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LUCIEN MARCUS UNDERWOOD, EDITOR

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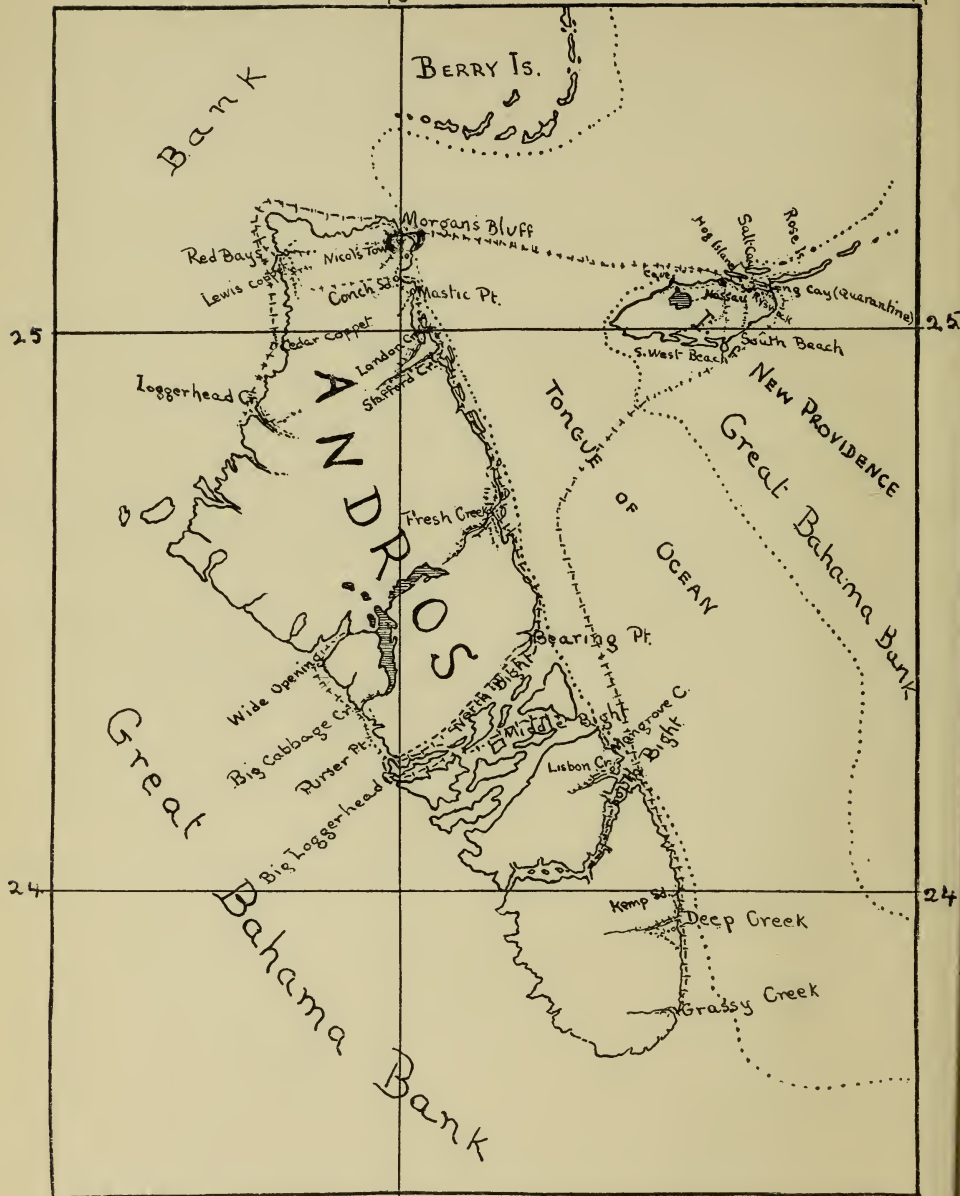
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BAHAMA ISLANDS

- Edge of Bank.
- - - - - Route of Exploration.

FLORA OF NEW PROVIDENCE AND ANDROS

WITH AN ENUMERATION OF THE PLANTS COLLECTED BY JOHN I. NORTHROP AND
ALICE R. NORTHROP, IN 1890

BY ALICE R. NORTHROP

INTRODUCTION

During the latter part of 1889, a report of the work in the Bahamas of the Danish botanist, Baron Eggers, was received at the herbarium of Columbia University and with it a letter from Sir William Thiselton-Dyer, expressing a hope that American botanists would continue the exploration. My husband, Dr. John I. Northrop, Instructor in Biology at Columbia University, was at that time contemplating a southern trip for the purpose of studying and collecting marine invertebrates. Sir William Thiselton-Dyer's letter was brought to his notice and the result was that a Bahaman trip was planned with both objects in view. Over six months were spent on the islands, from January to July, 1890. Of this time two months were passed on the island of New Providence, where the time was mainly taken up with zoölogical work, and the remainder on Andros, where the most interesting plant collections were made.

In order to understand properly the distribution of the plants and the relations of the flora, it will be necessary to give a general idea of the position and conformation of the two islands visited. New Providence is one of the smaller islands of the group, being only about twenty miles long and seven wide. It lies on the northern edge of a portion of the Great Bahama Bank. Nassau, the seat of government and a well-known health resort, is situated on the slope of a ridge that runs along the northern shore of the island. The highest point of this ridge, Fort Fincastle, is about

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one hundred feet above sea-level. From here one has an excellent view of the city and harbor, the latter protected by the narrow outlying cays known as Hog Island, Long Island or Quarantine, and farther seaward, Salt Cay. In the opposite direction, a low, level country, covered with trees and dotted here and there with cocoanut groves, stretches away to the Blue Hills.

Roughly speaking, the physical features of New Providence may be described as a rocky ridge, about one hundred feet above sea-level at its highest part, extending along the north side and covered with a growth of angiospermous trees and shrubs; a low central plain out of which rises a second ridge, the Blue Hills, is like the first, but narrower and lower; then a slightly undulating region covered with the Bahama pine, extends to the low and swampy south shore. The depressions of the central plain are occupied by two quite large bodies of brackish water, Lake Cunningham and Lake Killarney. The latter is the larger and contains numerous mangrove islets.

The rock of both islands is of aeolian formation; it is very hard at the surface but becomes so much softer below that it is sawn into blocks for a building stone. The surface erosion is most striking and characteristic. In many places the rocks are fairly honeycombed with holes, pits and cavities of all sizes; often sharp, jagged points project, making walking extremely difficult. The largest of the pits are locally known as "banana holes" because they usually contain considerable earth in which the people plant their bananas. They vary greatly in size and shape; the majority being probably from eight to ten feet in diameter; they are occasionally twenty feet in depth but are usually much shallower. Their sides are often lined with delicate ferns, many of which grow nowhere else.

There is little or no soil. Mark Catesby, the first naturalist to visit the islands, wrote in 1754: "The Bahama Islands may not only be said to be rocky but are in reality entire Rocks, having the surface in some Places thinly covered with a light Mould which in a series of Time has been reduced to that Consistence from rotten Trees and other Vegetables. Thus much of the Character of these Islands being considered, one would expect that they afforded the disagreeable Prospect of bear Rocks: But on

the Contrary they are always covered with perpetual Verdure and the Trees and Shrubs grow as close and are as thick clothed with Leaves as in the most luxuriant Soil." In some places the soil is reddish and this is considered the most fertile.

Six weeks of our stay were spent at Ryswick, a country place that we rented on the shore about three miles east of Nassau. Although the greater part of this time was given to the zoölogical work, still between times we collected over two hundred species of plants, crossing the island several times and exploring it in many directions. The collection, of course, included many cosmopolitan weeds and introduced plants that were found in Nassau and its environs. Among the latter, growing commonly about the city were the glossy-leaved almond tree (*Terminalia Catappa*), the graceful Spanish cedar (*Casuarina equisetifolia*), the buttressed ceiba or silk-cotton tree, the sand-box tree (*Hura crepitans*), and the beautiful flamboyant (*Poinciana regia*) with its fern-like foliage.

Having completed the zoölogical work that had been planned, we made a diligent study of the chart, and finally decided to visit Andros next as the largest and least known of the islands and the one from which no botanical collections had ever been made. Although the nearest part of Andros is only twenty-five miles from New Providence, we could get but little information concerning it until we met Mr. Alexander Keith, of Edinburgh, who had a sisal plantation on Andros. To him we were indebted for many favors both at this time and later. A "norther" delayed our sailing for ten days, but we finally reached Andros March 14, and remained there until July 3.

Andros is by far the largest island of the group, being nearly one hundred miles long and forty or fifty wide in its broadest part and having an area of over nineteen hundred square miles. It is in reality not one island but a group of islands, the larger northern portion being separated from the southern and central parts by shallow channels known as "bights." There is a northern, a middle and a southern bight but they are so filled with cays that the whole archipelago, as it might be termed, is called by the general name of Andros. In its prominent physical features, Andros resembles New Providence, although its greatest length runs north

and south instead of east and west, as in the case of New Providence. It has a rocky ridge extending along the east coast, except at the extreme southern end, extensive pine barrens in the interior and low mangrove flats on the opposite side. On Andros, however, the last cover a much greater portion of the island and constitute its most characteristic feature. The local name of this region is "swash," a most appropriate term, as in wet seasons it is half under water. The pine belt is always spoken of as the "pine-yard" and the hardwood growth on the rocky, elevated portion is called "the coppet."

The pines are most abundant on the northern part of the island and at the extreme southern end below Grassy Creek where the rocky ridge is wanting, there were said to be no pines. None could be seen from the shore but we did not cross the island so far south. At Nicol's Town, the most northerly settlement, the belt of coppet is only about three quarters of a mile wide; the pine-yard then begins and extends to the swash on the other side. At Conch Sound, a few miles south of Nicol's Town, the pines come down to the eastern shore, but below Mastic Point, the next settlement, the belt of coppet becomes much wider. The swash is more extensive than the other two regions put together and covers hundreds of square miles; next in extent are the pine barrens, while the coppet is scarcely more than a comparatively narrow belt or fringe along the east coast. The pines sometimes extend in long points far out on the swash.

Numerous creeks drain the island, the majority being on the east side; in very wet seasons there is said to be water communication between those of the east and west side. The creeks are generally narrow and winding but they occasionally spread out into lake-like expansions in the interior. The largest of these lakes are on the west side near Wide Opening. A number of the creeks are fresh at their source.

All the settlements are on the east side with the exception of a small one at Red Bays on the northwestern end of the island. Nicol's Town is one of the largest and when we were there had about three hundred inhabitants. At the time we visited Andros there were but seven white people on the entire island. There were no roads and communication between the settlements was

entirely by water, the reef making a safe channel for small boats all along the eastern coast. The west coast is exceedingly shallow, so much so that our boat, drawing only about two feet of water, had sometimes to anchor a quarter of a mile from the shore. Even at the edge of the Great Bahama Bank, sixty or seventy miles further west there are but three or four fathoms of water. The only visitors to this coast are the "spongers."

During the four months spent on Andros, we explored it quite thoroughly, crossing it several times and almost circumnavigating it, making stops at the various settlements on the way or camping out on the west side where there were no settlements. From one to six weeks were spent at each of the following places: Nicol's Town, Conch Sound, Mastic Point, Fresh Creek, Lisbon Creek, and Deep Creek on the east side, and Red Bays on the west. We sailed through the northern and middle bights and partly through the southern and penetrated the following creeks, most of them to the head of navigation for a rowboat: London, Stafford, Fresh, Lisbon, Deep, and Grassy creeks on the east; Loggerhead and Big Cabbage creeks and Wide Opening on the west.

BOTANICAL REGIONS

The following botanical regions, each with markedly characteristic plants, were well defined on both islands: First, the maritime or coast flora of the northern side of New Providence and the east side of Andros. These shores were rocky with scattered sandy beaches. The following plants were common on both islands: The sea-grape (*Coccolobis uvifera*), the buttonwood (*Conocarpus erecta*), the sandfly bush (*Rhaciacallis rupestris*), and *Strumfia maritima*. The wild sapodilla (*Mimusops dissecta*), Joe-bush (*Jacquinia Keyensis*), *Cordia Sebestena*, *Borrchia arborescens*, and the ram's horn (*Pithecolobium Unguis-cati*) were always found near the shore, while on the sandy beaches flourished the cocoa-plum (*Chrysobalanus Icaco*), *Scavola Plumieri*, *Suriana maritima*, *Tournefortia gnaphaliodes*, the bay lavender (*Ambrosia hispida*), *Euphorbia buxifolia*, the widely distributed *Salicornia ambigua*, *Sesuvium Portulacastrum*, *Cakile aequalis*, and the horse-bean (*Canavalia obtusifolia*).

Second, the "coppet," or growth of angiospermous trees and shrubs found on the more elevated parts of the islands and on the

rocky ridges. The highest elevation on either island was about one hundred feet, but the ridge was in most places considerably lower than this. On Andros, the highest point was near the center of the island, at the mouth of the northern bight, marked as Salvador Point on the charts but locally known as Bearing Point. The surface erosion was much more marked on Andros than on New Providence. In some places the rock was honeycombed with pits of all sizes, in others it was covered with sharp, knife-like projections. Banana holes were far more numerous. On both islands the elevated ridges, covered with the "coppet," showed the greatest amount of erosion. The trees most commonly met with were the gum elemi (*Bursera Simaruba*), the poison wood (*Metopium*), the wild cassada (*Dipholis salicifolia*), the horseflesh (*Lysiloma paucifoliola*), and the Madeira (*Swietenia Mahogani*). As a rule the trees were comparatively small, not more than a few inches in diameter. The largest and tallest were seen in what was called the "high coppet" near Deep Creek, Andros. One horseflesh there measured five and a half feet in circumference at a distance of four feet from the ground; another six feet four inches, while the largest mahogany seen was between two and three feet in diameter. Common among the underbrush were the cockspur thorn (*Pisonia aculeata*), the chawstick (*Gouania Domingensis*), hardhead (*Phyllanthus epiphyllanthus*), *Erithalis fruticosa* and *Duranta repens*. Among the climbing plants the dream vine (*Echites umbellata*), *Triopteris rigida*, and *Ipomoea sinuata* were common. The coppet was usually quite difficult to penetrate, the trees being mostly small and close together and the underbrush dense.

The third region was the "pine-yard" or pine barrens. This was a comparatively level region occupying the interior of both islands and covered almost exclusively with the Bahaman pine (*Pinus Bahamensis*). Where the ground was a little elevated there were small coppets or islands, as it were, of angiospermous trees; where it was lower and more moist, occasional clumps of palmetto varied the monotony. The Bahaman pines are tall and slender and do not branch until quite near the top. The tallest we saw was about seventy or eighty feet in height and the largest was four feet and nine inches in circumference. They do not grow close together but are usually from ten to twenty feet apart even when

small. A tall brake known as the "maypole" (*Pteridium caudatum*) was very characteristic of the pine belt. It often formed almost impenetrable thickets six or seven feet in height, while at one place on Andros, we found it growing nine feet in height. The "cinecord" (*Acacia choriophylla*) was common in the pines as were also, among the lower plants, *Ascyrum hypericoides*, *Tetrasygia bicolor*, *Linum Bahamense*, *Ernodea littoralis*, and *Vernonia Bahamensis*. The showy sedge (*Dichromena colorata*) and the purple orchid (*Bletia verecunda*) were abundant in the pines and were also occasionally found on the savannas. In many parts of the pine barrens on Andros, there was no underbrush, nothing but a coarse grass called "bed-grass" (a species of *Andropogon*), relieved here and there by the crimson flowers of *Ipomoea repanda*. As one approached the western edge of the pines, the ground became less rocky the trees smaller and smaller, and the palmettos more numerous until one finally emerged on either swash or savannas,

The savannas, constituting a fourth distinct botanical region, were found only on Andros. They were level prairie-like stretches, lying as a rule between the pines and the swash. They were most common in the northwestern part of the island. The ground was not rocky and was covered, for the most part, with a coarse sedge called "saw-grass" (*Cladium Jamaicense*); there were also occasional clumps of palmetto or "brier tree" (*Terminalia spinosa*). This region proved excellent botanizing ground and by far the greater number of the plants found there were met with nowhere else. *Flaveria linearis*, *Polygala Boykinii*, *Eustoma exaltatum*, *Aletris bracteata*, *Gyrostachys tortilis*, and *Gerardia purpurea* were common and in some places *Limodorum tuberosum*, *Buchnera elongata*, and *Samolus ebracteatus*.

The fifth plant region was the "swash." On Andros, this region, as has been said, was very extensive and comprised hundreds of square miles. Here the eroded coral rock, such a prominent feature of the coppet and the pine barrens, was replaced by soft, calcareous mud, in some places more or less hardened, in others very soft. There were numerous ponds and lakes in this region which we were told became connected in wet seasons, making a network of waterways navigable by small boats for many miles. We were there in a comparatively dry season and

the ponds were very shallow, having about three inches of water and eighteen inches of marl.

The scenery was monotonous and desolate. In many places, as far as the eye could reach, the ground seemed perfectly flat and covered with small mangroves, the salt-bush (*Avicennia nitida*), and a low form of button-wood (*Conocarpus erecta*), none more than a few feet in height. The plants were in reality quite scattered and a considerable distance apart, but seen at a distance the effect was that of a smooth expanse of lawn. Here and there a dark line of pines showed on the horizon or one caught the gleam of water, but as a rule only clumps of palmettos or a few shrubs varied the monotony. In some places, especially near the creeks, palmettos were abundant, the most common being the "silver thatch" (*Thrinax Bahamensis*); the "hog cabbage" (*Cyclospathe Northropi*) and the "saw-tooth cabbage" (*Paurotis Androsana*) were occasionally seen; all were of small size. Toward the southern end of the island, the mangroves sometimes attained considerable size and then formed the most prominent feature of the landscape. This desolate, uninhabited region is a paradise for water birds which were found here in great numbers. The flamingoes were the most interesting and these we often saw while on the west side of the island.

I have described the botanical regions in such detail because since we collected in the Bahamas, many of the localities we visited have been destroyed, botanically speaking, by being cleared for the cultivation of sisal. The work was just beginning when we were there, a few sisal plantations having been started on both New Providence and Andros. Several years later, thousands of acres had been cleared and planted with sisal. For this purpose both coppet and pine barrens were available but not the swash. Large companies were formed, a great amount of money was spent in clearing and planting, in making roads, and I believe a small railroad even was built on Andros. It was confidently expected that large fortunes would be made, but after three or four years' trial these hopes proved to be visionary, and I have since heard that many of the plantations have been given up and the land allowed to lapse into its former wild state. It is highly probable, however, that the flora of Andros has suffered more or less change

through the extensive clearing and the probable introduction of cosmopolitan weeds.

PREVIOUS COLLECTORS

Mark Catesby explored and collected along the southern Atlantic coast from 1731 to 1743 and during that time made a trip to the Bahamas, visiting New Providence and also touching incidentally at Andros. Some of the plants he collected were figured in his *Natural History of Carolina*, published in 1754. The next record we have of Bahaman plants were the collections sent to Sir William Hooker by Mr. Swainson between 1838 and 1842. These were described by Grisebach and incorporated in his *Flora of the British West Indies* published in 1864. Less than two hundred species were there recorded from the Bahamas. Between 1880 and 1887, Mr. L. J. K. Brace, of Nassau, sent to Kew through Governor Robinson a large number of Bahaman plants. A list of these has been incorporated in a *Provisional List of the Plants of the Bahama Islands*, by Gardiner, Brace, and Dolley, which was published by Dr. Dolley in the *Proceedings of the Academy of Natural Sciences of Philadelphia* in 1889. This list however is not always clear as to which are native and which cultivated species, and in the majority of cases the place of collection is not given. A small collection of plants made by a Mr. Cooper were presumably sent to Dr. Torrey at Columbia University, as they form a part of the Torrey herbarium. With very few exceptions, all the above collections were made on the island of New Providence.

In 1887, a grant was made by the British Association, for the investigation of the Bahaman flora, and the Danish botanist, Baron Eggers, undertook the work. He spent from November 1887, to April 1888, in the islands and brought back 314 species. A few were collected on Fortune Island and Long Island but the great majority were from New Providence. Professor T. H. Herrick, of Johns Hopkins, visited Abaco in 1886 and collected a small number of plants noted in the *Johns Hopkins Univ. Circ.* 6: 46. During the winter of 1890-91, Professor Albert S. Hitchcock, of the Missouri Botanical Garden, accompanied a party of naturalists, headed by Dr. J. T. Rothrock, of the University of Pennsylvania, on an

exploring trip through the Bahamas. Eleuthera, Cat Island, Watling's Island, Crooked and Fortune islands, and Inagua were visited as were also the islands of Jamaica and Grand Cayman. The report of the plants collected was published in 1893 by Professor Hitchcock in the Report of the Missouri Botanical Garden. The total number of plants there noted from the Bahamas was 380, and of these two were described as new.

ANALYSIS OF THE COLLECTION

The collection enumerated in the following pages consists of 542 species (461 exclusive of the cryptogams) to which are to be added six varieties and twenty-one cultivated plants. Two of the collection proved indeterminable on account of insufficient material, while fifteen could only be determined generically for the same reason. The total number of families of flowering plants represented is 93, the number of genera, 304. The families most largely represented are Leguminosae, with 45 species; Compositae with 34; Rubiaceae with 24, and Euphorbiaceae with 21, while Orchidaceae, Convolvulaceae and Verbenaceae come next. The genus most largely represented is *Ipomoea*, of which we collected thirteen species; eight species of *Cassia* were found, and six species each of *Euphorbia*, *Coccolobis*, and *Tillandsia*, while *Passiflora* and *Eupatorium* each have five species. As will be noticed there is a very large proportion of genera to the number of species, in the majority of cases a genus being represented by but a single species.

Of the plants collected a new *Chara* was described and published by Dr. T. F. Allen, an *Anastraphia* by Mr. J. M. Greenman, of Cambridge, a *Jacquinia*, by Professor Mez and new species of *Caesalpinia*, *Phyllanthus*, *Reynosa*, and *Casearia* by Professor I. Urban, of Berlin in *Symbolae Antillanae*. In addition new species of *Hymenocallis*, *Alctris*, *Vanilla*, *Phoradendron*, *Pithecolobium*, *Cassia*, *Linum*, *Erythroxylon*, *Crossopetalum*, *Rhamnidium*, *Helicteres*, *Xylosma*, *Terminalia*, *Heliotropium*, *Tecoma*, *Catesbaea*, *Myrstiphyllum*, *Anguria*, *Metastelma*, and *Eupatorium* are described in this paper, as well as two new genera of palms, *Paurotis* and *Cyclospathe*. The type specimens are in the herbarium of Columbia University. Sets are also at Kew, the Royal Botanical Garden at Berlin, the Gray herbarium, and Geneva. As far as I can discover,

the following genera, also, have never before been reported from the Bahamas: *Coccothrinax*, *Inodes*, *Aletris*, *Vanilla*, *Broughtonia*, *Polystachya*, *Cranichis*, *Limodorum*, *Hypoxis*, *Pedilanthus*, *Maba*, *Mitreola*, *Voyria*, *Trianosperma*, and *Aster*.

My sincere thanks are due those who have assisted me in the preparation of this report, especially to the following specialists who kindly determined the cryptogams: Mr. Frank S. Collins, of Malden, Mass., the algae; Dr. Albert Schneider the lichens; Professor Lucien M. Underwood the fungi; Mrs. Elizabeth G. Britton the mosses, and Professor D. C. Eaton who determined a number of the doubtful ferns in 1890. The report on the palms has been prepared by Mr. O. F. Cook, of the Department of Agriculture at Washington, to whom I here wish to express my obligations. Dr. N. L. Britton and Mr. George V. Nash kindly named the grasses, and Dr. Britton the sedges. I am also greatly indebted to Dr. Britton for advice on many points and for his kindness in comparing and identifying a number of our plants at Kew in 1891, also to him and to Dr. John K. Small for revising the nomenclature in many instances, and to Professor Underwood for revising the names of the ferns and other kindly assistance. A number of doubtful specimens were compared by me at Cambridge in 1897 and I take this opportunity of thanking Dr. B. L. Robinson and his assistants for the kindness then shown me and for a number of determinations they were good enough to make for me the following year. I also wish to acknowledge gratefully several determinations made for me by the authorities at Kew in 1897.

The new species have been most successfully drawn by Miss Mary V. Thayer, of Holbrook, Mass., to whom I wish to express my thanks for her careful work.*

*The long period that has elapsed since the collection of these plants, and the publication of this report may call for a word of explanation. My husband was work-

LIST OF PLANTS

THALLOPHYTA

MARINE ALGAE*

CHLOROPHYCEAE

CLADOPHORACEAE

CHAETOMORPHA sp.? Lake Waterloo, near Nassau, Jan. (209).

CLADOPHORA sp.? Ft. Montague, Nassua, Jan. (163).

CAULERPACEAE

CAULERPA CLAVIFERA Ag. Quarantine Cay, Nassau, Jan. (182).

CAULERPA ERICIFOLIA Ag. Lake Waterloo, Nassau, Feb. (301).

* CAULERPA PLUMARIS Ag. Lake Waterloo, Nassau, Jan. (208).

CODIACEAE

PENICILLUS CAPITATUS Lamour. Quarantine, Nassau, Jan. (187).

† RHIPOCEPHALUS PHOENIX J. Ag. Quarantine Cay, Nassua, Jan. (190).

† UDOTEA CONGLUTINATA Lamour. Salt Cay, Nassau, Jan. (233).

UDOTEA FLABELLATA Lamour. Quarantine Cay, Nassau, (183, 300).

† HALIMEDA TRIDENS Lamour. Salt Cay, Nassau. Quarantine Cay, Nassua, Jan. (191).

* HALIMEDA TUNA Lamour. Salt Cay, Nassau, Jan. (232).

VALONIACEAE

* VALONIA AEGROPHILA Ag.? Lake Waterloo, Nassau, Jan. (210).

ing up the zoölogical collections and I the plants, when his sudden death occurred in June 1891. Since then ill-health has year after year prevented any continuous work and the frequent lapses of time have made much revision necessary. My husband greatly assisted me in the beginning of the work and my sole motive in continuing it alone was because of his interest in my doing it.

* Determined by Mr. Frank S. Collins, of Malden, Mass., 1891.

† *DICTYOSPHAERIA FAVULOSA* Decne. Quarantine Cay, Nassau (188).

MICRODICTYON AGARDHIANUM Decne. Salt Cay, Nassau, Feb. (273).

DASYCLADACEAE

† *DASYCLADUS OCCIDENTALIS* Harv. Ft. Montague, Nassau Jan. (161).

† *ACETABULARIA CRENULATA* Lamour. Lake Waterloo, Nassau, Jan. (211).

CYMOPOLIA BARBATA Lamour. Silver Cay, Nassau, Jan. (156).

CYMOPOLIA MEXICANA J. Ag. Silver Cay, Nassau, Jan. (155).

BLODGETTIA CONFEROIDES Harv. Doubtful position and value. Quarantine (192).

PHAEOPHYCEAE

FUCACEAE

CYSTOSEIRA MYRICA Kütz. Nicol's Town, Andros, March (337).

* *TURBINARIA VULGARIS* Ag. Quarantine Cay, Nassau, Jan. (185).

SARGASSUM FILIPENDULA LAXA J. Ag. Ft. Montague, Jan. (158).

SARGASSUM sp. Salt Cay, Nassau, Feb. (268-275).

DICTYOTACEAE

DICTYOTA DICHOTOMA Lamour. Quarantine, Jan. (177).

* *DICTYOTA FASCIOLA* Lamour. Salt Cay, Feb. (274).

* *PADINA PAVONIA* Gaillon. Silver Cay, Nassau, Feb. (154).

ZONARIA LOBATA Ag. Salt Cay, N. P., Jan. (259); Goat Cay, Andros, June (632).

RHODOPHYCEAE

HELMINTHOCLADIACEAE

LIAGORA CHEYNEANA Harv. Salt City, Nassau, Feb. (272).

LIAGORA ELONGATA Zan. Silver City, Nassau, Jan. (153).

† *LIAGORA VALIDA* Harv. Goat Cay, Andros, June (748).

CHAETANGIACEAE

* *GALAXAURA LAPIDESCENS* Lamour. Salt City, Nassau, Feb. (260, 271).

RHODOMELACEAE

LAURENCIA PANICULATA J. Ag. Quarantine, Nassau, Jan. (179). Some specimens near *L. obtusa* Lamour.

* DIGENIA SIMPLEX Ag. Quarantine Cay, Nassau, Jan. (180).

† POLYSIPHONIA HAVANENSIS Mont. Ft. Montague, Jan. (160, 181).

† POLYSIPHONIA PECTEN-VENERIS Harv. Ft. Montague, Nassau, Jan. (159).

POLYSIPHONIA sp.? Goat Cay, Andros, June (749).

† DASYA GIBBESII Harv. Ft. Montague, Nassau, Jan. (162).

CERAMIACEAE

* CENTRO CERAS CLAVULATUM Mont. Quarantine Cay, Nassau, Feb. (302).

