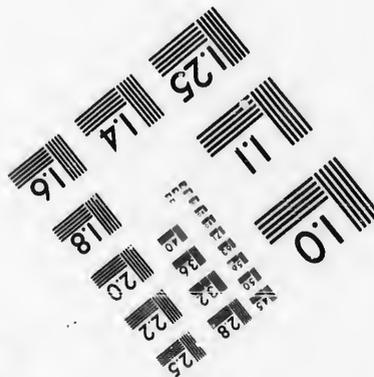
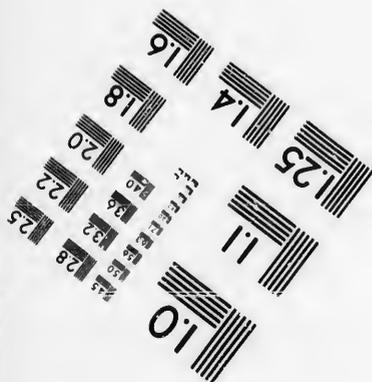
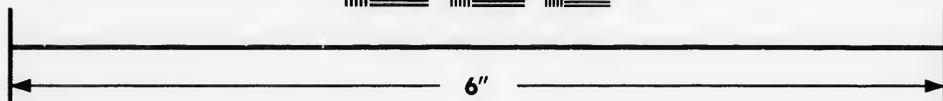
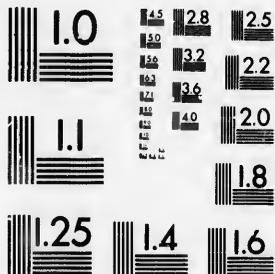


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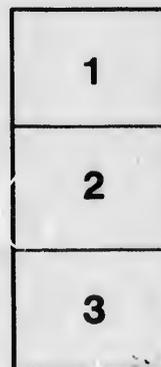
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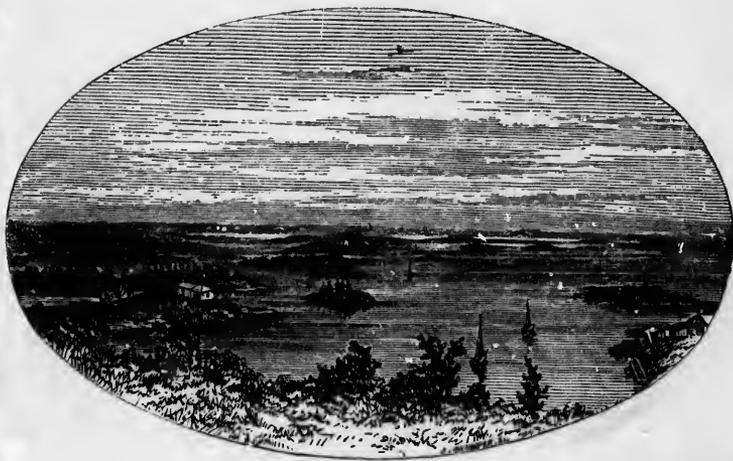
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THE VISITOR'S GUIDE TO BERMUDA.

With a Sketch of its Natural History.



BOSS' COVE.

By J. MATTHEW JONES, F. L. S.

(Author of "The Naturalist in Bermuda.")

LONDON: REEVES & TURNER, 196 Strand. NEW YORK: BRENTANO, 39
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PREFACE.

IN publishing this little volume, the author requests the indulgence of a generous public. As a first effort to present the claims of Bermuda as a winter resort, the notice of those, who either from motives of pleasure, or preservation of health, desire to visit the island, will probably be found to some extent incorrect, without however, nevertheless, that there will yet be found in its pages, sufficient information to attract the wayfarer to those 'Summer Isles,' which 'distant and secluded' though they be on the bosom of the mighty Atlantic, will yet be found replete with interest, and in climatic condition during the season, not to be surpassed in salubrity by any position so easily attainable by the inhabitants of the eastern portion of the North American continent.

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MEMORANDA.

THE Bermuda season may be considered as commencing Nov. 1, and ending May 31 ; as the months of June, July, August, September, and a portion of October, are extremely hot and very trying to a northern constitution.

Hotel accomodation may be had both at Hamilton and St. George's, but the large size and commanding situation of "The Hamilton Hotel," renders it the best in Bermuda. There are also some private boarding houses in the country.

The money in circulation is principally English gold, silver, and copper. The sovereign, or £1 is equal to \$4.86 $\frac{2}{3}$ Canada currency. The American \$20 gold piece is equal to £1-3-4 ; the \$10- £2-1-8, and \$5 £1-0-10. No paper currency exists in Bermuda, and what will be much regretted by visitors, no bank is established there.

There are excellent dry goods establishments both at St. George's and Hamilton, where every requisite in the form of clothing may be had at reasonable prices. There are other stores also, where may be obtained all the necessaries, if not the luxuries of life.

Conveyances some of a superior description, with careful drivers can always be had at short notice.

There is an excellent library at Hamilton supported by government, from which works may be obtained daily on payment of a small fee; and there is also a lending library in the same town at which most of the principal English and American magazines and newspapers may be had.

Several skilful physicians practice in Bermuda; also three or four dentists; while excellent drug stores are to be found both at Hamilton and St. George's.

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THE
BERMUDAS OR SOMERS' ISLES.

"Where the remote Bermudas ride,
I' th' ocean's bosom unespied."

ANDREW MARVELL.

ALONE, as it were, on the wild waste of waters, about six hundred miles east of the Carolina coast, lies the little group of islets known as Bermuda. In days of yore, when lighthouses were few and far between, and navigation was beset with a host of dangers and difficulties, these islands were considered as one of the greatest terrors of the deep; for lying in the track of merchantmen from Europe to America, and surrounded far out to sea by a girt of barrier reefs, they too often became the last home of the mariner, whose ship in the dark tempestuous night, was driven in fury upon the foaming breakers, and dashed to atoms amid the seething foam.

There is nothing bold in scenic effect to strike the eye of the visitor on first casting a look over the entire group; no elevated peaks or cone-like craters rear their majestic forms towards the sky; nor hillside gorge reveal the mountain torrent leaping on its liquid way. All is on a small scale, and although with islands and rocky islets together, over three hundred may be counted, yet the whole lie in a space of twenty-three miles by three, and so slightly

raised are they above the ocean surface, that the very highest point of land only reaches two hundred and fifty feet.

Their origin was doubtless owing to the upheaval of a portion of the ocean bed to within a few feet of the surface, and the consequent formation of land was probably a more rapid process than persons would imagine.

The Gulf Stream, that 'river of the ocean,' to which the British Isles and the contiguous portions of the European continent owe their pleasant temperate climate, flows between the Bermudas and the eastern coast of the United States; trending to the north-east as it reaches the latitude of New York; thus afford'ng the ocean to the southward, protection from the cold winds and waves which course along in a southerly direction from the frozen north during the winter months. On the eastern edge of this heated concourse of waters which circle around from south to north-east, snugly lie the Bermudas; while within this semi-circular space, vast fields of a sea weed known to naturalists as *Sargassum bacciferum* intermingle with driftwood, seeds of trees and plants, and abundance of other vegetable matter-bearing upon its surface, or within its tangled masses, myriads of mollusks, crustaceans, and other invertebrate forms, which float hither and thither as the winds direct, while thousands of fishes frequent these aquatic preserves to feast upon the various forms.

APPROACHES.

There are two routes by which the Bermudas can be visited; one via New York; the other via Halifax, Nova Scotia. By the former route communication is by steamer tri-weekly from November to March, and fortnightly from April to July; while between Halifax and Bermuda the steamer plies once a month only. Both passages occupy about the same time, three to three days and a half, prolonged to four days if head winds prevail.

Twenty-four hours after leaving either port a very perceptible change occurs in the temperature of the air; overcoats become useless, and the extra coverings of the berths are agreeably dispensed with; and while the comfortable warm cabin was chosen as the chief resort on leaving port, the open deck to a late hour of the night, now becomes the headquarters of those who love to pass the time in friendly chat. The voyage is soon over; yet during the time there is much to engage the attention of an enquiring mind. The Gulf Stream in itself is one of the wonders of the world; emanating from the heated waters of the Gulf of Mexico, it rushes with much force through the narrow channel which divides the Bahamas from the Florida coast, and proceeding north up the coast of the United States, yet at some distance from it, it gradually widens its limit; the western edge touching the eastern edge of the great arctic current, which, running down Davis'

Strait with its burden of icebergs, is hemmed in, as it were, by the warm current, and the icy masses melting, deposit their cargoes of rocks, pebbles, and sand, on the submarine banks which have long been known to exist in that position, and are annually rising towards the surface owing to these accumulations; and will, no doubt, many years to come, appear above the ocean, and form sandy islets like that of Sable Island off the coast of Nova Scotia. When on the eastern edge of the Gulf Stream, the vessel will meet with large floating masses of the gulf weed before alluded to, which have been brought by the current from the south, or been blown from its great collecting ground to the north-east, an area well-known to navigators from the earliest times as "The Sargasso Sea," and through which Columbus steered with his terror-stricken crew on his memorable voyage which resulted in the discovery of the new world. It is to these floating masses of gulf weed that the northern shores of America owe the presence of isolated examples of tropic fishes taken generally during the later months of summer. During that period the ocean surface is rarely disturbed by violent storms, and the gulf weed floats along in immense fields, propelled both by the swift, warm current and southerly winds, to a far more northerly point than usual; indeed, instances are known, one very recently, where turtle have been captured while floating on the water within one hundred miles of Halifax. The denizens of this favorable cover thus

brought within a comparatively short distance of the north-east coast of America, wander away right and left, and many strike the shores and are captured, to afford wonder to those who are unaccustomed to their singular forms. Thus it is that on the coast of Nova Scotia are found almost every summer, examples of West Indian *Balistes*, *Fistularia*, *Hemiramphus*, *Exocætus*, etc., also the pelagic mollusc commonly known as the 'sea snail' (*Physalia pelagica*); while many large seeds of West Indian plants such as *Entada scandens*, *Mucuna urens* and others chiefly belonging to the family *Leguminosæ*, are picked up at Sable Island, which lies eighty or more miles off the Nova Scotian coast. Another object which will attract attention is the flying fish, which is generally observed darting from the water under the steamer's bows when she comes within 150 miles of the islands. It is a curious fish, having elongated pectoral fins, which, when expanded, are of sufficient extent to enable the fish to rest upon the air during its course, which is always a straight one, and rarely prolonged to a greater distance than fifty or sixty yards, often much less. Inaccurate observers have declared that the fins in question are used just like the wings of a bird, jerking up and down, and that the fish can vary its course to the right or left as it wills. This is not the case, for its fins merely act as spread surfaces to enable the fish to balance itself in the air; as long as the fins remain moist, and immediately they are dry, it falls into its element again to renew

the motive power. It may just as well be said that the flying squirrel uses its expansive membrane while skimming from tree to tree as wing power, as to grant the flying fish the power of using its pectorals as moving organs of flight.

As soon, however, as the islands are made, the visitor will think but little of the ocean he has traversed or its wonderful inhabitants. Perhaps he has been terribly seasick, and only yearns to set foot upon terra firma, so we will only make a passing allusion to the waters surrounding the Bermudas. North and west of the islands, at a distance from shore in some directions of ten or more miles, lie what are known as the outer reefs, a belt of submerged rocks coated with *Serpulae*, marine annelides inhabiting exceeding hard and irregularly twisted calcareous tubes; and various other forms, particularly nullipores, stony sea weeds of a rosy colour which occur as wart-like processes on all portions of the reef rock. Within the outer reefs and coating the inner edges of these submerged rocks, grow the various species of corals, familiarly known to all, and treasured as curiosities in their bleached and whitened form, alike in castle and cot. Very different, indeed, is the aspect they present in situ. A brown mass looking like a small bush protrudes from the edge of a reef rock, which would never be heeded by the casual observer. What can it be? Carefully break it off at its base, and bring it to the surface. It is heavy and branched, and coated all over with a slimy mass perfectly disgusting

to look at; but wait a bit, lay it by and take it safely on shore. Then let it pass through the proper process of cleaning, and in a week's time on your table will rest one of the prettiest objects to be obtained from the Bermudian waters. There are ten or more species of corals growing on the reefs the names of which will be found hereafter. Thousands of other objects help to form the population of these outer reefs and contribute not a little to their growth; while myriads of tropic fishes here find in the snug holes and corners formed in the wave worn rocks, a home well suited to their tastes. Through certain channels in this reef, vessels reach the harbours within, but without the aid of the pilots, a daring clever set of fellows, with eyes as sharp as hawks, and nerves that never fail, it would be useless to attempt an entrance; so with one of these useful personages on board we will suppose the vessel on which the visitor has taken passage to be gradually approaching the land. If from New York the steamer enters the channel known as "The Narrows" which is sufficiently wide for vessels of the largest class, and has a depth of seven or eight fathoms at low water. The course is almost parallel with the shore until abreast of Fort Catherine. From this point to Murray Anchorage the course is somewhat semicircular, and then almost parallel with the shore all the way to the "Hog-fish Cut" opposite Spanish Point. It then trends inwards until the eastern end of Long Island is reached, where there is only a depth of two and a half fathoms at low

water, gradually increasing, however, to a depth of five fathoms opposite Share Point, within which lies Hamilton or Crowe Lane harbour, having a uniform depth of four or five fathoms, allowing good sized vessels to moor alongside the wharves, which possess the very great convenience of light galvanized iron roofs, under which all luggage and freight is safe from exposure. Should the visitor arrive in the steamer from Halifax, instead of turning to the right at the entrance of the Narrows the vessel steers straight for Governor's Island, through an extremely narrow channel marked by buoys and poles, requiring great caution on the part of the pilot, who rarely however fails to bring his craft safe into St. George's harbour, which is entered when Governor's Island is passed. On this Halifax route there is now a very powerful and strongly built iron steamer of 600 tons, named the "Beta", commanded by Capt. Shaw, a very efficient officer, whose politeness and attention are so well known to every one who has had the pleasure of sailing with him. The only drawback from the pleasure of a passage by this route, is having to land in boats, the steamer generally anchoring out in the harbour some distance from shore. Occasionally, however, she goes alongside the wharf for coaling purposes, when the visitor has no trouble whatever in landing himself and his luggage.

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GENERAL DESCRIPTION.

Latitude (Lighthouse on Gibb's Hill) $32^{\circ} 15' 4''$ N. Longitude $64^{\circ} 51' 36''$ W. Shape, a narrow elongated strip of land about twenty-three miles long, running nearly east and west, bent inwards at one extremity like a fish hook, and indented throughout by inlets with numerous little inlets scattered over the whole extent. Distance from Cape Hatteras in North Carolina, about 600 miles; and from Halifax, Nova Scotia, 750 miles. The land lies very low; the highest point being only 250 feet above the sea level; but it is pleasingly diversified throughout its whole area with little hills and dales. It is covered, more or less, with groves of cedar (*Juniperus barbadensis*) having an underwood of sage bush (*Lantana odorata*) and (*L. cumara*.) A few depressions, slightly below the sea level, are wet and marshy, tenanted by coarse grasses, reeds and sedges, with palmettos and cedars where the ground is dry, and mangroves and avicennias where it is muddy. There are no lakes, streams, or wells of fresh water; the only supply of that element being from the clouds. The roofs of the houses are prepared on purpose to allow the rain to run freely into tanks underground; some of which are of large size and keep an abundance of water perfectly clear and fresh for two or three months, if a drought should occur.

The climate, during the winter months of November, December, January, February, and March, is

simply charming; the thermometer usually ranging from 60 to 70 degrees. Cool and pleasant breezes almost continually prevail; and as may well be imagined from its position on the wide ocean, the air of Bermuda is the purest of the pure. There is hardly a day throughout this lovely season, that the weakest invalid could not walk about, or take carriage exercise in: and moreover, be able to inhale the sweet perfume of roses, geraniums, and other flowers which are always in bloom.*

The trade of Bermuda is carried on by a dozen or more island vessels and others from England, United States, Nova Scotia, and Prince Edward Island. The island vessels are built of cedar, the most durable of all woods; but as that timber is getting scarce, shipbuilding is not carried on to the extent it was formerly. The principal exports are onions, tomatoes, and potatoes; chiefly to New York, during the months of April, May, and June. Arrowroot has also been, for many years, a well known Bermudian product, commanding a high price in every part of the world.

There are two line regiments quartered in Bermuda, as well as artillery and engineers; and the dockyard has a number of officers and men attached to it.

Fishes of several kinds are taken in some quantity around the islands, particularly groupers (*Serrani*), which are brought to the wharves in boats furnished

* For a more particular account of the climate, &c., of each month, see hereafter.

with grated wells, in which the fish swim about until required. The angel fish (*Holacanthus*) and chub (*Pimelepterus*) are considered as great dainties by epicures. The average price of all fish is 3d. per lb.

Butchers meat is dear, owing to the necessity of importing nearly all that is required for the consumption of both natives and troops. The best joints of beef sell at 1s. 2d.; mutton 1s.; pork 9d., per lb. Poultry is also dear, and as the climate will not allow of its keeping long after being killed, fowls, ducks, &c., are always sold alive at from 9d. to 1s. per lb. Eggs are usually abundant, selling for 1s. per dozen. Fresh butter is dear, and as a rule by no means good, selling at 2s. per lb. Milk varies from 4d. to 6d. per quart.

The roads in Bermuda are, or rather ought to be, good, for a little proper attention is all that is required to render them excellent. Stage coaches, not by any means roomy, traverse the country from St. George's to Hamilton, and from Hamilton to Somerset, and vice versa, every day, (Sundays excepted). It is hoped, however, that in a few years a railway will be constructed between these two towns, which might be done at a very moderate cost owing to the peculiar nature of the rock, which can be cut with a common hand saw; and once made with sleepers of cedar, which would last for twenty or more years perfectly sound, it would certainly prove a great benefit to the inhabitants, and be almost sure to pay its expenses.

HISTORY.

As regards the history of these interesting isles, we find that a certain Spanish vessel named the "La Garza" while on a passage from Spain to Cuba about the year 1515, laden with a cargo of hogs, was the first to discover them. Her captain, Juan Bermudez, intended to have landed, and, as was customary with vessels of his nation visiting uninhabited islands, to leave a few hogs to propagate their species, and thereby afford food to any future castaways. The treacherous elements, however, did not allow of his carrying his intention into effect, for a heavy gale coming on, he was obliged to sheer off.

It must ever be a source of regret to those who take an interest in scientific pursuits, that this vessel was not enabled to land one of her passengers, John Gonzales Oviedo, one of the earliest Spanish naturalists, who was on his way to examine the natural productions of the West Indian islands. Had he set foot upon the coral strand, and roamed through the dense woods of cedar, or the marshy tracts along the shore, we should doubtless have been made acquainted with the fauna the group then possessed. We have, however, the following particulars regarding the probable size of the islands, which he gives in his "History of the West Indies."

"In the year 1515 when I came to inform your Majesty of the state of things in India (West Indies), I observed that in my voyage when to the windward

of the island of Bermudez, otherwise called "Gorga," being the most remote of all the islands yet found in the world, I determined to send some of the people ashore, both to search for what might be there, and to leave certain hogs upon it to propagate; but on account of a contrary wind, I could not bring the ship nearer than cannon shot. The island was 36 miles in length, 48 in breadth, and about 90 in circuit.*

From that date to the year 1543, we have no recorded instance of any one visiting the islands; but during this year, tradition asserts, that another Spaniard; to whom the King of Spain had granted them, landed and took formal possession, planting a flag on a prominent headland of the south shore of the main island, and carving the initials of his name with the date of his visit on the rock beneath.

The next account of the Bermudas is from one Henry May, an Englishman, who, after having cruised for some time in a privateer about the Gulf of Mexico, sailed from Laguna, November 29, 1593, in a French vessel bound for Europe. It so happened that on the 7th of December when it was supposed that the dreaded Bermudas were passed; the crew of this vessel were served with a liberal allowance of wine to celebrate such a joyous event, and drink to a speedy voyage across the Atlantic. But such was not to be their good fortune, for about midnight of

*If these theoretical measurements approximate the truth, the submergence of the islands must have taken place after this date.

that day of merriment the ship struck with such violence on the outer reefs, as to leave but little time for those on board to save themselves ere she settled down upon the coral bed beneath the warm ocean waves. The spot where the vessel struck is described by May as being a high rock rising from the water, which, owing to the darkness of the night, they took to be a portion of the main land; but daylight revealed a different state of things, for they were fully twelve miles from the nearest point of the shore, now known as Fort Catherine on the north side of St. George's Island. They must have struck close to the North Rock, a solitary pinnacle which rises but ten or twelve feet above high water mark, and is only eight feet in diameter, being situate at the edge of the barrier reef in a northerly direction from the islands. On landing, they found every part covered to the water's edge with cedar, but not a vegetable root of any kind was found to serve them for a meal. Turtle, however, they found in abundance, and during the five month's they lived upon the islands they fared well. Having constructed a small vessel of cedar wood, they put to sea and succeeded in making the coast of Nova Scotia, where they procured water and ballast, and then proceeding north towards Newfoundland, were received on board a vessel bound for Europe.

Another and more particular account of the islands in early times is to be found in an old and extremely scarce black letter book, bearing on its title page "The

Wreck of the Sea Adventure, by Sil. Jourdan." It contains a narrative of events regarding the shipwreck of that vessel, which was one of a small fleet despatched from England to the colony of Virginia, having on board a newly appointed governor of that possession, Sir Thomas Gates; also Admiral Sir George Somers, and other notable persons interested in the prosperity of the colony. It appears that on the vessel running ashore, the whole crew, consisting of one hundred and fifty souls, happily got safe to land with a good supply of provisions and stores of all kinds, which were of great use to them afterwards. On roaming about the islands they found food in abundance; the wild hogs were very numerous and particularly fat; feasting as they did upon the berries of the cedar. When the hogs got lean they changed their food to turtle. Sea birds frequented the place in multitudes; especially a bird called the "cahow," since recognized as the Dusky Shearwater (*Puffinus obscurus*). Fish of many kinds were taken daily; indeed they were so common about the shore that Jourdan quaintly remarks: "If a man step into the water they will come round about him, so that men were fain to get out for fear of byting."

Like May and his companions, Sir George and his party built vessels of cedar with the intention of leaving the islands, which purpose they carried into effect May 10, and arrived at Cape Henry at the entrance to the Chesapeake, anchoring on the 23rd in front of Jamestown, the then capital of Virginia

The people there were found to be in such a reduced condition from want of food, that the Admiral volunteered to return to Bermuda for fresh supplies; but old age had now begun to tell upon the frame of the gallant old tar, and, although he lived to reach the islands once more, anxiety and over-exertion brought on an illness which suddenly closed his useful life. His body was embalmed and taken to England for interment, but, as was customary at that period, the heart and intestines were given to the land on which he had breathed his last. They were interred on the site of the present town of St. George, and it is said that a few years later a stone wall was built around the grave, and a marble slab laid over it bearing the following droll inscription:—

In the year 1 6 1 1
 Noble Sir George Somers went hence to heaven
 Whose well tried worth that held him still imploid
 Gave him the knowledge of the world so wide;
 Hence 'twas by Heaven's decree that to this place
 He brought new guests and name to mutual grace;
 At last his soul and body being to part,
 He here bequeathed his entrails and his heart.

