

Carboniferous strata, the position of the red stratum, and the isolation of the Upper Arisaig fossiliferous strata, attest this. Yet I believe that it has been a benefactor to our geology, as I consider that without it this interesting and typical series which is of so much service in the illustration of Nova Scotian Geology, would still have been hidden in the depths.

ART. VI. ON THE VEGETATION OF THE BERMUDAS. BY
J. MATTHEW JONES, F. L. S.

THE Bermudas, sometimes known under the almost obsolete name of The Somers' Isles, are situate in $32^{\circ} 15'$ north latitude, and $64^{\circ} 51'$ west longitude, being distant from the nearest land, Cape Hatteras in North Carolina, about 600 nautical miles.

The general features of the group present no remarkable attractions; merely an elongated strip of land about 25 miles in length, somewhat in shape like the letter J without its horizontal summit, slightly elevated above the surrounding ocean, and broken more or less into a series of disconnected patches, which, although in reality islets, are only slightly separated from the principal body of land which may be called "Bermuda proper." On its northern side, this strip of land as seen from sea, presents a rugged coast outline, composed alternately of cliffs of slight elevation and lowlands faced seaward with a strip of shelving sand beach, or masses of wave worn rock channelled and fretted by the ceaseless action of the waves. The whole is surrounded by a barrier reef formed of the same calcareous limestone as the islands, coated with serpulæ; which, although originally the coast line of the Bermuda land is now wholly submerged at high water, save at one point to the north, where on the line of this barrier reef stand four pinnacles of rock about ten feet above high water.

The surface of the land, which is nowhere higher than 250 feet, appears on trivial inspection to be composed of sand and soil interspersed with rock, and clothed over its whole extent with stunted cedars. In certain places where the land lies nearly on a level

with the sea and is not far removed from it, occur tracts of marsh which having communication with the ocean through the intervening rock, are more or less overgrown with reeds and sedges, from out which in the drier spots the palmetto raises its plume-like foliage. Not a brook or natural watercourse of any kind can be observed anywhere, nor will even the strictest search reveal a spring of fresh water of any kind, the only supply of that element coming from the clouds.

The geological character of the islands is extremely interesting, as their isolated position and irregular formation have always been considered to partake of the mysterious. Although the superficial aspect of the Bermudas at once proclaims wind-power as the chief agent in forming the more elevated parts of the land, through the medium of drift sand, we have every reason to believe from recent observations that the Bermudas rest upon a basis of compact limestone. The higher grounds are coated with a layer of sandy earth, the sand generally predominating as we proceed upwards, finally becoming almost fine sand and of course unfavorable to the growth of plants. This feature, however, is not universal, for in some parts of the islands we meet with depressions on the higher lands, in which is found a shallow coating of light coloured red earth, more or less mingled with sand and vegetable mould. This red earth of the hills is different, however, both in colour and composition to that which is found along the shore line, and especially the district of Walsingham; this latter earth which is of a chocolate colour, partaking more of the nature of clay, and possessing a greater proportion of oxide of iron and alumina. It was in 1859 that our attention was first attracted to the large amount of oxide of iron and alumina contained in this dark coloured "red earth," for having on our first visit to the islands obtained a sample, we submitted it to Dr. Albert Bernays, Analytical Chemist of St. Thomas Hospital, who very kindly analyzed it and gave as the result 35.50 of oxide of iron and alumina. Later still, through the kindness of Major General Lefroy, C. B., F. R. S., the present Governor of Bermuda, we have been favoured with the analysis of Messrs. Abel and Manning, which gives for four samples from different localities the following results :

ABEL.

Alumina.....	11.74.
Sesqui-Ox. of Iron.....	7.63.

MANNING.

No. 1. Alumina.....	13.604.
Sesqui-Ox. of Iron.....	12.310.
No. 2. Alumina.....	7.368.
Sesqui-Ox. of Iron.....	9.964.
No. 3. Alumina.....	22.790.
Sesqui-Ox. of Iron.....	28.318.

Now the presence of nearly 30 per cent. of oxide of iron in the soil of an island so small and remote from any continent naturally perplexed us, as no clue could be gained as to its probable origin; nor was it until the recent deep sea explorations of the "Challenger," that light was thrown upon the question. In "Nature" (vol. 8 p. 30) we find that on approaching the West Indian Islands, more particularly in the deeper soundings, a peculiar "red clay" gradually assuming a darker tint until it becomes chocolate in colour, was met with; and that this red clay was found the greater part of the distance from St. Thomas to the Bermudas; and moreover, it is stated that this red clay of the deep sea proved on analysis by Mr. Buchanan, chemist to the expedition, to be "almost pure clay, silicate of alumina, and the sesqui-oxide of iron with a small quantity of manganese." This analysis tends to convince us that the deep chocolate coloured red clay of the islands found in the lower levels, and from high water mark some distance into the sea, originally came from the ocean floor, and that when by volcanic agency the Bermuda column was raised from the depths of the sea, its summit, most probably broken in outline, appeared above the surface covered with this red mud, which in the course of ages has but slightly changed its composition. and yet possesses sufficient evidence to prove its identity with that now lying contiguous to the base of the Bermuda column. Further remarks, however, on this subject are unnecessary in a botanical paper, which is only intended to describe the geological character of the islands as connected with their vegetation.

The large deposits of peaty mud of the marshes is also worthy of note, as it may afford some idea of the time requisite to fill up with such vegetable matter the deep cavities they originally presented. Although always proclaimed to be very deep, yet no satisfactory information on the subject could be obtained until the past year, 1872, when soundings were made by His Excellency the Governor, in the Pembroke Marsh below Government House, by means of a series of lengths of iron gas piping about 1 in. diam. screwed into each other, the lower length having attached to its foot a well-contrived auger, which, being wrenched around from above, filled a chamber with the material it came in contact with at the bottom. The deepest sounding gave 46 feet of this peaty mud, and the auger borings afforded evidence of the mud reaching quite to the limestone floor of the marsh basin, portions of the limestone filling the lower part of the chamber and peaty mud the upper.

The Bermudian climate partakes of a temperate and tropical character, for during seven months of the year, November to May inclusive, the thermometer rarely rises above 75° , the minimum being reached in the months of February and March, but seldom lower than 50° . During this period, which may be called the "cool season," the weather is very variable, alternate storm and calm, a circumstance rendered too notorious by the large number of vessels which in a shattered or sinking condition are constantly arriving. The other portion of the year from June to October inclusive, which may be termed the "hot season," is peculiarly warm, day and night almost alike in temperature from the radiation of heat from a white sandy ground surface, almost wholly exposed to the glare of a sun which is constant—a cloudy sky being a somewhat remarkable event during the Bermudian summer. The sand formation charged with this great heat during the hours of the day, only loses a few degrees of heat during the night, so that the heat is almost continuous, when it positively sets in, which is about the middle of July. From this date, often until the end of September, a frequent calm prevails, day succeeds day of perfect stillness; no trade wind lends its refreshing influence in mitigation of the heat, and long continued droughts are prevalent, which combined with the scorching rays of the blazing sun, blast all vegetable growth,

and render the more elevated districts arid and waste. The Climate of the Bermudas is, therefore, not favourable to the growth of plants during summer as a rule, and it is only in the cool season that any luxuriance of flower or foliage can be observed.

The origin of plant life upon the Bermudas, is a question not very difficult of solution, after a careful consideration of facts accruing from the continued observations of several years. The islands are greatly influenced by the current of the Gulf Stream, which brings to their shores numberless objects, animate and inanimate, from the Caribbean Sea. Among such we may instance the seeds of trees, shrubs and plants, which are continually being cast ashore; while the occurrence of several forms, even forest trees, just above high water mark, go far to prove their drift origin. The hard seeds of the Leguminosæ seem especially adapted to withstand immersion in salt water for a length of time, and the fact of this order being better represented than any other favours the presumption. But although several leguminous seeds germinate on the Bermudas, there are some commonly cast ashore which do not; such are the seeds of *Entada scandens*, and *Mucuna urens*, which have never yet grown on the islands, notwithstanding their seeds are frequently landed near the trailing stems of *Canavalia obtusifolia*. Probably the sandy soil of the beach is unsuited to these species, which appear to grow on river banks in the West Indian Islands.

Many of the European weeds have doubtless been introduced at the first settlement of the islands, when several consignments of field and garden seeds were, according to old records, forwarded by the original "Bermuda Company" of London. Seeds in those days were probably often carelessly gathered, and often mixed with those of the weeds growing with them. As to the origin of the cedar tree, which appears from time immemorial to have been the principal feature of the Bermudas, it is somewhat perplexing. Griesbach has carefully determined it as *Juniperus barbadensis*, which is a true West Indian form; whereas it has always hitherto been taken for a variety of *J. virginiana*, which is found throughout eastern North America. Had it been the latter species we should at once have instanced the cedar waxwing (*Bombycilla*

carolinensis,) as the agent, for these birds visit the islands nearly every winter in small flocks, often being blown off the American coast. A flock of these birds with crops well charged with cedar berries, leaving the American coast before a westerly gale, could land on the islands in twenty hours, if not less, and the seeds would have lost none of their vitality. With the West Indian form it is different. Few migratory birds visit the Bermudas from the West Indies, on their return north in spring, keeping to the continent in their progress; so we can only look to the Gulf Stream current as a means of transportation in the case of this species. Many of the trees, shrubs, and plants of North America must certainly have been introduced by birds, a large number of species, natives of that continent, annually visiting the islands. The waders and water birds could easily retain small seeds in the mud adhering to the soles of their feet, which would not be released until at the end of their lengthy but soon accomplished flight, they alighted on the shores or in the marshes of the Bermudas. Probably all the fruit-bearing trees have been introduced by the inhabitants, as have also the palms, with the exception of the palmetto.

Many additions have been made to the flora during the last two years through the assiduity of His Excellency the Governor, who from his first arrival in the colony has paid particular attention to the growth of new trees, shrubs, and plants. During the past year His Excellency has sown and distributed throughout the islands packets of seeds from Kew, representing no less than 600 species, principally of trees and shrubs suited to sandy coast soils, which we sincerely trust may grow and thrive, so that in future years the inhabitants may enjoy the benefit of a more suitable arborescent vegetation, and remember with gratitude the name of their benefactor.

