VOLUME LXVI NUMBER SIX

THE NATIONAL GEOGRAPHIC MAGAZINE

DECEMBER, 1934

Special Map Supplement of Mexico, Central America, and the West Indies

SIXTEEN PAGES OF ILLUSTRATIONS IN FULL COLOR

PUBLISHED BY THE
NATIONAL GEOGRAPHIC SOCIETY
HUBBARD MEMORIAL HALL
WASHINGTON, D.C.

$3.50 A YEAR 50c THE COPY

HUNTING USEFUL PLANTS IN THE CARIBBEAN

By David Fairchild

Agricultural Explorer, United States Department of Agriculture

Author of "Hunting for Plants in the Canary Islands," "The Jungles of Panama," "A Hunter of Plants," etc., in the National Geographic Magazine

AN UNINHABITED island! What a thrill the words bring. And to land on one in the Tropics is the experience of a lifetime. It is like going down under the sea, or standing on the rim of a crater, or going up in a balloon, or falling in love.

As the boat neared the deserted little island of Beata we searched the skyline with our glasses, wondering what sorts of plants were there, for we approached it not as Crusoes, but as plant explorers for the United States Department of Agriculture.

SEEKING NEW PLANTS, NEW FOODS

On Mr. Allison V. Armour's research yacht *Utowana* we were cruising the Caribbean for drought-resistant plants, for new foods to enrich the American menu, for any valuable member of the vegetable kingdom which might conceivably flourish on our shores.

In the Bahamas we had sought in vain the wild type of cotton from which the sea-island cotton came,* but had gathered hundreds of frangipanis, those exquisite, fragrant-flowered trees which are native there, although more generally associated with oriental graveyards and South Sea islands.

We had passed through the Windward Passage between Haiti and Cuba, bound for Beata, off the southwest coast of the Dominican Republic, and now that tiny isle lay before us, green and inviting (see Special Map Supplement with this issue of The Geographic). Above the other vegetation waved what seemed like slender bamboo stems with tufts of leaves at the top. First to detect them was Harold Loomis, of the Department's Division of Plant Exploration. Could there be a native bamboo here? Not at all likely, for none of the tall bamboos of slender habit are denizens of the West Indies.

Each turn of the propeller made these objects clearer, and gradually they stood out plainly as the slender stems of a fascinating palm, new to the books and possibly new to science.

Was it in fruit? How tall was it? Would it become some day a palm for our gardens in Florida, or perhaps an ornamental house palm? Of course Loomis was the most anxious to get ashore, for he was the palm man of the party.

Mr. Armour was at the wheel. He had landed once before on this same island, and as we neared the shore he admonished us of the ways it might best be explored. Nevertheless, with a mad rush we all made for the new forms of trees and shrubs on the rocky cliffs and instantly became entangled in almost impenetrable thickets of spiny vegetation. Had the ground been passably level, we could have cut our way through, but we walked on knifelike edges and needle-sharp pinnacles of eroded limestone rocks which, even if there had been no vegetation at all, would have made going tedious.

When we had exhausted ourselves in the first rush, we drifted back to the shore with our booty and worked our way along the shelf of rocks, walking over countless ancient conch shells which lay in windrows on the old elevated beach, until we heard Loomis, who had made for the cliffs above in search of his palm, scrambling down to the shore.

He appeared dragging it with him and stood it up beside him for me to photograph (see illustration, page 710).

ONE SPECIES KNOWN, ANOTHER NEW

Until we brought it back to America, we fondly hoped it might be new to science. However, that genius of a collector, the Swedish naturalist, Ekman, had discovered it in Haiti. From the seeds we collected there are now many little palms growing in a greenhouse in Florida.

Now that the world has been thoroughly combed over by scientists, it is rather rare to discover a new plant, as our experience with the palm shows. Yet on this same lonely island we made such a find.

Our prize was a fine ornamental tree about 20 feet high, related to the hibiscus

* See "The Golden Isles of Guale," by W. Robert Moore, in the National Geographic Magazine for February, 1934.

Photograph by P. H. Dorsett

RED FRUIT LURES A PLANT-HUNTER UP A TREE

It is a hard climb, but Harold Loomis was rewarded by getting the first living seeds from Cook's Saona Island palm, which now may add its splash of color to subtropical gardens and conservatories. Although the fruit is not edible, the author enjoyed the taste of a chip from the trunk. He suspects that if it were in the Orient the tree, like the sago palm, might be used for starch.

and bearing cream-colored flowers the size of large saucers. Dr. Frederick L. Lewton, of the United States National Museum, who has specialized on the family to which it belongs, has found it to be a new genus and has named it for Mr. Armour—*Armouria beata*. Unfortunately, only two of the seeds we collected from it have grown.

We cut our way through the brush without realizing that it was overgrown with manchineel trees, but the effects of the oil glands of their leaves soon reminded us that the West Indies has poisonous trees worse than our familiar poison ivy. In former days the manchineel was believed to be as deadly as the famous upas tree of Java.

There is a strange fascination in making your way slowly and painfully through the scrub, pushing against the tangle of vines that catch at your clothes and your flesh, cutting down a small tree here, or hacking a trail through some spiny bush there, watching all the time to see that you don't turn your ankle on some sharp rock or plunge your foot into some pothole and break a leg.

But another island awaited us—Saona, off the southeast coast of Hispaniola. We knew of it through a curious circumstance.

My friend, Dr. O. F. Cook, in his investigations in the National Museum in Washington, had come upon a fragment of a palm specimen collected there years ago. Observing characters on it which made him believe it was new, he had named it *Pseudophoenix saonae,* for the island.

He had never seen the living palm, nor had we; but when the boat came within half a mile of the coast of Saona, and we espied through our glasses a splash of red against the dark foliage, we presumed it was a bunch of red fruits of the palm that Cook had described (see illustration above).

This scarlet spot on the landscape was the objective of our first landing on the island. Although we found also a beautiful strand tree, with glossy foliage and fragrant flowers, and collected quantities of seeds of a rather rare palm with huge fan-shaped leaves, it is the memory of that scarlet-fruited palm of Cook's which makes me want to return to the little island.

Photograph by P. H. Dorsett

THE "UTOWANA" ANCHORS OFF A ROBINSON CRUSOE ISLE

Few scenes in all the West Indies have more charm than those about Man-of-War Bay, Tobago, whose scenery some see reflected in Defoe's immortal tale (see text, page 723). Its isolation from the outside world, its rocky cliffs covered with orchids, its densely forested hills, full of palms and epiphytes, the boom of its restless surf—all combine to make it a fitting abode for romance.

It was afternoon, and the long shadows through the forest gave it a strange, fairy-like appearance. As we crept through the undergrowth, here and there, staring at us with their beadlike eyes from the moist forest floor, were giant hermit crabs, bright vermilion in color, the largest I had ever seen. I could not help collecting some to take back as pets to friends in Washington.

Loaded with the palm's brilliant red fruit clusters, each about all a man could carry, we returned to the yacht and hung them up to ripen on their stems on the after hatch. As I write, three years from that afternoon, it is a satisfaction to know that there are boxes filled with little seedlings of Cook's palm at the Introduction Garden in south Florida, and that some day their clusters of scarlet fruit may brighten private gardens and solaria.

HERE A FOREIGN POWER FIRST SALUTED AN AMERICAN FLAG

Rough weather prevented us from landing on the volcanic island of Saba, and we went ashore instead on near-by St. Eustatius, another of the Dutch West Indies. There, in 1776, a Dutch governor ordered the first salute fired to an American flag by any foreign power (see illustration, page 711).

We visited the only remaining bit of virgin forest left in the island, climbing an extinct volcano to do so. After the low brush of the Bahamas, and even the taller forests of Beata and Saona, the rain forest of the crater seemed marvelously rich. Great aroids and ferns formed the undergrowth, and tall leguminous forest trees were hung with lianas of all sorts.

The peak of Mount Misery, on the island of St. Kitts, rose from the sea at dawn next day. A dark cloud on the horizon grew as we approached until it became a mountainous island, so high as to require a day to scale it, with roads, villages, forests, and vast fields of sugar cane. With our glasses we watched the early-morning activities of the countryside; we even heard the cocks crowing, the church bells ringing, and the neighbors talking. The effect might be likened to a fine pastorale.