Soon after this, an exaggerated statement regarding the importance and natural wealth of the Bermudas was circulated in England, and a company was formed under the style of "The Governor and Company of the City of London for the plantation of the Somer Islands"; a charter being granted to it by King James I. This company sent out a vessel with emigrants under the charge of a Governor whose name

was Moore, and they arrived safely July 11, 1612, and on the evening of the same day were landed from the vessel on the south side of Smith's Island in St. George's harbour, and since that date the islands have been regularly inhabited. The next Governor after Moore was Captain Daniel Tucker, who had been a planter in Virginia. He arrived in Bermuda in May 1616 and resorted to vigorous measures to compel the people to work for the benefit of the Company. During Capt. Tucker's administration, there was struck for circulation a brass coin having on one side the figure of a hog, and on the reverse a ship; of this token, only five or six examples now exist; two of which, found some years ago by a labourer on the Vermont property, in Smith's parish, are to be seen in a case in the Public Building. It is said that owing to its extreme rarity, the "Bermuda Hog-penny" is valued by numismatists at \$25. It was during Capt. Tucker's government that Norwood surveyed the islands, and divided them into tribes and shares. The next Governor was Nathaniel Butler, who arrived on the island, Oct. 20, 1619. He was succeeded by Henry Woodhouse in 1623. In 1626 arrived Philip Bell, who was again relieved by Roger Wood in 1629. Then came Thomas Chaddocke and Capt. Turner; the latter in 1642. In 1653 Josiah Foster became Governor, during whose administration several persons were hung at St. George's, after trial, for witchcraft. He was relieved by William Sayle in 1658. It was about this time that African negroes

were introduced as slaves. After Sayle came Florentius Seymour in 1663; and then Sir John Hayden, Knt., in 1669. Florentius Seymour again became Governor in 1681, and died in Sandy's parish, Nov. 3, 1682. Colonel Richard Coney arrived Jan. 29th, 1683, and was sworn in as governor, and he was the last governor appointed by the Bermuda Company. After this date all governors were appointed by the Crown. The first of these was Sir Robert Robinson, commissioned by King James II, as Governor and Captain General and Vice-Admiral of the Bermudas, in 1687. He was succeeded by Isaac Richier in 1691, whose administration, it is said, was "characterized by gross violation of all law and order." John Goddard was next in rotation, arriving August, 1693. It was during Governor Goddard's administration that a singular grant was made to one Thomas Neale of London, "of all treasure concealed in the Bermudas." This document was no doubt the result of a widely spread report that several years before certain Spanish galleons had been wrecked on the reefs, and the treasure buried on Ireland Island. Governor Goddard was succeeded by Samuel Day. This gentleman soon got into difficulties with the inhabitants, and a formal complaint being made to the Lords of Trade and Plantations, he was re-called and Benjamin Bennett appointed in his place in May 1701. Governor Bennett proved a most popular officer, and it was not without regret to the inhabitants that he closed his administration in November,

1713. Henry Pulleine was his successor, but did not long enjoy his government, as he died April 20, 1715, and, much to the satisfaction of the people, Mr. Bennett again took the reins of government.

In July, 1720, a suspicious looking vessel made her appearance off the islands, and the sloop "Devonshire" was hired, manned, and equipped to pursue her. This vessel was placed under the command of a Capt. Joell, a man of determined and intrepid character. After a short cruise, she encountered a heavily armed Spanish ship homeward bound, with a valuable cargo, and Capt. Joell, nothing daunted at the tremendous advantage of the enemy in point of size, unhesitatingly brought her to action. The battle lasted for some time, when Capt. Joell, finding his antagonist endeavouring to escape, determined to board, but in the attempt the boom of the sloop was shot away, the gallant captain severely wounded, and some of the crew killed. This decided the engagement, as the sloop became unmanageable, and after a temporary repair was obliged to return to Bermuda.

Governor Bennett was relieved by John Hope in February, 1722. This officer proved very unpopular, and quarrels between him and his council were continual. At last, after hearing that a conspiracy was on foot against him, he procured leave of absence, and was succeeded by John Pitt in September, 1728. But no better results appear to have attended the

appointment of this gentleman, for he appeared to be as unpleasant as his predecessor.

It was during this year that the celebrated Dr. George Berkeley, Dean of Derry, and afterwards Bishop of Cloyne, obtained a charter from the British Government for the foundation of a college in Bermuda, to bear the name of "St. Paul's College," for training young men for missionary purposes in the American and West Indian Colonies; and, also, for converting the savages of America to Christianity. The English Parliament voted £20,000, and several private subscriptions were added for the purpose of carrying out the supposed laudable undertaking. So great was the enthusiasm of this worthy man that he actually resigned his deanery, worth £1,100 per annum, to become President of the college, with a salary of £100, which he fixed himself. But although he came out and resided two years in the American provinces, he returned to England without carrying out his project.

Governor Pitt resigned his post and was succeeded by Allured Popple, July 10th, 1738, who died and was buried at St. George's, Nov. 9th, 1744. An old marble monument, surmounted by the arms of the Popple family, in colours, may be seen in the parish church.

William Popple, probably a relative of the late worthy, became governor July 1st, 1747.

Whitfield, the celebrated preacher, arrived in Bermuda on his way from Virginia to England, and

spent several months on the islands. On the Caven-
dish estate, in Devonshire parish, until lately in the
possession of the Hon. J. H. Darrell, ex-chief justice
of Bermuda, existed, a few years ago, an old locust
tree, under the branches of which Whitfield often
preached; but a heavy gale levelled it with the ground.
A stone slab marks the spot, but it is to be regretted
that it bears no inscription recalling to remembrance
the services of so eloquent a man in this secluded
spot.

Governor William Popple left the islands Dec.,
1763, and George James Bruere was appointed to
succeed him. His government was characterized by
a series of misunderstandings with the House of
Assembly until they culminated on May 27, 1780, in
a resolution in connection with the council to petition
the crown with reference "to the misery arising
from the administration of His Excellency George
James Bruere, Esq." No answer, however, was
required to the petition, for the death of the governor
rendered further proceedings unnecessary. Next came
George Bruere as Lieut. Governor in October of the
same year.

During this month occurred a fearful hurricane
which surpassed in violence anything of the kind
that had been experienced on the islands. During
the continuance of this gale, houses were levelled to
the ground, and many a stately cedar was uprooted
by the fury of the blast. The tide rose to an extra-
ordinary height, and the shipping suffered to a great

extent. Indeed, so great was the damage done to property of all descriptions, that for many years afterwards the great October gale was alluded to as an awful visitation.

On January 4, 1782, William Browne, a loyalist and native of Massachusetts, where he had held high official appointments, became Governor.

The year 1784 was rendered notable in the annals of Bermudian history by the establishment of a newspaper, under the title of "The Royal Gazette," the first number of which was issued January 17 of that year. A specimen of this newspaper may be seen in the Bermuda Library, thanks to His Excellency Governor Lefroy, who, about two years ago, very judiciously directed an old file, unfortunately incomplete, which was found in the library and would probably have been treated as waste paper, to be bound for future reference.

It was during Governor Browne's administration that a motion was set on foot for transferring the seat of government to a more convenient site about the centre of the main island, and the present position of Hamilton was selected.

On October 15, 1788, Governor Browne embarked for England, to the great regret of the Bermudians, for, under his able management, the business of the colony was conducted very successfully with both Council and Assembly; trade flourished, and the credit of the country was good. He was succeeded

by Henry Hamilton, who proved as popular as his predecessor.

In the year 1793, a quantity of copper coin, pence and half-pence, was struck for use in Bermuda, which is now not often seen in circulation. On one side is the King's head, surrounded by the name "Georgius III," and on the reverse, a ship in full sail with "Bermuda, 1793."

In 1794, Governor Hamilton was relieved by James Crawford, who, being strongly suspected of entertaining Jacobite principles, had charges preferred against him at home, which caused him to be superseded, and Lieut. Col. William Campbell succeeded him. Sad to relate, this unfortunate officer, who arrived November 22, 1796, and assumed the command, only lived eight days, as he was attacked by a fever of a very malignant type, and succumbed to the disease on the first day of December. He was buried at St. George's, as a memorial tablet in the parish church shows.

On February 24, 1798, arrived in H. M. S. "Hinde," George Beckwith as Governor. At this time the islanders were pleased with the endeavors of Admiral Murray to cause a dockyard to be established, and this officer, after careful survey, ordered the frigate "Cleopatra" to enter the channel at the East end, and proceed to the anchorage ground now bearing his name.

On February 19, 1801, the islands were visited by an earthquake of some severity. Governor Beckwith

left Bermuda April 8, 1803. In 1804, the cow-pox was introduced from Carolina, and was received as a blessing by the inhabitants, who had been subject to that dreadful malady the small-pox from the period of the earliest settlement of the place. In 1804 also, Tom Moore the poet obtained the post of Registrar of the Court of Admiralty, an office, which although a very lucrative, could not have been looked upon as a very responsible one, as Moore left the islands after three month's residence, and was allowed to appoint a deputy in his place. Odd enough, he continued to hold the appointment while living in England, for forty years afterwards and was not superseded until Governor Reid represented the case at home.

In April 1805, Francis Gore became Governor, but only remained until June 1806. John Hodgson succeeded him, and a stormy reign he appears to have had for four years; courtesy or ceremony in his dealings with the representatives of the people, not being marked features in his character.

Sir James Cockburn was the next Governor, arriving in August 1811. In 1816, he built a large college in Devonshire parish, which has lately been rebuilt and converted into a Lunatic Asylum. Sir James was succeeded by Sir William Lumley in November 1819, who appears to have possessed a temper by no means amiable or calculated to win the hearts of the people. Whatever he wished to do, whether constitutional or not, it mattered little; if such wishes were thwarted by the House of Assembly

or private individuals, his anger was instantly aroused, and he committed acts so violent, that Williams in his history of the islands, declares ; that " he permitted himself to be so governed by his passions, that in a short period after his arrival, he had rendered himself personally obnoxious to almost every influential member of the community". To the " sincere satisfaction of the Bermudians", so says the same historian, Sir William terminated his unhappy administration by embarking on June 6, 1825 for Halifax. Sir Hilgrove Turner succeeded him, arriving at Bermuda February 14, 1826, and continued in office until January 16, 1832, when Sir Stephen Chapman became Governor.

The year 1834 will long be remembered in Bermuda as that in which an Act of the Imperial Legislature released from the bonds of slavery, the coloured population of the islands. However degrading the title of slave may have been, yet in the Bermudas we venture to say that few, if any, were the instances of cruelty known to have been exercised towards the negroes employed there. All, as a rule, were treated with great kindness ; so much so, that many slaves would much rather have continued in the happy homes they had been brought up in, than have had to seek their own living, which appeared such a strange new life to them.

In the year 1835, occurred a most calamitous fire in New York, the losses estimated at \$20,000,000. Many of the Bermudians suffered great pecuniary

loss by this fire, having invested largely in the various fire insurance offices of that city.

On July 24, 1838, H. M. S. "Vestal" arrived from Quebec with eight ringleaders of the Canadian rebellion, who had been banished thence by an order of the then Governor-General, Lord Durham, but they only remained three months.

Governor Chapman was relieved April 12, 1839, by Lieut.-Col. William Reid, C. B., R. E. It was on the night of September 11, of this year that a violent hurricane passed over the islands, doing immense damage to property of all descriptions, and rendering houseless many poor families who lived in exposed situations. The new Governor was not long in exhibiting his peculiar fitness for the position in which he was placed, for in two months from the date of his taking the seals of office, at his recommendation was introduced into the Assembly a bill for the establishment of a public library which from that day to this has flourished, and is not to be surpassed in regard to the high order of the works it contains, by any similar institution in either of the British North American or West Indian colonies. But this was only one instance of the zeal this worthy man exercised in behalf of the country. His mind was always at work finding out new sources from which good would ensue; and every year added to the rich store of his useful deeds. Every one knew "the good governor," as he journeyed about the islands on his missions of peace and good will to the people con-

mitted to his care ; and by all was he treated with that respect he was so justly entitled to. Every object which he thought would tend to further the cause of useful knowledge, in him found a firm supporter. Even his spare moments, brief as they must have been, in the daily life of such a hard working mind, were devoted to pursuits of service to mankind. The study of meteorology afforded him intense pleasure, and his observations, made with unvaried perseverance, during his continued residence on the islands for a space of seven years, enabled him to publish the work so well known to navigators as "Reid on Storms", which has been of so much service to shipmasters, and remains a classic work to this day. Long, indeed, will his name be remembered by the grateful inhabitants of the Bermudas ; for under his able and judicious rule, the prosperity of the islands was in every respect greatly advanced. To perpetuate his memory in a more prominent manner, the Legislature voted the requisite funds, to procure from England a granite obelisk, which was placed in the grounds of the Public Building, bearing the following inscription :—

Erected A. D., 1861, by the authority of the Legislature in grateful remembrance of the public services and private worth of Major General SIR WILLIAM REID, K.C.B., Governor of Bermuda, from 1839 to 1846. Obiit. 31 Oct., 1858, Æt. 67

Nor must it be omitted to mention that in all his endeavours he was tenderly assisted and encouraged

by a talented and amiable wife. Lady Reid was greatly and deservedly beloved by all classes of the community; for possessing a most pleasing disposition, as well as a large amount of good sense combined with cleverness; she not only lent valuable assistance to her husband in his official as well as scientific pursuits; but by her engaging manners, rendered society at once pleasant and agreeable. She soothed the afflicted with her generous sympathy; visited the poor in their distress; and in time of general sickness busied herself in personal visits and tender enquiries. It may be said that these encomiums on the character of a Governor and his spouse are unbecoming the pages of a guide-book; but it must be pleaded, that a singular instance of excellence in a ruling mind like that of Sir William Reid is so seldom met with, that it is well to record in the history of a colony so bright an example of public as well as private worth.

Captain Charles Elliott, R. N., succeeded Sir William Reid, being sworn in Dec. 26, 1846. It was during Governor Elliott's administration, but while he was on leave in the summer of 1853, that a sad visitation of yellow fever occurred, which soon became epidemic, and owing to bad sanitary arrangements and intemperance, the troops, especially at St. George's, suffered to an alarming extent. Europeans generally were attacked by it; and two acting governors, Colonel Phillipotts and Robe, fell victims within the short space of one week; and Major Oakley, of

the 56th Regt., who was then sworn in on the decease of the latter officer, very nearly succumbed to the disease a few days later. This fever, like all visitations of the kind occurring before or since, was introduced by vessels from the West Indies. Capt. Elliott was succeeded by Lieut.-Col. Freeman Murray, Oct. 3rd, 1854; and he was in turn succeeded by Lieut.-Col. Ord, R. E., whose tenure of office was rendered memorable by the visit of H. R. H. Prince Alfred, then serving as midshipman in the "Nile" flagship of Rear Admiral Sir Alexander Milne, K. C. B., April, 1862. As a memorial of this visit of royalty to Bermuda, the Prince was invited to plant a cedar tree in the grounds of the Public Building, which has grown well, and is now about twelve feet in height, being known as "Prince Alfred's Tree."

Sir F. R. Chapman, a nephew of Sir Stephen Chapman, who was governor from 1836 to 1839, succeeded Col. Ord. In July, 1869, arrived the Bermuda Floating Dock, which has proved of much benefit to the navy as well as mercantile marine. Then came Sir Thomas Gore Browne as administrator, from September, 13, 1870, to April 22nd, 1871, and on May the 9th of the same year arrived the present governor, Major General Lefroy, C. B., F. R. S.; whose tenure of office, has been characterized by a desire to advance the cause of education, and improve the various public institutions of the colony. His Excellency has also manifested a sincere desire to

promote the science of horticulture in its various branches ; procuring from different quarters, particularly the Royal Gardens at Kew, numerous packets of seeds, trees, shrubs and plants, that might be useful as timber, or for ornamental purposes. At much trouble and expense, His Excellency has succeeded in raising from seed two or three hundred species of such trees and shrubs, which have been presented to different persons, who take an interest in such matters in various parts of the Islands. These trees will doubtless soon acclimatise themselves and form a great addition to the scenery of the country in years to come. Like Sir William Reid, His Excellency has always been known to take especial interest in the meteorology of the Islands, and therefore from the pen of so distinguished a member of the Royal Society, the public will naturally look forward with much interest for the appearance of a work upon the subject. The Public Records, dating back as far as the first settlement of the Islands, which, for many years had been allowed to remain in a shameful state of decay, through want of the most ordinary attention ; have been happily saved by the forethought of his Excellency ; who has been engaged year by year endeavoring to decipher the almost illegible M.S., and with his own hand copy out and arrange the whole for the binder. In future years, when the historian seeks matter for work upon the early history of the colony, he will find much here to throw light upon the subject ; and

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will have good cause to remember the efforts of His Excellency to save such valuable documents from total destruction.

ITINERARY.

ST. GEORGE'S.

This was once the chief town of the islands and residence of the governor. The House of Assembly and all the public offices concentrated here, but from its position it was considered as unsuitable for the capital; so Hamilton, which is more centrally situate, was chosen in its stead about the latter part of the last century. The town has nothing to recommend it in the way of appearances; the streets are so narrow that in places two portly persons would almost jostle each other in passing. They were constructed when carriages were unknown on the islands, and so they remain, and will doubtless remain until necessity compels the inhabitants to adopt a more improved style of architecture.

These narrow streets, winding up the hill on which much of the town is built; with their gardens hemmed in by high walls, over which hang different species of cacti, with papaws, bananas, and plantains towering above, and here and there the graceful form of the

palmetto surmounting the whole; will remind the visitor of a small Spanish or eastern town.

It was from Sir George Somers, that the place took its name, whose tomb was in existence, as we learn from history, about the commencement of the eighteenth century. It stood, there is no doubt, in a niche in the wall of the old government house garden, for in an ancient deed now in existence, held by a gentleman in the town, a clause is inserted directing that the wall immediately around the tomb shall be kept in proper repair. Until very recently, nearly covered with weeds and rubbish, there existed a slab of slate-stone at this spot, which bore the following inscription:

CHARLOTTE HOPE
Posuit
JOHANNE HOPE,
Præfectus
24 June, 1726.

which was probably placed over Sir George's dilapidated tomb by this lady, who was wife of the governor for the time being.

One object of interest at St. George's is the old parish church, which is dedicated to St. Peter. It contains one or two marble tablets remarkable for age, and the quaint phraseology of former days. That to the "good governor Popple" we commend to the notice of the visitor; as also that to the unfortunate governor Campbell. To obtain a good view of the harbor and surrounding country, the visitor

should proceed, either up to the Signal Station or Barrack Hill, from which will be obtained an extensive prospect. Not far beyond the barracks, and eastward of them, is a small cove on the northern shore, known as "Buildings Bay," said to be the place where Sir George Somers had his cedar vessel in which he proceeded to Virginia, built. There are three or four strong forts commanding the channel through the reefs on the north side, which are well worth seeing. Old Fort, at the entrance to St. George's harbor, Fort Victoria, and Fort Albert behind the barracks, and Fort Catherine. Ordnance Island, which stands alone inshore near the landing steps, at the Market Square, was formerly a small rocky ledge, but now it is nearly covered with buildings containing a large amount of ammunition, as well as offices for the Royal Engineer Department.

DAVID'S ISLAND,

forming the southern boundary of St. George's Harbour, is well worth a visit; for although it is not extensive, yet the pretty morsels of scenery occurring in almost every part of it, especially on the side looking over Castle Harbour, are nowhere to be surpassed. It is here that some of the best arrow-root to be obtained in Bermuda is grown and manufactured; and this island also furnishes most of the pilots who hail from the east end of the islands. There is a whalehouse here which is now, however,

rarely used, as the whale fishery has been much neglected of late years. In its many pretty little bays and inlets, a variety of shells and sea weeds may be obtained, and many a sea anemone (*actinia*) of lovely hue, may be seen expanding its living blossom in the clear shallow water, where the gaily coloured fishes are roving in schools; and numbers of crustaceans and echinoderms are crawling over the white sandy bottom, which renders their forms wonderfully conspicuous.

CASTLE HARBOUR.

Taking a boat from St. George's, a very pleasant day may be spent in sailing about this charming sheet of water, the beauties of which, on a bright sunny day, with sufficient breeze to ripple the surface of the azure waters, are not to be excelled in any part of the world. Whichever way you look, the eye falls upon scenes of the most picturesque character; diminutive in size it is true, yet nevertheless miniature gems of nature. The day's work should commence by a visit to Castle Island, which commands the entrance to the harbour. Although the visitor cannot land upon the island, except at one spot on its southern side, yet in passing, he will perceive the ruins of what, many years ago, was a fort of some importance, called "The King's Castle. The island is about 270 yards long by 90 broad. It is a lonely desolate spot, the home of the lizard and prickly pear (*opuntia*). As sailing along for South

Southampton Island, which is the next to attract attention, the entrance channel to Castle Harbour will be crossed; showing how intricate the passage must have been for the large West Indian mail steamers, which made this harbour their port of entry, for some few years after 1842. Southampton Island was also fortified for the same purpose as Castle Island. Nearly opposite Southampton Island, but at some little distance from the shore on the south side, stands "Gurnet Rock," an isolated mass, very interesting to an ornithologist, from its being almost the only spot in the Bermudas where that rare bird the dusky shearwater (*Puffinus obscurus*) breeds, which is evidently the curious bird mentioned by Capt. John Smith in his account of the Bermudas (which is included in his "History of Virginia") about two centuries ago, under the name of the "cahow." The rock cannot be landed upon in safety, owing to the almost continued swell of the ocean; and many are the hair breath 'scapes that have occurred when enthusiastic naturalists, who are somewhat rare in the Bermudas, have daringly attempted the task. The last effort was made by Lieut. Reid, R. E. about two years ago. Getting as near as possible in the boat, he had to make a spring just as the swell lifted her up the side of the rock; but although he luckily succeeded in making good his footing, he received some severe bruises from the jagged nature of the surface. His embarkation was happily effected without injury, and he had the pleasure of carrying home

a fine young specimen of the bird which he had secured. After passing Southampton Island, the western shore of Nonsuch Island comes in view. This island now belongs to the Military Department. Several species of the smaller shells may be obtained in the sandy bays of its southern shore.

Cooper's Island next claims attention, and the visitor will not regret landing and roaming about it for an hour or two, as there is much to be seen and many shells and seaweeds to be found; as well as a few interesting plants growing on the sandy hillocks, which are such conspicuous features in its scenery. If the day should be calm instead of breezy, the visitor will do well to pay attention to the curious objects beneath the waters of the harbour. The bottom is every where studded with reefs, on which grow corals, gorgonias, sponges, &c., in profusion, and if the boat be provided with a pair of long handled nippers, any quantity of specimens may be obtained.

