellow Cedar which is the official flower. The tough, stubborn roots of Wild Tamarind which harass gardeners are a blessing on a bulldozed hillside where the seeds sprout quickly and send down roots that soon get a grip on tons of soil that would otherwise wash down hill in a heavy rain.

As a legume, Wild Tamarind adds nitrogen to help enrich the soil.

Tan-Tan leaves and seeds do contain a poison, MIMOSINE, which causes horses, donkeys and mules to lose large chunks of hair, the same Tan-Tan is a fine food for cattle, sheep, and goats. In the Philippine Islands, green Tan-Tan pods are cooked as a vegetable, and they aren't half bad. Tan-Tan seeds have been used elsewhere as a coffee substitute. Think of the possibilities of Tan—the Virgin Sanka!

Branches of this omnipresent weed make convenient, non-poisonous sticks for roasting hot dogs and marshmallows. Tan-Tan seeds can be softened in boiling water and strung on nylon fishing line to make attractive necklaces and belts. With 10,000 seeds to a pound, only one pound of Tan-Tan seeds could start a business!

Wild Tamarind, like many other plants — and people — is classified as a pest primarily because people don't know how to use it properly.

Woman's Tongue

Leguminosae

Albizzia lebbek

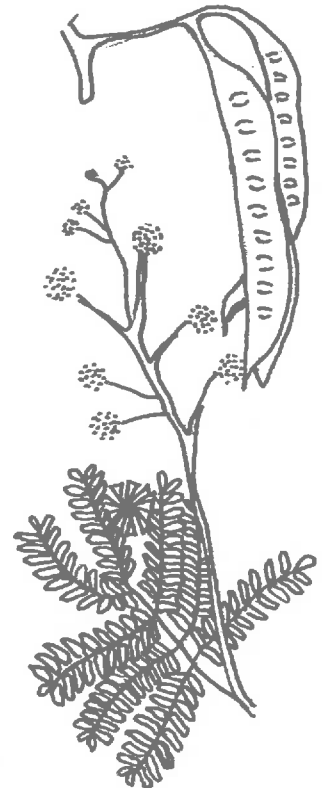
The dry pods of this roadside tree rattle in a summer breeze like a woman's tongue. *Albizzia lebbek* grows well in windy salty arid areas like the hills around Salt Pond Bay. You can hear the conversation if you walk up the path from the beach to the John's Folly Road.

Yellow Prickle

Rutaceae

Zanthoxylum monophyllum

Prickles like warts on trunk of Yellow Prickle tree resemble sharp prickles found on the Monkey Pistol tree, but Yellow Dye prickles are thick and blunt. One yellow prickle with a bit of bark will dye enough whist or "wiss" for a basket . . . or dye eggs to fill an Easter basket!



Wild Tamarind

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Articles in **THE NATIONAL GEOGRAPHIC** listed below give useful information on various topics related to the life of the Environmental Study Areas on St. John.

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|---|--|
| "The Endangered Osprey" | Roger Tory Peterson and Frederick Kent Truslow, Vol. 136, No. 1, July 1969, p. 52. |
| "The Magic Lure of Sea Shells" | Paul Zahl and Victor R. Boswell, Jr. Vol. 135, No. 3, March 1969, p. 396. |
| "Miracle of the Mermaid's Purse"
(Birth of a skate or ray) | Ernest Libby, Vol. 116, No. 3, Sept. 1959, p. 412. |
| "The Marvelous Hummingbird
Rediscovered." | Crawford Greenewalt, Vol. 130, No. 1, July 1966, p. 99. |
| "Porpoises; Our Friends in
the Sea" | Robert Leslie Conly and Thomas Nebbia, Vol. 130, No. 3, Sept. 1966, p. 396. |
| "How the Sun Gives Life to
the Sea" | Paul Zahl, Vol. 119, No. 2, Feb. 1961, p. 199. |
| "Marvels of a Coral Realm" | Walter A. Starck, II, Vol. 130, No. 5, Nov. 1966, p. 710. |
| "Finned Doctors of the Deep" | Douglas Faulkner, Vol. 128, No. 6, Dec. 1966, p. 867. |
| "Caribbean Green Turtle:
Imperiled Gift of the Sea" | Archie Carr and Robert Schroeder Vol. 131, No. 6, June 1967, p. 876. |
| "Our Virgin Islands, 50 Years
Under the Flag" | Carleton Mitchell, Vol. 133, No. 1, January 1968, p. 67. |
| "Sharks: Wolves of the Sea" | Nathaniel Kenney, Vol. 153, No. 2, Feb. 1968, p. 222. |

