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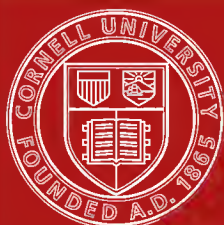
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Rough Notes and Memoranda

RELATING TO THE

Natural History of the Bermudas

BY THE LATE

JOHN L. HURDIS

FORMERLY

Controller of Customs and Navigation Laws in those Islands

EDITED BY HIS DAUGHTER

H. J. HURDIS

London :

R. H. PORTER

7, PRINCES STREET, CAVENDISH SQUARE, W.

1897.

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TO THE MEMORY OF
MY FATHER'S OLD FRIEND
THE LATE
COLONEL H. M. DRUMMOND-HAY
FORMERLY OF THE 42ND HIGHLANDERS
(THE CAPTAIN DRUMMOND SO FREQUENTLY MENTIONED IN THESE NOTES)
I DEDICATE THIS LITTLE WORK.

P R E F A C E.

IN giving these Notes to the public, I think it right to state that some of them have already appeared in a little work, entitled, "The Naturalist in Bermuda," by the late John Mathew Jones, published in 1859; Mr. Jones having first visited Bermuda in 1854.

Although my father landed in the Bermudas in October, 1840, it was not until September, 1846, that he really commenced his Notes on the natural history of the islands; the responsibilities of his office being very onerous during those first six years, he was then prevented. But in 1846, circumstances having changed, he was more at liberty to follow his own inclinations than hitherto.

The late Mr. Hunt Marriott, then an officer in the same department, being, like my father, imbued with a taste for natural science, observing that he thought it was a pity so little was known of the natural history of the islands, my father proposed an effort should be made to work it out; whereupon Mr. Marriott at once offered his assistance, saying he would do his best in collecting and describing the various forms of insect life, if my father would take the birds; and so far as my father individually was concerned, he continued it up to the period of his departure from Bermuda, in May, 1855.

The Notes now date back many years; but I can only hope that, like old wine, they may not prove to the natur-

alist the less palatable for age, more especially to those who may be now residing in Bermuda.

Many of those mentioned have long since gone to their rest, while the few that remain are known by other designations.

To the late Colonel H. M. Drummond-Hay (the Captain Drummond, whose name so often appears), my best thanks are due, as his kind encouragement and aid induced me to publish this little volume.

H. J. HURDIS.

SOUTHAMPTON,

January, 1897.

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ERRATA.

- Page 6, line 2, for " Buffet " read " Buffel."
- „ 8, „ 12, „ " virescons " read " virescens."
- „ 10, „ 4, 5 „ " Mariloides " read " Marilyides."
- „ 15, „ 15, „ " Fury " read " Ferry."
- „ 16, „ 5, *from bottom*, for " Simrus " read " Seiurus."
- „ 16, „ 4, „ „ „ " cencis " „ " censis."
- „ 27, „ 10, for " King " read " Ring."
- „ 29, „ 13, *from bottom*, for " Belled " read " Belted."
- „ 44, „ 6, for " King " read " Ring."
- „ 151, „ 10, „ " Buffet " read " Buffel."
- „ 153, „ 15, „ " Phaeton " read " Phæton."
- „ „ „ 15, *from bottom*, for " Phaeton " read " Phæton," and for
" Athereus " read " Æthereus."
- „ 154, „ 2, for " Phaeton " read " Phæton."
- „ „ „ 3, „ " Phaeton Athereus " read " Phæton Æthereus."
- „ „ „ 14, *from bottom*, for " Phaeton " read " Phæton."
- „ 184, „ 8, for " tinia " read " tinica."
- „ 243, „ 10, for " Brass " read " Barss."
- „ 252, „ 3, *from bottom*, for " Eagle " read " Horned."
- „ 268, „ 8, „ „ „ " heing " „ " been."
- „ 308, „ 9, „ „ „ " Shinz's " „ " Schinz's."
- „ 310, „ 10, for " Buffet " read " Buffel."
- „ 313, „ 10, „ " these " „ " those."
- „ 370, „ 12, „ " Innipha manihot " read " Manihot janipha."

PRELIMINARY REMARKS
ON THE PECULIAR AND HIGHLY INTERESTING CHARACTER
OF THE
ORNITHOLOGY OF THE BERMUDAS.

THE wonderful formation of this group of islands in the waters of the Atlantic, the distance which separates it from the shores of North America and the West Indies, and the existence, in so remote a spot, of various forms of animal life—*feræ naturæ*—are alone sufficient to excite astonishment in the mind of an observant naturalist; but, when he finds that ocean speck to be visited by birds of many *genera*, and oftentimes with unerring regularity of season; that others, in their periodical migrations from one region of the earth to another, pass over this miniature abode—sometimes in vast numbers—without heeding it; and others, again, appear to be driven there under accidental circumstances, his mind becomes aroused to the study of these phenomena, in order to understand clearly these mysteries of nature.

On looking round it will be found that seven species of birds¹ are resident throughout the year; these we shall term native birds. They consist of the Blue-bird, Cat-bird,

¹ Since increased to *nine*, by the introduction of the Virginian Quail and the domestic Sparrow of Europe.

Cardinal Grosbeak, American Crow, White-eyed Greenlet, Ground-dove, and common Gallinule or Moorhen. If you add to these four sea birds, which frequent the coast in the summer season, viz., the Common Tropic-bird, Common and Roseate Terns, and Dusky Shearwater, we shall have eleven species, all common to North America, known to breed in the Bermudas.

Beyond this, not a feather will be found, except during the season of migration—a negative fact which has cost no small amount of toil and industry to establish.

The remaining one hundred and twenty-eight birds included in the ornithology of the islands are chiefly migratory—the accidental visitors being few in number. Here, we meet with the Vulture and Falcon Tribes, the Owl, Caprimulgus, Swift, Swallow, and Fly-catchers ; with Warblers, Thrushes, Larks, and Finches ; with the Rice Bunting, Oriole, Shrike, Waxwing, Kingfisher, Woodpecker, Cuckoo, Dove, Gallinule, and Rail ; with Plover and Snipe, Herons, Bitterns, Ducks, Pelicans, Gulls, Petrels, and Grebes—all of them being birds of North America.

Three European birds have also been met with, which are said to be unknown to the American continent. In addition to this large number of birds—proved by specimens actually brought in—eight others are known to the ornithology of these islands, although no examples rewarded the exertions of resident ornithologists to obtain them, and the occurrence of four other birds is recorded on the reliable testimony of highly respectable individuals.

The ornithology of the Bermuda group will thus be found to extend to one hundred and fifty-one different birds, the whole number of which—whether native, migratory, or accidental—has, at one period or another—water-birds perhaps excepted—passed on the wing over the broad expanse of sea which separates those islands from

the world at large—a fact which should be constantly impressed upon the mind of the naturalist while reading these pages. We doubt if the annals of natural history have recorded anything on the migration of the feathered tribes at all to be compared with the observations here brought forward.

Let it not be supposed that the state of our knowledge concerning the Ornithology of the Bermudas at all approaches to completion ; on the contrary, there is ample scope for the labours of the scientific naturalist and the more humble observer of nature ; and, when we bear in mind that the present list of migratory and accidental visitors is the fruit of ten or twelve years' observation only, and that experience teaches us that few, if any, of the remaining American migrants, large or small, slow or feeble of wing, can be unequal to the over-sea flight—marvellous though it be—to those islands, we may confidently anticipate that birds, hitherto unknown to the group, will continue to reward the efforts of those who may have the energy to seek for them.

The domestic birds found in the Bermudas are the Peacock, Pintudo, Turkey, Common Fowl, Pigeons, Muscovy and Common Ducks, and an occasional brood of the Common Goose. With the exception of the latter, all these birds appear to thrive in the sunny climate of those isles, but the unhappy geese have a dusty and degenerate look about them, which sadly betrays the absence of fresh water ponds. A hybrid between the Muscovy and Common Duck is highly esteemed for the table.

The Yellow-crested Curascow Bird is occasionally met with as a domestic pet.

J. L. H.

ROUGH NOTES AND MEMORANDA
RELATING TO THE
NATURAL HISTORY OF THE BERMUDAS.

I have attempted to place upon record my rambles and other efforts, while endeavouring to throw light upon the Natural History of the Islands of Bermuda.

These notes, of course, will be found to include many little incidents of minor importance in themselves, whilst others, on the contrary, will be valuable in showing the true character of the Zoology of those Islands—the wonderful migration of many birds, of some animals, and the translation of insect life.

Taken as a whole, these observations will be found of real use to the student of Natural History ; coming as they do from a locality so isolated and far removed from the world at large.

April, 1841.—Examined a small Heron, answering to the description of the “Yellow Crowned Heron” of Wilson, but wanting the two long tapering plumes of the crown.

This bird had been shot the same morning, and was sent to Mr. Marriott by John Noble Harvey, Esq., Speaker of the House of Assembly.

September 11th, 1841.—Numerous flocks of Golden Plover (*Charadrius marmoratus*) and Sandpipers made their appearance in the neighbourhood of Hamilton last evening. They were heard by many persons during the night, and to-day every gun in the parish has been busy. Wind south, with heavy rain on both days. Went out with Mr. Marriott at 5 p.m., and killed three couple of Golden Plover. These birds are said to visit the Bermudas annually at this season.

February 19th, 1842.—Observed an Owl on the wing, about the size of the English Barn Owl.

September, 1842.—Plover very scarce in Bermuda.

September, 1844.—It is frequently said that Swallows are common in the Bermudas. Such may be the case in some seasons, although for the last four years and upwards I can safely say that I have seen nothing of the Swallow kind—not even a solitary Martin or Swift.

December, 1844.—Saw a couple of Blue-winged Teal (*Anas discors*, of Audubon). These beautiful birds were shot near Peniston's Ponds.

December, 1844.—Saw the head of a *female* Shoveller Duck (*Anas clypeata*, of Audubon), shot by Mr. C. Fozard.

May 24th, 1845.—When returning from the Admiral's residence I observed a large bird, which I took to be a Buzzard, soaring in repeated circles near the ruins of the old telegraph station.

About the latter part of last year I saw a beautiful specimen of the Buffet-headed Duck (*Fuligula albeola*) shot by Captain Lye, 20th Regiment.

September 11th, 1846.—The schooner "G. O. Bigelow" arrived this day from Halifax, N.S. The master, Edwin Jones, informs me that when off the east end of these islands, yesterday, hundreds of flocks of Plover were observed passing over the vessel to the southward, and that numerous flocks could be distinctly heard flying in the same direction at night.

On the *17th* and *18th* it blew a gale of wind from the S.E., S., and S.W. During the continuance of this tempest flocks of the Golden Plover and several kinds of the Plover and Sandpiper family alighted on every part of the Bermuda coast; even at the dockyard. Guns were immediately in requisition, and the birds persecuted and shot at in every direction. Many of them were killed, particularly the Golden Plover; the remainder disappeared soon after the gale subsided, and it is only reasonable to suppose that they continued their annual flight to the southward, happy to escape from the inhospitable reception they had met with in these islands.

October 11th, 1846.—Examined a specimen of the *Ortygometra carolinus*—Carolina Crake-Gallinule of Audubon, shot by Lieutenant Abbot, 20th Regiment. This bird is one of the marvels of American ornithology. Wilson states that its history is involved in profound mystery, inasmuch that no one knows from whence it comes, or where it goes. He quotes two instances of the bird being met with at sea, at distances of 100 and 300 miles from the American coast, from which he concludes that the

great body of those birds must winter in countries beyond the United States, and that Heaven has gifted them, "in common with many others," with instinctive judgment and strength of flight sufficient to seek a more genial abode during the winter season.

On the same day received a beautiful male specimen of the European Wheat-ear (*Saxicola œnanthe*), shot by Lieutenant Wood, 20th Regiment. Can find no mention of this bird, either in Wilson or the "Ornithology of the State of New York." Is this bird an inhabitant of the American Continent? If not, how are we to account for its appearance in the Bermudas? There is no mistake as to the identity of the bird, which agrees perfectly with Bewick's description of it. Tail feathers preserved.

Sergeant Perkins brought me the skin of a Tern recently killed by Dr. Cole, of the 20th Regiment. This bird is quite black on all its upper parts, from the head to the extremity of its very forked tail, wings included. Under parts pure white. In size it resembled the Common Tern of North America, but proved to be the *Sterna fuliginosa*, or Sooty Tern of Wilson.

Examined two specimens of the Sandpiper class (the *Tringa semipalmata* of Audubon and Wilson), not larger than the little Stint, of America, and very similar in plumage. The feet of these birds were black, and semi-palmated, or webbed.

Captain Fayrer, of the "Tenedos" hulk, tells me that during his residence in these islands (about three years), he has obtained two beautiful specimens of the Snowy Owl (*Surnia nyctia*) male and female, shot at Boss' Cove, the skins of which were sent to England. One of these birds had several rats in its crop when killed.

A specimen of the Harrier (*Circus cyaneus*) killed last year by Lieutenant Pooley, 20th Regiment, was found to have earthworms in its crop! Did necessity compel this bird of prey to adapt this mode of subsistence?

October 13th, 1846.—Saw a beautiful specimen of the *Falco columbarius*, or Pigeon Hawk, killed by Lieutenant Wood, 20th Regiment, and a specimen of the *Falco peregrinus*, or Great-footed Hawk, of Wilson, shot by Dr. Cole. As the span of this bird's foot did not exceed four and one-tenth inches, I consider it to be a male specimen.

Same day.—Examined a beautiful specimen of the *Ardea virescens*, or Green Heron, killed by Lieutenant Abbot, 20th Regiment. The tail of this bird was *not* tipped with white, in other respects the specimen agreed with Wilson's description.

October 30th, 1846.—Saw to-day a specimen of the *Sylvicola coronata*, or Yellow-crowned Wood Warbler. This little bird was shot by Dr. Cole, and was in its autumnal or winter plumage.

October 31st, 1846.—Examined a specimen of the Great American Shrike (*Lanius borealis*), shot in the marsh below Government House, by Dr. Cole. This is the first bird of the kind I have seen in the Bermudas.

Another Water Crake, or English Rail, was shown me by Mr. Abbot to-day.

During the dark or starlight nights of September and October, flocks of migratory birds are often distinctly heard in the Bermudas, piping or whistling their way to the southward, at a considerable elevation.

The American Bittern (*Ardea lentiginosa*) is not unfrequently to be met with in the marshes of Bermuda. I have seen several specimens of this bird, shot by my neighbours this autumn.

Two or three specimens of the young of the American Night Heron or Qua Bird (*Ardea nycticorax*) have also come under my observation lately, but I have never seen this bird in its full plumage! How is this to be accounted for?

November 1st, 1846.—Saw the skin of a Long-eared Owl (*Otus vulgaris*) that was shot at Gibbs Hill, and sent in to Dr. Cole by the sergeant there stationed.

November 24th, 1846.—Saw a specimen of the Grebe family, shot by Dr. Cole, 20th Regiment.

It measured fifteen and a half inches in length, and eighteen inches in breadth. Upper parts, brown; chin, breast, and belly, of a silvery white; the under side of the neck shaded with brown; feet, dark olive green and palmated; legs very flat. This bird is not described by Wilson; I consider it to be the *Podiceps cornutus* of Yarrell, or Horned Grebe of Audubon, in its winter plumage.