MULLET BAY.

About half a mile from St. George's is Mullet Bay one of the many pretty little inlets with which the islands are everywhere indented. In its centre will be seen a small island, which is now connected with the land by a wooden bridge.

STOCK'S POINT.

Past Mullet Bay and forming its western shore, runs out towards Castle Harbor, an irregular promontory known as Stock's Point. At the extreme end of this point, and situate in a pretty nook, is the residence of Mr. J. T. Bartram; whose collection of stuffed birds and fishes, has been looked upon for years as one of the 'lions' of Bermuda. It is the only collection of its kind in the islands, and is certainly well worth seeing; as it contains many rare specimens which have been taken here; and the owner himself moreover, who has passed some thirty or more years in Bermuda, is a good example of a hearty Englishman; and although advanced in years, is still in what naturalists would term "a fine state of preservation."

THE CAUSEWAY.

Until 1871, the only way of gaining the main island from St. George's, was by boat across the narrow entrance channel from the north side into that part of Castle Harbour called "The Reach." During heavy northerly gales, the passage was extremely hazardous, and many narrow escapes were chronicled each winter season. During the height of a gale, and indeed generally for some hours after it had ceased, owing to the heavy swell rushing in here, all communication was stopped, greatly to the inconvenience of the inhabitants civil and military. To the delight of all classes, the present causeway was constructed.

It commences near Stock's Point, where an iron swing bridge 123 feet long spans the channel through which moderate sized craft proceed from St. George's harbour to the north side, thereby saving the lengthened voyage all round the north side of St. George's Island. This bridge was constructed in England and sent out in pieces. The whole cost of the causeway was about £28,000 or \$140,000. That part of it which runs along Long Bird Island is especially smooth and good to travel upon, and is not so much exposed to the force of heavy northerly gales as that part which connects Walsingham with the island, the passage of which part in heavy weather is sometimes alarming to passengers in uncovered vehicles, the water dashing in sheets completely over the way. Just at the end of the causeway, on the Walsingham side, is a deep pool which is known as "Blue Hole," in which several kinds of fish may be seen disporting themselves in the clear water, and if the sun be bright, and one or two angel fish in the company, the sight is worth stopping to look at.

WALSINGHAM CAVES.

About a quarter of a mile up the hilly road which leads from the causeway towards Hamilton, stands a small wooden shed on the left hand; while on the right, a rough and narrow road is seen, which leads to the famous caves which have afforded for many years the most singular scenes to be met with in the Bermudas. It would take pages to describe properly

the various portions of these subterranean recesses, which present the usual appearance of stalactitic halls and spacious chambers floored with transparent waters, on which no boat has ever yet been launched to explore the unknown regions of darkness beyond. Possibly many a cave yet remains to be discovered, which will far exceed in grandeur anything now known; but the present caves are quite sufficient to afford as much toilsome travel as the visitor would probably like to undergo. It may not be out of place here to suggest, that all persons should refrain, as far as possible, from injuring the stalactites; which tend so much to render portions of the caves more interesting than others.

WALSINGHAM.

Few, if any, of the visitors to these islands, ever leave them without paying one or more visits to this classic locality, through whose sylvan glades the bard of Erin loved to roam, and who has immortalized it in his musical verse. Bereft of all sentimental feeling must he be, who can recline beneath the shade of the old calabash tree, surrounded by the charms which nature has afforded the pretty spot in which it grows, and recall to mind the famous ode the poet here penned to his friend Atkinson,

“ ’Twas thus by the shade of a calabash tree
With a few who could think and remember like me;”

without also recalling to mind the gifted author of “Lalla Rookh” and the “Irish Melodies.”

It was in 1803 that Moore visited Bermuda, having been presented with the lucrative post of Registrar of the Court of Vice-Admiralty; but the 'distant and secluded isle' was too far from the busy world of gaiety he had left behind in the metropolis of England; and after a residence of a few months he took his departure, leaving a deputy to do his work, who knowing well the character he had to deal with, took sufficient advantage of poor Moore to pocket all his large salary, and still more, to leave him in the end a debtor to the imperial treasury for a large amount. The grounds about Walsingham are by far the most picturesque in the islands; presenting a singular chaotic appearance of broken rocks, caverns and ponds, interspersed with grassy patches and thickets in which numerous kinds of trees and shrubs match their foliage with that of the orange and lemon. Here may be found species of plants unknown in any other part of the islands, and in the clear waters which occur in almost every cavern mouth, the most brilliant hued fishes may be seen, displaying their elegant forms in the blaze of the noon day sun. The coffee tree grows luxuriantly at Walsingham, and a climbing jasmine overruns both rocks and trees profusely. The soil of this district is different to that of other parts, being of a bright brick red, and analysis proves it to differ also in its nature.

PAYNTER VALE.

Not far from Walsingham, and snugly ensconced in a grove of fine old trees, lies all that remains of the old homestead of the Paynter family. Years ago it presented a far different aspect, for the house was capacious, and the garden and shrubbery traversed with well kept walks and lawns; while a neat boundary wall ran along the public road the whole extent of the estate. Now, how changed all appears; the house a complete ruin, with ferns growing out of the crevices, and bananas, papaws and cedars hemming in its remains on every side. Near what was formerly the principal entrance gate, stands a magnificent fiddle-wood tree (*Citharexylum*), the parent of all the fiddle-wood trees in Bermuda. It was brought, as we are informed by Captain William Peniston, from Barbadoes about the year 1829, and planted here. Under its lofty and wide spreading branches, a cool refreshing breeze is nearly always to be felt. The old house in which the Paynter family resided for several years, was latterly the residence of Archdeacon Spencer, afterwards Bishop of Jamaica; whose wife was a grand-daughter of Mr. John Paynter, the last member of the family to reside here.

A little east of the ruined house, an avenue of tall tapering cedars, leads to the old burial place of the family, which has recently been covered over with blocks of stone to prevent desecration. Climbing a steep hill near by, the visitor finds himself in full view

of Harrington Sound, with the Flatts Bridge and village in the distance; while a little higher he will find a patch of red ground, on which it is said nothing in the shape of vegetation has ever been known to grow. About eighty yards northwards of this patch, and situate in the adjoining wood, is a small cave; known as "Chalk Cave;" in which an old negro woman named "Sue," lived for some years, and kept a pig in a small sty at the entrance. This cave is difficult to find, and if possible a guide should be procured, as several crevices occur in the rocky ground leading to it, into which a careless step might lead to severe injury; and the whole thicket is so matted and overrun with creepers, that the nature of the ground is rendered invisible, making the search doubly hazardous. On returning and recrossing the red patch, there will be seen on the left hand a deep hollow called "Plantain Hole," in which coffee, myrtle, wild cherry, fiddle wood, and other trees are growing and entwining their branches together. This is a charming spot, and well worth the trouble of descending, in order to look at the coffee trees growing in a state of nature.

After leaving this cavernous depression, and ascending the steep hill above for a short distance the visitor will come suddenly in view of Castle Harbour, with all its lovely scenery lying at his feet. Descending the slope before him and arriving at the shore, he will find himself near the Government Limestone Quarry, from which large blocks of compact stone

have been taken for building fortifications, &c. Turning to the right he will see a house, now used as a canteen, which was built by Capt. John Paynter about the year 1750, for the purpose of storing cargoes; and opposite which his vessels anchored. About seventy yards to the south-east of the storehouse is a cave called "Cooper's Hole" well worth a visit. This was used as a store house also when the other was full. Returning northwards along the margin of the water, the visitor will perceive a current of water rushing almost under his feet, which is supposed to flow under the land from Harrington Sound. Still continuing northwards he will soon arrive at a rail fence, which, if he follows along through ferns, myrtle, orange, &c., will bring him to another deep hollow called "Little Plantain Hole." At one time this was over-run with citron and orange trees; but very few, owing to the great disease of 1854, now remain. Still following the fence, he will again arrive at the ruins of the old Paynter homestead from which he started. Just outside the entrance gate, and across the public road, on the shore of Harrington Sound, will be seen a cavern in the cliff, which goes by the name of "Shark's Hole." If a boat can be obtained, this cavern is well worth investigating, for several species of seaweeds are to be obtained on the rocks on either side; while in the recesses of the cave beyond, by the aid of a torch, a beautiful collection of stalactites can be seen. On the north side of the

channel leading to Shark's Hole, a shipyard existed many years ago, but it was abandoned for some reason in 1812.*

TUCKER'S TOWN.

The land which lies between Paynter Vale and the south shore including the long narrow neck which stretches out eastward to Castle Island, is known as Tucker's Town. Why such a name should have been given it, is hard to imagine, for no town was ever known to be established there, and the neighborhood has always been considered the most secluded in Bermuda. The visitor can either walk over land from Harrington Sound, or proceed by the carriage road which diverges to the right a little east of Devil's Hole. If the latter route be chosen, he will find the scenery around very pleasing to the eye as he proceeds. In about a quarter of an hour, he will sight on his right hand, a large lake to all appearances, but it is only an inlet of the ocean. This and another lake beyond, are known as Tucker's Town Ponds; favourite resorts of the migratory water birds which visit Bermuda from the North American continent during the fall and winter months. As passing along the shores of these ponds, the mangrove (*Rhizophora*) will be seen growing luxuriantly wherever congenial mud affords its roots a resting place.

Before ascending the rugged hill which commands

*Capt. W. Peniston.

a view of Castle Harbour, the military road is crossed. This road was intended to proceed all along the southern shore of the main island from one end to the other, for the purpose of affording a ready means of conveying troops and warlike stores in case of invasion. It has never yet been completed, and it is doubtful if it ever will be. It would probably be advisable for the visitor to alight on arriving at this road, as onwards to the shore it is so rocky and bad that a carriage can only proceed with difficulty. The walks about the sand hills near the shore will be found interesting to the lover of nature, for many a maritime plant will be seen, either trailing its lengthened form along the ground, or growing from the interstices of the cliff; while along the coral strand, stray fronds of the rarer sea weeds, shells, and other products of the deep, mingle with the pink coloured nullipore and debris of the reefs. It must not be forgotten that this is the locality which was visited by a fearful whirlwind in the autumn of 1875. Its diameter was luckily small, or it might have committed fearful damage had it been of greater extent, and its course over a more peopled district. As it was, it struck the shore near the sand hills, and passing over the site of a coloured man's dwelling, totally destroyed it, and carried the inmates to some distance; killing the wife and children; and also injuring the poor father, who was the only survivor of the catastrophe; and was rendered at the same time, homeless, childless, and a widower.

DEVIL'S HOLE.

This dreadful name, is given to a cavernous recess filled with salt water on the south side of Harrington Sound, about midway between Walsingham and the Flatts. For years it has been one of the "lions" of Bermuda, as it generally contains a stock of groupers (*Serrani*), and sundry other fishes; which swim about and can be as easily seen as if in an aquarium. Here will be found a species of ground shark, which, although not uncommon on the east coast of America, is from its retired habits, very rarely seen. The lovely angel-fish (*Holacanthus*), well named indeed; will be observed disporting itself with graceful motion, ascending and descending in the clear waters, as if proud of its splendid livery of blue, green and gold. The groupers themselves are easily recognizable, as they crowd together with open mouths in hopes of a feed when the visitor arrives. Strange tales are told of the voracity of these finny monsters; of unfortunate dogs slipping in, and being speedily devoured; and of rash youngsters imprudently pushing the toes of their boots into the water, and having a hard struggle to free themselves from the clasp of the grouper's jaws. But, however true or untrue such accounts may be, it is nevertheless certain, that if the visitor should come to the place when the groupers are hungry, and dip the end of his boot or pocket handkerchief among the gaping throng; he will soon become convinced that they are a fearful lot of creatures to deal

with. This fish pond has been originally a cavern, the roof of which fell in; how long ago no one can tell, but perhaps at the time of the general submergence of the group, which is supposed to have occurred about three hundred years ago.

It is but a short distance across the land from this pond to the south shore; and the sight of several pretty sandy coves in that locality, would well repay the trouble of the walk.

HARRINGTON SOUND,

which lies before the visitor as he emerges from the entrance door to Devil's Hole, probably possesses in itself and its surroundings more picturesque scenery than any other locality in the islands. Its surface is usually calm owing to its land-locked position, and a boating excursion on its waters, especially about the shores of Trunk Island, will reveal many submarine wonders to the eye of the naturalist, in the form of gorgonias, sponges, corals, and hosts of other things. Its northern shore, westward of Bailey's Bay Church, presents a series of high cliffs in many places quite inaccessible; much to the satisfaction of the several pairs of tropic birds, which here annually in perfect security make their nesting places and rear their young. From the water the high cliff known as "Devil's Head" presents a fine appearance, all ragged and torn as its face is by the storms of many winters. From out its numerous crevices spring dwarf trees and shrubs, whose only holdfast

appears to be the solid rock on which they grow; while circling around its shattered brow, the tropic birds lazily float on their ambient wings, mingling their plaintive cries with the sounds of the rippling wavelets which dash on the rock-bound shore a hundred feet below. Trunk Island which is near by is a charming little islet, the property of Augustus Musson, Esq., of St. George's who has at considerable expense built a residence here.

FLATT'S BRIDGE,

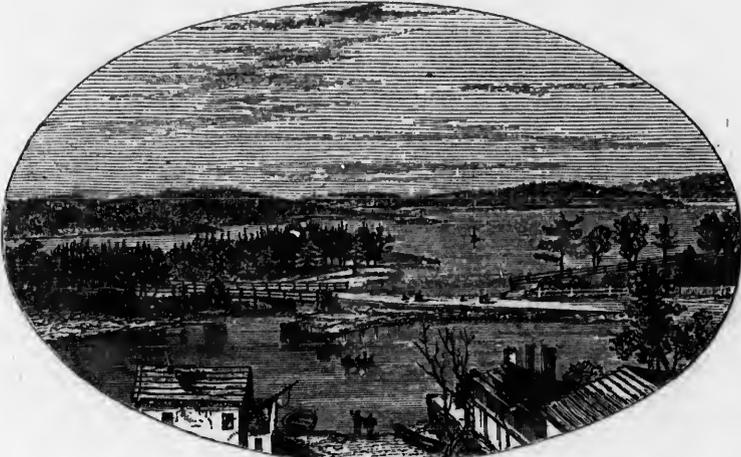
At the western end of Harrington Sound there is an outlet into Flatts harbour, through which the tide ebbs and flows with great impetus. This channel has from the earliest times been spanned by a bridge. Viewed from Flatt's Village which lies across the harbor, it has a pretty effect. A little eastward, near the residence of the American Consul, is to be seen a narrow, but deep cutting through the rock leading from Harrington Sound to the harbor. Some enterprising individual years ago expended a large sum in the endeavor to turn the water power which was intended to run backwards and forwards through this cut, like that of the bridge, to advantage; but whether lack of means or perseverance prevented its completion, the project was abandoned.

FLATT'S HARBOUR.

In days of yore, this pretty little inlet of the sea presented a different aspect; for the shores, particu-



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FLATT'S HARBOUR,

larly at its head, were lined with wharves from which good sized vessels discharged their cargoes. It was in fact one of the ports of Bermuda, and considerable trade was carried on here. Even now, the extent of the ruins of several houses testify to their capacity in former times. All, however, now wears a look of desolation; the mouldering walls, with the carved portals are draped with the prickly cactus; while gigantic papaws and plantains raise their leafy crowns above the whole.

This is a very central spot from which to visit all the lovely scenery of this neighbourhood, and it has always been considered a good site for an hotel or boarding house. It is therefore with pleasure we find

that Mr. James Musson has opened his large dwelling on the west side of the harbour for the accommodation of visitors. At the head of the harbour, where the cross roads meet, and overhanging the gateway to Mr Samuel Musson's residence, is the largest mahogany tree in Bermuda.

GIBBONS' BAY.

About a quarter of a mile from Flatt's Village, on the north shore road to Hamilton, on the right hand, will be seen a little sandy bay, with an island beyond, joined by a causeway of large stone blocks to the shore. The little bay to the right is known as Gibbon's Bay. It will be found an excellent place for collecting shells and sea weeds; as also marine Invertebrates, which are common under the stones and sand at low water. Crossing the little causeway, the visitor reaches

GIBBET ISLAND,

on which at its highest point, stands a weather-worn pole. This marks the spot where a man was hung for murdering his master about the year 1754, and still goes by the name of "Quashi's Pole." If the visitor be geologically inclined, he will, a few yards to the north-west of this pole, not far from the shore, perceive a mass of stalagmite which has evidently formed the floor of a cavern. This is one of the many proofs that can be adduced in regard to the greater

elevation of the islands in former years ; a matter, the doubtfulness of which was entirely cleared away by the facts noted during the excavations made for the purpose of immersing the "Great Floating Dock" at Ireland Island.

NORTH SHORE.

From Gibbons' Bay the main road skirts the shore all the way to the "Ducking Stool," which is situate immediately below Mount Langton, the abode of the governors of Bermuda. The rock which bears this singular name overhangs the waters of the north shore, and had in days of yore, when witchcraft and sorcery were viewed by an ignorant and superstitious population, as dire offences, only punishable by the most cruel of means ; an apparatus, by which the poor unfortunate wretches accused of these crimes were most barbarously tormented by a course of "ducking" in the sea, which frequently ended in the death of the victims. Hence the name, which has always been borne by this rock to the present day.

MOUNT LANGTON.

Government House is situate on an elevated ridge of land, and commands a fine view of the sea coast all along the north shore of the island from St. George's to Ireland. From the grounds can also be seen an extensive view to the southward, embracing the town of Hamilton, Pembroke Marsh, and the

waters of the Great Sound studded with islands of every size ; while far in the distance, the hills of Port Royal, with the Lighthouse crowning the summit of the highest, melt into the blue haze of the distant horizon.

The house, (which has been enlarged) and the land originally belonging to it, were purchased by the colony from Mr. Joseph Stowe in 1814, for about £4800. Some further additions, including the Signal Station, being made of late years, the demesne now contains about seventy acres. The garden, in which are to be found several interesting examples of foreign trees, shrubs and plants, is situate on the southern side of the hill below the house, the descent to which is precipitous, but rendered passable by a series of steps from succesive terraces, which were made by Governor Reid for the purpose of preventing the surface soil from being entirely washed away. On these terraces are planted trees and shrubs of many varieties, which are now growing well ; and it is to be hoped that future governors will continue the good work now so enthusiastically carried on by His Excellency Major General Lefroy, who has done so much to render the grounds of Mount Langton fertile and picturesque. It must not be forgotten that at Mount Langton several useful and ornamental exotics were first introduced. It was here that Lady Turner between 1826 and 1832, planted the first weeping willow ever seen in the islands ; a species now very common. Governor Reid, about 1841, planted the

india-rubber trees which stand near the steps leading down to the garden. The wampee and litchi trees, were also planted by him. The large silk cotton trees in the garden were planted by Governor Elliott about 1850, and the present governor has added so largely to the list that space will not permit of their enumeration. Suffice it to say, that if those he has planted, continue to thrive as they are now doing; in years to come, some forty or fifty new forms will supply a grateful shade, and prove no small addition to the landscape in that pleasant and retired spot. A small conservatory has lately been erected, in which several delicate species of tropical plants are growing luxuriantly. It is to be hoped that this effort of His Excellency to introduce the system of cultivating rare tropical plants under glass, will be followed by some of the wealthier inhabitants, who might thus contribute to ornament both externally and internally, abodes, which, in many cases, require everything to render them pleasing to the eye, and comfortable to the occupants.

PEMBROKE CHURCH.

Just at the foot of the hill leading from Hamilton to Mount Langton lies the prettily situate parish church of Pembroke, which, until the erection of Trinity Church in the town, was the only Episcopal place of worship in the neighbourhood. To an English eye it cannot but call to remembrance some secluded parish church of our 'father land,' un-

touched by the hand of modern innovation. Lying in its neatly kept graveyard, whose meandering walks and grassy slopes owe so much of their trim appearance to the active exertions of Dr. Inglis Lough; it is certainly, taking its immediate surroundings more particularly into consideration, the most prepossessing spot of the kind in Bermuda. Many a once worthy inhabitant of the district lies buried here; and many a stranger also, who drew his last feeble breath on these ocean isles; but among all the occupants of its sacred ground, none more celebrated in life, or lamented in death, rests from his labors, than the Rev. Lansdown Guilding. This remarkable man was a clergyman of the Church of England, and went out in that capacity to take charge of a parish in the island of St. Vincent about the year 1828. An innate desire to pursue the study of natural science, manifested itself at an early age, and received additional impulse on his landing on the tropic shore; and throughout the term of his residence on that island, not a moment spared from the more serious duties of his calling, but was devoted to the pursuit he loved so well—

“And those gay, watery grotts he would explore,
 Small excavations on the rocky shore,
 That seem like fairy baths or mimic wells
 Richly embossed with weeds and choicest shells,
 As if her trinkets Nature chose to hide
 Where nought invaded but the flowing tide.”

As one of the most distinguished and talented members of the Linnean Society, he at that com-

paratively early age, contributed to its literature numerous papers pertaining to the natural history of St. Vincent; and the exhaustive manner in which he was wont to describe even the minutest form, sufficiently testified to the wonderful perseverance and exactness, which characterized all his efforts for the advancement of scientific knowledge. His endeavours were unceasing to form as complete a history as possible of all the natural productions of that pretty little isle. Every nook and corner of every hill and vale he endeavoured to visit, and even the rugged mountain tops were scaled by this enthusiastic scientist, in order to procure specimens of the rarer shrubs and plants. But alas! for science, his health gave way; and the more bracing air of a moderate climate being recommended; he came to Bermuda in hopes of rallying; but the seeds of consumption were too deeply rooted in the already overtaxed frame, and soon he breathed his last, 'a stranger in a foreign land.' He lies beneath the shade of the old cedar tree, hard by the chancel's gable end; no costly obelisk or sumptuous tomb, covers his remains; and, singular to relate, not even a headstone, or record of any kind, serves to mark the spot, where this devoted naturalist rests in his lowly grave.

Supposing the visitor to have chosen the south side route to Hamilton after viewing the piscatorial sight at Devil's Hole, the road proceeds up Knapton

Hill. Here, on the left hand, a few years ago, during the time the military road was in course of construction, was encamped a portion of the troops ; and a very pleasant spot it must have proved, with its grassy slopes and cedar groves, overlooking the ever-changing surface of the ceaseless ocean which laves the rocky confines of the southern shore.