Photograph by H. F. Loomis

SCIENTISTS EXPLORE WHERE SMUGGLERS ONCE ANCHORED

While eager youngsters watch, the plant-hunting yacht *Utowana*, in contrast with an old three-master, moors off Orange Town, St. Eustatius. In American Revolutionary times this small Dutch island was the center of a huge trade in munitions and supplies for the Colonies, and when, in 1781, a British fleet under Rodney captured it, the contraband was sold at auction.

Photograph by Jacob Gayer

HEAD-CARRYING LEAVES THE HANDS FREE FOR TALKING

Although England has held the island of St. Lucia for more than a hundred years, its Negroes mainly speak a French patois, now gradually giving way to English. Gay kerchiefs serve as pads beneath the baskets and add a touch of color as market-bound women stride along mountain roads or pause on the streets of Castries for a bit of animated conversation (see page 715).

Photograph by Richard B. Hoit

THE VIVID BLUE AND GREEN WATERS OF NASSAU HARBOR GLEAM TWO HOURS BY AIR FROM MIAMI

Off at the left stretch the white bathing beaches of Hog Island, once a pirate lair. Tradition says that in its lee the notorious "Blackbeard," Edward Teach, playfully set fire to a ton of brimstone in his ship's hold and bragged that he stayed in his own little inferno longer than any member of his cutthroat crew. On the coral strand of New Providence Island, at the right, lies Nassau, metropolis of the Bahamas. There the visitor gets a foretaste of Caribbean life.

Photograph by Dr. David Fairchild

ON A TINY ISLE GROWS THE EKMAN PALM, "CROOKED AS A DOG'S HIND LEG"

This rare specimen was dragged from the rocky cliffs of uninhabited Beata by Harold Loomis, who holds it (see text, page 705). Constant bowing before Caribbean winds has given it a permanent crick in its neck, but even hurricanes seem powerless to destroy it. One of the world's slenderest, it is 27 feet tall and not much larger at the base than a tennis racket handle. In sheltered places it grows straight as a flagstaff.

Photograph by H. F. Loomis

HERE BOOMED THE FIRST FOREIGN SALUTE TO AN AMERICAN FLAG

From a cannon such as these the Dutch governor of St. Eustatius ordered a salute fired when a vessel from Baltimore sailed into Orange Town harbor in November, 1776, proudly flying the Grand Union colors. The American Colonies were not yet recognized as an independent nation, and for his act the governor was recalled.

By the following noon we were in the dense rain forest on the slopes of Mount Misery with Harold E. Box, an entomologist, and two of his friends, collecting palm seeds and aroids, and listening to entertaining accounts of island vegetation.

It was strange to find many sorts of tropical fruit trees, which must have been introduced in times past from the Orient and other places, growing wild in the mountains. From the size of their trunks we knew they had been there for a half century or more.

A sense of the age of the West Indies civilization came over me during our first morning in St. Kitts. Suddenly I realized that there was nothing untamed or primitive about the landscape. So far as virgin forest was concerned, I might as well have been walking in New Jersey pastures.

No wonder I felt thus; for by 1630 there had been 6,000 English settlers on the island. The record of nearly 200 years of fighting between the French and English for its possession shows the importance that was placed upon these little tropical islands by the nations of Europe.

I read in a colonial history, written in 1837, that even in those early days there were growing on the island the orange and the shaddock, the latter called after a captain who is said to have brought it from Africa. The history mentions also the "avocato," the grenadilla, and the "forbidden fruit," which is "a species of the shaddock, only smaller and more delicate, while the outer skin is less coarse."

It seems possible from this description that the "forbidden fruit" of the early chronicler was the same as that which the Florida "crackers" rather stupidly named the "grapefruit," and that it originated as a seedling somewhere in these West Indian islands.

The stretches of sugar cane which almost cover the island of Antigua with monotonous pale green looked discouraging from the boat. But with the aid of Mr. C. F. Charter, an enthusiastic young Englishman, we found a pretty yellow-flowered *Cipura,* a scarlet-flowered *Galactia,* two palms, and a tabebuia tree, all of which may some day come to light in our Southern States.

Photograph by José Anjo

HERE LORD NELSON'S FIGHTING FLEET FITTED FOR ACTION

Massive pillars mark the site of the famous admiral's dockyard on the island of Antigua and take the visitor back to the days when the Caribbean was the main arena of naval struggles for supremacy in the New World.

As we approached Dominica at sunrise, it was very beautiful and very tropical, with mist-covered mountain peaks more than 4,000 feet high, and deep, mysterious, almost sinister, gorges. It is a horseback country; had it been better supplied with roads we could have seen more of it.

However, if there had been nothing in Dominica but its botanic garden, we should have been repaid a hundredfold for the days passed there. It has one of the most attractive tropical gardens in the world.

"THE PRINCES OF THE PLANT WORLD"

The glory of such a garden lies in its palms. Those who have seen them only as potted plants cannot appreciate that they are, as Linnæus called them, "the princes of the plant world."

They form an immense family of perhaps 2,000 species, ranging in size from dwarfs to giants 130 feet tall.

Countless generations of primitive children have grown up beneath their shifting shadows; myriads of people for thousands of years have lived on their fruits, built houses from their leaves, made weapons and tools from their stems, and dressed in their leaves. The cargo ships which ply the tropical seas carry palm products to the factories of the Temperate Zone, and in increasing volume the palms help feed and wash mankind with their fats and oils.

I wandered all over the Dominica garden with Mr. Joseph Jones, its creator, and, since we had been offered seeds of the several species of palms, I felt that we had found a veritable mine of material.

Palm seeds are difficult to transport, for many of them do not hold their vitality long. Though the seed itself may be hard and firm, the almost microscopic plantlet which is packed away neatly in the hard kernel is as perishable as a sprouted mustard seed. It will not stand drying out, nor has it any resistance to the molds that are almost sure to gather around the usually oily palm seed-coats.

AIRPLANES AID PLANT IMMIGRANTS

With the facilities afforded by the research yacht we were able to care for the palm seeds given us, and thousands of seedlings, now safely growing in Florida, speak

Photograph by Jacob Gayer

LIFE IN ST. JOHNS MOVES IN THE TEMPO OF THE OLD SOUTH

Wherever he has settled in the New World, the Negro has used the basket and the donkey or the mule for transport. On this British island of Antigua human heads still bear incredible loads and tiny donkeys look as if they should change places with their riders.

for the facilities which Mr. Armour put at our disposal. Also, by air express Mr. Armour landed perishable seeds in Washington in less than six days from the time the seeds were gathered from the trees in British Guiana. I remembered how many of my collections made in the West Indies in 1898 had been dead when they arrived in Washington after a month or more in the steaming hold of some passenger ship.

The rarest and one of the loveliest flowering trees is here in the Dominica garden. *Baikiea insignis* is its name. To stand beside one of the large flower clusters and wait for dusk, and then to watch the slow unfolding of those immense paper-thin petals of ghostly white, fringed with thin bands of old gold; to see these emerge from long finger-shaped buds, soft, velvety, and deep brown as a lady's suede glove, is an experience never to be forgotten.

A ROAD TO A BOTANIST'S PARADISE

On the charming island of St. Lucia the roads, far superior to those of Dominica, wind among amazing scenes of tropical vegetation. In the central mountain region these scenes reach a climax. I do not remember having seen more nearly perfect tree ferns and heliconias, aroids, and bamboos, than along a stretch of the highway there.

COLLECTING OFFERS EXCITEMENT

Howard Dorsett, Loomis, and I passed a day collecting in the mountains and saw the pink and brown fruit clusters of the tall Euterpe palm, which pushed up through the forest below us. To climb down the slippery slopes of a tropical hillside is exciting, for a sheer drop may lie right ahead where some fascinating find lures.

The market at St. Lucia was full of the largest and most attractive dasheens I have seen. This delicious vegetable, the tuber of a plant related to the calla lily, appears to be one of the staple foods of the inhabitants. Some road workers along the way were eating their lunch as we passed. I peeped into their dinner pails and baskets and found that almost all were eating large slices of boiled dasheen.

Mr. Armour and I selected the best specimens we could find in the market,

Photograph by Dr. Karl Domin

HUGE CACTI ADD A BIZARRE TOUCH TO ST. KITTS SCENERY

Such growths are commonly associated in the popular mind with deserts, but they are to be found in wet lands, too. They are sometimes used for fences, and when their huge white blooms open on moonlight nights they make an unforgettable sight. Some regions in Jamaica are literally infested with this giant, which has become a weed.