November 24th.—Examined a Duck which had been shot by Dr. Cole. It measured sixteen inches in length, twenty-six in breadth. Feet, dirty yellow, with brown webs; head, dark chestnut brown, darkest between the eyes and bill, somewhat tufted; belly and breast, white; back and wing coverts of the same, dark brown; secondaries, white; coverts above also mottled with white; neck, shaded with brown; bill, yellowish brown; legs, flat and placed far back. Is not this a specimen (female) of

the *Fuligula marila*, or Scaup Duck of Audubon, or does it belong to the new species recently adopted by the same ornithologist, and described by Mr. Vigors in the illustrations to "Beechy's Voyage," under the name of *Marioides*?

November 27th, 1846.—Called on Mr. Abbott, and examined a Duck shot by him this morning. It proved to be the *Anas obscura*, or Dusky Duck of Wilson, a few of which visit these islands annually at this season of the year. It is highly esteemed for the table, and from its disposition to associate with the common tame Duck, I think might be domesticated with little trouble. Two Snipe were laying on the table at the same time.

December 6th, 1846.—Examined a fine specimen of the *Fulica americana*, or Cinorous Coot, of Wilson. This bird was shot by Dr. Cole, and is the second I have heard of this season. I believe it is often met with in these islands during November and December.

December 7th, 1846.—Saw another specimen of the *Falco columbarius*, or Pigeon Hawk, in the possession of some coloured boys, who told me they caught it on the rocks. It was tied by the leg with a string, and from the ruffled appearance of the tail and quill feathers, appeared to have been roughly treated by its captors.

December 16th, 1846.—Was shown a specimen of the Duck tribe, shot by Dr. Cole, entirely new to me. It measured (not quite) eighteen inches in length, and was twenty-six inches in breadth. The bill, bluish black, tipped with a black knob and hooked point; head, light

and graceful in form, and TUFTED—the tuft extending to the nape of the neck; upper part of head, dark olive; cheeks, tuft, and sides of neck, greenish brown, inclining to grey; chin, patch round the eye, and margin, or base of the bill, white. Between the base of the bill and white patch round the eye, the plumage approaches to black. Eyelids, bright yellow; back, rump, and tail, rich olive green, tinged with a hue of copper. The tail was of fourteen feathers. Front part of the neck shaded with reddish brown—the centre of each feather being dashed with a line of white; breast, mottled; lower part of the body, white; feathers under the tail, grey, tipped with black; sides, ferruginous brown, the middle of each feather being conspicuously marked with a longitudinal white spot, traced with a dark line in the centre; legs, dirty yellowish green, with dusky webs; wings, dark brown; primaries tipped with black, and the outer vane of all but the external one marked with white; secondaries, brown on the inner part, and the outer parts bluish black, the points of each beautifully tipped with white; greater wing coverts, purple, shot with bronze and edged with black, forming together a brilliant spot; inner part of the wings mottled with rows of light grey spots on a silvery ground, resembling, in a peculiar manner, the under side of a Snipe's wing. The eyes were injured and somewhat indistinct, but appeared to be of a light colour.

This Duck, I understand, made a very peculiar and noisy cry when it rose upon the wing. On comparing the description of this Duck with the synopsis of Audubon, the ornithology of Wilson, and the "New York Fauna," I feel satisfied that the Duck in question is the *female* of the *Anas sponsa*, or Wood Duck.

Neither Audubon's nor Wilson's description of the female of this Duck is sufficiently distinct to justify this conclu-

sion, but when these authors are considered in conjunction with the "New York Fauna," their united testimony places the question of identity beyond a doubt. It is remarkable that none of these works mentions the bright yellow eyelids of this bird.

Dr. Cole mentions having met with a strange bird in the Governor's Marsh, resembling the Passenger-Pigeon of Wilson. He was not fortunate enough to get a shot at it.

December 18th, 1846.—Examined a specimen of the *Otus brachyotus*, or Short-eared Owl of Wilson, killed by Dr. Cole. Length, fourteen inches; breadth, thirty-eight.

December 19th, 1846.—Saw a specimen of the *F. marila*, or Scaup Duck of Wilson. It was probably a young bird, and exhibited a band of yellowish-white plumage round the base of the bill, measuring half-an-inch in depth on each side, and a quarter of an inch above. In other respects it agreed with Wilson's description. This bird was shot by Lieutenant Abbot, 20th Regiment, and measured sixteen inches in length, by twenty-six in breadth.

Sir William Jardine and Yarrell both describe the female of *Fuligula marila* as exhibiting a band of white round the base of the bill, though the former considers it as appertaining to the young, and the latter to old females.

The Belted Kingfisher—*Alcedo alcyon* of Audubon—is often to be met with in the creeks and marshes of Bermuda about the month of September, and many remain during the winter, but disappear about the middle of April.

December 22nd.—Examined a specimen of the *Gallinula chloropus*, or Common Gallinule, or Moorhen of Audubon, and Bonaparte (the Florida Gallinule of De Kay's "New York Zoology"), shot by Lieutenant Abbot in the Chief Justice's Pond. Length, twelve and three-quarter inches; breadth, twenty and a-half inches. Bill, colour of red sealing-wax, and greenish-yellow at the tip; membrane extending from bill to the upper part of the head same colour. Head and neck, black, with a bald patch under each eye. Back, scapulars, and rump, a brown olive-green. Tail rounded and consisting of twelve dark feathers, inclining to black. Breast and sides, cinereous, or grey ash-colour—the long feathers of the latter boldly streaked with white. Belly, white and mottled with the cinereous colour of the sides. Thighs of same colour, speckled with white. Tail coverts, white, black towards the centre—*i.e.*, the middle feathers black. Primaries and secondaries, same colour as the back, but lighter on the inner webs; the outer quill feathers edged externally with white. Under side of the wing a lighter shade and edged with white along the upper margin. Legs, greenish ash, bare of plumage above the knee-joint, where they are shaded with vermilion in the form of a band. Nails long, sharp, and of a dark brown colour. Span of foot, four and a quarter inches. The eyes were shot through, and consequently indistinct.

De Kay says: "This bird has been confounded with the *Chloropus* of Europe, to which it is closely allied." I can easily imagine such to be the case, for on comparing the above specimen with Berwick's description of the "Moorhen," their similarity in almost every particular is remarkable.

This bird is not uncommon in the Bermudas, where it is known to breed. Originally, this bird must have found its way from the American coast. It appears suddenly in

the month of October, in marshes and ponds, where for months previously it has been unknown. This autumnal appearance must arise either from the scattering of native broods, or from an influx of migrant strangers from the American coast. I am inclined to think the latter the most likely cause.

December 29th, 1846.—Was presented with a fine specimen of the *Corvus americanus*, or American crow of Wilson, shot at Spanish point by Captain Fayrer, R.N. It measured twenty inches in length, and thirty-seven in breadth, from tip to tip of the fourth or longest primaries. Tail feathers, ten.

A flock, consisting of from six to a dozen of these crows, has for some years past frequented the western portion of these islands, but more particularly the parishes of Warwick and Port Royal. A gentleman who resides in that neighbourhood, and has frequent opportunities of observing their habits, describes them as gregarious towards evening, roosting together in a grove of cedars, on a small island in Riddles Bay, and dispersing over the adjacent shores and islands in the daytime. They remain all the year round, and do not appear to have increased their numbers for some years.

It is not uncommon to see them feeding on the fruit of the ungrafted, or sour orange, and they appear to be equally fond of ripe lemons.

Crows are supposed to have been extinct in the Bermudas for many years prior to 1838, or thereabouts, when Lady Paget, wife of Admiral Sir Charles Paget, is said to have introduced a pair of tame ones from Halifax, Nova Scotia, which subsequently effected their escape from the Admiral's residence, Clarence Cove, and multiplied in a state of freedom.

I am disposed to join in the general belief of the correctness of this story, and for the following reasons. That Crows seldom visit the *eastern* portion of the islands, which stray birds blown off the American coast might be supposed to do—and so little is this bird known in the vicinity of Hamilton, which may be termed the central part of the Colony, that during a residence of six years in that locality, the present is the first and only specimen I have met with. A friend informs me that when shooting in the neighbourhood frequented by these Crows, the inhabitants requested *he would shoot them* (*i.e.*, the Crows) on account of the number of chickens they destroyed.

December 30th, 1846.—Examined the skin of a female specimen of the *Picus varius*, or Yellow-bellied Woodpecker, of Audubon. This bird was shot near the Fury by Dr. Ross Hassard. Compared it with a male specimen of the same bird in the Bermuda Museum, which was killed in Nova Scotia.

December 31st, 1846.—Saw a second specimen of the Common Gallinule, similar to that of the 22nd, excepting that the membrane on the forehead was brown instead of bright red. Shot by Mr. Abbot in the branches of a mangrove tree, about ten feet from the water.

The *Ostyx Virginiana*, or Quail of Wilson—the Common American Partridge, of Audubon—is said to have been common in the Bermudas some years ago, when barley was more generally grown by the inhabitants than at present ; it was then customary to go out for the express purpose of “shooting Quails,” when four or five brace of those birds were no unusual bag ; now it is unknown.

The *Chordeiles virginianus*, or Night Hawk, is one of the few birds which visit the Bermudas during the spring and autumn. It is generally seen alone, though I once saw two or three together on the same evening. Considering the very great abundance of this bird in the North American Colonies, I am surprised that so few are to be met with here.

The Turnstone, *Strepsilus interpres* of Audubon, and Kay's "New York Zoology." Examined a specimen of this bird shot by Mr. Abbot, 20th Regiment. It measured nine inches long, and eighteen and a half inches in breadth. Tail, consisting of twelve feathers, white, broadly barred with blackish brown towards the end ; the tips white, shafts of the primaries also white. The dark plumage on each side of the breast protuberant or ruffed.

Two others shot in the same flock, differed more or less in their plumage. These I considered to be young birds.

On referring to Audubon's "Synopsis," and De Kay's "New York Fauna," I find the description of this bird agrees with the foregoing remarks, the ruffed appearance of the breast alone excepted.

This elegant bird visits the Bermudas annually, and is one of the most common of the Plover tribe seen upon its shores.

January 5th, 1847.—Examined a specimen of the Water Thrush, described by Audubon as the *Simrus noveboracensis*, or Aquatic Wood Wagtail. It measured five and three-quarter inches in length, by nine and a half in breadth. This bird was shot by Mr. Abbot, and is the second I have seen this winter. The former was killed by Dr. Cole.

January 11th.—Examined two specimens of the Kildeer Plover, *Charadrius vociferus*, of Wilson and Audubon. These birds agreed perfectly with Wilson's description, excepting the length of the two centre tail feathers, which exceeded the others by quarter of an inch only. The length of the bird was, notwithstanding, the same as mentioned by Wilson:—Length ten and a quarter inches, by twenty and a half breadth.

January 11th, 1847.—Examined a specimen of the *Muscicapa dominicensis*, or White-eyed Flycatcher of Wilson. This little bird is very common in the Bermudas, where it is known by the familiar appellation of "Chick of the Village." It remains all the year round, builds its nest suspended to the fork of some bough, and lays four or five white eggs, spotted with brown at the larger end.

The *Columba passerina*, or Ground Dove, of Wilson. This beautiful little bird—the smallest of the Pigeon tribe—is common in the Bermudas, where it has thoroughly established itself as a native bird. It is generally seen feeding in flocks of five or six together, in the highways and enclosures. Its nest is a mere platform of twigs, and is generally placed on the lower branch of a cedar tree. It lays two white eggs, and, if disturbed, will attempt to lead the intruder from its nest by fluttering along the ground.

American Snipe, *Scolopax wilsonii*. Visits the Bermudas in the month of October, and continues to be met with until the early part of January, when it disappears. In the winter of 1846 and 1847, as many as a hundred couple of these birds were killed by the officers of the 20th Regiment, stationed at Hamilton. Our limited knowledge of the

geographical distribution of this bird compels us to suppose that it is confined to the continents of North and South America. Breeding in high Northern latitudes, it migrates in immense numbers to the South; and that many of these traverse the ocean in their flight is proved by the regularity with which they visit the marshes of Bermuda.

Many of these birds appear to winter in Jamaica, being found in that island from October to April. Gosse alludes to an instance of twenty-two couple being shot there in one day; and Dr. Von Tschudi, in speaking of the zoology of the neighbourhood of Valparaiso, says: "The snipes found in the little plain between the bay and the lighthouse, are in colour precisely like those of Europe, from which, however, they differ by having two more feathers in their tails." A more perfect description of *Scolopax wilsonii* could not be desired.

January 20th, 1847.—Visited the islands in the Sound, with Dr. Cole and Mr. Adair, of the 20th Regiment, to seek for a Cormorant which for some time past has been observed to haunt those parts. Discovered it sitting upon a small cluster of rocks, and approached near enough to observe that the plumage of the head, neck and back was dark brown (much lighter on the under parts), and the bill yellow or orange about the base and lower mandible. Two shots were fired at it, but without success, and, although we spent three hours visiting nearly all the islands in the Sound, no other bird was met with.

I take this bird to be the *Phalacrocorax dilophus*, or Double-crested Cormorant of Audubon and De Kay, in its immature plumage.

January 23rd.—Shot a Shrike (*Lanius borealis*), which measured nine and three-quarter inches in length, and

thirteen and a half inches in breadth. The upper parts were grey inclining to light ash, the lower parts very distinctly marked with transverse lines of light brown, the four external feathers of the tail were marked with white in the manner described by Wilson, but the central feathers were imperfect, one only (black with a very *slight touch* of white near the tip) remaining.

January 23rd, 1847.—Mr. William Gosling informs me that in the month of January or February, 1840, he shot “*two White Crows*” among the mangrove trees of Hungry Bay, on the south shore of these islands. He described these birds as being perfectly white, standing about three feet three inches in height, with no crest, the bill yellow, legs black. The dorsal train was wanting. This information was corroborated by Mr. Charles Fozard, who saw the birds at the time.

There can be no doubt that these were the great American White Heron (*Ardea egretta*) of Audubon and Wilson, and the circumstance of their being found in the islands affords another proof of the extraordinary power of flight possessed by many of the migratory birds of the American continent.

February 2nd, 1847.—Examined a beautiful specimen of the *Otus vulgaris*, or Long-eared Owl.

This bird had been killed a few hours previous, and sent to Dr. Cole by the sergeant in charge at Gibbs Hill, being the third shot there within the last four months.

Length, fourteen inches; breadth, thirty-seven and a half inches; third primary the longest. Lower portion of the facial disk (from the ears to the chin), pure white, edged externally with a broad band of deep black; the

soft and velvet-like appearance of these elegantly marked feathers has a very beautiful effect.

As I anticipated, this proved to be a male bird.

February 8th, 1847.—Examined a specimen of the *Linaria minor*, or Lesser Redpole. This was one of three birds seen in the garden of Colonel Hutchinson ; it was shot by Dr. Cole, who reported the remaining two as precisely similar. The red patch on the head was very full and distinct, and a few small patches of red were visible on the rump, but I could perceive none upon the breast.

This bird feeds on the ripe berries of the sage bush.

March 17th, 1847.—When shooting specimens of the Red and Blue Birds for a friend, I have lately observed a Shrike (*Lanius borealis*) haunting the low grounds of Mount Langton. On one occasion he was busily engaged in chasing a small bird, and only relinquished his pursuit when fired at.