After proceeding about a mile and a half along this road to the westward, and a very hilly and by no means smooth road it is ; the visitor will perceive in a hollow below, screened from the ocean by small hills covered with cedar, a long narrow lake, which is considered one of the pretty scenes of Bermuda. It is known as

PENISTON'S POND,

the property for some distance around having been in the possession of the Peniston family for many years. The present owner, Mr. Clarence Peniston, has always kindly permitted strangers to visit this retired and charming spot, on their requesting permission to view the grounds ; but it is to be regretted that there are persons who, without leave from the owner, or regard for his cattle or crops, wrench gates off their hinges, and level fences in the most inconsiderate manner ; proceedings, which, in any other country in the world, would be considered as criminal offences, and punishable accordingly.

We may here, perhaps, be permitted to remind the reader that throughout the whole extent of the

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Bermudas, we can almost confidently state, that if a stranger desires to visit any locality, however private it may be, for the purpose of enjoying its scenery, or admiring its vegetation, he will hardly find an instance of refusal to a civil request. The Bermudians are proverbially a generous, open-hearted race, who know well how to reciprocate those kindly civilities, which, when interchanged, are so pleasant, alike to giver and receiver.

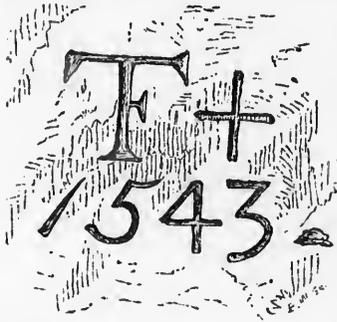
The waters of Peniston's Pond are quite brackish, having communication with the outer sea by underground channels. In heavy scatterly storms a perfect stream of water is forced over the shore rocks at the eastern end, giving it the appearance of a natural water course, which is a rare sight in Bermudas except during a heavy rain fall. On the southern shore of this pond, about its centre, and within a few paces of the water, are wells, used for the purpose of watering cattle. The water they contain, like all similar excavations throughout the islands, is fresh above, but brackish beneath, as soon as the sea level is reached. This is of course owing to the simple reason that fresh water is lighter than salt. The islanders declare that there are "springs" of fresh water in various places. This is only true to the extent of supply furnished by percolation of rain water to the depth such springs are found in; a few weeks of drought would be sufficient to prove the fallacy of the assertion that such sources are really springs. Bermuda, which is merely the peak of a

submarine mountain, rising to a height of nearly four miles from the bottom of the ocean, having its whole land area honeycombed throughout above, and most probably far below the level of the sea, can possess no fresh water supply from below, and can only rely upon rain falls for the necessary fluid. No *hard* water, therefore, is to be had in these islands; none but what the tanks supply, running from roofs and smoothed surfaces, constructed for the purpose. Peniston's Pond is a great resort of water fowl and waders, which visit Bermuda during the winter; and many a rare bird has been obtained by ornithologists in favourable seasons.

SPANISH ROCK.

A few yards east of the cattle wells spoken of, just at the base of the shore hills, an open grassy patch will be seen, having a mud hole about its centre. After passing this, proceed up through the cedar grove in front, and immediately at the top a little pathway will be seen leading to the cliff beyond. Care must be taken on approaching this precipice, for if a false step be made, there is nothing to prevent a fall of fully 100 feet into the foaming waters below. The flattened rock on which the inscription supposed to be made by the Spaniard, Ferdinand Camelo, is cut; is a little below the crest of the cliff, and will soon be observed from the number of names and initials carved upon it by visitors to this memor-

able spot. The following wood cut is a faithful representation of the inscription as it now appears, but we fear that some ruthless hand, judging from the reckless manner in which names are now cut around it, will sooner or later destroy this extremely interesting relic of antiquity.



Returning again to the wells on Peniston's

Pond, it will be best to proceed along its shore westward until some broken rocky ground is seen at its termination; crossing over this the shore is soon reached; a mass of rock without a landing place of any kind. Amidst this rough uneven ground, will be seen a space smooth and flat, marked with a somewhat regular series of lines, as if cut by the hand of man; while between two of such lines, near the eastern end of the patch, an indentation somewhat in the form of a footprint may be discerned. This is known as "The Chess Board." The lines have been evidently formed by the action of the sea-water running back and forwards at high tide, over a series of cracks in the calcareous rock; and as every year passes, so surely will the impression deepen, until they form regular channels, like those which are to be found everywhere on the rocky shores of the Islands.

SMITH'S PARISH CHURCH.

This edifice was preceeded by an old antiquated structure which stood at the western end of the graveyard on the opposite side of the public road. Having no tower, the bell was hung in the branches of an old cedar tree growing close by, and for many years this primitive mode of calling the parishioners' to prayer existed, until a heavy gale prostrated the tree, and the church became dangerous to enter from decay. The new church which was built about twenty-five years ago, has now in process of erection a tower and chancel, which will add considerably to its appearance. The bell which formerly hung on the old cedar tree, is to be hung in the tower when completed. It possesses a fine sonorous tone, although small in size. How it came to Bermuda is not known, but from an inscription on its rim, in French, we learn that it was cast at Nantes, in the year 1771. It probably came from some of the French islands in the West Indies, during the great war at the commencement of the present century, when sacrilege, pillage, and slaughter were freely indulged in.

MCGALL'S FARM.

Just at the west end of the graveyard will be seen a gateway leading up the hill in a southerly direction. This leads to the 'model farm,' established during the administration of the energetic Governor Reid,

for the purpose of exhibiting to the islanders, the modern system of agriculture, and stimulating them to greater exertion in that respect. Before this farm was established, we believe the plough was almost unknown on the islands; and the heavy English hoe, so characteristic of the days of slavery, was considered the best implement to till the small amount of soil then devoted to cultivation. On arriving at the farm house, which, with the farm itself, now belongs to Mr. John Pearman, from whom permission to see it should be asked, the visitor will be struck with the extent of the fields, the neat post and rail fences, and the oleander hedgerows, all denoting that at one time masterly hands were engaged in the work. Two agriculturists were brought from Scotland—Messrs. Fox and McGall—to superintend the farm. Scotch ploughs of the most improved patterns, and various other implements, were imported, and the cedar and sage scrub was soon transformed into fertile meadows and waving corn fields. While Governor Reid was in Bermuda the farm prospered; but after his departure, no one taking any interest in the good work, and the superintendents becoming discontented, and at last leaving the islands, it was suffered to remain idle for several years, and was at last sold into private hands. But although the good governor's efforts to establish a model farm were not crowned with the success they deserved, yet there is no doubt that from that date cultivation began to increase to a

great extent owing to the introduction of ploughs, harrows, forks and spades, and the progress has been happily maintained until the present day, so that His Excellency's endeavours were not without avail.

At the bottom of one of the fields, on a knoll overlooking the water, are the remains of Smith's Fort.

SMITH'S MARSH.

About a quarter of a mile westward from the farm commences Smith's Marsh, a long narrow hollow filled with sedges, rushes, palmettos, and diminutive shrubs. It is always wet, more particularly at high tides, as it has underground communication with the outer sea. In former days, this hollow was higher than it is at present, as the presence of giant cedars, now lying prostrate under the boggy soil, sufficiently testify. The cultivated ground immediately bordering the marsh is more fertile than that of the upland, owing to the moisture it contains, which, even in time of great droughts, never wholly leaves it. About the centre of the marsh, or a little westward of it, on the road side, will be seen a chapel, at the foot of the hill up which the south-side road to the Flatts proceeds. At the corner of this chapel yard grows a very fine young bay grape tree (*Coccoloba uvifera*) the fruit of which is highly prized by the children who frequent the neighbouring school. A footpath proceeds from the school-house across the

marsh to the south shore, where an hour or two can be passed very pleasantly in shell collecting or botanizing among the broken ground about. From the extreme point of the rocky shore, at the entrance to Devonshire Bay, a fine view of the cliffs to the eastward may be had, which would afford an extremely pretty sketch for the album. In the little rock pools left partially dry on the shores at low water, many pretty sea weeds may be found, and three or four different kinds of corals may be seen growing in situ. Numbers of the pretty striped little fishes called "cow pilots," (*Glyphidodon caelestinus*) may be seen disporting themselves in these little rock pools; while along their edges may be seen crawling that singular snail looking creature, the "sea cat," (*Aplysia*) which, when gently touched with a stick, will emit a quantity of fluid of the most brilliant purple colour.

DEVONSHIRE COLLEGE.

On the summit of the hill, northward of the Marsh, will be observed a large stone building, formerly known as Devonshire College, but lately converted into a Lunatic Asylum at considerable expense. As a college it certainly ought to have succeeded, for the want of such an establishment is grievously felt in the islands; and the position of the building quiet and retired as it is, would probably have been better suited as a place for study than as one

for the recreation of the insane. One thing, however, is certain; should the present establishment be removed at any time to a more cheerful spot, the building as it now stands would suit admirably for a collegiate school, and a more healthy site could not be found in the islands. Near the entrance to the college grounds, on the right hand, will be observed an old ruin. This is all that remains of the school house erected in Norwood's time.

HUNGARY BAY.

About two miles from Devonshire Bay, along the coast westward, is Hungary Bay, an excellent place for the visitor to gain some idea of what a tropical mangrove swamp must be. This is of course only one on a very small scale; but still the mangrove grows luxuriantly here, and a very singular mode of growth it is, as the visitor will soon perceive. Fortunately, the denizens of the Bermudian mangrove swamps are not the dangerous creatures usually found in like localities in the tropics. Here are no alligators to seize the unwary traveler by the leg, or boa constrictors to entwine his person with their hideous folds. Not a reptile, or form of any kind will molest his progress here; indeed, with the exception of the crabs which climb the trees, hardly a sign of animal life is observable. If the visitor be conchologically inclined, he will meet with some fine specimens of *Littorina scabra* on the trunks of the

mangrove trees near the mud. *Melampus flavus* and *M. redfieldii* also occur in abundance under stones at the edge of the mud. Near the entrance to this bay on the eastern side, will be seen the ruins of a building formerly used as a magazine. A battery existed here also.

It was just inside the mouth of the bay, that in the month of January 1860, the largest example of the ribbon fish, (*Regalecus*) ever yet seen, was captured. The author was fortunately on a visit to Bermuda at the time, and was enabled to make as careful an examination as circumstances permitted; and also to forward a description for publication; as well as the head and some other portions of the fish as a present to the national collection at the British Museum. The total length of the specimen was sixteen feet seven inches.

Regaining the public road again, the visitor is now only a mile or so from the capital town of the islands.

HAMILTON.

Incorporated June 30, 1793, and named after the then governor Henry Hamilton, the town has very slowly but steadily increased in size. Neither the public buildings, stores, or private residences possess any architectural features worth looking at. Indeed, one and all are so wholly deficient in everything that would attract the eye, that the visitor must be prepared to find the town wearing much the same

appearance it did thirty or forty years ago. We must not, however, forget to state that there are two buildings, which have greatly improved the look of the place. Trinity Church, which occupies a commanding site above the lower town, would be considered a handsome structure of its kind in any part of the world; but in Bermuda, where nearly all the surroundings lack everything in the way of the picturesque; it stands quite a unique object which the inhabitants are justly proud of. It chiefly owes its erection to the gifts of private individuals, some of whom, especially the members of the Frith family, contributed munificently to the funds; while the late Dr. Field, Lord Bishop of Newfoundland and Bermuda was one of the earliest and most energetic supporters of the scheme. It contains among other plainly coloured, yet effective memorial windows, one to the memory of its first incumbent—the Rev. J. B. Freer. Educated and prepared for the ministry at the Missionary College of St. Augustine, Canterbury; Mr. Freer was appointed at an early age to the diocese of Newfoundland; in which colony he remained only for a short time; as a severe attack of typhoid fever so prostrated his system, that little hope was entertained of his recovery. The bishop, thinking that change to a southern clime would benefit his health, transferred his services to these islands; landing on which, in early spring, after leaving the cold bleak shores of Newfoundland; he has often been heard to say, that the rapid change to Bermuda's

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bright sunny days, with her roses and geraniums in full bloom, instilled new life into his frame. Strength indeed, must the balmy breezes and genial temperature have given him, for his daily work was great. Rising very early, he would spend a few hours busily occupied in his pretty little garden, which adjoined his residence at the corner next to Trinity Church.* Many a handsome flower which now blooms there, owes its existence to his care and attention, and very probably the care now bestowed upon other gardens in Hamilton, may owe their origin to the example of industry set by Mr. Freer in years gone by. The trim appearance that garden presented under his labours was the theme of universal admiration. Not a weed was there to be seen; everything bore the stamp of neatness and order. And then when the bell of Trinity Church proclaimed the hour of Morning Prayer, no ordinary sickness would prevent his attendance daily to the duties of the sanctuary. His school, which was conducted in a masterly manner, next occupied his time; and how faithfully he endeavoured to instil learning into the minds of his pupils, none know better than they, who now occupied in the business of the world, have good reason to recollect his kindly efforts to impart to them useful as well as religious knowledge. Would that the church could number among its ministers,

* The property was, after his death, purchased by that noble hearted christian lady, Mrs. Johnson, of Newfoundland, who presented it to the church, to be used as a residence for the bishop during his visits here.

many as good and faithful as this truly humble and devoted servant of the Lord; who, guided alone by a desire to live to His glory, measured not his work by his strength, but freely exhausted himself in his Master's cause.

He returned to England for the benefit of his health early in 1865, taking up his residence at his much loved College of St. Augustine; where, gradually succumbing to a pulmonary disease of long standing, he breathed his last; to the sincere grief, not alone of his family and friends, but of every one who had had the pleasure of his acquaintance.

Not far from Trinity Church, and situate on the same hilly range to the westward, is the "Hamilton Hotel," built by the corporation of the town for the purpose of affording more extensive accommodation for visitors. It is well built, and from its commanding position, presents a fine appearance.

On a hill east of Trinity Church, will be seen a by no means sightly building, or one becoming its elevated situation. This is the "Session's House," having on its basement floor the Court House, in which the assizes are held; and above, the "House of Assembly." It was erected in 1822.

Below the hill on which the Sessions House stands, is the "Public Building," erected in 1839. Here is the "Custom House," "Colonial Office," "Public Library," "Council Chamber," &c.; while on the landing of the upper staircase, are a few cases, containing enough natural history specimens, to make

the visitor regret, that the inhabitants do not possess sufficient enterprise to establish a museum; where hours might be spent by those, who, benefitting the islands by their presence, naturally look for some source of intellectual amusement in return. No place in the world presents the facilities Bermuda does for the collection of marine specimens; and as nearly all could be preserved in alcohol, and exhibited in glass jars; requiring no attention for years after being placed in position, there is less excuse for the omission. It is hoped, however, that ere long the tide of improvement will at last reach 'the remote Bermudas,' and that institutions generally established in other communities for their benefit and satisfaction, will be considered necessary in this.

The small area in which the Public Building stands, is tastefully planted with trees, one of which, a cedar, was planted by the Duke of Edinburgh (Prince Alfred) in May, 1862. The memorial obelisk to Governor Reid also stands near.

At the west end of the town, on the right hand of the street which leads from the Hamilton Hotel to the steamboat wharf, will be seen embosomed in trees "Par-le-ville," the residence of the Perot family. Immediately in front of the house grows a magnificent example of the Indian rubber tree (*Ficus elastica*) while in the grounds behind, grow several tropical fruit trees which bear abundantly.

The "Hamilton Club," situate in Front Street, is a capacious house, possessing from its verandah a

fine view of the harbor, and the opposite hills of Paget; and also those of Port Royal.

Although the population of Bermuda exceeds 14,000; and has considerable trade with London, New York, Canada, and the West Indies; it does not possess a banking establishment of any description; which to say the least of it, is a very great inconvenience to strangers visiting the islands. So great is the amount of silver coinage, that it is common to see bills amounting to 20 or £30 paid in this metal; and we know an instance of a mortgage of £208 being paid entirely in silver; of which no less than £36 was in sixpenny piécés. It took the unfortunate mortgagee; who, to add to his troubles, had to carry the whole in a bag for the distance of three miles; several hours to count it in.

We will now suppose that the visitor is desirous of proceeding in a westerly direction to see the other portion of the group. There are several interesting localities within walking distance of Hamilton which will well repay the trouble taken in reaching them. Let him proceed along the public road going to the eastward, skirting the shore of Hamilton harbour, and before he arrives at the end of the harbour, he will perceive four fine specimens of the cabbage palm (*Oreodoxa oleracea*) with trunks as smooth as ivory, and bearing above, the curious bunch of foliage, which, from its resemblance to the vegetable in

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question, has given the tree its name. It is a rare tree in Bermuda, but common in the mountains of the West Indian islands, where it is not unusual to see it rear its head far above those of the surrounding forest trees. One or two specimens of the cocodanut palm (*Cocos nucifera*) are also to be seen here; as well as numerous shrubs, all natives of the West Indies. The property on which they grow, which possesses a very prettily situated residence, embosomed in trees, belongs to Mr. and Mrs. Reid. At the end of the wall which skirts this property; will be seen in a cottage garden, a tree possessing to all appearances crimson leaves. This is the fire plant or burning bush (*Poinciana pulcherrima*) and the gaily coloured leaves will be found to be merely the elongated petals of the flower. At the bend of the road round the harbour head, and immediately by the guard wall, in the dark offensive looking mud, several mangrove trees grow, having attached to the roots and lower parts, numbers of an oyster-looking shell (*Perna ephippium*). After the mangrove trees are passed, if the visitor will walk down to low water mark, he will see something of a novelty in Bermuda,—water running into the sea out of the land. It runs through a small aperture out of the shore rock, between high and low water marks, and the occurrence is, of course, attributed to the forcing of the salt water at flowing tide, through the small outlet, into cavernous recesses under the land; which, on the retreat of the tide, slowly let the

water out again. A little further on, on the right hand side of the road, will be observed a fine tamarind tree (*Tamarindus indica*) standing in a neat little garden; while on the left, just beyond the tanks, runs along the wall side, a hedge of the "snuff plant" (*Buddleja americana*), which, when in flower, emits an odour which cannot be considered by any means a pleasant one. It is a native of the west coast of America from California to Peru. Passing along the main road, there is little to attract attention until the visitor arrives at

PAGET PARISH CHURCH.

which is dedicated to St. Paul. The main portion of the present church was erected in the year 1796; and has been brought by degrees into somewhat closer accordence with the revived ecclesiastical taste; and enlarged by several additions to meet the requirements of the increasing congregation.

About three years after the emancipation of the slaves in 1834, a northern transept was added, for the accomodation of the coloured people; who, as soon as an opportunity was afforded them, manifested a readiness to avail themselves of the public services of the church. Subsequently, the building was enlarged by an extension of the chancel. In the years 1872-3, important and costly improvements were made by the lengthening of the western arm; thereby making the structure more strictly cruciform;

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and by the erection of the present tower and spire. At the east end are three handsome stained glass memorial windows; the centre one, placed there by the parishioners of Paget and Warwick, in remembrance of a clergyman (Rev. J. M. Wood) who had been nominated to the living; but who, before the time for his induction had arrived, was called to his rest during the severe visitation of yellow fever in the summer of 1864.*

PAGET SAND HILLS

are easily reached from the church, being not more than half a mile from it. This sterile locality, which is an extremely wild and lonely spot, is well worth a visit; and close examination also; for here can be seen the mode adopted by nature to form the Bermudas;—viz., drifting sand gradually increasing its deposits and elevating the land; thereby overcoming cedar groves and cultivated ground, and in one place even the dwelling of man.

On arriving at the north-east corner of the sand hills, the encroachment of the drifting sand will at once be perceived; as the mass, some ten feet in depth, is now gradually covering a small garden. According to the observations made by persons residing close to, this overwhelming body has advanced over the cultivated land about eighty yards, during

*For the above information we are indebted to the kindness of the Rev. J. B. L. Lough, rector of Paget and Warwick.

the last twenty-five years. At the N. E. corner of the hills, will be seen among some oleander trees near the top, the chimney of a cottage which formerly stood there, inhabited by a coloured family. It is now wholly buried in the drifting sand, save the chimney; which alone rises above the mass to show the position of the structure. A couple of hundred yards or so above the old buried cottage, among some low trees stood, a few years ago, the wooden cabin of a lascar, named "Nat Kiel." The ship to which he belonged, was wrecked on the western reefs several years ago. The rest of the crew left the islands, but Nat stayed to pass the remainder of his days here; which he did in the peaceful seclusion of his hermitage in this lonely spot, surrounded by sage scrub and cedar bushes, and overrun by the trailing fronds of the bay beam and azure convolvulus.

With the exception of a few irregular patches here and there, and the long reach of white sand gradually encroaching on the cultivated ground at the N. E. corner; the whole slope, which some twenty years ago was almost wholly clear drift sand, with a few patches of bent grass in scattered spots upon it; is now clothed with wild plants and shrubs; as well as young cedars, which will no doubt in a few years attain goodly dimensions, and with the aid of the universal underwood of sage bush, put an end to the further encroachments of the sand drift. If people, however, are allowed to ent down cedars, and destroy the vegetation as they have formerly done; the same

devastation will commence again, and repeat the calamity which has visited this neighborhood.

On the western side of the sand hills, there is now a plateau of about half an acre, or perhaps more, of hardened drift sand, forming gradually into rock. On its face are cracks filling with drift sand; showing that the sun doubtless affects this hardened surface. Elevated mounds of a foot or so in height, rise amid this plateau; having each a hole or depression at the centre. These denote the sites in which cedar trees formerly grew. At the east end of the hills may be seen the gradual decay of cedar stumps; exhibiting more clearly the several stages of change; which are the more worthy of study, in consequence of the light they throw upon the many curious chimney pot looking structures everywhere to be met with on the Bermuda shores. Indeed, the visitor on carefully observing the whole appearance of these sand hills, and taking into consideration the facts which are so prominently placed before him; will be able to form a very fair idea of the circumstances under which the Bermudas attained their present elevation after the great submergence.

At the foot of these hills, along the shore, runs a charming stretch of sandy beach, on which may frequently be seen shining like a crystal gem, the "sea bottle"; a transparent globule, the origin of which has generally been surrounded with mystery. It is a portion of a seaweed, most probably a *Caulerpa*; three species of which have already been determined

as inhabiting the Bermudian waters. At low water, and almost within wading distance of the beach, will be seen a series of 'boilers' as they are locally termed; rounded masses of rock hollowed within, containing sea water; having their margins raised by incrusting *serpulae*. The origin of these boilers, which occur all round the shores, has never been satisfactorily ascertained; and would form a very interesting source of enquiry for any one desirous of advancing scientific knowledge.

ROYAL ENGINEER QUARRIES.

These quarries, from whence the most compact stone to be found in the islands is procured, for the purpose of building fortifications and other government work; are situate upon the shore about a quarter of a mile east of the sand hills. The stone taken at this spot, is extremely hard and durable; and answers well for foundations, where the superincumbent weight would prove too heavy for the more friable and ordinary stone, of the islands. Why this 'south side stone' as it is called, should be so much more compact and more of the nature of ordinary mountain limestone, than any other to be found in the group, is a question for future geologists to answer. By some it is said that this locality is the oldest portion of the Bermudian land; but we fear that no facts can be brought forward to support the theory.