Photograph by P. H. Dorsett

HACKING DOWN A 100-POUND CLUSTER

Perched on a dead leaf of the Mauritia palm, 50 feet up in a vast tropical swamp, a native swings his machete until the mahogany-colored fruit plunges into the shallow water. Small palms from the seeds gathered near Georgetown, British Guiana, are growing in south Florida, but whether they can adapt themselves to the climatic conditions of the Everglades is uncertain.

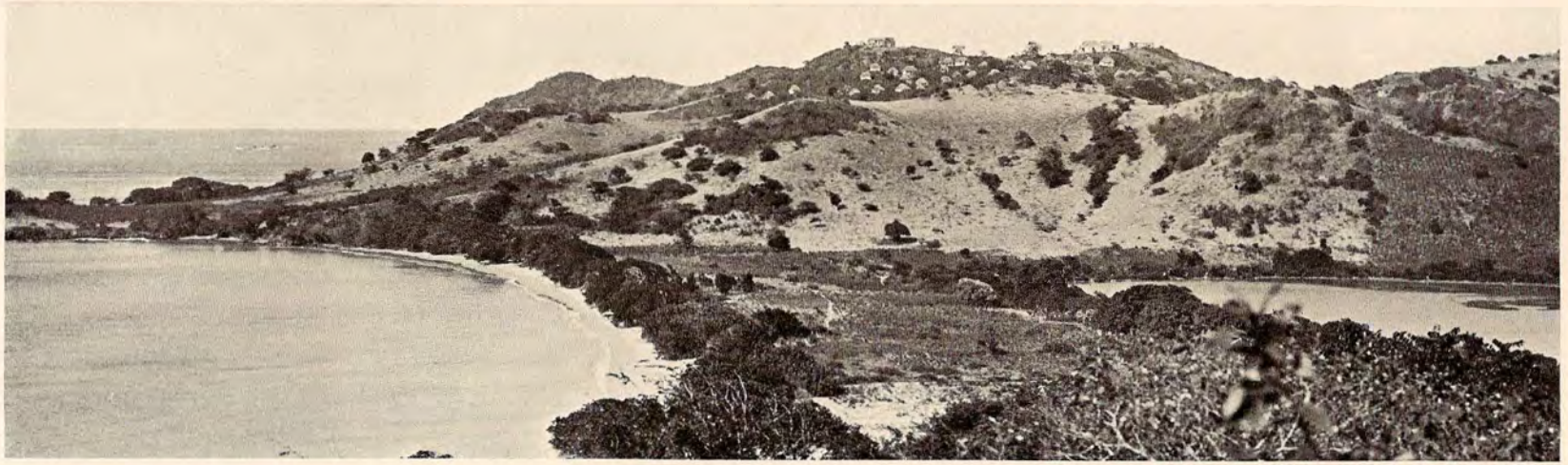
Photograph by Capt. Albert W. Stevens

DEADLY SNAKES ONCE INFESTED THE VERDURE-COVERED MOUNTAINS OF LOVELY ST. LUCIA

Now these lurking perils, including the venomous fer-de-lance, or "yellow viper," have been virtually wiped out with the aid of the devastating mongoose. The author's plant-seeking party roamed in safety through tropical forests filled with graceful palms and tree ferns. At the left, Castries, the capital, nestles at the head of its superb landlocked harbor. Around it, on land and sea, centered for years the struggle of the French and English for supremacy in the West Indies.

Photograph by José Anjo

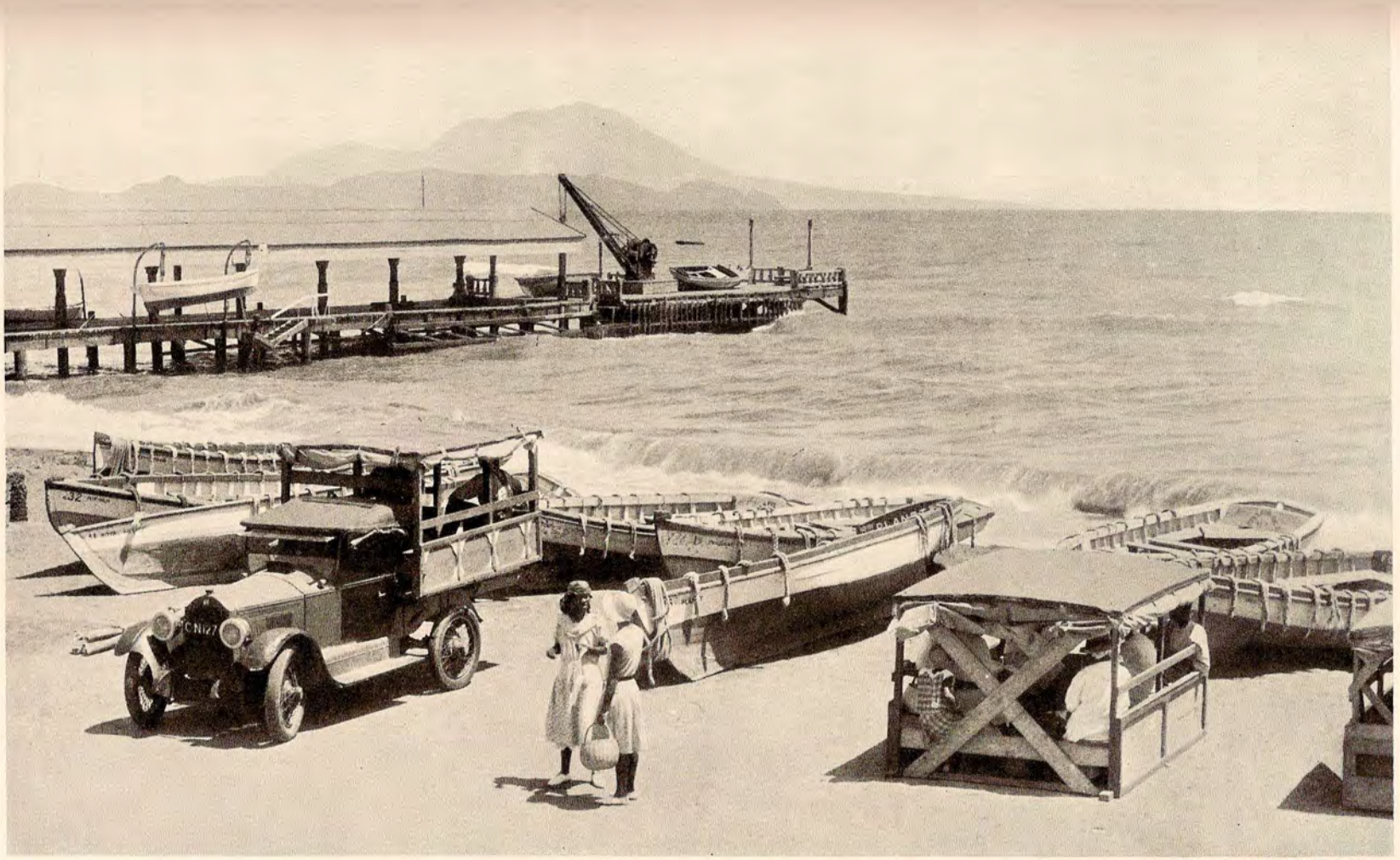
ON ST. VINCENT'S BEACHES BLIGH LANDED HIS BREADFRUIT TREES



Photograph by Dr. David Fairchild

IN A SINGLE AFTERNOON ONE CAN RAMBLE ALL OVER TINY MAYERO, IN THE GRENADINES

Its white sand beach sparkles in the sunshine, but, alas, it is bordered with poisonous manchineel trees, which raise blisters more troublesome than those from poison ivy.



Photograph by Ella Barnett

COLUMBUS CALLED THIS ISLAND SAINT CHRISTOPHER, BUT THE NICKNAME "ST. KITTS" HAS STUCK

Basseterre's boat-strewn water front is the end of the line for busses, which bring passengers from the interior in the morning. On arriving here, the body, with its seats, is removed and serves as a waiting room, while the chassis is used for local hauling jobs around the city. On the sands at the right squats one of these removable bodies, well filled with passengers for the return trip in the afternoon. One of the girls in the foreground crochets as she talks.

Photograph by Jacob Gayer

BREADFRUIT CAME AS AN IMMIGRANT FROM THE SOUTH SEA ISLES

This tree at Castries, on St. Lucia, recalls that in 1793 Lieutenant Bligh of the British Navy brought some to the West Indies, despite the famous mutiny of the *Bounty* and his subsequent 3,600-mile voyage in a small boat, after being set adrift by the mutineers. Boiled and served with butter as a vegetable, the fruit tastes like a rich and delicate potato, but it does not take the place, as experimenters once hoped, of bread (see text, opposite page).