The Tropic Bird (*Phaeton æthereus*) is frequently to be met with in the Bermudas during the summer months. It breeds in holes among the rocks or rocky banks of the sea-shore, and when discovered on its nest will allow itself to be taken by the hand—not, however without resistance ; both male and female are captured in this manner. It makes no nest, but having selected a hole or cavity in the rock—sometimes elevated, and at others merely beyond the reach of the waves—invariably lays a single egg. The egg varies in colour, specimens being of a reddish grey, thickly covered with streaks and blotches of Indian red, deepest at the larger end ; others are of a drab colour, finely speckled with the same deep red.

The favourite resort of these birds is among the small islands at the entrance of Castle Harbour, on the shores of Harrington Sound, and along the south coast from the lighthouse] to the north-west extremity of Somerset. Plumage, white; ocular region and shoulders, black; primary quills, of the same colour; bill, red. It has TWO extremely elongated feathers in the tail. This bird inhabits the warm latitudes of the Atlantic Ocean. It is described by Audubon, but not by Wilson.

March 22nd, 1847.—Mr. Marriott informs me that near Port Royal Church, yesterday, he observed upwards of one hundred of the *Phaeton æthereus* or Tropic Bird in that immediate neighbourhood.

March 24th, 1847.—Mr. Abbot confirms the above by stating that he has observed several Tropic Birds, within the last few days, about the Great Sound, or, in other words, “that they have already come back.”

March 24th, 1847.—Saw a very fine specimen of the *Anas discors*, or Blue-winged Teal, shot by Mr. Abbot in the Chief Justice's Pond. It was a male bird; measured sixteen inches in length and twenty-four and a half in breadth. The two crescents of white on the head did not unite below by half an inch. A second bird of the same kind was also shot in the same pond by Mr. Abbot, but not recovered by him.

March 29th, 1847.—Heard this morning from the Rev. H. B. Tristram that a strange bird (supposed to be the “King Bird,” or Tyrant Flycatcher), had been seen near

Government House. Went over with Dr. Cole, and succeeded in killing the same. It proved to be a male specimen of the above-mentioned bird—*Muscicapa tyrannus* of Wilson.

This is the only specimen of its kind I have seen in the Bermudas.

March 30th.—Saw a beautiful male specimen of the Hooded Flycatcher (*Myiodyctes mitratus*). This bird was shot by Mr. Abbot at Ireland Island, and is another addition to the ornithology of these islands. Length, five and three-tenths inches. The hen bird was seen at the same time.

April 12th, 1847.—The master of the schooner "G. O. Bigelow," tells me that on his voyage to and from Alexandria, United States (from which he has just returned), several little land birds came on board the vessel, but what they were he knows not. That on a former voyage to Halifax, Nova Scotia, he fell in with a large flock of small land birds, which settled on every part of the ship, and afforded excellent sport to the cat, who killed them unsparingly. What they were, or the latitude and longitude in which they were met with, I could not ascertain. He further tells me that on one occasion, when about fifty miles south of Halifax, a Quail flew on board which was captured, and afterwards allowed to run about on deck; it remained several days with the vessel, but ultimately took its departure.

May 10th, 1847.—Left town at half-past three in the Customs boat, accompanied by Mr. Marriott. In three-quarters of an hour we were at the foot of Gibbs' Hill, and soon found ourselves on the south shore. Saw a Swallow,

which Mr. Marriott shot ; it was six and a quarter inches in length, and proved to be the *Hirundo rustica*, or Barn Swallow of Audubon, the first of the kind I have met with in these islands.

The object of our visit being to shoot a few specimens of the *Phaeton æthereus*, or Tropic Bird, we ranged the rocky shore for some time, but saw not a single sea-bird of any kind. With the assistance, however, of a native residing near at hand, a search was commenced into holes and crevices among the rugged rocks which border the ocean, when four Tropic Birds were captured sitting on their nests, or breeding-places. These, with three eggs, were brought home. Three other nests were discovered, none of which were accessible, or rather within reach of a man's arm. I was surprised to find one egg only in each nest. One of these birds measured thirty-three inches in length, and possessed two elongated feathers in the tail. The others measured twenty-eight, twenty-six, and thirty-one inches, and had one tail-feather wanting in each. Tarsi and hind toe white, tinged with blue or lead colour. The first of these specimens was not tinged with carmine on the upper parts, the third was particularly so.

May 14th.—In consequence of my having offered a shilling each for a few Tropic Birds in good plumage, I was this morning informed that the men stationed at Gibbs' Hill Telegraph had been out, and taken a number which they wished me to select from. On my arrival at the station I found upwards of forty live birds shut up in a small room. Selected fourteen or fifteen specimens with double plumes in their tails, and purchased sixteen eggs, which had been taken at the same time. Had the satisfaction of seeing the remainder of these unfortunate captives

restored to liberty minus their long tail feathers, which I brought away with me.

Among the eggs obtained on this occasion were several much lighter in colour than I had seen before, and much less speckled with the deep red.

The number of these birds which breed along the coast must be very considerable, if we may judge from the facility with which the above were captured.

An old woman, living at Port Royal, who has been in the habit of EATING Tropic Birds, declares them to be "*quite as good as fish*" !

May 28th, 1847.—Received a specimen of the *Fulica americana*, or American Coot, from Mr. Elwin. This bird was shot at Somerset. Length, fourteen and a half inches. Sent to the Rev. H. B. Tristram. From its having no white whatever on the wings, I take it to be a female.

May 31st.—Mr. Elwin (of Somerset) wrote me word this day that he had killed three and a half couple of Snipe (*Scolopax wilsonii*) during the present month. This he considers very early for them to appear.

June 2nd, 1847.—Visited the islands about Castle Harbour with Mr. Marriott. Saw many Tropic Birds, and brought away a young one. Also saw a Tern, which I think must be the Roseate species. It was blowing too hard to visit the "Black Rock," which is said to be a favourite resort of these birds. Failed in our endeavours to meet with a bird called by the residents the "Cahow" (and so mentioned in Smith's "History of Virginia," written upwards of two centuries ago, a portion of which is devoted to a description of the Bermudas). From all that I can

glean of this bird, I should not be surprised to find it belongs to the Shearwater family (*Puffinus obscurus*). It breeds in holes among the rocks, never appears *except at night*, and is said to utter a sound similar to its local name of "Ca-how." We met a boy who said he had recently caught two of them on Cooper's Island, and engaged him to obtain a few specimens if possible, promising a dollar for the first. This boy described the bird as being about the size of a Duck.

We were desirous of visiting the "Black Rock," which stands alone, outside the entrance to Castle Harbour, and which is said to be frequented by a bird termed by the natives, "The Redshanks." This we were prevented from putting into execution by the strong wind and consequent rough sea. I have reason to believe that the so-called Redshank is one of the family of Terns, probably the Roseate, and that it breeds about Castle Harbour.

While dining amid the remains of the Castle, on Castle Island, one of these Terns was fired at, but without success.

June 30th, 1847.—Met Lieutenant Wedderburn, 42nd Highlanders, and was happy to hear him say that he had killed three Terns; two, apparently, young birds, and the other an adult. The latter was of a beautiful roseate tinge on the lower parts, and proves to be a genuine Roseate Tern (*Sterna dougallii*)—thus making good my suspicions respecting the existence of this bird in Bermuda.

July 23rd, 1847.—Saw a specimen of the *Totanus macularius* or Spotted Sandpiper. It was evidently a young bird, the pure white of the under parts being free from spots. In other respects it agreed perfectly with Wilson's

description. This is the second bird of the kind killed by Mr. Wedderburn within a month. Length, seven and a half inches.

August 7th, 1847.—Was shown a specimen of the *Totanus flavipes*, or Yellow-Shanks Tattler, by Lieutenant Wedderburn, 42nd Highlanders, which was *caught* in a state of exhaustion on the shore of Ireland Island on the 31st of last month. Yesterday one of these birds was shot in the neighbourhood, and to-day two others have been observed in the same pond. As these birds are not known to breed here, I conclude that they are now migrating to the southward, and, notwithstanding the prevalence of easterly winds, have found their way to this isolated spot.

August 9th, 1847.—Mr. O'Reilly tells me that on his way to Mrs. Salton's on Saturday last, he observed several birds sitting on the branch of a dead tree, which for some time he took for the Common Blue-birds of the colony, but on approaching within a few yards he was surprised to find they were *ten* Swallows (in colour and appearance like the Chimney Swallow of Europe). They appeared to be resting and pluming themselves as if they had recently arrived from the northward.

Mr. Wedderburn also tells me he saw two Swallows at Ireland Island a few days since, and Mr. Marriott states that he saw yesterday (Sunday) near his house, two Martins, which, of course, were not molested. Are not these unusual occurrences, and do they not indicate the approach of that season of general migration which may be said to commence in September?

August 10th, 1847.—Visited the neighbourhood of Mr.

Harry Tucker's Pond, in company with the Rev. H. B. Tristram and Mr. Marriott, and was much gratified by seeing *many* Swallows on the wing there. This is the first time I have witnessed such a sight in the Bermudas. Shot two specimens and found them to be the *Hirundo rustica* or Barn Swallow.

August 13th, 1847.—Heard that Mr. Fraser, the school-master, had been out yesterday and shot several *Plover*. Called at his lodgings and found only two couples and a half of the American King Plover (*C. semipalmatus*).

August 16th, 1847.—Beeman, Master of the "Lady of the Lake" (dismasted in a hurricane on the 5th inst., while proceeding from New York to these islands), informs me that on the 4th he observed several flocks of Plover and two Swallows, all flying to the southward. The latter settled on the rigging.

August 21st, 1847.—In walking round the Chief Justice's Pond (or ponds, for it is intersected by a sort of island or peninsula), I was surprised to find a nest of the Ground Dove at this late season of the year. It was built on the lower branches of a cedar tree about nine feet from the ground, and composed of small twigs; the eggs, two in number, were white. Saw nothing of the Gallinule, which is said to be heard every day; indeed, has been heard daily for months past, and yet I cannot ascertain whether it has bred there. The cover is so thick round this pond, particularly about the roots of the mangrove trees, that it would be a very difficult task to beat such birds out of it.

Heard the "tweet-tweet" of the Spotted Sandpiper several times after sunset.

September 2nd, 1847.—Mr. Charles Fozard sent me a fine specimen of the American Golden Plover (*Charadrius marmoratus*), shot by him on the north shore this morning, being the first I have seen this season.

September 4th, 1847.—Crossing the harbour towards the Chief Justice's to-day, the ferryman informed me, that "two or three days ago," he saw a flock of two or three hundred birds, flying "like the tail of a kite," over this town towards the south. He could not say what kind of birds they were.

Mr. T. Darrell, of Hungry Bay, informs me that in his younger days he recollects several instances of the "Pelican" having been shot near his residence. I presume this must have been the *Pelecanus fuscus*, or Brown Pelican, sometimes met with on the American coast, even as far north as New York.

September 6th, 1847.—Yesterday very squally, wind south-east with very heavy rain, which continued till sunset. Night dark with occasional squalls of wind and rain. Thinking this heavy weather might induce a few flocks of Plover (now commencing their southern flight) to alight upon the North-side hills, I sallied forth with my gun at daybreak, and ranged the north shore for upwards of two miles; saw nothing, however, but a solitary Esquimaux Curlew (*Numenius borealis*), at which I fired without success. I concluded from this result that I was seeking for these birds too early in the season.

On my return to town, several persons spoke to me of the numerous flocks of Plover which they had observed yesterday flying to the southward; some of these were de-

scribed as flying so low that the noise made by their wings could be distinctly heard.

Mr. William Gosling and his brother mentioned one flock in particular, which they estimated at three hundred birds; other persons assured me that flocks of Plover could be heard passing over long after dark, *i.e.*, until past ten o'clock.

Determined to ascertain if any of these birds were to be found in the islands, I proceeded in the Customs boat (soon after 3 p.m.), and visited all the small islands below the lighthouse. Here I had the satisfaction of meeting with a flock or two of Golden Plover, of about thirty each, and shot three fine specimens. I also killed a couple of Turnstones, one American Ring Plover (*Charadrius semipalmatus* of Audubon), and a little Sandpiper.

Messrs. Wedderburn and Orde, of the 42nd, were also out, and ranged the south shore from Hungry Bay to the sandhills without seeing a bird.

September 7th, 1847.—Received a fine specimen of the Belled Kingfisher (*Alcedo alcyon*), shot on the north shore by Mr. C. Fozard, being the first seen by me since the 5th of April last.

This afternoon, at 3 p.m., I again took boat, in company with Mr. Fozard, and visited most of the islands in the Sound, and subsequently Burgess' Point, in search of Plover. Saw not a single bird of the kind. Met Mr. Wedderburn at the Point, who had been out the whole day and seen one flock of Golden Plover only; of these he killed three. I presume, therefore, that with the exception of a few stragglers, our recent visitors have proceeded to the southward. Such is the uncertainty of these visitations of the feathered tribe. Yesterday, guns

were to be heard in the neighbourhood of the lighthouse ; to-day, all was silent on those grassy hills.

Mr. Taylor, an old resident of the West Indies, tells me that in the Island of Antigua, in the month of September, it is a common thing for gentlemen to go out with their guns, and return, after a morning's sport, with thirty, forty and fifty couple of Plover. These, he says, are of various descriptions, but chiefly Golden Plover, such as we have in Bermuda. He describes them as haunting the cane fields and particularly the bays and uncultivated hills along the coast.

September 8th, 1847.—Late last night flocks of Plover were heard piping their southerly course over these islands. At Ireland Island they were also distinctly heard by officers of the garrison. The night was fair, and starlight only.

I hear from Mr. Josiah Dickenson, who resided for many years in the island of Antigua, that during the month of September that island is annually visited by countless flocks of Plover, which arrive from the north, and are precisely similar to those which visit Bermuda at this season, and on one occasion, when the weather was dark and stormy, they made their appearance in such multitudinous flocks at St. John's—the chief town of the colony—that the inhabitants were to be seen in every direction shooting them from their doors and windows ; indeed, so very numerous were these Plover that boys killed them with sticks and stones, and shooting them soon ceased to be considered sport.

In ordinary seasons the flocks of Plover do not arrive in such immense numbers, though they never fail of being very abundant. On the arrival of these birds (*Charadrius marmoratus*, of course) everyone turns out with his gun,

and asks no permission for shooting over your pastures or uncultivated ground—even the negroes may be seen returning home with strings of Plover they have shot. These birds leave Antigua as soon as the weather becomes settled, their stay there not exceeding ten or fourteen days.

September 11th, 1847.—Sailed to Gibbs' Hill. Examined Riddles Bay and ranged over the surrounding hills for Plover. Saw one Spotted Sandpiper, one Turnstone, and two Semi-palmated Sandpipers. The latter I shot, and presented to the Rev. H. B. Tristram. The residents tell me they have seen no Plover since Monday last.

September 13th, 1847.—At daybreak this morning ranged the north shore from the Wells to Spanish Point, and saw not a single sea-bird, Plover, Sandpiper or other birds (except the Red and Blue birds, Ground Doves, Cat-birds, and White-eyed Flycatchers). Have satisfied myself that the migratory birds which recently touched at these islands (viz., on the 5th and 6th inst.) have all passed on.

September 17th, 1847.—The weather yesterday cloudy, with an occasional squall of wind and rain; to-day it has been very wet from nine to three, with a breeze from east and north-east. Went out this evening with Mr. Fozard with the view of bringing in a Curlew, that appears to have frequented this locality since the 5th inst. Saw him as usual on the north shore, but failed in approaching the wary bird. I think it must be the *Numenius hudsonicus* of Audubon. Heard from several persons that flocks of Plover had been seen passing to the southward both yesterday and to-day, and that one or two

flocks, numbering from twenty to thirty each, had actually been shot at on the North Hills just before we arrived there. These we failed in meeting with, though we searched for them until dark.