A		G		P	
Acacia "cashal"	21,22	Gallinules	22,43	Painkiller	63
African tulip	48	Genip	3, 35,54	Palm	50
Allamanda	65	Ginger Thomas	54	Papaya	63
Aloe	48	Goats	3	Parkinsonia	63
Ani	45	Golden orb spider	4,	Pearly-eyed thrasher	41
Anise	48	Gooseberry	54	Pelican	42
Anthurium	34,48	Grassquit	46	Petrea	63
Antillean crested hummingbird	41	Green-throated carib	46	Petroglyphs	37,39
B		Grey kingbird	46	Pigeon berry	64
Banaquit	41	Guana tail	54	Pig-turd (Dog almond,	63
Bananas	49	Guava	54	Bastard mahogany)	64
Barrel cactus	3,64	Guavaberry	54	Pinguin	37
Basil	49	Guinea grass	54	Pistacole	64
Bastard mahogany	63	Gull	44	Pitch apple	64
Bats	3	Gum tree	67	Plantains	49
Bay bean	49	Gumbo-limbo	67	Plover	43
Bay cedar	49	Gushee-gushee	54	Poisonash	13,64
Bay rum	2,8,34	H		Pommes cythere	64
Bell apple	49	Haiti-haiti	3,55	Pond apple	64
Belted kingfisher	46	Hawk	43	Poor man's orchid	3
Birchberry	49	Hart's tongue fern	34	Pope's head	3,11,64
Black calabash	49	Heron		Prickle tree	37
Black-faced grassquit	46	Blue heron	22,42	Prickly pear	11,65
Black mangrove	16,49	Green heron	22,42	Pride of barbados	65
Black wattle	37,50	Herring gull	46	Purple queen	65
Black-whiskered vireo	46	Hibiscus	55	R	
Black witch	45	Hogplum	55	Rain tree	65
Blind snake	4	Horseradish tree	55	Razor grass	38
Blyden-bush	65	Hummingbird	41	Red-necked pigeon	45
Bougainvillea	50	J		Reef bay	28,32
Breadfruit	50	Jackspaniard	4	Reptiles	4
Broom bush	64	Jacquinia	56	Edmond Roberts	19,41
Broom palm	21,50	Jumbi bead	37	Rose Apple	65
Brown booby	42	Jumbie pumpkin	58	Rubber vine	65
Brown noddv	45	Jumbi umbrella	66	Ruddy turnstone	44
Bryophlium	36	K		S	
Bulletwood	2,12	Kakker-lakka	56	Salt pond bay	10
Butterfly pea	50	Kallaloo	56	Salt pond	14,15
Buttonwood tree	3,15,16,50	Kapok	3,35,56	Noble, Samuel	2,25,41
C		Kingbird	46	Sandbox	35
Cactus	53	Kingfisher	46	Sandpiper	44
Calabash	3,38,49,50	L		Sanseveria	39
Carib	46	Laughing gull	44	Sea eggs	13
Caribbean elaenia	46	Lemon grass	56	Seagrape	3, 12,65
Casha	51	Lesser yellowlegs	22,44	Shelf fungus	66
Cassava	51	Lignum vitae	57	Snail, tree	36