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WARWICK PARISH CHURCH.

Returning to the public road again a little beyond Paget Church, the next object to attract attention will be the prettily situate church of Warwick, which overlooks a little lake known as "Warwick Pond." The church itself, which is dedicated to St. Mary, has nothing to recommend it in the way of architecture. It was erected in the year 1832, nearly on the site of the original parish church; and has more recently, in the year 1848, been enlarged by the addition of a northern aisle, and a small chancel for the accomodation of the choir. The scenery in the immediate neighborhood is very fine; hills clothed with evergreen cedars to their summits, and having at their bases the picturesque little lake, reflecting the foliage on its calm unruffled surface.

HIERN BAY.

About a mile beyond Warwick Church, occurs a very pretty little inlet of the Great Sound, bearing the above name. Some of the houses in this locality have an antiquated appearance, and were evidently built many years ago. After leaving this quiet little nook; village it might be called from the collection of houses, and proceeding a mile or so further on the road, the towering form of Gibb's Hill Lighthouse, appears on the ridge of a hill to the left. There is a road, although by no means a good one, leading up to it; and carriages can proceed close up to the tower.

THE LIGHTHOUSE.

This commanding structure, which possesses one of the most powerful lights to be seen in any part of the world; is situate on the summit of Gibb's Hill, the highest point of land in the western portion of the Bermudas. The light itself stands 362 feet above the sea level. It appears every 54 seconds; and the lens being dioptric, with bright polished mirrors, and exceedingly powerful, the flash is a very brilliant one. From an elevation of only ten feet above the water, it can be clearly seen at a distance of 25 miles; while at forty feet it can be easily distinguished 30 miles off. The tower, which is of cast iron, was constructed in London, and sent out in plates, the last of which was put into place Oct. 9, 1845. The light was first shown May 1, 1846, and it must not be forgotten that this circumstance occurred during the governorship of the noble hearted Sir William Reid. At the lower portion of the tower, stability is given by concrete filled in 22 feet high, where the first floor is. Above this there are seven rooms 12 feet high; supported by a central hollow column, which serves for the weight of the revolving machinery of the light. The height to the gallery is 105 feet 9 inches; diameter at base, 24 feet; diameter at top, 14 feet; height from the gallery to centre of light, 11 feet; from centre of light to top of vane, 17 feet;—total 133 feet 9 inches. The cost, exclusive of the light machinery was £5,500, about

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\$27,500; all expenses being paid by the Imperial Government, on the understanding that the colony would furnish the necessary funds for lighting, repairing, &c.; which has always been cheerfully granted; the amount being about £500 per annum, inclusive of keepers salaries.

A splendid view indeed is to be obtained from the gallery of this light; the finest of course in the islands, and one which no visitor to Bermuda should fail to see. It is a bird's eye view of the group; nothing is left out; the whole cluster of islets lies at our feet, set as it were in a plane of azure with emerald tints. Far away in the north-east can be seen the foaming breakers in the vicinity of the "Kitchen Shoals," and "East Ledge Flat"; while N. N. E., at about the same distance, the "North Rock" shows its dark pinnacles above the seething waters. Away to the westward, the long line of breakers attract the eye; showing how futile must be the efforts of any craft, to venture within this fearful boundary, without the aid of the dexterous pilot, whose practised eye alone, can discern the narrowed channel through the boiling surf. How many noble ships, before this light was shown, struck these outer shoals, and sank beneath the waves; or how many poor souls have perished without leaving a record of their fate, history fails to tell; but this we know, that even since the light was established, not a winter season passes without two or three total wrecks, and a dozen or more narrow escapes from a



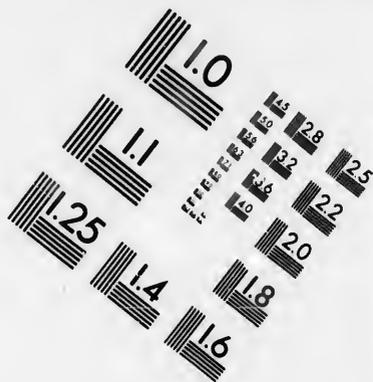
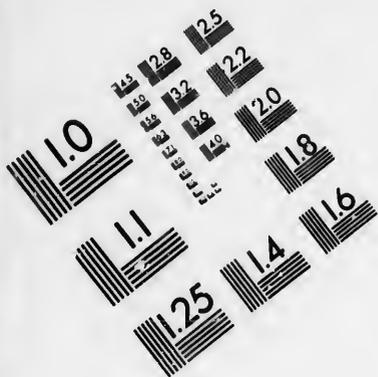
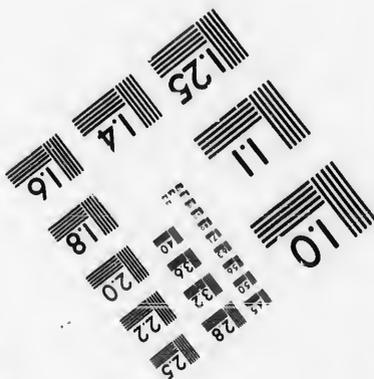
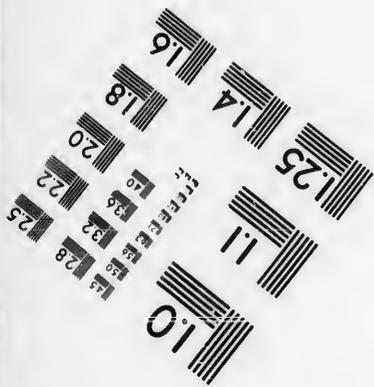
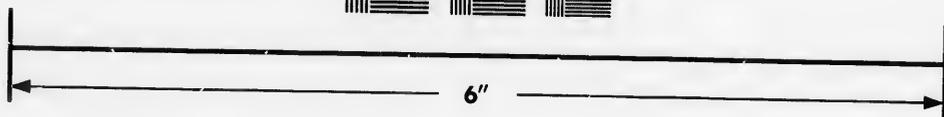
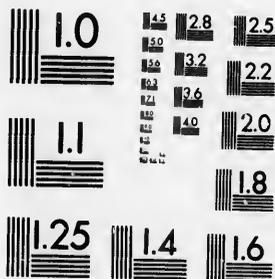


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similar doom. Immediately to the southward of the light, and close in shore, is the "South-west Breaker," marked by a line of foam, at low tide; and then the long stretch of reefs which hug the shore eastward to Castle Harbour, where Gurnet Rock is seen on the water, looking like a vessel's sail; while all around, north, south, east, and west, the scene is bounded alone by the distant horizon.

Small, indeed, is the spot we inhabit on the wild waste of waters, far removed from nearest land; nor is our feeling of security the more confirmed, when stationed at the summit of this lighthouse, to witness the effect of some heavy gale; when the rolling seas, which have been unimpeded in their course for hundreds of miles, thunder against the shore; and the force of the tempest makes the whole fabric vibrate from its very foundation. Well may we exclaim in the words of the poet:—

Beautiful, sublime and glorious;
Mild, majestic, foaming, free,—
Over time itself victorious,
Image of eternity.

Such thou art—stupendous ocean!
But if overwhelm'd by thee,
Can we think without emotion,
What must thy Creator be?

There are some very pretty little coves under the lighthouse, having their shores irregularly indented by rocks which have in some places become detached from the cliffs above. Upon these rocks, and on the sides of the cliffs, grows a pretty species of stock

(*Matthiola*), and in holes burrowed in the more friable rock, the tropic bird (*Phaëton*) makes its nest. Several species of sea weeds can be collected about the shore, and the conchologist must not forget that it was under stones at this locality, where the Rev. J. B. Freer, in 1861, discovered the fine *Pupa*, an inch in length, which has never been taken since.

PORT ROYAL CHURCH.

About half a mile from the lighthouse, stands Port Royal, or Southampton parish church; in a very exposed situation near the verge of the cliffs which overhang the south shore. If the visitor would like to attend the services of the church in a retired and lonely spot, where, away from the busy haunts of man, and the distracting influence of folly or fashion, he could join in the simple, yet touching ceremonies, which ought to characterize the worship of our venerable religion; then let him proceed to this unadorned and primitive "church of the hills," and procuring a seat by one of the open windows looking out upon the wide ocean, cast his eye over the limitless expanse. No worldly thoughts can occupy his mind when thus looking upon this, one of the fairest and grandest of Nature's scenes. The sight is a sermon in itself. The troubled waters breaking on the reefs below, so characteristically portraying the vexed cares and sorrows of this world; while the far off line which melts into the hazy sky and marks the

uncertain limit of the distant horizon, may be considered no unsuitable simile of the boundless region of eternity.

There are some very interesting records belonging to this parish church (now in course of rebinding) bearing date so far back as 1639, as for example :

“ 1639. An inventory of the plate, pewter, ornaments, and other things belonging to Port Royal church, in Southampton Tribe, in the Summers Islands, taken Anno Dom. 1639, &c.

“ 1716. At a parish meeting this 24 of September at Jno. Jennings' Esq., voted that the sum of nineteen pounds or thereabouts shall be given towards the beginning of the building of a church in this Parish by the assessors hereunder mentioned, or the major part of them, &c.”

The church was enlarged by the addition of two aisles in 1826, and was consecrated on April 30, same year, being dedicated to St. Anne, by the Bishop of Nova Scotia (Dr. Inglis), and the churchyard was also consecrated on the same day. The graveyard was added to and consecrated by the Bishop of Newfoundland (Dr. Field) in the year 1866.*

* For the above and subsequent information regarding Somerset Church, we are indebted to the kindness of the Rev. C. P. K. Coombe, Ecclesiastical Commissary, and Rector of both these Parishes.

SOMERSET BRIDGE

connects the island of Somerset or Sandy's with the main island. Immediately east of the bridge, on the right hand, will have been observed a large mansion in a grove of trees. This, known as the "Bridge House," was formerly the homestead of the Tucker family, but has not been occupied for several years. To the westward of the bridge, on a neck of land which protects the waters of Elis Harbour from the ocean swell without, rises "Wreck Hill"; so named from its being the spot from which the best view of the western reefs could be obtained; which have always been considered the most dangerous of all the reefs surrounding the islands. Here in days of yore, long before the morning which succeeded a tempestuous night, dawned upon the scene; the hardy fishermen and pilots of the neighbourhood would congregate, on the look out for wrecks; which frequently afforded them an opportunity of exhibiting their maritime skill; as well as a speedy means of replenishing their household stores, in times, when the luxuries of life were exceedingly scarce in these remote isles.

ELIS HARBOUR.

A perfect little gem of an inlet, which to be seen in its greatest perfection, should be visited on a bright sunny day, when its waters appear of the lightest emerald tint. But at any time it is beautiful;

so calm and peaceful does it lie surrounded by its rocky shores, clothed almost to the water's edge with the evergreen foliage of the scented cedar.

SOMERSET CHURCH.

About half a mile from Elis Harbour, stands the parish church of Somerset, formerly known as Sandy's. Like most of the churches of Bermuda, it has nothing in appearance to recommend it to notice. Nothing is known in regard to the old church which existed on the same spot prior to 1783; but from the parish records we find that the present structure was commenced about 1789, and was at intervals of several years added to as occasion required. In 1826, it was consecrated, together with the churchyard, by the Bishop of Nova Scotia (Dr. Inglis) being dedicated to St. James. The church was further enlarged about the year 1836," by the building two wings along the north and south sides of the church to extent thirteen feet from the present walls, so that with the vestry room on the north side, and a room corresponding on the south side, at the west end of the church, these wings may enclose the entire sides of the church."

In the churchyard may be seen a tombstone to the memory of a Miss Maclaine, whose epitaph was written by Captain Parry, R. N., the celebrated arctic navigator.

MANGROVE BAY.

At the extremity of Somerset Island lies Mangrove Bay, so named from the number of those trees which formerly grew around its margin. The scenery is very pretty hereabouts, although the land is almost level with the water. A boat excursion about the Bay and the adjoining shores, would reveal many interesting forms to the naturalist; especially among the submerged rocks near shore; where coral, gorgonias, and several species of sea weeds, find a resting-place. On the other side of the neck of land which divides Mangrove Bay from the ocean, lies a stretch of sandy beach well worth examining; for as it lies open to the heavy westerly gales, some fine specimens of sponges and sea weeds are often cast ashore.

WATFORD AND BOAZ ISLANDS,

connect Somerset with Ireland Island, and do not contain much to interest the visitor, as their surfaces have been partially levelled by convict labour, during the time that Bermuda was unhappily burdened by the presence of the worst of criminals transported from the mother country.

In the former island is situate the old burial ground of the convicts, where many a felon has found a last resting place far away from the scenes of his crime. On Boaz Island the principal barracks and stores for the convicts were established; but some were quar-

tered at Ireland; and when their numbers increased to too great an extent to allow of accommodation on land, they were distributed among old men-of-war hulks at anchor off shore.

At the time of the yellow fever epidemic in the summer of 1853, there were no less than 1600 convicts on the islands, 152 of whom succumbed to the disease.

IRELAND ISLE.

Probably the most important position in the Bermudas is Ireland Isle; which, although not much more than a mile in length, or a quarter of one in breadth, contains the dockyard, and other establishments connected with the Royal Navy. The Camber, which is a dock sheltered from the usual swell of the ocean by an excellent breakwater, has proved of great service to the many war vessels that continually visit Bermuda. But the principal feature of attraction is of course "the Great Bermuda Dock," a floating mass of iron, the largest structure of the kind in the world. It was constructed for the purpose of dry-docking Her Majesty's war vessels in need of repair while on the station, and is so large that vessels of the first class can be taken up with ease, with everything on board. The dock, which is of iron was built in England, and left that country for its destination in June, 1869, being towed across the Atlantic by two powerful men-of-war, with a small one astern to steer by. After a very smooth passage of twenty-five

days, this enormous mass made the Bermudas, and after a time was safely placed in the bed prepared for it, which was an excavation to the depth of fifty-four feet below low water; and no less than 1,200,000 cubic feet of sand and coral debris was removed for that purpose.

The "Royal Naval Hospital" stands on a hill immediately above the dockyard, while beneath, occupying a large space of ground, prettily ornamented by cedar groves and smooth grassy glades, is

THE NAVAL CEMETERY.

Here are several melancholy memorials; some to officers and crews of men of war which sailed from Bermuda and were lost at sea; and others to young officers of navy or army, whose lives were cut short ere they began their worldly career. One monument from its simplicity commands attention. It is an irregular block of Bermuda stone placed upright on an equally irregular base; bearing on one of its rough sides, a simple inscription, denoting that it was erected to the memory of four officers of H. M. S. "Winchester," lost on passage to England in the packet "Calypso" in January 1833. There is also a memorial stone to the memory of the officers and crew of H. M. Ships "Acorn" and "Tempest," which acting as mail packets between Halifax and Bermuda; singular to relate, left their respective

ports at the same time, and were never heard of afterwards.

Three admirals lie buried here. 1, Sir Edward Griffith Colpoys, who died Nov. 9, 1832. — 2, The Honble. Sir Charles Paget, (a brother of the Marquis of Anglesea, the Waterloo hero) who died at sea Jan. 29, 1839. — 3, Sir Thomas Harvey, who died May 28, 1841.

If the published accounts regarding the death of Sir Charles Paget be true, and we have never heard them disputed, they are sufficiently curious to be inserted here.

It appears that in the early part of January 1839, Sir Charles left Jamaica in H. M. Steamer "Tartarus" to proceed to Bermuda for the benefit of his health; he being ill of yellow fever at the time. But for five weeks the steamer could not find the islands; having no chronometers on board, and being unable to make out the latitude. At last the discovery was made that the steamer had passed Bermuda; and it finally arrived safely at its destination. But the anxiety and delay, superadded to sickness was too much for the admiral, and only his moral remains reached the Somers' Islands.

How it happened that an English war vessel, and that with the admiral commanding the station on board, was allowed to go to sea without a chronometer; is an event so extraordinary, that we are almost inclined to doubt the truth of such a statement.

At the extremity of Ireland Island, and looking over the sea, stands a large and conspicuous building having a verandah running all around it. This is "The Commissioner's House" which was built at the expense of the English government about the year 1828, for an officer styled "The Commissioner"; who was sent out to superintend the Dockyard establishment. It was found, however, that an exalted personage; with a splendid salary, and a palatial residence; was not required in so small a place as Bermuda; and in a few years, this building which is said to have cost no less a sum than £90,000 sterling in its erection, was suffered to remain untenanted and fall into decay. It is now used as quarters for the military stationed at Ireland Island.

The anchorage ground opposite Ireland, on its east side, where one or two men of war are generally to be seen, is known as "Grassy Bay."

There is an old lady, now living in Bernuda, aged 93; who well recollects the time, when Ireland and Boaz were inhabited by fishermen; who lived in huts made of boughs of cedar, and brush for sides, and having the roofs thatched with palmetto leaves.

THE ISLANDS IN THE SOUND.

The large sheet of water, which is enclosed by the curve of the land running from Paget Parish to Ireland Island, is known as "The Great Sound." It contains several islands, generally of small size,

but the larger ones are very picturesque. Tucker's Island, which lies close in shore near Somerset Bridge is well worth a visit ; and the visitor should not omit to notice a lovely little cavern upon it. Graec, Ricket, Burt, and Darrell Islands, which run in a line with the previous island, are of small size, and hardly worth visiting. Tatem's Island lies about the middle of the sound, and Port's Island nearer in to Hamilton harbour. This latter island was used as a quarantine station formerly, and possessed a hospital and graveyard, in which many victims of yellow fever have found a resting place. Until recently, close to the landing place was nailed upon a board, a piece of canvas, on which was painted by some jolly tars, lines to record the fact of their having been kept there during an outbreak of yellow fever, on board H. M. S. "Malacca." The first two lines ran as follows :—

" 'Twas here the crew of the Malacca
Drank their ale and smoked their bacca ;"

odd enough, this island has always been a popular resort of picnic parties ; and the very apartments which the fever-stricken patients have lived and died in, have been used again and again for dance and refection. It is certainly a pretty spot ; but an air of melancholy pervades its whole extent.

There are two monuments here which tell their own tale of sorrow and suffering. One of granite bears the following inscription ;

In memory of Messieurs Grateau, Surgeon in chief "Ville Suzanne," Ensigne, and nine of the crew of the French frigate, "L'Armide", who died of yellow fever in this island in August 1352, and whose remains are interred near this spot.

The other monument is merely a large block of sandstone, bearing the following epitaph :

I. M.

Hospital Sergeant P. P. Owen, (Pompadours) who devoted to his duty died respected and regretted by all who knew him -- Nov. 7, 1853. Also Mary his wife, his infant child, and his brother Paul of the same fever.

This stone is inscribed to the memory of 24 brave soldiers of the Artillery and 56th Regt., who died at Port's Island of the epidemic fever in the autumn of 1853.

Sheep Island, a long narrow strip to seaward of Port's Island, has also headstones to the memory of several soldiers who lie buried there.

Marshal Island, and Godet Island, lie east of the latter, and around their shores may be obtained many fine specimens of sponges, zoophytes, and small crustaceans.

SPANISH POINT.

To the north of this group of islets, in the middle of the Sound, will be seen a promontory, stretching out towards Ireland Island. This is known as Spanish Point, and is well worth a visit. It can be reached by road from Hamilton, being about two miles distant. When about half way along the road,

if the visitor will take a narrow path which is seen on the left hand, he will be amply rewarded for the break in his journey, by suddenly coming upon some of the most charming scenery in Bermuda. The shore is here indented by numerous inlets which have their banks clothed with well grown trees and a verdant carpet of grass beneath. The waters of the sound come rippling in; and if a pleasant westerly breeze is blowing, there is no cooler or more delightful spot to ruralise in than "Point Share" as the locality is named; doubtless from its including the portion of land marked in Norwood's original map as the Point Share.

If Norwood was very exact in his survey of the islands, there certainly have been many changes in the shore lines since his time; for some of the islets are now divided by small channels; while others have become joined together, and some have entirely disappeared.

Regaining the road again and proceeding northwards, a depression in the land will be perceived, with boggy ground on either side. To the right, the Pembroke Marshes commence; extending all the way to the foot of Prospect Hill; while to the left, when the level approaches that of the sea outside, grow dense thickets of mangroves, in an almost stagnant, mass of mud. The whole of this marsh area was doubtless once open to the sea, as the investigations of His Excellency General Lefroy in 1872 have proved that the basin is filled by decayed vegetable

matter to a depth of from 40 to 48 feet below the present surface; while from the bottom has been obtained sand and rounded pebbles, precisely similar to the same material found in all bays and inlets. It will be observed that the depth of this marsh basin corresponds with that of the Great Sound outside.

Proceeding up the hill by the road which leads to the left (that on the right leads to Pembroke Church) at about a mile's distance, the visitor will arrive at Clarence Hill, the residence of the Admiral on this station.

A little beyond Admiralty House, just on the roadside, occurs a very small cavernous hole; which has its whole interior lined with the graceful maiden-hair fern; a very pretty object indeed.

The view from the face of the hill looking down to the extremity of Spanish Point, and over the water to Ireland Island, is very fine, particularly at low tide, when Cobbler's Isle, the Lapstone, and the Stagg's Rocks rise from the foaming waters to guard the passage to the harbour within.

The sandstone strata at Spanish Point, eastward on the north shore lies horizontally; particularly in a small inlet near a dilapidated cottage, on the hill near Admiralty House; and appear when closely looked at, to assume the character of separate layers of hard sandstone relieved by others of soft friable sand. There are also islets of rock of the same inclination a short distance from the shore; which present the appearance of having been attached at

some time to the main. They are also honeycombed by caverns and natural arches of singular aspect. The vegetation upon them consists of a stunted growth of cedar, sage bush, and long grass. Parsley (*Apium*) grows wild on the rocks about the shore.

The rocks at Clarence Cove, just below the Admiral's, are very picturesque; being hollowed out by the stormy waves of ocean, which year by year slowly but surely commit their work of destruction.

THE MIDDLE ROAD.

There is a public highway not often traversed by strangers, leading from Hamilton through the parishes of Devonshire and Smith's to the Flatt's; which possesses some very pretty scenery at intervals.