In the foregoing brief sketch of the physical aspect of the Bermudas, we have endeavoured to exhibit the more interesting particulars, in order that the readers of this paper may possess a fair idea of this oceanic land which is rarely visited by naturalists; while in conclusion we cannot fail to mention the kind assistance we have received from His Excellency the Governor, who in the most liberal manner placed a long list of the plants of the islands

identified by himself and Dr. Hooker, at our disposal, and in various other ways has, during our two last visits to the islands, furthered our object of making this addition to our previous publications on the natural history of the group.

RANUNCULACEÆ.

- CLEMATIS JAPONICA*, *D. C.* Hab. Japan.
RANUNCULUS MURICATUS, *L.* Hab. Europe.
R. PARVIFLORUS, *L.* Hab. Europe.
DELPHINIUM — ?

MAGNOLIACEÆ.

- MAGNOLIA GRANDIFLORA*, *L.* Hab. Southern States of America.
 A fine specimen grows at Mrs. F. Peniston's in Smith's parish, which did not blossom for twenty years after it was planted.
LIRIODENDRON TULIPIFERA, *L.* "Tulip Tree" of North America, where in favorable situations it attains a large size. The few trees which exist at the present time in the Bermudas, are of small size in comparison with those of the American continent.

ANONACEÆ.

- ANONA RETICULATA*, *L.* "Custard Apple" of the West Indies.
 It grows well in the Bermudas, especially in Mr. Perot's garden at Hamilton.
A. MURICATA, *L.* "Sour-sop." Hab. West Indies. A tree at "The Hermitage," supposed to have been planted about sixty years ago, was never known to bear fruit until 1870, when three fruit only ripened.
A. CHERIMOLIA, *Mill.* "Chermoi Apple," or "Cherimoya."
 This tree which is a native of the western part of Central America, is rare in the Bermudas, although it grows well from seed, and the fruit sometimes attains a weight of 2 lbs.
ROLLINIA SIEBERI, *D. C.* Hab. West Indies.
 (*Anona reticulata*, *Sieb.*)

SARRACENIACEÆ.

- SARRACENIA PURPUREA*, *L.* Hab. N. America. Mount Langton garden.

PAPAVERACEÆ.

ARGEMONE MEXICANA, *L.* “Lady Thistle.” Very common in gardens and waste ground which has been cultivated. From its flowers is sometimes made a yellow dye, with which the islanders colour ribbons and other small articles. It flowers about the end of March or beginning of April. The plant appears to have a very wide geographical range, being found in the northern as well as southern States of America, West Indies, India, China, and probably all over the tropical as well as temperate regions of the globe.

PAPAVER — ? Varieties cultivated.

FUMARIACEÆ.

FUMARIA OFFICINALIS, *L.* Hab. Europe.

CRUCIFERÆ.

LEPIDIUM VIRGINICUM, *L.* “Pepper Grass.” A common weed in waste ground.

IBERIS VIOLACEA, *D. C.*

COCHLEARIA OFFICINALIS, *L.* “Scurvy Grass.” Common every where along the shore, sometimes attaining a large size, almost a bush, in sheltered places beneath the cliffs of the south shore at Devonshire Bay. In flower March and April. It is used as a cure for diarrhœ, and also for cleansing the blood.

C. ARMORACEA. “Horse Radish.” Cultivated.

NASTURTIUM — ? Varieties cultivated.

CHEIRANTHUS — ? “Wall Flower.” Varieties cultivated.

MATTHIOLA — ? “Stock.” Wild among the rocks below Gibb’s Hill light house, south shore of Port Royal. Varieties also cultivated in gardens.

BRASSICA — ? “Cabbage.” Varieties cultivated.

BETA — ? “Beet.” Varieties cultivated.

SINAPIS — ? “Mustard.” A very troublesome weed growing in cultivated ground. I think there are two species.

RHAPHANUS — ? “Radish.” Varieties cultivated.

MALCOMIA MARITIMA, *D. C.* Hab. S. Europe.

CAPPARIDACEÆ.

STERIPHOMA ELLIPTICA, *Spreng.* Hab. S. America.

RESEDACEÆ.

RESEDA ODORATA, *Spreng.* “Mignonette.” Cultivated. Hab. Egypt.

FLACOURTIACEÆ.

FLACOURTIA PRUNIFOLIA.

HYPERICACEÆ.

HYPERICUM — ? Pembroke Marshes.

VISMIA GUIANENSIS, *D. C.* Hab. Guiana.

CARYOPHYLLACEÆ.

DIANTHUS — ? “Pink.” “Carnation.” Varieties cultivated.

SAPONARIA CALABRICA, *Guss.* “Soapwort.” Hab. Calabria.

PORTULACEÆ.

PORTULACA OLERACEA, *L.* “Purslane” “Pursley.” Hab.

All tropical as well as temperate regions. A common weed, generally found in cultivated ground. In flower end of March and beginning of April. It is sometimes used as a vegetable, boiled, and seasoned with pepper and salt. Pigs and poultry are fond of it.

FICOIDEÆ.

SESUVIUM PORTULACASTRUM, *L.* “Sea Purslane.” In sandy mud above high water mark. This plant is found on all temperate as well as tropical shores throughout the globe.

MESEMBRYANTHEMUM GLACIALE, *Haw.* “Ice Plant.” Cultivated. Hab. Greece.

MALVACEÆ.

MALVA — ?

MODIOLA CAROLINIANA, *G. Don.* (*M. multifida*, *Mæench*—*Malva caroliniana*, *L.*) Hab. N. America.

SIDA CARPINIFOLIA, *L.* (*S. acuta*, *Burm.*—*S. stipulata*, *Cav.*—*S. glabra*, *Nutt.*—*S. Berteriana*, *Balb.*—*S. balbisiana*, *D. C.*—*S. brachypetala*, *D. C.*—*S. trivialis*, *Macf.*—*S. lanceolata*, *Rich. Cub.*—*S. obtusa*, *Rich.*) “Wire-weed.” One of the most common plants of the islands, overrunning roads and pastures. It is in flower nearly all the year round, and in rich ground grows into a perfect shrub, some three feet high. The flowers are sometimes used to make a healing ointment, being boiled in lard, which is then strained and allowed to cool. Horses are fond of this plant. In the West Indies the Sidas are known under the name of “broom-weed” from their tough and flexible nature.

ABUTILON STRIATUM, *Dicks.* Hab. Brazil.

HIBISCUS ROSA-SINENSIS, *L.* Hab. East Indies.

H. GRANDIFLORUS, *Michx.* Hab. Florida, Georgia.

H. MUTABILIS, *L.* “Changeable Rose.” Hab. East Indies.

GOSIPIUM HERBACEUM, *D. C.* Hab. East Indies.

PARITIUM TILIACEUM, *A. Juss.* Hab. All tropical sea shores.

THESPESIA POPULNEA, *Corr.* Hab. All tropical shores.

ALTHÆA OFFICINALIS, *L.* “Marsh Mallow.” Hab. Europe.

A. ROSEA, *L.* “Hollyhock.” Varieties cultivated. Hab. China.

BOMBACEÆ.

ERIODENDRON ANFRACTUOSUM, *D. C.* (*Bombax ceiba*, *Lam.*—*B. pentandrum*, *Cav.*) “Silk Cotton Tree.” Hab. West Indies and equatorial America.

TILIACEÆ.

TRIUMFETTA SEMITRILOBA, *L.* (*T. heterophylla*, *Lamx.*—*T. havanensis*, *Kth.*—*T. ovata*, *D. C.*—*T. ulmifolia*, *Desv.*—*T. diversiloba*, *Prl.*—*T. angulata*, *Wall.*—*T. rhomboidea*, *Griseb.*) “Wild Hemp” of Barbados, and “Bur-bark” of Jamaica. All tropical countries.

T. ALTHÆOIDES, *Lam.* Hab. West Indies and tropical South America.

BERRYA AMMONILLA, *Roxb.* Hab. Ceylon.

GUTTIFERÆ.

MAMMEA AMERICANA, *L.* “Mammee Tree.” “Mammee Apple.”
Hab. West Indies and equatorial America.

CALOPHYLLUM CALABA, *Jacq.* “Galba.” Hab. West Indies and equatorial America. Fine examples of this tree grow on the road side at Mr. T. Fowle Tucker’s, Devonshire Parish. They were brought from the West Indies. The fruit is considered poisonous by the inhabitants.

MALPIGHIACEÆ.

MALPIGHIA URENS, *L.* (*M. martinicensis*, *Jacq.*) “Cowhage Cherry” of Jamaica. “Stinging Cherry” of Barbados. Hab. West Indies.

SAPINDACEÆ.

BLIGHIA SAPIDA, *Koen.* (*Akeesia africana*, *Tuss.*) Hab. Western Africa.

SAPINDUS SAPONARIA, *L.* “Soap-berry Tree.” “Black Nicker Tree” of Barbados. Hab. Tropical America and West Indies. The first tree known in the Bermudas, originated from drift seed. It may be considered rare, as few examples are to be found on the islands. Flowers in January. In 1841 a plant sprang up from a heap of seaweed, collected during the previous autumn for manure.

NEPHELIUM LITCHI, *Don.* (*Dimocarpus Litchi*, *Willd.*—*Scytalia chinensis*, *G.*—*Euphoria Litchi*, *D. C.*)

DODONÆA VISCOSA, *L.* (*D. Candolleana*, *Bl.*—*D. arabica*, *Hochst.*)

D. ANGUSTIFOLIA, *Sw.* (*D. bialata*, *Kth.*—*D. linearis*, *E. Mey.*—*D. Mundtiana*, *Eckl.*—*D. Schiedeana*, *Schlecht.*)

ÆSCULUS HIPPOCASTANUM, *L.* “Horse-chestnut.” Hab. Asia.

MELIACEÆ.

MELIA AZEDARACH, *L.* “Pride of India.” “Lilac” of Barbados. “China Tree” of the Southern States of America. Hab. Asia. This is one of the few trees that loses its foliage in the winter season. It usually flowers about the end of March, the

flowers appearing before the leaves. In winter it has a curious appearance, having the seed berries hanging in bunches from the ends of the twigs denuded of leaves. The wood is brittle, and high winds play sad havoc with the lengthy branches. Its light and feathery foliage recommends it as one of the best of shade trees, but strange to say although hundreds of young trees shoot up every spring from the fallen seed of the previous winter, the idea of transplanting them about the woodlands to relieve the monotonous appearance of the interminable red cedar, is never entertained by the inhabitants.

CEDRELACEÆ.

SWIETENIA MAHAGONI, *L.* “Mahogany Tree.” “Caoba” of the Spaniards. Hab. West Indies and Central America. The Bermuda trees are stunted in growth compared with those of the tropics. The oldest known tree in the islands is at the entrance gate to the house of the late Mr. Samuel Musson, at the Flatts.