Catch-and-keep (country policeman)	51	Lime	26,37,57	Sparrow	46
Cats paw	51	Lipstick plant	57	St. John	
Cattle egret	43	Lizard food	58	Size, Population, Religion,	
Cedar	51	Lizards	4	Education, Economics, Topo-	
Century plant	3,51	Locust	58	graphy, Geology	1
"Chincheri"	46	Love leaf	58	Climate, Rainfall, Vegetation	2
Chocolate tree	51	M		Fauna	3
Christmas tree (Inkberry tree)	52	Maiden apple	58	Forests	2,3
Christmas candle	52	Mahogany	58	Stilt, Black	22,44
Cisterns	25,39	Mammee apple	58	Stinging nettle	66
Citrus	52	Mammals	3	Strangler fig	38,63
Cocaine	53	Mampoo	14,59	Suckers	66
Condordia bay	10	Mango	2, 8,59	Sugar apples	25,66
Congo root	52	Manjack	60	Sugar bird	41
Coral	14,26	Mangrove		Sugar cane	66
Crab eye	37,52	Red	3,16,60	Swallow	46
Crabs	22	White	16	T	
Crayfish	39	Button	3,15,16	Tamarind	3, 67
Crumberry	52	Black	16,49	Tan-tan	68
Cuckoo	45	Mangrove cuckoo	45	Tannier or tannia	67
D		Maran	11,34,60	Termite	35,36
Dildo	3, 11	MespeI	3,60	Terns	45,46
Dodder	53	Milkweed (mountair cabbage)	60	Teyer palm	2,21,36
Dog almond	63	Mimosine	68	Thrasher	41
Dog apple	64	Minna neger gut	21	Thyme	13
Dogwood	52	Mongoose	3	Tourist tree	67
Dove	44,45	Monkey pistol (sandbox tree)	61	Tropicbird	42
Drunk bay	7,11,13,17,18,19	Morning ca-ca bird	42	Trumpet tree	67
E		Morning glory	61	Turks cap	3,64
Egret	43	Mother of cocoa	61	Turpentine tree	3,67
F		N		Turtle grass	67
False cocaine	53	Naked tree	67	W	
False mammee	64	Nerites	13	Wandering jew	67
Fence post		Nickers (scorchers)	11,12,61	Warbler (parula & yellow	
Fiddlewood	53	Night-blooming cerus	61	cape may & palm)	46
Flamboyant	53	Nothing nut	61	Wattapama	68
Footless lizard	4	Nutmeg	12	West indian birch	67
Frangipani	3,53	O		West indian locust tree	35
French cactus	53	Old Marsh House	37	Whelk	13,18,19
Frigate bird	42	Opuntias	3	Whistling cay	21
Fungi	66	Orchid	3,62	White-tailed tropicbird	35
		Oystercatcher	43	Wild tamarind	68
		Oyster plant	63	Wilson plover	43
				Woman's tongue	68
				Y	
				Yellowlegs	22,44
				Yellow monbin	55
				Yellow prickle	68