CORALLINACEAE

LITHOTHAMNION? Quarantine Cay, Nassau, Feb. (304, 305).

* JANIA RUBENS Lamour. Quarantine Cay, Nassau, Jan. (178).

Notes on Distribution. — The species of marine algae marked * are generally distributed in warm waters. The species marked † are limited to the West Indian and Florida region. " *Liagora clongata* and *Cystoscira myrica* are characteristic Red Sea plants; *Liagora Cheyneana* is an Australian species. *Liagora clongata* and *Cymopolia Mexicana* are, I think, new to the West Indian region, although it is now considered rather doubtful whether the last-named species is distinct from *C. barbata*."

CHARACEAE

CHARA DEPAUPERATA T. F. Allen. Described in Bull. Torrey Club, 21: 267. 1894. Fresh Water Pond, Hog Island, N. P., Feb. (258).

CHARA sp.? In brackish water. Stafford Creek, Andros, May (547).

LICHENES*

CLADONIA GRACILIS (L.) Nyl.? (Not mature.) Nicol's Town, Andros (346).

CLADONIA FLOERKEANA Fr. Nicol's Town, Andros (347).

* Determined by Dr. Albert Schneider at Columbia University.

CLADONIA sp. ? On palmetto. Red Bays, Andros, April (484).

LEPTOGIUM PULCHELLUM (Ach.) Nyl. Nicol's Town (444).

LEPTOGIUM TREMELOIDES (L.) Fr. Nicol's Town (382).

RAMALINA PUSILLA (Prev.) Tuck. Nassau (755).

With the exception of 484, all are quite common and widely distributed species.

FUNGI*

SCHIZOPHYLLUM ALNEUM (L.) Schröt. Nicol's Town, March (351).

CLATHRELLA CRISPA (Turpin) E. Fischer. Andros (798).

DIPLOCYSTIS WRIGHTII B. & C. Andros (777). Also reported from Inagua by Hitchcock.

TRAMETES CINNABARINA (Jacq.) Fr. Andros (793).

AURICULARIA AURICULA (L.) Schröt. Andros (794).

FOMES IGNIARIUS (L.) Fr. Andros (797).

BRYOPHYTA†

TORTULA AGRARIA (Sw.) Hedw. Nassau and Nicol's Town (34, 341, 168).

HYOPHILA BARBULA (Schwaegr.) Hampe. Nassau (169, 170).

MACROMITRIUM INSULARUM Mitt. Nicol's Town, Andros, March (342, 345).

SEMATOPHYLLUM SERICIFOLIUM Mitt. Nicol's Town (343, 530).

SYRRHOPODON FLAVESCENS Mueller. Nicol's Town, March (344).

OCTOBLEPHARUM ALBIDUM Hedw. New Providence, Feb., Nicol's Town (348, 746).

PTERIDOPHYTA

SCHIZAEACEAE

ORNITHOPTERIS ADIANTIFOLIA (L.) Bernh. Common and variable; abundant in the pines. Nassau, Jan.; Nicol's Town, March (12, 15, 83, 300).

* ORNITHOPTERIS CICUTARIA (Kunze) Underw. (*Anemia cicutaria* Kunze, Linnaea, 9: 22. 1835.) On rocks, not common. Nassau, Jan. (165).

* Determined by Professor Lucien M. Underwood.

† Determined by Mrs. Elizabeth G. Britton at Kew.

POLYPODIACEAE

* *DRYOPTERIS PATENS* (Sw.) Kuntze. In banana holes and rocks along roadsides; common and variable. Nassau, Jan.; Nicol's Town and Red Bays, April (173, 240, 441, 469).

* *DRYOPTERIS ASPLENIODES* (Baker) Kuntze. Clefts of rocks, uncommon. Indusium small, pinnae narrow and distant. Conch Sound, March (416).

TECTARIA TRIFOLIATA (L.) Cav. On sides of banana holes; not common. Conch Sound, May (562).

DAVALLIA CLAVATA Sw. Common. Nassau, Jan. (133). Same as Wright 961.

* *ASPLENIUM DENTATUM* L. Pinnae large and close together. Caves near Nassau, Feb. (286).

BLECHNUM SERRULATUM Rich. Caves near Nassau, Feb. (285). Same as Fendler 133.

ADIANTUM TENERUM Sw. In banana holes. Near Nassau, Feb.; Red Bays, April (288, 489).

PTERIDIUM CAUDATUM (L.) Maxon. "May-pole." Very common on both New Providence and Andros; makes dense thickets the pines, six to eight feet high (313).

PTERIS LONGIFOLIA L. Common on walls. Nassau, Jan. (18, 94).

VITTARIA LINEATA (L.) Sm. On palmettos, not common. Red Bays, April (472).

CHEILOGRAMMA LANCEOLATUM (L.) Blume. Leaves 10-14 inches in length. On trees, not common. Nicol's Town, March (356).

ACROSTICHUM AUREUM L. "Wild ginger." In low ground, not common. Conch Sound, May; Deep Creek, June (408, 714). 714 was growing in a banana hole; the leaves were shorter than in 408, fertile almost to the base and the rachis was deeply sulcate.

PHLEBODIUM AUREUM (L.) R.Br. Common on palmettos. Hog Island, N. P., Feb.; Purser Point, Andros, June (249, 625, 665, 720). No. 665 is a sport with leaves very glaucous and pinnae deeply crenate.

POLYPODIUM POLYPODIOIDES (L.) A. S. Hitch. On trees, not uncommon. Nicol's Town, April; Conch Sound, May (442).

CAMPYLONEURON PHYLLITIDIS (L.) Presl. In banana holes, not uncommon. Conch Sound, May (566).

POLYPODIUM SQUAMATUM L. On trees, Conch Sound, March. Determined by Professor Eaton (406).

* PHYMATODES SWARTZII (Baker) Underw. In banana holes, rare. Leaves difform, there being a number of short and broad sterile leaves. Conch Sound, May (581). Same as Wright 799.

GONIOPTERIS REPTANS (Sw.) Presl. In banana holes. Conch Sound, May. Determined by Prof. D. C. Eaton (583).

GONIOPTERIS REPTANS CORDATA. In banana holes. Conch Sound, May. Determined by Professor D. C. Eaton (576).

PSILOTACEAE

PSILOTUM NUDUM (L.) Griseb. In hollows in trunks of trees, not common. Cocoanut Pt., Andros, April; Fresh Creek, June (515).

SPERMATOPHYTA

CYCADACEAE

ZAMIA sp. "Bay rush." Common in the pines in certain localities. Leaves 15-25 cm. in length, leaflets but ten pairs, seldom opposite, thick, with revolute margins, 3.5-5 cm. long, 6-9 mm. broad. Seems to be nearest *Z. pumila* L.; resembles Wright 3193. Stafford Creek, Andros, May (550).

CONIFERAE

PINUS BAHAMENSIS Griseb. Covers large tracts in the interior of both New Providence and Andros. N. P., Jan.; Nicol's Town, April; Conch Sound, May (84, 440).

JUNIPERUS BARBADENSIS L. Not common. Southwest Beach, N. P., Feb.; Nicol's Town, Fresh Creek, June (321, 355).

TYPHACEAE

TYPHA DOMINGENSIS Pers. Nicol's Town, March (353).

NAIADACEAE

RUPPIA MARITIMA L. Stafford Creek, Andros, May. Determined by Rev. Thomas Morong (536).

GRAMINEAE †

ANDROPOGON sp. "Bed grass." Purser Pt., Andros, common (659). Specimens not in flower.

* Species marked with a star were verified by Professor D. C. Eaton, 1891.

† Determined by Dr. Nathaniel L. Britton and Mr. George V. Nash.

PASPALUM FIMBRIATUM H.B.K. Nassau, Jan. (118).

PANICUM DIVARICATUM L.? (Not in flower.) Deep Creek, Andros, July (732).

PANICUM PROLIFERUM Lam. Fresh Creek, June (620).

PANICUM sp. Hog Island, Nassau, Feb. (248).

CENCHRUS TRIBULOIDES L. "Devil grass." Nassau, Jan.; Deep Creek, July (148, 719).

SPOROBOLUS VIRGINICUS Kunth. Deep Creek, July. On sandy shores (728).

STENOTAPHRUM AMERICANUM Schrank. Common along shore. Nicol's Town, April (520).

CHLORIS SWARTZIANA Doell. "Finger grass." Nicol's Town, April (521).

CHAETOCHELOA GLAUCA (L.) Scribn. Fresh Creek, June (618).

ERAGROSTIS CILIARIS (L.) Link. Nassau, Jan. (167).

UNIOLA PANICULATA L. "Bay rush." Quarantine Cay, Nassau, Feb. (314).

PHRAGMITES or ARUNDO? Only glumes remaining. Near Southwest Beach, N. P., Feb. (315).

DISTICHLIS sp. "Rabbit grass." Big Cabbage Creek, June. Common on edge of swash. Red Bays (485).

ARTHROSTYLIIDUM CAPILLIFOLIUM Griseb.? "Old man's beard." Not in flower. Nassau; common, climbing over shrubs and bushes. Branches leafy, leaves fascicled, wiry, filiform (93).

CYPERACEAE *

CYPERUS BRUNNEUS Sw. Common. Hog Island, N. P.; Nicol's Town, April (435).

CYPERUS FERAX Rich. Nassau, Feb. (287).

CYPERUS OCHRACEUS Vahl. Nassau, Jan. (144).

ELEOCHARIS CAMPTOTRICHUS SCHWEINITZII C. B. Clarke. Conch Sound, April (745). Determined by C. B. Clarke, Kew, 1891. "Same as the plant collected in Guadeloupe by Bertero, taken as *E. tenuissima* by Boeck., called by me as above; also mixed in Wright, 3367 from Cuba."

ELEOCHARIS CAPITATA (Willd.) R. Br. Fresh-water Pond, Hog Island, Nassau (247).

* Determined by Dr. Nathaniel L. Britton.

ELEOCHARIS OCHREATA Nees. In banana holes in the pines. New Providence (327).

DICHROMENA COLORATA (L.) A. S. Hitchc. Common in the pines, also found in abundance on the savannas at Red Bays, Andros, New Providence, Jan.; Red Bays, April (100, 466).

FIMBRISTYLIS MONOSTACHYA (L.) Hassk. Fresh Creek, Andros June (634).

FIMBRISTYLIS SPADICEA (L.) Vahl. Mastic Pt., Andros, June; Purser Pt., June (596, 667).

RHYNCHOSPORA MICROCARPA Baldw. Red Bays, April (493). Same as Eggers 4308 from Bahama.

RHYNCHOSPORA CYPEROIDES (Sw.) Mart. Nassau, Feb. (288).

CLADIUM JAMAICENSE Crantz. "Saw-grass." Fresh Creek, June (635).

SCLERIA FILIFORMIS Sw. Mastic Pt., Andros, June (603).

PALMS FROM THE BAHAMAS*

The palms have been neglected so generally in botanical collections that many striking novelties still remain to be secured by those who brave the inconvenience of handling plants so unmanageable by ordinary herbarium methods. The present small series of Bahama palms shows what may be expected in many parts of the tropics, though for the benefit of botanists who may wish to emulate the example of Dr. and Mrs. Northrop it may be permissible to add that when other material is being secured, ripe fruits, or even the naked seeds, are extremely desirable, and may usually be picked up at the base of the tree long after the fruiting season has passed.

The present list recognizes five palms from the Bahamas, though two of these are not named specifically for lack of adequate material. One may be the species reported by Professor Hitchcock as *Thrinax argentea* while our *Thrinax Bahamensis* may correspond to his *T. parviflora*, though numerous species of this group are doubtless to be found in the Bahama archipelago. Grisebach reported only *Sabal umbraculifera*, a name no longer tenable. It has been stated also that the Bahamas have a cabbage palm (*Euterpe*) and a royal palm (*Orcodoxa*), but these names are also

* The families Sabalaceae and Arecaceae were contributed by O. F. Cook.

not available for West Indian palms. Moreover, it is not known that specimens exist from which better identifications could be made.

SABALACEAE

Thrinax Bahamensis sp. nov.

Leaves and inflorescence resembling *Coccothrinax jucunda* Sargent (Bot. Gaz. 27: 89. 1899), but apparently to be associated rather with *Thrinax Keyensis* Sargent (Bot. Gaz. 27: 86. 1899) in view of the short pedicels, distinctly lobed calyx, broad filaments and short styles.

Petiole 48 cm. long, 15 mm. broad at base, narrowed to 12 mm. near the apex; equally convex on both sides; becoming flat above toward the base; segments of middle of leaf about 53 cm. long, and 32 mm. broad; lateral segments reduced to 30 cm. by 5 mm.; texture thin and brittle; venation also closely similar to *C. jucunda*, but the surface distinctly less pubescent, or the pubescence much more fugacious, as in other species of true *Thrinax*: inflorescence with secondary branches slender, subtended by narrow scarious bracts, 8 to 10 mm. in length; bracts with a distinct midvein and a pencil of hairs at the tip; pedicels of flowers seldom 1 mm. in length, with 6 distinct subtriangular lobes: filaments triangular, often united at base to form a complete cup: stigma truncate or somewhat funnelform, about 0.5 mm. in length.

This species is evidently much smaller in all its parts than *Thrinax Keyensis*. The comparison of its leaves with those of *Coccothrinax jucunda* is based on A. H. Curtis's no. 262 from Big Pine Key, which seems to correspond well with Sargent's description, though there is the possibility that the leaf and fruit were not taken from the same tree.

Locality. — Big Cabbage Creek, Andros Island, June. Another specimen (257) from Freshwater Pond, Hog Island, N. P., February, consists of a leaf and an old inflorescence, the latter with the spathes still coated in patches with dense white pubescence.

In comparison with *Thrinax Ponciana* (Bull. Torrey Club, 28: 536. 1901) from Puerto Rico the leaves of the present species are smaller, with the petioles less flattened and more distinctly ribbed on the upper side near the apex. The transverse or oblique vein-

ules are more numerous and more prominent; also the veinules of the lower surface, which lacks the glaucous or waxy covering distinct in *T. Ponccana*.

COCCOTHRINAX sp.

A single leaf with the form and venation of *C. Garberi* (Chapman) but somewhat less densely pubescent. Locality: New Providence, Nassau, February 1890 (no. 284).

Mr. Lyster H. Dewey, of the U. S. Department of Agriculture, recently brought back from New Providence Island a leaf probably belong to a *Coccothrinax* and popularly called "silver thatch." The leaves are commonly used for weaving into hats and baskets. The trunk seldom, if ever, exceeds about 2.5 m., and is about 15 cm. thick. A photograph secured by Mr. Dewey shows that the surface is largely free from leaf-bases, and fairly smooth, the leaf-scars being but slightly impressed. The diameter seems to be rather uneven, with a tendency to become somewhat thicker in the middle.

Paurotis gen. nov.

A small, slender palm with spiny petioles like *Copernicia*, but with only the primary branches of the slender inflorescence subtended by spathes.

Paurotis is probably more nearly related to *Serenoa* than to *Copernicia*, but differs in the larger size, the erect trunk, the stronger ligule, the absence of the ligule-like inferior scales, the presence of a rudimentary midrib, and in the more deeply divided segments. Inflorescence much more slender throughout than in *Serenoa*; flowers much smaller, with free sepals and short, valvate petals.

The long, naked and apically scarious and bilabiate spathes are strikingly different from those of *Copernicia*. The inflorescence is much longer and more slender than that of *Serenoa*, but in other respects has greater resemblance than to that of *Copernicia*. The leaves, on the other hand, are more like *Copernicia*, though the presence of a true midrib, even if very small, with one or two segments inserted somewhat above the base may be taken as a further sign of affinity with *Serenoa*.

The present genus will probably accommodate the palm from Puerto Rico (*Sintenis*, 6512) referred by Professor Drude to

Copernicia, but having no spathes on the branches. Grisebach and Wendland described from Cuba, *Copernicia Wrightii*, which may also belong to *Paurotis*.

Hitherto *Copernicia* has been the only known West Indian genus of fan-palms with spiny petioles. The type of *Copernicia* is *C. cerifera* (Arruda) from Brazil, but the Cuban species of the genus seem to resemble *Paurotis* even less than the Brazilian, since they have the inflorescence more robust and compact and the spathes more strongly developed. The species listed by the *Index Kewensis* as *Copernicia maritima* (*Corypha maritima* H.B.K.) and *Copernicia pumos* (*Corypha pumos* H.B.K.) have smooth petioles according to the original descriptions, and should have been transferred to *Thrinax* rather than to *Copernicia*. Although treated as a synonym of *Copernicia* in the *Index Kewensis* the generic name *Cryosophila* Blume had priority of publication, as shown by the fact that it is cited by Martius in connection with the original description of *Copernicia*. It seems probable, however, that *Cryosophila* is distinct from *Copernicia* as indicated by Drude. Its type, *C. nana* (H.B.K.), came from the region of Acapulco, Mexico. The petiole is unarmed and other characters are quite at variance with those of *Paurotis*.

***Paurotis Androsana* sp. nov.**

Trunk 3 to 4 m. high, very slender, 5 to 6.5 cm. in diameter, rough with irregular scale-like leaf-bases: leaves tufted, flat, orbicular; petioles 52 cm. long, 15 mm. thick at base, 10 to 12 mm. at apex, not including the spines, 5 mm. thick at base, 3 mm. at apex; upper face moderately concave, subcarinate in the middle distad; lower face strongly convex in the middle, concave on each side; upper surface with fine longitudinal or oblique impressions, doubtless from the next leaf; lower surface nearly smooth, very finely grooved longitudinally; both surfaces covered with a thin layer of waxy scales; toward the margins are small scattering brownish longitudinal scars, more numerous on the upper side; occasionally there arises from such a scar a narrow scarious ribbon 2 mm. or less in length; these evidently correspond to the peltate scales of the leaf-bases and petioles of *Inodes*; margins of petioles thickened, smooth, corneous, in color pinkish-brown (vinaceous-cinnamon, Ridgway) at base, and dark brown distad; teeth somewhat irregularly placed, usually about 1 cm. apart, but sometimes 2 cm. and some-

times close together or with two points; points commonly curved forward, sometimes straight or curved backward; length about 3–5 mm.; size decreasing toward the apex of the petiole, but occasional teeth are mere rudiments: ligule very broadly subtriangular after losing a rather broad, thin, subscarios margin; lateral angles of the ligule coalescing with the margins of the lateral segments as in *Thrinax* and related genera; each side of this terminal widening of the petiole bears a strongly curved marginal tooth.

Apex of petiole on the under side, broadly triangular, about 5 mm. long. The oblique edges which subtend the insertion of the segments do not, however, meet in the middle; the middle rib is slightly thicker than the others and has one or two segments inserted on each side beyond the apex of the triangle, so that *Paurotis* may be said to have passed the stage of *Thrinax* and to have a true midrib.

Leaves about 52 cm. long, composed of about 36 segments; middle segments longest, the lateral shortened nearly by half. Segments united for about 20 cm. in the middle of the leaf, but only for 1 to 3 cm. at the sides. The segments are split 20 cm. or less from the tips. The margins of the notch are somewhat thickened, but there is no fiber like that of *Inodes*. The edges of the ribs both above and below are nearly square, and bear along the angles rows of irregularly placed brown scars like those of the margins of the petiole. Both surfaces of the leaf have a thin film of wax. There are from 8 to 11 longitudinal veinlets larger than the others and 1 mm. or more apart; between these are similar numbers of finer equal veinlets, the middle one sometimes slightly larger; oblique veinlets distinct, but very fine, not close.

Inflorescence 80–90 cm. long, the main axis bearing from 9 to 10 tubular spathes. Base of inflorescence flattened and the lower spathe with compressed, wing-like margins. The spathes are open only at the bilabiate apex.

Locality.—"Loggerhead Creek, Andros, April 22. Not common. Said by negroes to be more common on Eleuthera and islands south." The specimen (509) consists of two leaves and two inflorescences with young flowers.

INODES sp.

The genus *Inodes* is represented by a single inflorescence. The calyx and corolla are longer than in *I. Palmetto* (Loddiges), the calyx more deeply lobed and the margins of the petals more distinctly papillate-denticulate. The two unequal triangular scales which subtend the flowers are also somewhat larger. These facts indicate specific distinctness, but in the absence of other data the application of a name may be postponed.

Locality. — "In swamps along road near Nassau, February 5." The leaf which bears the same number (284) is here referred to *Coccothrinax*.

A large-leaved fan palm from which material for weaving hats and baskets is obtained was noticed by Mr. Lyster H. Dewey growing in swampy places on New Providence Island. It attains a height of about 5 meters and is possibly different from the palm reported from Cat Island by Prof. A. S. Hitchcock (Report Mo. Bot. Gar. 4: 138. 1893) as *Sabal umbraculifera*. This occurs in dry situations, attains a height of about 8 meters, and has an inflorescence 1.2 m. long. The berries are 12 mm. in diameter, the seed concave at base and the embryo lateral. As already explained elsewhere (Bull. Torrey Club, 28: 531. 1891) the name *umbraculifera* was not available for transfer from *Corypha* to any American palm, and the application of the next available name *Inodes Blackburniana* (Glazebrook) has not yet been fixed.

ARECACEAE

Cyclospatheae, new tribe

To accommodate the following genus *Cyclospathe* and *Pseudophoenix* Wendland. The association of the latter with *Morenia*, *Gaussia*, and *Synechanthus* as proposed by Professor Drude, seems to have little warrant.

The Moreniaceae are monoecious palms with numerous cylindrical partial spathes and sessile flowers arranged in rows. The Cyclospatheae are apparently dioecious palms with a single complete spathe and pedicellate flowers, without orderly arrangement. The Cyclospatheae may also be recognized at once by their strongly conduplicate leaf-segments, a feature in which they are especially divergent from *Chamaedorea* and the related genera,

which have the bases of the segments more open than in most of the pinnate-leaved palms.

Cyclospathe gen. nov.

A small palm obviously allied to *Pseudophoenix* Wendland, but distinct in having the trunk short and with short internodes, the inflorescence infrafoliar, and the calyx deeply lobed; also in the possession of a curious, short, collar-like spathe completely encircling the main axis of the spadix near the middle of its base.

The leaf segments are strongly folded together like those of *Pseudophoenix*, but the lower margin is not incurved to bring it against the upper as in *Pseudophoenix*. The "dark conspicuous gland-like excrescences" described by Sargent (Silva, 10: 33) on the sides of the rachis at the base of the pinnae are evidently much smaller in *Cyclospathe*, and are mostly confined to the angle of insertion of the upper margin of the pinnae.

Further differences between *Cyclospathe* and *Pseudophoenix* are discussed in connection with the following description of the type species:

Cyclospathe Northropi sp. nov.

Trunk less than 3 m. in height, about 22 cm. in diameter, slightly bulging in the center; leaf-scars distinct, about 2.5 cm. apart; leaf-bases very glaucous, also the rachis; rachis distally subtriangular in section, the leaf-bases completely crossing the lateral faces and even prominent above the narrow crest; upper and lower margins of the pinnae inserted on the same plane at the lateral angles of the rachis; segments are not so strongly plicate as in *Pseudophoenix*, the two edges meeting the rachis about 5 mm. apart, and not thickened and incurved as in the heavier and larger leaf of *Pseudophoenix*.

The specimens studied have about 20 of the apical pinnae on each side; lower pinnae about 47 cm. long by 23 mm. broad; apical pinnae gradually reduced to 27 cm. by 10 mm. and smaller, the terminal divisions not completely separated. The distal pinnae are farther apart than the proximal.

In *Pseudophoenix* pinnae 43 cm. long have a width of 33 mm. The texture of the pinnae of *Cyclospathe* is also much thinner and more fragile than in *Pseudophoenix*, and the decurved and thick-

ened anterior margin is broader. The upper surface shows several rather prominent veinules not regularly spaced; below, the veinules are very numerous, close and equal. The upper surface is smooth and shining, the lower dull and uniform, the space between the veinules being minutely roughened. In *Pseudophoenix* both surfaces appear more distinctly glaucous.

The spadix at the flowering stage is about 35 cm. long, and about 12 mm. broad at the flattened base. There are nearly 20 primary branches decreasing in size from the lowest, which is 11 cm. long and 3 mm. thick at base. The branches are twice or thrice subdivided, the ultimate divisions being about 15 mm. long and bearing solitary flowers at intervals of about 1 mm., but without regularity of arrangement apparent in the dried specimen. Each branch and flower is subtended by a triangular pointed bract, those of the primary branches being 5 to 8 mm. long, strongly acuminate with a very broad base which at the lowest fork is continued half way round the stem. A similar growth is probably referred to by Sargent as a "thickened ear-like body" on the upper side of the base of the branches of the inflorescence of *Pseudophoenix*.

The most curious peculiarity of *Cyclospathe* is a further extension of such a bract or rudimentary spathe to form a complete frill-like band or collar about the middle of the basal stalk of the inflorescence. This structure is about 5 mm. wide, of a light brown color; texture firm, but thin and rather brittle in the dried state.

Flowers (perhaps immature) about 2 mm. long. Calyx tubular forming a pedicel-like base 1 mm. long; at apex splitting into three triangular slightly imbricate lobes. Corolla thick and fleshy, the petals valvate. No stamens or staminodia were made out, and the indications are that *Cyclospathe* is dioecious. Sargent characterizes *Pseudophoenix* as monoecious, but apparently without reason, as he says afterward "flowers unknown" and describes only the persistent "staminodia" of the ripe fruit.

Locality.—Andros Island. The leaves (508) were collected on Loggerhead Creek in April, 1890, the inflorescence (671) on "Big Cabbage Creek, west side" in June. The local name, "hog cabbage palm," appears with both labels and increases the

probability that the specimens were properly associated. In the event of doubt on this point the inflorescence should be treated as the type.

COCOS NUCIFERA L. Common in cultivation.

BROMELIACEAE

TILLANDSIA BALBISIANA R. & S. "Wild pine." Common and variable. Red Bays and Conch Sound, April; Lisbon Creek, June (491, 528).

TILLANDSIA BULBOSA Hook. "Wild onion." On mangroves in the swash. Purser Pt., June. Not common (654).

TILLANDSIA FASCICULATA Swartz. "Dog-drink-water." Common. Nicol's Town, Red Bays, April (439).

TILLANDSIA FLEXUOSA Sw. Nicol's Town, March. Like Blodgett's specimen from Key West; not like Wr. 3271 (369).

TILLANDSIA RECURVATA L. Not common. Fresh Creek, Kemp Sound, Andros, June (617).

TILLANDSIA UTRICULATA L. More than 1.5 meters in height. Flowers whitish. Larger than any specimens examined. Fresh Creek, June (612).

COMMELINACEAE

COMMELINA NUDIFLORA L. Nassau, Jan. (7).

RHOEA DISCOLOR (L'Her.) Hance. (*Tradescantia discolor* L'Her.) Nassau, Jan.; Conch Sound, April (26).

LILIACEAE

Aletris bracteata sp. nov.

Roots numerous, fibrous: basal leaves numerous, spreading, grayish-green, lanceolate or linear-lanceolate, apex acuminate, rigid, narrowed at the base, 6-10 cm. long, 6-10 mm. wide: scape 5-6 dm. in height, bearing small, scattered bract-like leaves: raceme erect, many-flowered; pedicels about 1 mm. in length; bracts subulate, 4-6 mm. in length, almost equalling the corolla: perianth tubular-oblong, sometimes slightly contracted below the lobes, white, 6-8 mm. long, about 3 mm. wide, slightly roughish on the outside: lobes six, oblong-lanceolate, about one fourth as long as the tube: stamens included, oblong-lanceolate, apiculate at the apex, longer than the filaments: pistil included: ovary adherent to the perianth for the lower half, style flattened and broad at

the base, slightly three-cleft above : stigmas three : ovules numerous : fruit not seen (463).

Common on the savannas near Red Bays, Andros, April.

Closely related to *A. farinosa* L., but differs in the grayish-green longer and narrower leaves, with more rigid apex, the longer bracts and the broader flattened style.

PLATE I. *Aletris bracteata*. Entire plant $\times \frac{5}{8}$; *p*, interior of perianth ; *e*, stamen ; *r*, pistil.

SMILACACEAE

SMILAX AURICULATA Walt. New Providence, March ; Conch Sound, April, Purser Pt., June. Common. Peduncles longer than pedicels (339, 527).

SMILAX HAVANENSIS Jacq. "Saw-brier." Nassau, Jan. ; Purser Pt., Deep Creek, June.

Specimens from Nassau and Purser Pt. unarmed ; Deep Creek specimens have prickles on midrib of many of the leaves as well as on margin (59, 663).

SMILAX sp.? Unarmed or with very few prickles : branchlets angular : leaves mostly broadest at the apex, obovate or oval, 4-5 cm. long, 3-4 cm. wide, thickish, smooth, apex retuse, mucronate, base acute, margin entire, veins prominulous on both sides ; tendrils usually inserted a little below the middle of the petiole : staminate flowers, peduncles longer than the petioles : flower-buds globose : petals elliptical, blunt, 3-4 mm. : anthers oblong. Pistillate flowers not seen. Collected on border of swash at Purser Pt., Andros, June (664).