CHLOROXYLON SWIETENIA, *D. C.* (*Swietenia chloroxylon*, *Roxb.*) “Satin-wood.” Hab. East Indies.

AURANTIACEÆ.

CITRUS AURANTIUM, *L.* “Sweet Orange.” Hab. Asia. The climate of the Bermudas appears to suit the Citri well, for the trees are remarkable for vigorous growth and the flavour of the several kinds of fruit is excellent. Of the sweet orange some three or four varieties are cultivated, but to so small an extent that the supply is nothing like equal to the demand. In the year 1854–5 the orange trees became diseased from the attack of a species of *Coccus*, and hardly an orchard escaped save those of the parish of Somerset at the western end of the islands. In many cases not a tree survived the ravages of these insects, and in one instance an orchard of fine young trees 300 in number about twelve years old was entirely destroyed. The fruit sometimes attains a large size, and one of a dish of oranges which took the first prize at the Bermuda Exhibition of January 1872, measured $13\frac{3}{4}$ inches in circumference, and nine of these oranges weighed $10\frac{1}{2}$ lbs. These large oranges, however, are

generally coarse inwardly and are by no means to be compared with many of smaller size for amount of juice and flavour. The medium sized orange with thin smooth skin is always to be preferred before the larger kind having a coarse-grained skin. The orange has been known in the Bermudas from their first settlement, for the original Bermuda Company sent out seeds from England in 1615. Seeds have also been brought at various times from Madeira, Lisbon, and other places. The orange season generally begins about the end of November and continues until the end of February. It may not be generally known that the common sweet orange will stand severe cold. Mr. W. M. Redhead (*Lin. Soc. Journ. Bot. Vol. IX.*) states that it grows in the open air at the Convent of St. Catherine, Sinai, where during the winter the frost is severe enough to freeze water within the cells of the convent.

- C. *AURANTIUM*, *var.* *BIGARADIA*, *Duh.* “Sour Orange.” “Seville Orange.” It is from this variety which is frequently found growing in a wild state, that marmalade is made, but owing to the want of the requisite knowledge in regard to the proper method of manufacture the preparation made on the islands is not of a superior description. The trees yield abundantly where sufficient space is allowed for sun and air to get to them. When perfectly ripe the fruit turns to a dark orange colour.
- C. *NOBILIS*, *Lour.* “Mandarin Orange.” Hab. China. This species which is by no means common, possesses a peculiar flavour, if anything, richer than that of the common orange. The fruit is smaller in size, and of a deep orange colour when ripe.
- C. *NOBILIS*, *var.* *MINOR*. “Tangierine Orange.” Not common.
- C. *DECUMANA*, *L.* “Shaddock.” “Pimple Nose Tree” of Barbados. Hab. Asia. Grows well and produces fine fruit.
- C. *RACEMOSUS*, *Ris et Poit.* “Grape Fruit.” Hab. Asia, common.
- C. *BUXIFOLIA*, *Poir.* (*C. Paradisi, Macf.*) “Forbidden Fruit.” Hab. Asia. Rare.
- C. *LIMETTA*, *Riss.* “Lime.” Hab. Asia. Grows wild all over the islands. Also cultivated.
- C. *LIMONUM*, *Riss.* “Lemon.” Hab. Asia. Two or three

varieties. The common lemon grows wild every where, but not in such abundance as before the disease of 1854–5, which attacked the lemon as well as the orange. Thousands of fine trees before that date existed throughout the cedar groves, and the fruit was so abundant that it only ripened to fall and rot upon the ground. A variety known as the “Lisbon Lemon,” is cultivated and more highly esteemed than others.

C. MEDICA, *L.* “Citron.” Hab. Asia.

COOKIA PUNCTATA, *Retz.* “Wampee Tree.”

LIMONIA CRENULATA, *D. C.*

MURRYA EXOTICA, *L.*

GERANIACEÆ.

GERANIUM PUSILLUM, *L.* Hab. Europe; N. America.

G. — ? Varieties cultivated.

PELARGONIUM — ? Hab. S. Africa.

BALSAMINACEÆ.

IMPATIENS HORTENSIS.

OXALIDACEÆ.

OXALIS CORNICULATA, *L.* (*O. stricta*, *Siv.*) Hab. Europe; N. America. Rich moist ground. Not common: Flowers end of March.

ZYGOPHYLLACEÆ.

GUAJACUM OFFICINALE, *L.* “Arbor-vitæ.” “Guayacan” of the Spanish West Indies. Hab. W. Indies and Central America.

MELIANTHUS MAJOR, *D. C.* Hab. C. G. H.

SIMARUBACEÆ.

QUASSIA AMARA, *L.* “Gall Tree” of Barbados.

ANACARDIACEÆ.

RHUS TOXICODENDRON, *L.* “Poison Vine.” “Poison Oak.” Hab. N. America. Common in thickets, mouths of caverns, &c., especially on some of the islands of the Great Sound. It is strange that this plant should prove so poisonous to some

persons that even a close approach to it is sufficient to cause a severe attack of inflammation of the face, while others may handle it, or even rub the leaves on their faces with impunity. *R. radicans* is merely the climbing variety of this species.

MANGIFERA INDICA, *L.* “Mango.” Hab. East Indies. A fine specimen some forty or fifty feet high, and nearly seven feet in circumference at base, grows in Mr. Robert Lightbourne’s garden in Warwick parish. Fruit weighing 13 ozs. each have been taken from this tree.

ANACARDIUM OCCIDENTALE, *L.* “Cashew-nut.” Hab. W. Indies and tropical America.

VITACEÆ.

VITIS VINIFERA, *L.* “Grape Vine.” Hab. Asia. The cultivation of the grape in the Bermudas dates back as far as the year 1615, when the original Bermuda Company sent out cuttings with the following instructions to Governor Tucker: “Wee have sent you vynes and vyne cuttinges to be put in the grounds. Lett them be fenced from cattle and conies, and kept cleare from weeds, and multiplie them by puttinge all yor vyne cuttinges everye yeare into the ground, that you may have many acres in severale places planted with them 8 or 10 foote asunder. You may leade them alonge or upright upon poles, or lett them runne from tree to tree, at pleasure.”

Whether the early settlers carried out these instructions, and formed vineyards, history does not relate, but it is very clear that in the year 1764 the cultivation of the grape was not viewed with much interest, for we find that in that year one Chauvet who merely petitioned the Governor in Council to allow him a small grant in aid of grape culture, was ordered to attend the bar of the House for his presumption.

That the grape vine grows freely and produces abundantly in the soil and climate of Bermuda, when planted in a favourable situation and well manured and watered, is well known; but as the only fresh water supply comes from the clouds, and the soil is often subject to severe droughts, cultivation on an extensive scale would not succeed.

RUTACEÆ.

RUTA GRAVEOLENS, *D. C.* Hab. S. Europe.

AILANTHUS GLANDULOSUS, *D. C.*

XANTHOXYLACEÆ.

XANTHOXYLUM ———?

LEGUMINOSÆ.

MEDICAGO LUPULINA, *L.* “Clover.” This little plant is very common throughout the islands, more especially on pasture lands. It forms a very nutritious fodder where herbage is scarce, as it always is on the porous calcareous soil of these islands. It thrives in the shallowest soil, and its small yellow flower may be seen even on the rocky slopes where the merest scrap of earth affords the plant a rooting place. Horses and cows are very fond of it, clipping it as close as their teeth will allow. It was one of the few plants mentioned by Michaux on his visit to the Bermudas in 1806.

MELILOTUS OFFICINALIS, *Willd.* “Melilot.” This plant grows freely in different parts of the islands, especially in the valleys where a good depth of rich soil prevails. Strange to say, in a country like Bermuda where forage is so scarce and expensive, no effort has been hitherto made to lay down pasture land on which to grow this and the foregoing plant mixed with grasses. I have observed it growing in favourable situations at least three feet in height, where the common grass of the islands was only of diminutive size.

SPARTIUM JUNCEUM, *D. C.* “Broom.” Hab. S. Europe. This shrub has been lately introduced by Governor Lefroy, and is growing well. Apart from the pretty appearance its bright yellow blossoms will present amid the sombre foliage of the all-prevailing cedar scrub, its peculiar property of binding together drifting sand, will render it of great value on the southern shores of the islands.

ROBINIA PSEUDACACIA, *L.* “White Acacia.” Hab. N. America.

R. DUBIA.

WISTARIA FRUTESCENS, *D. C.* Hab. S. States.

ULEX EUROPÆUS, *L. var. stricta.* “Furze,” or “Gorse.” The

author claims to have first introduced this familiar English shrub into the Bermudas, having raised healthy young plants from seed taken from Southampton Common. It will form another useful forage plant, as when cut up and bruised in a mill it is much relished by cattle, and is very nutritious. According to Grisebach it grows in the higher mountains of Jamaica, where it has been introduced.

INDIGOFERA TINCTORUM, *L.* Hab. E. Indies.

VICIA SATIVA, *L.* Common in pasture land. This plant is widely distributed over the globe, being found in the temperate and tropical regions of both hemispheres.

LATHYRUS ODORATUS, *D. C.* "Sweet Pea." Hab. Sicily.

PISUM SATIVUM, *L.* "Pea." Hab. S. Europe. Varieties cultivated.

PHASEOLUS —? "Kidney Bean." Varieties cultivated.

ERYTHRINA CORALLODENDRON, *L.* (*E. speciosa*, *Andr.*) Hab. W. Indies and central America.

E. INDICA, *Lam.* Hab. Tropics of both hemispheres.

MYROSPERMUM TOLUIFERUM. Hab. S. America.

M. PERUIFERUM.

CAJANUS INDICUS. *Spreng.* (*Cytisus* *Cajan*, *L.*—*C. flavus*, *D. C.*) "Pigeon Pea." Hab. Tropics of both hemispheres. Common on David's Island.

CLITORIA TERNATEA, *D. C.* Hab. East Indies.

CYTISUS LABURNUM, *D. C.* "Laburnum." Hab. Europe.

CANAVALIA OBTUSIFOLIA, *D. C.* (*Dolichos rosens*, *Sw.*—*Canavalia rosea*, *D. C.* "Bay Bean." Hab. Tropics of both hemispheres, on sandy sea shores among stones. Very common on the southern shore of the Main island, trailing over the rocks and stones above high water mark. It also grows well when transplanted to gardens. On the coast of North America it is not found higher than the south of Florida, from whence its seeds have doubtless originally come along the course of the Gulf Stream.