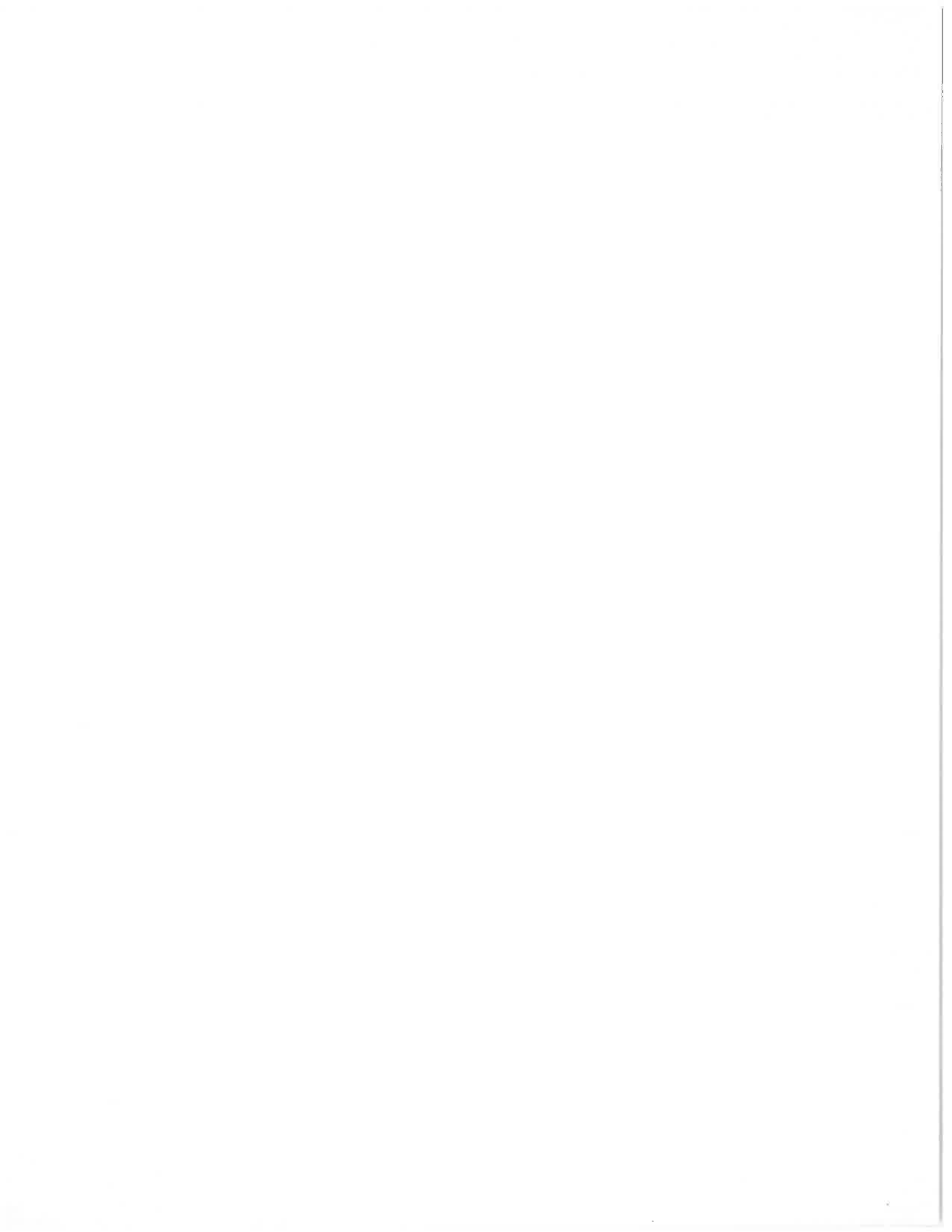
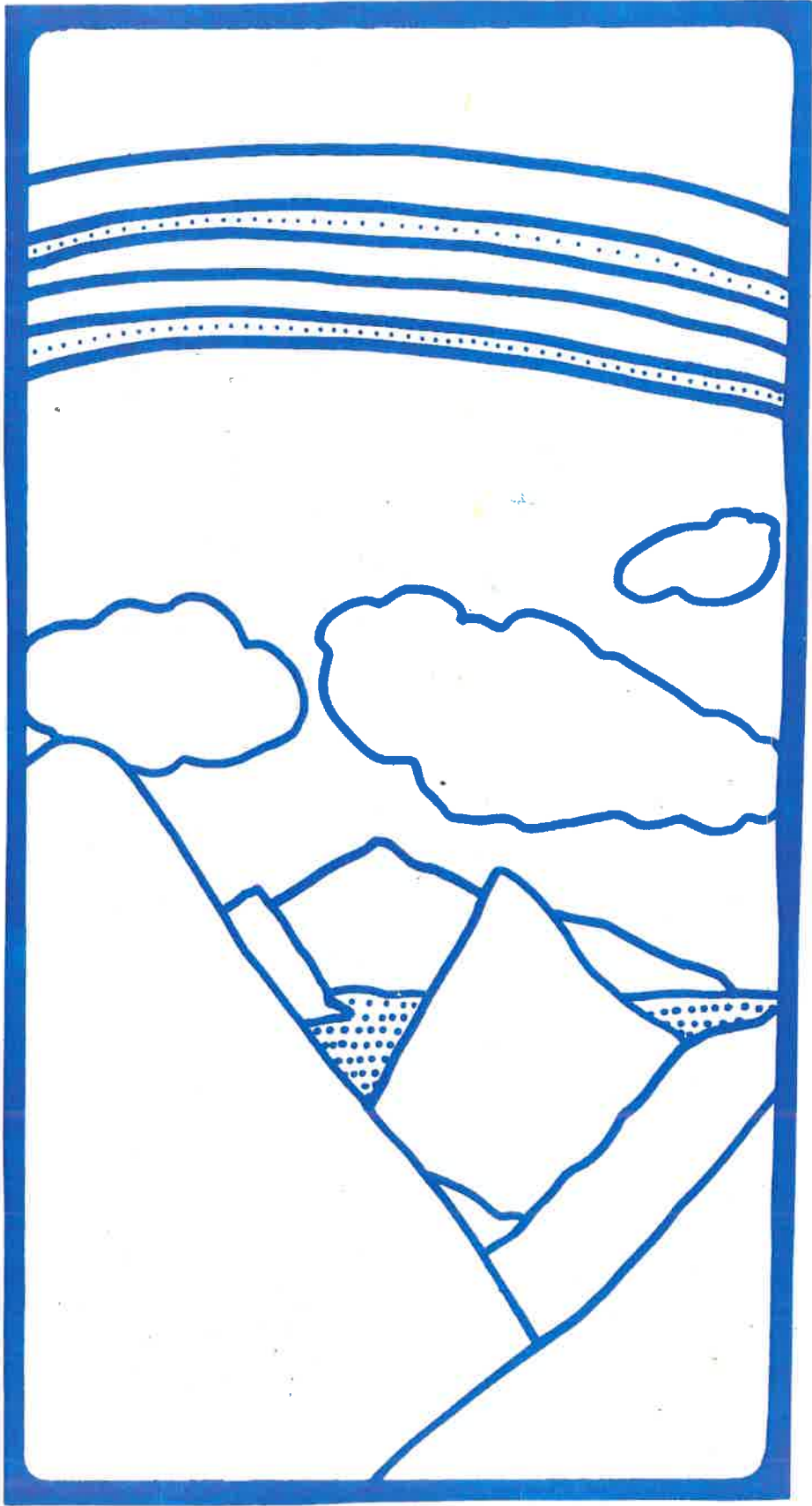


Photo by Hillary Hodge, V.I. Daily News



Matt Marsh, popular Park Interpreter, shows St. Thomas students how to bake Johnny cake. Students learn by practicing expert old time techniques of using inexpensive and native materials to do just about anything a cuisinart can do. Matt's magic memory of her family traditions creates real excitement as shown here where students remove Johnny cake on a peel from the 250 year old oven at the beginning of the Cinnamon Bay Nature Loop walk. How do we know it's that old? Lito Valls notes that ovens are the oldest part of plantations like Cinnamon Bay by virtue of need. Great houses were built much later.

All north shore plantations, including Cinnamon and Caneel, were Hollandish before they were Danish. European history on St. John and St. Croix did not start with the Danes. The oldest parts of sugar factories are the ox pounds. The oldest part of a church is the manse, as at the Moravian Church at Emmaus.



Richard Hummel