AMARYLLIDACEAE

AGAVE RIGIDA Mill. "Bamboo." On savannas at Red Bays, April. Not common. Flowers bright yellow. Determined by Mr. J. G. Baker, at Kew, 1897.

AGAVE RIGIDA SISALANA Engelm. "Sisal." Cultivated and escaped. Nassau, Jan. (164).

FURCRAEA CUBENSIS Haw. Specimens imperfect. Nassau, Jan. (203).

Hymenocallis arenicola sp. nov.

Bulb large : leaves erect-spreading, fleshy, smooth, dark-green, lance-oblong, 4-5.5 dm. in length, 4-5.5 cm. wide, rounded

at the apex and narrowing at the base to 2.5–3.5 cm.: scape almost equalling the leaves ; bracts large, scarious, ovate or lanceolate, 3–6 cm. long, 1–2.5 cm. wide: flowers seven to thirteen in a sessile umbel, white, fragrant ; tube filiform, white, 5–7 cm. long, shorter than the lobes ; divisions of the perianth 8–11 cm., narrowly linear, recurved ; crown infundibular, 3–4 cm. in length, less than half as long as the stamens, teeth prolonged into the filaments : anthers linear, 1.5 cm. long, attached below the middle : ovary ovate, three-celled, about 2 cm. long : style filiform, longer than the stamens, about equalling the lobes of the perianth : stigma small, capitate.

Common on sandy beaches on the eastern side of Andros. Collected at Nicol's Town, April ; Fresh Creek and Deep Creek, June. Most nearly related to *H. Caribaea* Herb. (519).

PLATE 2. *Hymenocallis arenicola*, inflorescence and leaf $\times \frac{3}{4}$.

HYPOXIS JUNCEA Smith. On border of swash. Red Bays, April, May. Not common (476). The same as Wright 3745, except that it is smaller and more delicate.

DIOSCOREACEAE

RAJANIA HASTATA L. Common on both islands. Nassau, Jan.; Deep Creek, June. Leaves very slender, 1 cm. in width, or less above the base, otherwise like Wright, Cuba, 1712 (203).

ORCHIDACEAE

BLETIA VERECUNDA R. Br. Common in the pines on both islands and on the border of the swash on west side of Andros. Nassau, Jan. ; Red Bays, March. There seems to be no distinction between this species and *B. purpurea* DC., reported as endemic in the Bahamas (91). Same as 365 Plant. Guat., J. Donnell Smith.

EPIDENDRUM FUCATUM Lindl. "Wild Indian." Common in the coppet. Conch Sound, May ; Mastic Point, June ; Mars Bay, July (584, 711). Same as Wright 3329.

EPIDENDRUM NOCTURNUM L. Conch Sound, March. In fruit only (414).

EPIDENDRUM ODORATISSMUM Lindl. Growing in sandy soil, near the shore, occasionally on trees near ground, in that case being smaller ; flowers very fragrant having an odor like birch.

Collected at Calabash Cay, near Stafford Creek, Andros, June (606).

EPIDENDRUM PHOENICEUM Lindl. "Wild Indian." Not uncommon in the coppet. Fresh Creek, June (609). Differs from Rugel 814, in having the bracts much shorter, 5-7 mm. long, more obtuse, and the lip more strongly crispate.

EPIDENDRUM sp.? Single specimen from Stafford Creek, June. Aërial, tubers small, one-phyllous, leaf 5-6 cm. in length, linear-oblong, crenulate: scape 3 dm. in height, few-flowered: flowers white, 2 cm. long, divisions of perigone narrow (674).

EPIDENDRUM? In fruit only. Aërial, tuber two-leaved, leaves 3 dm. in length, 5 mm. in width: capsule oblong, 2 cm. long, 8-10 mm. wide. In the pines, Lisbon Creek, Andros, June (679).

BROUGHTONIA LILACINA Henfr. (*Lacliopsis Domingensis* Lindl.) Common in the coppet. Cocoanut Point, April; Fresh Creek, Lisbon Creek, June (437, 448, 546).

POLYSTACHYA LUTEOLA Hook. On trees, in coppet. Conch Sound, April (525).

POLYSTACHYA sp.? Close to *P. lutcola* but much smaller; leaves 12-14 cm. long, 1 cm. broad: flowers 5-7 mm. long, lip three-lobed, callous at base, column very short. Conch Sound, March and May (407).

GOVENIA UTRICULATA Lindl. In fruit only. Conch Sound, March. Determined by Mr. J. M. Greenman, at Cambridge (418).

ONCIDIUM SYLVESTRE Lindl.? Not uncommon under the pines. Conch Sound and London Creek, May. It has the habit of *O. sylvestre* but the white pink-spotted flowers are smaller and leaves shorter; lip 8-10 mm. in width: leaves 8-12 cm. long (543).

ONCIDIUM VARIEGATUM Sw. On trees, Conch Sound, May. Leaves longer and narrower (3-4 mm. in width), than in Wr. 668 and Eggers 1796 from St. Domingo (587).

ONCIDIUM sp. On trees, rare. Fresh Creek, June. Near *O. variegatum* Sw. Flowers deeply spotted, divisions of perigone narrower, 2-4 mm. wide, abruptly pointed: leaves 6-8 mm. wide (647).

ONCIDIUM sp.? near *O. sphacelatum*. Lindl. Single specimen

from Mastic Point, June; terrestrial, 1.5 m. in height; scape lateral; greenish-yellow flowers paniced; leaves equitant, recurved, rosulate from flattened tubers (602). No. 750 collected at Mars Bay, Andros, in July is probably a smaller specimen of the same species and no. 405 from Conch Sound, an *Oncidium* in fruit only, may perhaps be referred to the same species.

***Vanilla articulata* sp. nov.** "Link-vine," "wormwood"

A tall climber with aërial roots, growing over trees and shrubs, aphyllous; stems jointed, joints fleshy, smooth, subangular, 2-3 dm. in length: flowers in short axillary spikes, 6-12-flowered; bracts broadly ovate or triangular, blunt, 5 mm. in length: flowers about 6 cm. long, fleshy, white with faint pinkish tinge, parts of perigone jointed at the base: sepals erect, spreading, fleshy, oblanceolate, involute at the tip, 3-4 cm. long, about 1 cm. wide: petals oblanceolate or spatulate, equalling the sepals but thinner, keeled on the back; lip adnate to the column more than two thirds of the way, convolute, broadly obovate or triangular, about 3 cm. in width, channeled on the back, three-lobed, lobes obtuse, crispate, lateral lobes papillose below, central lobe sparingly crested above, bearded below (thick tuft of cilia 5-6 mm. long); column elongated, about 2.5 cm.: anther terminal, jointed at the base, pollinia two: stigma shortly transverse: ovary fleshy, flattened, sometimes slightly two-edged, incurved, 3-3.5 cm. long, 5 mm. wide: capsule elongated.

Collected on both islands, not common. New Providence, Feb.; in bloom, July; London Creek, May; Deep Creek, June (545).

PLATE 3. *Vanilla articulata*. Cluster of flowers; *e*, lip; *a*, *n*, sepals; *d*, petal; *o*, column, side view; *v*, column, front view; *m*, cross section of buds.

CRANICHIS sp.? near *C. tenuis* Reich. Leaves lanceolate, 6-8 cm. in length; petioles equalling or exceeding the leaves; scape very slender, few-flowered, 22 cm. in length, few small sheathing scales. Two specimens only, Conch Sound, May (567).

CRANICHIS sp.? In fruit, possibly *C. muscosa* Sw. but the scape is much more densely flowered than in Wright 620 from Cuba. Conch Sound, March (417).

STENORHYNCHUS ORCHIOIDES Rich. Not common. Flowers greenish. Conch Sound, May (412).

GYROSTACHYS PERUVIANA (Aubl.) Kuntze? Common and vari-

able. Collected on both sides of Andros, Conch Sound, March ; Red Bays, April (399, 574). Bracts more acuminate than in Wright 3296. (*Spiranthes tortilis* Rich.?)

LIMODORUM TUBEROSUM L. Common on savannas on west side of Andros. Variable, some specimens approach *L. graminifolium* (Ell.) Small. Red Bays, April, May (430-500). Same as Wright 3317 from Cuba.

CASUARINACEAE

CASUARINA EQUISETIFOLIA Forst. "Spanish cedar." Nassau, Feb. Common in cultivation (297, 454). 454 was collected on the west shore of Andros, miles from any settlement. It is also reported from the Florida Cays.

MYRICACEAE

MYRICA CERIFERA L. "Wax-berry," "mickle-berry." Common on Andros. Nicol's Town, March ; Lisbon Creek, July (357).

MORACEAE

FICUS DIMIDIATA Griseb. "Fig-tree." Nassau, Jan. ; Nicol's Town, March (119, 377, 378). 119 is the same as Wright 542, 377 and 378 are probably *F. dimidiata* with young leaves.

FICUS PEDUNCULATA Willd. "Fig-tree." Nassau, Jan. (46). Same as Wright 1684.

FICUS PERTUSA L. Mastic Point, Andros, May (586). Same as Wright 545.

FICUS INDICA L. "Banyan." Cultivated, Nassau, Jan. (295).

ARTOCARPUS INCISA L. f. "Breadfruit." Cultivated (261).

ULMACEAE

TREMA LIMA (Lam.) A. S. Hitch.? (*Sponia Lamarckiana* Desc.) "Wild birch," "wild fig." Common in the coppet at Red Bays (Lewis Coppet), April ; Deep Creek, June.

A low tree, not tortuous branching. In general appearance and mode of branching seems between *T. mollis* Desc. and *T. Lima*. The leaves are larger than any specimen of *T. Lima* examined, 4-5 cm. long, .5-2.5 cm. broad ; upper surface very scabrous,

apex acute. It is the same as Cooper 21 from New Providence and Eggers 2326, unnamed (485, 683).

URTICACEAE

FLEURYA AESTUANS Gaud. Nassau, Jan. (30).

ADICEA MICROPHYLLA (Sw.) Kuntze. Nassau, Jan. (29).

LORANTHACEAE

DENDROPEMON EMARGINATUS (Sw.) Steud. Nicol's Town, March. On fig, gum-eleni, etc. (373). Agrees with Wright 1303, except that racemes are shorter and the pedicels longer.

DENDROPEMON sp. "Mistletoe." Mars Bay, Andros; on *Peltophorum*, July (713). Plants smooth, branchlets and peduncles much compressed.

PHORADENDRON RACEMOSUM Kr. & Urb. "Snake-root," "big man." Deep Creek, June; on *Nectandra* (704). Same as Eggers 1741 and Wright 1252 *p. p.*

Phoradendron Northropiae Urban, sp. nov.

Ramis teretibus v. junioribus plus minus compressis, superne di-v. trichotomis: vaginis cataphyllaribus ad omnia internodia supra basin obviis solitariis, raro binis: foliis obovatis v. breviter obovatis antice rotundatis v. sub-truncatis, plerumque late emarginatis, basi sensim v. satis abrupte in petiolum 2-6 mm. longum angustatis, 3-7 cm. longis, 2.5-4 cm. latis, vix dimidio usque duplo longioribus quam latoribus, partissime et obsolete pinnatinerviis, crasse coriaceis; spicis ad nodos pluribus lateralibus, 1.5-2.5 cm. longis; 4-6 articulatis: articulis androgynis, 10-14 floris v. 1-2 supremis 6-2-floris; floribus in seriebus 4 dispositis, imparibus 2 sub apice cujusque articuli adjectis, hisve masculis, caeteris femineis, baccis non visis.

Rami inferne 3-5 mm. crassi, glaberrimi, internodiis 4-10 cm. longis. Folia in sicco olivacea v. brunnescentia, nervis lateralibus utrinque plerumque 2, altero supra basin, altero ad medium e nervo medio abeunte, supra vix, subtus paullo melius conspicuo. Spicae interdum revera ex axillis euphyllorum solitariae, sed utrinque accessoriis autae ideoque pro axilla specie ternae, sed plerumque ad nodos vetustos inordinate plures, ex axillis squamarum minutarum orientes, 3-5 mm. longe pedunculatae.

Hab. in Ins. Bahamas, Andros Island ad Conch Sound and Lisbon Creek, in June flor. Northrop no. 551 (in *Mimusops depressa* Pierre).

ARISTOLOCHIACEAE

ARISTOLOCHIA PASSIFLORAEFOLIA Rich. Conch Sound, May. In the pines (568). Same as Wright 3665.

ARISTOLOCHIA PENTANDRA L. Nicol's Town, March (385). Same as specimens of Garber and of Curtiss from South Florida.

POLYGONACEAE

COCCOLOBIS DIVERSIFOLIA Jacq. Nassau, Jan. (143). Determined at Kew by Dr. N. L. Britton. Same as Brace 142 "var. foliis minoribus" Lindau.

COCCOLOBIS RETUSA Griseb. "Pigeon-plum." Deep Creek, June (705); Purser Pt., June (662); low in fruit. Same as Wright 2252.

COCCOLOBIS TENUIFOLIA L. Nicol's Town, April (443). Determined at Kew by Dr. N. L. Britton. Same as Wright 3368. Same as Brace 151, 193 and 205.

COCCOLOBIS UVIFERA (L.) Jacq. "Sea-grape." Nassau, Jan. Common everywhere along north shore of New Providence and east shore of Andros (80).

COCCOLOBIS WRIGHTII Lindau. "Pigeon-plum." Deep Creek, July (721). Determined at Kew by Dr. N. L. Britton. Same as Wright 1395.

COCCOLOBIS OBTUSIFOLIA Jacq. "Pigeon-plum." Deep Creek, June (706). Determined at Kew by Dr. Britton to be the same as Eggers 4486, which according to Lindau is *C. microstachya ovalifolia* Meisn.

POLYGONUM PORTORICENSE Bertero. (*P. densiflorum* Meisn.) Fresh Creek, June. Not common (621).

ANTIGONUM LEPTOPUS H. & A. Common in cultivation. Nassau and Mastic Pt., June (604).

CHENOPODIACEAE

ATRIPLEX CRISTATA H.B.K. Deep Creek, June (709).

SALICORNIA AMBIGUA Michx. Common along the east coast. Nassau, Jan. (171).

SALICORNIA BIGELOVII Torr. (*S. mucronata* Bigel.) In the "swash" on the west side of Andros. Wide Opening, June (669). 3 dm. in height, branches very strict.

DONDIA FRUTICOSA (Forsk.) (*Suaeda*.) Red Bays, April (455). 7-8 dm. in height, rigid, much branched.

DONDIA LINEARIS (Ell.) Millsp. Common. Nassau, Jan. (194).

AMARANTACEAE

ALTERNANTHERA MUSCOIDES Sw. Lake Waterloo, Nassau, Jan. (150).

ALTERNANTHERA PARONYCHIOIDES St. Hil. Nassau, Jan. (197). Same as Eggers 2571 (not named specifically), except that the plant is more compact and the petioles shorter, 3-4 mm.

LITHOPHILA VERMICULARIS (L.) Uline. "Sampire." Ft. Montague, Nassau, Jan. Common on sandy shores (147).

IRESENE PANICULATA (L.) Kuntze. (*I. celosioides* L.) "New-burn weed." Nicol's Town, March; Stafford Creek, June (362).

BATIDEAE

BATIS MARITIMA L. Mastic Pt., May; Cormorant Cay, Andros, June (595).

PHYTOLACCACEAE

RIVINA HUMILIS GLABRA L. Common on N. P. and Andros. Nassau, Jan. (20).

PHYTOLACCA OCTANDRA L. "Poke-bush." Nicol's Town, March (354).

NYCTAGINACEAE

MIRABILIS JALAPA L. "Four-o'clock." Naturalized in Nassau, Jan.

BOERHAAVIA ERECTA L. Near caves, New Providence, Feb. (280).

BOERHAAVIA PANICULATA Rich. Mastic Point, Andros, May (732).

BOERHAAVIA SCANDENS L. Near caves, New Providence, Feb. (281).

PISONIA ACULEATA L. "Cockspur." Common in the coppet of both islands. Nassau, Jan. (73, 196).

PISONIA OBTUSATA Sw. In the coppet, Nicol's Town, April (517). Same as a specimen of Blodgett's from Key West, named by Torrey.

PISONIA ROTUNDATA Griseb. In the coppet, not common. Fresh Creek, June (636). Same as Wright 3369, also specimens of Blodgett's from Pine Key, Fla.

BOUGAINVILLEA SPECTABILIS Poir. Common in cultivation at Nassau (142).

AIZOACEAE

SESUVIUM PORTULACASTRUM L. Common on sandy beaches on both islands, variable. Nassau, Jan. (149).

PORTULACEAE

PORTULACA OLERACEA L. Common prostrate form, collected at Nassau, Jan.

PORTULACA OLERACEA L. var.? Plants 2-2.5 dm. high, ascending, nearly erect; leaves 1-2.25 cm. in length, obtuse or sometimes retuse, axils shortly and sparsely pilose: flowers larger than in the common form, clustered: petals 4-5 mm.: sepals strongly carinate-winged: style 3-4-parted: seeds small, less than .5 mm., rugose. Found growing abundantly on Cormorant Cay in the Northern Bight, west side of Andros, June (658).

PORTULACA HALIMOIDES L. Conch Sound, May. Common on rocks (580).

ANONACEAE

ANONA PALUSTRIS L. "Custard apple." Not uncommon in swampy parts of the coppet. Conch Sound, March (408). Same as Rugel 710.

ANONA SQUAMOSA L. "Sugar apple." Nicol's Town, cultivated (513).

RANUNCULACEAE

CLEMATIS DIOICA L. Collected by Mr. Alexander Keith at Conch Sound, 1894. Not common (742).

LAURACEAE

NECTANDRA SANGUINEA Rottb. "Sweet torchwood." Common in the coppet. Conch Sound, Red Bays, April; Fresh Creek, June (487, 613). Agrees with Wright 484 except that the leaves are narrower (2.5-3 cm.).

CASSYTHA FILIFORMIS L. Common on shrubs and low trees. Nassau, Jan. (78, 104, 512). A more slender form with yellow stems was found on low grasses at Loggerhead Creek on the west side of Andros, also found on Rose Island, N. P. (266).

PERSEA PERSEA (L.) Cockerell. "Avocado pear." Common in cultivation. Nicol's Town, March (371).

PAPAVERACEAE

ARGEMONE MEXICANA L. Common about Nassau, Jan. (51).

CRUCIFERAE

BRASSICA ARVENSIS (L.) B.S.P. (*B. Sinapistrum* Boiss). Nassau, Jan. (225). Leaves almost entire.

LEPIDIUM VIRGINICUM L. Nassau, Jan. (140).

CAKILE AEQUALIS L'Her. Common on sandy beaches. Salt Cay, Feb. (88, 278). Same as Wright 1863.

CAPPARIDACEAE

PEDICELLARIA PENTAPHYLLA (L.) Schrank. "Wild mustard." Fresh Creek, June (630).

CRASSULACEAE

BRYOPHYLLUM PINNATUM (Lam.) S. Kurz. (*B. calycinum* Salisb.) "Live-for-ever." Nassau, Jan.; also on Andros (199).

ROSACEAE

CHRYSOBALANUS ICACO L. "Pigeon plum." Common on sandy shores. Nassau, Jan.; Fresh Creek, June. Many specimens at latter locality had white drupes (115).

MIMOSACEAE

ACACIA CHORIOPHYLLA Benth. "Cinnecord." Common in the pines on both islands. New Providence, Feb.; Nicol's Town, March (312, 364).

ACACIA FARNESIANA (L.) Willd. Nassau, Jan. (44).

ACUAN DEPRESSA (Kunth.) Kuntze. (*Desmanthus*.) Red Bays, April (495).

ACUAN VIRGATA (Willd.) Kuntze. (*Desmanthus*.) Mastic Pt., May (731).

MIMOSA PUDICA L. "Sensitive plant." Collected by Mr. Keith, 1891. Uncommon on Andros, but said to be abundant on Eleuthera. Mastic Pt. (735).

LEUCAENA GLAUCA (L.) Benth. "Jumby-bean." Nassau, Jan., Feb.; Bearing Point, Andros, June (43, 282, 657). Nos. 282 and 657 were shrubs, 1.5–2 m. in height.

LYSILOMA PAUCIFOLIOLA (DC.) A. S. Hitch. (*Sabicu* Benth.) "Horseflesh," "sabicu." Common in the coppet; one of the most valuable timber trees. Nicol's Town, April; Deep Creek, June (434).

LYSILOMA BAHAMENSIS Benth. "Wild tamarind." New Providence, Feb. (309). Same as Wright 3542.

CALLIANDRA FORMOSA Benth. Hog Island, Nassau, Feb. (255). In fruit only. Determined by Dr. B. L. Robinson at Gray herbarium.

PITHECOLOBIUM HYSTRIX Benth. (*P. calliandraefolium* Wright) In the pines, not common. Conch Sound, May; Deep Creek, June (575). It is the same as Wright 2401.

PITHECOLOBIUM UNGUIS-CATI (L.) Benth. "Ram's horn." Common near the shore on both islands. Nassau, Jan.; Cocoa-nut Pt. Andros, April (66, 235, 449). 66, collected at Nassau, has the leaves two-jugal and agrees with Eggers (3830).

***Pithecolobium Bahamense* sp. nov.** "Ram's horn."

A shrub, 1.5–2 meters in height, with slender, drooping branches, armed with delicate, stipular spines, 3–7 mm. in length; leaves bipinnate, pinnae one-jugal, leaflets one-jugal; petiole 1–4 mm. in length, petiolules 1–3 mm., channelled and with a single stipitate gland at the base; leaflets oblong to oblanceolate or obovate, 1.25–2 cm. long, a little over half as broad, obtuse or mucronate at the apex, oblique and slightly unequal at the base, chartaceous, glabrous, shining above, entire, subsessile with a stipitate gland at base: inflorescence capitate, many-flowered: peduncles 2–3 cm. in length, much exceeding the leaves: calyx tubular, less than one half the length of the corolla with five ovate

acute lobes: corolla crimson, tubular, 3–5 mm. in length, five-lobed, lobes acute, about one half as long as the tube: stamens numerous, crimson, exserted, more than twice the length of the corolla: anthers small, rounded: ovary stipitate: style much exserted, about 2 cm. in length, four times as long as the corolla: stigma small: immature fruit compressed, slightly curved, puberulent: mature fruit 9 cm. in length, 1 cm. in width, dark-brown, curved: seeds arilled.

Collected in fruit near Nassau in January, and in flower in the coppet at Mastic Point, Andros, in June (605). The plant belongs to the section *Unguis-cati* and is related to *P. circinale* Benth.

PLATE 5. *Pithecolobium Bahamense*. Portions of plant in flower and in immature fruit. $\times \frac{5}{8}$.

CAESALPINACEAE

CASSIA BAHAMENSIS Mill. "Stinking pea." New Providence, Jan. (103).

CASSIA BIFLORA L. Nassau, Jan. Leaflets strongly emarginate (55).

CASSIA LIGUSTRINA L. Common. Nassau, Jan.; Conch Sound, March (123, 422). Same as Wright 1190.

CASSIA MIMOSOIDES L. Nassau, Jan. Pods 2–2.5 cm. long, very hairy (134).

CASSIA OCCIDENTALIS L. Nassau, Jan. (105).

CASSIA POLYADENA DC. Nicol's Town, March. In the pines, strict and unbranched, 7–9 cm. in height, not as pubescent as Wright 2376.

CASSIA VILLOSA Mill. Nassau, Jan. Determined by Miss Anna Murray Vail at Columbia herbarium (14).

Cassia Caribaea sp. nov.

Shrubby, 6–9 dm. in height; stem gray, smooth: leaves 2–3.5 cm. long, with from two to four pairs of leaflets, mostly three; petiole 2–5 mm. long, channelled: a stipitate gland between the leaflets or slightly below (often wanting between the lowest pair); leaflets sessile; elliptical, 1.5–2 cm. long, about one third as wide, unequal and oblique at the base, apex mucronate, margin entire, thickish, glabrous, shining above, resinous-dotted below; veins numerous, parallel and prominent; stipules about 3 mm. in length, subulate, subspinescent, ribbed and often with appressed white hairs on the margin, persistent: flowers large, solitary, axillary: peduncle 2–3 cm. long: calyx deciduous: sepals lanceolate, acuminate, about

1 cm. long, the three outer ones keeled, keel pilose : petals yellow, oblanceolate or obovate, nearly twice as long as the sepals and about 1 cm. in width : stamens 10, the three upper difform : anthers linear, puberulous along the furrow, bursting at the top by two short clefts : ovary about 5 mm. in length, shorter than the flattened style and covered with appressed white hairs : legume purplish-brown, linear-oblong, 3-5.5 cm. long, 5-7 mm. wide, bivalved, compressed, mucronate, with a few scattered hairs : seeds about eight, oblong, compressed.

Collected in the coppet at Fresh Creek, Andros, June 10, most closely related to *C. lineata* Sw. (638).

PLATE 6. *Cassia Caribaea*. Portions of plant, natural size ; 1, leaflet.

TAMARINDUS INDICA L. "Tamarind." Fresh Creek, June ; Deep Creek, July (642, 717).

HAEMATOKYLON CAMPECHIANUM L. "Logwood." Nassau, Jan. ; Lisbon Creek, Andros. Naturalized (195).

CAESALPINIA OVALIFOLIA Urban. "Nicker-bean." Nassau, Jan. (116). Described in *Symbolae Antillanae*, 2 : 273. O. 1900.

CAESALPINIA CRISTA L. (*C. Bonducella* L.) "Nicker-tree." Nassau, Jan. (106). Both species quite common on New Providence and Andros on sandy beaches.

CAESALPINIA RUGELIANA Urban. Common in the pines. Conch Sound, March (426). Same as Wright 2364.

PELTOPHORUM ADNATUM Griseb. "Horse-bush." Upper surface of leaflets hirsute. Otherwise same as Wright 2359. Deep Creek, July (712).

POINCIANA REGIA Boj. "Poinciana," "flamboyant." Cultivated at Nassau, Mastic Pt. and Deep Creek, Andros (591).

CAESALPINIA PULCHERRIMA Sw. "Pride of Barbadoes." Cultivated at Nassau and Mastic Pt. (10).

PAPILIONACEAE

SOPHORA TOMENTOSA L. Conch Sound, March ; Deep Creek, July (411, 727). Same as Eggers 2573, but is not nearly as tomentose.

CROTALARIA PUMILA Ort. Nassau, Jan. (67). Same as Curtiss 533.

CROTALARIA RETUSA L. Nassau, Jan. 221. Same as Wright 117.

CROTALARIA VERRUCOSA L. Nassau, Jan. (54).

INDIGOFERA ANIL L. Nassau, Jan. (175).

CRACCA SCHOTTII Vail. In old field, Lisbon Creek, Andros, June (678). Agrees with specimens from Cartagena, Schott, no. 16. Determined by Miss Anna Murray Vail.

STYLOSANTHES HAMATA (L.) Taub. (*S. procumbens* Sw.) Nassau, Jan. (37).

MEIBOMIA INCANA (Sw.) Kuntze. (*Desmodium incanum* (Sw.) DC.) Nassau, Jan. Common (224).

ABRUS PRECATORIUS L. "Crab's eyes," "Black-eyed-Susan," "Wild licorice." Nassau, Jan. (239).

BRADBURYA VIRGINIANA (L.) Kuntze. (*Centrosema*.) Very common, fruit and leaves variable. Nassau, Jan.; Fresh Creek, June (82, 227, 629).

BRADBURYA VIRGINIANA ANGUSTIFOLIA (DC.) Griseb. Fresh Creek, June (756).

GALACTIA RUDOLPHIODES (Griseb) Wright. Common. Nassau, Jan.; Nicol's Town, March, April (214, 219, 395). Agrees with Wright 1181.

GALACTIA CUBENSIS H.B.K. (*G. spiciformis* T. & G.) Nassau, Jan.; Fresh Creek, June (60, 226, 648). Agrees with Wright 2332.

CANAVALIA OBTUSIFOLIA (Lam.) DC. "Horse-bean." Common on sandy beaches. Nassau, Jan.; Conch Sound, April (112, 452). Legume 2.5 cm. wide. Same as Curtiss 682, and Eggers 2724, unnamed specifically.

DOLICHOLUS MINIMUS (L.) Medic. Nassau, Jan. (215). Same as Curtiss 656.

PHASEOLUS SEMIERECTUS L. Common. Southwest Beach, N. P., Jan.; Mangrove Cay, Andros, June (329). Same as Wright 137.

VIGNA REPENS (L.) Kuntze. Nicol's Town, March (386). Same as J. Donnell Smith 181, Pl. Guat.

CAJANUS CAJAN (L.) Millsp. "Pigeon-pea." Cultivated and escaped on both islands. Nassau, Jan. (98).

DALBERGIA BROWNEI (Pers.) Kuntze. "Ti-ti." Kemp Sound, Andros, June (680).

ICHTHYOMETHIA PISCIPULA (L.) A. S. Hitch. (*Piscidia Erythrina* L.) Conch Sound, May (588). Same as Curtiss 685.