Photograph by Dr. David Fairchild

NATURE SUPPLIES EXCELLENT UMBRELLA SUBSTITUTES

As these children of St. Lucia trudged home in the rain, they protected themselves with three-foot *Cocoloba pubescens* leaves, which when the tropical downpour ceased served equally well as parasols. Trees of this species are now growing in south Florida, and plants of it in tubs have been exhibited at the New York Flower Show.

and for days afterward Ernest, the steward, served us with masterpieces of dasheen chips, dasheen stuffing for poultry, baked, scalloped, and boiled dasheens, and so on. He realized the possibilities of the dasheen for many dishes for which the potato is less well suited, and prepared recipes which I sent to the Dasheen Growers Association at Callahan, Florida.

Thanks to the enthusiasm of Mrs. C. W. Doorly, the wife of the Administrator of St. Lucia, our gardens in Florida are being enriched with a new root vegetable called the "lleren," or "topi-nambour," *Calathea allouya*. The little tubers of this plant are sold in small bunches at the market in St. Lucia and some of the other islands. They are the size and shape of pullets' eggs and are usually boiled by the country people before they are taken to market, but we found them more delicious if baked and served hot, like baked potatoes.

St. Vincent boasts the first government-established botanic garden in the Western World, dating from 1763. It became one of the finest gardens in the Tropics; but, because of political difficulties and perhaps misunderstandings, it was abandoned after 50 years, and the plants were moved to Trinidad.

ODYSSEY OF THE BREADFRUIT

It was into Jamaica and St. Vincent that Lieutenant Bligh introduced the breadfruit and many other oriental trees collected on a subsequent expedition to Tahiti after the mutiny of the *Bounty* (see opposite page).

If the Negro laborers of the "sugar colonies" could be fed on breadfruit, it was thought it would be unnecessary to import so much flour and other expensive foodstuffs from Europe.

The planters of Jamaica gave Bligh an enthusiastic welcome and presented him

Photograph by P. H. Dorsett

A FEW CANDIES MADE THE AUTHOR THE PIED PIPER OF TOBAGO

Word traveled fast, and every child in Charlotteville turned out to get his share of the sweets brought safely ashore despite a spill of the landing party into the surf of Man-of-War Bay (see text, page 723). Both the author (left center) and Mrs. Fairchild (right) were soaked.

Photograph by H. F. Loomis

LITTLE TOBAGO IS UNSPOILED AND IDYLLIC

How many millions of children in reading Robinson Crusoe have imagined a scene like this among the coconut palms! Yet the island's days of isolation seem now to be numbered. Air travelers can leave at sunrise on Wednesday from Trinidad, across the way, and be in New York in time for breakfast on Friday.

with 1,000 guineas, but before long it became evident that one factor had been overlooked, the factor of taste. The African blacks did not like the breadfruit so well as they liked bread; to them it was no better than their plantain. The effects upon the flour imports were nil, and the planters were disillusioned.

Although the immediate effects were disappointing, the thousands of breadfruit trees which now are scattered throughout the islands attest the growth of the taste for the fruit among the inhabitants.

THE GRENADINES ARE STORY-BOOK ISLANDS

The tiny islands of the Grenadines are fascinating; like little fragments of the world, they stand apart, completely left behind by the passage of events.

I recall on Bequia the little group of black school children who followed us across the trail to the valley of Friendship late one afternoon, eager to catch lizards for us, prompt with information about the enormous fruited tamarind which grew on the hillsides. They were enthusiastic about the chief food they knew, the pigeon pea, which, when properly cooked, is as delicate and palatable as the lentil of Bible history. Everywhere the hillsides were planted with this shrubby legume, and its yellow flowers made the pathways bright with color.

Bequia has an area of about 10 square miles; Cannouan is about one third that size. When we landed among the surprised natives in the early morning, the schoolmaster joined us.

On the superb white beach I was surprised to find the bonavist bean, *Dolichos lablab,* growing in profusion in pure sand. It is a species which I have often grown in Florida and found delicious when used as a puree or in soups. Should a share of the attention bestowed on the ordinary garden pea be given to this bonavist bean, we might have a popular new vegetable.

The curse of these little Grenadines is the manchineel tree, which lines the beaches everywhere (see page 716).

Of the four islands of the Grenadines visited, Mayero remains in my memory as the most romantic. In an afternoon Loomis and I went all over it, and as a result we have growing in our gardens a lot of little plumeria plants from the wind-swept eastern side of the island, a pretty new ficus from the summit, and a single tiny seedling of a handsome calliandra bush whose deep crimson flowers took my fancy.

Photograph by H. F. Loomis

CLIMBERS, BEWARE THE CARESS OF THE "PORCUPINE TREE!"

After once brushing against it and having its black, needle-sharp spines break off and fester in the flesh, one learns caution. The points which protect these young Acrocomia palms are shed as the trees grow older. There were once forests of them on Antigua, but now only a few stately specimens remain.

Carriacou, the largest of the Grenadines, has roads and a small botanic garden. We saw a fine stand of mahogany, the result of reforestation to conserve the rainfall.

On the hill above the town, where we went searching for leguminous plants, we found a new shade tree and a promising new ficus tree used as a windbreak.

One of the oldest botanic gardens in the West Indies is in Grenada. Thanks to the

Photograph by Capt. Albert W. Stevens

THIS DESOLATE LAKE HELPS TO PAVE THE WORLD'S CITIES

When Sir Francis Drake calked his ships with ooze from "ye Great Pitche Lake on Trinidad," he little suspected that out of it would come thousands of miles of asphalt highways for rubber-tired cars. From the air it looks like a big mud puddle. A man can walk across the semisolid surface, patched and veined with muddy water.

love for plants of almost all its British governors, it is still kept up and attracts many tree lovers.

In the nineties I had traveled with my old friend, Barbour Lathrop, out to the Spice Islands, where I saw the nutmeg in its native home, and heard how the Dutch resisted the taking of this tree to Grenada and other tropical islands. Therefore I was particularly interested in seeing the plantations in Grenada, where the nutmeg tree was introduced from Banda, in the Banda Sea.

On one of the old plantations some of the trees are nearly a century old. Of all the fruit cultures I know, that of the nutmeg is the neatest and most orderly. There is something unreal in the exquisite golden-yellow, pear-shaped fruit, which when ripe opens and shows the chocolate-colored nut covered with its scarlet network, the mace of commerce, itself an important spice. The fruits always seem to open in just the same way, to be of nearly uniform size and color, and to nestle among leaves as polished as those of the European holly.

When I walked under the trees in one orchard I was aware of the same dense shade and moist atmosphere and the strange glamour that I had felt in the Spice Island plantations of the East.

HOUSEWIVES DEMAND ROUND NUTMEGS

As nutmeg growing was profitable for the Dutch in Banda, so it seems to have been for the British planters of Grenada. Since 1865 the nutmegs of Grenada have come into the market in increasing quantities and,

roughly, a third as many come now from this island as from Banda.

Grenada nutmeg growers are bothered because their trees produce too many oblong nuts. Even if a long one is just as easy to grate and has practically the same aroma as a round one, century-old tradition demands the spherical shape.

Approximately 6,000 tons a year is the average consumption by occidentals of this remarkable spice, of which nobody wants more than a few small particles at a time. The welfare of two of the most beautiful little islands in the world, one in the Eastern and one in the Western Hemisphere, is tied up with man's taste for this nut.

When we arrived in the early morning at Port-of-Spain, Trinidad, we were aware of a marked change. Subtle differences in the water and the sky tell the initiated that he is nearing the continental Tropics, which in climate and other aspects are very unlike the small oceanic islands. Trinidad lies just off the delta of the mighty Orinoco, and its flora and fauna are those of South America.

There were wonderful mornings in the botanic garden, in charge of Mr. R. O. Williams, where we were joined by the former director, Mr. W. E. Broadway, who has watched grow from seed many of the finest specimens in this gallery of Nature's masterpieces.

In this garden is one of the finest collections of palms in the Western Hemisphere, but they form only one chapter in a complete book of strange, fascinating plants. The camoensia, with its magnificent gold-edged flowers of purest white, was in bloom near the Governor's residence. A tree of portlandia, with immense white blossoms, stood near the entrance. A new and brilliant-red perennial, *Scutellaria ventenati,* filled one of the borders, and the ground under a magnificent spreading forest tree was covered with flowers shaped like mousetraps, belonging to that most remarkable of the families of trees which inhabit the tropical forests of America, the Lecythidaceae.