I understand from Mr. Wedderburn that he has recently shot a Sandpiper answering to the description of the *Totanus solitarius*, or Solitary Sandpiper. I have not yet seen the specimen, but have no doubt it is the same as one shot by Mr. Fozard, and presented to me on the 20th of September, 1842, a description of which I noted on the fly-leaf of the first volume of Wilson, and queried it as such. The description there given was as follows:—
“Length, eight inches; breadth, fourteen inches; bill, one inch long and grooved in the upper mandible; colour, dark brown; legs, olive, and not wanting the hind toe; upper parts, olive, speckled with yellowish spots; wings ditto; primaries, dark brown, and free from white spots or edges; lower parts, white, except the breast, which is marked with light brown—very light in the centre; tail chiefly composed of white feathers, with cross-bars or spots of a dark colour.

Saw Mr. Salton Smith day before yesterday, and questioned him about a visit he kindly made, at my suggestion, to the Black Rock, near Castle Harbour in August last.

He tells me on the occasion alluded to, the sea was rougher than he anticipated, and that he had some difficulty in landing a boy upon the rock. This, however, he succeeded in doing and the boy twice returned with specimens of young sea-birds, consisting of about a dozen “Red-shanks” (Terns) and two Cahows, all which were safely got on board the dingy. He then went for eggs, and re-

turned with some dozens in the fold of his shirt; with these he attempted to jump into the frail little bark as it rose upon a sea, but missing his footing, fell into the water, and was in danger of being drowned. Mr. Smith, in his endeavours to save the boy, was carried on the rock, the dingy was upset, and stove, and the whole of the specimens and eggs lost. How the parties got back to their sail boat I did not learn, but they did so in safety. The Cahows, Mr. Smith describes as being two beautiful birds, one of them in particular, which he took to be a male. They were both together in the same nest—were about the size of a common duck—white below, and beautifully mottled with dark colour about the head and upper parts of the body. The old birds were not seen. This is all the information I could obtain upon this interesting subject, and the “Cahow” will probably remain unknown to us for another season.

September 18th, 1847.—Mr. Fozard presented me with a fine specimen of the Solitary Sandpiper (*Totanus solitarius*) shot by him in the Governor’s Marsh, this morning. It measured full eight and a half inches in length, and in other respects agreed with Wilson’s description. Sent to the Rev. H. B. Tristram.

Killed a couple of Golden Plover on the North Hills.—Wilson is correct in stating the length at ten and a half inches, *i.e.*, for the finer specimens—the lesser ones generally measure half an inch less. Sir William Jardine is therefore wrong in supposing nine and a half, and eight inches nearly the true length.

September 19th, 1847.—Saw a fine young Tropic Bird, alive, which was captured Burgess’ Point, on the 17th, by

Lieutenant Orde, of the 42nd Highlanders. This bird was unable to fly. I was not aware these birds breed so late in the season.

September 20th, 1847.—Hearing that Mr. Wedderburn had shot eleven Golden Plover in the vicinity of Gibbs' Hill on Saturday last, I beat down in the Customs boat this afternoon in a stiff westerly wind, in company with Mr. Marriott, hoping to fall in with a flock, should any remain in that neighbourhood. Saw nothing but the small native birds of the islands. Mr. Fozard visited the North Hills at daybreak, and also returned without seeing a Plover. Such is the uncertainty of falling in with these transient visitors.

Received another specimen of the Solitary Sandpiper from Mr. Marriott, who also saw a Water Thrush at the same time.

September 27th, 1847.—Cruised about among the islands in the Sound, and saw a large flock of sixty or more Golden Plover on Long Island. Landed, but did not succeed in getting a shot at them. Fell in with several smaller flocks (probably detachments from the first) but failed in obtaining a single bird.

Mr. Orde, who had been out in the same direction, killed two Golden Plover, one of which appeared to be of mature plumage, dotted all over very distinctly with yellow spots; and the breast mottled very like that of the English Golden Plover. It was not a full-sized specimen, for which reason I conclude it to be a female in adult plumage—a genuine *Charadrius marmoratus*—with the axillaries and inner wing coverts of the usual light-brown woody colour. Length, ten inches.

September 29th, 1847.—While passing near the House of Assembly this afternoon I observed a Hawk in full pursuit of a neighbour's Pigeons close by. This is the first Hawk I have seen for several months. It was, I think, the *Falco columbarius* of Wilson. I watched unsuccessfully for its return for half-an-hour, with my gun in my hand; but as my own Pigeons could not have escaped his observation, it is not improbable he will pay them a visit soon.

October 1st, 1847.—Examined to-day a fine specimen of the Red-breasted Snipe (*Macrorhamphus griseus*), shot yesterday by Lieutenant Orde, 42nd Regiment, at Harris' Pond. It agreed exactly with Wilson's description, and measured ten and a half inches in length. This is the first bird of its kind I have ever known to be seen in the Bermudas. It was very fat and heavy for its size.

Also examined a specimen of the "Tell-tale Godwit," of Wilson; the *Totanus vociferus*, of Audubon. This bird was also killed by Lieutenant Orde at Harris' Pond, and like the former, was found alone. This is another addition to the Bermuda visitants. A solitary Sandpiper, and a Semipalmated Sandpiper were shot at the same time and place.

October 2nd, 1847.—Saw three specimens of the *Tringa pectoralis*, or Pectoral Sandpiper, shot by Mr. Orde this day, being a further addition to the list of birds which frequent the Bermudas.

Length eight and three-quarters to eight inches.

October 3rd, 1847.—Saw the FIRST Snipe of the present season passing over the town this evening.

October 4th, 1847.—Went out before breakfast and killed a couple of very fine Snipe. They were fat and well-conditioned. Saw three Belted Kingfishers.

Mr. Fozard showed me this evening a genuine Snipe, and two specimens of the *Tringa pectoralis* shot on the north shore. One of the Sandpipers measured full nine inches in length.

October 9th, 1847.—A few wild Ducks are reported to have been seen within the last few days by different individuals, and the number of Snipe are evidently on the increase. Flocks of Golden Plover, and some of the Sandpiper family are also occasionally to be met with.

October 11th, 1847.—Examined a fine specimen of the Double-crested Cormorant (*Phalacrocorax dilophus*), shot by Lieutenant Orde, 42nd Highlanders, in Hamilton Water. It measured thirty-two inches in length. The upper part of the back, wing coverts and tertials, bronze brown, the margin of each feather black, presenting a reticulated appearance; space between the eye and the bill, and gular pouch, bare of feathers, and of a rich orange colour; including the lower mandible. Legs and feet deep black; the outer toe and nail four inches long. Tarsus two and a half inches.

This bird is peculiar to the shores of America.

I understand, from very good authority, that about a week ago, a large bird alighted, during the night, close to the feet of a sentry doing duty at St. George's; this man captured the stranger. It proved to be the Booby Gannet (*Sula fusca*) of Audubon. It was kept alive for some days, but has since become the property of Captain Drummond,

42nd Highlanders, by whom it has been preserved as a specimen. Mr. Wedderburn tells me that several of these interesting birds were seen in the vicinity of St. George's during the past week; that he was out himself every morning at daybreak, with the hope of killing one, in which he was disappointed. This is the first time I have ever known the Booby to visit these islands.

October 11th, 1847. — Mr. Wedderburn returned from Harris' Pond to-day, and brought in three specimens of the Cedar Waxwing (*Bombycilla carolinensis*). They were all young birds, wanting the little coral-like tips on the secondaries. These birds formed part of a flock of about thirty. This is another addition to the birds which visit these islands, and, considering the abundance of cedar berries, I have often thought their absence somewhat remarkable.

Also examined a specimen of the Lesser Redpole (*Linaria minor*) a young bird, shot by Mr. Wedderburn near Hamilton. It was in company with another of its kind only.

The Belted Kingfisher (*Alcedo alcyon*) is now so frequently to be met with that I am induced to believe they belong to the migratory class. I saw three this morning, one of which I killed for a specimen. I also brought in two fine Snipes.

At sunset this evening several Night Hawks (*Chordeiles virginianus*) made their appearance upon the Parade ground. With the exception of a single bird seen on the 14th of May last, these are the only visitants of their kind I have seen during the year.

October 12th.—Wood, the boatman, tells me that he often sees flocks of Plover approach these islands from the north, when employed in his occupation of fishing—that soon after break of day this morning he observed several flocks “coming in”—and Mr. S. Saltus heard a great twittering over his residence soon after twilight, as if a large flock of birds were passing. They appeared to be going to the south.

From Mr. T. Darrell (who resides near Warwick Church) I hear that four Ducks have been seen in a pond near his house, together with some Plover. Also that a large bird about the size of a goose had been killed by some boys, who refused to sell it, and took it home to eat. From Darrell’s description of this bird I have every reason to believe it was a Cormorant similar to that mentioned yesterday, as killed by Lieutenant Orde.

October 13th, 1847.—Saw the first *Ardea lentiginosa*, or American Bittern, that has been killed this season. It was shot at Riddles Bay, and sent by Mr. W. Smith to the Rev. H. B. Tristram. Another specimen I find has been killed to-day by Mr. Ross, of the 42nd. Mr. W. Smith tells me he has often seen the White Egret (*Ardea egretta*) on the wing at Riddles Bay, and that some have been shot there these he also saw. Of late years, he says, they have been getting very rare.

Mr. Charles Fozard tells me that, about five years ago he shot a Woodcock on the verge of White’s Marsh, near Hamilton. Mr. Hunt Marriott, of H.M. Customs, assures me that he himself saw this bird in the possession of Mr. Fozard and that it appeared to him like the Woodcock figured in

Wilson's "Ornithology." Strange to say, this is the only instance of the Woodcock (*Rusticola americana*) having been met with in Bermuda. As Mr. Fozard was Snipe shooting at the time, it was most likely in the month of October or November that this bird was killed.

October 13th, 1847.—Saw a very perfect specimen of the "Crake Gallinule" in the possession of the Rev. H. B. Tristram, also some Pectoral and Semipalmated Sandpipers; the latter are by no means uncommon just now.

October 14th, 1847.—At 4 p.m. went out with my gun to seek Snipes. In the meadow below Government House, disturbed a small flock of six strange birds, which rose from the grass and perched themselves upon some tall reeds growing in a ditch close by. Four specimens were immediately shot, another wounded one escaped among the reeds, and the sixth bird very wisely absconded. On examining these birds I was much pleased to find they were the Rice Bunting (*Dolichonyx oryzivora*), in their autumnal plumage, and of course a new bird for our Bermudian ornithology. Length, six and a half inches. Mr. Fozard, who was with me, killed a very pretty specimen of the Water Thrush—this, with one Snipe and two solitary Sandpipers completed our evening's *chasse*. Observed an American Bittern on the wing, but failed in finding it a second time.

October 15th, 1847.—Went out with Major Dunsmure, 42nd Highlanders, and beat the Governor's Marsh. Found the Bittern mentioned yesterday, which I shot. Saw another flock of Rice Buntings, and killed three specimens; these, with a couple of Snipe, completed our *chasse* in that

quarter. Mr. Wedderburn, who was shooting in the same marsh, showed us a beautiful specimen of some *unknown* Crake, which he had just killed. We then proceeded to the marshes near Spanish Point. Here I had the satisfaction of seeing an Osprey (*Pandion haliaetus*) soaring over a creek in which the Major's spaniel was swimming after a Sandpiper that had been wounded just before, and which dived with all the ease of a duck. The Sandpiper escaped among some small mangrove bushes, and the Osprey took up a position on the top of a neighbouring cedar tree. As it was not within range of shot, the Major concealed himself in the brushwood while I endeavoured to approach the Osprey by making a circuit to the rear. I had proceeded a very short distance when this noble bird came down directly for the spot where the Sandpiper was lost, and near where the Major was laying wait for him. He was shot by the Major, and proved a fine male specimen of his kind. Length twenty-five inches, colour of the upper plumage a rich dark brown, each feather margined with yellowish white, and more or less tipped with the same colour, particularly the interscapulars. The wing coverts, the tail feathers and the primaries, and the secondaries are also tipped or margined with the same. Shafts of tail feathers whitish. We also saw a small bird of the Water Rail kind, nearly black, which I missed, but which I have no doubt will prove a new bird to our Bermuda list.

October 16th, 1847.—A deluge of rain having fallen during the night, I arose at daylight to look out of my bed-room window, and soon afterwards observed our tame pigeons rush from the top of the house to their own cot below the window. A small Hawk, which I took to be the *Falco sparverius*, or American Sparrow Hawk of Wilson—it was barely the size of a pigeon—made a dash at the pigeon-house

but failed in his object of obtaining prey. I watched at the open window with my gun, for an hour afterwards, in the vain hope of his return, but saw it no more.

I find, on examination, that the very elegant little bird shot yesterday by Mr. Wedderburn, is the Yellow-breasted Rail, or *Ortygometra noveboracensis* of Audubon. This specimen measured seven and a half inches in length, and is the only one of the kind I have seen in Bermuda, or indeed elsewhere.

Saw a fine male specimen of the Carolina Crake Gallinule (*Ortygometra carolinus*), showing the broad band of black round the base of the bill; this band was connected with a line of black extending from the chin downwards, disappearing on the breast. A broad stripe of the same colour passed longitudinally over the crown of the head.

Among the unusual variety of American birds that have visited these islands during the present autumn, I was pleased to find the Yellow-billed Cuckoo (*Coccyzus americanus* of Audubon), a fine living specimen of which has been taken at Ireland Island, and was yesterday forwarded to Mr. Wedderburn by Dr. Blake, of the Medical Staff.

The Night Hawk is now so common every evening at sunset, that the boys amuse themselves by shooting at them.

October 18th, 1847.—Sallied forth at break of day and killed one Snipe, two Crake Gallinules, and a Night Heron, in the spotted plumage of the young, which latter was sent to the Rev. H. B. Tristram.

Mr. Fraser tells me that he saw flocks of Golden Plover in the neighbourhood of Gibbs Hill on Saturday last, and I find from Mr. Wedderburn that he has killed, with his own gun, upwards of twenty couple of these birds since their arrival this autumn.

October, 19th, 1847.—Went out at sunset to look for an owl, supposed to be the Snowy Owl (*Surnia nyctea*), which was observed last evening beating the marsh below Government House. I have reason to believe this bird is the same which visited Mr. Richard Wood's premises a day or two since, and there sat upon a rabbit hutch. Mr. Wood's son describes it as a "White Eagle." Saw nothing of it.

Mr. Wedderburn showed me another beautiful specimen of the Yellow-breasted Rail, shot by himself in the Governor's Marsh, near the spot on which he killed the former one.

Two Bitterns, a couple of Golden Plover, four couple of Snipe, one Water Crake, a Semipalmated Sandpiper, and one Rice bird, completed this gentleman's bag for the day.

October 21st, 1847.—The Master of the "General Grant" tells me that on his recent visit to Antigua, *i.e.*, during the month of September and the first week in October, Plover were very abundant there, particularly the Golden Plover, and that numbers of them were shot daily along the coast, up to the time of his departure.

October 22nd, 1847.—Beat the Marshes this evening from the cross-road, near the Admiral's to the centre of the

Governor's Bog. Saw but one Snipe. Killed two Night Hawks after sunset.