About a mile from the town the military station at Prospect is passed on the left hand, and about another mile's distance onwards lies

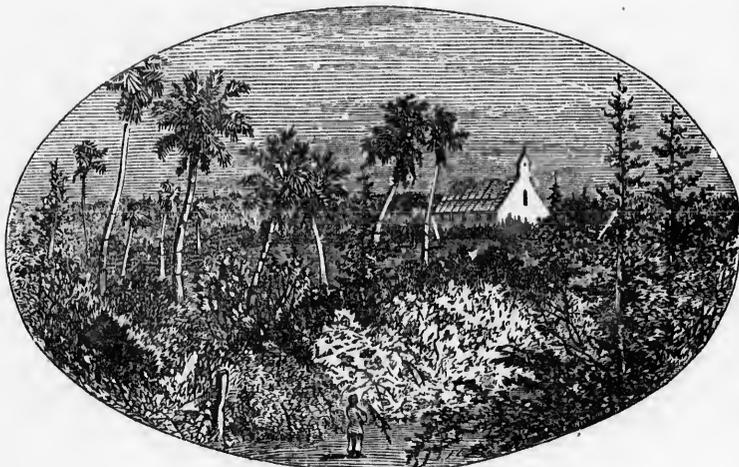
BRACKISH POND,

an extensive morass, on the skirts of which grow some fine specimens of cedar trees, while amongst the close thicket of shrubs and palmettos which tenant its interior, some giant ferns and aquatic plants of divers species occur, which are not seen in the open. In this dense region, the ornithologist will find a good collecting ground; as owing to the difficulty of traversing the treacherous bog, hardly any one disturbs the solitude which almost continually pre-

vails here. Here also up in the branches of the old cedars, and occasionally in the shrubs around, may be procured the curiously constructed nest of the tree rat (*Mus tectorum*), a species which was added but recently to the Bermudian fauna by the author.

DEVONSHIRE OLD CHURCH.

Hard by the skirts of this pond, surrounded by some of the finest cedar trees to be seen in the islands, stands the old antiquated structure which formerly served as the parish church of Devonshire. It has not been used for some time, or since the new church which stands near was completed, about twenty years ago. This old church was doubtless the successor of that which tradition asserts was standing in 1770; having its roof thatched with palmetto leaves. There is an old cedar tree standing in the churchyard, which is said to be the oldest now existing in the islands; and its appearance certainly justifies the assertion. At the western end of the churchyard stand several noble cedars; which with their wide spreading branches afford a pleasant shade in summer time to the poor horses attached to the vehicles belonging to the members of the congregation. These fine trees, were some years ago, doomed to fall beneath the axe of the woodman; but a public spirited inhabitant of the parish, whose name we cannot withhold—the Hon. J. H. Darrell, ex-chief justice of Bermuda—purchased the piece of



DEVONSHIRE NEW CHURCH.

ground they occupy ; and presented it by deed to the parish, on the understanding that the trees were never to be cut down ; so doubtless, unless uprooted by some furious gale, they will long remain to ornament the locality ; as well as afford a grateful shelter to the poor dumb animals placed beneath ; and, moreover, will stand as monuments to record to future generations, the liberality of the worthy gentleman who saved them from destruction.

The new church, situate close to the old one, is a gothic edifice of neat appearance, set off to advantage by the luxuriant vegetation of the adjoining swamp. Its interior is very capacious, and possesses a remarkably fine open roof which affords excellent ventilation during the hot summer months ; indeed,

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in this respect, with the exception of Trinity Church, Hamilton, it probably surpasses all other churches in Bermuda.

SOMERVILLE.

There are many pretty private residences in different parts of the Bermudas; but there is one we cannot help making special allusion to, which, from its peculiarly retired position, and the varied vegetation surrounding it, possesses more of the picturesque than perhaps any other dwelling in the islands. It is "Somerville" in Smith's Parish, the residence of Miss Louisa Tucker, about a mile from Devonshire Church. It is truly a spot worth seeing; for apart from the house itself, which is somewhat romantically placed in a cozy little nook beneath a hill; looking down upon a valley filled with choice fruit trees, and others noted for ornamental foliage; the grounds, and especially the approach from the main road, hemmed in as it is on either side by stately mahoe, fiddlewood, and tulip trees; present the appearance of a botanic garden, more than the precincts of a private residence.

Miss Tucker, and her niece Miss Mary Peniston are always busily engaged in superintending the improvements to the garden and shrubbery, which accounts for the air of neatness and trimness which characterises the parlicus of this sequestered and charming retreat.

CLIMATE, &c.

When the good Bishop Berkeley, to whom we have alluded previously, declared that the climate of Bermuda was "one of equal tenor almost throughout the whole year," he stated what was incorrect; and had the worthy prelate visited the islands, and experienced the heat of a Bermudian summer; he would certainly have given a different account.

The months of July, August, and September are generally very warm and oppressive, owing to the prevalence of southerly winds. The islands are too far north to share the cooling influence of the trade winds; and are too far south to feel the bracing breezes of the north, in summer time; so that they may be said to possess a peculiar climate at that season, which is remarkable for the slight variation which takes place in the diurnal and nocturnal temperature. But as the Bermudian season is supposed not to commence until November and end in May, the visitor will not care to trouble himself about the inconveniences of summer; a time, when we hope that amidst the congenial pleasures and pastimes of his happy northern home, he will be spending his days both pleasantly and profitably, looking forward

to the time when the steamer will waft him over the waves of the Atlantic to spend a winter in the "distant and secluded isles."

The following monthly record of the Bermudian climate which will be found to be fairly correct, will we trust, prove interesting to the visitor.

JANUARY.

The month of January is usually characterised by variable weather; alternate storm and calm. Heavy rain falls at intervals of a few days; succeeded either by bright hot sun or still haze; a sort of dreamy atmosphere which engenders sleep. It is a cool month on the whole; the thermometer ranging from 50° to 76° , but generally standing at 60° to 65° . The prevailing winds are from N. W. to N. E. changing to S. E. and S. W. during storms. This change to south never fails to generate the warm moist atmosphere so much disliked by northern visitors; begetting a clammy feeling, which can be better imagined than described. If this state of weather should continue for two or three days, it has a visible effect upon every household article that damp heat will spoil. Fresh meat putrefies. Cold cooked meats become coated with a vigorous growth of mould; and in fact everything in the larder suffers. Inside the house matters are no better; the mirrors refuse to reflect the features, being coated with vapour. Boots and shoes are covered with green

mould, and even articles of clothing suffer greatly. All, however, soon changes; a sudden coolness is felt; the exclamation becomes general "Ah! here comes the north wind," and in a few hours all dampness vanishes and the braeing atmosphere gratifies the feelings of old and young. The housewife hangs out the damp clothes, that would soon mildew if left untouched; the cook looks over the meat and hurries that which will soonest spoil into the oven; while at the stable, the coachman overlooks the harness which has suffered like the boots and shoes: in fact almost everything except vegetation, which profits by the change; has to be overhauled and renovated after the southerly vapour bath. Coughs and colds are prevalent this month, among the native Berlians; but as the changes of temperature are neither sudden nor extreme, they rarely affect northern constitutions; so the most ordinary care will suffice for healthy persons; but for invalids of course the ease is different, and proper precautions should be taken not to suffer exposure to the elements. Fires are pleasant at intervals this month.

FEBRUARY.

The climate of this month is very similar to that of January, but slightly colder; and a bright cedar wood fire is extremely pleasant at times.

MARCH.

This is generally considered by the native Bermudians the coldest winter month, and from our own observations we are inclined to believe the truth of the remark. Certain it is, that the lowest degree of temperature has generally been registered during this month. On the 17th March, 1870, the thermometer on the grass at night fell to 38°. On the two succeeding days, a gale from N. W. to N. occurred, accompanied by hail and sleet; and on the latter day snow *was said* to be visible in the air, although it melted before it reached the ground. Hailstones of large size, some fully an inch in diameter, have been known to fall during this month, and the atmosphere becomes so cool after one of these heavy hail storms, that the accumulations of hail remain in shady spots for twenty-four hours afterwards.

To those who do not dislike "shivering with cold," we would remark that such a condition is easily attainable during the early part of this month. After a day or two of continued northerly gales and when the wind is blowing pretty strong from that quarter, let the cold-seeker take an open carriage and start from Hamilton for the Flatts taking the north shore road. If the dose does not prove sufficient, by all means let the return journey be over the same route, and if the experimenter be not satisfied with the result, he must indeed be well supplied with an abundance of vital fluid of the warmest degree.

Fires will be found very comfortable at times during the early part of the month. The thermometer usually ranges from 60° to 65°.

APRIL.

April may be considered the most charming month of the year. The native birds are beginning to nest; trees are expanding their fresh green leaves; flowers are scenting the air with exquisite perfume; and the sweet-scented cedar on especially hot days, gives forth its charming balsamic odour, reminding the wayfarer of the aromatic spice groves of eastern lands. Away in the north the snow-drifts lie deep, or the chilling sleet is driving before the pitiless gale; while the poor invalid is confined to the darkened chamber, rendered still more gloomy by the dense clouds which everywhere hang from the leaden sky; while here in these lovely isles of the ocean the troubled patient can recline on a couch in the open air, for the balmy breeze will not hurt the weakest frame, but only revive the drooping spirits by sending a thrill of joy through every nerve. This is the month for excursions in the country, for nature now puts on her best attire; the winter rains have watered the parched earth of the previous summer, and these bright warm sunny April days have caused a general shooting forth of all vegetable growth, decking every nook and corner with a fresh garb of livery in some way or other.

It is during this month that the first crops of Bermuda produce mature. The onion, tomato, and potato; those vegetable esculents which form the chief wealth of the planter, are hurried off to the New York market in hopes of gaining the high prices which luxury and fashion can afford to give. The visitor journeying about the country lanes, everywhere perceives the busy labourers at work, for it is a time when no idleness is allowed; the prosperity of the planter depending in a great measure upon the proceeds emanating from the produce of the ground during this and the succeeding month; and therefore he and his servants must work from early morn to dewy eve during that period, and leave those pleasant hours of dreamy idleness for the hot summer months, when repose is welcome indeed. The thermometer usually ranges during the month from 65° to 72°.

MAY.

“The beautiful month of May” is an old English expression; and one which is somewhat applicable to Bermuda. It is not such a month as April, however, for the latter part of it is generally very warm; and northern visitors feel inclined to move towards home, where the buds and blossoms are opening, and the pleasant westerly breeze is ready to welcome them back with its refreshing breath. Those who are now leaving the little islets, where they have passed, we trust, many happy days; will, we feel

sure, not bid adieu to them without feelings of regret. The pleasant drives along the shady lanes ; the walks along the sandy beaches, where in the bright and joyous sunshine, the limpid waters sparkled at their feet ; the happy hours spent in chat with chosen friends, never to be forgotten for their kind words and kinder deeds ; the lovely scenery, whether of wood or water ; the former interspersed with its nooks and corners replete with natural gems ; and the latter filled to repletion, with objects rich and rare. All these and more we think, will crowd upon the mind of the leave-taker as the last fond look is taken of the fast waning land. The home he is bound to has ties, no doubt, of the tenderest kind, but the casual home he has left, although he may never see it again, will often recur to memory when the cold and dreary autumn days close upon the northern land, telling of the bitter winter coming, to be succeeded by the dreaded months of spring. The thermometer usually ranges from 66° to 76° during this month.

JUNE.

June, at least the latter part of it, is too hot to please a northern constitution, and very few visitors remain longer than the first week. Pleasant summer weather has commenced in the north, and therefore there is no incentive to remain longer, unless the attractions of these fairy isles should have captivated the taste of some ardent lover of nature, and lure him to pro-

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long a visit, which has doubtless enriched his cabinet with many a rare specimen culled from the coral strand. The thermometer usually ranges during this month from 75° to 80° .

JULY.

This month is far too hot for visitors from the north, the temperature generally ranging from 80° to 86° .

AUGUST.

This is generally a calm month with a temperature usually ranging from 80° to 90° ; a degree of heat which would not be considered remarkably oppressive if the trade winds blew over the islands, but such not being the case, and the soil and rock being of a sandy nature absorb the diurnal heat to so great an extent that the nights are very nearly as hot as the days. Sleepless nights are therefore common, and the wearied frame rises from its couch day after day only to suffer from the continued heat, and the painful effects of broken rest. This is naturally a dreaded month for European residents on the islands for that terrible disease, yellow fever, which happily occurs but at intervals of several years (and at this date 1876 has not visited the island for twelve years) has nearly always commenced its ravages sometime during this month.

We may remark here, for the comfort of those who may feel nervous in this respect, that should no

outbreak of the disease take place previous to the end of September or beginning of October, it may be considered as almost an impossibility for it to exist upon the islands during the succeeding season, owing to the reduction of temperature, which never fails to stay its progress. Visitors, therefore, having ascertained that the islands are healthy during the month of October, may feel perfectly assured that such will be their state for the winter following, if we may judge from the experience of former years, even as far back as history goes.

SEPTEMBER.

This is another very trying month; weeks of calm hot weather, with the thermometer generally ranging from 80° to 90° ; and the nights nearly as hot as the days. The inhabitants are continually on the look out this month for hurricanes, as the worst visitations of the kind have always occurred at this period of the year. It was on the 12th of September, 1839, that the great hurricane of this century took place; a day ever to be remembered for the fearful ravages it committed. Houses were blown down, and cedar trees of the largest size torn up by the roots. The sea sent its spray completely over the islands; while vessels were torn from their anchorage and driven ashore even in the most sheltered harbours.

Commencing at midnight of the 11th, the gale steadily increased, until at 7 a. m. of the 12th, th-

barometer had fallen to 28.5; when it blew with fearful violence. It continued nearly all day, but gradually abated towards evening. As is usual before severe storms, the sea 'roared' all along the southern shore for some hours before the gale began.

OCTOBER.

About the end of September, or beginning of this month, a visible change occurs in the temperature; the successive smart gales have cleared the atmosphere of its superabundant heat, and caused the nights to become much cooler and more agreeable. But it is still warm; and not until the end of this month, at the earliest, should visitors arrive from the north. During this month, the sportsman enjoys more shooting than at any other time. The violent revolving gales which occur almost weekly, bring numbers of birds of many species from the American continent; the different members of the duck tribe forming no inconsiderable portion of the whole; while the Canada goose, and even the ponderous American swan have been seen amidst the migratory host.

NOVEMBER.

With this month may be said to commence "the Bermuda season." The heat of summer has departed; the violent gales of October have cooled the atmosphere; and winter with all its bitter cold is grad-

ually closing in throughout North America, rendering a longer residence there hazardous to the weak, and by no means pleasant even to the strong. Ought not all the denizens of that bleak northern land, therefore, to rejoice in the fact that there rests on the ocean's bosom away over the current of the gulf stream, yet only three days journey from New York ; a pretty little group of islets, begirt with charming white shores of coral sand, on which the evergreen scented cedar grows as the ' forest primeval,' and the plume-like palmetto reflects its broad pendant leaves, in the transparent waters of an azure and emerald tinted sea ; and where balmy breezes continually fan the cheek, and the radiant sunbeams grant a genial warmth, invigorating the frail system of the sufferer, and affording a new lease of life to the already overtaxed and weakened frame. No snow, no frost, no winter, as we northern people know it ; but a lovely spring and summer kindly blended together, is the nature of the Bermudian climate from November to May.

As Madeira stands to Northern Europe, so Bermuda stands to Northern America ; and we well know that in future years when the islands become better known, and more accommodation is provided, that great will be the number of visitors who will annually rush to this bright and happy land, where rest or recreation can be hourly indulged in throughout the winter months beneath the rays of a semi-tropic sun. Even at present there is excellent accommodation to

be had at the chief hotel and boarding houses; but unless the Bermudians bestir themselves and afford more facilities for visitors enjoying themselves in the way of innocent amusements, such as are provided and considered as common and necessary adjuncts to fashionable winter resorts elsewhere; not a tithe of the number of visitors who would otherwise come, will wend their way to pass a winter in these pretty yet expensive isles.

Oranges begin to ripen about the middle of this month, and are in season until the beginning of February; but owing to the supply being limited they can generally be purchased at a cheaper rate either in New York or Canada than here. The Thermometer usually ranges from 65° to 70° this month.

DECEMBER.

The weather during this month is variable. Two or three days of cool weather with strong breezes from the north, will be succeeded by an equal number of calm sultry days. Soon, however, a change takes place; the wind veers from north by east to the southward, when a gale occurs, and for some forty-eight hours or more, the atmosphere becomes moist and heated. This state is by no means pleasant to the feelings; and it cannot be better described than in the words of the inhabitants—"sticky weather." During this humid visit everything becomes mouldy, and in precisely the same state we have described in

January; and grateful, indeed, is the change when it comes, to a dry, cool, northern breeze. Fires are pleasant at the close of this month, when the wind is in the north; reminding the visitor of his northern home and the bright and happy faces he has left behind.

NATURAL HISTORY.

GEOLOGY.

The formation of the islands is calcareous sand rock; derived from broken shells, corals, nullipores, &c.; and presenting every state from friable material to the most compact limestone.

From soundings recently taken by H. M. S. "Challenger" around Bermuda, it has been proved to be a peak rising abruptly from the abysmal depth of 1820 fathoms; while at a distance of only eighty miles, its base rests on the ocean floor at the enormous depth of 3875 fathoms; so that if the formation stood above water, it would appear as a mountain over 23,000 feet in height.

Instances have been repeatedly recorded during the last half century of vessel's anchors having dragged up in different places within the barrier reef, and also in Hamilton and St. George's harbours,

portions of cedar trees, especially the roots; having the appearance of being torn from their original positions. About the year 1869, submarine blastings carried on at the entrance to Hamilton harbour in order to deepen the entrance channel, revealed the fact of a cavern existing at a depth of over six fathoms; containing stalactites and red earth. Again, during the process of excavating a space at Ireland Island for the purpose of forming a bed for the Great Bermuda Floating Dock in 1870, the formation was penetrated to a depth of 52 feet below low water mark. At a depth of 42 feet, occurred a layer of red earth; similar to that at present forming the common soil of the islands. This layer was 2 feet thick, and contained the remains of cedar trees; and rested on a bed of compact calcareous sand stone.

Now it is very clear that the stalactite cavern; and the layer of red earth, with decayed cedar trees; were at one time above water; which in the latter case, even if the cedar trees grew in the earth at the level of the ocean, would raise the islands 42 feet above their present elevation; sufficient to bring the whole bottom of the aqueous area extending from the shore to the outer barrier reef above water.

In Capt. John Smith's "History of Virginia," a work which contains a fair account of the Bermudas as they appeared about the commencement of the seventeenth century; allusion is made to a very simple fact, which viewed, however, in an ornithological point of view, adds a link to the chain of

evidence regarding the extent of the islands in former times. It is therein stated, that large flocks of crows were seen at sunset each evening, winging their way from the main island out to sea in a northerly direction. Now, the crow is gregarious in habit; always proceeding at earliest dawn with its fellows, to some favourite feeding grounds, where it usually passes the day, retiring as night draws on to its accustomed roosting place; generally a grove of evergreen trees. The crows, therefore, which Smith observed every evening, were undoubtedly making their way to a cedar-clothed islet out at sea, probably situate on the site of the present North Rock.

Taking all these facts into consideration, it appears to be a matter of certainty that Bermuda was at one time an island about 24 miles in length by 12 in breadth*; and that after the submergence, along the whole course of the present barrier reef, there existed for several years a series of islets, which have gradually been washed away by the force of the tremendous seas which now roll unimpeded over the breakers which once formed their bases; leaving the isolated pinnacle of the North Rock as their only representative.

The soil of Bermuda is a red earth, which contains 35 per cent. of oxide of iron and alumina. It is very fertile and well suited for the growth of plants, as the large crops of market vegetables, which are

*Compare Oviedo's account of their extent in 1515. See page 20.

annually exported in great quantities, sufficiently testify. In some localities this red earth is several feet deep, while in others it exists as a mere coating. Its origin is doubtful; but the fact of deposits of red clay (containing according to analysis the same ingredients as the Bermuda red earth) having been proved to exist in the deepest parts of the Atlantic bed between the islands and the West Indies, points to common causes. There is also a blackish soil, which is found in low situations, especially around the marshes. This is formed from decayed vegetation, and partakes of the nature of peaty mud.

These marshes, now filled with this peaty mud, to a depth of 42 feet or more in some instances; (based upon observations made by His Excellency Governor Lefroy) and having their surfaces raised but little above the level of the sea without; were doubtless, when the islands stood at their original elevation, deep hollows or valleys, which after the submergence of the group became inlets, gradually choking up with sandy mud, derived both from the ocean without, and the denudation of the slopes surrounding them. A dense vegetation of mangroves, succeeded by a denser growth of plant life; would aid in solidifying the surface, until, as may be seen at the present day, it is fit for the growth of several trees and shrubs; which matted together with rushes, sedges, and the massive fronds of the great marsh fern (*Acrostichum*) are by their decay, gradually preparing it for the hands of the husbandman.

ZOOLOGY.

MAMMALIA.

An oceanic island, so small in extent, and so far removed from any continent as Bermuda is, cannot be expected to possess many species of mammals. The following list, therefore, which is exceedingly meagre, will not be considered remarkable. The common mouse (*Mus musculus*) is especially numerous, and so is the rat (*Mus decumanus*). The black rat (*Mus rattus*) is rare; while another species (*M. tectorum*, only recently found by the author, and which generally builds a round ball-like nest on the branches of the cedar trees, is not uncommon. Two species of bat, the hoary bat (*Vespertilio pruinosis*); and the silver-haired bat (*V. noctivagans*) have likewise been observed and captured; but they are only occasional visitants, and do not stay here. The common, or true whale (*Balaena mysticetus*) is to be seen sporting outside the reefs during the spring months; but the sperm whale (*Physeter macrocephalus*) is very rare.

During the winter the visitor will probably have an opportunity of tasting the much lauded 'whale beef,' the taste of which will, we think, be considered more peculiar than agreeable.

AVES.

There are only ten resident birds on the islands ; the Black bird (*Mimus carolinensis*) ; the Blue bird (*Sialia sialis*) ; Chick of the village (*Vireo noveboracensis*) ; English sparrow (*Passer domesticus*) ; Red bird (*Cardinalis virginianus*) ; American crow (*Corvus americanus*) ; Ground dove (*Chamæpeleia passerina*) ; Quail (*Ortyx virginianus*) ; Heron (*Ardea herodias*) ; and the American coot (*Fulica americana*) ; but many of the birds of Eastern North America visit the islands during the autumn and winter months, driven no doubt by the northerly gales that prevail at that season so far from land ; or are carried up during the autumnal migration by local whirlwinds to a great height ; where, meeting a direct westerly or north westerly gale blowing with great force out to sea, they are blown along the aerial current with amazing speed far over the deep, until about the region of the Gulf Stream, the heated atmosphere which arises from this vast accumulation of warm waters mollifies the force of the cold northerly current of air above and allows the feathered freight to descend, probably not far from the remote Bermudas, which by an instinctive impulse they make for, and are thus saved from destruction.

The following list of migratory birds taken on the islands, or otherwise identified by the author's friends Lieut. Col. J. W. Wedderburn (late 42nd Roy. Highlanders) ; John L. Hurdie, Esq., (late Controller

of Customs and Navigation Laws in Bermuda) and Lieut. Savile Reid, R. E. ; F. Z. S., is corrected to date. The nomenclature is that of Coues. (See "Key to North American Birds."