THE HOME OF AN ORCHID HUNTER

Mrs. Fitt, a daughter of my old friend, Eugène André, the orchid hunter, invited us to call, and as we drove into their place I was struck by the fact that we were passing under a pergola completely covered with a single hybrid orchid, *Vanda teres* X *V. hookeriana.* Miss Joaquim. It had grown so dense that it made almost a tunnel of the pergola. When it is in bloom, in the late spring, I am assured that it is one of the wonders of Port-of-Spain.

When Mrs. Fitt told me that she had an avenue of sealing-wax palms, *Cyrtostachys renda,* in her commercial nursery, and that they were in fruit, we went at once to see them, for this is one of the most aristocratic of palms, and I had been trying for years to introduce it into the United States. It is striking at all times, because of the brilliant red of its leaf sheaths, but when to this are added delicate pink fruit clusters and deep blue-black fruits, its beauty is amazing. It thrills me to see the hundreds of tiny seedlings coming up in our gardens from the seeds Mrs. Fitt gave me.

"WASHED ASHORE" ON A CRUSOE ISLAND

We passed three unforgettable days at Man-of-War Bay, on the north coast of Tobago, an island which is said to have furnished Defoe with some of the tropic setting for his tale of Robinson Crusoe (see page 707); this he combined with incidents suggested by the experiences of Alexander Selkirk, marooned on Juan Fernández Island, off the coast of Chile.*

The scene was so friendly as we sailed into that superb harbor, the golden sunshine lighting up the coconut palms and the flame-colored erythrinas, and bringing into high relief the moving fishermen on the beach, that nothing could stop the whole scientific contingent from piling pell-mell into the boat which Mr. Armour had especially built for landing on shelving beaches. We quite forgot his instructions not to overload it. Though we saw the great quiet rollers, we failed to be disturbed by them until we came close to the shore.

We were just thinking that one oarsman was not enough to land a boat with seven people on such a shore when the next wave gently raised the stern and tipped us all out into the surf. Sea sand in our hair and eyes, and drenched with salt water, we scrambled ashore after the manner of Crusoe himself.

We made plans to have a large surfboat meet the launch next morning; but the arrangement missed fire, and the fellows who came off were some inexperienced boys who

* See "A Voyage to the Island Home of Robinson Crusoe," by Waldo L. Schmitt, in the NATIONAL GEOGRAPHIC MAGAZINE for September, 1928.

Photograph by P. H. Dorsett

VAST SAVANNAS RECALL THE FLORIDA EVERGLADES

Here in the Guianas, however, the swamps are filled with ferns instead of "saw grass," and the water which soaks the muck is not alkaline, but as acid as that of a blueberry bog. The author holds a 10-foot Mauritia palm leaf (see illustration, page 714).

Photograph by H. F. Loomis

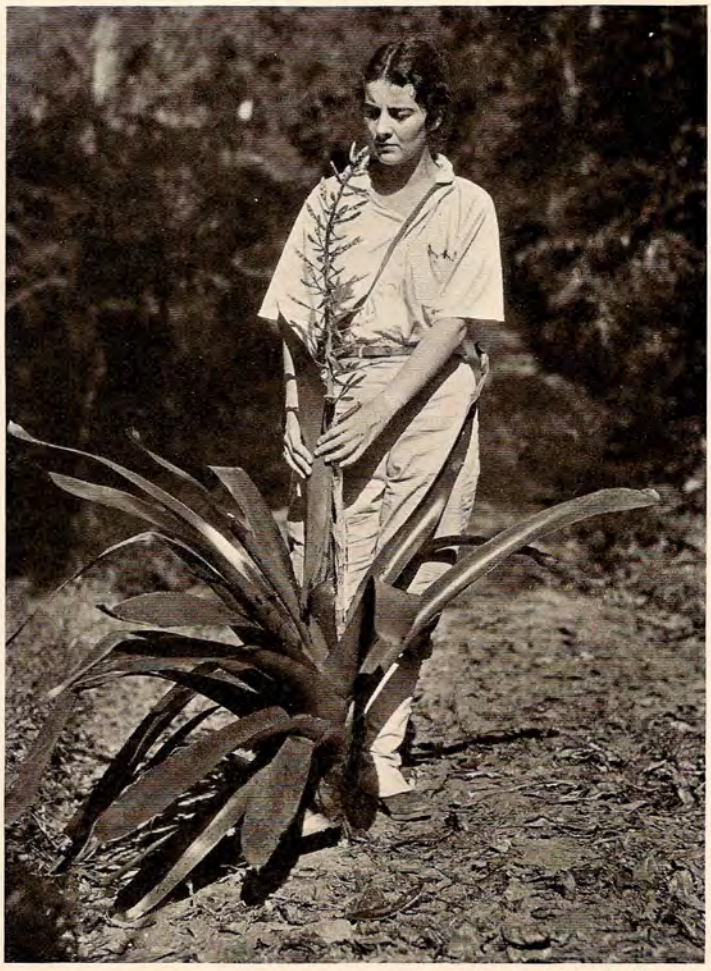
BUSH NEGROES PREPARING FOR A DANCE

These girls and women are descendants of slaves who revolted about 1762 and escaped into the jungle of Surinam to live their own simple, unsophisticated lives. Well-built houses, neatly swept streets, and characteristic, carved utensils indicate a high degree of community discipline (page 732).

knew no more about surf riding than we did, and Loomis and I got another ducking. The boys got a calling down from the older men, and we passed the day in wet clothes. But what a day!

COLLECTING ORCHIDS FROM A LAUNCH

Edgerly, the native guide, led us a hard scramble up the slippery slopes of Pigeon Peak. We sought the Astrocaryum palm, which is native there. It is lovely and slender-stemmed, but has vicious spines all up and down its trunk. To get their seeds we had to cut down the palms, and one of the trunks, falling across the steep, slippery pathway, hemmed me in against the hillside. The only way out was over its brittle spines, which seemed waiting to break off in me if I stumbled. I realized how quickly a danger may arise in the jungle. Alas, the seeds we collected that day have not grown!



Photograph by P. H. Dorsett

THIS AIR PLANT DIED ON ITS WAY FROM TOBAGO

Its flowers of green, blue, and vermilion were as fascinating as Chinese jade and lacquer; but, though Nancy Bell Fairchild helped pull it from a tree high up in the forest and carried it down the mountain side on her head, it did not survive the journey to the United States. Some one else must get it for the oak trees of south Florida.

We could see from the boat that the rocky cliffs of the harbor were covered with the Virgin orchid, *Diacrium bicornutum*, and from the way the surf was dashing against the rocks it seemed probable that this beautiful white orchid was bathed in salt mist all the time. I had never seen orchids so near the surf before, and since it was a rather rare species in cultivation in America, Mr. Armour and I decided to try collecting a quantity from the launch.

The sailors in their bathing suits did the work, while we stood off in the launch and kept clear of the rocks upon which the huge rollers would have smashed us if anything had gone wrong with the motor. It was a hot day and the sun burned us through our thin pajamas.

Reluctantly we dragged ourselves away from this idyllic island, and in two days were plowing through the muddy waters of the swiftly flowing Demerara River and anchoring off the old town of Georgetown, British Guiana.

It is perhaps incomprehensible that in 1667 the Netherlands should have given what is now New York in exchange for a patch of South America's coast. The price of sugar had much to do with this transaction; also the fact that slaves could easily

Photograph by Dr. David Fairchild

ONE OF THE STRANGEST FORMS OF PLANT LIFE ON OUR PLANET

The almost incredible coco-de-mer palm, here growing in the botanic garden of Georgetown, British Guiana, bears eight large fruits, each weighing 40 pounds or more. Three of them rest on the ground. They take 10 years to ripen. For centuries the huge black seeds, called "double coconuts," drifted ashore in the Orient and remained a deep mystery, until discovery of the Seychelle Islands disclosed their source. From there the seed from which this specimen grew was brought.

be brought over from West Africa to work the cane.

Mankind's craving for sugar has made many changes in the world. The Canary Islands were almost ruined when Demerara and the West Indies took to growing sugar cane, which was introduced to America by Columbus on his second voyage. Now the overgrowth of cane areas here and in the Orient, and the extension of the sugar-beet fields of Europe and America, have created an overproduction of sugar and consequent difficulties in the countries of the Caribbean.