POINCIANA PULCHERRIMA, *L.* Hab. Tropics of both hemispheres.

P. REGIA. *Bot. Mag.* Hab. Madagascar.

CASSIA BACILLARIS, *L.* Hab. West Indies and central America.

C. GLAUCA, *Lam.* (*C. Plumieri*, *D. C.*—*C. planisiliqua*, *Lam.*—*C. arborescens*, *V.*—*C. sulfurea*, *D. C.*—*C. discolor*, *Desv.*)
Hab. Tropics of both hemispheres.

C. FLORIDA, *V.* (*C. gigantea*, *Berter.*—*C. arborea*, *Macf.*)

TAMARINDUS INDICA, *L.* (*T. occidentalis*, *G.*) “Tamarind tree.” Hab. East Indies. Several fine trees grow in different parts of the islands.

HYMENÆA COURBARIL, *L.* “Locust-tree.” Hab. West Indies and central America. A fine specimen grows on Mr. Somers Tucker’s farm in Smith’s parish. Another fine example of this noble tree grew on the Cavendish estate, the property of Chief Justice Darrell. Under the branches of this tree the celebrated Wesleyan minister Whitfield used to preach to the people when refused the pulpits of the English churches by Governor Popple in 1748. It was blown down during the heavy gale of Oct. 31, 1847, but a stone slab marks the spot where it grew.

BAUHINIA —?

DETARIUM SENEGALENSIS, *D. C.* Hab. Western Africa.

MIMOSA PUDICA, *L.* Hab. Tropics of both hemispheres.

ACACIA PANICULATA, *Willd.* (*A. microcephala*, *Rich. Cub.*—*A. Clauseni*, *Benth.*—*A. martinicensis*, *Prl.*) Hab. West Indies and S. America. From the seeds of the common acacia which has become a perfect nuisance in many parts of the islands, are made very pretty baskets, necklaces, bracelets, &c. The seeds are first soaked in water and then threaded with a needle. The seeds are ripe about September.

INGA VERA, *Willd.* (*Mimosa Inga*, *L.*) Hab. West Indies.

CERATONIA SILIQUA, *D. C.* “Carob-tree.” Hab. Levant.

CHRYSOBALANÆ.

CHRYSOBALANUS ICACO, *L.* “Fat Pork Tree” of Barbados.
Hab. Tropics of both hemispheres.

AMYGDALEÆ.

ARMENIACA VULGARIS, *D. C.* “Apricot.” Hab. Levant.

AMYGDALUS PERSICA, *D. C.* “Peach.”

var. nectarina. “Nectarine.”

PYRUS MALUS, L. “Apple.” Hab. Britain. Although the apple tree bears fruit, it is of inferior growth and flavour compared with that grown in northern latitudes.

PRUNUS ——? Varieties cultivated.

CYDONIA VULGARIS, Jacq. Hab. S. Europe.

ROSACEÆ.

SPIRÆA SALICIFOLIA, L. Hab. Britain.

FRAGARIA VIRGINIANA, Ehr. Hab. N. America.

RUBUS ——?

ROSA ——? Perhaps in no country in the world does the rose in its several varieties thrive and blossom in greater perfection than in the Bermudas. Both standard and climbing roses are extremely common, and of the most luxuriant growth. One exception, however, must be made; the moss rose is a perfect failure. From what cause it is difficult to imagine, but perhaps the failure of the fuchsia also may arise from the same circumstance.

POMACEÆ.

ERIOBOTRYA JAPONICA, D. C. Hab. Japan. “Loquat.” Very common in gardens.

CRATÆGUS ——?

SPIREACEÆ.

SPIRÆA JAPONICA. Hab. Japan.

MYRTACEÆ.

JAMBOSA VULGARIS, D. C. (*Eugenia jambos, L.*) Hab. East Indies.

EUGENIA UGNI? “Myrtle.”

ANAMOMIS FRAGRANS, Gr. (*Myrtus, Sw.*—*Eugenia, W.*) Hab. West Indies.

PIMENTA VULGARIS, W. A. (*Myrtus Pimenta, L.*—*Eugenia Pimenta, D. C.*) “Allspice.” Hab. W. Indies. A fine tree grows on the estate of the late Sir William Burnaby.

PSIDIUM GUAVA, Radd. (*P. pomiferum, L.*—*P. pyriforme, L.*—*P. fragrans, Macf.*) “Guava.” Hab. West Indies.

MYRTUS COMMUNIS, Lam.

LYTHRARIÆ.

LYTHRUM — ?

TAMARISCINÆ.

TAMARIX GALLICA, *Rœm et Schult.* “Spruce.” Common on the north shore near the Flatts.

ONAGRARIÆ.

FUCHSIA — ? Hab. Mexico ; Chili. The climate of the Bermudas appears to be unfavourable to the growth of the fuchsia, as it will not blossom freely unless placed in a sheltered situation, which is a singular fact, when we consider that in Madeira which is in precisely the same latitude though far to the eastward, the fuchsia grows in the wildest profusion.

RHIZOPHORACÆ.

RHIZOPHORA MANGLE, *L.* (*R. racemosa, Mey.*) “Mangrove.” Hab. Shores of the warmer regions of the globe. Perhaps the most extensive mangrove swamp in the Bermudas is at Hungary Bay, Devonshire Parish. On the opposite coast of N. America, the mangrove does not occur farther north than the south of Florida.

COMBRETACÆ.

CONOCARPUS ERECTUS, *L.* Hab. Tropics of both hemispheres. Called “Button-wood” in Jamaica. In mangrove swamps.

C. RACEMOSUS.

TERMINALIA CATAPPA, *L.* Hab. Tropics of Asia and Africa. “Indian Almond-tree” of the West Indies.

LAURACÆ.

PERSEA GRATISSIMA, *G.* “Avocada Pear” “Alligator Pear.”

LAURUS NOBILIS. “Bay-tree.”

OREODAPHNE — ?

CUCURBITACÆ.

BRYONIA — ?

CUCUMIS SATIVUS, *D. C.* “Cucumber.” Varieties cultivated. Hab. East Indies.

C. CITRULLUS, D. C. “Water Melon.” Hab. Africa.

- C. MOSCHATA*, *D. C.* “Musk Melon.” Hab. W. Indies.
LAGENARIA — ? “Gourd.” Hab. Asia. Varieties cultivated.

PAPAYACEÆ.

- CARICA PAPAYA*, *L.* “Papaw.” Hab. All tropical countries.
 The fruit is used as a vegetable, and the leaves are said to possess the peculiar property of rendering tender in a few hours the toughest meat wrapped up in them.

PASSIFLORACEÆ.

- TACSONIA* — ?
PASSIFLORA CÆRULEA, *D. C.* Hab. S. America.
P. LAURIFOLIA, *D. C.* Hab. West Indies.
P. QUDRANGULARIS, *L.* “Grenadilla Vine.” Hab. W. Indies and tropical America.

CACTACEÆ.

- MELOCACTUS COMMUNIS*, *D. C.* (*Cactus Melocactus, L.*) “Turk’s Head.” Hab. West Indies.
CEREUS TRIANGULARIS, *Haw.* Hab. W. Indies and central America.
C. GRANDIFLORUS, *Haw.* “Night-blooming Cereus.” Hab. W. Indies.
OPUNTIA TOMENTOSA, *D. C.* “Tall Prickly Pear.” Hab. South America.
O. TUNA, *Mill.* “Small Prickly Pear.” Hab. West Indies, flowers May. Very common.
O. COCCINELLIFERA, *Mill.* “Cochineal-plant.” Hab. W. Indies and central America.
PIERESCIA ACULEATA, *Mill.* (*Cactus Pereskia, L.*) “Barbados Gooseberry.”

CRASSULACEÆ.

- BRYOPHYLLUM CALYGINUM*, *Salisb.* “Life Plant.” Hab. Tropics of both hemispheres.
ECHEVERIA SANGUINEA.
E. METALLICA.
RIBES GROSSULARIA, *Rœm et Sch.* “Gooseberry.”
R. RUBRUM, *D. C.* “Red Currant.”

KALANCHOE — ?

SEDUM ACRE, *D. C.* Hab. Britain.

SEMPERVIVUM — ?

SAIFRAGACEÆ.

HYDRANGEA HORTENSIS, *D. C.* Hab. China.

ARALIACEÆ.

ARALIA — ?

HEDERA HELIX, *L.* “English Ivy.”

UMBELLIFERÆ.

DAUCUS — ?

PASTINACA SATIVA, *D. C.* “Parsnip.” Hab. S. Europe. Grows well.

THASPIUM — ? “Alexander.” This plant is useful in liver complaints, the root being made either into poultices to allay inflammation, or infused and the liquid drank. The seeds are boiled and the decoction used as a draught to cleanse the liver. Horses are fond of the plant in its green state.

APIUM GRAVEOLENS, *L.* “Celery.” Hab. Britain. Grows well.

HELOSCIADIUM LEPTOPHYLLUM, *D. C.* (*Sison Ammi, Jacq.*—*Pimpinella laterifolia, L.*) Hab. S. Europe.

PETROSELINUM SATIVUM, *D. C.* “Parsley.” Hab. Sardinia. Grows in perfection in winter and spring, but dies off in the hot summer months.

CAPRIFOLIACEÆ.

CAPRIFOLIUM — ? “Honeysuckle.”

LONICERA — ? “Fly Honeysuckle.”

SAMBUCUS NIGRA, *L.* “Elder.” Hab. Britain.

VIBURNUM TINUS, *D. C.* “Laurestine.” Hab. S. Europe. Flowers in January.

RUBIACEÆ.

RANDIA LATIFOLIA, *Lam.?* “Box.” Hab. West Indies. Grows in abundance on the ridge above the Paget Sand Hills.

GARDENIA FLORIDA, *D. C.* “Cape Jasmine.” Hab. China.

G. FORTUNII.

G. NITIDA.

RONDELETIA ODORATA, *Jacq.* Hab. Cuba.

RHACHICALLIS RUPESTRIS, *D. C.* (*Hedyotis americana*, *Jacq.*—

H. rupestris, *Sw.*—*Buchnera*, *Sw.*) Hab. W. Indies.

CEPHALANTHUS OCCIDENTALIS, *D. C.* “Button wood.” Hab.

S. States. In marshes. The bark and leaves are used for tanning. Among the old acts of the Bermudian Parliament is one passed in the year 1704 for the protection of the Button-wood which must then have been highly prized. The penalty for destroying button wood was fixed at twenty shillings for each offence, “or the value thereof in good tobacco of the islands.”