1, Robin, *Turdus migratorius*. Occurs occasionally in small flocks. 2, Wood Thrush ; *T. mustelinus*. Very rare. 3, Olive-backed Thrush ; *T. swainsonii*. Rare. 4, Wheatear ; *Saxicola œnanthe*. Very rare. 5, Red-bellied Nuthatch ; *Sitta canadensis*. Very rare. 6, European Sky lark ; *Alauda arvensis*. Only once observed. 7, Shore Lark ; *Eremophila alpestris*. Occasionally. 8, Pipit ; *Anthus ludovicianus*. 9, Black and White Creeper ; *Mniotilta varia*. 10, Blue Yellow-backed Warbler ; *Parula americana*. Rare. 11, Prothonotary Warbler ; *Protonotaria citræa*. Very rare. 12, Blue-eyed Yellow Warbler ; *Dendræca æstiva*. Very rare. 13, Black-throated Green Warbler ; *Dendræca virens*. Very rare. 14, Black-throated Blue Warbler ; *Dendræca cærulescens*. Very rare. 15, Yellow-rumped Warbler ; *Dendræca coronata*. Rather common. 16, Bay-breasted Warbler ; *Dendræca castanea*. Only one specimen recorded. 17, Prairie Warbler ; *Dendræca discolor*. Only one specimen recorded. 18 Yellow red-poll Warbler ; *Dendræca palmarum*. Rare. 19, Pine-creeping Warbler, *Dendræca pinus*. Very common at times. 20, Golden-crowned Thrush, ; *Seiurus carocapillus*. Sometimes common. 21, Water Thrush ; *Seiurus noveboracensis*. Common. 22, Maryland yellow-throat ;

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Geothlypis trichas. Rare. 23, Hooded Flycatcher, *Mniotiltus alpestris*. Very rare. 24, American Redstart; *Setophaga ruticilla*. Very rare, 25, Scarlet Tanager; *Pyrrhuloxia rubra*. Rare. 26, Summer Red Bird; *Pyrrhuloxia aestiva*. Not uncommon at times. 27, Barn Swallow; *Hirundo horreorum*. Not uncommon at times. 28, White-bellied Swallow; *Tachycineta bicolor*. Rare. 29, Bank Swallow; *Cotyle riparia*. Rare. 30, Purple Martin; *Progne subis*. Rare. 31, Cedar Bird; *Ampelis cedrorum*. Not common. 32, Red-eyed Vireo; *Vireo olivaceus*. Rare. 33, Great Northern Shrike, *Colluris borealis*. Rare. 34, American Crossbill; *Curvirostra americana*. Not common. 35, White-winged Crossbill, *Curvirostra leucoptera*. Rare, 36, Red poll Linnet; *Ægiothis linarius*. Common at times. 37, Pine Linnet; *Chrysomitris pinus*. Very rare. 38, Snow Bunting; *Plectrophanes nivalis*. Common in winter. 39, Savannah Sparrow; *Passerculus savanna*. Very rare. 40, Bay-winged Bunting; *Poocetes gramineus*. Only one specimen recorded. 41, Henslow's Sparrow; *Coturniculus henslowii*. Only one specimen recorded; shot by Mr. Hurdis, Decr 2, 1850. 42, Swamp Sparrow; *Melospiza palustris*. Very rare. 43, Snow Bird; *Junco hyemalis*. Very rare. 44, Fox-coloured Sparrow; *Passerella iliaca*. Only one specimen recorded; shot by Mr. Bartram. 45, Rose-breasted Grosbeak; *Goniaphea ludoviciana*. Not uncommon. 46, Indigo Bird; *Cyanospiza cyanea*. Rare. 47, Rice Bird; *Dolichonyx oryzivorus*. Sometimes nu-

merous in autumn. 48, Cow Bird; *Molothrus pecoris*. One specimen only recorded; shot by Mr. Bartram. 49, Baltimore Oriole; *Icterus Baltimore*. Rare. 50, King Bird; *Tyrannus carolinensis*. Common at times in spring. 51, Pipiry Fly catcher; *Tyrannus dominicensis*. Very rare. 52, Olive-sided Fly catcher; *Contopus borealis*. Very rare. 53, Wood Pewee Fly catcher, *Contopus virens*. One specimen only recorded; shot by Mr. Hurdis, April 30, 1852. 54, Traill's Fly catcher, *Empidonax traillii*. Very rare. 55, Night Hawk; *Chordeiles virginianus*. Common at times. 56, Chimney Swift; *Chaetura pelagica*. Rare. 57, Ruby-throat Humming Bird; *Trochilus colubris*. Only one specimen recorded; shot by Mr. Bartram. 58, Belted Kingfisher; *Ceryle alcyon*. Common. 59, Yellow billed Cuckoo; *Coccyzus americanus*. Sometimes common. 60, Black-billed Cuckoo; *Coccyzus erythrophthalmus*. 61, Yellow-bellied Woodpecker; *Sphyrapicus varius*. Not uncommon. 62, Golden-winged Woodpecker; *Colaptes auratus*. Very rare. 63, Long-eared Owl; *Otus wilsonianus*. Rare. 64, Short-eared Owl; *Brachyotus palustris*. Rare. 65, Barred Owl; *Syrnium nebulosum*. One specimen only recorded by Mr. Hurdis, April 2, 1851. 66, Snowy Owl; *Nyctea nivea*. Very rare. 67, Hawk Owl; *Surnia ulula*, var. *hudsonica*. Only one specimen ever seen. 68, Acadian Owl; *Nyctale acadica*. Very rare. 69, American Marsh Hawk; *Circus cyaneus*, var. *hudsonius*. Occasionally seen. 70, Sharp-shinned Hawk; *Accipiter fuscus*. Very rare.

71, American Goshawk; *Astur atricapillus*. Very rare. 72, Peregrine Falcon; *Falco communis*. Rare. 73, Pigeon Hawk; *Falco columbarius*. Rather common. 74, American Sparrow Hawk; *Falco sparverius*. Only one specimen recorded. 75, Red-tailed Buzzard; *Buteo borealis*. Very rare. 76, Rough-legged Buzzard; *Archibuteo lagopus*, var. *Saxatijohannis*. One specimen only recorded. 77, Osprey, *Pandion haliaetus*. Not uncommon. 78, White-headed Eagle; *Haliaetus leucocephalus*. Only once seen. 79, Turkey Buzzard; *Cathartes aura*. Only one specimen on record. 80, Passenger Pigeon; *Ectopistes migratorius*. Very rare. 81, Carolina Dove; *Zenaidura carolinensis*. Not uncommon. 82, Golden Plover; *Charadrius virginicus*. Not uncommon. 83, Kildeer Plover; *Ægialitis vociferus*. Rather common. 84, American Ring Plover; *Ægialitis semipalmatus*. Rather common. 85, Piping Plover; *Ægialitis melodus*. Very rare. 86, Turnstone; *Streptilas interpres*. Not uncommon. 87, Black-necked Stilt; *Himantopus nigricollis*. Very rare. 88, Northern Phalarope; *Lobipes hyperboreus*. Rare. 89, American Woodcock; *Philohela americana*. Only one specimen recorded. 90, American Snipe; *Gallinago wilsonii*. Very abundant at times during winter. 91, English Snipe; *Gallinago media*. Very rare. 92, Red-breasted Snipe; *Macrorhamphus griseus*. Very rare. 93, Long-legged Sandpiper; *Micropalama himantopus*. Very rare. 94, Semipalmated Sandpiper; *Ereunetes pusillus*. Common. 95, Ame-

frican Stint; *Tringa minutilla*. Common. 96, Pectoral Sandpiper; *Tringa maculata*. Common. 97, White-rumped Sandpiper; *Tringa bonapartei*. Not uncommon. 98, Purple Sandpiper; *Tringa maritima*. Very rare. 99, Sanderling; *Calidris arenaria*. Common. 100, Willet; *Totanus semipalmatus*. Only one specimen recorded; shot by Lieut. Col. Wedderburn, July 3, 1848. 101, Greater Yellow-shanks; *Totanus melanoleucus*. Common. 102, Solitary Sandpiper; *Totanus solitarius*. Not common. 103, Spotted Sandpiper; *Tringoides macularius*. Common. 104, Bartram's Sandpiper; *Actiturus bartramius*. Only one specimen recorded. 105, Hudsonian Curlew; *Numenius hudsonicus*. Not uncommon. 106, Esquimaux Curlew; *Numenius borealis*. Not uncommon. 107, Glossy Ibis; *Ibis falcinellus*, var *ordii*. Only one specimen ever seen. 108, Great White Egret; *Ardea egretta*. Rare. 109, Snowy Heron; *Ardea candidissima*. Rare. 110, Little blue Heron; *Ardea coerulea*. Not uncommon. 111, Green Heron; *Ardea virescens*. Rather common at times. 112, Night Heron; *Nyctiardea grisea*, var *nævia*. Only young birds; adult has never yet occurred. 113, Yellow-crowned night Heron; *Nyctiardea violacea*. Rather common. 114, American Bittern; *Botaurus minor*. Common. 115, Least Bittern; *Ardetta exilis*. Not uncommon. 116, Virginian Rail; *Rallus virginianus*. Very rare. 117, Carolina Rail; *Porzana carolina*. Very common at times. 118, Yellow Rail; *Porzana noveboracensis*. Very rare. 119, Black Rail; *Por-*

zana Jamaicensis. Very rare. 120, Corn-crake; *Crex pratensis*. Only one specimen recorded; shot by Lieut. Col. Wedderburn, Oct. 25, 1847. 121, Purple Gallinule; *Porphyrio martinica*. Not uncommon. 122, American Coot; *Fulica americana*. Not uncommon. 123, American Flamingo; *Phaenicopterus ruber*. Once seen. 124, Whistling Swan; *Cygnus americanus*. Only one specimen recorded. 125, Snow Goose; *Anser hyperboreus*. Very rare. 126, Canada Goose; *Branta canadensis*. Occasionally seen. 127, Mallard; *Anas boschas*. Very rare. 128, Black Duck; *Anas obscura*. Not uncommon in winter. 129, Pintail; *Dafila acuta*. Rare. 130, Gadwall; *Chaulelasmus streperus*. Very rare. 131, American Widgeon; *Mareca americana*. Occasionally seen. 132, Green-winged Teal; *Querquedula carolinensis*. Rare. 133, Blue-winged Teal; *Querquedula discors*. Common at times. 134, Shoveller; *Spatula clypeata*. A single specimen recorded. 135, Summer Duck; *Aix sponsa*. Only one specimen recorded. 136, Lesser Scaup; *Fuligula affinis*. Very rare. 137, Ring-necked Duck; *Fuligula collaris*. One specimen recorded. 138, Canvas-backed Duck; *Fuligula vallisneria*. Very rare. 139, Golden-eye; *Bucephala clangula*. Not uncommon. 140, Buffle-headed Duck; *Bucephala albeola*. Rare. 141, Surf Scoter; *Ædemia perspicillata*. Rare. 142, Ruddy Duck; *Erismatura rubida*. Very rare. 143, Goosander; *Mergus merganser*. Only once seen. 144,

Red-breasted Merganser; *Mergus serrator*. One specimen recorded. 145, Hooded Merganser, *Mergus cucullatus*. Rare. 146, Booby Gannet; *Sula fiber*. Rare. 147, Brown Pelican; *Pelecanus fuscus*. Very rare. 148, Double-crested Cormorant; *Graculus dilophus*. Not uncommon. 149, Frigate Bird, *Tachypetes aquilus*. Rare. 150, Tropic Bird; *Phaeton flavirostris*. Very common; breeds. 151, Great black-backed Gull; *Larus marinus*. Rare. 152, Herring Gull; *Larus argentatus*. Rather common. 153, Ring-billed Gull; *Larus delawarensis*. One specimen recorded. 154, Kittiwake; *Larus tridactylus*. Not uncommon. 155, Laughing Gull; *Larus atricilla*. Rare. 156, Bonaparte's Gull; *Larus philadelphia*. Rare. 157, Sabine's Gull; *Xema sabinei*. One specimen recorded. 158, Gull-billed Tern; *Sterna anglica*. One specimen recorded. 159, Common Tern; *Sterna hirundo*. Rare. 160, Roseate Tern; *Sterna paradisæa*. Rare. 161, Sooty Tern; *Sterna fuliginosa*. Very rare. 162, Noddy Tern; *Anous stolidus*. One specimen recorded. 163, Wilson's Petrel; *Oceanites oceanica*. Not uncommon at a distance from shore. 164, Wandering Shearwater; *Puffinus major*. Very rare. 165, Manx Shearwater; *Puffinus anglorum*. One specimen recorded. 166, Dusky Shearwater; *Puffinus obscurus*. Very rare. 167, Horned Grebe; *Podiceps cornutus*. Rare. 168, Pied-billed Grebe; *Podilymbus podiceps*. Rare. 169, Little Auk; *Mergulus alle*. One specimen recorded.

[For a more detailed account of the habits, haunts,

&c., of [most of the preceding species, see the author's "Naturalist in Bermuda."]

REPTILIA.

The terrestrial reptiles of the Bermudas are restricted to a single species, commonly known on the islands as "lizard" (*Plestiodon longirostris*, Cope.) It is a harmless little creature; rarely seen except in summer time, when it delights to bask in the hot rays of the semi-tropic sun. Of snakes there are none; so the visitor may ramble through marsh and thicket without fear. In the shore waters are occasionally taken two species of turtle; the common turtle (*Chelonia mydas*) and the Hawk's-bill (*C. imbricata*).

PISCES.

About an island formation occurring as that of Bermuda does, in the midst of the ocean near the eastern confine of the Gulf Stream; it will be no surprise to the visitor to learn that the shore waters teem with fishes of many species; chiefly partaking of a tropical character. Fine sport may be had in fishing from a boat almost at any spot within the reefs; but there are particular localities known only to the fishermen, where the edible species are more readily obtained. The author has secured the following species to the present date; nearly all of which have been placed in the collection of the British

Museum.* The nomenclature is that of Dr. Albert Gunther, F. R. S., in his notable work entitled "Catalogue of Fishes."

1, Squirrel; *Holocentrum longipinne*. Very common. 2, Hamlet-Grooper; *Serranus striatus*. Very common. 3, Yellow nigger-fish; *S. coronatus*. Not uncommon. 4, Red Nigger-fish; *S. outalibi*. Not uncommon. 5, Black Rock-fish; *S. apua*. Common, attaining a weight of 120 lbs. or more. 6, Salmon Rock-fish; *S. undulosus*. Not common. 7, Phæbe; *Plectropoma puella*. Very common. 8, Yellow-tail; *Mesoprion chrysurus*. Common. 9, Gray Snapper; *M. griseus*. Common. 10, Red Snapper; *M. aya*. Common. 11, *Priacanthus macrophthalmus*. Rare. 12, *Apogon imberbis*. Rare. 13, Soap-fish; *Rhypticus saponaceus*. Very common. 14, Streaked Grunt; *Hæmulon macrostoma*. Common. 15, Yellow Grunt; *H. xanthopteron*. Common. 16, Striped Grunt; *H. quadrilineatum*. Identified by Mr. G. Brown Goode. 17, *H. chrysopteron*. Identified by Mr. Brown Goode. 18, Red Mullet; *Mullus barbatus*. Common. 19, Bream; *Sargus argenteus*. Very common. 20, Rainbow; *S. rondeletii*. Not uncommon. 21, *Chrysophrys calamus*. Not uncommon. 22, Chub; *Pimblepterus boscii*. Common on south shore at particular seasons. The best edible fish

*An esteemed friend of the author, Mr. G. Brown Goode, Assistant Curator, Smithsonian Institution, Washington; has recently published (Bulletin of the U. States National Museum; No. 5,) a very interesting pamphlet of eighty-two pages, giving a detailed account of 72 species of Bermudian fishes procured by himself in 1872.]

taken in 'Mudian waters. 23, *Chaetodon capistratus*. Very rare. 24, Angel fish; *Holacanthus ciliaris*. This brilliantly coloured fish is not uncommon. 25, *Holacanthus tricolor*. Very rare. 26, *H. bimaculatus*. Common. 27, Prickly Hind; *Scorpaena plumieri*. Very rare. 28, Bat fish; *Dactylopterus volitans*. Rare. 29, Sennett; *Sphyrena vulgaris*. Very common in autumn. 30, Barracuta; *S. picuda*. Common. 31, Cat Fish; *Thyrsites prometheus*. Not uncommon. 32, Frigate Mackerel; *Auxis rochei*. Not uncommon. 33, Pilot Fish; *Naucrates ductor*. Authorized by Mr. Goode. 34, Dolphin; *Coryphæna pelagica*. Very rare. 35, *C. hippurus*; authorized by Mr. Goode. 36, C. ———?; species undetermined in Mr. Bartram's collection. 37, Round Robin; *Caranx punctatus*. Very common. 38, Goggler; *C. crumenophthalmus*. Very common. 39, *C. dentex*. Common. 40, *C. carangus*. Common. 41, Jack; *C. chrysas*. Common. 42, Bonito; *Seriola dumerilii*. Not uncommon. 43, *S. zonata*. Rare. 44, Alewife; *Trachynotus ovatus*. Not uncommon. 45, Molly Miller; *Gobius soporator*. Very common in the rock pools at low water. 46, Marbled Angler; *Antennarius marmoratus*. Rare; generally found in masses of gulf weed. 47, *Blennius crinitus*. Very common in rock pools with 45. 48, *Salarias textilis*; authorized by Mr. Goode. 49, *Clinus nuchipinnis*. Common. 50, *Centronotus* — — —? A species undetermined. 51, *Regalecus g'adius*. One example only of this fish ever taken. It was the

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largest specimen of its kind known to naturalists; measuring nearly seventeen feet in length. 52, Tang; *Acanthurus cæruleus*. Common. 53, *A. chirurgus*; authorized by Mr. Goode. 54, *Mugil liza*; authorized by Mr. Goode. 55, *Centriscus* ——? A species undetermined. 56, *Fistularia serrata*. Very rare. 57, *Aulostoma coloratum*. Rather rare. 58, Cow Pilot; *Glyphidodon cælestinus*. Very common; in rock pools with 45 and 47. 59, *Lachnolaimus falcatius*; authorized by Mr. Goode. 60, Mulatto. Blue-fish; *Cossyphus rufus*. Not common. 61, Slippery Dick; *Platyglossus bivittatus*. 62, *P. cyanostigma*. Not common. 63, *Chærojulis radiatus*; authorized by Mr. Goode. 64, Blumber; *Scarus eatseyi*. Not uncommon. 65, *S. radians*; authorized by Mr. Goode. 66, Scotch Porghy; *Pseudoscarus sanctæ-crucis*. Common. 67, *P. psittacus*. Not common. 68, *P. superius*. Not common. 69, *P. cæruleus*; authorized by Mr. Goode. 70, *Gerres gula*; authorized by Mr. Goode. 71, *Diapterus Lefroyi*; nov. sp. described by Mr. Goode. (Amer. Journ. Sc. and Arts, vol. viii, Aug. 1874.) 72, *Chætodon bimaculatus*. Not uncommon. 73, *Lefroyia bermudensis*; nov. sp. described by the author (Zoologist Sec. Series, No. 100.) 74, *Brotula barbata*. Very rare. 75, Plate Fish; *Rhomboidichthys lunatus*. Rare. 76, *Hemirhombus aramaca*. Very rare. 77, Snake; *Saurus fætens*. Common. 78, *S. myops*. Common. 79, *S. griseus*; authorized by Mr. Goode. 80, Ballahoo; *Belone hians*. Common. 81, Half-beak;

Hemiramphus pleii. Very common. 82, Flying Fish; *Exocætus lineatus*; authorized by Mr. Goode. 83, *Exocætus* ———? A species undetermined. 84, Marsh Mullet; *Fundulus bermudæ*; nov. sp. obtained by the author and described by Dr. Gunther (Annals & Mag. Nat. Hist. Series 4, vol. xiv. 1874.) 86, Gold Fish; *Carassius auratus*. Common in the marshes. 87, *Oreynus alliteratus*; authorized by Mr. Goode. 88, Hog-mouth Fry; *Engraulis chærostomus* nov. sp. described by Mr. Goode (Amer. Journ. Sc. and Arts, vol. viii. 1874.) 89, Anchovy; *Clupea anchovia*. Very common. 90, Herring; *Clupea thrissa*. Very common. 91, Pilchard; *Clupea macrophthalma*. Very common. 92, Bone Fish; *Albula conorkynchus*. Not common. 93, Terpum; *Megalops thrissoides*. Very rare. 94, *Ophichthys acuminatus*. Rare. 95, Marsh Eel; *Anguilla bostoniensis*; authorized by Mr. Goode. 96, Small yellow-spotted Moray; *Muraena miliaris*. Common. 97, Conger; Calico Moray; Green Moray; *M. maculipinnis*. Very common. 98, Speckled Moray; *M. moringa*. Common. 99, *M. catenata*. Very rare. 100, *M. sanctæ-helænae*. Not uncommon. 101, *Syngnathus Jonesii*. Rare. 102, Sea Horse; *Hippocampus antiquorum*. Not uncommon. 103, Ocean Turbot; *Balistes maculatus*. Not uncommon. 104, *B. capriscus*.; authorized by Mr. Goode. 105, *Monacontus aurantiacus*. Very rare. 106, *M.* ———? A species undetermined. 107, *M.* ———? Another species undetermined. 108, *M. scriptus*; authorized

by Mr. Goode. 109, Cuckhold; *Ostracion triqueter*. Common. 110, *O. trigonus*. Very rare. 111, Cow Fish; *O. quadricornis*. Common. 112, Puff Fish; *Tetrodon rostratus*. Not uncommon. 113, Hedgehog; *Diodon hystrix*. Not uncommon. 114, *D. maculatus*. Very rare. 115, *Chilomycterus reticulatus*; authorized by Mr. Goode. 116, Sturgeon; *Acipenser sturio*. Only one specimen ever taken, 1863. 117, Dog Fish; *Carcharias obscurus*. Very common. 118, Hammer-head Shark; *Xygaena* —? Not uncommon. 119, 120, Two species undetermined. 121, Whip Ray; *Actobatis narinari*. Not uncommon.

MOLLUSCA.

The molluscan fauna of the Bermudas is almost wholly Caribbean. The terrestrial and fluviatile species number 22, which is probably near their limit, as the restricted land area has been well searched. The marine number 89 species; but as the dredge has never yet been used to any extent, this amount might be considerably augmented. In publishing the following list, which is corrected to date, the author desires to express his grateful acknowledgements to Mr. Thomas Bland of New York, who has materially assisted him in identifying the terrestrial and fluviatile forms, and whose great experience in that branch of conchological science renders the catalogue eminently trustworthy. The marine forms, with the exception of recent additions, were identified by Mr.

C. B. Adams, the well known conchologist, at the request of the author's lamented friend the late Mr. Hugh Cuming, F. L. S.