In the botanic garden of Georgetown long canals were covered with that marvelous Amazon waterlily, the royal waterlily, *Victoria regia.*

A 40-POUND NUT TAKES 10 YEARS TO RIPEN

More interesting than the canals, or even than the large pond full of manatees, those strange mammals of the sea, were two rare palms seldom seen in botanic gardens anywhere: the beautiful stemless nipa palm of the Orient, which graced the borders of the pond, and which some day I trust can be grown in the southern tip of Florida, and a fine specimen of the double coconut, or coco-de-mer, brought from the Seychelle Islands about 20 years ago.

The coco-de-mer is one of the rarest palms in cultivation, and it is one of the most curious plants of this planet. It bears the largest nut known, and this nut takes ten years to ripen. Although I had read and heard much about the plant, I was astonished at its strange appearance (see opposite page).

Mr. Sydney Dash, the Director of Agriculture, kindly insisted that we make an attempt to transplant a small coco-de-mer to Florida, but the attempt was not a success. However, one of the nuts which he also gave us has surprised us, after a year of suspense, by sending up its strange-looking shoot.

Back of Georgetown there stretched away to the Amazon Valley some of the greatest savannas of the world—vast level plains, like the Everglades of Florida, covered with rank-growing sedges, grasses, ferns, and palms which, in the rainy season, stand several inches deep in water.

Mr. R. R. Follett-Smith, the soil chemist of the Demerara Department of Agriculture, offered to take us out there, and we found ourselves one morning speeding along the seawall, headed east.

A seawall 30 miles long and 10 feet high is just what one would expect pioneers from the Netherlands to build when they found the soils of the delta were richer than those of the highlands and far more accessible. In the swamps inside the wall hundreds of cattle waded in water up to their bellies, browsing on the marsh grasses which grew luxuriantly all about them. They seemed to be none the worse for their continual contact with the mud.

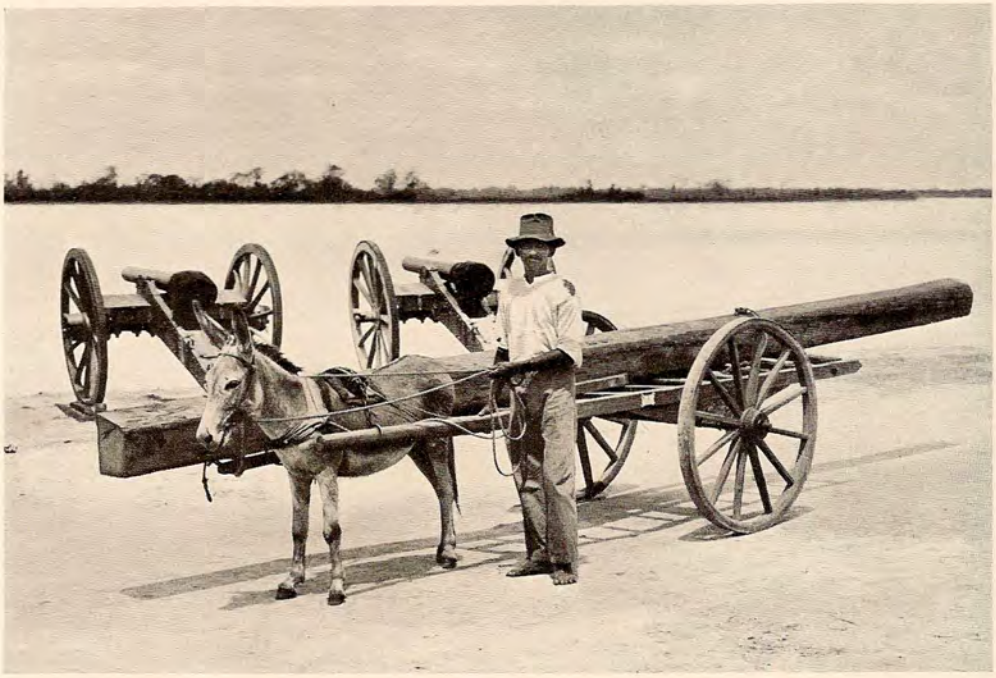
Photograph by Jacob Gayer

A TOUCH OF THE ORIENT GRACES PARAMARIBO

This East Indian woman, wearing nose button and bracelets of hand-chiseled silver, is one of many transplanted to Surinam, where their industry and frugality have given them a strong foothold. Vegetarians, they like long, slender snap beans, white navy beans, tomatoes, and the starchy sweet potato.

We left the highways and took to the native *corails,* or canoes, paddling through fascinating canals overgrown with vegetation, to a point where two of the long canals met and we could see off across the savanna.

About a mile up one of these canals we came to the first patch of Mauritia palms, vast forests of which stretch away through the lowlands of Demerara to the Amazon River. From a distance they suggest our Florida cabbage palms, but when one stands under them they appear immensely larger and more majestic, rising sometimes 100 feet, with huge fan leaves and perfectly amazing clusters of polished brown fruits.



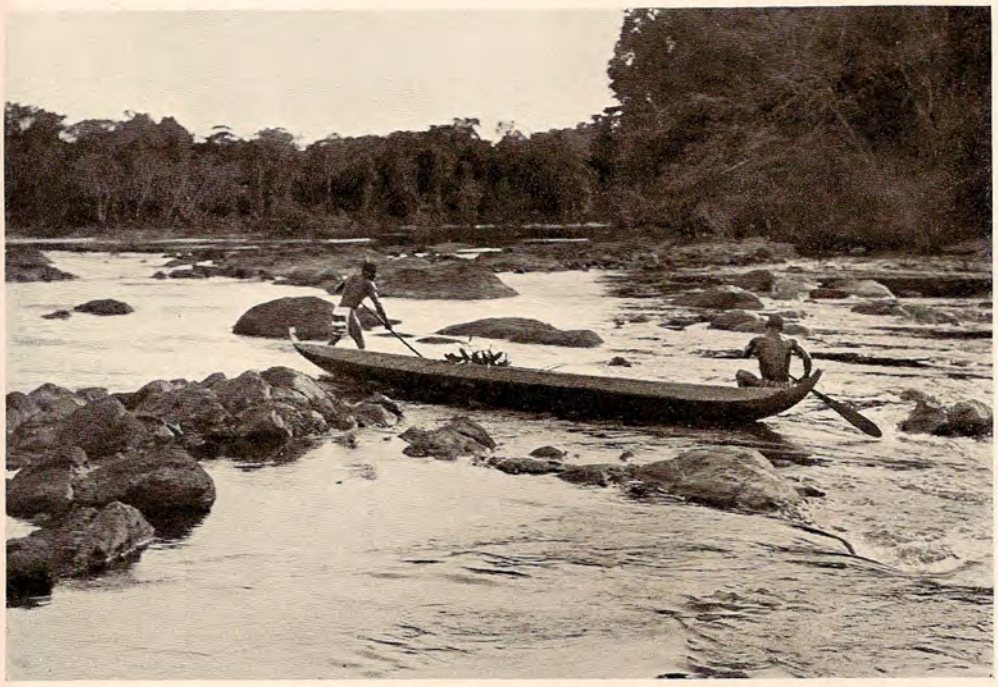
A SINGLE GREENHEART TIMBER IS ALL A DONKEY CAN PULL

Dense, durable, and so heavy it will not float, this tropic wood is used mainly in wharf and ship construction. Fortunately for the diminutive draft animal, Paramaribo is flat and the hewn log rides smoothly on wheels that look as if they might be from a gun carriage.

Photographs by Jacob Gayer

PARAMARIBO ALWAYS LOOKS SPICK AND SPAN

Well-kept, tidy streets and simple, substantial architecture indicate that there is some measure of control over building operations as well as street maintenance in the city. Bicyclists and pedestrians pass sedately at leisurely pace.