CHIOCOCCA RACEMOSA, *Jacq.* “Blolly Snowberry.” Road side, near Tucker’s Town.

IXORA JAVANICA.

I. FLAMMEA, *D. C.* (*I. stricta* *Roxb.*—*I. speciosa*, *Willd.*)

I. AMBOYENSIS.

I. ACUMINATA, *D. C.* The *Ixoras* are natives of tropical Asia.

COFFEA ARABICA, *L.* (*C. guianensis*, *Sieb.*) “Coffee.” Hab.

Eastern tropical Africa. Grows wild about Walsingham and different parts of the Islands. No attention is paid to its cultivation.

BORRERA — ?

VALANTIA MURALIS, *D. C.* Hab. S. Europe.

VANGUERIA EDULIS, *D. C.* Hab. East Indies.

COMPOSITÆ.

EUPATORIUM FOENICULACEUM, *Willd.* “Dog fennel.” Waste ground which has been cultivated. A common weed.

ASTER TRIPOLIUM. Hab. Britain. Road sides, common. Fl. April.

ERIGERON PHILADELPHICUM, *L.* (*E. purpureum*, *Ait.*) “Flea-bane.” Hab. N. America.

SOLIDAGO — ? Low ground.

BACCHARIS — ? n. sp. Pembroke Marshes.

AMBROSIA HETEROPHYLLA, *D. C.* Hab. N. America.

ZINNIA ELEGANS, *D. C.* Hab. Mexico.

PYRETHRUM PARTHENIFOLIUM, *D. C.* Hab. Caucasus.

GAZANIA SPLENDENS. Hab. C. G. H.

HELIANTHUS — ?

BIDENS — ?

ARTEMISIA — ?

SENECIO VULGARIS, *L.* “Groundsel.” Hab. Europe.

CENTAUREA GYNOCARPA..

CICHORIUM INTYBUS, *D. C.* “Succory.” Hab. Europe. A
common weed, much relished by pigs. Fl. May.

TARAXICUM DENS LEONIS, *Desf.* Hab. Europe. “Clock.”

LACTUCA SATIVA, *L.* “Lettuce.” Varieties cultivated.

SONCHUS — ?

SYNANTHEREÆ.

BORRICHIA ARBORESCENS, *D. C.* (*B. frutescens jamaicense, L.*
—*B. argentea, D. C.*) Hab. West Indies. Among rocks,
south shore.

LOBELIACEÆ.

LOBELIA — ?

GOODENOVIEÆ.

SCÆVOLA PLUMIERI, *L.* (*Lobelia L.*—*Scævola Lobelia, Sw.*—
S. Thunbergii, Eckl.—*S. senegalensis, Prl.*) Hab. Tropics of
both hemispheres.

ERICACEÆ.

AZALEA — ? Varieties cultivated.

ILICINÆ.

ILEX AQUIFOLIUM, *L.* “Holly.” Hab. Britain.

I. VOMITORIA, D. C. Hab. Florida.

URTICACEÆ.

FICUS ELASTICA, *Humb. et Bonp.* “India-rubber Tree.” Hab.
East Indies. A fine example grows in front of the late Mr.
Perot’s residence in Hamilton. Also at Mount Langton, where
the remarkable extent of the lateral roots is observable on the
hill-side above the garden.

ARTOCARPUS INCISA, *Willd.* “Bread Fruit.” Hab. Pacific and East Indian Islands.

A. INTEGRIFOLIA, *Willd.* “Jack Fruit.” Hab. Pacific and East Indian Islands.

MORUS ALBA, *Willd.* “Mulberry.” Hab. China.

M. NIGRA, *Willd.* Hab. Italy.

PILEA MICROPHYLLA, *Liebm.* (*Parietaria L.*—*Urtica, Sw.*—*Pilea muscosa, Lindl.*) Hab. West Indies and Central America.

BÆHMERIA CYLINDRICA, *Willd.* (*Urtica L.*—*U. reticulata, Sw.*—*Bœhmeria litoralis, Sw.*—*B. lateriflora, Muhl.*)

URTICA DIOICA, *L.* “Stinging Nettle.” Hab. Europe.

ARTOCARPEÆ.

MACLURA AURANTIACA, *Nutt.* Hab. N. America.

ULMACEÆ.

CEFTIS OCCIDENTALIS, *L.* “Nettle-tree.” Hab. Southern States of America.

PLATANACEÆ.

PLATANUS OCCIDENTALIS, *L.* Hab. Southern States of America.

CUPULIFERÆ.

QUERCUS NIGRA, *L.* Hab. N. America.

PRIMULACEÆ.

ANAGALLIS ARVENSIS, *L.* “Pimpernel.” Hab. Europe. This widely distributed species is a very common weed in gardens, and other places which have been cultivated. Large masses of this plant may be seen in flower beneath the cliffs on the south shore of Smith’s parish, in Feb., Mar., and April.

PRIMULA SINENSIS, *Lindb.* “Chinese Primrose.”

MYRSINACEÆ.

ARDISIA ACUMINATA, *Willd.* (*Icacorea guianensis, Aubl.*—*Ardisia semicrenata, Mart.*)

A. HUMILIS, *Vent.* (*A. solonacea, Roxb.*) Hab. East Indies.

SAPOTACEÆ.

CHRYSOPHYLLUM CAINITO, *L.* “Star Apple.” Hab. West Indies and Tropical America.

SAPOTA ACHRAS, *Mill.* (*Achras sapota, L.*) “Sappodilla.” Hab. Tropics of both hemispheres. Grows well in the Bermudas, and the fruit attains a large size, sometimes 13 ozs. in weight.

LUCUMA MAMMOSA, *G.* (*Achras, L.*) “Mammee Apple. Hab. W. Indies and Tropical America.

EBENACEÆ.

DIOSPYROS MABOLA, *Don.* Hab. Phillipines.

D. VIRGINIANA, *Willd.* Hab. Southern States of America.

OLEACEÆ.

OLEA EUROPÆA, *G. Don., var. longifolia.* “Olive.” Hab. S. Europe. Common in different parts of the islands. A “wild olive” is mentioned by the early settlers as being abundant about the islands.

LIGUSTRUM VULGARE, *L. var. sempervirens.* Hab. Italy.

JASMINACEÆ.

JASMINUM OFFICINALE, *L.* Hab. East Indies. Very common among the rocks and mouths of caves at Walsingham.

J. FRUTICANS, *G. Don.* Hab. S. Europe.

J. GRACILE, *Andr.* (*J. volubile, Jacq.*) Hab. Pacific Islands.

J. SAMBAC, *G. Don.* Hab. East Indies.

APOCYNACEÆ.

THEVETIA NERIIFOLIA, *Juss.* (*Cerbera Thevetia, L.*) “Yellow-trumpet flower.” “French Willow” of Barbados. Hab. West Indies and tropical America.

VINCA ROSEA, *L.?* Hab. Tropics of both hemispheres.

PLUMIERIA RUBRA, *L.* “Red Jasmine.” Hab. Central America.

NERIUM OLEANDER, *L.* “Oleander.” Hab. S. Europe. Very common all over the islands. There is an old lady now living, 90 years of age, who well recollects when a school girl eighty

years ago, going to see as a curiosity the only oleander tree then known in the Bermudas. It grew on the estate of Mr. Burch, near the parish church of Warwick. There is a curious idea prevalent among the islanders, that water left standing beneath an oleander tree is poisonous to poultry drinking it, and also that crab grass which generally grows luxuriantly under its shade, is poisonous to cattle, an effect certainly not applicable in all cases, as we have allowed a horse to graze at will beneath these trees without any bad results. The oleander is now extensively used for hedging about cultivated ground to keep off the violence of the winter gales from the crops, and as it grows from cuttings very quickly to a good height, and from the flexible nature of its branches is never broken by the wind, it proves an excellent screen. About the middle of March it puts forth its lovely blossoms in vast profusion, and fields and roadsides present a glorious floral scene. The oleander has one great drawback, however, in the great length to which its roots extend, encroaching sadly upon the land it shelters. This we think might be prevented by trenching at about three feet from the stem. The flexible branches are used extensively for hooping up barrels in which potatoes are exported. There are three varieties; the common or single rose coloured, the double rose, and the white.

STEPHANOTIS. FLORIBUNDA, *Bot. Reg.* Hab. S. America.

ASCLEPIADACEÆ.

ASCLEPIAS CURASSAVICA, *L.* "Silkweed." "Ipecacuanha."
 Hab. Originally a S. American form, this plant has become a weed in all tropical countries. It is very common throughout the Bermudas, its leaves forming the only food of the caterpillar of *Danaï's archippus*. It is in blossom nearly every month of the year.

HOYA CARNOSA, *G. Don.* Hab. Asia.

ORBEA MACULOSA, *G. Don.* Hab. C. G. H.

GENTIANACEÆ.

ERYTHRÆA RAMOSISSIMA, *Pers.* "Rice Plant." Hab. Europe.

A very common weed. The plant is sometimes used to make bitters, and tea made from it is said to afford relief in cases of colic.

CONVOLVULACEÆ.

- IPOMÆA BATATAS, *Lamx.* (Convolvulus *L.*—Batatas edulis, *Chois.*) “Sweet Potato.” Varieties cultivated. Hab. America.
- I. NIL, *Kth.* (I. hederacea, *Jacq.*—Convolvulus Nil, *L.*—Pharbitis Nil, *Chois.*) Hab. Tropical America.
- I. QUAMOCLIT, *L.* (Quamoclit vulgaris, *Chois.*) Hab. Tropics of both hemispheres.
- I. COCCINEA, *L.* (Quamoclit coccinea, *Moench.*) Hab. W. Indies and South America.
- I. LERII.

BORRAGINACEÆ.

- CORDIA SEBESTENA, *Jacq.* (C. speciosa, *Willd.*) “Scarlet Cordia.” Hab. West Indies and tropical America.
- TOURNEFORTIA LAURIFOLIA, *Vent.* (T. syringifolia, *V.*—T. Sagræana, *D. C.*—T. surinamensis, *D. C.*)
- HELIOTROPIUM PERUVIANUM, *G. Don.*
- H. CURASSAVICUM, *L.* Hab. Western America.
- BORAGO OFFICINALIS, *G. Don.*

LABIATÆ.