1, *Spirula peronii*. Not uncommon. 2, *Strombus gigas*. Common in deep water. 3, *Hemifusus morio*. Rare. 4, *Pisania bilivatum*. Rock pools; rare. 5, *P.* ———? nov. sp. 6, *Triton lanceolatus*. Rare. 7, *T. pilearis*. Rare. 8, *T. variegatus*; "Queen Conch." Common. 9, *T. chlorostoma*. Rare. 10, *Fasciolaria distans*. Rare. 11, *Nassa ambigua*. Common. 12, *Purpura deltoidea*. Common about the rock pools at low water. 13, *P. undata*. In similar places. 14, *Dolium perdia*. Common in sandy bays. 15, *Columbella mercatoria*. Very common, sandy beaches. 16, *C. cribraria*. Very common, sandy bays. 17, *Oliva reticulata*. Not uncommon, sandy bays. 18, *O. bullula*; "Rice Shell" common on sandy beaches. 19, *Conus mus*. Rare. 20, *Marginella avena*. Common on sandy beaches. 21, *Cypræa cinerea*; Somerset bays. 22, *C. quadri-punctata*. Common in sandy bays. 23, *C. cervus*. Not common. 24, *Ovulum gibbosum*. Not uncommon on *gorgonia* fronds about the reefs. 25, *Natica canrena*. Not common. 26, *N. marcehiensis*. Not common, sandy bays. 27, *Cerithium nigrescens*. common in rock pools. 28, *C. erienne*. common. 29, *C. literatum*. Not common. 30, *Pyrazus albitatum*. Common under stones at low water. 31, *Scalaria coronata*. Not common, sandy bays. 32,

Littorina muricata. Common on rocks above high water mark. 33, *L. dilatata*. Common in similar situations. 34, *L. ziczac*. Not uncommon on shore rocks. 35, *L. mauritiana*. Rare. 36, *L. scabra*. Common on roots of mangroves. 37, *Modulus lenticularis*. Common. 38, *Phorus agglutinans*. Rare. 39, *Litiopa atlantica*. Common under stones at low water. 40, *Rissoa micans*. Common. 41, *Nerita peloronta*; "Bleeding-tooth." Not common. 42, *N. versicolor*. Common on shore rocks above high water mark. 43, *N. tessellata*; "Willock." Very common, rock pools at low water. 44, *Neritina viridis*. Not uncommon under stones at low water. 45, *Turbo pica*. Dead shells very common; frequently found tenanted by hermit crabs far above high water mark. 46, *Imperator calcar*. Rare. 47, *Ianthina communis*. Common at times. 48, *Fissurella barbata*. Common. 49, *F. firmata*. Common, sandy bays. 50, *Gadinia mamonillaris*. Rare. 51, *Siphonaria brunnea*. Very common. 52, *Chiton squamosus*. Very common, under stones at low water. 53, *Hyalina ochrolenca*. Rare. 54, *H. bermudensis*. Very common. 55, *H. bermudensis*, var. *Nelsonii*, Bland (semi-fossil.) 56, *H. Reiniana*. Rare. 57, *H. circumfirmata*. Common. 58, *H. discrepans*. Rare. 59, *Helix vortex*. Not common. 60, *H. hypolepta*. Rare. 61, *H. pulchella*. Not common. 62, *H. microdonta*. Very common everywhere. 63, *H. ventricosa*. Not uncommon. 64, *H. appressa*. Only one locality, near St. George's, known to Mr,

Bartrami. 65, *Cionella acicula*. Very rare. 66, *Pupa fallax*. Rare. 67, *P. pellucida*. Rare. 68, *P. jamaicensis*. Rare. 69, *Succinea fulgens*. Not common. 70, *S. bermudensis*. Common. 71, *S. margarita*. Not common. 72, *Bulimus ventrosus*. Very common. 73, *Helecinia convexa*. Common. 74, *Truncatella subcylindrica*. Not common. 75, *T. pulchella*. Rare. 76, *Melampus Redfieldii*. Common on the borders of mangrove swamps. 77, *Pedipes tridens*. Not uncommon. 78, *Alexia bermudensis*. Common under stones, borders of mangrove swamps; 79, *Bulla physis*. Rare. 80, *B. nitidula*. Common. 81, *B. punctulata*; muddy bays, common. 82, *Aplysia* ———? "Sea Cat." Common at low water mark. 83, *Doris* ———? There are several beautiful species, none of which have yet been identified. 84, *Placunomia* ———? on shells of *Meleagrina placunoides*. 85, *Pecten ziczac*; "Scallop." Common in certain localities. 86, *P. gruneri*. Rare. 87, *Lima fragilis*. Rare. 88, *Spondylus ustulans*; fine specimens may be detached from the coral reefs. 89, *S. ericinus*; in similar places. 90, *Avicula atlantica?* Rare, on gorgonia stems. 91, *Meleagrina placunoides*; "Oyster." Common in muddy bays, attached to sticks, &c. Some handsome pearls are occasionally found inside the valves. 92, *Perna ephippium*. Very common, attached to mangrove roots; &c. Pearls are sometimes found in the valves, of these shells also. 93, *Pinna rudis*. Common in muddy bays. 94, *Mytilus domingensis*; "Black

Shell." Very common in crevices of the rocks at low water. 95, *Modiola tulipa*. Very common in sandy beaches. 96, *Arca noæ*. Very common about the beaches. 97, *A. americana*. Common, sandy beaches. 98, *A. gradata*. Common under stones at low water. 99, *Chama macropkylla*. Common under stones at low water. 100, *C. lingua-felis*. Common in similar places. 101, *Cardium serratum*. Common, sandy beaches. 102, *C. cygnorum*. Rare. 103, *Lucina tigrina*. Common, sandy beaches. 104, *L. domingensis*. Rare. 105, *Loripes chlorostoma*. Rare. 106, *Venus cancellata*. Rare. 107, *Venus crenifera*. Rare. 108, *Tellina lævigata*. Common, sandy beaches. 109, *T. magna*. Common, sandy beaches. 110, *T. radiata*. Common, sandy beaches. 111, *T. interrupta*. Not uncommon. 112, *Capsa spectabilis*. Common at low water; Flatts harbour. 113, *Semele* ———? Common; Flatts harbour. *S.* ———? Rare; sandy beaches. 114, *Solecurtius* ———? Common; Somerset bays. 115, *Pholas striata*; in drift timber.

TUNICATA.

Several species yet undetermined.

INSECTA.

The insect fauna has evidently been derived chiefly from the southern states of America; although there are isolated examples of European and also Caribbean types, which point to the transportation of

seeds and plants from those quarters as their probable mode of introduction. The author feels deeply indebted to Professor Scudder of Harvard University, Cambridge, Massachusetts, for the generous assistance he has given in determining the Orthoptera, and in procuring the revision of the remaining orders by those well known American entomologists E. P. Austen (Coleoptera) Dr. H. Hagen (Neuroptera) Dr. A. S. Packard (Hymenoptera) H. K. Morrison (Lepidoptera) Professor Uhler (Hemiptera) Baron Osten Sacken (Diptera).

The late Mr. Francis Walker of the British Museum also kindly identified several species. The list corrected to date is as follows:—

COLEOPTERA. (E. P. Austen) (Adam White, F.L.S.)
(Francis Walker.)

- 1, *Cicindela tortuosa*. Very common in summer.
- 2, *Pristonychus complanatus*. Common.
- 3, *Platynus cincticollis*. Not common.
- 4, *P. punctiformis*. Not common.
- 5, *Agonoderus lineola*. Common.
- 6, *Thermonectes ornatocollis*. Common.
- 7, *Creophilus villosus*. Not common.
- 8, *Aphodius ruricola*. Rare.
- 9, *A. fimetarius*. Rare.
- 10, *Trox scaber*. Rare.
- 11, *T. suberosus*. Rare.
- 12, *Ligyris juvenicus*; "Hardback." The most common beetle on the islands.
- 13, *Buprestis decora*.
- 14, *Agriotes* ———? Common.
- 14, *Opatrinus* ———? Very common.
- 15, *Blapstinus metallicus*. Rare.
- 16, *Phaleria testacea*. Very rare.

17, *Hymenorus obscurus*. Rare. 18, *Lepyrus* —? Common in summer time. 19, *Calandra oryzae*. Rare.

His Excellency the Governor has recently introduced the American fire fly *Photuris* which we hope will survive to increase the meagre coleopteran fauna.

HYMENOPTERA. (A. S. Packard.) (Adam White, F. L. S.)

1, *Apis mellifica*; "Honey Bee." Common. 2, *Vespa vulgaris*. Rare. 3, *Polistes canadensis*; the most common insect of the order. 4, *Pelopæus flavipes*; "Mason Wasp." Common in summer. 5, *P. cæruleus*. Not common. 6, *Pompilus* —? Rare. 7, *Angochlora* —? Rare. 8, *Formica* —? Very common; probably two species. 9, *Evania lævigata*. Not uncommon. 10, *Ichneumon* —? Not uncommon. 11, *Ophion* —? Common.

LEPIDOPTERA. (H. K. Morrison.) (Francis Walker.)

1, *Terias lisa*; occasionally observed, and at intervals of years visiting the islands in flocks of countless myriads. 2, *Colias phylodice*. Very rare. 3, *Danaïda plexippus*; "Bermuda butterfly." Very common. 4, *Anosia berenice*. Rare. 5, *Vanessa antiopa*. Very rare; one specimen seen by Mr. Hurdle at Hamilton. 6, *V. Io*; only one specimen taken by Canon Tristram in 1848. 7, *V. polychloros*;

one specimen; Canon Tristram. 8, *Pyrameis atalanta*. Rare. 9, *P. cardui*. Common. 10, *Juno-nia cænia*; the most common butterfly on the islands. 11, *Hipparchia andromache*. One specimen; Canon Tristram. 12, *Macrocila cingulata*; "Musk." Common. 13, *Sphinx argentata*; taken by Canon Tristram. 14, *Cherocampa tersa*; "Tobacco Musk." Common. 15, *Agrotis malefida*. Not uncommon. 16, *A. suffusa*. Common. 17, *A. incivis*. Not common. 18, *A. annexa*. Not common. 19, *Prodenia cammelina*. Rare. 20, *Bernigea latipes*. Common. 21, *Leucania unipunctata* (image of the "Army Worm" of North America). Common. 22, *Phile-reme albosignata*. Not common. 23, *Nemophila noctuella*. Very common. 24, *Lycomorpha pholas*. Rare. 25, *Deiopeia bella*. Common. 26, *Botys lycernalis*. Abundant; Canon Tristram.

DIPTERA. (Baron Osten Sacken.)

1, *Trypeta humilis*. 2, *Syrphus obliquus*. Common. 3, *Chaetopsis aena*. 4, *Tetonocera pictipes*. 5, *Dilophus* ——— sp. 6, *Incellia fucorime*. 7, *Dicranomyia distans*. ——— Mr. Walker adds. 8, *Sarcophaga rubida*. Common. 9, *Anthomyia lepida*. Not uncommon; to which must be added, 10, *Pulex irritans*; "Flea." As common as in other countries. 11, *P. penetrans*; "Jigger." Common.

HEMIPTERA. (Professor Uhler.) (Adam White,
F. L. S.)

- 1, *Pangaeus bilineatus*. 2, *Banasa euchlora*. 3, *Aulacoatethus simulans*. 4, *Corisus hyalinus*. 5, *Ormenis pruinosa*. 6, *Coclidia olitoria*. 7, *Cicada* — sp. 8, *Rhaphigaster prasinus*. 9, *R. cydnus*. 10, *Cimex lectularius*.

ORTHOPTERA. (Professor Scudder.)

- 1, *Gryllus* — sp. Common in sandy places. 2, *Conocephalus* — sp. Very common. 3, *Stenobothrus bilineatus*. 4, *Panchlora surinamensis*. 5, *Periplaneta americana*. 6, *Labidura riparia*. 7, *Forcinella maritima*. 8, *Ceratoptera diaphana*. We can also add. 9, *Ædipoda carolina*. Common.

NEUROPTERA. (Dr. H. Hagen.)

- 1, *Anax junius*. Common. 2, *Mesothemis longipennis*. Common. 3, *Tramea abdominalis*. Not uncommon. 4, *Agrion hastatum*. Not uncommon. 5, *A. iners*. Not uncommon. 6, *Hallesus maculipennis*. Rare. 7, *Myrmeleon* — sp. (probably new.) 8, *Æschna* — sp. 9, *Lepisma* — sp.

ARACHNIDA.

Several species of spiders have been collected by the author but only one is yet identified *Nephila plumipes* "Silk Spider" which is very common throughout the cedar groves.

CRUSTACEA.

As several species in the author's collection remain undetermined, and his present list (about 30 species) not having been thoroughly revised, he refrains from publishing it. It may be well, however, to identify the more prominent forms, which almost daily present themselves to the notice of the visitor. The common crab which runs over the rocks about the shore is *Grapsus pictus* a well known West Indian form. The gaily mottled crab called "Turtle crab" or "Box Crab" from its habit of folding up its legs close to the carapace is *Oalappa marmorata*; while the prettily variegated "lobster" of Bermuda is *Palinurus americanus*.

RADIATA.

As may well be imagined from the accumulation of specimens coming under this head, which now await the study of the adept in each class, it is impossible to give a satisfactory list at present. The polyps, however, having naturally attracted more attention by their curious forms, we can enumerate all those now known as Bermudian.

Of corals we have, 1, *Isophyllia dipsacea*. Very common, even in rock pools at low tide. 2, *Diploria cerebriformis*; "Brainstone." Very common; specimens three feet in diameter can be seen within the reefs. 3, *Oculina diffusa*. Very common on every

reef. 4, *O. varicosa*. Not common; a lovely species, having the cells protrudant. 5, *O. valenciennesii*. Rare. 6, *Siderastræa radians*. Very common in rock pools. 7, *Mycedium fragile*. Common under shelving rocks. 8, *Porites clavaria*. Not uncommon. 9, *P.* ——— sp. Very common in rock pools. 10, *Millepora alcicornis*; the most common reef coral.

The Alcyonarian polyps are represented by four species of *Gorgonidæ*. 1, *Gorgonia flabellum*; "Sea Fan." Very common. 2, *Plexaura crassa*. Common. 3, *Plexaura flexuosa*; "Sea Rod." Very common. 4, *Pterogorgia americana*; "Prince's Feather." Very common.

There are many pretty species of sponges, which the visitor will find stray portions of on the shores after every gale; and also numberless forms included under the above head, which if collected and placed in museums, might be the means of increasing the present knowledge of the marine invertebrates of the Bermudas.

BOTANY.

We are sorry that the limits of this little guide book will not allow of more than a list of those trees, shrubs and plants which generally come under the notice of the visitor. For a more detailed description of the vegetation of the islands the reader may consult the author's pamphlet recently published (Botany of Bermuda; pp. 43, 1874.) The more common trees and shrubs are as follows; the local names being placed alphabetically for easy reference.

- Avocada Pear; *Persea gratissima*.
- Bamboo; *Agave americana*.
- Banana; *Musa sapientum*.
- Burning-bush; *Peinsettia pulcherrima*.
- Button-wood; *Cephalanthus occidentalis*.
- Calabash; *Crescentia cujete*.
- Cedar; *Juniperus barbadensis*.
- Coffee; *Coffea arabi*.
- Coral tree, or Physic Nut; *Jatropha multifida*.
- Fiddle-wood; *Citharexylum quadrangulare*.
- Grape-fruit; *Citrus racemosus*.
- India-rubber tree; *Ficus elastica*.
- Lemon; *Citrus limonum*.
- Lime; *Citrus limetta*.
- Mangrove; *Rhizophora mangle*.
- Oleander; *Nerium oleander*.

Orange ; *Citrus aurantium*.
 Palmetto ; *Sabal palmetto*.
 Papaw ; *Carica papaya*.
 Physic Nut ; *Jatropha multifida*.
 Plantain ; *Musa paradisiaca*.
 Pride of India ; *Melia azedarach*.
 Red Sage bush ; *Lantana camara*.
 Sage bush ; *L. odorata*.
 Sago Palm ; *Cycas revoluta*.
 Sea Lavender ; *Suriana maritima*.
 Sea-side Grape ; *Cocoloba uvifera*.
 Shaddock ; *Citrus decumanus*.
 Spruce ; *Tamarix gallica*.

The common plants and weeds are :—

Arrow-root ; *Maranta arundinacea*.
 Bay-bean ; *Canavalia obtusifolia*.
 Clover ; *Medicago lupulina*.
 Crab-grass ; *Stenotaphrum americanum*.
 English Plantain ; *Plantago major*.
 Great Marsh Fern ; *Acrostichum aureum*.
 Life Plant ; *Bryophyllum calycinum*.
 Melilot ; *Melilotus officinalis*.
 Prickly Pear ; *Opuntia tuna*.
 Ribwort ; *Plantago lanceolata*.
 Rush, Large Marsh ; *Juncus maritimus*.
 Silk-weed ; *Asclepias curassavica*.
 Tittimelly ; *Euphorbia peplus*.
 Vervain ; *Stachytarpha jamaicensis*.
 Wire-weed ; *Sida carpinifolia*.

MARINE ALGÆ.

As the collection of sea-weeds has always been a favourite amusement among visitors to the sea side, we can safely assure those who intend making a trip to Bermuda, that they will find ample facilities for procuring many beautiful examples of those interesting forms; for wherever their walks may lead them about the 'fairy isles,' the routes traversed will rarely fail to bring them in close proximity to the shore; where either on the rocky ledges of some retired inlet, or the glistening shelly beach of a sandy bay, they can pass hours of intellectual enjoyment, fanned by the balmy ocean breeze, or warmed by the genial rays of the pleasant southern winter's sun, and they will assuredly find that

“ Each rock pool has its treasure, every tide
 Strews on the yellow sand, from Ocean's lap,
 Weeds, than our flowers more fair, and fitted more,
 By Lady's gentle fingering displayed,
 To beautify the album's tasteful page,
 Than aught that deffest pencil e'er devised
 Of graceful symmetry, or lovely hue:
 For who can paint like Nature “ quoth the Bard.”

Dr. Rein, late president of the Senekenberg Society, Frankfort on Maine, (a valued friend of the author's) made during a two years residence on the islands, a very complete collection of the sea-weeds which has been added to by the Revd. Professor Kemp, of Galesbury, Illinois, who has very kindly furnished us with a revised list, for which we tender our best thanks.

- 1, *Sargassum vulgare*. 2, *S. bacciferum*. 3, *S. lendigerum*, var. *fusifolium*. 4, *S. linifolium*. 5, *Fucus ceranoides*. 6, *F. distichus*. 7, *Sporochnus pedunculatus*. 8, *Haliseris polypodioides*. 9, *Zonaria parvula*. 10, *Taonia atomaria*. 10, *Dictyota dichotoma*. 11, *D. fasciola*. 12, *D. ciliata*. 13, *D. Bartayresiana*. 14, *D. intricata*. 15, *Asperococcus sinuosus*. 16, *Mesogloia vermicularis*. 17, *M. virescens*. 18, *M. Griffithsiana*. 19, *Ectocarpus* — sp. 20, *Acanthophora Thierii*. 21, *Digena simplex*. 22, *Polysiphonia fibrillosa*. 23, *P. elongata*. 24, *P. nigrescens*. 25, *Bostrychia scorpioides*. 26, *B. montagneri*. 27, *Dasya elegans*. 28, *D. mucronata*. 29, *D. pediculata*. 30, *Laurencia obtusa*. 31, *L. papillosa*. 32, *L. scoparia*. 33, *L. gemmifera*. 34, *Corallina officinalis*. 35, *Botryoglossum platycarpum*. 36, *Gracilaria multipartita*. 37, *G. confervoides*. 38, *G. armata*. 39, *G. divaricata*. 40, *Gelidium corneum*. 41, *G. rigidum*. 42, *G. abnorme*. 43, *Eucheuma isiformis*. 44, *Wardemania setacea*. 45, *Hypnœa musciformis*. 46, *Helminthora divaricata*. 47, *Liagora pulverulenta*. 48, *L. valida*. 49, *Chrysiomenia uvaria*. 50, *Sphyridia filamentosa*. 51, *Ceramium nitens*. 52, *Wrangelia penicillata*. 53, *Rhodymenia palmata*. 54, *R. laciniata*. 55, *Centroceras clavulatum*. 56, *Alsidium Blodgettii*. 57, *Gigartina Tedii*. 58, *Chondrus crispus*. 59, *Chylocladia rosea*. 60, *Chrysiomenia Halymenioides*. 61, *C. uvaria*. 62, *Gloiosiphonia capillaris*. 63, *Cryptonesmia erenulata*. 64, *Asparagopsis Dclilci*. 65, *Galaxaura fastigiata*.

66, *A*
Codium
tosum
B. h
C. lat
C. gr
81, *E*
Ulva
U. fa
phaeria
Penic
mexico
C. er
97, *U*
Acelab
101,
103, *A*

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- 66, *Sanira cubensis*. 67, *Amphirva debilis*. 68, *Codium amphibium*. 69, *C. bursum*. 70, *C. tomentosum*. 71, *C. adhaerens*. 72, *Bryopsis plumosa*. 73, *B. hypnoides*. 74, *Cladophora membranacea*. 75, *C. latiorius*. 76, *C. luteola*. 77, *C. pellucida*. 78; *C. gracilis*. 79, *C. glaucescens*. 80, *C. glomerata*. 81, *Enteromorpha geniculata*. 82, *E. ramulosa*. 83, *Ulva latissima*. 84, *U. lactuca*. 85, *U. linza*. 86, *U. fasciata*. 87, *Anadyomene stellata*. 88, *Dictyosphaeria intricata*. 89, *Blodgettia confervoides*. 90, *Penicillus capitatus*. 91, *Caulerpa plumaris*. 92, *C. mexicana*. 93, *C. prolifera*. 94, *C. clavifera*. 95, *C. ericifolia*, var. *uvifera*. 96, *Udotea flabellata*. 97, *U. conglutinata*. 98, *Halimeda opuntia*. 99, *Acetabularia erenulata*. 100, *Dasycladus occidentalis*. 101, *Lyngbia majuscula*. 102, *Derbesia marina*. 103, *Porphyra vulgaris*, var. *laciniata*.

It would be needless to inform the amateur algologist, that if he desires to form a complete collection of Bermudian sea-weeds, he will have to secure the services of a boatman to take him out to the reefs, where he will find some of the rarer and more beautiful forms; but as such visits are usually beset with difficulties, which will be looked upon by those unaccustomed to boating in troubled waters, as absolute dangers; he will very probably content himself with investigating the shore rocks, beaches, and tidal pools; many of which present themselves at every turn, and about which he will be able to

secure specimens of at least two thirds of the species above enumerated. Should he desire to consult a standard work on the sea-weeds of the east coast of N. America, he will find Professor Harvey's excellent volumes published by the Smithsonian Institution all that could be desired. A copy will be found in the Public Library.

NOTE. — The author having made the Natural History of the Bermudas his special study for several years; it will afford him great pleasure, to give information to any who may be desirous of forming collections.

Address:—

THE HERMITAGE,
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BERMUDA.

Admi
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