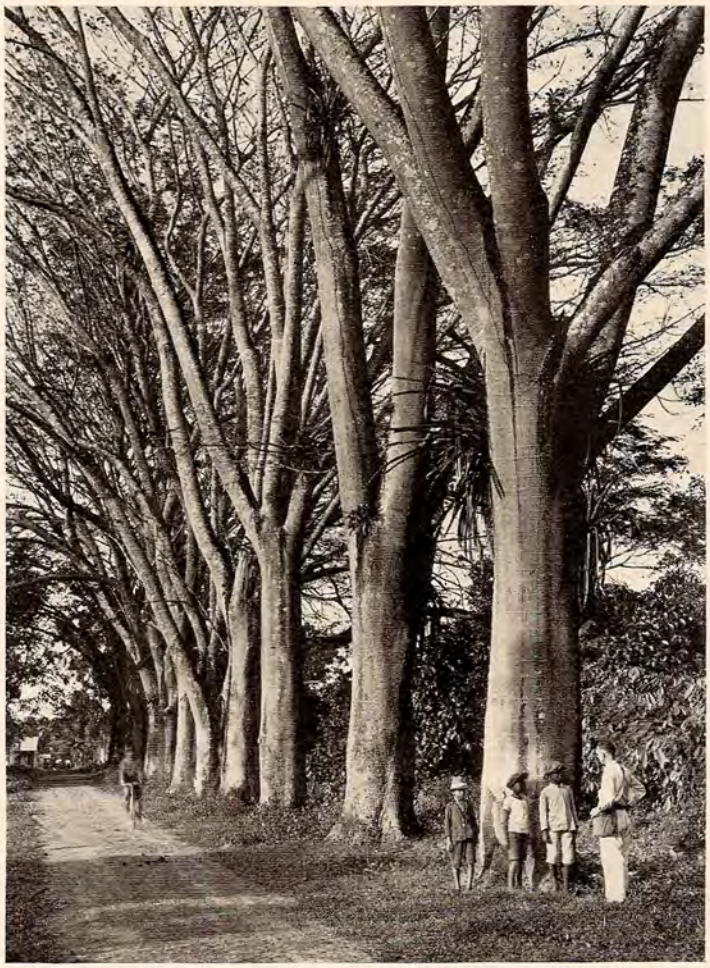
MAN PITS HIS STRENGTH AND SKILL AGAINST THE RAPIDS OF THE SURINAM RIVER

These Bush Negroes took the author to the home of the wild pineapple (see text, page 732). While the boatmen turned their dugout around, the passengers waited on some slippery rocks in midstream. There Dr. Fairchild found a curious fresh-water snail apparently never described before.

Photographs by P. H. Dorsett

THE SPECIAL TRAIN'S "DINER" HEARTENED HUNGRY PLANT HUNTERS

They sped through the wild interior of Surinam, a region penetrated only by this narrow-gauge railroad and by rivers with dangerous rapids (see text, page 731, and illustration, above). The veteran naturalist, Dr. G. Stahel (fifth from left), interpreted the moving panorama.



Photograph by P. H. Dorsett

GUESS THE AGE OF THESE GIANT SHADE TREES

If they were oaks in New England, they might be a century old or more; but, being a quick-growing species in rainy, tropical Surinam, they probably have lived about three decades. They thrive in the Testing Garden (see text, opposite page) despite the somewhat oppressive-sounding name of *Enterolobium cyclocarpum*.

It took three men to carry one cluster, which after much effort they had succeeded in chopping off, and then the fruits dragged on the ground (see page 714).

Georgetown has an interesting little museum in charge of Dr. Walter E. Roth, who knows, as few can ever know, those shy races of aborigines which are scattered from the coast to the Amazon.

BAMBOO BLOWGUNS FOR POISONED ARROWS

We found Dr. Roth putting away with extreme precaution some poisoned arrow points which the Macusis use in their blowguns. The points had been dipped in the juice of the native strychnine fruit and were dangerous to handle.

"What are the blowguns made of?" I asked.

"Of a bamboo with joints 15 feet long," he replied, and quoted Von Schomburgk as authority.

I turned to the book and learned that in the back country of Demerara there grows the *Arundinaria schomburgkii*, having hollow stems without a joint for 15 feet I once found a bamboo in Sumatra with joints five feet apart, which I thought were the farthest apart of any in existence. Some day I am going back to South America for Von Schomburgk's bamboo.

We pushed on from Demerara to the lightship that marks the mouth of the Surinam River, and on up until we anchored just off the Governor's residence, in the spick-and-span town of Paramaribo. On its clean streets and sandy, calcareous soil, the whole life seemed to be slowly but carefully regulated with Dutch precision and orderliness. Even walking on the grass in front of the Governor's residence is cause for arrest, as Loomis discovered when he tried to back off on the lawn to photograph a palm.

The Governor, Dr. A. A. L. Rutgers, was a botanist and had previously been the Director of Agriculture in Buitenzorg, Java, and he appreciated the aims of the expedition. When Mrs. Rutgers, who also had lived many years in Java, learned that several of the party had been there, too, she arranged an old-fashioned "rice table" with all the accessories, prepared by a Javanese cook from the Javanese village (page 732).

Dr. G. Stahel, in charge of the Testing Garden, is thoroughly versed in the botanical problems of the Tropics. One of his first remarks was, "Now, Dr. Fairchild, you shall be the first American to see the flagellates I have found, which kill the Liberian coffee trees in this colony. I have been waiting for some one to come and see them."

This is the first time it has been proved that a tree disease is caused by these microscopic parasites. Through Dr. Stahel's microscope we watched the flagellates with their wiggling tails as they swam about in the sieve tubes in the inner bark of his sick coffee tree. Flagellates cause many animal and human diseases, and whether some of the other obscure plant diseases which have puzzled pathologists may not be due to similar microscopic animals is a question. Dr. Stahel suspects they are.

Photograph by Jacob Gayer

THIS NURSEMAID HAS DINNER ON HER MIND

To anyone who has never seen pots and saucepans borne on the head, the feat may seem a cause for some wonder as well as amusement, but it is an everyday sight in Paramaribo. In some West Indian islands such work is reserved for women, and a man would be as ashamed to carry a load in this way as some men in Europe are to be seen with a parcel.

In a chartered train on a narrow-gauge railroad we went to see the vast hinterland and the Bush Negroes. These essentially wild men, descendants of West African slaves who escaped from slavery about 1762, soon after their arrival in the Guianas, have scarcely been touched by our civilization.

We stopped to visit a typical Carib Indian village, the first I had ever seen. The native Indians are a rather unresponsive people whose way of life is far removed from our encroaching civilization and they will not change. After all, why should they? They have a right to like their way better.

At Kabel we left our train and climbed into large, carefully built dugouts, which were manned by Bush Negroes. The men were splendid-looking specimens; their brown bodies glistened in the sunlight, and they laughed and chattered as they handled the long paddles. The Surinam is wide and swift at Kabel, and full of rapids which require great skill to negotiate.

The waters are infested with perai, those small voracious fish which hunt in schools and attack and tear to pieces any living, warm-blooded creature, so that one does not casually cool one's body by a dip in the river. Dr. Stahel even warned us against trailing our hands in the deep water, for fear the fish might nip our fingers.

Photograph by H. F. Loomis

AHEAD OF THE "UTOWANA" RISES "NAPOLEON'S COCKED HAT"

To approach the fascinating crater island of Saba at dawn, to see it come up out of the sea more than 2,000 feet into the air, and to know landing is impossible unless the wind is in the right direction—this is the maddening experience of many who have to pass it by.

Under the overhanging branches of trees, covered with masses of creepers, we glided downstream to Kadjoe. Several dugouts, made of the carapa tree, indicated the harbor of the village, where a Negress was bathing, safe from the predatory fish, in the shallow water near the shore. It was sultry and the sun was burning hot, but as we stepped into the mud-beaten paths under the forest trees it was cool and pleasant.

I was struck by the orderliness and neatness of the village. The little low houses, copies, I think, of the huts of their ancestors in the African bush, were carefully built, with a true sense of proportion, and often they had interesting carvings about the doorways. The stools, trays, and drums also showed distinctive carvings (see illustration, page 724).

Dr. Stahel and I were paddled farther down the river, where we stepped off the rocks into the jungle, and he showed me the pineapple in its original wild home. I collected it for the plant breeders, who want it to make the cultivated pineapple more vigorous and more resistant to disease.

A PATCH OF JAVA IN SURINAM

For years the Dutch planters have been bringing over Javanese coolies to work their fields, until now there are about 30,000 in the colony. Dr. Stahel took me out to Lelydorp to see one of their largest villages. The houses were strange, faint reproductions of the charming bamboo cottages of Java, for the walls were made of crooked staves instead of the beautiful "billik" that is so generally used in Java for the walls of houses—a coarse, woven matting made of thin strips of bamboo. The pattern of a Javanese house seems to be just as fixed as the nest of an oriole. Lacking the materials with which he is accustomed to build it, the Javanese does what any oriole would do—he uses substitutes.

I looked about for Javanese plants and was surprised to find that so few had been introduced in 30 years by these immigrants. A few tali bamboos were there, from which the house walls are made in Java; a single durian tree; the famous mangosteen; and the rambutan. The betel vine, used by betel-chewing habitues, had been set out in plantation form.