Mrs. Mantack, of Hamilton, tells me a large bird "like a Fowl Hawk" has appeared in her garden almost every evening after sunset for some time past. It is described as being white, with some spots of brown upon it. This, no doubt, is the Snowy Owl, so lately mentioned.

October 23rd, 1847.—Examined a beautiful specimen of the Least Bittern (*Ardea exilis* of Wilson) shot in the Governor's Marsh this evening. This is the only bird of this species that has come under my observation, though I have reason to believe the *Ardea exilis* was killed here two years ago by Dr. Howard, of the 20th Regiment.

October 25th, 1847.—Examined a beautiful specimen of the European Landrail (*Crex pratensis*) shot this day in the Governor's Marsh by Lieutenant Wedderburn.

It proved to be a male bird, and agreed in every respect with Yarrell's description, minus the pale ash colour on the cheeks, from which circumstance I consider it to be a young bird of the present year. Length nine and a half inches.

This is another very extraordinary instance of a European land bird being met with in these islands. The Landrail appears to be unknown on the Continent of America; and the Wheat-ear has been observed in the extreme northern parts only.

October 27th, 1847.—Examined a specimen of the Green-winged Teal (*Anas carolinensis*). This was either the female bird, or the young of the present year. Length,

fourteen and a half inches. Breadth, from wing to wing, twenty-three and a quarter.

This bird was shot by Mr. Hunt Marriott, in the Marsh near his residence this morning.

Saw two fine specimens of the American Bittern, and a King-Plover (*Charadrius semipalmatus*), shot by Lieutenant Wedderburn in the Warwick Marshes.

November 1st, 1847.—Drove to Harrington Sound with Lieutenant Orde, 42nd Highlanders, and visited Spital or Harris' Pond; saw two Wild Ducks there (I think *Anas obscura*); these we failed in getting a shot at. A Teal was also seen to pass over the pond.

Met the Revd. — Stowe, with a specimen of the *Totanus vociferus*, or Tell-Tale Tattler, in his hand, which he had just killed with a single ball from an air-gun. Observed the bones and feathers of the *Pandion haliaetus*, or Osprey, by the pond side. This bird was seen and shot at with an air gun by Mr. Stowe several days since, and in all probability was wounded by him at the time. This is the second bird of its species lately met with. It appeared somewhat less in size than Major Dunsmore's specimen. Saw five or six Common Gallinules, one fine specimen of which was killed. One Snipe only was met with during the day. Not a Gull, or a sea-bird of any kind visible on the North coast, although it had been blowing a gale of wind all night, and from noon the preceding day—east and south-east.

November 2nd.—Mr. Marriott shot another Green-winged Teal, this morning, and Mr. Fozard a solitary Golden Plover. The Teal was a young male bird with plumage like the last.

Mr. Elwin, of Somerset, writes me word that on the 18th of last month he shot at "a pair of birds"—about the size of young pigeons—"they were striped about the head, with one broad ring, and one smaller round the neck—very light under plumage, the wings and back something of a slate colour. Tails long and pointed." He says: "In my anxiety to get them both, supposing them to be male and female, I took neither, and have seen nothing of them since."

I think it may be safely concluded these were the Carolina Long-tailed Doves (*Ectopistes carolinensis*). Mr. Elwin also mentions killing three "big Yellow-legged Tattlers" at a shot, weighing eight ounces each. Those I have seen were exceedingly fat, and measured about thirteen and a half inches in length, from the tip of the bill to the tail.

Mr. Wedderburn brought in a Pigeon Hawk (*Falco columbarius*) shot this day at Harris' Pond.

November 4th, 1847.—Examined a Duck killed by Mr. Wedderburn, 42nd Highlanders, in the Governor's Marsh this morning. It measured twenty-one and three-quarter inches in length, and thirty-four and a half from tip of the wings, and proved to be a young male bird which had partially assumed, though in a small degree, the plumage of the adult. The throat was spotted with dark chestnut, and the black and white feathers of the back were sprinkled here and there with the immature plumage of the first year. The long feathers of the tail were wanting. On comparing this specimen with the skin of a male Pintail Duck (*A. acuta*), recently imported from New York, the character of the bird was so distinctly marked,

particularly in the colour and marking of the wings, that no doubt could possibly exist of its identity as one of that particular species. This is the first Pintail Duck that has come under my observation in these islands.

Out in the marshes yesterday, and only saw one Snipe, which I brought home. Mr. Fozard was over the same ground this morning without seeing a bird; and I have been out since 10 o'clock with Mr. Wedderburn, visiting the ponds between this and Harrington Sound. With the exception of a Schinz's Sandpiper (*Tringa schinzi*), we killed nothing, and only saw one small sea Duck, probably a Scaup, and one large Yellow-legged Tattler. There is not a Hawk or a migratory land bird of any kind to be seen, and even the Mosquito Hawks have disappeared. The late easterly gale has certainly driven no birds to these islands, nor do I anticipate a fresh supply unless stormy weather from the west takes place before the migratory season be at an end.

November 7th, 1847.—Mr. Marriott sent me a very pretty specimen of the Sanderling Plover (*Tringa arenaria*) of Audubon, shot on the south shore, near the Sandhills, last evening. It measured eight inches in length; upper plumage, light grey; under parts, white; bill and legs, black; no hind toe. This is the first bird of the kind as yet noticed in our list.

Judging from my own experience, and from the information of those who have taken the trouble to beat the surrounding country, I should certainly say that the feathered emigrants which so lately visited these islands have, to a bird, proceeded on their travels—a stray Duck

or two alone excepted. Not even a Night Hawk appears to be left behind ; of course, I except the Kingfisher and the Blue Heron, which remain with us all the winter.

November 10th, 1847.—Saw Mr. Wedderburn return from an afternoon's shooting, with five couple of Snipes and one Water Crake, all killed in the marshes near town, which were hunted by the same gentleman yesterday without seeing a bird. May not this be a fresh supply of these birds just arrived ?

Last night was calm and fair, with a moon about two days old. The wind had previously blown from the westward.

Last night went out to seek the Snowy Owl, which has again made its appearance, but did not meet with it. One Night Hawk was seen and shot—a solitary bird.

Mr. Fayrer, midshipman on board the "Vesuvius," tells me that when residing at the dockyard with his father, Captain Fayrer, of the Tenedos Hulk, about two years since, a large bird was observed to fly round the extreme point of the island (Ireland Island), and settle in the water outside the Camber ; that he went after the same in a boat, and succeeded in shooting it. That it was twice the size of a duck, with very red legs, and a rather slender bill, hooked at the end. On asking him if he could recognise the bird if he saw it, he replied that he could. Showed him the imported skin of a Goosander (*Mergus merganser*) at Mr. Wedderburn's quarters, which he immediately said was the same bird.

November 13th, 1847.—Mr. Wedderburn tells me he has been out every day since the 10th, and ranged through

the islands from Somerset to Harris' Pond without seeing a bird of any kind. Mr. Orde killed one Snipe in the Governor's Marsh yesterday.

November 16th, 1847.—At 3 p.m. crossed the Ferry, and ranged the south shore from the Sandhills to Hungry Bay. Shot one Sanderling Plover (*Calidris arenaria*) and one Turnstone (*Streptilas interpres*). Saw one other bird only, which I took for a stragglng Golden Plover; this I failed to bring in, though I had two or three long shots at it. *N.B.*—A fresh wind all yesterday from the south-west and north-west.

November 17th, 1847.—Visited Spital, or Harris' Pond, soon after daylight this morning, and returned by the north shore and Governor's Marsh; killed a Coot (*Fulica americana*) and a Sora Soree.

Mr. Wedderburn shot the only Snipe seen. As usual, not a Gull or sea-bird of any kind was to be seen.

November 17th, 1847.—Mr. Elwin sent me a female specimen of the Pintail Duck shot last evening at Somerset. Length, twenty-one and a quarter inches. It appeared to be a young bird.

November 18th, 1847.—Examined a fine young male specimen of the Western Gull (*Larus occidentalis*) of Audubon. Length, twenty-three and three-quarter inches; breadth, four feet seven and a half inches. This splendid Gull was shot by Mr. Wedderburn, yesterday, in the Sound, and agrees with Audubon's description. The eyes, however, were dark hazel—no iris being perceptible. This is the first bird of the kind yet brought in.

November 19th, 1847.—Saw another specimen of the Western Gull, shot yesterday by Lieutenant Orde, 42nd Highlanders, near the Stag Rocks; it was precisely like that mentioned yesterday as killed by Mr. Wedderburn, but somewhat smaller, measuring an inch less from the beak to the tail.

A Gull of the same colour and description was observed by our boatman, Jem Stowe, on his return from the dock-yard this morning.

Went out and cruised about the Sound for two hours in the afternoon, without seeing a bird of any kind.

Lieutenant Wedderburn, 42nd Highlanders, shot a very diminutive Water Crake in the Governor's Marsh this morning. At first I was disposed to think it the young of the Yellow-breasted Rail, but on a close inspection was delighted to find it a species entirely new to these islands. It measured five and three-quarter inches in length; from the carpal joint to the tip of the wing, a little over three inches. The bill, black; legs and feet, dusky brown; irides, dark orange red; chin, white; lower parts, grey, mottled with brown; head and upper plumage, olive brown—the latter more or less speckled and transversely barred with white; neck and shoulders, tinged with chestnut. First quill feather, white on the outer vane, and much shorter than the remainder, which were spotted or speckled with white on the outer side. This bird was evidently in moult. It is described by Audubon as the Least Crake Gallinule (*Ortygometra jamaicensis*).

A Pectoral and two Schinz's Sandpipers killed by Mr. Wedderburn at Somerset to-day.

November 22nd, 1847.—Examined a small Owl, which flew on board the schooner “Robert”—Williams, master—on the 14th inst., while on her voyage from Halifax, Nova Scotia, to these islands. The vessel was in latitude $41^{\circ} 10'$, and longitude $63^{\circ} 40'$ —at the time, the wind blowing very fresh from the south-west. This Owl was alive when I first saw it, but so weak it could hardly stand, and it died the following day. It was olive brown on all the upper parts—the head being thickly dotted with spots and blotches of white; disk, ashen grey; a dark ring rises immediately over each eye, forming two semi-circles, which meet in a point at the chin; a dark spot between the eye and the bill; bill, dusky yellow, and lightest towards the tip; claws, black; irides, yellow; tail and wings, apparently of equal length, but the former was much injured by confinement on board ship, and something must be allowed for the loss in measuring the length of the bird; primaries, when extended, exhibiting four or five rows of white spots or bars; tail, marked with four transverse bars of spots, like those upon the wings; lower parts, mottled grey and brown—each feather being marked longitudinally with brown in its centre; no white about the neck or lower portion of the body; legs and toes, thickly covered with downy feathers of a grey colour mottled with brown; length, eight and a half inches.

I consider this to be the *Uhula acadica*, or Acadian Night Owl, and though not actually a visitant to these islands, it was doubtless on its southern course when fallen in with by the “Robert,” and provided no westerly gale had drifted it to the shores of Europe, it might have been entitled to a place in our list of birds.

November 27th, 1847.—Was shown another fine specimen of the *Larus occidentalis*, or Western Gull, shot by

Lieutenant Wedderburn in Hamilton Harbour this evening. Its measurement the same as that of the fellow-bird shot on the 18th instant. The plumage, of the same grey colour, though perhaps rather more mottled with white. This is the third *Larus occidentalis* recently shot here, and the last, I rather think, of the few which have been observed about this part of the Bermudas.

A Blue Heron (*Ardea herodias*) and a few Turnstones were also met with by Mr. Wedderburn during the day.

Yarrell, the author of "British Ornithology"—to whom the tail feathers of the Bermuda-killed specimen of the Common Wheat-ear were sent—has addressed a letter of thanks to the Rev. H. B. Tristram, and expressed his intention of publishing the circumstance in the next edition of his work—at the same time observing that on reference to his description of the Wheat-ear, a *greater western range than* Bermuda has been given to that bird. This is true; for the Wheat-ear not only visits the Ferroe Islands and Iceland, but has been observed by Captain Sabine in the month of *October*, off Cape Farewell, Greenland, and in May, in latitude 60° N., longitude 13° W. Captain Ross also mentions a *solitary* instance of one of these birds flying round his ship, in Felix Harbour, 70° N., 91° 53' W. longitude, on May 2nd, 1830, which was found dead alongside the following morning—the longitude of Bermuda being 64° 51' W. only.

Now, supposing Captain Ross' specimen to have taken its departure from the coast of Scotland or Norway, resting at the Ferroe Islands, then making Iceland its next stage, and so on to the eastern coast of Greenland, from thence crossing the country to the narrowest part of Davis Strait, and onward to Felix Harbour, and allowing this Wheat-ear to fly at the rate of forty miles an hour only, it would per-

form its longest sea-flight during the journey, viz., from Norway to the Ferroe Islands, in about ten hours. This appears to me far less wonderful than the actual power of wing displayed in crossing the ocean from any geographical point to the Bermudas.

Let us enquire in what direction it is probable that this European migrant came to visit these islands. A direct course from Europe across the vast Atlantic, in the face of prevailing westerly winds, cannot, I conceive, be entertained, under any circumstances; but if we suppose this bird, as a summer migrant, to have passed from the shores of Norway, in a westerly direction to the coast of Labrador, and that at the appointed season (say the latter end of September), its natural instinct should prompt its return to southern latitudes, what can be more probable, or more in accordance with the natural instinct of the migratory tribes in that western portion of the globe—particularly the young birds bred upon the spot—than following a southern course in preference to any other, thus crossing the Straits of Belle Isle, the western coast of Newfoundland, the island of Cape Breton, and the Province of Nova Scotia? This would reduce the over-sea flight from Nova Scotia to Bermuda to about seven hundred and thirty miles, which at the rate before given, would require eighteen hours to perform.

I am the more inclined to think this theory correctly founded, from the novel circumstance of a single specimen of *Crex pratensis* having been killed in these islands on October 25th of the present year. As this bird is known to visit *Iceland*, it may probably—like the Wheat-ear extend its vernal flight to Greenland, or even to Labrador; and thus, by a parity of reasoning, be found, as a straggler from the Eastern World, on the sea-girt isles of Bermuda.

Both the Wheat-ear and the Landrail met with in Ber-

muda, were killed in the month of *October*. The American Woodcock, for some years past, has been gradually extending the northern limit of its vernal flight. May not the Wheat-ear and the Landrail of Europe in like manner extend the westerly range of theirs? If this be granted, what is to prevent these, and perhaps some other European birds, from becoming, in the course of time, permanent residents of the Western World?

November 30th, 1847.—Mr. Charles Fozard tells me that a person named William Stone, who resides near Hungry Bay, and is in the habit of visiting the shallows among the mangrove trees, for the purpose of obtaining bait, assured him that a pair of Blue Herons (*Ardea herodias*) built their nest on the top of some of those trees last year, that he examined the nest himself and found it to contain two eggs about the size of those of a Turkey, but of a greenish blue colour. These he endeavoured to hatch under a hen.

Stone, who subsequently made the same statement to myself, also says that he has recently seen another Heron's nest building near the same spot. This is the first indication I have received of the Great Blue Heron breeding in these islands.

December 14th, 1847.—The Rev. H. B. Tristram brought me the skin of a young *Ardea virescens*, or Green Heron, shot near St. George's about a month since.

It measured only fifteen inches in length, had the greater wing coverts tipped with a triangular spot of white, and the second quill the longest. This specimen was considerably less than the beautiful *adult* bird shot by Lieutenant Abbot on October 13th, last year, and wanted its brilliant plumage.