- OCIMUM BASILICUM, *L.* “Basil.” Hab. Tropical Asia and Africa. This plant according to old records was grown from seed by the early settlers in 1615.
- MENTHA ARVENSIS, *L.* “Field Mint.” Hab. Europe.
- M. ROTUNDIFOLIA, *Sw.*
- M. VIRIDIS, *Willd.*
- SALVIA SPLENDENS, *G. Don.*
- S. COCCINEA, *L.* “Nip.”
- S. OFFICINALIS, *L.*
- NEPETA — ? “Catnip.”
- SCUTELLARIA — ?
- LAVANDULA SPICA, *L.* “Lavender.”
- COLEUS — ? Varieties cultivated.

THYMUS VULGARIS, *L.* “Thyme.”

ROSMARINUS OFFICINALIS, *G. Don.* “Rosemary.”

ANETHUM FŒNICULUM, *L.* “Fennel.” Grown from seed by the early settlers in 1615..

HYDROPHYLLACEÆ.

NEMOPHILA INSIGNIS, *G. Don.*

N. MACULATA.

POLEMONIACEÆ.

PHLOX DRUMMONDII, *G. Don.* Hab. Texas.

SOLANACEÆ.

SOLANUM NIGRUM, *L.* Hab. Europe.

S. TORVUM, *Sw.* (*S. ferrugineum*, *Jacq.*) Hab. Tropics of both hemispheres.

S. OVIGERUM, *L.* “Egg Plant.” Hab. Arabia.

S. TUBEROSUM, *L.* “Irish Potato.” Varieties cultivated.

CAPSICUM —? Varieties cultivated.

PHYSALIS LANCEOLATA, *Michx.* (*P. Elliotii*, *Kunz.*—*P. maritima*, *Curtis.*) Hab. S. States of America.

P. PERUVIANA, *L.* (*P. pubescens*, *R. Br.*—*P. edulis*, *Sims.*) Hab. Warmer countries of the globe. The berry of this species is known as the “Cow-cherry.”

DATURA STRAMONIUM, *L.* “Stinking-weed.” Hab. Temperate and tropical countries. Common in waste ground that has been cultivated. In yellow fever cases the leaves, first sprinkled with vinegar, are used to apply to the wrists to cool the patient.

D. METEL, *L.* Hab. Warmer regions of Africa and America.

D. SUAVEOLENS, *Humb. et Bonpl.* (*Brugmansia*, *G. Don.*—*Datura arborea*, *Hort.*—*D. Gardneri*, *Hook.*) Hab. West Indies and tropical America.

D. FASTUOSA, *L.* Hab. Tropical regions of both hemispheres.

NICOTIANA TABACUM, *L.* “Tobacco.” Hab. America. Previous to the more extensive settlement of the Colony of Virginia, tobacco was cultivated to a considerable extent in the Bermudas; but when the former colony began its career of tobacco culture, the extent of country and fertility of soil enabled the Virginians

to eclipse the Bermudians in this profitable trade, which gradually declined in the islands, and has never been attempted since. In the year 1670 one ship received as part of her cargo for England, 250,000 lbs. It is stated, with what truth we know not, that tobacco plants are sure to spring up where old stone walls are taken down.

PETUNIA — ? Varieties cultivated.

SCROPHULARIACEÆ.

BUDDLEJA AMERICANA, *L.* (*B. occidentalis*, *R. P.*) “Snuff-plant. Hab. Western part of America, California to Peru. The odor of this shrub is very powerful and unpleasant, and it should never be allowed to grow in any quantity by the public roadside, as it is in Paget parish near the “Head of the Lane.” Fl. Jan.

B. MADAGASCARIENSIS, *G. Don.*

VERBASCUM THAPSUS, *L.* “Dock-leaves.” Hab. Europe. The common mullein adds not a little to the scenic effect of the flora of the Bermudas; for where such a paucity of wild flowers exists, its noble spike of yellow bloom rising full five feet high in good ground, presents a peculiarly pleasing effect, and recalls home scenes in days gone by, while rambling amid the sunny glades of old England. The woolly leaves are used by cottagers for cleaning plates and dishes.

LINARIA VULGARIS, *Mill.* Hab. Europe. Very common in gardens and waste land which has been cultivated. It is much smaller than the northern form.

ANTIRRHINUM — ? Varieties cultivated.

VERONICA SALICIFOLIA.

CAPRARIA BIFLORA, *L.* Hab. Tropical Africa and America.

RUSSELLIA JUNCEA, *Bot. Reg.* “Heath.” Hab. Mexico.

MAURANDIA BARCLAYANA, *G. Don.*

M. SEMPERFLORENS, *G. Don.*

M. — ?

BIGNONIACEÆ.

CRESCENTIA CUJETE, *L.* “Calabash.” Common in low grounds.

The shells are made into cups and dippers.

C. OUCURBITINA, *L.* Not common.

CATALPA —?

TECOMA PENTAPHYLLA, *D. C.* (*Bignonia*, *West.*) “White Cedar.” Hab. West Indies and Central America.

T. CAPENSIS, *G. Don.* Hab. C. G. H.

T. RADICANS, *Juss.* (*Bignonia radicans*, *L.*) Hab. N. America.

T. STANS, *Juss.* (*Bignonia*, *L.*—*Tecoma sambucifolia*, *Kth.*)—
Hab. West Indies and Central America. The Tecomas are known as “Trumpet-flowers.”

BIGNONIA CHERERE, *G. Don.* (*B. heterophylla*, *Willd.*) Hab. S. America.

B. VENUSTA, *G. Don.* Hab. S. America.

B. OBLIQUA.

ACANTHACEÆ.

THUNBERGIA ALATA, *Bot. Mag* Hab. Eastern Africa.

T. —?

JUSTICIA ALBA, *Roxb.?*

J. —?

J. —?

GESNERIACEÆ.

ACHIMENES —?

VERBENACEÆ.

VERBENA —? Varieties cultivated.

ALOYSIA CITRODORA, *Pers.* (*Verbena triphylla*, *Bot. Mag.*—
Lippia citrodora, *Kth.*)

STACHYTARPHA JAMAICENSIS, *V.* “Vervain;” supposed from the Celtic “Ferfaen.” One of the more common weeds. In rich ground it grows quite shrubby two or three feet high. It is useful in cases of yellow fever, the plant being boiled for tea, which given to the patient promotes perspiration. In flower all winter.

LIPPIA REPTANS, *Kth.*

- LANTANA ODORATA, L.** (*L. recta, Ait.*—*L. peduncularis, Anders.*)
 Hab. West Indies and Central America. This shrub also grows on the Galapagos Islands. It forms the principal under-wood of the Bermudas, clothing every spot of waste ground, for wherever the land remains uncultivated, or more particularly where the cedar groves are not properly cleared, this shrub is sure to spring up and increase rapidly. It has no beauty to recommend it, and its brittle stems are of little use save for fuel and placing as supports for the tomato vines to run over; a process very commonly resorted to by the farmers of the present day; but one only commendable for the service it renders towards annihilating this worthless form. The leaves are said to be a febrifuge in yellow fever cases; tea made from them, when taken hot, promoting perspiration in a high degree.
- L. CAMARA, L.?** (*L. aculeata, L.*) “English Sage.” “Red Sage-bush.” Hab. North and South America; Southern States to Buenos Ayres. This species which a few years ago was confined to a few localities, is now fast spreading over the Islands. It grows much more luxuriantly in shady places, particularly in cedar groves occupying rich ground. In such places it will run up among the branches of the cedars to the height of 20 or 30 feet. On the eastern and western sides of Prospect Hill it forms dense thickets.
- CITHAREXYLUM QUADRANGULARE, Jacq.** (*C. caudatum, Sw.*—*C. coriaceum, Desf.*) “Fiddle-wood.” Hab. West Indies and Central America. It would be well for the scenery of the Bermudas if this tree was more generally grown, for when mingled with the all-prevailing cedar it helps to render the landscape less monotonous. But slight difference exists between this form and *C. cinereum, L.*
- DURANTA PLUMIERI, Jacq.** (*D. Ellisia, Jacq.*—*Ellisia acuta, L.*)
 Hab. West Indies and tropical America.
- PETRÆA ARBOREA, Kth.** Hab. W. Indies and tropical America.
- CLERODENDRON CAPITATUM.**
- AVICENNIA NITIDA, Jacq.** “Black Mangrove.” Hab. Tropical Africa and America.

PLANTAGINACEÆ.

- PLANTAGO MAJOR, *L.* “English Plantain.” Hab. Europe.
Common about the sides of the marshes.
- P. LANCEOLATA, *L.* “Ribwort.” Hab. Europe. A common
weed in high ground. Horses are very fond of it.
- P. RUGELII, *Dec.?* Hab. Southern States of America. Rare
high and rocky ground.

PLUMBAGINACEÆ.

- PLUMBAGO CAPENSIS, *Rœm et Schult.* Hab. C. G. H.

CHENOPODIACEÆ.

- CHENOPODIUM ANTHELMINTICUM, *L.* Hab. United States to S.
America.
- SALICORNIA AMBIGUA, *Michx.* Hab. North America.
- BASELLA CORDIFOLIA, *Rœm et Schult.* Hab. East Indies.

AMARANTACEÆ.

- AMARANTUS —? Varieties cultivated.
- ALTERNANTHERA —? Varieties cultivated.
- IREGINE HERBESTI.

NYCTAGINACEÆ.

- MIRABILIS LONGIFLORA, *Rœm et Schult.* Hab. Mexico.
- OXYBAPHUS —? “Four o'clock.” Hab. N. America. Com-
mon about old ruined houses.

POLYGONACEÆ.

- RUMEX —? The root of the “dock” is used medicinally, being
found of service in cholera complaints.
- RHEUM RHAPONTICUM, *L.* “Rhubarb.” Hab. Asia. General
Lefroy introduced this useful plant last year (1872) in the
garden at Mount Langton, and a bunch was exhibited at the
Industrial Exhibition at St. George's, last May (1873.)
- POLYGONUM PLATYPHILLUM.
- COCCOLOBA UVIFERA, *Jacq.* “Sea-side Grape.” Hab. Florida
to Guiana. Common in sandy places near the shore.

PIPERACEÆ.

PIPEROMIA —?—

EUPHORBIACEÆ.

EUPHORBIA BUXIFOLIA, *Lam.* “Tittimelly.” Hab. Tropical America.

E. CANDELABRA.

E. HETEROPHYLLA, *L.* Hab. North and South America.

E. MACULATA, *L.* (*E. Burmanniana*, *Gay.* — *E. thymifolia*, *Pursh.* — *E. depressa*, *Torr.*) Hab. North and South America.