The jackfruit, too, had been planted, and when I seemed delighted to see the fruit once more—for it is comparatively rare in the West Indies—its owner climbed the tree and cut one off for me. As I looked to see what he was doing, the huge fruit fell with a crash and spilled its yellow contents over several square yards of ground, to the consternation of the other Javanese standing by, who rushed forward to save the fragments.

He cut another and lowered it carefully, and we had it on the yacht, where Ernest made a delicious compote from its fleshy arils before it got too ripe and began to attract the tart comment of Dorsett whenever he passed it on the after hatch. When it is overripe, it has some of the wealth of aroma of the durian.

Photograph by Bransby from Galloway

HERE YOU CLIMB UP 900 FEET TO REACH BOTTOM

It's not so impossible as it sounds, for Bottom is a village in the crater of Saba, a steep-sided extinct volcano (see text, below, and illustrations, pages 734 and 735). Baggage and freight are borne up such steps as these on the heads of Negroes whose lung power amazes panting visitors.

At Martinique we were busy with a collection of yams and dasheens. We saw some superior sorts being grown for the peasants by the agricultural experts at Tivoli and Mr. Dervegeant kindly offered us some.

I use the word "peasant" advisedly, for it was my impression, as we drove through the island and talked to the farmers, that there was something curiously reminiscent of the French peasant in the independent attitude of the natives of Martinique. They seemed better able to care for themselves than some natives of other islands, who had learned little except to work in the cane fields.

The island of Guadeloupe still showed plainly the destruction which the last hurricane had wrought, and the stories of death and disaster were still on people's lips. We visited it to find which trees had withstood the terrific winds, so that we might try them in our own hurricane area.

A VILLAGE IN AN EXTINCT CRATER

I find it hard to write of Saba without exaggeration, so vividly does the day we spent there stand out in my mind. The memories of it are as haunting as those that both Capri and the little isle of Banda, in the Banda Sea, brought into my life years ago. I have memories of charming Dutch children with soft voices and friendly ways, of sturdy fishermen and boatloads of fish, of cottages perched like swallows' nests far up on the hillside, of a simple village life

Photograph by H. F. Loomis

HIS MAJESTY'S SHIP "DIAMOND ROCK" STANDS OFF THE MARTINIQUE COAST

In recognition of the daring of British naval officers and men who hauled big guns up its sides and defended it against the French in 1803, the rocky island was officially listed by the Admiralty as one of Britain's men-o'-war. It is now a French possession.

Photograph by Ewing Galloway

AT SABA THE SEA IS EVER READY TO SMASH AND KILL

One who has not been in a small boat and felt the force of a mighty roller sweeping the craft toward the rocks can hardly appreciate the excitement of this scene. Even the island's experienced fishermen are tense and vigilant, for they know the dangerous power of the waves that dash on their boulder-covered beach.

Photograph by Dr. David Fairchild

IN PRETTY COTTAGES ON SABA OLD SAILORS FIND "SNUG HARBOR"

After fighting the storms of the North Atlantic, many a mariner returns to pass his last years here, at lofty Windward Side, or at one of the little Dutch island's other two towns. The young woman in the foreground said she kept in touch with the outside world with the aid of the NATIONAL GEOGRAPHIC MAGAZINE (see text, page 736). At the left are cacao trees, from the seeds of which chocolate is made.

in which there are no strangers, and of a shut-in valley of terraced gardens across which you hear the voices of the people.

No large vessel can land at Saba, for there is only a tiny beach between great boulders (see opposite page).

The little island is an extinct volcano, and one of its three villages is literally the bottom of the crater, although 900 feet above the sea.

Five square miles of land, most of it as steep as the gable roof of a house; 1,600 people, mostly of Dutch descent; a history that runs back about as far as that of New England; and a genealogy of hardy, seafaring folk, like that of the old inhabitants of Martha's Vineyard—that is Saba.

Although some of the inhabitants are black, and a mutual tolerance exists, there are few evidences of marriages between the races.

As the volcanic cone came into sight and we drew near enough to assure the watchers on shore we intended to land, we could see the children running like goats down the "Ladder" that leads from the village to the water. There are two landings, and when they saw we were headed for the other one, they ran back, came down the stairway, and met us halfway up the hill to Bottom.

Photograph by Ella Barnett

OLD AND NEW MEET AND PASS

When Lafcadio Hearn was writing his poetic stories of Martinique, only oxcarts creaked their slow way across its mountain roads. Now between Fort-de-France and the new city of St. Pierre, which has arisen on the ashes of the volcano-buried town he loved, vehicles that would amaze him roll swiftly along the trails.

Those rosy-cheeked, enthusiastic children were girls and boys of Dutch descent, but they spoke perfect English. From their reception one would have imagined we were relatives coming home from the Netherlands. With laughing chatter they conducted us, panting and dripping, to pay our respects to the Administrator.

We had not expected to find much for our collections in Saba, and we didn't. We botanized over the hillsides on the roughly made terraces, where pumpkins, sweet potatoes of rather poor quality, and the bonavist beans were grown, the last mentioned, to my surprise, forming an important part of the diet (see text, page 721).

THE GEOGRAPHIC IDENTIFIED HIM!

As Miss Butler, of Windward Side, was showing me the tanks back of her father's house in which the season's supply of rain water was caught, she suddenly looked at me and inquired, "I think I have seen your name on the inside cover of the NATIONAL GEOGRAPHIC MAGAZINE, haven't I?"

Bang went the illusion of isolation! We were right around the corner from Sixteenth and M Streets, in Washington, D. C. I photographed Miss Butler and determined to tell the staff of THE GEOGRAPHIC that again I had failed to find a spot where THE GEOGRAPHIC was not known.

Mr. Armour, with Mrs. Fairchild, returned to the yacht early and gave the residents a tea party. Nothing compared in novelty, so far as the children were concerned, with the ice water.

This tiny but highly intelligent community is one of the few white groups in the West Indies, and, although isolated beyond almost any I have visited, keeps in touch with affairs of the outside world.

By this time the shadow of the approaching end of the expedition began to affect me and kept me pretty constantly at my desk, where my job was to determine the botanical relationships of the plant material we had all collected, and of the new accessions constantly brought in by Dorsett, Loomis, and L. R. Toy, three assiduous collectors of anything that looked promising for cultivation in the United States.

Barbuda, with only two white people among 1,000 blacks; Anguilla, where we

Photograph by H. F. Loomis

BEHIND THE SCENES ON THE PLANT-HUNTING YACHT "UTOWANA"

In pajamas, Howard Dorsett and the author (left) gloat over the prizes of a hard day's foraging on verdant St. Lucia. All specimens must be identified and examined for insect or fungus pests. Some will be dried and others planted in small greenhouses aboard. Fast work is essential, for to-morrow a new island may come into view.

hoped to find wild cotton but didn't; little St. Martin, seven miles long, half Dutch and half French; and beautiful Tortola—all added their quota to our treasure store.

We had our last day's collecting on the strange little island of Mariguana, where, in the cool spring rain, we wandered about through the typical Bahaman brush until our clothes were torn and tattered, in a vain effort to add a last specimen of value to our collection.

Best of all were the thrills that came to me day after day at my little table under a double porthole, through which the morning sunlight would come and go with the shifting of the ship, as I studied the constant stream of new and strange plant forms whose flowers, leaves, and seeds peered up at me through my hand lens and microscope. Each had its particular appeal. Each required a decision regarding its name, its use, its chances of living in America, what to do with it when it was introduced, and how best to prepare it, pack it, and ship it by air express or by boat.

How many hundreds of species we passed judgment on I do not know, but we decided to take the chance of introducing 700 of them.

PLANTS FOR GARDENS, STREETS, ORCHARDS, AND MEADOWS

Shade and street trees, windbreak trees and hedge plants, garden vegetables and border flowers, pergola vines and ornamental shrubs, fruit trees and forage plants—these make up the chief categories of the 700 species and varieties collected, not to mention the rather extensive collection of palms and the bags of cotton seeds which formed a particular part of our quest.

It is too soon to tell what fate awaits the seeds and plants we gathered. That some have already died we know, and we predict that others will fall by the way, but we believe that there will be a goodly number of successes, as there have always been from other expeditions.

Perhaps, years hence, those of us who took part in the expedition may be reminded by some of them of a thrilling winter spent in the Caribbean hunting plants.