For the last month the winds have prevailed almost entirely from the east and south-east, consequently none of the feathered tribe have reached us from the American shore, and our first visitants having passed on to the southward, Bermuda has become a barren waste to the sportsman and the lover of Ornithology. I do not believe there is a single Snipe or other migratory bird in the Colony, excepting, perhaps a Blue Heron, a Kingfisher and a *Falco columbarius*, which attacked the Pigeons under my window yesterday morning.

Should stormy weather prevail on the coast of America we may yet be visited by a few straggling Ducks, Cormorants, Gulls, &c., that is, provided the gales blow from the north-west, or west.

December 17th, 1847.—Examined a Warbler shot by Lieutenant Wedderburn, 42nd Regt., in the Governor's Marsh this morning. It measured rather more than five inches in length, and eight in extent. Eyes, dark hazel. Bill, brownish black above, and yellowish towards the base of the lower mandible. Legs and claws, dark brown. Soles of the feet, yellow. Upper plumage of the head, neck and back, greyish olive brown with a few distinct spots of deep reddish chestnut towards the bill; back and neck, slightly dashed with dark brown. Rump, greenish yellow. Tail, olive brown, approaching to black, consisting of twelve feathers, extending one inch from the tip of the wings. The outer tail feathers edged externally with yellowish white, the two outer ones on each side largely spotted with white on the inner webs, and the third feather with a narrow streak of white in the centre, extending to the point. Lower parts, light yellow, lightly streaked with brown. Tail coverts, bright yellow. In other respects this bird agreed with Audubon's description of the young *Sylvicola petechia*, or Yellow-red-poll Wood Warbler.

The length given by Audubon is decidedly too little. Wilson and the "New York Fauna," are more correct. This is another addition to our Ornithology. It proved a male bird.

Examined four specimens of the Wax-wing, or Cedar bird (*Bombycilla carolinensis*), shot near the Chief Justice's Pond this morning by Mr. Wedderburn. They were killed at one shot, and no others seen in company. One only of these birds exhibited the coral-like tips on the wings and that in a very small degree, for on two of the secondaries in each wing only were the red marks visible, and these were so diminutive as to leave no doubt of their recent formation. On comparing these elegant birds with the best of the specimens killed on October 11th last, the change towards adult plumage was strikingly evident, particularly about the head, the black band over the eye, with its border of brilliant white, appearing to be perfect. These birds were very fat.

December 18th, 1847.—Saw two common Snipe which had been shot by Mr. Wedderburn in the Governor's Marsh this afternoon. They were both in a state of moult. No others met with.

A Woodpecker was seen by Mr. Wedderburn, and fired at without success; and also a large bird on the wing, very like a Cormorant, and of a black colour, which carried its neck extended in a straight line, but hovered in the air, and occasionally increased its elevation, as a Hawk would do. What this can be I am at a loss to conceive.

December 20th, 1847.—Lieutenant Wedderburn shot another Snipe to-day, which he was disposed to think dif-

ferent from those generally met with, the body being shorter, and the bill rather longer than usual. The tail contained but *eleven* feathers, and the lower part of the body exhibited more white than three other specimens which were compared with it. It proved, as I anticipated, a female bird, and the difference of plumage may be accounted for by age. It had every appearance of being an adult bird.

December 22nd, 1847.—Mr. Wedderburn came home to-day with one Carolina Crake only, as the fruit of a long walk with his dog and gun. This bird was killed at Mr. Harry Tucker's pond, and was a remarkably fine specimen.

December 24th, 1847.—Mr. Wedderburn killed another single Snipe this evening in the Governor's Marsh similar to the one shot on the 20th instant, though decidedly a finer specimen. This bird has fourteen feathers in its tail, the under part of the body white, the neck rather short, and the upper plumage brighter and more decided in its colours, and the bill somewhat shorter than that of the previous specimen.

Both specimens are preserved.

December 29th, 1847.—Mr. Wedderburn killed one Snipe, and saw two Herons—probably night Herons—rise from the mangrove trees near the sluice gates, at Spanish Point.

January 5th, 1848.—Examined a Gull shot by Mr. Wedderburn near the Hog-fish Beacon, which I consider to be the young of the *Larus tridactylus*, or Kittiwake Gull of Audubon. It measured fifteen and a quarter inches in

length, and thirty-six inches in extent. Wing, eleven and a half inches, and when closed nearly an inch and a half longer than the tail. Bill measured above an inch ; colour black ; eyes, black ; legs and feet (or, rather, foot, for this bird had lost one), dusky brown ; the hind toe very small, with a minute knob in place of a claw. In all other respects the plumage agreed with Audubon's account of this bird, save that the tail, consisting of twelve feathers, appeared somewhat forked when closed, though not so when expanded, and that the two outer and one of the intermediate feathers of the same were pure white, proof of the change from the imperfect plumage of the young bird to that of the adult. This is a new bird for our list, and is supposed to have been seen a month ago.

January 6th, 1848.—Both yesterday and to-day I have observed the Blue-birds (*Sialia wilsonii*), unusually numerous in the immediate vicinity of my house. Why they congregate in such numbers I know not. The cedar trees appear to be the chief object of their attention, dozens of birds clustering about the upper branches of certain trees near the house, apparently intent on the capture of some insects or larvæ. The weather on both days bright and warm.

January 13th, 1848.—Visited the ponds near the sluice-gates this afternoon in search of Ducks said to have been seen there. Saw none. Found the Blue-birds uncommonly numerous from Hamilton to Pembroke Church, and from thence all along the road to the hill leading to the Admiral's, a distance of two miles ; the cedars were teeming with their numbers in a sort of scattered flock.

Returned home along the north shore and across the Governor's Marsh. At the latter saw a flock of Blue-birds

consisting of many hundreds, rise simultaneously from some cedars like a flock of linnets, and alight on some scattered cedar trees in the swamp. This is the only instance of the kind I have witnessed here, and it almost induces me to think that these birds contemplate taking their departure to a more southern latitude. Should the wind continue northerly, and the insect tribe become scarce, this may be the case; though if we may judge from the high condition of two specimens that were shot, they certainly have experienced no want of food up to the present time; indeed, the gardening operations at this season, when onions are planted in every direction, to say nothing of the multitudes of caterpillars, which nearly destroy the cabbage crops, would lead us to suppose that the flocking of these birds is unconnected with the question of subsistence.

February 5th, 1848.—Blue-birds still abound in similar flocks.

Saw another specimen of the Kittiwake Gull (*Larus tri-dactylus*), shot by Captain Drummond, 42nd Highlanders, and presented to the Rev. H. B. Tristram. It is precisely similar to that shot by Mr. Wedderburn on the 5th ultimo, excepting the colour of the bill, which was dark lead colour, instead of black, and the tail feathers were all barred with black.

Mr. Wedderburn informs me that Captain Drummond has also sent him a specimen of this bird, which is in perfect plumage.

February 8th, 1848.—Examined a specimen of the *Ardea herodias*, or Great Blue Heron, shot by Mr. Wedderburn. It measured (per walking-stick) three feet five inches from

the bill to the tail, was exceedingly plump and in full condition. The long, tapering feathers of its crown were evidently of young growth, the base of each being soft and vascular, from which I conclude that it had not attained its full vernal plumage. It proved a female. Another Heron, supposed to be its mate, was seen at the same time and place.

Mr. Wedderburn also showed me a Cormorant, which he had killed at Grace's Island, which proved to be the Double-crested *Phalacrocorax dilophus*, similar to Mr. Orde's specimen of October 11th last, and probably a young bird, as its plumage was somewhat lighter on the wings and upper parts of the body.

February 9th, 1848.—Was shown a specimen of the Night Heron (*Ardea nycticorax*), in the spotted plumage of what is supposed to be the young of that bird. It was shot by Mr. Fozard, at Hungry Bay, and another bird of the same description was seen in its company. May not these be the Herons seen by Mr. Wedderburn on December 29th last? This was a male bird and measured twenty-four inches in length. The whitish spots very distinct on the wings. Irides bright carmine.

February 11th, 1848.—Another Kittiwake Gull, killed to-day. It was nearly in mature plumage, the bill greenish yellow, and the tail feathers pure white, but the head still tinged with bluish grey.

The Rev. H. B. Tristram had another of these Gulls sent to him alive, from St. George's, which he brought to me

this evening dead. It was a young bird, the bill in the intermediate state between black and yellowish green, and the tail feathers beginning to change their barred for the pure white state.

The late gales appear to have driven a sprinkling of these Gulls upon our shores.

February 20th, 1848.—Mr. Wedderburn came over from Ireland Island to-day, and showed me the set-up specimen of the Snow Bunting (*Plectrophanes nivalis*), of Audubon, killed by him on the 18th instant. This is the first Snow Bunting I have known to be found in the Bermudas. Mr. Wedderburn tells me there were four of these birds together when he first saw them; two of which he shot though he only recovered one. The other two escaped him. They were very shy.

February 24th, 1848.—Mr. Wedderburn called on me this evening, and showed me a fine specimen of the *Larus argentatus*, Herring, or Silvery Gull of Audubon. It measured rather more than twenty-four inches in length and differed from Audubon's description only in the colour of the ires, which was light yellow. Mr. Wedderburn tells me he killed three of these birds, out of four, and that one of the specimens differed from the above, in having a dark patch upon the bill, and being more speckled with brown.

Mr. Wedderburn also showed me a beautiful specimen of the Kildeer Plover (*Charadrius vociferus*), shot and set up by Captain Drummond a few weeks since. Several flocks of these birds have been observed in the neighbourhood of St. George's lately, which are said to be very shy and

difficult of approach. Mr. Wedderburn fired at two yesterday without success. None have been seen near Hamilton this season.

February 24th, 1848.—Returning from a sail in the Customs boat with my little boy, I was much pleased to hear the cawing of crows, and when near the Hamilton side of Timbling's Narrows, three of these birds crossed the bows of the boat, flying in the direction of Point Shares. I mention this little circumstance because it is the first time during my long residence in this Colony that I have there seen *Corvus americanus* alive.

March 10th, 1848.—Mr. Wedderburn tells me that a Tropic Bird was this day disturbed by one of his boat boys, from a hole in the rocky shore of Burgess' Point. This is the *first* instance that has come to my knowledge of this bird being seen at so early a period of the spring.

March 16th, 1848.—Hear from Mr. Wedderburn to-day that on making enquiries from the Detachment at Gibb's Hill Telegraph, he was informed that many Tropic Birds have been seen within the last few days.

March 20th, 1848.—Examined a specimen of the Hyperborean Lobefoot, or Grey Phalarope (*Lobipes hyperboreus*), the only one that has ever come under my observation. This bird was picked up floating in Riddles Bay on the 18th instant, quite dead. It was not wounded and showed no signs of injury either externally or internally.

Length, eight and a quarter inches; wing, upwards of four inches; extent, fourteen inches; forehead, sides of

neck, chin, throat, and all beneath, white ; anterior portions of the head, patch behind the eye, back of neck and all the upper plumage, dark slate and grey, lightest towards the rump, each feather more or less marked with white ; wings, dark cinereous ; great wing coverts, broadly tipped with white, forming a conspicuous bar across the wings. Bill, black and lancet-shaped at the point. May not this bird have stunned itself against the lighthouse during a nocturnal flight, and dropped into Riddles Bay below ?

This is a further addition to the Ornithology of these islands.

Saw another specimen of the Herring Gull, which was shot on the 18th by Lieutenant Montgomery, 42nd Highlanders.

March 22nd, 1848.—Mr. E. Jones brought me a specimen of the grey Phalarope (*Lobipes hyperboreus*), which had been recently killed. It was met with at the head of Hamilton Water, by Mr. Frederick Trimmingham, who paddled after it in a small boat (for it was swimming at the time), and succeeding in killing it with a blow from a stick. It bore no appearance of having been wounded.

This beautiful little bird measured eight and a quarter inches in length, and appeared similar in plumage to the specimen picked up in Riddles Bay on the 20th instant, excepting that on each side of the neck, and front or upper part of the breast, it was mottled with numerous spots of a cinnamon colour, and the base of the bill was yellow below. The feet were beautifully and deeply lobed, the toes connected by a membrane.

(Bewick, in speaking of the Grey Phalarope says : “ The scolloped membranes on its toes differ from those of the Red Phalarope in being finely serrated on their edges.”)

Yarrell, who describes this bird as the *Phalaropus lobatus*, Grey Phalarope, considers Bewick's Red Phalarope and Grey Phalarope as the same, differing only in the state of plumage. I may here add that Yarrell appears to have described this bird more correctly than either Wilson, Audubon, or the "New York Fauna," the former giving the length as nine inches, the next as six, and the latter as six and a half inches. Now the two specimens found here gave eight and a quarter inches each, *i.e.*, from the point of the bill to the extremity of the tail; the wings extended somewhat beyond this measurement. I therefore presume that Audubon, in lieu of measuring his specimen in the flesh, has consulted one in a state of preservation, when set up in some collection.

March 26th, 1848.—Mr. Wedderburn, to whom I sent the foregoing specimen, tells me that it proved to be a female; and, further, that the soiled and dirty appearance of the sides and lower parts of the bird (which I had alluded to in my note, and which induced him to wash those parts), is nothing more than the true markings of the female in its partially assumed summer plumage.

April 7th, 1848.—When at the Dockyard to-day I called on Mr. Wedderburn, and examined the skin of this bird which had been set up by him. Found all the lower parts mottled with numerous rusty, or cinnamon-coloured spots, rather thicker towards the vent than elsewhere, but not so bright and metallic as the markings on each side of the neck.

April 15th, 1848.—Saw a hundred and fifteen live Red-birds (*Pilylus cardinalis*) at Facey's, intended for exportation to England.

May 1st, 1848.—Mr. Wedderburn reports that on returning from the North Rock on the 29th ultimo he observed four Terns (probably the Roseate). These are the first that have been noticed this season.

May 2nd, 1848.—Up to this date not a single spring visitant has been observed in this neighbourhood save the Tern, the Tropic Bird, and the two Phalaropes of March last! Why do not the autumnal migrants, or a portion of them, return to the northern latitudes over sea, favouring us with a visit *en route*? We see many strangers in September and October, bent on their southern trip, but scarcely a Snipe, a Sandpiper, or a Plover deigns to look at Bermuda at this season of the year.

June 4th, 1848.—Mr. Wedderburn (who has just returned from three months' duty at Ireland Island) informs me that as he returned home in his boat last evening a large bird was observed sitting on the stump of a tree near Pitt's Bay, that he landed, and approached within twenty yards of it, fired one barrel, which, owing to an intervening tree, hit slightly. The other barrel, unfortunately, missed fire. The bird was a magnificent Osprey.

A few specimens of the Roseate Tern have been shot during the past month.

June 5th, 1848.—My neighbour, Mr. Wedderburn, returned from a ramble to-day with some Tropic Birds' eggs; also an old bird of that species, with its young one. The latter is entirely covered with long white down, excepting the space between the bill and the eyes, which was bare. All the eggs had young birds in them.

June 8th, 1848.—Mr. Charles Fozard brought me a single egg, which had been sent up from St. George's by Mr. Salton Smith, as a specimen of the "Red Shanks' egg." It is about the size of a Pigeon's egg, of a stone colour, spotted with black. I consider it to be the egg of the Roseate Tern.

Not a single Kingfisher has been seen in this neighbourhood for many weeks. I am, therefore, satisfied that this bird is only a visitant, remaining with us all the winter whenever it thinks proper so to do.