ARACHIS HYPOGAEA L. "Groundnut." Cultivated. Mastic Point, May (600).

ERYTHRINA CORALLODENDRON L. "Lightning-tree." Cultivated. Nassau (308).

OXALIDACEAE

OXALIS CORNICULATA REPENS Zucc. Nassau, Feb. (330).

OXALIS sp. Acaulescent, bulbs scaly; leaflets broadly obcordate, about 5 cm. wide and 2 cm. long; petioles 14-16 cm., a little longer than the scape: flowers pale purple, about 1 cm. wide. Near *O. latifolia* Kunth. Nassau, Feb. Probably escaped (331).

LINACEAE

Linum Bahamense sp. nov.

Suffruticose, 3-6 dm. in height, corymbosely branched, branches erect-ascending; stems sulcate: leaves numerous, alternate, sessile, appressed-ascending, whitish, linear-lanceolate, 8-11 mm. long, a little more than 1 mm. wide, one-nerved, the midrib prominent on the under side and projecting at the apex so as to form a mucro, margin entire or the younger leaves glandular-ciliate, glabrous or with a few scattered hairs at the base or along the midrib on the upper side; two dark stipular glands at the base of the leaves: flowers corymbose, numerous; pedicels short, 2 mm. in length, bracts ciliate-glandular: sepals 5, lanceolate, acuminate, 2-3 mm. long, ciliate-glandular, keeled, persistent: petals bright yellow, more than twice the length of the sepals, obovate: stamens 5, united at the base included: anthers oblong: styles 5, distinct, filiform: ovary globose, imperfectly 10-celled; ovules 10; capsule globose, 2-3.5 mm. in diameter, about as long as the calyx, splitting into 10 valves; seeds oblong, compressed, reddish-brown (204, 496).

Common in the pines on both islands. Collected at Lake Waterloo near Nassau, Jan. 25; near Southwest Beach, N. P., Feb. 26; at Red Bays on the west side of Andros, April 17; also collected in N. P. by Eggers, no. 4181.

This is related to *L. sulcatum* Riddell, but the styles are distinct, the leaves are one-nerved and the septa of the capsule are not glandular.

PLATE 7. *Linum Bahamense*. Entire plant, $\times \frac{5}{7}$; *t*, flowers and buds; *r*, sepal; *a*, petal; *s*, stamen; *u*, anther; *p*, fruit.

ERYTHROXYLON BREVIPES DC. "Rat-wood." Deep Creek, June (692). Same as Wright 2134 and Eggers 2435 unnamed specifically.

ERYTHROXYLON OBOVATUM Macf. Mastic Point, May (597). Same as Eggers 4345 from Bahama; leaves thicker and veining more conspicuous than in Wr. 2140 from Cuba.

Erythroxylon reticulatum sp. nov.

Tall shrub with slender branches: reddish-brown verrucose bark, branchlets strongly compressed: leaves oblanceolate or oblong, 2.5–3 cm. long, half as wide; broadly obtuse and mucronulate at the apex, narrowed below to a short petiole, 2–3 mm. long, glabrous, thickish, entire, dull green above, pale below, areolate, the reddish connecting veins circumscribing a central area 4–6 mm. wide; midrib reddish, prominent, veins delicate, prominent above: stipules persistent, triangular, acuminate, shorter than the petioles, reddish-brown: flowers axillary, appearing with the leaves, solitary or sometimes in pairs; pedicels 5–8 mm. long, slender below, gradually thickening and wing-angled above: calyx spreading; sepals 5, lanceolate, about one third the length of the petals: petals white, 3–3.5 mm. in length, deciduous, elliptical-oblong, slightly keeled on the back, internal scale two-lobed and contorted at the apex: stamens 10, 4–5 mm. long, exserted: filaments united over one third of the way, tube extending a little beyond the sepals: ovary oblong, 3-celled: styles 3, distinct: stigmas flattened, reddish: young drupe oblong, pointed, purplish-black, 5 mm. in length.

Collected at Deep Creek, Andros, June 27; growing in sand (682). Most nearly related to *E. arcolatum* L.

PLATE 8. *Erythroxylon reticulatum*. Portion of plant, $\times \frac{6}{7}$; *a*, flowering branch; *d*, flower without corolla; *n*, petal.

MALPIGHIACEAE

BYRSONIMA LUCIDA Rich. Common on Andros on the edge of the coppet. Our specimens resemble those from Florida more closely than they do those from the West Indian specimens; the latter all have broader, obovate, instead of oblanceolate or spatulate leaves. Nicol's Town, March (367). Same as Curtiss 501. Largest specimen seen one foot in diameter and about twenty feet in height.

MALPIGHIA SETOSA Spr. "Touch-me-not." Fresh Creek, June (737). Determined by Dr. Britton at Kew to be "the same as a specimen marked *M. setosa* by Jussieu; collected also by Brace no. 114."

A number of specimens were collected at various times which

seem to vary greatly; possibly more than one species is represented. No. 737 was collected in the pines at Fresh Creek. It was a tall shrub with whitish bark, oblong leaves, 2-3.5 cm. long, 12-20 mm. wide, entire or nearly so, hairs few on margin and under surface: inflorescence, two-flowered umbels; pedicels 8-13 mm.: flowers rosy, 12-15 mm. wide: drupe globose, furrowed.

No. 538 was a single specimen from the pines at Stafford Creek, collected in May, differs from the above in having thicker narrower leaves only half as wide, 2-3 cm. long and 8-10 mm. broad, pointed at base and apex, margin dentate or strongly denticulate. No. 538*a* is a specimen in fruit, collected at Conch Sound; leaves broader than in above, denticulate and with hairs on both sides of the leaf, 538*b*, also from Conch Sound, sent by Mr. Keith, has oval or ovate leaves 2-2.5 cm. wide, with strongly dentate margins, hairs beneath and on the margin, flowers smaller than in 737. All the above specimens differ very much from Wr. no. 99, marked *M. setosa*, in leaf only; that has leaves less than half the size of any of ours, hairy above and strongly hirsute beneath.

STIGMATOPHYLLON SAGRAENUM Juss. Not uncommon in the pines. Conch Sound, March; Red Bays, April (401-468). Same as Rugel 157.

TRIOPTERIS RIGIDA Sw. Common in the coppet. Nassau, Feb.; Conch Sound, May; Calabash Cay, Andros, June (217). Same as Wr. 96. 217*a* from Deep Creek has the leaves oblanceolate or obovate, 12-17 mm. wide; all the other specimens collected have oblong or elliptical leaves 7-10 mm. wide.

RUTACEÆ

FAGARA FLAVA (Vahl) Krug & Urban. (*Xanthoxylon cribrosum* Spreng.) "Satin-wood." Deep Creek, June (695).

FAGARA CORIACEA (A. Rich) Krug & Urban. (*Xanthoxylon emarginatum* Wright.) "Hercules' club." Common in the coppet. Nicol's Town, March; Mastic Pt., April; Deep Creek, June (372). Same as Eggers 4034, 4503, Brace 510. Carpels globose, not oblique.

FAGARA FAGARA (L.) Small. (*Fagara lentiscifolia* Willd.) Nassau, Nicol's Town (747).

SIMARUBEAE

SURIANA MARITIMA L. "Bay-cedar." Common along the shore on both islands. New Providence, Jan. (86). Same as Eggers 2728.

PICRODENDRON BACCATUM BAHAMENSE Krug & Urban. Conch Sound, April (453). Determined at Kew by Dr. Britton. Same as Eggers 4402, Brace 476.

BURSERACEAE

BURSERA SIMARUBA (L.) Sarg. "Gum-elemi," "West Indian birch." Common on both islands. Nassau, Jan.; Conch Sound, May (64, 560).

SWIETENIA MAHOGANI L. "Madeira." Nassau, Jan.; Mangrove Cay, June (137, 676). Same as Eggers 1836, Wright 1153.

POLYGALACEAE

POLYGALA BOYKINII Nutt. Common on savannas on west side of Andros. Red Bays, April (473).

POLYGALA BRIZOIDES St. Hil. Common in savannas on west side of Andros. Red Bays, April (465). Determined at Kew by Mr. A. W. Bennett — "sed racemi quandoque axillares."

POLYGALA SPATHULATA Griseb. Conch Sound, March (402). Determined by Mr. A. W. Bennett at Kew.

EUPHORBIACEAE

BUXUS BAHAMENSIS Baker. On savanna. Near the shore at Red Bays, April (460). Determined by Dr. B. L. Robinson at Gray herbarium.

PHYLLANTHUS EPIPHYLLANTHUS L. (*P. falcatus* Sw.) "Hard-head." Common on both islands. Nassau, Feb.; Nicol's Town, March (146-325). Same as Eggers 7234. Branchlets narrower than in Wright 1951. No. 146*a* and 146*b* have branchlets very narrow, 8-10 cm. long and 6-8 mm. wide, apex more acute, pedicels longer and more slender, 3 mm. in length.

PHYLLANTHUS DISTICHUS L. "Gooseberry tree." Fresh Creek, June, escaped (653).

PHYLLANTHUS NIRURI L. Nicol's Town, March (338).

PHYLLANTHUS BAHAMENSIS Urb. Lewis Coppet near Red Bays, Andros, May (488). Same as Eggers 4241, 4464.

SAVIA ERYTHROXYLOIDES Griseb. "Maiden-bush." Not unfrequent in the coppet. Fresh Creek, Deep Creek, June. In fruit only (610). Determined by Mr. M. L. Fernald.

CROTON LINEARIS Jacq. (*C. Cascarilla linearis* Jacq.) "Granny-bush." Common along the eastern shores of both islands. Nassau, Jan.; Fresh Creek, June (113, 615).

MANIHOT MANIHOT (L.) Cockerell. (*Jatropha Manihot* L.) "Sweet cassava." Cultivated and escaped. Nicol's Town, March (363).

ACALYPHA ALOPECUROIDES Jacq. Nassau, Jan. (32). Same as Wright 571.

LASIOCROTON MACROPHYLLUS Griseb. "Wild oak," "Light-wood," "Bitters." Deep Creek, June (689). Agrees with specimen of March from Jamaica except that the upper surface of the leaves is smooth instead of velvety and the apex is obtuse instead of acute.

EXCOECARIA LUCIDA Sw. "Crab-wood." Nicol's Town, March; Fresh Creek, June (375).

EXCOECARIA SAGRAEI J. Müll. Stafford Creek, Andros, May (589). Same as Wright 2006.

HIPPOMANE MANCINELLA L. "Manchineel." Not uncommon on Andros. Conch Sound, May; Fresh Creek, June (556, 622). In 662 the sap did not seem at all milky. All the herbarium specimens examined showed the leaf apex acute or acuminate, while all of ours have the apex very blunt.

BONANIA EMARGINATA DC. Fresh Creek, June (628).

PEDILANTHUS sp. ? possibly *P. angustifolius* Poit.

Shrubby, 7-9 cm. high, half-scandent with green, rather fleshy stems, very little branched. All the plants seen were destitute of leaves though alternate leaf-scars are discernible, 4-5 cm. apart; scars of the floral leaves opposite: flowers in terminal cymes; peduncles 4-5 cm. in length; involucre bright red, pubescent, about 8 mm. long, irregular, with a sharp spur at the side, 5 mm. long; spurred part of involucre with four glands at base: staminate flowers indefinite: pistillate ones exserted: style 10 mm. in length.

Collected in two localities in the coppet at Deep Creek, June (693).

Resembles *P. angustifolius* Poit. as shown by 769 Pl. Sintenis in Gray herbarium, but specimen not in good flower.

EUPHORBIA BLODGETTII Engelm. Nassau, Jan. ; Nicol's Town, March (41, 379).

EUPHORBIA BUXIFOLIA Lam. Common on sandy beaches. Southwest Beach, N. P., Jan. ; Red Bays, April (87, 457). 672, a form with leaves not appressed, was collected at Big Cabbage Creek on the west side of Andros in June. Same as Wright 2016.

EUPHORBIA CASSYTHOIDES Boiss. Rare, Deep Creek, June (702). Determined at Kew, 1897.

EUPHORBIA HETEROPHYLLA L. Common in the pines. New Providence, Jan. (96).

EUPHORBIA HETEROPHYLLA GRAMINIFOLIA Engelm. Same locality (92).

EUPHORBIA NUTANS Lag. Common. Nassau, Jan. ; Nicol's Town, March (229, 380). Our specimens agree with Professor Hitchcock's in having the upper internodes slender, especially in 229, and no dark spots on the leaves. (See Hitchcock's Report, Plants of the Bahamas, Jamaica and Grand Cayman.)

EUPHORBIA SERPENS Kunth. Nassau, Jan. (277). Same as specimen of Rugel, no. 148 marked *E. serpens* var.? Much branched, delicate, with slender wiry stems, enlarged nodes, leaves 3-4 mm. in length.

EUPHORBIA PULCHERRIMA (Graham) Boiss. "Poinsettia." Nassau, common in cultivation.

EUPHORBIA ANTIQUORUM L. Nassau, cultivated.

HURA CREPITANS L. "Sand-box tree." Nassau, cultivated.

ANACARDIACEAE

METOPIMUM METOPIMUM (L.) Small. "Poison-wood." Common in the coppet on both islands. Nassau, Jan. ; Conch Sound, May (70, 552). Same as Wright 2287, Curtiss 448.

MORINGACEAE

MORINGA MORINGA (L.) Small. "Horse-radish tree." Nassau, cultivated (310).

CELASTRACEAE

ELAEODENDRUM XYLOCARPUM DC. Nassau, Jan. (71). In fruit only. Determined by Mr. M. L. Fernald, Cambridge.

MAYTENUS BUXIFOLIUS (Rich.) Griseb. Fresh Creek, June.

Differs from Wr. 2215 and all other specimens examined in having the leaves narrower and more spatulate, 2–2.5 cm. long, 6–9 mm. wide (626).

CRASSOPETALUM PALLENS (Smith). (*Myginda pallens* Smith.) Cocanut Point, April; Deep Creek, June (447, 718). Like Eggers 4140 and 4438 from New Providence, "put with *M. pallens* at Kew." Differs from the Florida specimens in having much narrower leaves, oblanceolate or spatulate, 2–2.5 cm. long, 4–9 mm. wide.

***Crassopetalum coriaceum* sp. nov.**

Low shrub: branches ascending, bark grayish; branchlets tetragonal, ends somewhat wing-angled: leaves numerous, opposite, subsessile, coriaceous, broadly oblanceolate, 1.5–2 cm. long, about 1 cm. wide, apex obtuse or sometimes slightly retuse, base cuneate, margin entire, somewhat revolute, veins inconspicuous: flowers minute, reddish, in axillary subsessile cymes, 2–5-flowered; pedicels 1–2 mm. in length, jointed; pedicels and calyx puberulous: calyx campanulate, persistent; lobes 4, rounded, reddish, obtuse: petals 4, orbicular, longer than the calyx, spreading or at length reflexed: stamens 4, inserted on the edge of the disk; filaments subulate; anthers small, globose: ovary immersed in the disk, globose: style short: stigmas 4: fruit a red drupe, slightly obovate, about 3 mm. in length, one-celled, one-seeded (480).

PLATE 9. *Crassopetalum coriaceum*. Portion of plant $\times \frac{5}{8}$; s, stamens; n, ovary; a, fruit.

Collected on the savannas at Red Bays. Andros, April. Allied to *C. pallens* (Smith), but differs in having thicker entire leaves and smaller subsessile cymes.

SCHAEFFERIA FRUTESCENS Jacq. Deep Creek, June (697). Same as Wright 77.

ILICACEAE

ILEX KRUGIANA Loes.; Engler's. Bot. Jahrb. 15: 317. Conch Sound, May. Upper surface of the leaves shining, apex acute (553). Same as Cooper's 17 from New Providence, and Eggers 1889 from St. Domingo (unnamed).

SAPINDACEAE

SERJANIA DIVERSIFOLIA Radlk. "Fowl-foot vine." Common. Conch Sound, May; Fresh Creek, Deep Creek, June (578, 687). Same as Wright 109.

SERJANIA SUBDENTATA Juss. & Poir. "Fowl-foot vine." Common in the coppet. New Providence, Jan.; Fresh Creek, June (236). Same as Wright 2162.

CARDIOSPERMUM HALICACABUM L. "Balloon vine." Nassau, Jan. (237).

THOUINIA DISCOLOR Griseb. "Quicksilver bush." Nicol's Town, March; Conch Sound, May; Deep Creek, June (368, 590, 686).

EXOTHEA PANICULATA (Juss.) Radlk. Nicol's Town, March (392). Same as Wright 1169.

HYPELATE TRIFOLIATA Sw. "Ebony." Deep Creek, June (690). Same as Wright 2171.

ALVARADOA AMORPHIOIDES Liebm. Nassau, Jan. (145). Same as Wright 2189.

RHAMNACEAE

KRUGIODENDRON FERREUM (Vahl) Urban. (*Condalia*.) Fresh Creek, June (611).

REYNOSIA NORTHROPIANA Urban, Symb. Ant. 3: 315. 1902.

PLATE 10. *Reynosia Northropiana*. Portion of plant $\times \frac{4}{3}$; *e*, flower; *m*, interior of calyx showing stamens and petals; *a*, stamen and petal; *n*, petal; *d*, pistil.

Red Bays on the west side of Andros, April 23, and at Nicol's Town on the east side, April 28 (510).

REYNOSIA LATIFOLIA Griseb. Common on border of swash on west side of Andros. Purser Point, June (661).

COLUBRINA FERRUGINOSA Brongn. "Bitters." Deep Creek, June (684). Same as Wright 1139.

GOUANIA DOMINGENSIS L. "Chew-stick." Common on both islands. Nassau, Jan. (69).

VITACEAE

VITIS ROTUNDIFOLIA Michx. Common. Conch Sound, May (559).

CISSUS MICROCARPA Vahl. "Bull-vine." Common in the southern part of Andros. Deep Creek, June (694). Same as Wright 72.

CISSUS SICYOIDES L. Conch Sound, May (582). Same as Wright 74.

CISSUS, sp. "Bull-vine." Quite common in the northern part of Andros. Conch Sound, March, May (398). Same as Wright 3514.

PARTHENOCISSUS QUINQUEFOLIA (L.) Planch. (*Ampelopsis quinquefolia* (L.) Michx.) Carmichael, New Providence, Feb. (322). Single specimen.

TILIACEAE

TRIUMFETTA SEMITRILOBA L. Common about Nassau. Jan. (4, 47).

CORCHORUS HIRSUTUS L. Common on both islands. Nassau, Jan.; Nicol's Town, March (202). Same as Wright 2091.

CORCHORUS SILIQUOSUS L. Common about Nassau; very variable in the size of the leaves. Nassau, Jan. (139, 222).

MALVACEAE

SIDA CARPINIFOLIA L. Common. Nassau, Jan. (35). A very strict form with crenate leaves found at Nicol's Town, April (433).

SIDA SUPINA L'Her. Nassau, Feb. (306).

ABUTILON CRISPUM (L.) Medic. Nicol's Town, March (370).

PAVONIA SPICATA Cav. (*P. racemosa* Sw.) Collected by Mr. Alexander Keith at Conch Sound, 1891 (736).

HIBISCUS CRYPTOCARPUS Rich. "Wild cotton." Nicol's Town, March; Deep Creek, June (397). Same as Wright 1575.

HIBISCUS ESCULENTUS L. "Gumbo," "okra." Conch Sound, May. Cultivated and escaped (549).

HIBISCUS TILIACEUS L. Not uncommon along the east coast of Andros. Conch Sound, May (564). Same as Eggers 2632.

CEIBA PENTANDRA (L.) Gaertn. (*Eriodendron anfractuosum* DC.) "Silk-cotton tree," "Ceiba." Nassau, cultivated and escaped? Nassau, Jan. (152).

STERCULIACEAE

HELICTERES SEMITRILOBA Bertero. Fresh Creek, June (664).

Helicteres spiralis sp. nov.

A tall shrub; young branches and leaves tawny tomentose: leaves lance-ovate, acute, unequal and cordate at base, 6–9.5 cm. long, 2.5–4 cm. wide, 3–5-ribbed, margin crenulate-denticulate, sometimes with a few large teeth, upper surface pubescent, under tomentose, hairs tawny, stellate: petiole about 1 cm. in length: stipules subulate: inflorescence fascicled, few-flowered; peduncles 1.5–2 cm. long; pedicels glandular at base: calyx campanulate,

1.5–2 cm. long, slightly bilabiate, unequally 5-toothed; lobes acute, densely tomentose, about one fourth the length of the column: petals 5, white, hortly exceeding the calyx, oblong, clawed, subequal, the lower auricled near the base: column 7–8 cm. in length, declined, covered with long mostly simple hairs: stamens 10, arranged in pairs; anthers divergent-oblong; staminodia 5, ligulate: ovary tomentose, 5-celled: styles united, thickened at the apex: pod twisted, oblong, about 4.5 cm. in length: convolutions about ten, tomentose or at length glabrous.

Collected near the mouth of Fresh Creek, Andros, June; also collected at Conch Sound by Mr. Alexander Keith, 1891 (645).

PLATE II. *Helicteres spiralis*. Portions of plant in flower and fruit $\times \frac{1}{2}$ nearly.

MELOCHIA NODIFLORA Sw. Nassau, Jan. (45). Same as Wright 39.

MELOCHIA TOMENTOSA L. Common on both islands. Nassau, Jan.; Nicol's Town, March (253). Same as Wright 40; same as Eggers 1991.

WALTHERIA AMERICANA L. Common on both islands; very variable. Nassau, Jan.; Nicol's Town, March (89, 230, 429).

W. AMERICANA var. ? (136, 207). Collected at two different stations in Nassau, differing from all specimens examined in having leaves smaller, 1–2 cm. long, 7–13 mm. wide; marginal teeth not as acute, and in having both leaves and stems covered with stellate hairs; plant tall, less stout than the type.

HYPERICACEAE

ASCYRUM HYPERICOIDES L. Common in the pines on both islands. Nassau, Jan.; Conch Sound, May (323). Same as Wr. 2129 and Eggers 2047 (unnamed).

BIXACEAE

Xylosma ilicifolia sp. nov.

Shrub 2–3 m. in height; bark grayish, verrucose; usually armed with slender spines 1–4 cm. long, spines often much branched: leaves alternate, variable in shape, oval, oblanceolate or obovate, 2–3 cm. in length, 1–2 cm. wide, coriaceous, shining above, apex acute and strongly mucronate (or sometimes obtuse), margin entire or frequently with one to three large, mucronate teeth on the upper half of the leaf, base cuneate or sometimes obtuse; petiole 1–2 mm. in length: flowers dioecious, minute: staminate greenish, in axillary fascicles of 5–6, very short-pedi-

celled ; bracts minute, ciliate : sepals 4-5, ovate, ciliate at apex : stamens 8-10 ; filaments recurved, longer than the anthers ; anthers globose ; disk annular : pistillate flowers 2-3 in a cluster ; pedicels about 1 mm. in length : sepals 4, lanceolate, ciliate towards the apex : pistil more than twice the length of the sepals, about 1 mm. long : ovary globose : styles two thick, short : stigmas two : disk annular : berry globose, bluish-black, about 5 mm. in diameter, one-celled and four-seeded (124, 388).

Collected at Nassau, Jan.; Nicol's Town, Andros, March 27 and April 9; Fresh Creek, June 10. It is the same as Cooper's 13 from New Providence, marked in pencil by Gray "*Xylosma infestum* ?"; also collected by Gov. Robinson 322 ; Brace 98 and Eggers 446. Seems to be between *X. infestum* Griseb. and *X. buxifolium* A. Gray ; differs from the latter in having the upper surface of the leaves shining, apex mucronate, sepals ciliate, petioles and pedicels shorter, and in the shape and margin of the leaves.

PLATE 12. *Xylosma ilicifolia*. Portion of plant, $\times \frac{3}{4}$; *n*, fruit ; *bb*, flower ; *a*, sepal ; *c*, stamens ; *e*, ovary.

CANELLACEAE

CANELLA WINTERANA (L.) Gaertn. (*C. alba* Murray.) "Wild cinnamon," "Bahama whitewood bark." Not uncommon. Nassau, Jan.; Deep Creek, June (79, 708). Same as Wright 2122.

TURNERACEAE

TURNERA ULMIFOLIA L. Common on both islands. Nassau, Jan. (57). Same as Wright 209.

PASSIFLORACEAE

PASSIFLORA ANGUSTIFOLIA Sw. Nicol's Town, Conch Sound, March (389, 427).

PASSIFLORA CUPREA L. "Wild watermelon." Common on both islands. Nassau, Salt Cay, Jan.; Nicol's Town, March (121, 243).

PASSIFLORA MINIMA L. Common. Nassau, Jan.; Salt Cay, Conch Sound, March (216, 242, 428). Same as Wright 1245.

PASSIFLORA MULTIFLORA L. Nicol's Town, March (374). Determined at Kew by Dr. Masters.

PASSIFLORA PECTINATA Griseb. Common on Andros in the pines. Nicol's Town, Conch Sound, March ; Red Bays, April (391.)

Determined at Kew by Dr. Masters, who noted, "I do not like to separate this from *P. pectinata*, though it differs." The following constant characteristics were found in all the specimens collected. Leaves deeply contracted below the middle with marginal stipitate glands; petiole with a few stipitate glands towards apex; peduncles as long or longer than the leaves; leaflets of involucre bipinnatifid, secondary segments long-setaceous; excurrent in a gland; calyx segments ovate-lanceolate; petals oblong; tendrils longer than the leaves.

CARICACEAE

CARICA PAPAYA L. "Papaw." Deep Creek, July. Cultivated (132).

CACTACEAE

CEREUS SWARTZII Griseb. "Dildo." On borders of creeks in the southern part of Andros. Deep Creek, June (699). 4 mm. in height, 7.5-10 cm. in diameter.

OPUNTIA SPINOSISSIMA Mill. Along the shore. Fresh Creek, June (652).

OPUNTIA TUNA (L.) Mill. Along the shore. Fresh Creek, June (633).

LYTHRACEAE

PARSONSIA PARSONSIA (L.) Britton. (*Cuphea Parsonsia* (L.) R. Br.) Near Southwest Beach, N. P., Feb. (318). Same as Eggers 1657.

RHIZOPHORACEAE

RHIZOPHORA MANGLE L. "Mangrove." Common on both islands; the chief vegetation of the swash. Nassau, Jan. (193).

MYRTACEAE

CALYPTRANTHES PALLENS Griseb. "White stopper." Common in the coppet. Fresh Creek, Deep Creek, June (641).

MYRTUS PUNCTATA Griseb. (*Ananomis*.) "Naked wood." Deep Creek, June (696).

EUGENIA AXILLARIS (Sw.) Willd. "Stopper." Deep Creek, June (707).

EUGENIA LONGIPES Berg. Red Bays, April; Conch Sound, May (471). Same as Curtiss (985) from Florida.

EUGENIA MONTICOLA DC. Deep Creek, July. In fruit only (725). Same as Curtiss 987.

EUGENIA sp.? Near *E. longipes* Berg.

A tree with smooth white bark, branchlets slender, smooth; leaves thick, at length leathery, pale-green, shining above with pellucid dots; oblanceolate or elliptical, obtuse, mostly cuneate at base, 10–17 mm. long, 5–7 mm. wide; petioles 1–2 mm., veining indistinct: flowers solitary or in pairs on long slender pedicels, 2–2.5 cm. long, bibracteolate; bractlets oblong, about equalling the calyx lobes. Flowers smaller than in *E. longipes*. In general appearance the tree resembles *Myrtus punctata* except that the leaves are smaller.

A single tree seen in the coppet at Deep Creek, July (722).

PSIDIUM GUAYAVA L. “Guava.” Common in cultivation. Nassau, Conch Sound (579).

COMBRETACEAE

CONOCARPUS ERECTA L. “Button-wood.” Abundant on both islands. Nassau, Jan.; Cocoanut Point, May (53, 298).

CONOCARPUS ERECTA SERICEA Fors. Nassau, Cocoanut Point (81, 532). Same as Eggers 2608. At Cocoanut Point, both the glabrous type and the variety were growing together with no intermediate forms.

LAGUNCULARIA RACEMOSA (L.) Gaertn. “Bastard buttonwood.” Common, especially in the swash. Fresh Creek, June (594).