E. SPLENDENS, *Hook.* Hab. Madagascar.

JATROPHA MULTIFIDA, *L.* “Coral-tree.” “Physic Nut.” Hab. West Indies and tropical America.

JANIPHA MANIHOT, *Kth.* (*Jatropha*, *L.* — *Manihot Aspi et utilissima*, *Pohl.*) “Cassava.” Hab. West Indies and tropical America. The climate and soil of the Bermudas are very favourable to the growth of the Cassava, roots of one year’s growth having been taken up six feet long and three inches in diameter, and weighing 22 lbs. It is prepared much like arrow-root, and is perhaps superior to that article as food for invalids, when the preparatory process has been conducted with care. The manufacture is tedious, and probably for this reason but a small quantity is made, barely sufficient for the requirements of the inhabitants.

ALEURITES TRILOBA, *Forst.* Hab. East Indies.

RICINUS COMMUNIS, *L.* “Castor-oil tree.” Hab. East Indies.

CROTON DISCOLOR.

C. VARIEGATA. Hab. East Indies.

HURA CREPITANS, *L.* “Sandbox tree.” Hab. West Indies and tropical America. A fine specimen grows in old Government House garden, St. George’s.

PEDILANTHUS TITHYMALOIDES, *Poit.* (*P. carinatus*, *Spr.* — *Euphorbia carinata*, *Bot. Mag.*)

STILLINGIA SEBIFERA, *Michx.* Hab. China.

POINSETTIA PULCHERRIMA, *Bot. Mag.* “Fire Plant.”

BEGONIACEÆ.

BEGONIA FUCHSIOIDES.

B. HYDROCOTYLÆFOLIA, *Hook.* Hab. Brazil.

B. REX.

JUGLANDACEÆ.

JUGLANS NIGRA, *L.* “Black Walnut.” Hab. N. America.

SALICACEÆ.

SALIX BABYLONICA, *L. var. Napoleana.* Hab. Levant.

S. ———?

POPULUS ALBA, *L.* Hab. Europe.

CONIFERÆ.

JUNIPERUS BARBADENSIS, *L.* (*J. bermudiana*, *Lun.*) Hab. West Indies. [Combined by Endlicher with *J. virginiana*, *L.*, which is quite distinct by having a short gland and no linear furrow on the back of the leaves, and by the galbula ovate-obtusate. Note, Grisebach, *W. I. Flora*, p. 503.] The Bermudian cedar has generally been considered as identical with, or merely a variety of, the Virginian cedar, which form in its several varieties is found throughout the eastern portion of the North American continent. Grisebach's identification therefore bears out our theory that these islands owe more to the current of the Gulf Stream and the prevailing southerly winds for their vegetation than other causes. A few drift seeds of this cedar germinating, and the plants attaining maturity at any point of the shore, judging from the extraordinary abundance of young plants springing up annually on every spot of ground left uncultivated, would soon over-run the group; a circumstance only too notorious at the present day. The attachment of the Bermudians to this their only forest tree is great, so much so that a large extent of the richest land upon the islands has from time immemorial been devoted to the growth of cedar alone. The more extended and profitable cultivation of vegetables for the New York markets, a trade which is increasing rapidly every year, will, however, soon tend to lessen the number of cedars,

an event not altogether lamentable where their preponderance, in the absence of other forms, creates a sameness painful to the eye. In former years when ship building was carried on with some spirit, the vessels were built entirely of cedar, which, from its extreme durability, was well suited for the purpose, the only drawback being its brittle character. The wood is much used also for housebuilding purposes, doors, windows, beams, rafters, &c. being made of cedar, and it is no uncommon occurrence to see window sashes fifty or more years old looking quite new in appearance. The cedar also makes excellent fencing; a post and rail fence when well made at first, lasting some forty years, and curious enough the poles, although worn by the elements to skeletons in that long course of time, yet perfectly sound at heart. There are several very aged trees now standing in different parts of the islands; that in the old churchyard of Devonshire Parish being perhaps older than any other. Cedars of very large size must have existed in years gone by on the site of the present marshes, for wherever drains or deep cuttings are made through them, huge trunks are revealed. The circumstance of cedars not being found growing in these marshes at the present day is worthy of consideration, for it tends to substantiate the generally received opinion regarding the subsidence which is known to have taken place since the formation of the group.* When the marsh land was higher than at present, a moderately dry soil existed, and upon this grew a vigorous growth of cedars, but when the land subsided and the ocean level became higher than the marsh land, salt water found its way through the caverns or underground channels, and overflowing the ground, caused it to turn into a morass entirely unsuited to the cedar, which, gradually decaying at its base, fell at length to the fury of some passing gale. The size of the cedar varies much, according to situation, as it is only in the valleys, where the richest soil exists, that the cedar attains its full dimensions; on the hill sides and coast line where they are exposed to the prevailing gales, they are stunted and in many

* See "Nature" Aug. 1, 1872.

cases contorted in form; indeed, so much so, that trees known to be thirty years old and upwards, are only a few feet in height and not more than three inches in diameter of trunk.

PINUS ———? Several species recently introduced by General Lefroy.

THUJA ORIENTALIS, *L.* Hab. China.

PODOCARPUS SALICIFOLIUS, *Kl. Karst.* Hab. West Indies and tropical America.

CALLITRIS VARICOSA.

CYCADACEÆ.

CYCAS REVOLUTA, *Thunb.* “Sago-Palm.” Hab. China.

AROIDEÆ.

COLOCASIA ESCULENTA, *Schott.* “Eddoe.” Hab. East Indies.

DIEFFENBACHIA SEQUINE, *Schott.* (*Arum, L. — D. Plumieri, Schott. — D. neglecta, Schott.*) “Dumb Cane.” Hab. West Indies and tropical America.

RICHARDIA ÆTHIOPICA, *Sw.* (*Calla æthiopica, Bot. Mag.*) Hab. C. G. H.

LEMNA MINOR, *L.* “Pond Weed.” Hab. Europe.

PANDANEÆ.

CARLUDOVICA INSIGNIS, *Duch.* Hab. West Indies. It is from the leaves of a species of *Carludovica* that the celebrated “Panama hats” are made.

PANDANUS ODORATISSIMUS, *L.* “Screw Pine.” Hab. China.

P. MURICATUS, Spreng. Hab. Madagascar.

ARACEÆ.

CALLA ———?

CALADIUM ———?

ENDOGENS.

PALMÆ.

SABAL PALMETTO, *R. & S.* (*Chamærops palmetto, Michx.*) “Palmetto.” Hab. Southern States of America. It is from the strong leaves of this tree that the well known “Mudian

plait" is made. It is prepared in the following manner. The young leaves are tied about their centre to prevent them being torn into strips by the wind. When these leaves are fit for use *i. e.*, before they have grown too hard and coarse they are cut from the tree and placed in the sun to bleach. When sufficiently dry they are smoked with burnt brimstone in casks to render them white. When ready for use they are cut into strips and different forms of plait made according to taste. Of the coarser plait is made labourers' hats, the finer and more difficult of manufacture being used only for ladies' bonnets and fancy basket work, specimens of which are sometimes produced of exquisite finish.

OREODOXA OLERACEA, *Mart.* "Cabbage Palm." Rare. Hab. West Indies.

ASTROCARYUM AUREUM, *Gr. et Wendl.* "Gri-gri." "Gru-gru." Hab. Trinidad.

ARECA CATECHU, *L.* Hab. East Indies.

RHAPIS FLABELLIFORMIS, *Willd.* Hab. China.

COCOS NUCIFERA, *L.* "Cocoa-nut." Origin. West coast of Panama.

MARTINEZIA CARYOTÆFOLIA, *Mart.* Hab. Brazil.

PRITCHARDIA PACIFICA.

LIVISTONIA MAURITIANA.

COMMELINACEÆ.

TRADESCANTIA VIRGINICA, *L.* Hab. North America.

T. DISCOLOR, *Spreng.* Hab. West Indies.

COMMELYNA COMMUNIS, *L.* Hab. Southern States of America.

CYANOTIS DISCOLOR.

GRAMINEÆ.

ARUNDINARIA TECTA, *Muhl?* Hab. Southern States of America.

BAMBUSA VULGARIS, *Schrad.* (*B. Thouarsii*, *Kth.*—*B. arundinacea*, *Ait.*) Common in the marshes.

ALOPECURUS PRATENSIS, *Kth.* "Fox tail grass." Hab. Europe.

PANICUM MOLLE, *Sw.* "Para grass." (*P. barbinode*, *Tr.*—

P. guadalupense, *Steud.*—*P. meyerianum*, *N. S.*—*P. sarmentosum*, *Roxb.*—*P. punctulatum*, *Arn.*)

P. MAXIMUM, Jacq. (*P. jumentorum, Pers.*—*P. trichocondylum, Steud.*—*P. fasciculatum, Pl. Carib.*) “Guinea grass.” Hab. Tropical Africa.

ZEА MAYS, Kth. “Indian Corn.” Hab. unknown, supposed to be American.

ZEА JAPONICA.

AVENA SATIVA, L. “Oat.” Grows well for a time and then dies off before ripening seed. Oats are generally sown in ground intended for a potato crop, and when about a foot in height, are dug under in order to manure the ground for the coming crop.

TRITICUM VULGARE, L. “Wheat.” Grows well in some places, and produces fair grain. In former years it was more extensively cultivated, and bread was frequently made in farm houses, but of late years its cultivation has ceased altogether.

HORDEUM VULGARE, L. “Barley.” Grows well and ripens, but is seldom cultivated as a crop.

SACCHARUM OFFICINARUM, L. (*S. violaceum, Tuss.*) “Sugar Cane.” Grows well, especially in low moist ground.

SPOROBOLUS INDICUS, R. Br. (*Agrostis, L.*—*S. tenuissimus, P. B.*—*S. elongatus, R. Br.*) Hab. Warmer regions of both hemispheres.

CHLORIS PETRACA, Thunb. (*Eustachys, Desv.*—*C. Swartzii et septentrionalis, C. Müll.*)

CYNODON DACTYLON, Pers. This grass is widely distributed over the tropical and temperate regions of the globe.

PASPALUM DISTICHUM, L. (*P. litorale, R. Br.*—*Digitaria paspaloides, Dub.*)

P. FILIFORME, Sw. (*P. Swartzianum, Flagg.*) Hab. West Indies.

STENOTAPHRUM AMERICANUM, Schrk. (*Rottbællia dimidiata, Sw.*—*R. stonolifera, Poir.*—*Diastemanthe platystachys, Steud.*) Hab. North and South America.