June 9th, 1848.—Mr. Wedderburn killed an Osprey this morning. It was a male bird. Measured twenty-four and a half inches in length, and sixty-nine and a half inches in extent. The carpal joint upwards of twenty inches.

Mr. William Barr, who drove up from St. George's in the morning, observed a very large "Fowl Hawk" near Painter's Vale, barred with white on the under side of the wings. This was probably a bird of the same description, if not the identical one.

June 10th, 1848.—An Owl made its appearance close to my house last night. It was shot at by Mr. Wedderburn, and missed. Went out with my gun, but failed in meeting with it.

June 13th, 1848.—Mr. Wedderburn sent me the skin of the Osprey (*Pandion haliaetus*) killed by him on the 9th instant. It differs from that shot in October last, by having the head and neck *white*, marked with brown, and in the primaries not being tipped with white; indeed, they were black, as described by Wilson.

Mr. Wedderburn visited the neighbourhood of Cooper's Island yesterday, but was unable to land on Black Rock, opposite the entrance to Castle Harbour. He found it, however, tenanted by forty or fifty of the Roseate Tern, of which he killed seven specimens. A brother officer, who pulled out with him, stated that on visiting the rock some days previous, the Terns were to be observed sitting there by dozens, and that two kinds were distinguishable, the one (the Roseate) with very forked tails, the other with a tail not forked. It was blowing very fresh from the south-west at the time of Mr. Wedderburn's visit.

June 17th, 1848.—Examined two beautiful specimens of the *Sterna dougalli*, or Roseate Tern, brought in by Mr. Wedderburn from Black Rock to-day. They measured fourteen and three-fourth inches in length, and were beautifully tinged on the lower parts with roseate. One egg like that mentioned on the 8th was also brought in.

Same day examined two specimens of the *Sterna hirundo*, or Common Tern of Audubon. These birds were shot in the same locality as the former species, and probably breed there, forming together a little social community of their own. This is the first and only time this Tern has come under my observation in Bermuda. It is, therefore, an addition to our stock of knowledge on these matters. Length, fourteen and a half inches; wing, eleven inches, *i.e.*, the carpal joints; bill, two inches to the gape, or one and six-tenths from the forehead. Wings somewhat longer than the tail. In the Roseate Tern the tail exceeded the wings in length by upwards of an inch.

Wilson describes this Tern as being fifteen inches in length. Audubon says the male is sixteen. Eyes, black.

In all other respects like Wilson's description. Both specimens were males.

June 29th, 1848.—Mr. Wedderburn tells me that when fishing near the North Rock to-day, a Petrel was seen, and fired at, by him, though unfortunately without killing it. It is described as square-tailed, and not forked (Query—*Thalassidroma wilsoni*).

July 4th, 1848.—Mr. Wedderburn sent me word this evening that he had killed a "new bird"; went over and assisted in the examination of the same. Found it to be *Totanus semipalmatus*, Willet, or Stone Curlew of Audubon. It measured thirteen and seven-tenth inches in length. The tail consisted of twelve feathers, the two centre ones slightly pointed. This bird was killed on a point of Government Island (not far from Pearl Island), in the Sound. It agrees with Wilson's description of its summer plumage. It is the only one that has come under my notice in these islands. It was a female specimen, and very fat.

July 18th, 1848.—Mr. Wedderburn tells me he shot at a "*Black Sandpiper*," to-day, on his return by water from St. George's. Can this be the *Tringa maritima*, or Purple Sandpiper, of Audubon?

July 25th, 1848.—For weeks past the weather has been very warm, vegetation burnt, and tanks beginning to fail. Wind east and south-east for the last few days. Yesterday the breeze increased a little; heavy clouds appeared upon the horizon, and a hurricane was freely spoken of as among the possible events. Last night heavy showers of rain fell, accompanied by the same south-easterly wind.

At six o'clock this morning, Mr. Wedderburn tells me, his boat-boy knocked at his door to inform him there was a Golden Plover in the street close by. Mr. Wedderburn went out and saw the bird wing its way over the white roof of a neighbouring cottage. He afterwards saw a flock of the same birds pass over the town. He then sailed to Burgess' Point and fell in with two flocks of Golden Plover, which were too wary to allow a near approach. There Mr. Wedderburn also saw two large birds which he took to be the "Oyster Catcher," but they were also extremely shy. A Schinz's Sandpiper was observed and shot at in the same locality, without success, and in the evening a *Totanus vociferus*, or Tell-Tale Tattler, was seen and approached nearly within shot.

These are very extraordinary facts, concerning which there can be little doubt, Mr. Wedderburn being an excellent judge in matters of Ornithology. Why do these birds almost invariably appear in wet and squally weather?—and why have they appeared five weeks earlier this season than usual?

Mr. Charles Fozard also tells me, that on the 23rd inst., at 8 p.m., he distinctly heard a flock of Plover passing over the islands in a southerly direction. It was too dark at the time to see them.

July 28th, 1848.—Saw a very fine male specimen of the Spotted Sandpiper (*Totanus macularius*), shot by Mr. Wedderburn at Burgess' Point. It appeared to be in very full plumage, the spots on the lower parts extending from the throat to the tail. Mr. Wedderburn met with no other description of visitants.

July 29th, 1848.—Was shown a specimen of the *Totanus flavipes*, or Yellow-Shanks Tattler, killed by Mr. Wedder-

burn to-day. It measured ten and a quarter inches in length. Mr. Wedderburn was fishing off the North Shore, distant from the land about four miles, when he observed two birds approaching his boat from the northward; they appeared to be fatigued. Their flight was low and near the water. As they came within long range, one of them was killed—the specimen above mentioned. Mr. Wedderburn soon afterwards saw a flock of about fourteen birds, come in from the northward and fly in the direction of Government House. These also kept near the surface of the sea.

Mr. Wedderburn supposes them to have been of the same species as the above.

Wind south-east, day fair.

July 31st, 1848.—The Rev. R. Mantach tells me he saw two birds “like Plovers” fly over the Breakwater, at Ireland Island, yesterday, and Mr. Downes, of the Commissariat, reports having seen thirteen or fourteen birds on the same day, which were probably the *Totanus flavipes* in a flock.

Mr. Wedderburn returned from Somerset to-day with a young specimen of the Spotted Sandpiper (*Totanus macularius*), two or three *Tringa semipalmatas*, the same number of *Tringa pusilla*, and a Sandpiper, with a slightly curved bill. Legs, black glossed with green. Bill, black, upper mandible grooved. Toes connected by membranes like the *semipalmateds*. Length, six and a half inches. Scapular rufous, black and ash; mixed wings, brownish ash. First quill shaft, white. Upper parts, mottled brown and ash. Head and neck of the same colour, but lighter. Lower parts, white, spotted or rather streaked, even to the

tail coverts. Secondaries, slightly tipped with white. Tail, brown, black in the centre, the two middle feathers pointed and somewhat longer than the others. A whitish streak over the eye. Extent twelve and a half inches. On a careful comparison with the smaller specimens of the Semipalmated Sandpiper, I feel satisfied in my own mind that the foregoing is only a larger individual of the same species. It was a male bird. Measured nearly four inches from the carpal joint, and one and one-tenth of an inch along the upper mandible of the bill. The smaller specimens varied from five and a half to six inches in length, with the bill straight, and considerably thicker from the base to the point. This agrees perfectly with Wilson's account. These birds were very fat.

August 1st, 1848.—Mr. Wedderburn writes me word that early this morning he saw a Swallow (*Hirundo rustica*) pass over his quarters in this immediate neighbourhood.

August 2nd, 1848.—Mr. Marriott tells me he saw a flock of Golden Plover yesterday, about thirty in number. They were low down, and flying in a north-westerly direction over his house.

Examined a very fine male specimen of the *Tringa himantopus*, the Long-legged Sandpiper of Audubon. This bird was shot near Mangrove Bay by Mr. Wedderburn, who reports that another of the same species was in company with it, and also a larger bird, of which the name was unknown to him. Length of present specimen, eight and three-quarter inches; carpal joint, five inches; auriculars, pale Indian red; outer quill shaft, white; tibia bare for an

inch. In other respects, all agreeing with the Audubon and the "New York Fauna." This is a further addition to our list of Bermuda birds.

A Yellow-shanks and two smaller Sandpipers were seen by Mr. John Tucker at Miss Lloyds' pond yesterday.

August 3rd, 1848.—Mr. Hudson Smith tells me that on the 1st instant he saw two fine flocks of real Golden Plover at Burgess' Point; and this evening, on the approach of a heavy thunder shower, I had the satisfaction of hearing the whistling note of the Yellow-shanks over Hamilton Water, being the first strange note that has fallen on my ear for a long period.

August 4th, 1848.—Mr. Wedderburn went over to the Chief Justice's Ponds this morning, and found them teeming with Yellow-legged Sandpipers. At 4 p.m. joined him in another visit to the same, and there saw about twenty of the *Totanus flavipes*, a few Semipalmated Sandpipers, and a few spotted ditto. Brought away three couple of the former, and one semipalmated. Learned from the ferryman that flocks of the yellow legs were flying about the harbour immediately preceding the thunder shower last evening. Wind south and south-east for some days past. Thermometer 82° and 83°.

Measured two of the above Yellow-shanks. One was ten and a quarter inches, the other eleven inches, *full*, in length. Both were very fat.

August 9th, 1848.—Am often told by persons of intelligence that they have lately seen flocks of birds passing to the southward, very high, and numbering from four to

thirty ; and the master of a small vessel just arrived from Baltimore, tells me that at sea the night before last he heard a flock of birds pass over the vessel, but in what direction they were flying he could not say.

August 11th, 1848.—Visited Mr. Harry Tucker's pond and Hungry Bay in the expectation of meeting with a few Swallows. Saw nothing but two or three Spotted Sandpipers (*Totanus macularius*), of which I killed one specimen. Found the Chief Justice's pond occupied by a coloured sportsman.

August 13th, 1848.—Mr. Wedderburn informs me he shot a Swallow (*Hirundo rustica*) at Mangrove Bay yesterday, and that the Rev. H. B. Tristram had observed three of these birds a few days before about the glacis at Ireland Island.

August 16th, 1848.—Again visited the Chief Justice's pond, and found a flock of seven or eight Yellow-shanks and one Spotted Sandpiper there. Killed one of the former. This species of *Totanus flavipes* has been observed at Spittal Pond, and indeed about all the shallow pools in this neighbourhood. It is one of the earliest and most common of our migratory birds.

August 21st, 1848.—Mr. C. Fozard brought me a specimen of the Spotted Sandpiper this morning, in the full spotted plumage of the adult bird. It measured seven and a half inches in length. He saw no other kind of visitant in his rambles.

August 22nd, 1848.—Saw Mr. Wedderburn this morning, who tells me a remarkably fine specimen of the Turnstone (*Streptilas interpres*), was killed by Lieutenant Cockburn, 42nd Highlanders, and sent to him yesterday. It was one of five, supposed to be part of a flock of fourteen seen in the neighbourhood of Ireland Island.

Flocks of Plover—supposed to be the Golden species—have been observed by several gentlemen within the last week or ten days, passing to the southward at a considerable elevation; in one instance (on the 19th), the flock was supposed to number a hundred birds. At night also, when the stars are shining brightly and the breeze is hushed, an occasional flock of birds may be distinctly heard passing in the same direction and apparently at a similar elevation. These I presume to be of the same species. It is the whistling note, multiplied by numbers, which one hears and which reminds one of a flock of Siskins moving from hedgerow to hedgerow in the old country. This is the middle of our hottest season. Thermometer, 82° to 86°.

August 24th, 1848.—Visited the Marshes, near Mr. Marriott's, in search of a "strange bird," reported by that gentleman. Met with several Yellow-shanks and Spotted Sandpipers. Killed specimens of the two latter. Saw nothing of the stranger.

Hear from Mr. Downes, of the Commissariat, that he saw two Swallows flying about his house yesterday, in Hamilton. Though I keep a sharp look out, I have not seen one of the Swallow kind this season.

August 25th, 1848.—Mr. Fozard tells me he was fishing off the north shore (near Government House), last evening and while so occupied with his neighbour, Captain Wainwright, he observed a very large flock of Golden Plover, "come in" from the north-west. He describes this flock as consisting of a cluster of birds in front, from which extended three long lines, at least a hundred yards in length, all trailing from the cluster, in the shape of a broad arrow, and resembling in their appearance three tails of a paper kite. He is sure he speaks within bounds when he says they numbered five hundred birds. They continued their course at a moderate pace and elevation, and disappeared over the neighbouring hills. Their piping could be heard at a great distance.

Coming home after dark the same parties *heard* another flock of birds of similar note wending their way to the southward by the light of the stars only. The morning previous to this event I was informed that a very large flock of Plover had come in from the north about daylight; they continued their course without stopping. They were seen by the cottagers east of Mount Langton. Weather calm and fair.

August 28th, 1848.—Heavy rain having fallen for some hours this morning, and the evening being dark and lowering, I took my gun, determined to ascertain if any Golden Plover had alighted upon our hills. Ranged the north shore from the wells to the Admiral's, crossed over to the sluice-gates, and home by the Church. Saw nothing but two Spotted Sandpipers, which I killed. One of these happening to fall in the sea, I had an opportunity—as it was only winged—of seeing it swim and dive, which it continued to do for some time, and often descended to the bottom of the clear water, which was full four feet in depth.

In rising from one of these descents, near a rock, I contrived to capture it. On my return home I met Dr. Muir, of the 42nd Highlanders, who told me that as he was passing Sir William Burnaby's, about five o'clock this evening, he saw two coloured men standing in the road staring at the heavens. On asking what they were looking at, they pointed out a large flock of Plover flying to the southward. The doctor described them as very numerous, and said the two men estimated the flock at one thousand birds.

August 31st, 1848.—Having casually observed, to-day, that I thought it very strange that the Grey Plover of North America should never be met with in these islands, I was told by Mr. Fozard that he had on more than one occasion killed it here. He described the bird as being of a grey colour and a size less than the Golden Plover.

September 1st, 1848.—Heard that a man belonging to the bakery had killed some Grey Plover on the 30th ult. Went there and saw the man, who described the Plover as speckled—with large eyes and black legs. Said they were killed on Minton's ploughed land on the North Hills; in all, four birds.

From all I could learn I have no doubt these birds were the Golden Plover of this part of the world.

September 2nd, 1848.—Mr. Wedderburn writes me word that he shot a Carolina Crake (*Ortygometra carolinus*), at Mangrove Creek on the 1st instant, being two days earlier than the first bird of last year.

.September 4th, 1848.—Mr. Fozard went out with his gun early this morning, hunted the Governor's Marsh, ranged the North Shore from the Wells to the Admiral's, and home by the sluice-gates. Saw nothing but one Water Thrush (*Seiurus noveboracensis*) in the Governor's Marsh. This Mr. Fozard did not fire at, his gun being loaded with large shot.

Mr. Marriott brought me an excellent specimen of the Sanderling (*Tringa arenaria*) shot by him on the south shore this morning. This bird was speckled or streaked with reddish brown on the throat and sides of the neck. Also a specimen of the Mosquito Hawk (*Chordeiles virginianus*), shot near his own residence at the same time. Sent both specimens to Mr. Wedderburn at Ireland Island.

September 5th, 1848.—Mr. Wedderburn called on me with a beautiful specimen of *Charadrius helveticus*, or Black-bellied Plover of Audubon and Wilson. It was a full-sized bird, with upper parts mottled with black and white. This is the only bird of this species that has come under my own immediate observation during the eight years I have been in Bermuda. It was shot at Somerset this morning. Mr. Fozard was present on this occasion, and assured me he had frequently killed Plover of the same kind in Bermuda.