***Terminalia spinosa* sp. nov.** “Brier tree,” “Prickly tree”

A low, spreading, flat-topped tree, height about 5 meters, 1.5–2 dm. in diameter; bark lightish, ridged: branches horizontal; branchlets divaricate, spiny: leaves fascicled, subsessile, oblanceolate or spatulate, 1–1.5 cm. long, 4–6 mm. wide, thick, glabrous, yellowish-green below, obtuse or retuse at the apex, tapering into a short petiole at base (1–2 mm.), margin entire, slightly revolute; spines axillary, slender, 3–7 mm. in length, mostly in threes at the end of the branchlets: flowers small, greenish, growing in axillary spikes, the 5–7 flowers approximate, so as to resemble a head; peduncle 6–10 mm.; bracts small, ovate: calyx valvate, tube 1–2.5 mm. long, prolonged beyond the ovary, constricted above it, limb campanulate, subtruncate, 1–2 mm. long, with 5 small teeth, villous within, deciduous, disk of 4 brownish, villous, two-lobed glands at mouth of calyx tube: stamens 8 (9), ex-

sented, about 3 mm. in length, alternate ones inserted lower down on the calyx, filaments slender: anthers cordate: ovary 1-celled: ovules 3, flask-shaped or oblong, suspended from the top of the cell: style simple, equalling or slightly exceeding the stamens, subulate, a little thickened at base, villous: stigma simple: young fruit ovoid. Foliage closely resembling that of *T. angustifolia* but inflorescence very different.

A few monstrous flowers were found like those described by Grisebach as occurring in *Bucida Bucas* L. Collected on the savannas at Red Bays in April and near the source of Fresh Creek in June, no. (502).

PLATE 13. *Terminalia spinosa*. Portion of plant, natural size; *n*, cluster of flowers; *a*, flowers showing disk; *p*, stamen.

BUCERAS CATAPPA (L.) A. S. Hitch. "Almond tree." Nassau, Jan. Cultivated.

MELASTOMACEAE

TETRAZYGIA BICOLOR (Mill.) Cogn. (*T. elacagnoides* DC.) Common in the pines on both islands. Nassau, Jan.; Conch Sound, May (127). Same as Wright 1222.

ONAGRACEAE

JUSSIAEA SUFFRUTICOSA L. Near Southwest Beach, N. P., Feb. (320). Same as Wr. 159.

SAMYDACEAE

CASEARIA LAETIOIDES (Rich.) Cocoanut Pt., Andros, April (514). Same as Wright 1108.

CASEARIA BAHAMENSIS Urban. Nicol's Town, March, April (384). Distributed as *Thioidia serrata* Endl.

BANARA RETICULATA Gris. Conch Sound, May (558). Same as Wr. 1882. Determined at Kew by Dr. N. L. Britton.

UMBELLIFERAE

HYDROCOTYLE PYGMAEA Wright. Red Bays, Conch Sound, April (499, 524). Determined at Gray herbarium by Mr. J. M. Greenman.

CENTELLA ASIATICA (L.) Urban. (*Hydrocotyle Asiatica* L.) In low ground in the pines. Red Bays, April (494).

ANETHUM GRAVEOLENS L. "Dill-seed." Nicol's Town, April. Escaped (438).

MYRSINACEAE

RAPANIA GUYANENSIS Aubl. (*M. Floridana* A. DC.) Nicol's Town, March (387).

ICACOREA PANICULATA (Nutt.) Sudw. (*Ardisia Pickeringia* T. & G.) "Stopper-tree." New Providence, Jan. (234). Same as Curtiss 1799.

JACQUINIA KEYENSIS Mez. "Joe-bush," "iron wood." Common on the cays and along the eastern shores of both islands. Rose Island, N. P., Feb.; Fresh Creek, June; Mars Bay, July (251). A new species described in *Symbolae Antillanae*, 1890.

PRIMULACEAE

SAMOLUS EBRACTEATUS Kunth. Common on the savannas at Red Bays, April (478).

PLUMBAGINACEAE

PLUMBAGO SCANDENS L. Common about Nassau, Jan. (11).

SAPOTACEAE

CHRYSOPHYLLUM OLIVIFORME Lam. "Saffron-tree." In the pines on both islands. New Providence, Feb. (262).

BUMELIA CUBENSIS Griseb. London Creek, Andros, May. In fruit only. "Rather small-leaved." Determined by Dr. B. L. Robinson, Gray herbarium (544).

BUMELIA MICROPHYLLA Griseb. In the swash on the west side of Andros. In fruit only. Purser Pt., June (666). Same as Brace 234 and Eggers 4418. Determined by Dr. Britton at Kew.

LUCUMA PAUCIFLORA A. DC. "Egg fruit." Deep Creek, June (703). Same as Wright 346.

SIDEROXYLON MASTICHODENDRON Jacq. In fruit. Cocoanut Pt., Andros, April (450). Same as Wright 1324.

DIPHOLIS SALICIFOLIA A. DC. "Wild cassada," "bustic." Common in the coppet on both islands. Nassau, Feb.; Fresh Creek, June; Deep Creek, July (326). Same as Eggers 4106.

MIMUSOPS DISSECTA R. Br. "Wild sapodilla." Common near the shore on both islands. Hog Island, N. P., Feb. (263).

MIMUSOPS FLORIDANA Engelm. "Wild sapodilla." Conch Sound, May; Deep Creek, July (734). Same as Curtiss 1766. Determined at Kew by Dr. N. L. Britton.

ACHRAS SAPOTA L. "Sapodilla." Common in cultivation. Nassau (42).

EBENACEAE

MABA CARIBAEA (A. DC.) Hiern. (*Macreightia*.) Fresh Creek, June (640). Same as Wright 1331.

OLEACEAE

ADELIA PORULOSA (Poir.) Engler. Savannas back of Red Bays. April (511). Determined by Dr. B. L. Robinson, Gray herbarium.

ADELIA sp. Coppet, Conch Sound; May. Staminate flowers only. Near *A. porulosa*, but leaves are broader, 1.5–2 cm. wide, 5 cm. long, more tapering at the base and apex; veins inconspicuous, not shining above; filaments broader (589).

LOGANIACEAE

SPIGELIA ANTHELMIA L. Mastic Pt., May (599). Same as Wright 390.

CYNOCTONUM MITREOLA (L.) Britton. (*Mitreola petiolata* T. & G.) In savannas on the west side of Andros. Differs from all specimens examined in having the branches of the cymes much more divergent, and the inflorescence scarcely, if at all, unilateral. Red Bays, April (492).

CYNOCTONUM SESSILIFOLIA (T. & G.) Britton. 12–15 cm. in height, strict, leaves rather rigid, 0.5–1 cm. in length, like specimen from East Florida collected by Palmer, no. 436; also like specimen from Key West (573). In savannas on west side of Andros, Red Bays, April.

GENTIANACEAE

EUSTOMA EXALTATUM Griseb. Abundant in the savannas on the west side of Andros; occurs sparingly elsewhere. New Providence, Jan.; Red Bays, April (201, 456).

SABBATIA CAMPANULATA (L.) Torr. (*S. gracilis* Salisb.) Quite common on both islands. On New Providence growing in sand near the shore; on Andros on the savannas near Red Bays and also near fresh water in the interior. Very variable, flowers often white. Hog Island, N. P., Feb.; Red Bays, April; Stafford Creek, May (322, 464, 744).

VOYRIA MEXICANA Griseb. Conch Sound, March (415).

APOCYNACEAE

VINCA ROSEA L. Nassau, Jan. (111).

PLUMIERA OBTUSA L. "Frangipani," "milkweed." Not uncommon near the shore. Fresh Creek, June (651).

ECHITES ANDREWSII Chapm. "Wild unction." Common. Conch Sound, April, May (522).

ECHITES BIFLORA Jacq. Conch Sound. Collected by Mr. Alexander Keith, 1892 (740). Same as Eggers 2676.

ECHITES SAGRAEI A. DC. Common. Nassau, Jan.; Conch Sound, March; Red Bays, April (128, 431, 461).

ECHITES UMBELLATA Jacq. "Devil's potato-root," "dream-vine." Very common and variable; leaves range from lanceolate to orbicular, 2-10 cm. in width. Nassau, Jan.; Conch Sound, March; Red Bays, April; Deep Creek, June (61, 403, 673).

PLUMIERA RUBRA L. "Frangipani," "jessamine tree." Mastic Paint (601).

THEVETIA THEVETIA (L.) Millsp. Cultivated at Nassau (75).

ASCLEPIADACEAE

ASCLEPIAS CURASSAVICA L. Common about Nassau, Jan. (21).

METASTELMA BAHAMENSE Griseb. Conch Sound, March (410).

Metastelma barbatum sp. nov.

Stem smooth, twining: leaves linear or linear-lanceolate, occasionally oblong, 1-2.5 cm. in length, 2-3 mm. in width, apex cuspidate or obtuse and mucronate, occasionally acute, base obtuse, margin entire, slightly thickened, midrib prominulous on the under side; petioles 2-3 mm.: umbels five- to eight-flowered; peduncle 1-1.5 mm.; pedicels about 1 mm.: calyx lobes smooth, ovate, obtuse, about one fourth the length of the corolla: corolla greenish-white, urceolate-campanulate: petals lanceolate-oblong, obtuse, united about one third of the way, the upper third densely villous within and with a few scattered hairs in the center of the petal below, crown segments attached to the base of gynostegium and of the corolla, equalling the column in length, somewhat incurved, ligulate, bifid at the apex, teeth often unequal, rarely obtuse: gynostegium about half as long as the corolla: stigma depressed: follicle slender, acuminate, 3 cm. in length (474).

PLATE 14. *Metastelma barbata*. Portion of plant; *e*, crown; *a*, calyx and pistil; *c*, petals; *h*, part of gynostegium; *p*, pollinia.

A low, twining plant, common on the savannas near Red Bays on the west side of Andros, April 15. The same as a specimen at Kew collected by Governor Robinson in the pine barrens of New Providence, April, 1877.

The species is closely related to *Metastelma Blodgettii* Gray, but differs in having no lines of pubescence on the stem, umbels 5-8-flowered, peduncles and pedicels shorter and the flowers smaller with the calyx shorter in proportion to the corolla, scales of the crown slightly incurved, broader and toothed at the apex.

METASTELMA PALUSTRE Schltr. (*Scutera maritima* Decsn.) Hog Island, N. P., Feb.; Red Bays, April (333, 475).

CONVOLVULACEAE

IPOMOEA BATATAS Lam. "Sweet potato." Cultivated and escaped on both islands. Nassau, Jan. (77, 223).

IPOMOEA CATHARTICA Poir. Nassau, Jan. (220). Determined by Dr. Britton at Kew.

IPOMOEA COCCINEA L. Nassau, Jan. (120).

IPOMOEA COMMUTATA R. & S. Nassau, Jan. (231).

IPOMOEA FASTIGIATA Sweet. Nicol's Town, April (518). Compared at Kew by Dr. Britton. Same as Eggers 4370, 4541 from Bahama.

IPOMOEA HEPTAPHYLLA Griseb. In the pines. Conch Sound, May (569). Same as Wright 1371.

IPOMOEA JAMAICENSIS Don. "Glory-morning." Common and very variable. Nassau, Feb.; Conch Sound, April; Fresh Creek, June; Mars Bay, July (77, 254, 451, 623, 710). Determined by Dr. Britton at Kew.

IPOMOEA GRANDIFLORA Lam. (*I. longiflora* R. Br.) On sandy beaches. Salt Cay, N. P., Jan.; Deep Creek, June (244).

IPOMOEA PES-CAPRAE (L.) Sweet. "Bay-hop." Very common on sandy shores on both islands. Cocconut Point, Andros, May (533).

IPOMOEA REPANDA Jacq. (*I. arenaria* Steud.) Common in the pine-yard. Conch Sound, March (394, 404). Same as Wright 3102. No. 394 has the leaves deeply cordate at base.

IPOMOEA SIDIFOLIA Chois. "Christmas gambol," "Christmas-flower." Common about Nassau. Nassau, Jan. (13).

IPOMOEA SINUATA Ort. (*I. dissecta* Pursh.) Common in the coppet on both islands. Nassau, Jan.; Fresh Creek, June (16, 76).

IPOMOEA TRILOBA L. Conch Sound, March; Fresh Creek, June. Leaves 1.5–2 cm. long, plant smaller and more delicate than any specimens examined; closely resembles an unnamed specimen of Blodgett's from Key West, in Torrey herb. (423).

JACQUEMONTIA JAMAICENSIS (Jacq.) Hall. Common on both islands. Nassau, Jan. (135).

JACQUEMONTIA VERTICILLATA (L.) Urban. Conch Sound, March (424). Same as Wright 455.

EVOLVULUS ARBUSCULA Poir. Fresh Creek, June (607). Resembles Wright 1658; differs from Wright 456 in being more slender, not as erect, flowers smaller, 3–4 mm., white; calyx and corolla sericeous; calyx shorter, about 1.5 mm. long. Plant about 6 dm. in height, leaves 1–2 mm. long.

DICHONDRA REPENS Forst. Nassau, Jan. (172). Same as Wright 459.

CUSCUTACEAE

CUSCUTA AMERICANA L. Growing on shrubs in low ground. Red Bays, April (497). Same as Wright 1659.

HYDROPHYLLACEAE

NAMA JAMAICENSE L. Nassau, Jan. (166).

BORAGINACEAE

CORDIA ANGUSTIFOLIA R. & S. Fresh Creek, June (619). Agrees with Wright 3114 except in having spatulate leaves and surface much less pubescent.

CORDIA LIMA R. & S. "Granny-bush." Common on Andros. Nicol's Town, March (376). Ex. desc.

CORDIA SEBESTENA L. Common along shore on both islands. Same as Cooper 52; agrees with Wr. 3554 except in the shape of the leaves. All the Bahaman specimens examined have the leaves oval instead of ovate (107).

BOURRERIA HAVANENSIS (Willd.) Miers. "Strong-back." Common on both islands in the pines and coppet. Nassau, Jan.; London Creek, May; Fresh Creek, June (74, 542).

TOURNEFORTIA GNAPHALODES (Jacq.) R. Br. Common on sandy beaches on both islands. Nassau, Jan. (63).

TOURNEFORTIA VOLUBILIS L. Nassau, Jan. ; common on both islands (212).

HELIOTROPIUM CURASSAVICUM L. Nassau, Jan. ; Middle Bight, Andros, June (198).

HELIOTROPIUM PARVIFLORUM L. Nassau, Jan. (24).

***Heliotropium nanum* sp. nov.**

Low, shrubby, corymbose-branching, 8–11 cm. high, branches erect-ascending, entire plant strigose-canescant: leaves numerous, appressed, alternate, sessile, about 2 mm. long and 1 mm. wide, elliptical-oblong in shape, acute, margin entire: flowers scattered, solitary, sessile, about as long as the leaves and opposite them: calyx persistent, segments 5, imbricate, slightly unequal, lanceolate, acute, about 1 mm. in length, strigose-canescant: corolla white, campanulate, shortly exceeding the calyx, hairy on the outside, lobes 5, ovate-oblong: stamens inserted about the middle of the corolla tube; anthers lanceolate, appendiculate appendage almost as long as the anther; disk flat: ovary free, globose: style short: stigma annular with a conical tip: fruit depressed-globose, separating into four one-seeded, hairy nutlets: seeds curved (757).

Collected at Red Bays on the savannas. In flat, rather marly ground near the shore.

VERBENACEAE

LANTANA CAMARA L. Not uncommon. Nassau, Jan.; Red Bays, April (129, 490).

LANTANA CROCEA Jacq. Nicol's Town, March; Conch Sound, May (352, 561). 352 has larger leaves, 3.5–4.5 cm. in length, and shorter peduncles (1.5–2 cm.) and may be *L. polyacantha* Schauer, as it much resembles a specimen collected by Eggers at St. Thomas and so named by Watson.

LANTANA INVOLUCRATA L. "Wild sage," "big sage." Common on both islands. Fort Montague, Nassau, Jan. (56).

LIPPIA CANESCENS Kth. Nassau, Jan. (114).

LIPPIA NODIFLORA (L.) Michx. Hog Island, N. P.; Red Bays, April (250, 481). Same as Eggers 1537, St. Domingo (unnamed).

ABENA JAMAICENSIS (L.) A. S. Hitch. (*Stachytarpha* Vahl.) Roadsides, Nassau, Jan. (19).

CITHAREXYLUM BERTERII Spreng. Calabash Cay, Andros, June (608). Leaves much longer than in Wright (1356), 10–12 cm. long, 1–2.5 cm. wide.



Heliotropium nanum. a, Plant $\times \frac{4}{3}$; b, ovary; c, calyx.

CITHAREXYLUM LUCIDUM Cham. & Schlecht. Leaves oblanceolate, cuneate at base shining and leathery when old, apex obtuse or emarginate, corolla puberulous, raceme erect in fruit. Conch Sound, May (571).

DURANTA REPENS L. (*D. Plumieri* Jacq.) Common on both islands. Nassau, Jan. (39).

PETITIA DOMINGENSIS Jacq. Nicol's Town, March (358). Compared at Kew by Dr. Britton. Same as Eggers 4203 and Robinson 55.

VITEX ILICIFOLIA Rich. Fresh Creek, June (625). Determined at Kew by Dr. Britton. Same as Wright 3180.

AVICENNIA NITIDA Jacq. "Salt bush," "black mangrove." Common in the swash and along the shore. Mastic Point, May (593).

OVIDEA FRAGRANS (W.) A. S. Hitch. (*Clerodendron*). "Wild jessamine." New Providence, along the roadside. Naturalized. Feb. (328).

OVIDEA ACULEATA (L.) A. S. Hitch. Nassau, March. Escaped? (296).

LABIATAE

MICROMERIA BROWNEI Benth. Conch Sound, April (526). Petioles 4-5 mm., equalling or exceeding the leaves and peduncles : under surface of leaves and stem purplish.

SALVIA OCCIDENTALIS Sw. New Providence, Feb. (265).

SALVIA SEROTINA L. Silver Cay, Nassau, Jan. (157).

LEONURUS SIBIRICUS L. Common about Nassau, Jan. (2).

LEONOTIS NEPETAEFOLIA (L.) R. Br. Nassau, Jan. (31).

TEUCRIUM CUBENSE L. Nassau, Jan. (108).

MESOPHAERUM PECTINATUM (Poit.) Kuntze. Red Bays, Andros, April (505).

SOLANACEAE

SOLANUM ACULEATISSIMUM Jacq. Nassau, Jan. ; Fresh Creek, June.

SOLANUM BAHAMENSE L. "Cankerberry." Common on both islands. Variable. Nassau, Jan. ; Salt Cay, Jan. (174, 241). 174 has prickles on both veins and midrib of the leaves as well as on the stems while 241 is entirely unarmed and has racemes 10-12 cm. long, recurved at the apex.

SOLANUM NIGRUM L. Nassau, Jan. (126, 228).

SOLANUM NIGRUM NODIFLORUM Gray. Conch Sound, May ; Fresh Creek, June (557, 614).

SOLANUM VERBASCIFOLIUM L. "Salve-bush." Common on both islands. Nassau, Jan. (131).

PHYSALIS ANGULATA L. Fresh Creek, June (616).

PHYSALIS BARBADENSIS Jacq. Conch Sound, March (421).

CAPSICUM BACCATUM L. "Bird-pepper." Hog Island, N. P., Feb. (256).

CESTRUM PALLIDUM Lam. Nicol's Town, April (432).

DATURA METEL L. Deep Creek, June. Probably escaped (700).

SCROPHULARIACEAE

ANTIRRHINUM ANTIRRHINIFLORA (Willd.) A. S. Hitch. (*A. maurandioides* Gray.) Nassau, Jan. Probably escaped (95).

RUSSELIA JUNCEA Zucc. Escaped. Nassau, Jan. (122).

STEMODIA MARITIMA L. Nassau, Jan. (265).

CAPRARIA BIFLORA L. Common on both islands. Nicol's Town, March (27, 381).

BUCHNERA ELONGATA Sw. Common on savannas on the west side of Andros. Red Bays, April (467).

GERARDIA MARITIMA Raf. Common on savannas on west side of Andros. Red Bays, April; Purser Point, June. Variable (751).

GERARDIA PURPUREA L. 4-4.5 dm. in height, mostly simple and strict. Red Bays, April (459).

LENTIBULARIACEAE

UTRICULARIA FOLIOSA L. Stafford Creek, Andros, May. "No certain determination possible without flowers: the bladders appear like those of *U. foliosa* which is common in the West Indies." Dr. Thomas Morong (543, 547).

UTRICULARIA GIBBA L. Stafford Creek, Andros, May. No flowers. "Leaves and bladders much resemble those of *U. gibba*, which occur in Florida." Dr. Thomas Morong (548).

PINGUICULA PUMILA Michx. Rare; on the edge of the swash on the west side of Andros. Red Bays, May (572).

BIGNONIACEAE

TECOMA LEPIDOPHYLLA Griseb. Purser Point, Andros, June (660). Same as Wright 1341.

TECOMA sp.

Medium-sized shrub, twigs rusty-lepidote: leaves digitate, with three or five leaflets; petioles 1-2 cm. long, channelled above, spar-

ingly rusty-lepidote ; petiolules 2.5 mm. long, central, one half as long again as the lateral : leaflets 2.5–4.5 cm. long, 1.5–2.5 cm. broad, obovate or oval, retuse or emarginate and mucronate at apex, obtuse and usually unequal at base, margin crenulate ; veins prominent below : leaves thick, sparingly lepidote above : scales abundant beneath, the larger ones rusty, giving the under surface a slightly brownish tint : flowers not seen : calyx bilabiate, rusty-lepidote, at length deciduous, 7–10 mm. in length ; lobes acute : capsule linear, pointed, subcompressed, 6–9 cm. long, rusty-lepidote : valves slightly keeled.

Collected at Long Ridge Cay, Andros, June 20 (758).

***Tecoma Bahamensis* sp. nov. "Beef-bush"**

A tall shrub, twigs light brown, lepidote : leaves opposite, palmately compound, with five leaflets ; petioles 3–5 cm. in length, flattened and channelled above ; leaflets all petiolulate ; petiolule of the central leaflet about 1 cm. in length, being slightly longer than those of the lateral leaflets and more than twice as long as those of the basal leaflets : leaflets oblong or oblong-elliptical, sometimes oblanceolate, 2–4 cm. long, 1–2.5 cm. wide, the central leaflet largest, thickish, apex obtuse or retuse, margin entire or slightly undulate, veins prominulous beneath, 4–7 pairs diverging from the midrib at nearly right angles, surface lepidote on both sides, pale green above, white beneath owing to the confluent white scales : inflorescence terminal, sessile, many-flowered cymes : flowers showy, pale pink ; pedicels rusty-lepidote, about 1 cm. in length : calyx rusty, campanulate, closed in the bud, about 1.5 cm. in length, bilabiate, lower lip subtruncate, upper longer, usually rounded : corolla funnel-shaped, veiny, pink, about four times as long as the calyx ; limb spreading ; lobes rounded, slightly unequal, margin sometimes undulate, tube pubescent within : stamens 4, didynamous, less than half the length of the corolla, inserted near the base of the tube ; filaments incurved ; anther cells linear-oblong, divaricate, straight : pistil about 2.5 cm. in length : ovary lepidote, two-celled : style slender : stigma two-lamellate, lamellae cuneate or obovate ; disk pulvinate : capsule elongated, linear, about 8 cm. in length and 7–8 mm. in width, slightly compressed, rusty-lepidote, valves coriaceous, subcarinate, veiny : seeds oblong, slightly notched below, about as long as the striate hyaline wing (218).

Collected on New Providence, near Nassau, Jan. 26 ; in the interior of the island, Feb. 26, and at Nicol's Town, Andros, March 26.

Note from Kew, 1899 : "This matches a plant collected in

the Bahamas by Brace no. 643 and Eggers no. 3962 which has been called *Tabebuia leucoxylla* DC. but according to Bureau *T. leucoxylla* is identical with *T. obtusifolia* Bureau, a totally different plant with simple leaves." Also resembles a specimen at Cambridge from the Bahamas 1859 marked *T. leucoxylla*? by Gray.

PLATE 15. *Tecoma Bahamensis*. Portion of plant in flower, $\times \frac{3}{4}$.

TECOMA STANS (L.) Juss. "Yellow elder." Common about Nassau, Jan. (8).

JACARANDA BAHAMENSIS R. Br. "Boxwood," "cancer tree." Deep Creek, June (701). Determined at Kew by Dr. Britton.

JACARANDA COERULEA Griseb. Nassau, Jan. (213). Same as Eggers 4427.

ACANTHACEAE

THUNBERGIA FRAGRANS Roxb. Probably escaped. Nassau, Jan. (130).

BLECHUM BROWNEI Juss. Nassau, Jan. (49).

ANTHACANTHUS ACICULARIS (Sw.) Nees. Common in the copet on Andros. Nicol's Town, April; Fresh Creek, June (396). The same as a specimen of Cooper's from New Providence.

DICLIPTERA ASSURGENS Juss. Nassau, Jan. (72).

RUBIACEAE

EXOSTEMMA CARIBAEUM (Jacq.) R. & S. "Princewood." Kemp Sound, Andros, June (685). Same as Wright 2674 and Curtiss 1132.

RHACICALLIS AMERICANA (Jacq.) A. S. Hitch. (*R. rupestris* DC.) "Sand-fly bush," "salt-water bush," "seaweed," "wild thyme." Common along the rocky shores of both islands. Red Bays, April; Fresh Creek, June (458). Same as Wright 2696.

HAMELIA PATENS Jacq. Nassau, Jan. (40). Same as Curtiss 5500 from Florida.

CATESBAEA SPINOSA L. "Prickly apple." Fresh Creek, June (624).

Catesbaea fasciculata sp. nov.

A low, spiny shrub with long, slender branches; leaves fascicled, obovate or oblanceolate, 5.7 mm. in length, 3-4 mm. in width, obtuse, tapering into a short petiole at base, thick, shining above, margin entire or slightly revolute, surface of the stem, spines and upper surface of leaves minutely papillose: spines axil-

lary slender, in pairs, about as long as the leaves: flowers scattered, small, solitary, sessile in the axils: calyx-tube short, ovoid; lobes 4, subulate, persistent: corolla valvate, campanulate, white, 5-7 mm. in length; lobes 4, short, 1-2 mm. long, obtuse, spreading: stamens 4, inserted at the base of the corolla tube; filaments glabrous, slightly exceeding the tube; anthers linear: ovary 2-celled, 2-flattened, pendulous ovules in each cell: style smooth, a little longer than the stamens: fruit (immature) a berry.

Collected at Fresh Creek, Andros, June 6. The same as Eggers 4508 from Hog Island (627).

PLATE 16. *Catesbaea fasciculata*. Portion of plant, about natural size; *a*, flower with corolla removed; *n*, interior of corolla showing stamens.

SCOLOSANTHUS sp.

A low, tortuous branching shrub, slightly resinous with slender scattered spines, 5-6 mm. in length: leaves and stem minutely papillose: leaves fascicled or opposite, minute, 2-2.5 mm. in length, short-petioled, ovate, obtuse with revolute margins, thick, shining: stipules small, connate: flowers not seen: drupe ovoid or globose, sessile, axillary, white, about 2 mm. in length, and containing one compressed seed.

A single specimen collected on the south side of Fresh Creek, Andros, June (646).

RANDIA ACULEATA L. Common on both islands. Nicol's Town, March (383). Same as Wright 392 and Curtiss 1129.

GENIPA CLUSIAEFOLIA (Jacq.) Griseb. "Seven-year apple." Spruce Cay, N. P., Feb.; Mastic Pt., Fresh Creek, June (299). Same as Wright 3574 and Curtiss 1130.

GUETTARDA ELLIPTICA Sw. Stafford Creek, Andros, May; Lisbon Creek, June (540, 677).

GUETTARDA SCABRA Lam. Stafford Creek, May; Fresh Creek, June; Conch Sound, July (535, 649, 730). The specimens from Stafford and Fresh Creek 535 and 649 are identical but differ greatly from 730; the former have thicker, rigid leaves, paler in color, with an entire revolute margin and the veins prominently raised on the under surface. No. 730 has the leaves strongly mucronate, margin crenate and the upper surface much more scabrous than in Wright 2707. No. 730 is the same as Brace 186 and 197 as compared at Kew by Dr. Britton.

ANTIRRHOEA LUCIDA Gaertn. Deep Creek, July (724). Same as Wright 1270.

ANTIRRHOEA MYRTIFOLIA Griseb. Red Bays, April; Fresh Creek, June (470). Same as Wright 2782 and Brace 445. Determined at Kew by Dr. Britton.

ERITHALIS FRUTICOSA L. "Black torch." Common on both islands. Nicol's Town, March; Red Bays, April; Deep Creek, June (365, 482, 691). Same as Curtiss 1127.

ERITHALIS ROTUNDATA Griseb. Deep Creek, June (739). Same as Wright 1268.

CHIOCOCCA PARVIFOLIA Wulschl. "Snake-root." Common in the coppet on both islands. Nassau, Jan.; Deep Creek, June (138, 688). Same as Wright 3584.

CHIOCOCCA ALBA (L.) A. S. Hitch. (*C. racemosa* Jacq.) Nassau, Jan. (28).

CHIOCOCCA sp. Red Bays, April (477).

The latter was a depressed form found in the savannas on the west side of Andros. Stems erect, unbranched; plant low, about 3 dm. in height, with smaller, thicker, more rigid leaves, lanceolate with a blunt apex, 2–2.5 cm. long; flowers yellowish-brown. Resembles a specimen of Blodgett's from Key West in the Gray herbarium.

PHIALANTHUS MYRTILLOIDES Griseb. "Candle-wood." Stafford Creek, May; Fresh Creek, June (541, 642, 728).