ANDROPOGON SCHÆNANTHUS. (*Cymbopogon Schænanthus, R. et S.*) Hab. East Indies.

PHALARIS CANARIENSIS, Kth. Hab. Europe.

JUNCACEÆ.

JUNCUS MARITIMUS, *Lam.* “Large Marsh Rush.” Very common in the wetter portions of the marshes.

LILIACEÆ.

ALOE VULGARIS, *Lam.* (*A. barbadensis*, *Mill.* — *A. perfoliata*, *var. vera*, *L.*) “Aloes.” This plant is considered very useful in yellow fever cases, the native nurses placing great faith in its virtues. In a wild state it is not very common, its pretty spike of yellow flowers which afford a honied treat to the children, being only seen occasionally on the sunny slopes of the southern shore. It is a native of the West Indies.

A. SOCCOTRINA, *Haw.* Hab. C. G. H.

A. LINGUA, *Hook.*

GASTERIA OBLIQUA, *Haw.* Hab. C. G. H.

G. MACULATA, *Haw.* Hab. C. G. H.

HAWORTHIA TORTUOSA, *Haw.* Hab. C. G. H.

YUCCA SERRULATA, *Haw.* (*Y. Draconis*, *L.*—*Y. aloifolia*, *L.*)
Hab. Southern States of America and Mexico.

Y. GLORIOSA, *L.* Hab. Southern States of America. “Sticker bush.” “Spanish bayonet.” Drifting sands of Port Royal.

Y. ———?

AGAVE AMERICANA, *L.* “Bamboo.” Hab. S. America. Very common. Why the islanders should call this plant “bamboo,” we know not, and repeated enquiries have failed to produce any satisfactory reason for the appellation. The fibrous leaves when cut open and dried are used as scrubbers for floors, &c. Very good rope has been made from the fibre.

A. STRIATA.

A. PICTA.

A. XYLONACANTHA.

A. MEXICANA, *Haw.* Hab. Mexico.

FOURCROYA GIGANTEA, *Vent.* Hab. West Indies. (*Agave fœtida*, *L.*)

CRINUM CRUENTUM, *L.* Hab. S. America.

PHORMIUM TENAX, *Willd.* Hab. New Zealand.

AMARYLLIS EQUESTRIS, *Ait.* (*Hippeastrum*, *Herb.*—*H. occidentale*, *Rœm.*—*Amaryllis Belladonna*, *Sw.*)

NERINE SARNIENSIS, *Herbt.* Hab. Guernsey.

N. PULCHELLA, *Hook et Arn.* Hab. C. G. H.

ZEPHYRANTHES ATAMASCO, *Don.* Hab. N. America.

Z. ROSEA, *Bot. Reg.* Hab. Cuba.

PANCRATIUM OVATUM.

NARCISSUS JONQUILLA, *Bot. Mag.*

SANSEVIERA GUINEENSIS, *Haw.* Hab. Eastern Africa.

ORNITHOGALUM ———?

HYACINTHUS ———?

SCILLA ———?

ALLIUM CEPA, *L.* “Onion.” The cultivation of the onion occupies a large share of attention at the hands of the Bermuda planter, as the soil of the islands appears to be well suited to this vegetable, and the high price obtainable during the spring months in the New York market, renders it probably the most profitable of crops. The Bermudas, owing to their position eastward of the warm current of the Gulf Stream, have a winter climate far milder than the Southern States of the American continent, situate in the same latitude; and are moreover never visited by those sudden changes of temperature during the early spring months, which do so much damage to growing crops even in South Georgia and Florida. Once only in the memory of man have the Bermudas been visited by frost, the thermometer rarely falling below 50° even in February. The crops therefore planted in December or January, regularly attain maturity in April, the onion being ready for shipment about the first week of that month, a date far earlier than it is to be procured from the Southern States. To the Bermudas New York must therefore always look for the earliest supply of vegetables, and it will be well for the islanders to bear in mind the great necessity of maintaining a proper system of steam communication with the metropolis of the western world.

LILIUM CHALCEDONICUM.

L. CANDIDUM, *Willd.*

L. SPECIOSUM.

ASPARAGUS OFFICINALIS, *L.*

DRACÆNA TERMINALIS, *L.*

CHARLWOODIA AUSTRALIS, *Sw.*

SMILACEÆ.

SMILAX ———? “Sarsaparilla.”

DIOSCOREACEÆ.

DIOSCOREA LUTEA, *Mey.* (*D. heptaneura*, *Vell.*—*D. sativa*, *L.*—*D. Cliffortiana*, *Lam.*—*D. multiflora*, *Prl.*—*D. altissima*, *Lam.*)
“Yam.” Hab. West Indies and tropical America.

IRIDACEÆ.

IRIS VIRGINICA, *L.* Hab. North America.

I. VIOLACEA, *Bot. Mag.* Hab. S. Europe.

SISYRINCHIUM BERMUDIANA, *L.* (*S. anceps*, *Cav.*—*S. mucronatum*, *Michx.*) Hab. Florida to the Arctic Circle.

TRITONIA ———?

BROMELIACEÆ.

PITCAIRNIA ———?

MUSACEÆ.

MUSA SAPIENTUM, *L.* Hab. East Indies. “Banana.”

“ “ *var. rosacea.* (Mauritius.)

Two or three other varieties.

MUSA PARADISIACA, *L.* “Plantain.” Hab. East Indies.

M. CAVENDISHII, *Paxt.* Hab. China.

STRELITZIA ———?

SCITAMINEÆ.

HEDYCHIUM ELATUM, *Bot. Reg.* Hab. Nepal.

RENEALMIA OCCIDENTALIS, *Gr.* (*Alpinia*, *Sw.*—*A. jamaicensis*, *Gartn.*) “Shell Plant.” Hab. West Indies and tropical America.

CANNA INDICA, *L.* “Indian Shot.” Hab. West Indies and tropical America.

C. COCCINEA, *Ait.* (*C. occidentalis*, *Rox.*—*C. surinamensis*, *Miq.*) “Scarlet Indian Shot.”

MARANTA ARUNDINACEA, *L.* “Arrow-root.” Hab. West Indies and tropical America. The culture of the arrow-root which

has rendered the name of Bermuda so familiar in English homes is rapidly declining owing to the cultivable ground being required for the growth of onions, potatoes, tomatoes, and other vegetables for the American markets. The arrow-root, although a valuable crop, requires much labour, and above all, occupies the ground for nearly a year, during which time the planter could raise from the same ground two heavy crops of vegetables, so that it is easy to understand why the growth of arrow-root should receive so little attention at the present day. There are some planters, however, who having obtained celebrity in the manufacture of arrow-root, continue its cultivation, and to these estates the public must principally look for a supply. The name of Bermuda is doubtless often made use of by unprincipled dealers both in Europe and America to promote the sale of the far inferior article made in the West Indian islands, for it is quite impossible that the comparatively small exportation of arrow-root from the Bermudas at present can be equal to the demand for the "Bermudian arrow-root," even in Great Britain alone. Much of the Bermudian arrow-root of the finest quality is rendered most unpalatable through the strange practice of packing it in boxes made of pine, which, even in a few days, imparts the disagreeable turpentine odour peculiar to that kind of wood. If the boxes were made of well seasoned oak, which could be easily procured of any degree of thickness from the United States, this sad mistake, which, singularly enough has been continued for years, would be rectified.

ORCHIDACEÆ.

VANILLA PLANIFOLIA, *Andr.* Hab. Tropical America.

ONCIDIUM ———?

FILICES.

POLYPODIACEÆ.

ACROSTICHUM AUREUM, *L.* "Great Marsh Fern." Hab. Coast of South Florida. Very common all over the marshes.

POLYPODIUM PECTINATUM, *L.* Hab. West Indies.

PTERIS AQUILINA, *L.* Hab. Europe. This form which is com-

mon all over North America is equally so in the marshes of Bermuda, where with the sedge and dog-bush it forms dense thickets, making a noble covert for the rails and galinules that visit the islands in the winter season.

ADIANTUM CAPILLUS-VENERIS, L. Hab. Europe. "Maiden-hair."

Grows in profusion in all the shady nooks and corners of the rocks, old buildings, &c. Caverns have their entrances lined with this pretty form, and even the road side ditches are draped with its delicate fronds.

A. FARLAYENSE.

A. CUNEATUM, Spreng. Hab. Brazil.

ASPLENIUM BIJIDA.

A. CICUTARIUM, Haw. Hab. S. America.

A. MONANTHEMUM, Willd. Hab. C. G. H.

A. SHEPHERDII, Spreng. Hab. East Indies.

CYSTOPTERIS ——— ?

ASPIDIUM ACULEATUM, Sw. Hab. Temperate and tropical regions.

A. PATENS, Sw. (A. molle, Kunz.)

A. MOLLE, Sw. (A. sclerophyllum, Ent.—A tetragonum, Hook.)
Hab. All tropical countries.

A. EXALTATUM, Sw. (Polypodium, L. — Nephrolepis, Schott.)
Hab. Tropics of both hemispheres.

ONYCHIUM JAPONICUM.

OSMUNDA REGALIS, L. (O. spectabilis, Willd.) Hab. Europe and America.

O. CINNAMOMEA, L. Hab. N. America.

O. PALUSTRIS.

NOTE.—In the "Annales du Museum d' Histoire Naturelle" for 1807, occurs a very interesting account of the unintentional visit of the celebrated French botanist Francis Andre Michaux to the Bermudas. He set sail from Bourdeaux on Feb. 5, 1806 for Charleston, his intention being to explore the Southern States of America. On March 23, the vessel was captured by H. M. S. "Leander," and sent to Halifax, Michaux being the only passenger, who was allowed the privilege of going on board the Leander, where he seems to have received every attention from Captain Wetheby, her commander. Arriving at the Bermudas on April 7, they remained there eight days, and Michaux was allowed to go on shore. He gives a fair account of the general appearance of the islands, but his flora is very meagre, only comprising the following species: *Juniperus Bermudiana*; *Verbascum thapsus*; *Anagallis arvensis*; *Leontodon taraxacum*; *Plantago major*; *Urtica urens*; *Gentiana nana*; *Oxalis acetosella*. The "Sage bush" is mentioned, but not identified; also a species of *Verbena* and a *Medicago*. He appears to have regretted his inability to procure ripe berries of the cedar owing to his visit being during the flowering season, as it was his desire to have introduced the tree into the island of Corsica and the southern departments of France which border upon the Mediterranean.