STRUMPFIA MARITIMA Jacq. Common on the cays and along the shores of both islands. Nassau, Jan.; Lisbon Creek, Andros, June (151).

MORINDA ROYOC L. "Wild mulberry," "wild pineapple." Not uncommon in the pines on Andros. Conch Sound, March (425). Same as Wright 2757. Plants 1.5–2 m. in height.

MYRSTIPHYLLUM PUBESCENS (Sw.) A. S. Hitch. (*Psychotria*.) Conch Sound, May (585). Same as Wright 243 and 1278.

MYRSTIPHYLLUM UNDATUM (Jacq.) A. S. Hitch. (*Psychotria*.) "Wild coffee." Nicol's Town, March (361).

***Myrstiphyllum ligustrifolium* sp. nov.**

A low shrub with smooth dark bark: branchlets slightly angled: leaves opposite; petioles 2–4 mm. in length; blade elliptical or oblanceolate, 3–6 cm. long, 1–2 cm. broad, thickish, paler beneath, apex acuminate, base cuneate or tapering, margin entire, slightly revolute, glabrous or with a few scattered hairs beneath

on the midrib or in the axils of the veins, veins rather inconspicuous above: stipules rusty membranaceous, truncate, sheath deciduous, about 5 mm. in length: flowers in three- to five-rayed terminal panicles; peduncle about 2 cm. in length; pedicels about 1 mm. or flowers sessile; bracts minute, ciliate: calyx deciduous, tubular-campanulate, 1-2 mm. long; lobes 5, very short, acute, ciliate: corolla whitish, somewhat funnel-form, about three times as long as the calyx, throat bearded, lobes 5, valvate, half as long as the tube, lance-oblong, obtuse, thickened and involute at the apex, at length reflexed: stamens 5 (6), inserted in the throat of the corolla, included; filaments short; anthers oblong: ovary two-celled, globose: style smooth, dilated upwards, two-cleft at apex: drupe dark red, globose or ovoid, 5-6 mm. high, 4-5 mm. broad, pyrenae flat, four-furrowed, crests broadly obtuse (206).

Collected at two places in the neighborhood of Nassau, Jan. The same as Eggers 4052 from Hog Island. It is related to *M. celastroides* Gris.

PLATE 17. *Myrsiphyllum ligustrifolium*. Branch in leaf and flower, about natural size; *h*, fruiting branch; *s*, single flower; *a*, interior of corolla showing stamens; *c*, pistil.

ERNODEA LITTORALIS Sw. Common in the pines on both islands (sometimes near the shore). Flowers red or white. New Providence, Jan.; Rose Island, N. P., Feb.; Nicol's Town, March (102, 264).

SPERMACOCE TENUIOR Lam. In the pines, N. P., Feb. (319). Same as Eggers 4441.

RELBUNUM HYPOCARPIUM (L.) Hemsl. (*Galium hypocarpium* Endl.) Conch Sound, April (523). Plants glabrous.

CUCURBITACEAE

Anguria Keithii sp. nov.

Stem climbing, glabrescent, somewhat sulcate: leaves deeply divided with seven narrowly elliptical segments, 4-6.5 cm. long, .5-1 cm. wide, outside segments lobed near the base: central segments the narrowest, apex mucronate, tapering at base, margin entire above but the three or five central segments with a few, large mucronate teeth (one to five on each side): petiole .5-2 cm.: leaves rather thin, somewhat punctate beneath: tendrils simple, much longer than the leaves: inflorescence racemose, the 3-6 flowers approximate at the top of the peduncle; peduncle about 8 cm. long, longer than the leaves; pedicels 5-9 mm. long: staminate flowers: calyx tubular-campanulate, constricted at the throat; tube

5-7 mm. long; lobes 5, 2-3 mm. long, lanceolate, acuminate: petals orange, elliptical, about 1 cm. in length, obtuse or shortly mucronate: stamens 2, included; anthers inserted about the middle of the tube, sessile, lanceolate, acuminate or acute, about 6 mm. in length, replicate below about one third of the way: pistillate flowers and fruit not seen (556).

Collected at Conch Sound, Andros, May 8. Comes nearest to *A. pedata* Jacq. but differs in having leaves 7-cleft, segments narrower, margin more deeply toothed and leaves thinner, flowers fewer, sepals longer and acuminate.

Named for Mr. Alexander Keith on whose sisal plantation the plant was collected.

PLATE 18. *Anguria Keithii*. Portion of vine, $\times \frac{5}{7}$; *a*, stamen, front view; *n*, stamen, rear view.

TRIANOSPERMA RACEMOSA (Griseb.) T. & G. Conch Sound, March (419). Same as Wright 1243.

GOODENIACEAE

SCAEVOLA PLUMIERI (L.) Vahl. Common on the sandy beaches on both islands. South Beach, N. P., Jan. (85).

COMPOSITAE

VERNONIA BAHAMENSIS Griseb. Common in the pines on both islands. Nassau, Jan. (101). Same as Eggers 4187 and Brace 118.

AGERATUM CONYZOIDES L. Nassau, Jan. (22).

EUPATORIUM AGERATIFOLIUM DC. Nassau, Jan. (176). Same as Wright 2803.

Eupatorium Bahamense sp. nov.

Shrubby, branching, branches cylindrical, striate, tips pubescent, somewhat rusty: leaves opposite; petioles 3-10 mm. in length, lanceolate or ovate-lanceolate, 2-4.5 cm. long, .75-2 cm. wide, base cuneate, apex obtuse, margin entire or slightly repand, triply nerved (in some young leaves obscurely so), the lateral nerves usually starting 2-5 mm. above the base, glabrous above, glabrate and densely dotted with glands beneath, glands mostly black: corymbs numerous, trichotomous; peduncles with a few scattered glands; heads shortly pedicellate, often in pairs; pedicels 2-6 mm. in length, ten- to thirteen-flowered: flowers blue; receptacle cylindrical, flat on top: involucre cylindrical, 8-10 mm. long, about 2 mm. broad; scales imbricate in about four rows, innermost

linear-lanceolate, about 6 mm. in length, outer lanceolate or oblong-lanceolate, apex rounded, sometimes somewhat spatulate, the outer somewhat thickened at the top and darker, mostly three-striate, inner scales sometimes slightly toothed near the base: corolla light blue, clavate, 3-4 mm. long, teeth less than 1 mm.: pappus white, spreading, about as long as the corolla: achenia black, tapering at the base, three-, four- or five-angled, mostly three, with the other angles obsolete, angles scabrous (359).

Collected in the coppet at Nicol's Town, March 17. Not uncommon. Same as Eggers 4424 and Brace 225.

Related to *E. conyzoides* Vahl, but differs in having the leaves and branches less divaricate, leaves obtuse, involucreal scales tapering at the apex, heads fewer flowered and achenia often 3-4-angled.

PLATE 19. *Eupatorium Bahamense*. Portion of plant, $\times \frac{5}{8}$; a, head of flowers.

EUPATORIUM CAPILLIFOLIUM (Lam.) Small. (*E. foeniculaceum* Willd.) Hog Island, N. P., Feb. (252).

EUPATORIUM ODORATUM L. Nassau, Jan. (6). Same as Wright 295.

EUPATORIUM VILLOSUM Sw. Common and variable. Nassau, Nicol's Town, March, Conch Sound, April (307, 340, 563). No. 307 from Nassau, and 563 from Conch Sound are almost entirely glabrous forms.

WILLUGBAEYA SCANDENS (L.) Kuntze. (*Mikania Orinocensis* H.B.K.) Not uncommon in wet places. Hog Island, Feb.; Conch Sound, May (245). Same as Wright 3600.

ASTER EXILIS Ell. In damp places. Hog Island, N. P., Feb.; Conch Sound, April; Fresh Creek, June (246, 650).

BACCHARIS DIOICA Vahl. "Broom-bush." Common near the shore. Nassau, Jan. (68).

ERIGERON QUERCIFOLIUM Lam. In the pines. New Providence, Feb.; Nicol's Town, March (324, 360).

PLUCHEA FOETIDA (L.) B.S.P. Damp ground in the pines. Red Bays, April (498). Same as Eggers 4103.

PLUCHEA CAMPHORATA DC. Banana holes in the pines. N. P., Feb. (317).

PLUCHEA ODORATA (L.) Cass. "Cough-bush." New Providence, Feb.; Nicol's Town, March (283).

PARTHENIUM HYSTEROPHORUS L. Nassau, Jan. (1).

IVA CHEIRANTHIFOLIA Kth. New Providence, Feb. (311). Same as Eggers 4286.

IVA IMBRICATA Walt. Common on sandy shores. Deep Creek, July (716).

AMBROSIA HISPIDA Pursh. "Bay lavender," "sweet bay." Common on sandy beaches of both islands. Nassau, Jan.; Mastic Point, May (62).

ISOCARPHA OPPOSITIFOLIA R. Br. "Boston catnip." Deep Creek, June (681). Determined at Kew by Dr. Britton.

BORRICHIA ARBORESCENS DC. Common on both islands. Glabrate and canescent forms found growing together in several localities. Nassau, Jan. (90). Canescent form the same as Eggers 1609, the glabrous the same as Wright 2899.

AMELLUS ASPERA (Jacq.) Kuntze. (*Melanthera deltoidea* Rich.) Common on both islands. Nassau, Jan.; Red Bays, April (58, 503).

SALMEA PETROBIOIDES Griseb. Nassau, Feb. Common along shore (303).

BIDENS LEUCANTHA Willd. "Shepherd's needle." Nassau, Jan. (36).

TRIDAX PROCUMBENS L. Nassau, Jan. (25).

FLAVERIA LINEARIS Lag. Red Bays, April (462). Same as Wright 2859.

POROPHYLLUM RUDERALE Cass. Lisbon Creek, Andros, June (675).

PECTIS LINIFOLIA L. "Tea-blinkin." Nassau, Jan. (200).

NEUROLAENA LOBATA (L.) R. Br. Red Bays, April (486).

ERECHTHITES HIERACIFOLIA (L.) Raf. Red Bays, April (504).

EMILIA SONCHIFOLIA (L.) DC. Nassau, Jan. (3, 5).

ANASTRAPHIA NORTHROPIANA Greenman. "Candlewood." Fresh Creek, June (743). Differs from the following species in having the "leaves mostly entire, scales of the involucre more numerous and strongly revolute." Named at Gray herbarium by Mr. J. M. Greenman, 1897. Same as Combs no. 521 from Cuba, 1895.

ANASTRAPHIA PAUCIFLOSCULOSA Wright. "Candlewood." Lisbon Creek, June. Same as Eggers 3866. Determined at Kew by Dr. Britton (639).

CHAPTALIA ALBICANS (DC.). Conch Sound, March (400). Same as Wright 2873.

SONCHUS OLERACEUS L. Nassau, Jan. (48).

RELATIONS OF THE BAHAMA FLORA

Professor Hitchcock has treated this subject very fully in his Report on the Plants collected in the Bahamas, Jamaica, and Grand Cayman. It is only taken up here because the exploration of Andros has furnished additional data. In this connection it may be well to describe briefly the character and position of the Bahama Islands in relation to the Greater Antilles and North and South America. "The Bahamas naturally divide themselves first, into sunken banks like the Navidad, Silver and Mouchoir Banks; next islands occupying the whole or nearly the whole summit of the banks from which they rise, like Watlings, Rum Cay, Conception, Samana, Mariguana, the Plana Cays, Inagua, Little Inagua and the atoll of Hogsty; then banks having the semblance of atolls, like the Crooked Island and Caicos Banks, which are fringed by low islands forming a crescent with an open lagoon or flat between its horns; next Salt Cay Bank, which from its structure holds a position intermediate between the group of sunken banks like the Navidad and that resembling Caicos Bank and finally such composite banks as the Little Bahama and Great Bahama Banks with the characteristics of a combination of banks resembling all the others." *

The Little Bahama Bank, lying in 26° to 27° north latitude, is the most northerly. From it rise the islands of Great Bahama and Abaco with a number of small cays. The Little Bahama Bank is separated from the Great Bahama Bank lying south of it by the Northeast and Northwest Providence Channels, which are from twenty to thirty miles wide and have a depth of from five hundred to two thousand fathoms.

"The Great Bahama Bank is irregularly V-shaped and has an extent of four hundred miles from northwest to southeast and is about two hundred and fifty miles in its greatest width." *

The water on the bank is usually only three or four fathoms

* A Reconnaissance of the Bahamas and of the elevated Reefs of Cuba in the steam yacht "Wild Duck," January to April, 1893. Alexander Agassiz.

deep, but it is indented on the north by a tongue of the ocean which extends nearly two thirds across it and has a depth of from seven hundred to twelve hundred fathoms. Along the western edge of this tongue of ocean lies Andros, while New Providence is on the eastern side, twenty-five miles or more distant. On the eastern border of Great Bahama Bank lie the long narrow islands known as Eleuthera, Cat Island, Exuma and Long Island, the first two being separated from the third by another indentation in the bank from the south known as Exuma Sound. To the southeast of Cat Island are the isolated islands of Rum Cay and San Salvador, or Watlings Island, while east of the southern end of the Great Bahama Bank is the much smaller bank on which are situated Crooked, Acklin and Fortune Islands. Still farther southeast lie Mariguana, the Caicos bank and islands and Turks islands, while the entirely isolated island of Inagua is off to the west. Inagua lies in a latitude of about 21° and is the most southerly of the Bahamas. It is about fifty miles from the east end of Cuba and about sixty miles north of the western end of Haiti. From both islands it is separated by water over fifteen hundred fathoms in depth.

The little Bahama bank is separated from Florida by a distance of fifty miles and a depth of less than 450 fathoms of water. The Great Bahama Bank extends west and northwest of Andros for a distance of from fifty to seventy miles. At its western edge it is only forty miles distant from Florida and the channel is about 450 to 500 fathoms deep.

The Great Bahama Bank is separated from Cuba on the south by the Old Bahama Channel, about 300 fathoms in depth, the narrowest part of which is about twelve miles. Beyond this point the water deepens rapidly to 500 and 1,000 fathoms.

The following is quoted from Professor Hitchcock's admirable account: "If from any cause, the depth of the water of the ocean should be lessened by 100 fathoms, there would be exposed the Little Bahama and Great Bahama banks and several of the smaller banks to the southeast. The Bahamas would be separated from the surrounding islands and from Florida and the important channels would still occupy the same places. If reduced by 300 fathoms, the Great Bahama bank would be united with Cuba. If

the water were 500 fathoms shallower than at present, the Little and Great Bahama banks would be united with Florida and some of the Windward Islands would be connected. It is not, however, until a layer of water 1,000 fathoms deep is removed that important changes would occur. Jamaica would be united with Honduras, Cuba with Florida and also with South America through the Windward Islands. There would be a narrow channel between Cuba and Yucatan, between Jamaica and Haiti and a wide and deep channel between Jamaica and Cuba. Watlings, the Acklin Island group and Inagua would still be isolated and the distances between them and the neighboring land would not be materially diminished. * * * The Greater Antilles are of ancient formation and may have been connected with Mexico and Central America at some remote period. But the Bahamas, the Windward Islands and the southern extremity of Florida are of recent origin."

Professor Hitchcock thinks, however, as seems most probable, that the ordinary methods of dissemination are sufficient to account for the Bahaman flora and that the theory of an ancient land connection is not necessary.

The following table shows the distribution of the plants collected by us on New Providence and Andros and bears out the conclusion arrived at by Hitchcock and others that the bulk of the Bahaman plants have come from the south.

Although Andros is very nearly as close to Florida as it is to Cuba, its plants are most closely allied with those of Cuba, comparatively few species, apparently, having come from the north. Our exploration of Andros, however, has shown that this northern contingent is considerably larger than was supposed, a distinct colony of northern plants having found a foothold on the west side of Andros. Many of these have never been reported from either Cuba or any of the other islands of the group.

It was to be expected that the majority of the Bahaman plants would have a southern origin, on account of the greater similarity of the climate and because the prevailing winds and currents are from that direction. There are occasionally heavy "northers" during the winter, when the wind blows hard from the northwest for a number of days at a time. The velocity of the Gulf Stream

as it flows through the Florida Straits tends to prevent seeds being brought from the north by water.

In compiling the table found below, giving the distribution of the plants, collected by us, the following volumes have been the principal ones consulted : Grisebach's *Flora of the British West Indies*, Grisebach's *Catalogus Plantarum Cubensium*, Plants collected in the Bahamas by Hitchcock, Plants collected in the District of Cienfuegos, Cuba, by Robert Combs, 1895 ; Jamaica, List of Fawcett ; *Flora of St. Croix and the Virgin Islands*, Eggers ; Chapman's *Flora of the Southern United States* and other works on the North American flora.

TABULATED DISTRIBUTION

Name of Species.	New Providence	Andros.	Cuba.	S. Fla.	S. U. S.
SCHIZAEACEAE.					
Ornithopteris adiantifolia (L.) Bernh.	+	+	+	+	1, 3, 4, 5.
“ cicutaria (Kunze) Underw.	+				6.
POLYPODIACEAE.					
Tectaria trifoliata (L.) Cav.		+	+	+	1, 3, 4, 5,
Dryopteris patens (Swz.) Kuntz.	+	+	+	+	1, 2, 3, 4, 5, widely dis.
“ asplenoides (Bak.) Kuntze.		+	+		1, 3, 4, 5.
Davallia clavata Sw.	+	+	+		1, 3.
Asplenium dentatum L.	+			+	1, 3, 4.
Blechnum serrulatum Rich.	+		+	+	3, 4, 5.
Adiantum tenerum Sw.	+	+	+	+	1, 2, 3, 4, 5.
Pteridium caudatum (L.) Maxon.	+	+	+	+	1, 4, 5.
Pteris longifolia L.	+	+	+	+	Widely distributed.
Vittaria lineata (L.) J. E. Smith.		+	+	+	1, 3, 4, 5, widely dis.
Cheilogramma lanceolata (L.) Blume		+	+	+	1, 2, 3.
Acrostichum aureum L.		+	+	+	Widely distributed.
Phlebodium aureum (L.) R. Br.	+	+	+	+	1, 2, 4, 5.
Polypodium polypodioides (L.) Hitch.		+	+	+	Widely distributed.
Campyloneuron Phyllitidis (L.) Presl.		+	+	+	1, 2, 3, 4, 5.
Polypodium squamatum L.		+			1.
Phymatodes Swartzii (Baker) Underw.		+	+	+	1, 3,
Goniopteris reptans (Swz.) Fée.		+	+		1, 4, 5.
“ “ cordata.		+	+		
PSILOACEAE.					
Psilotum nudum (L.) Griseb.		+	+	+	Widely distributed.
CYCADACEAE.					
Zamia sp.		+	+	+	1, 6.
CONIFERAE.					
Pinus Bahamensis Griseb.	+	+			
Juniperus Barbadensis L.	+	+		+	1, 3.
NAIADACEAE.					
Ruppia maritima L.		+	+	+	Widely distributed.
TYPHACEAE.					
Typha Domingensis Pers.		+	+		1, 2, 4, 5.
GRAMINEAE.					
Paspalum fimbriatum H.B.K.	+				1, 3, 5.
Panicum divaricatum L.	+	+	+	+	Eleuthera, Cat, Crooked, 3, 5.
“ proliferum Lam.		+	+	+	
Cenchrus tribuloides L.	+	+		+	Widely distributed.
Sporobolus Virginicus Kth.		+	+	+	Crooked, Inagua, 1. Widely distributed. Crooked, Inagua.

NOTE.—1, Jamaica; 2, Virgin Islands; 3, Windward Islands; 4, Mexico and Central America; 5, South America; 6, Haiti. When a plant is reported from all the preceding localities (or all but Haiti) and also as being found in the Eastern Hemisphere, it is marked “Widely distributed.”

Names of Species.	N. P.	Andros	Cuba.	S. Fla.	S. U. S.
GRAMINEAE.— <i>Continued.</i>					
<i>Stenotaphrum Americanum</i> Schrank.	+	+	+	+	Widely distributed.
<i>Chloris Swartziana</i> Doell.		+	+	+	1, 4, 5.
<i>Chaetochloa glauca</i> (L.) Scribn.	+	+	+	+	Widely distributed.
<i>Eragrostis ciliaris</i> (L.) Link.	+		+	+	Inagua, Eleuthera.
<i>Uniola paniculata</i> L.	+		+	+	Widely distributed. Eleuthera, Cat, Inagua, 5. Eleuthera, Cat, Crooked, 4, 5.
CYPERACEAE.					
<i>Cyperus brunneus</i> Sw.	+	+	+	+	Eleuthera, Cat, Crooked, Inagua, 1, 2, 3, 4.
“ <i>ferax</i> Rich.	+		+		1, 3, 4, 5.
“ <i>ochraceus</i> Vahl.	+		+		1, 3.
<i>Eleocharis camptotriche</i> .					
“ <i>Schweinitzii</i> C. B. Clarke.		+	+		Guadeloupe.
“ <i>capitata</i> (Willd.) R. Br.	+		+	+	Cat. 1, 2, 5.
“ <i>ochreatea</i> Nees.	+			+	1.
<i>Dichromena colorata</i> (L.) A. S. Hitch.	+	+	+	+	Crooked, Fort., Inagua, 4, 5.
<i>Fimbristylis spadicea</i> (L.) Vahl.	+	+		+	Cat, Crooked, Fortune, In- agua, 1.
“ <i>monostachya</i> (L.) Hassk.		+	+		1.
<i>Rynchospora cyperoides</i> (Sw.) Mart.	+		+		Inagua, 1, 3, 4, 5.
“ <i>microcarpa</i> Baldw.		+	+	+	Bahama, 5.
<i>Cladium Jamaicense</i> Crantz.	+	+	+		Crooked, 4, 5.
<i>Scleria filiformis</i> Sw.		+			
PALMAE.					
<i>Thrinax Bahamense</i> Cook.	+	+			Eleuthera, Cat, 1, 2, 4, 6.
<i>Paurotis Androsana</i> Cook.		+			
<i>Cyclospathe Northropi</i> Cook.	+	+	+	+	
BROMELIACEAE.					
<i>Tillandsia Balbisiana</i> R. & S.	+	+	+	+	1.
“ <i>bulbosa</i> Hook.		+	+	+	Cat, Inagua, 1, 5.
“ <i>fasciculata</i> Sw.		+	+	+	Crooked, Inagua, 1, 3, 4, 5
“ <i>flexuosa</i> Sw.		+	+	+	Inagua, 1, 5.
“ <i>recurvata</i> L.		+	+	+	Cat, 1, 2, 3, 4, 5.
“ <i>utriculata</i> L.		+	+	+	Cat, Inagua, 1, 2, 3, 5.
COMMELINACEAE.					
<i>Commelina nudiflora</i> L.	+		+	+	Widely dis., 1, 2, 3, 4, 5. 1, 2, 3, 4.
<i>Rhoea discolor</i> (L'Her) Hance.	+	+	+		
LILIACEAE.					
<i>Aletris bracteata</i> Northr.		+			
SMILACEAE.					
<i>Smilax auriculata</i> Walt.	+	+		+	2, 4, 5, 6.
“ <i>Havanensis</i> Jacq.	+	+	+	+	
AMARYLLIDACEAE.					
<i>Agave rigida</i> Mill.		+			4.
“ <i>Sisalana</i> Engl.	+	+		+	4.
<i>Hymenocallis arenicola</i> Northr.		+			
<i>Furcraea Cubensis</i> Haw.	+		+		1, 2, 3, 5.
<i>Hypoxis juncea</i> Smith.		+	+	+	

Names of Species.	N. P.	Andros.	Cuba.	S. Fla.	S. U. S.	
DIOSCORACEAE.						
<i>Rajania hastata</i> L.	+	+	+			Cat, 2.
ORCHIDACEAE.						
<i>Bletia verecunda</i> R. Br.	+	+	+	+		I, 4.
<i>Epidendrum fucatum</i> Lindl.		+	+			
“ <i>nocturnum</i> L.		+	+	+		I, 3, 5.
“ <i>Phoenicium</i> Lindl.		+	+			
“ <i>odoratissimum</i> Lindl.		+				
<i>Limodorum tuberosum</i> L.		+	+	+	+	
<i>Stenorrhynchus orchiioides</i> (Rich.).		+	+			I, 3, 5.
<i>Gyrostachys tortilis</i> (Rich.).		+	+	+	+	I, 3.
<i>Oncidium sylvestre</i> Lindl.		+	+			I.
“ <i>variegatum</i> Sw.		+	+			I, 2, 3, 6.
<i>Govenia utriculata</i> Lindl.		+	+			I, 5.
<i>Polystachya luteola</i> Hook.		+	+	+		I, 2, 3, 5.
<i>Broughtonia lilacina</i> Henfr.		+	+			I, 6.
<i>Vanilla articulata</i> Northr.		+	+			
CASUARINACEAE.						
<i>Casuarina equisetifolia</i> Forst.	+	+	+	+		Crooked. Widely dis., nat.
MYRICACEAE.						
<i>Myrica cerifera</i> L.		+		+	+	
MORACEAE.						
<i>Ficus dimidiata</i> Griseb.	+	+	+			Eleuthera, I.
“ <i>pedunculata</i> Willd.	+		+	+		I, 2.
“ <i>pertusa</i> L.		+	+			Cat, I, 3, 4.
ULMACEAE.						
<i>Trema Lima</i> (Lam.) A. S. Hitch.	+	+	+	+		I, 2, 3, 4, 5. Eleuthera.
URTICACEAE.						
<i>Fleurya aestuans</i> Gaud.	+		+			I, 2, 3, 4, 5.
<i>Adicea microphylla</i> (Sw.) Kuntze.	+		+	+		I, 2, 3, 4, 5, 6.
LORANTHACEAE.						
<i>Phoradendron racemosum</i> Kr. & Urb.		+	+			
“ <i>Northropiae</i> Urb.		+				
<i>Loranthus pauciflorus</i> Sw.		+	+			I.
“ <i>uniflorus</i> Jacq.		+	+			I, 6.
ARISTOLOCHIACEAE.						
<i>Aristolochia passifloraefolia</i> Rich.		+	+			
“ <i>pentandra</i> L.		+	+	+		
POLYGONACEAE.						
<i>Coccolobis diversifolia</i> Jacq.	+		+			I, 2, 3.
“ <i>retusa</i> Griseb.		+	+			3.
“ <i>tenuifolia</i> L.		+	+			I.
“ <i>uvifera</i> (L.) Jacq.	+	+	+	+		Cat, Watlings, Crooked, Inagua, I, 2, 3, 4, 5.
“ <i>Wrightii</i> Lindau.		+	+			
“ <i>obtusifolia</i> Jacq.		+				
<i>Polygonum Portoricense</i> Bertero.		+	+	+	+	I, 5.
CHENOPODIACEAE.						
<i>Atriplex cristata</i> H. B. K.	+	+	+	+		2.

Names of Species.	N. P.	Andros.	Cuba.	S. Fla.	S. U. S.	
CHENOPODIACEAE.— <i>Continued.</i>						
<i>Salicornia ambigua</i> Michx.	+	+	+	+	+	Crooked.
“ <i>Bigelovii</i> Torr.		+		+	+	
<i>Dondia fruticosa</i> (Forsk.)		+	+			
“ “ <i>linearis</i> (Moq.) Millsp.	+			+		
AMARANTACEAE.						
<i>Alternanthera muscoides</i> Sw.	+		+			Inagua, 3.
“ <i>paronychioides</i> St. Hil.	+					
<i>Lithophila vermicularis</i> (L.) Uline.	+	+	+	+	+	Eleuthera. Widely dis.
<i>Iresine paniculata</i> (L.) Kuntze.		+	+	+	+	Eleuth., Cat, Watlings. Widely dis.
BATIDEAE.						
<i>Batis maritima</i> L.		+	+	+	+	Inagua, 1, 2, 3, 5.
PHYTOLACCACEAE.						
<i>Rivina humilis glabra</i> L.	+	+	+	+	+	1, 2, 3, 4, 5, Cat.
<i>Phytolacca octandra</i> L.		+	+			1, 3, 4, 5.
NYCTAGINACEAE.						
<i>Mirabilis Jalapa</i> L.	+		+			Fortune, 1, 3, 4, 5.
<i>Boerhaavia erecta</i> L.	+		+	+	+	1, 3, 4.
“ <i>paniculata</i> Rich.	+	+	+		+	Eleuthera, 1, 2, 3, 4.
“ <i>scandens</i> L.	+		+			Eleuthera, 1, 4, 5.
<i>Pisonia aculeata</i> L.	+	+	+	+		1, 3, 4, 5.
“ <i>obtusata</i> Swz.	+	+	+	+		Crooked, 1, 3, 5.
“ <i>rotundata</i> Griseb.		+	+	+		
AIZOACEAE.						
<i>Sesuvium portulacastrum</i> L.	+	+	+	+	+	Widely distributed. Eleuthera, Cat, Crooked, Fortune.
PORTULACACEAE.						
<i>Portulaca oleracea</i> L.	+	+	+	+	+	Eleuthera, Inagua. Widely distributed.
“ <i>halimoides</i> L.		+		+		1, 2, 3.
ANONACEAE.						
<i>Anona palustris</i> L.		+	+			1, 2, 3, 5.
RANUNCULACEAE.						
<i>Clematis dioica</i> L.		+	+			1, 3, 4, 5.
LAURACEAE.						
<i>Nectandra sanguinea</i> Rottb.	+	+	+			1, 3, 4, 5.
<i>Cassytha filiformis</i> L.	+	+	+	+		Eleuthera, Cat, 1, 2, 3, 4, 5.
PAPAVERACEAE.						
<i>Argemone Mexicana</i> L.	+		+	+	+	Eleuth., Crooked, Fortune, Inagua. Widely dis.
CRUCIFERAE.						
<i>Brassica arvensis</i> (L.) B.S.P.	+				+	Int. from Europe, 2.
<i>Lepidium Virginicum</i> L.	+		+	+	+	Eleuthera, Cat, Inagua, 1, 2, 3, 4.
<i>Cakile aequalis</i> L'Her.	+	+	+	+	+	1, 2, 3.
CAPPARIDACEAE.						
<i>Pedicellaria pentaphylla</i> (L.) Schrank.	+	+	+	+	+	Eleuthera. Widely dis.

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CRASSULACEAE.						
<i>Bryophyllum pinnatum</i> (Lam.) S. Kurz.	+	+		+		Widely distributed.
ROSACEAE.						
<i>Chrysobalanus Icaco</i> L.	+	+	+	+		Widely distributed.
MIMOSACEAE.						
<i>Acacia choriophylla</i> Benth.	+	+				
" <i>Farnesiana</i> (L.) Willd.	+		+	+	+	Widely distributed. Fortune, Inagua, 1, 3, 5.
<i>Acacia depressa</i> (Kth.) Kuntze.		+		+		Inagua, 1, 2, 3, 4, 5.
" <i>virgata</i> (Willd.) Kuntze.	+	+	+	+		Eleuthera. Widely dis.
<i>Mimosa pudica</i> L.		+	+			Widely distributed.
<i>Leucaena glauca</i> (L.) Benth.	+	+	+	+		Widely distributed. Eleuthera, Cat, Fortune.
<i>Lysiloma paucifoliola</i> (DC.) Hitch.	+	+	+			Eleuthera, Fortune.
" <i>Bahamensis</i> Benth.	+		+	+		Cat, Fortune, Inagua.
<i>Calliandra formosa</i> Benth.	+					
<i>Pithecolobium Hystrix</i> Benth.		+	+			
" <i>Unguis-cati</i> (L.) Bth.	+	+	+	+		Eleuthera, Cat, Fort., 1, 2.
" <i>Bahamense</i> Northr.		+				
CAESALPINACEAE.						
<i>Cassia Bahamensis</i> Mill.	+			+		Eleuthera, Cat, Watlings. 1, 3.
" <i>biflora</i> L.	+		+	+		Eleuthera, Fort., Inagua, 1, 2, 3, 4, 5, 6.
" <i>ligustrina</i> L.	+	+	+			1, 5.
" <i>mimosoides</i> L.	+					Eastern Hemisphere.
" <i>occidentalis</i> L.	+		+	+	+	Widely distributed. Eleuthera, Fortune, Inagua.
" <i>polyadena</i> DC.	+	+	+			Cat, Crooked, 1, 3.
" <i>villosa</i> Mill.	+					4.
" <i>Caribaea</i> Northr.		+				
<i>Tamarindus Indica</i> L.	+	+	+			Inagua, 1.
<i>Haematoxylon Campechianum</i> L.	+	+	+			1, 2.
<i>Caesalpinia ovalifolia</i> Urb.	+	+				
" <i>crista</i> L.	+	+	+	+		Eleuthera, Inagua.
<i>Caesalpinia Rugdioma</i> L.	+	+	+			Inagua, 3.
<i>Peltophorum adnatum</i> Griseb.		+	+			
PAPILIONACEAE.						
<i>Sophora tomentosa</i> L.		+	+	+		Crooked, Fortune, Inagua. Widely distributed.
<i>Crotalaria pumila</i> Ort.	+		+	+	+	Eleuthera, Cat, 1, 2, 3, 4, 5.
" <i>retusa</i> L.	+		+			Widely distributed.
" <i>verrucosa</i> L.	+					1, 2, 3 (from Old World).
<i>Indigofera Anil</i> L.	+		+	+	+	Eleuthera, Inagua. Widely distributed.
<i>Cracca Schottii</i> Vail.		+				Asia.
<i>Stylosanthes hamata</i> (L.) Taub.	+		+			Eleuthera, Fortune, Inagua. Widely distributed.
<i>Meibomia incana</i> (Sw.) Kuntze.	+	+	+	+		Eleuthera, Cat. Widely dis.
<i>Abrus precatorius</i> L.	+					1, 2, 3, 5. Widely dis.
<i>Bradburya Virginiana</i> (L.) Kuntze.	+	+	+	+	+	Eleuthera, Cat, Crooked, Inagua. Widely dis.
" <i>angustifolia</i> (DC.) Griseb.	+	+	+	+	+	Cat. Widely distributed.

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PAPILIONACEAE. — Continued.						
<i>Galactia rudolphioides</i> (Griseb.) Wr.	+	+	+			Eleuthera, Cat, Crooked.
<i>Galactia Cubensis</i> H.B.K.	+	+	+	+	+	Watlings, Inagua. Widely distributed.
<i>Canavalia obtusifolia</i> (Lam.) DC.	+	+	+	+		Eleuthera, Inagua. Widely distributed.
<i>Rhynchosia minima</i> (L.) DC.	+		+	+	+	Inagua. Widely dis.
<i>Phaseolus semierectus</i> L.	+	+	+			Widely distributed.
<i>Vigna repens</i> (L.) Kuntze.		+	+	+	+	1, 2, 3, 4, 5.
<i>Cajanus Cajan</i> (L.) Millsp.	+	+	+			Eleuthera. Widely dis.
<i>Dalbergia Brownei</i> (Pers.) Kuntze.		+	+	+		Widely distributed.
<i>Ichthyomethia Piscipula</i> (L.) Hitch.		+		+		Cat, 1, 2, 3, 4, 5.
OXALIDACEAE.						
<i>Oxalis corniculata repens</i> Zucc.	+		+	+	+	Widely distributed.
LINACEAE.						
<i>Linum Bahamense</i> Northr.	+	+				
<i>Erythroxylon brevipes</i> DC.		+	+			Fortune, 1.
“ <i>obovatum</i> Macf.		+	+			1, 3.
“ <i>reticulatum</i> Northr.		+				
MALPHIGIACEAE.						
<i>Byrsonima lucida</i> Rich.		+	+	+		2, 3.
<i>Malpigia setosa</i> Spr.		+	+			Cat, 6.
<i>Stigmaphyllon Sagraenum</i> Juss.		+	+			
<i>Triopteris rigida</i> Sw.	+	+	+			6.
RUTACEAE.						
<i>Xanthoxylon cribrosum</i> Spr.		+		+		
“ <i>emarginatum</i> Sw.		+	+			Cat, Inagua, 1.
<i>Fagara Fagara</i> (L.) Small.	+	+	+	+	+	Eleuthera, Cat, 1, 3, 4.
SIMARUBACEAE.						
<i>Suriana maritima</i> L.	+	+	+	+		Eleuthera, Cat, Crooked, 2.
<i>Picrodendron baccatum Bahamense</i> .		+	+			1.
BURSERACEAE.						
<i>Bursera Simaruba</i> (L.) Sarg.	+	+	+	+		Eleuthera, Cat, Crooked, 1, 2, 3, 4, 5.
<i>Swietenia Mahogani</i> L.	+	+	+	+		Crooked, Inagua, 1, 2, 4, 5.
POLYGALACEAE.						
<i>Polygala Boykinii</i> Nutt.		+		+	+	
“ <i>brizoides</i> St. Hil.		+	+			1, 4, 5.
“ <i>spathulata</i> Griseb.		+				
EUPHORBIACEAE.						
<i>Phyllanthus Bahamensis</i> Urb.		+				
“ <i>Epiphyllanthus</i> L.	+	+	+			Eleuthera, Cat, Watlings, Fortune, Inagua, 1, 2.
“ <i>Niruri</i> L.		+	+	+		Fortune, Inagua, widely dis.
<i>Croton linearis</i> Jacq.	+	+	+	+		Eleuthera, Cat, 1.
<i>Savia erythroxylodes</i> Griseb.		+				
<i>Acalypha alopecuroides</i> Jacq.	+		+			Eleuthera, 4, 5.
<i>Lasiocroton macrophyllus</i> Griseb.		+				1.
<i>Excoecaria lucida</i> Sw.		+	+	+		1, 3.
“ <i>Sagraei</i> J. Mull.		+	+			

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EUPHORBIACEAE.—Continued.					
Hippomane Mancinella L.		+	+	+	Inagua, 1, 2, 3, 4, 5.
Bonania emarginata DC.		+	+		
Euphorbia Blodgettii Engelm.	+	+		+	Eleuthera, Cat, Crooked, Fortune, Inagua, 1.
“ buxifolia Lam.	+	+	+	+	Eleuthera, Cat, Watlings, Crooked, Inagua, 1, 2, 3, 4, 5.
“ cassythoides Boiss.		+			
“ heterophylla L.	+	+	+	+	Eleuthera, Cat, Crooked, Inagua, 1, 2, 4, 5.
“ “ graminifolia Engelm.	+	+	+	+	Eleuthera, Cat, Fortune, Inagua, 1, 2, 4, 5.
“ nutans Lag.	+	+	+	+	Widely distributed. Eleuthera, Inagua.
“ serpens Kth.	+		+	+	3, 5.
Buxus Bahamensis Baker.		+			
ANACARDIACEAE.					
Metopium Metopium (L.) Small.	+	+	+	+	Cat, Crooked, Inagua, 1.
CELASTRACEAE.					
Elaeodendron xylocarpum DC.	+				Bermudas.
Maytenus buxifolius (Rich.) Griseb.		+	+		Cat, Crooked.
Crossopetalum pallens (Smith).		+	+	+	2, 3.
“ coriaceum Northr.		+			
Schaefferia frutescens Jacq.		+	+	+	Eleuthera, 1, 2, 3, 4, 5.
ILICACEAE.					
Ilex sideroxyloides Griseb.		+			3.
SAPINDACEAE.					
Serjania diversifolia Radlk.		+	+		
“ subdentata Juss & Poir.	+	+	+		Eleuthera, Cat, 1, 2, 3.
Cardiospermum Halicacabum L.	+		+	+	Widely distributed.
Thouinia discolor Griseb.	+	+			Eleuthera, Cat, Fortune, Inagua.
Exothea paniculata (Juss.) Radlk.		+	+	+	1.
Hypelate trifoliata Sw.		+	+	+	1.
Alvaradoa amorphioides Liebm.	+		+		4.
RHAMNACEAE.					
Krugiodendron ferreum (Vahl.) Urb.		+		+	1, 2, 3.
Colubrina ferruginosa Brongn.		+	+		1, 2, 3.
Reynosia latifolia Griseb.		+	+	+	Eleuthera, Cat, 2.
“ Northropiana Urb.					
Gouania Domingensis L.	+	+	+	+	1, 2, 3, 5.
VITACEAE.					
Vitis rotundifolia Michx.	+	+		+	+
“ alata Jacq.		+	+		
“ trifoliata (L.) Bak.		+	+		1, 2, 3, 5.
Cissus sicyoides L.	+	+	+	+	1, 2, 3, 4, 5.
Parthenocissus quinquefolia (L.) Planch.	+		+	+	+
TILIACEAE.					
Triumfetta semitriloba L.	+		+	+	Widely distributed.

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TILIACEAE.—Continued.						
<i>Corchorus hirsutus</i> L.	+	+	+			Eleuthera, Cat, Crooked, Watlings, Inagua, 1, 2, 3.
“ <i>siliquosus</i> L.	+		+	+	+	Eleuthera, 1, 2, 3, 4, 5, 6.
MALVACEAE.						
<i>Sida carpinifolia</i> L.	+	+	+	+		Eleuthera, Inagua. Widely distributed.
“ <i>supina</i> L'Her.	+			+		2, 3, 4, 5, 6.
<i>Abutilon crispum</i> Don		+	+	+	+	Eleuthera, 3, 4, 5.
<i>Pavonia spicata</i> Cav.		+	+	+		1, 2, 3, 5.
<i>Hibiscus cryptocarpus</i> Rich.		+	+			
“ <i>tiliaceus</i> L.		+	+	+		Widely distributed.
STERCULIACEAE.						
<i>Helicteres semitriloba</i> Bert.		+	+			Inagua, 6.
“ <i>spiralis</i> Northr.		+				
<i>Melochia nodiflora</i> Sw.	+		+			1, 2, 3, 4, 5.
“ <i>tomentosa</i> L.	+	+	+			Eleuthera, Cat, Inagua, 1, 2, 3, 4, 5.
<i>Waltheria Americana</i> L.	+	+	+	+	+	Eleuthera, Cat, Fortune. Widely distributed.
HYPERICACEAE.						
<i>Ascyrum hypericoides</i> L.	+	+	+	+	+	1, 4, 5.
BIXACEAE.						
<i>Xylosma ilicifolium</i> Northr.	+	+				
CANELLACEAE.						
<i>Canella Winterana</i> (L.) Gaertn.	+	+	+	+		1, 2, 3.
TURNERACEAE.						
<i>Turnera ulmifolia</i> L.	+	+	+			Eleuthera, Cat, Fortune, 1, 2, 3, 4, 5.
PASSIFLORACEAE.						
<i>Passiflora angustifolia</i> Sw.		+	+	+		1.
“ <i>cupraea</i> L.	+	+	+			Eleuthera, Cat.
“ <i>minima</i> L.	+	+	+			Eleuthera, Inagua, 1, 6.
“ <i>multiflora</i> L.		+	+	+		
“ <i>pectinata</i> Griseb.		+				Turk.
CACTACEAE.						
<i>Cereus Swartzii</i> Griseb.		+				Cat, Crooked, Inagua, 1.
<i>Opuntia spinosissima</i> Mill.		+				Fortune, Inagua, 1, 2.
“ <i>Tuna</i> (L.) Mill.		+	+	+	+	Crooked, Inagua, 1, 2, 3, 4, 5.
LYTHRACEAE.						
<i>Parsonsia Parsonsia</i> (L.) Britton.	+		+			1.
RHIZOPHORACEAE.						
<i>Rhizophora Mangle</i> L.	+	+	+	+		Cat, Crooked. Widely dis.
MYRTACEAE.						
<i>Calypttranthes pallens</i> Griseb.		+	+			1, 2, 3.
<i>Myrtus punctata</i> Griseb.		+				2, 3, 6.
<i>Eugenia axillaris</i> (Sw.) Willd.		+	+			1, 2.
“ <i>longipes</i> Berg.		+		+		
“ <i>monticola</i> DC.	+	+	+	+		Eleuthera, 1, 2, 3.

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COMBRETACEAE.						
Conocarpus erecta L.	+	+	+	+		Eleuthera, Cat, Watlings, Crooked, Inagua. Widely distributed.
Laguncularia racemosa (L.) Gaertn.		+	+	+		Fortune, Crooked. Widely distributed.
Terminalia spinosa Northr.		+				
MELASTOMACEAE.						
Tetrazygia bicolor (Mill) Cogn.	+	+	+			
ONOGRACEAE.						
Jussiaea suffruticosa L.	+		+			Widely distributed.
SAMYDACEAE.						
Casearia laetioides (Rich.)		+	+			I, 4.
Banara reticulata Griseb.	+	+	+			
UMBELLIFERAE.						
Hydrocotyle pygmaea Wright.		+	+			
Centella Asiatica (L.) Urb.		+		+	+	Widely distributed.
MYRSINACEAE.						
Rapania Guyanensis (Aubl.)		+	+	+		I, 3, 4, 5.
Icaonea paniculata (Nutt.) Sudw.	+		+	+		4.
Jacquinia Keyensis Mez.	+	+		+		Eleuthera, Cat, Crooked I, 2, 3, 4, 5, 6.
PRIMULACEAE.						
Samolus ebracteatus Kth.		+		+	+	
PLUMBAGINACEAE.						
Plumbago scandens L.	+		+	+		Inagua, I, 2, 3, 4, 5.
SAPOTACEAE.						
Chrysophyllum oliviforme Lam.	+	+	+	+		I, 2, 6.
Lucuma pauciflora A. DC.		+	+			
Sideroxylon mastichodendron Jacq.		+	+			I, 2, 3, 6.
Bumelia microphylla Griseb.		+				
“ Cubensis Griseb.		+	+			
Dipholis salicifolia A. DC.	+	+	+	+		I, 2, 3.
Mimusops dissecta R. Br.	+	+		+		3.
“ Floridana Engelm.		+		+		
EBENACEAE.						
Maba Caribaea (A. DC.) Hiern.		+	+			2.
OLEACEAE.						
Adelia porulosa (Poir.) Engler.		+	+	+	+	I, 2, 4.
LOGANIACEAE.						
Spigelia Anthelmia L.		+	+			Eleuthera, Fort., I, 3, 4, 5.
Cynoctonum mitreola (L.) Britt.		+	+	+	+	I, 3, 4, 5, 6.
“ sessilifolia (T. & G.) Britt.		+		+	+	
GENTIANACEAE.						
Voyria Mexicana Griseb.		+	+	+		I.
Eustoma exaltatum Griseb.	+	+	+	+	+	I, 4, 5, 6.
Sabbatia campanulata (L.) Torr.	+	+		+	+	

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APOCYNACEAE.					
<i>Vinca rosea</i> L.	+		+	+	Widely distributed.
<i>Plumiera obtusa</i> L.		+	+		Cat, 1, 2, Fortune, Inagua.
<i>Echites Andrewsii</i> Chapm.	+	+	+	+	Eleuthera, Cat, Watlings, 1, 2, 3, 4.
“ <i>biflora</i> Jacq.		+			3, 5.
“ <i>Sagraei</i> A. DC.	+	+	+	+	
“ <i>umbellata</i> Jacq.	+	+	+	+	Eleuthera, Cat, Fortune, Crooked, Inagua, 1, 4, 6.
ASCLEPIADACEAE.					
<i>Asclepias Curassavica</i> L.	+		+	+	Widely distributed.
<i>Metastelma Bahamense</i> Griseb.		+	+		
“ <i>barbatum</i> Northr.		+			
“ <i>palustre</i> Schltr.	+	+		+	Fortune, Inagua, 2.
CONVOLVULACEAE.					
<i>Ipomoea cathartica</i> Poir.	+		+		1, 3, 4, 5.
“ <i>coccinea</i> L.	+			+	Widely distributed.
“ <i>commutata</i> R. & S.	+			+	1, 5.
“ <i>fastigiata</i> Sweet.		+	+	+	1, 2, 3, 4, 5.
“ <i>heptaphylla</i> Griseb.		+	+		
“ <i>Jamaicensis</i> Don.	+	+	+		Eleuthera, 1, 4, 5.
“ <i>grandiflora</i> Lam.	+	+			
“ <i>Pes-caprae</i> (L.) Sweet.	+	+	+	+	Fortune, Inagua. Widely distributed.
“ <i>repanda</i> Jacq.		+	+		Eleuthera, Cat, Fortune, 3.
“ <i>sidifolia</i> Choisy.	+		+		1, 4, 6.
“ <i>sinuata</i> Ort.	+	+	+	+	Eleuthera. Widely dis.
“ <i>triloba</i> L.	+	+	+	+	Eleuthera, Fortune, Inagua, Crooked. Widely dis.
<i>Jacquemontia Jamaicensis</i> (Jacq.) Hall.	+	+	+		Eleuthera, Cat, Crooked, Inagua, 1, 6.
“ <i>verticillata</i> (L.) Urb.		+	+		1, 3, 5.
<i>Evolvulus arbuscula</i> Poir.		+	+		Eleuthera, Fortune, Inagua, 1, 6.
<i>Dichondra repens</i> Forst.	+		+	+	Widely distributed.
CUSCUTACEAE.					
<i>Cuscuta Americana</i> L.		+	+		Eleuthera, 1, 2, 3, 4, 5.
HYDROPHYLLACEAE.					
<i>Nama Jamaicensis</i> L.	+		+	+	1, 4, 6.
BORAGINACEAE.					
<i>Cordia angustifolia</i> R. & S.		+	+		6.
“ <i>lima</i> R. & S.		+			
“ <i>Sebestena</i> L.	+	+	+	+	Inagua, 1, 3, 5.
<i>Bourreria Havanensis</i> (Willd.) Miers.	+	+	+	+	Eleuthera, Cat, Crooked, Fortune, 1.
<i>Tournefortia gnaphalodes</i> (Jacq.) R. Br.	+	+	+	+	Eleuthera, Watlings, Inagua, 1, 2, 3.
<i>Tournefortia volubilis</i> L.	+	+	+	+	Eleuthera, Inagua, 1, 2, 3, 5.
<i>Heliotropium Curassavicum</i> L.	+	+	+	+	Cat, Crooked, Inagua. Widely distributed.
“ <i>parviflorum</i> L.	+		+	+	Eleuthera, Cat, Inagua, 1, 2, 3, 4, 5.
“ <i>nanum</i> Northr.		+			

Names of Species.	N. P.	Andros.	Cuba.	S. Fla.	S. U. S.	
VERBENACEAE.						
<i>Lantana Camara</i> L.	+	+	+	+	+	Watlings, 1, 2, 3, 4, 5, 6.
“ <i>crocea</i> Jacq.		+	+			Eleuthera, Cat, 1, 3, 5, 6.
“ <i>involucrata</i> L.	+	+	+	+		Eleuth., Watlings, Crooked Cat, Inag., 1, 2, 3, 4, 5.
<i>Lippia canescens</i> Kth.	+					
“ <i>nodiflora</i> (L.) Michx.	+	+	+	+	+	Eleuthera, Cat, Inagua. Widely distributed.
<i>Abena Jamaicensis</i> (L.) A. S. Hitch.	+		+	+		Eleuthera, Cat, Crooked, Inagua. Widely dis.
<i>Citharexylum Berterii</i> Spreng.		+	+			I.
“ <i>lucidum</i> Cham. & Schl.		+	+			1, 3, 4, 5.
<i>Duranta repens</i> L.	+	+	+	+		Eleuthera, 1, 2, 3, 4, 5.
<i>Petitia Domingensis</i> Jacq.		+				1, 6, Grand Cayman.
<i>Vitex ilicifolia</i> Rich.		+	+			
<i>Avicennia nitida</i> Jacq.	+	+	+	+		Fortune, widely distributed.
LABIATAE.						
<i>Micromeria Brownei</i> Benth.		+		+		1, 5.
<i>Salvia occidentalis</i> Sw.	+		+	+		1, 3, 4, 5.
“ <i>serotina</i> L.	+		+	+		Eleuthera, Cat, Watlings, Crooked Inag., 1, 2, 3, 4.
<i>Leonurus Sibiricus</i> L.	+		+	+	+	Widely distributed.
<i>Leonotis nepetaefolia</i> (L.) R. Br.	+		+	+	+	Eleuthera, Inagua. Widely distributed.
<i>Teucrium Cubense</i> L.	+		+		+	Cat, Inagua, 4, 5.
<i>Mesosphaerum pectinatum</i> (Poit.) Kuntze.		+	+	+		Inagua. Widely distributed.
SOLANACEAE.						
<i>Solanum aculeatissimum</i> Jacq.	+	+	+	+	+	1, 2, 4, 5.
“ <i>Bahamense</i> L.	+	+	+	+		Eleuthera, Cat, Watlings, Crooked, 1, 2, 3, 4.
“ <i>nigrum</i> L.	+		+	+	+	Inagua, 1, 2, 4.
“ “ <i>nodiflorum</i> Gray.	+	+	+	+	+	Inagua, 1, 3.
“ <i>verbascifolium</i> L.	+	+	+	+		Eleuthera. Widely dis.
<i>Physalis angulata</i> L.		+	+	+	+	1, 2, 3, 5.
“ <i>Barbadensis</i> Jacq.		+			+	Widely distributed.
<i>Capsicum baccatum</i> L.	+		+			3.
<i>Cestrum pallidum</i> Lam.	+	+				Cat, 1, 6.
<i>Datura Metel</i> L.		+	+	+	+	Inagua. Widely dis.
SCROPHULARIACEAE.						
<i>Stemodia maritima</i> L.	+		+			Eleuthera, 1, 5.
<i>Capraria biflora</i> L.	+	+	+	+		Cat, Watlings, Crooked, Inagua. Widely dis.
<i>Buchnera elongata</i> Sw.		+	+	+	+	1, 3, 4, 5.
<i>Gerardia maritima</i> Raf.		+		+	+	
“ <i>purpurea</i> L.		+		+	+	
LENTIBULARIACEAE.						
<i>Pinguicula pumila</i> Michx.		+		+	+	
BIGNONIACEAE.						
<i>Tecoma lepidophylla</i> Griseb.		+	+			
“ <i>Bahamensis</i> Northr.	+	+				
“ <i>stans</i> (L.) Juss.	+		+	+		Inagua, 1, 2, 3, 4.
<i>Jacaranda Bahamensis</i> R. Br.		+				

Names of Species.	N. P.	Andros	Cuba.	S. Fla.	S. U. S.
BIGNONIACEAE. — <i>Continued.</i>					
Jacaranda coerulea Griseb.	+				Cat.
ACANTHACEAE.					
Thunbergia fragrans Roxb.	+				1, 3 (East Indies).
Blechnum Brownei Juss.	+		+		Widely distributed.
Anthacanthus acicularis (Sw.) Nees.	+	+	+		3.
Dicliptera assurgens Juss.	+		+	+	1, 3, 4, 5.
RUBIACEAE.					
Exostemma Caribaeum (Jacq.) R.&S.		+	+	+	Crooked, 1, 2, 3, 4, 5.
Rhacicallis Americana (Jacq.) Hitch.	+	+	+		Crooked, 1.
Catesbaea spinosa L.			+	+	1.
“ fasciculata Northr.			+		
Randia aculeata L.	+	+	+	+	Eleuthera, Cat, Crooked, Inagua, 1, 2, 3, 6.
Genipa clusiaefolia (Jacq.) Griseb.	+	+	+	+	Cat, Watlings, Crooked, Fortune.
Guettarda elliptica Sw.	+	+	+	+	Eleuthera, Fortune, Inagua, 1, 4.
“ scabra Lam.	+	+	+	+	Inagua, 1, 2, 3, 4, 5.
Antirrhoea lucida Gaertn.			+	+	1, 2, 3, 6.
“ myrtifolia Griseb.			+	+	
Erithalis fruticosa L.	+	+	+	+	Eleuthera, Cat, Watlings, Fort, Crooked, Inagua, 1, 2, 3, 4.
“ rotundata Griseb.			+	+	
Chiococca parvifolia Wulfs.	+	+	+	+	Crooked, 1, 3, 4, 5.
“ alba (L.) A. S. Hitch.	+	+	+	+	Eleuthera, Cat, 1, 2, 3, 4, 5.
“ sp.			+	+	
Phialanthus myrtilloides Griseb.			+	+	Crooked.
Strumpfia maritima Jacq.	+	+	+	+	Eleuth., Watlings, Crooked, 3.
Morinda Royoc L.			+	+	1, 2, 6.
Myrstiphyllum pubescens (Sw.) A. S. Hitch.			+	+	1, 4.
Myrstiphyllum undatum (Jacq.) Hitch.	+	+		+	Eleuthera, Cat, 1.
“ ligustrifolium Northr.			+		
Ernodea littoralis Sw.	+	+		+	Cat, Watlings, Crooked, Fortune, Inagua, 1, 3.
Hamelia patens Jacq.	+		+	+	1, 2, 3, 4, 5.
Spermocoe tenuior Lam.	+		+	+	Cat, Crooked, Inagua, For- tune, Eleuth., 1, 2, 3, 4, 5.
Relbunium hypocarpium (L.) Hemsl.		+			1, 3, 4, 5, 6.
CUCURBITACEAE.					
Anguria Keithii Northr.		+			
Trianosperma racemosa (Griseb.) T. & G.		+			1, 5, 6.
GOODENIACEAE.					
Scaevola Plumieri (L.) Vahl.	+	+	+	+	Eleuthera, Crooked. Widely distributed.
COMPOSITAE.					
Vernonia Bahamensis Griseb.	+	+			Cat, Inagua.
Ageratum conyzoides L.	+		+	+	Fortune, Inagua. Widely distributed.

Names of Species.	N. P.	Andros.	Cuba.	S. Fla.	S. U. S.
COMPOSITAE.— <i>Continued.</i>					
<i>Eupatorium ageratifolium</i> DC.	+		+	+	4, 6.
“ <i>Bahamense</i> Northr.		+			
“ <i>capillifolium</i> (Lam.) Small.	+			+	
“ <i>odoratum</i> L.	+		+		1, 3, 4, 5, 6.
“ <i>villosum</i> Sw.	+		+	+	Cat, 1.
<i>Willugbaeya scandens</i> (L.) Kuntze.	+	+	+	+	1, 3, 4, 5.
<i>Aster exilis</i> Ell.	+	+	+	+	
<i>Baccharis dioica</i> Vahl.	+	+			Eleuthera, Inagua, 1, 2, 3.
<i>Erigeron quercifolium</i> Lam.	+	+		+	•
<i>Pluchea foetida</i> (L.) B.S.P.		+		+	
“ <i>camphorata</i> DC.	+		+	+	1, 3, 4, 5.
“ <i>odorata</i> (L.) Cass.	+	+	+	+	Inagua, 1, 2, 3, 4, 5.
<i>Parthenium Hysterophorus</i> L.	+		+	+	Eleuthera, Cat, Inagua, 1, 2, 3, 4, 5.
<i>Iva cheiranthifolia</i> Kth.	+		+		
“ <i>imbricata</i> Walt.		+		+	
<i>Ambrosia hispida</i> Pursh.	+	+	+	+	Eleuthera, Crooked, Fortune, 1, 4.
<i>Isocarpha oppositifolia</i> R. Br.		+			1.
<i>Borrichia arborescens</i> DC.	+	+	+	+	Cat, Crooked, 1, 2, 3, 5.
<i>Amellus aspera</i> (Jacq.) Kuntze.	+	+	+	+	Eleuthera, Fortune, 1, 2, 3, 4, 5.
<i>Salmea petrobioides</i> Griseb.	+				Grand Cayman.
<i>Bidens leucantha</i> Willd.	+		+	+	Eleuthera. Widely dis.
<i>Flaveria linearis</i> Lag.		+	+	+	
<i>Porophyllum ruderales</i> Cass.		+	+		1, 3, 4, 5.
<i>Pectis linifolia</i> L.	+	+		+	1, 2, 3.
<i>Neurolaena lobata</i> (L.) R. Br.		+	+		1, 3, 4, 5.
<i>Erechthites hieracifolia</i> (L.) Raf.		+		+	Widely distributed.
<i>Emilia sonchifolia</i> (L.) DC.	+		+		Widely distributed.
<i>Anaethaphia Northropiana</i> Greenm.		+	+		
“ <i>pauciflosculosa</i> Wright.		+			Fortune Crooked, Inagua, 6.
<i>Chaptalia albicans</i> (DC.) H.		+	+		1, 4, 5.
<i>Sonchus oleraceus</i> L.	+		+	+	Eleuthera. Widely dis.
<i>Tridax procumbens</i> L.	+		+	+	

SUMMARY OF ABOVE TABLE

Total found on New Providence and Andros (exclusive of cultivated and escaped plants),	453
Of which are reported also from other islands of the group,	176
“ “ “ “ “ “ Cuba,	335
“ “ “ “ “ “ South Florida,	250
“ “ “ “ “ “ Southern United States,	108
“ “ “ “ “ “ Jamaica,	286
“ “ “ “ “ “ Virgin Islands,	190
“ “ “ “ “ “ Windward Islands,	223
“ “ “ “ “ “ Mexico and Central America,	197
“ “ “ “ “ “ South America,	199

Of these 453 species, 76 are widely distributed, being common in warm countries on both continents.

DISTRIBUTION OF THE 128 SPECIES FOUND IN NEW PROVIDENCE
AND ANDROS BUT NOT REPORTED FROM CUBA.

Peculiar to the Bahamas,	34
Found also in South Florida,	47
" " " Southern United States,	28
" " " Jamaica,	20
" " " Virgin Islands,	10
" " " Windward Islands,	14
" " " Mexico and Central America,	8
" " " South America,	10
" " " Haiti,	10

The 34 species that are apparently endemic are as follows: *Pinus Bahamensis*, *Acacia choriophylla*, *Buxus Bahamensis*, *Passiflora pectinata*, *Jacaranda Bahamensis*, *Jacaranda caerulea*, *Vernonia Bahamensis*, *Thouinia discolor*, *Caesalpinia ovalifolia*, *Phyllanthus Bahamensis*, *Casearia Bahamensis*, and *Reynosia Northropiana*, and the following described and figured as new in this report: *Thrinax Bahamensis*, *Paurotis Androsana*, *Cyclospathe Northropi* (the last two new genera), *Hymenocallis arenicola*, *Vanilla articulata*, *Pithecolobium Bahamense*, *Cassia Caribaea*, *Linum Bahamense*, *Erythroxylon reticulatum*, *Phorodendron Northropiae*, *Helicteres spiralis*, *Xylosma ilicifolia*, *Terminalia spinosa*, *Tecoma Bahamensis*, *Catesbaea fasciculata*, *Myrstiphyllum ligustifolium*, *Crassopetalum coriaceum*, *Metastelma barbatum*, *Heliotropium nanum*, *Aletris bracteata*, *Anguria Keithii*, *Eupatorium Bahamense*. Of the 34 species, 21 were found only on Andros.

Of the other species formerly considered endemic (Report of committee appointed for purpose of exploring the Flora of the Bahamas, W. T. Thiselton-Dyer, Sec., 1888) *Phialanthus myrtilloides* and *Antirrhoea myrtifolia* have since been reported from Cuba; *Salmea petroboides* has been reported by Hitchcock as occurring in Grand Cayman and *Bietia purpurea* has proved to be not distinct from *B. verecunda*.

DISTRIBUTION OF THE 250 SPECIES FOUND IN NEW PROVIDENCE
AND ANDROS AND ALSO IN SOUTH FLORIDA

Found also in the United States, north of tropical Florida,	108
" " " Cuba,	202
" " " Jamaica,	198
" " " Virgin Islands,	149
" " " Windward Islands,	161

Found also in	Mexico and Central America,	153
" " "	South America,	153
Widely distributed,		68
Species not hitherto reported outside of the United States,		18
Of these 18 species, 4 are limited to tropical Florida, the other 14 extend north of southern Florida.		

Of the plants apparently restricted to the United States and the Bahamas, *Dondia linearis* was found only on New Providence; *Smilax auriculata*, *Vitis rotundifolia*, *Sabbatia campanulata*, *Erigeron quercifolium* and *Jacquinia Keyensis* were collected on both islands while the following were found only on the island of Andros: *Iva imbricata*, *Eugenia longipes*, *Mimusops Floridana*, *Myrica cerifera*, *Pluchea foetida*, *Salicornia Bigelovii*, *Polygala Boykinii*, *Samolus ebracteatus*, *Mitreola sessilifolia*, *Gerardia maritima*, *Gerardia purpurea*, *Pinguicula pumila*. The last eight were confined to the western side of Andros, growing on the savannas the border of the swash or, in the case of the *Pluchea*, in damp spots in the pines. *Myrica cerifera* is said by Gardiner and Dolley to have been introduced from the United States.

The three reported by Hitchcock as being confined to the United States and the Bahamas are *Xanthium strumarium*, *Vitis rotundifolia* and *Distichlis spicata* (the last found only in Inagua). The *Vitis*, he observes, may have been carried by birds and the *Smilax*, *Eugenia*, and *Mimusops* are probably due to the same agency. Many of our seed-eating birds either spend their winters in the Bahamas or stop there on their migrations. Catbirds and mocking birds, for instance, were abundant on Andros during the winter and early spring.

The plants mentioned above as being found on the savannas and bordering the swash on the west side of Andros offer no inducements however to seed-eating birds, the fruits being dry and inconspicuous and the seeds in many cases minute. As has been noted before, the west side of Andros is a paradise for water birds and they are found there in large numbers. Many of these birds, such as the great blue heron (*Ardea herodias*), the little blue heron (*Ardea caerulea*) and the killdeer (*Aegialitis vocifera*), are regular winter visitors from the United States. May it not be that some of these waders have at some time transported seeds of the plants in question, in mud that may have adhered to their beaks

or feet? Their presence certainly seems very difficult to account for otherwise. Darwin says (Origin of Species, chapter thirteen): "I have before mentioned that earth occasionally adheres in some quantity to the feet and beaks of birds. Wading birds which frequent the muddy edges of ponds if suddenly flushed would be the most likely to have muddy feet. Birds of this order wander more than those of any other, and they are occasionally found on the most remote and barren islands of the open ocean; they would not be likely to alight on the surface of the sea, so that any dirt on their feet would not be washed off, and when gaining the land they would be sure to fly to their natural fresh-water haunts. I do not believe that botanists are aware how charged the mud of ponds is with seeds. I have tried several little experiments but will here give only the most striking case: I took in February three tablespoonfuls of mud from three different points, beneath water on the edge of a little pond; this mud when dried weighed only $6\frac{3}{4}$ ounces; I kept it covered up in my study for six months, pulling up and counting each plant as it grew; the plants were of many kinds and were altogether 537 in number and yet the viscid mud was all contained in a breakfast cup! Considering these facts, I think it would be an inexplicable circumstance if water birds did not transport the seeds of fresh-water plants to unstocked ponds and streams situated at very distant points." The plants mentioned above are not water plants, it is true, but they are common in moist soil in the vicinity of ponds.

The seeds of *Pluchea* may owe their transportation to the wind. But whatever the means of dissemination, the fact seems established that, although the bulk of the Bahama flora has probably come from the south, there is a contingent, in the northern islands of the group at least, that owes its origin to the north. It is worthy of note in this connection that in a number of cases, when our plants were compared with large series of both Florida and Cuban specimens, they were found to resemble most closely the Florida specimens; hence when species occur in both Cuba and Florida, it may well be that the Bahaman plants owe their origin to the latter.

DISTRIBUTION WITHIN THE BAHAMAN GROUP

Species found on Andros,	359
“ “ “ New Providence,	262
“ common to both islands,	153
Found also on Eleuthera,	98
“ “ “ Cat Island,	79
“ “ “ Crooked and Fortune Islands,	79
“ “ “ Inagua,	88
“ “ “ Watlings,	18

(The above data for plants reported from the islands other than New Providence and Andros were taken from Hitchcock's Report.)

In addition to the plants collected by us in New Providence and Andros, Professor Hitchcock lists in his report 148 more, collected from the various islands of the group. Of these 36 are grasses and 30 are widely distributed or introduced species, while *Epidendrum altissimum*, *Mimosa Bahamensis*, *Croton Eleuteria*, *Croton Hjalmarsonii*, *Pavonia Bahamensis* and *Eragrostis Bahamensis* are endemic, making a total of forty endemic species in the Bahama Islands. The last two had been previously undescribed.

NOTES ON THE LOCAL DISTRIBUTION

The Bahama pine (*Pinus Bahamensis*), so abundant on New Providence and Andros, is confined entirely to the northern islands of the group, being found in addition only on Abaco, Bahama and the Berry Islands, the first two being on the Little Bahama Bank and the latter a series of small cays on the Great Bahama Bank north of Andros.

Although, as we have seen, New Providence and Andros have many plants in common, some interesting points of difference were noted. The numerous introduced plants so common about Nassau, as *Argemone Mexicana*, *Asclepias Curassavica*, *Abrus precatorius*, *Bidens leucantha*, *Ageratum conyzoides*, etc., were of course entirely wanting on Andros but, on the other hand, Aristolochiaceae, Cactaceae, Polygalaceae, and Loranthaceae were not seen on New Providence while represented by two or three species each on Andros. *Passiflora pectinata*, while very common in the pines on Andros (also reported from Turk's Island by Grisebach), was not found on New Providence, as was also the case with

Hymenocallis arenicola, the latter growing luxuriantly on many of the sandy beaches of the former island.

Among the interesting plants found on Andros that have not been reported from New Providence are the following: *Agave rigida*, *Casearia laetioides*, *Pithecolobium Hystrix*, *Peltophorum adnatum*, *Ichthyomethia Piscipula*, *Euphorbia cassythoides*, *Lucuma pauciflora*, *Voyria Mexicana*, *Ipomoea repanda*, *Petitia Domingensis*, *Vitex ilicifolia*, *Mimusops Floridana* and *Morinda Royoc*. With very few exceptions the plants found on the savannas of Andros were wanting on New Providence and as they formed the most interesting feature of the Andros flora, it may be worth while to give the full list of plants found there. They were *Sabbatia campanulata*, *Eustoma exaltatum*, *Bletia verecunda*, *Euphorbia buxifolia*, *Dichromena colorata*, *Cladium Jamaicense*, *Merosphaerum pectinatum*, *Gyrostachys tortilis*, *Flaveria linearis*, *Hypoxis juncea*, *Mitreola sessilifolia* and *M. petiolata*, *Pinguicula pumila*, *Buchnera elongata*, *Gerardia purpurea* and *G. maritima*, *Polygala Boykinii* and *P. brizoides*, *Samolus ebracteatus*, *Limodorum tuberosum*, *Aletris bracteata*, *Chiococca alba parviflora*, *Buxus Bahamensis*, *Heliotropium nanum*, *Crassopetalum coriaceum*, *Rhamnidium punctatum*, and *Terminalia spinosa*. Of these only the first six were found on New Providence and in addition to *Rhamnidium punctatum*, were the only ones found on Andros elsewhere than the savannas.

On Andros itself, no Cactaceae were found in the northern part of the island, while *Cereus Swartzii* and two species of *Opuntia* were quite common in the southern part, as they are said to be on the more southerly islands of the group. We also noticed that, whereas *Vitis alata* was very common on the northern half of the island, below that it was replaced by the allied species *Vitis trifoliata*.

On both islands mosses, lichens, and fungi were noticeably infrequent, and of the few species of each that were found none were common.

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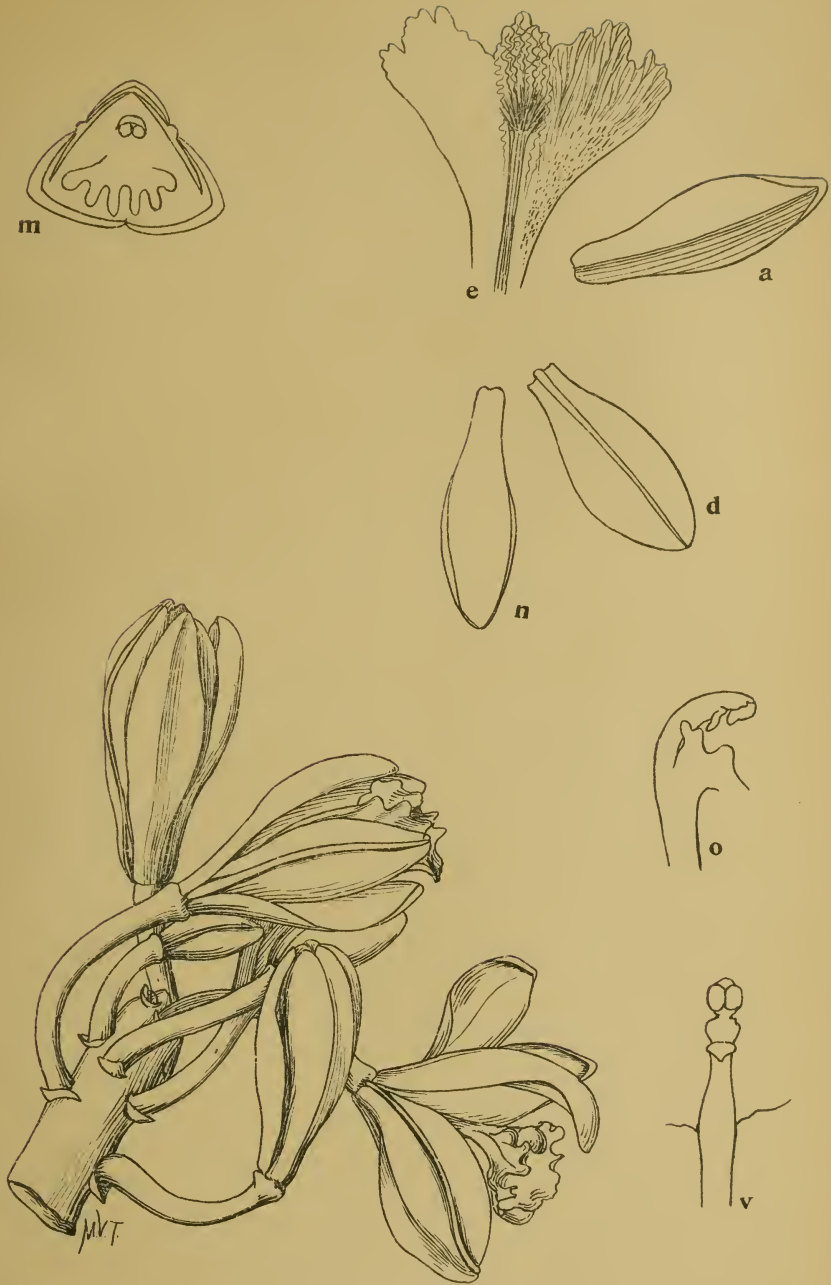
- Page 10, line 7 from bottom : *dele Rhamnidium*.
 Page 43, line 3 : for Wr. read Wright.
 Page 48, line 1 : for Wr. read Wright.
 Page 48, lines 4, 10, and 24 : for *Crassopetalum* read *Crossopetalum*.
 Page 58 line 2 from bottom : for *barbata* read *barbatum*.
 Page 69, line 17 : for Gris. read Griseb.
 Page 77, line 17 : for *lanceolata* read *lanceolatum*.



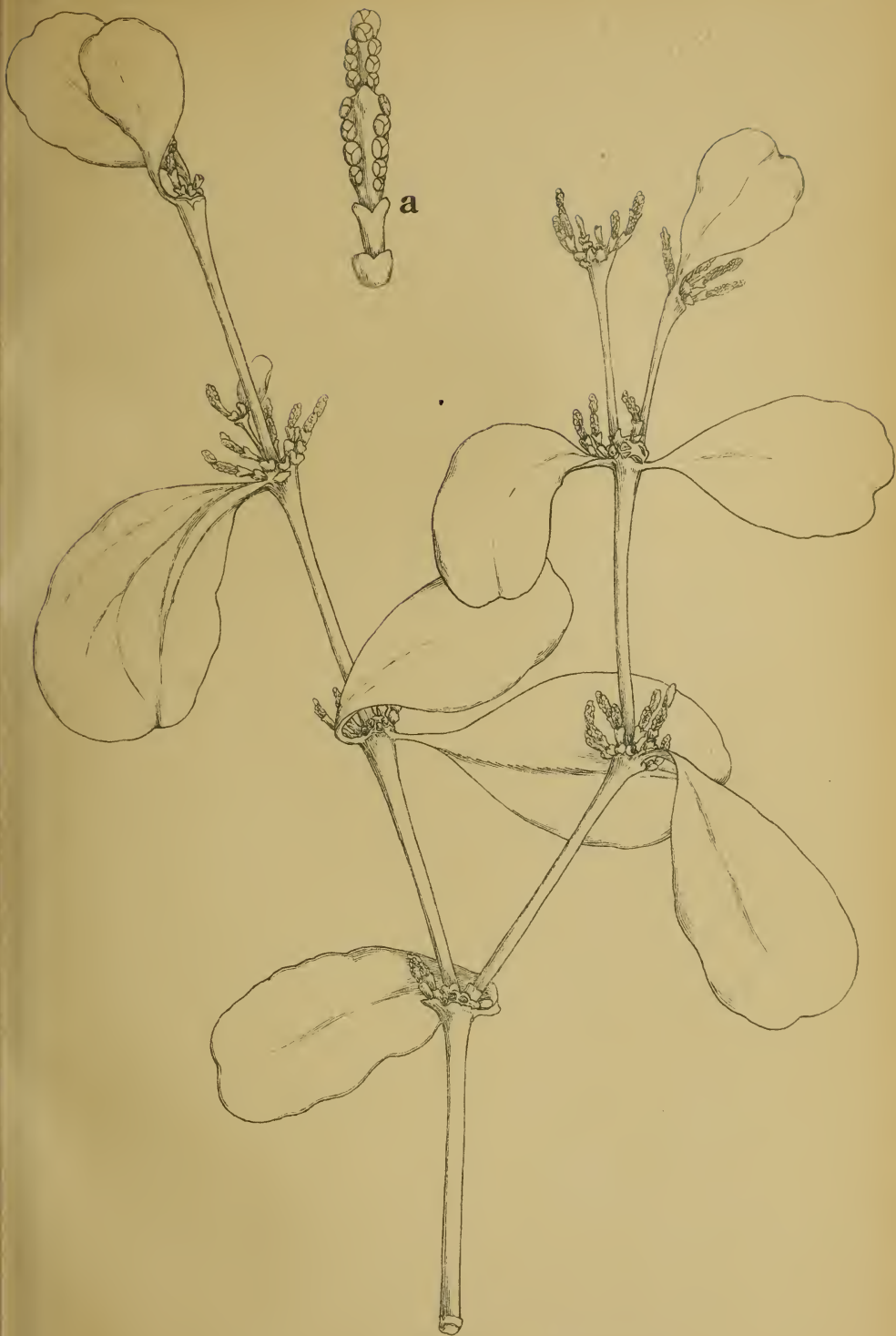
ALETRIS BRACTEATA



HYMENOCALLIS ARENICOLA



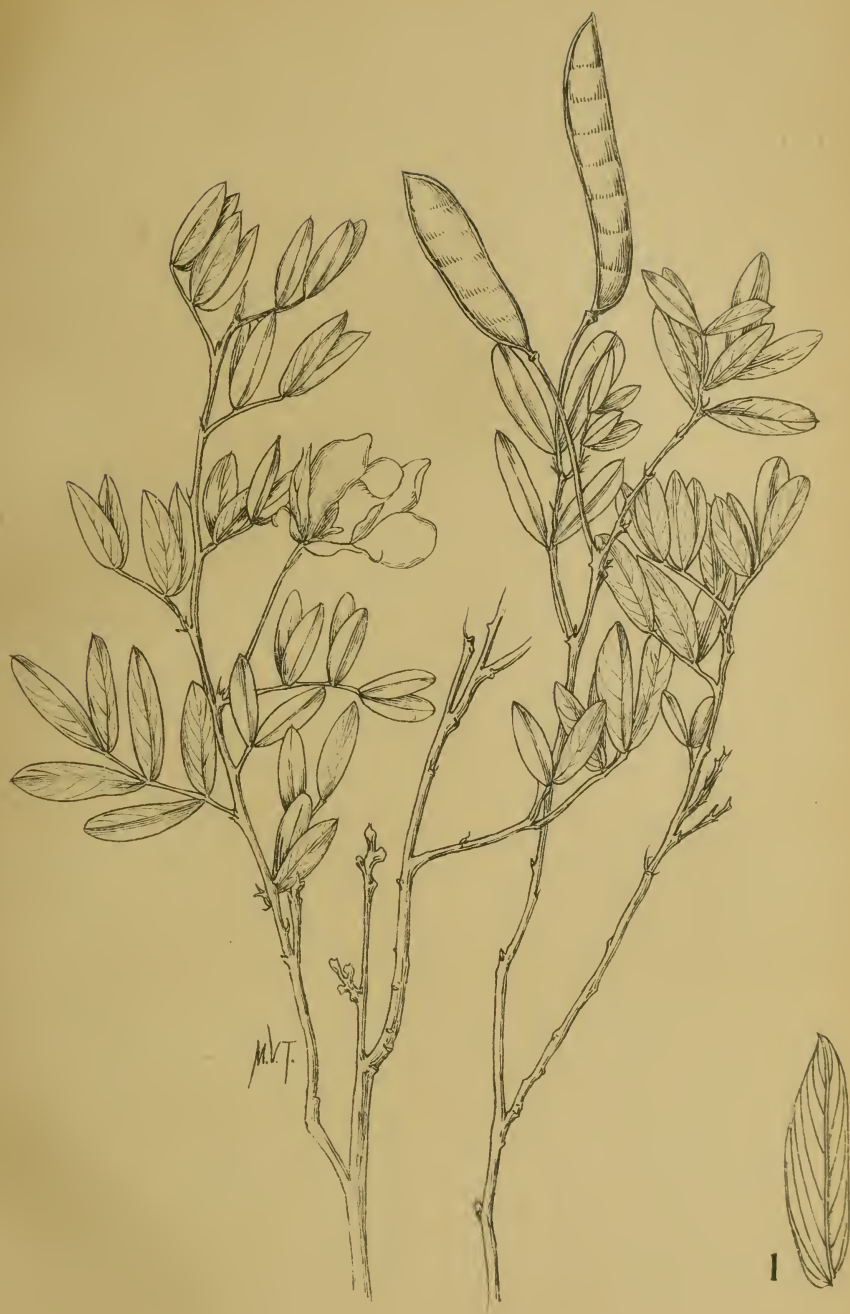
VANILLA ARTICULATA



PHORADENDRON NORTHROPIAE



PITHECOLOBIUM BAHAMENSE



CASSIA CARIBAEA



LINUM BAHAMENSE



ERYTHROXYLON RETICULATUM



CROSSOPETALUM CORIACEUM



REYNOSIA NORTHROPIANA URBAN



HELICTERES SPIRALIS



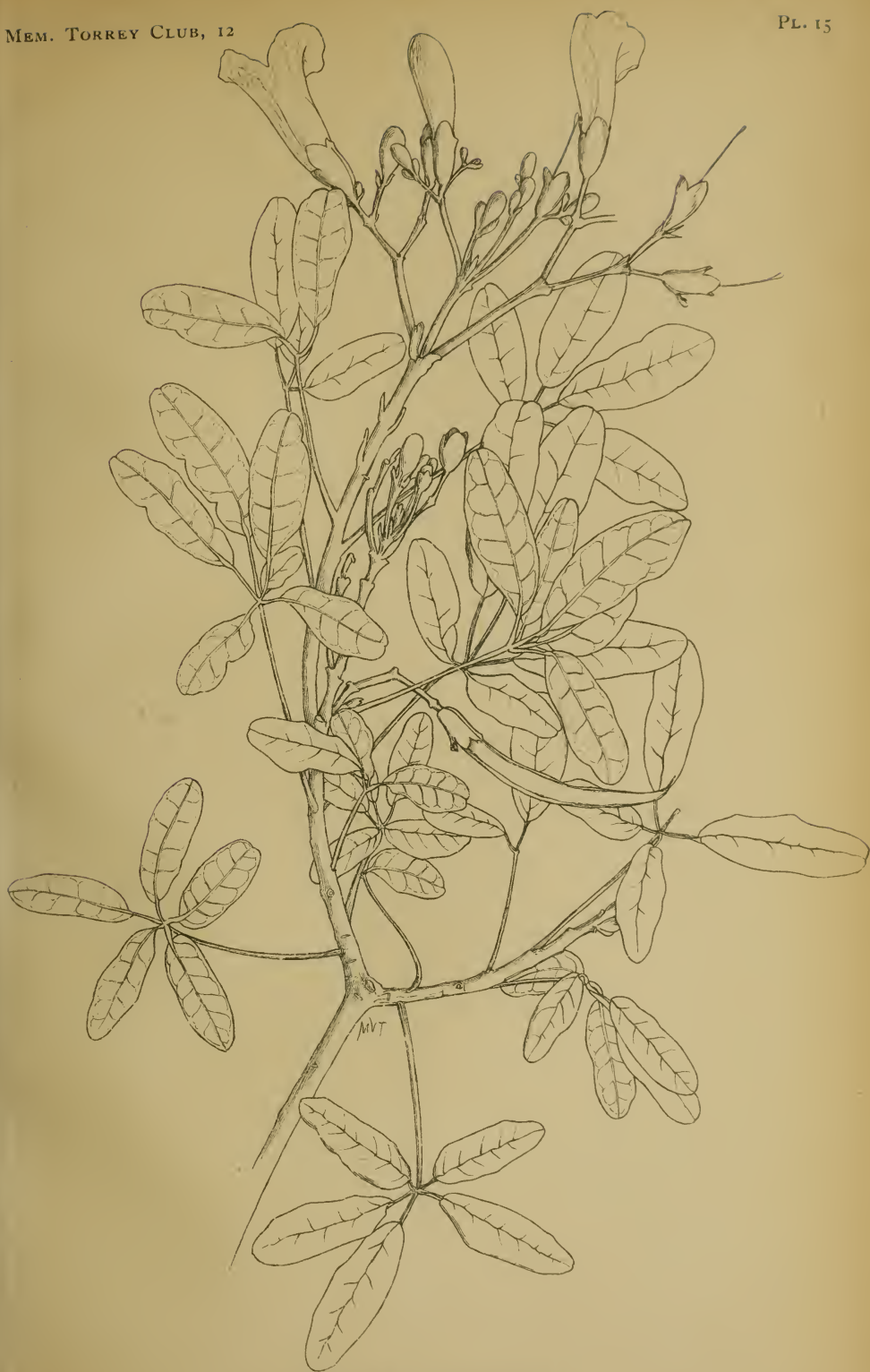
XYLOSMA ILICIFOLIA



TERMINALIA SPINOSA



METASTELMA BARBATA



TECOMA BAHAMENSIS



CATESBAEA FASCICULATA



MYRSTIPHYLLUM LIGUSTRIFOLIUM



ANGURIA KEITHII



EUPATORIUM BAHAMENSE