Mr. Wedderburn also showed me an addition to the fauna of these islands, viz., a very perfect specimen of the *Charadrius melodus*, or Piping Plover, which measure seven inches in length. The very pale and delicate brown of the upper parts of this bird and white collar round the neck are quite peculiar.

September 7th, 1848.—Walked through the Governor's Marsh. Put up two Carolina Crakes. Failed in bringing home either of them. Saw one Curlew on the hills; but could not get near it.

September 10th, 1848.—Mr. Wedderburn called on me to-day and compared the number of birds on his list with the number on mine. Find he has the "European Snipe," and the "Cahow," with one or two others of a doubtful character enrolled as Bermuda birds, which require further investigation to entitle them to be so considered.

This is now exactly the season for the Golden Plover to appear in these islands, provided the weather be wet and squally with the wind at south or south-east.

September 11th, 1848.—Samuel Nemes, Master of the schooner "Jessie," arrived this day from Norfolk, in the United States, and nine days out, with fair weather the whole voyage, reports that he heard flocks of Plover passing over his vessel twice during the voyage; it being night these birds were not visible. They were supposed to be flying in the direction of south-east.

Saw two Swallows on the wing, I think they were of the usual kind, *Hirundo rustica*, the first I have seen this season.

September 13th.—Mr. Wedderburn informs me that he yesterday hunted Mangrove Creek—the Sluice Pond—Governor's Marsh, the Sandhills, Hungry Bay and Mr. Harry Tucker's Pond. Shot three or four Carolina Crakes one of which when flushed took to a mangrove tree, from

which it was killed. At Hungry Bay Mr. Wedderburn shot a fine specimen of the Great Blue Heron (*Ardea herodias*), a young bird, tinged in the upper plumage with ferruginous. Length, three feet eleven inches. Extent, five feet eleven and three-quarter inches. Carpal joint, eighteen and a half inches. Bill, upwards of five inches. Mr. Wedderburn also shot two Ring Plover (*Charadrius semipalmatus*) and two Spotted Sandpipers.

Mr. Triscott killed three Turnstones on the same day.

Major Tulloch, while crossing the sound in a dead calm late at night, on the 12th instant, heard a great many birds passing over.

September 14th, 1848.—Ingham, master of the brigantine, "Daphne"—just arrived from Ponce, in the island of Porto Rico—tells me he saw numerous flocks of Plover on the voyage, all of which were flying about due south, and generally in long lines, like wild Geese or Ducks.

NOTE.—A hurricane passed over Antigua early on the 22nd ultimo, and, sweeping over the neighbouring islands of St. Christopher, St. Thomas, &c., turned to the north without touching Porto Rico, and on the 31st dismasted a barque between this and New York, thus traversing a course intermediate between these islands and the coast of America.

September 22nd, 1848.—Mr. Marriott informs me that he saw a Kingfisher this morning. This is the first that has been observed this autumn.

September 23rd, 1848.—Returning from the post office this afternoon I distinctly heard the well-known note of the Big Yellow Legs (*Totanus vociferus*) as this bird passed over the town.

September 25th, 1848.—Hunted every part of the Governor's Marsh for a small bird which I observed yesterday perched upon the tops of the tall seed-stems of the reedy grass that abounds there. Saw nothing of it, or indeed of any other visitant. Met Mr. Wedderburn on my return from the Marsh, and was shown a beautiful specimen of the Esquimaux Curlew (*Numenius borealis*) of Audubon. It measured thirteen inches in length; bill, two inches long and slender. Shaft of the first or longest quill feather, white, the rest gradually shaded to brown. Legs, dark lead or slate colour. This is the first Esquimaux Curlew I have examined in Bermuda. Mr. Wedderburn had also shot at Spanish Point three Golden Plover—all of them white on the lower parts—one Sanderling, and two Turnstones. He reports having fired at a very large species of Tern.

September 27th, 1848.—Mr. Wedderburn called this morning, and informed me he had seen a specimen of the Hudsonian Curlew (*Numenius hudsonicus*) of Audubon, in the possession of the Rev. H. B. Tristram, at Ireland Island, to whom it was presented by Lieutenant McLeod, 42nd Regiment, who shot it yesterday in the neighbourhood of St. George's.

September 28th.—Mr. Wedderburn writes me word that on his return to the dockyard yesterday (blowing hard at the time from the south-west) a large bird was seen to enter

the arched entrance of the keep. This it quitted immediately, and was soon afterwards shot by Mr. Wedderburn. It proved to be the "Frigate Bird" (*Tachypetes aquilus*) of Audubon. Length, thirty-three inches; extent, seventy-seven inches; carpal joint, twenty-three and five-tenth inches; bill, to the gape, five inches. This is probably a small specimen. It was in moult, some of the quill feathers not having attained their full growth. This is another addition to our Bermuda birds.

Saw two strange birds near my house early this morning, and went after them with my gun. They were fired at by my neighbour, Mr. Fozard, and escaped. I am disposed to think they belong to the Finch family.

I hear of several Kingfishers having been seen within the last few days, of two being shot; of a Qua-bird, killed by Mr. McLeod, of the 42nd, at St. George's two days ago, and Mr. Wedderburn mentions meeting with several Night Hawks at the keep, Ireland Island, sitting on the guns.

Visited Harris' Pond and the vicinity. Saw five Telltale Godwits, a few Pectoral Sandpipers, and some Semipalmated and Spotted ditto. Shot one Pectoral only. Length, seven and a half inches.

September 30th, 1848.—Mr. Wedderburn shot another Frigate Bird this morning, which he brought over alive. It is supposed to be a female, and has the head and lower parts *white*. (Gosse says this is the plumage of the young bird.) Upper parts, brown; bill, light blue, ending in *white*

towards its hooked extremity ; eyes, dark brown. I was struck with the Swallow-like formation of its wings and tail. This bird was seen several times yesterday in the neighbourhood of Somerset and Ireland Island, and was shot by Mr. Wedderburn inside the Camber early this morning.

Same day.—Was shown one of the Golden Plover shot by Mr. Wedderburn on the 25th, and which that gentleman is disposed to think different from the common kind. The specimen in question was set up, and in every respect resembled the Golden Plover noticed by me as shot by Mr. Orde on September 27th last year. The adult appearance of the upper part of its plumage, and the absence of black on the lower parts, are very remarkable. It was a male bird, with the inner wing coverts of the usual light woody brown colour. Lower parts, whitish, mottled with very light yellowish brown.

October 2nd, 1848.—Beat the west portion of the Governor's Marsh for the express purpose of ascertaining if any Snipes had arrived. Found one Snipe, the first this season, which I flushed twice, and fired at without success. Toiled hard in a temperature of eighty or eighty-one in the hope of finding others, but saw none. Wind south-east where it has been for some days.

October 3rd, 1848.—Hear from Mr. Wedderburn that while on guard at Ireland Island this morning he shot a new bird—the Prairie Wood Warbler (*Sylvicola discolor*) of Audubon, which he presented to the Rev. H. B. Tristram, who made a skin of it.

October 5th.—Saw two Kingfishers pass over the town to-day ; have heard of several being shot.

October 9th, 1848.—A recently killed specimen of the Common Tern (*Sterna hirundo*) was brought to me this morning. It was a young bird of the present season. Length, thirteen inches.

October 10th, 1848.—Killed one Snipe in the Governor's Marsh, and found the bones of another shot by me on the 5th, and lost among the thick ferns.

Hill, master of the "Lady of the Lake," arrived yesterday morning from New York, tells me he saw some flocks of Plover of about eighty each passing to the southward on the 8th instant.

October 14th, 1848.—The Rev. H. B. Tristram brought over the skins of the Hudsonian Curlew and Prairie Wood Warbler mentioned before for my inspection. The former measured fifteen and three-fourth inches only in length, with the bill a little over two inches on the upper part, from which I conclude that it is a young bird, rather below the average size. The Prairie Warbler measured four and seven-tenth inches in length, but as the head was considerably cut by heavy shot, this measurement may not be very exact. The outer tail feathers, edged with white externally. In other respects the specimen agreed with Wilson's description.

Mr. Wedderburn tells me he has several times noticed a large species of Hawk near Boss's Cove of late, which he is

satisfied, from the roundness of its wings, and the way in which it glides through the air in circles, must be a " Buzzard."

October 16th, 1848.—From noon, day before yesterday to midnight last night it was blowing a gale of wind, commencing at east, and veering gradually to south and south-west, after which it continued for sixteen or eighteen hours from the north-west.

Mr. Marriott informs me that during the gale he saw four or five Blue Herons (*Ardea herodias*) on the rocks of the south shore, and a negro boy from Port Royal offered to sell me one which he caught alive yesterday. Mr. Wedderburn also tells me that yesterday a Blue Heron alighted in the dockyard, and was captured by the convicts, who offered it to him. Saw a very fine one in this gentleman's possession this evening, which he purchased from a boy at Hungry Bay, who knocked it off a cedar with a stick during the gale. Heard of another being caught by a boy at Brackish Pond, and one was also captured at St. George's. It is evident from this that several of these birds must have taken refuge on our shores during the blow.

Heard also from Mr. Wedderburn that he saw two of these birds make the land from the north, and that they flew close to the surface of the waves, apparently much fatigued. Mr. Wedderburn was at Ireland Island at the time.

Mr. Hodgson Smith sent me a fine specimen of a young Green Heron (*Ardea virescens*), shot by his brother this morning. It was of course in its immature plumage. Measured eighteen and a quarter inches in length. Bill (upper surface), two and a quarter inches.

I learn from Mr. Wedderburn that a Yellow-billed Cuckoo (*Coccyzus americanus*), during the gale of yesterday, took refuge in one of the barrack-rooms at Ireland Island, where it was captured; but unfortunately with the loss of the greater portion of its tail. It is a strange coincidence that, on the same date last year, a Yellow-billed Cuckoo was captured in the same manner, and at the same place.

October 17th, 1848.—Mr. Fozard was out early this morning and killed a young specimen of the *Anas acuta*, or Pin-tail Duck, in all respects similar to those shot by Mr. Wedderburn last year, except that the long feathers of the tail were present, not having been shed in the moulting of the bird. It measured twenty-four inches in length. It was found in a small marsh near the town, frequented by a number of domestic Ducks belonging to a cottage close by.

Mr. Wedderburn shot a Rice Bunting (*Dolichonyx oryzivora*, or Wandering Rice-bird of Audubon) in the marshes near Hamilton this morning, also a couple of Snipe; and he saw and fired at a *Ortygometra jamaicensis*, or Least Crake Gallinule.

October 18th, 1848.—J. R. Place, master of the schooner "Norman," just arrived from Halifax, Nova Scotia, informs me that on his passage hence to that port, about the 12th ultimo, in longitude $63^{\circ} 30'$ and latitude 37° , he fell in with vast numbers of Plover, in flocks numbering from thirty to a thousand each, all flying due south by compass. Weather moderate at the time, but on the following day it blew fresh from the north-west. He further says that he could hear numerous flocks of Plover, passing over his

vessel on the night of the above-mentioned day, and that he does not think there was anything easterly in the flight of these birds. He expected to hear Bermuda had been teeming with them.

October 20th, 1848.—Learn from Mr. Hodgson Smith that he yesterday shot two “Wild Geese,” in Riddles Bay. Was shocked to find these birds were cooked and eaten up almost as soon as killed! Endeavoured to obtain some clue by which to ascertain the species, but to no purpose, Mr. Smith’s description being, as usual in Bermuda, vague to a degree. Made interest for a few feathers, a head, foot, or any other remnant, and was promised a wing.

These “Geese” are described as “evidently young birds,” male and female. Mr. Smith was educated in Nova Scotia and is well acquainted with the Canadian and Brent Geese, neither of which, he assures me, will answer to the description of the Riddles Bay specimens.

October 21st, 1848.—Met Mr. Wedderburn returning with his gun; he had seen nothing during the day but one Rice-bird, which he killed.

October 25th, 1848.—The Rev. M. S. K. Frith sent me a specimen of the Yellow-billed Cuckoo to-day. It was dead, and from the soiled appearance of its plumage, appeared to have been kept in the cage for some days.

Heard this morning that a strange bird had been taken from a cat, at Salt Kettle, and was to be seen alive at a certain store there, moreover that the said bird was a “Crossbill.” Crossed over in the ferry-boat expressly to ascertain the fact, and was shown the head of the bird. It

proved to be that of a Yellow-billed Cuckoo, with a curious malformation of the upper mandible of the bill, which was curved over to the right side of the lower mandible, and gave rise to the impression that the bird belonged to the family of Crossbills. This bird was captured yesterday. It is the third specimen that has come under my notice this season.

Saw a fine specimen of the Rice-bird (*Dolichonyx oryzivora* of Audubon), shot by Mr. Fozard. Length, six and eight-tenth inches.

October 26th, 1848.—Yesterday both Mr. Wedderburn and Mr. Fozard were out and scoured the neighbourhood without seeing a single bird of any kind, with the exception of one or two Rice-birds. This afternoon I saw Mr. Wedderburn returning with his gun, and was informed by him that "the Snipes were in," that in coming through Facey's Marsh after sunset, he flushed several couple of them, and though it was so dark he could hardly see them, he managed to bag a couple. These were very fine plump birds.

Mr. Wedderburn also met with two Bitterns, during his walk, one of which he winged, and lost in the thick grass around Mr. Harry Tucker's Pond.

NOTE.—The breeze has been from the west nearly all day, and threatening heavy rain from that quarter. This evening it has shifted to the south-west, and considerably increased.

October 27th, 1848.—Mr. Wedderburn was out this morning at daybreak and killed a couple of Snipe in the neighbouring marshes, also a Crake (*Ortygometra jamaicensis*), which he unfortunately lost.

Went out with Mr. Fozard for two hours before sunset, and ranged the whole distance from the silk factory to the sluice gates. Saw one Snipe only, two Rice-birds and a Carolina Crake. The latter was shot by Mr. Fozard, and was the only reward of our toil. Heard the loud whistle of the Hudsonian Curlew as it passed over my office this morning. It was seen by Mr. Wedderburn at the time.

October 28th, 1848.—Accompanied Mr. Wedderburn and Mr. Fozard in an excursion to Harris' Pond and some other ponds in that vicinity. Found half-a-dozen Snipe only during the day, of which three were killed. Mr. Wedderburn shot a Pigeon-hawk (*Falco columbarius*), in returning home through the Governor's Marsh; he also killed a couple of Snipe very early in the morning.

October 29th, 1848.—Memorandum.—The distance from the southern extremity of Nova Scotia to St. Thomas' and the neighbouring West Indian Islands is equal to five-and-twenty degrees, or fifteen hundred miles. From the southern coast of New England, United States, to the islands above-mentioned it is about thirteen hundred and eighty miles. This immensity of space is annually traversed by myriads of Golden Plover (*Charadrius marmoratus*), and some other of the feathered species in their autumnal migration to southern latitudes. A few of these migrants meeting with the Bermudas, at a point nearly equally distant between Nova Scotia and St. Thomas, are induced to alight there, but these are as nothing compared with the immense numbers which pass on in a more eastern or western range of longitude, or which may be observed during the day, or heard during the night, crossing over

these narrow islands in their wonderful flight. Let it be borne in mind that the greater portion of these land birds are young and of immature growth, and consequently are making their first grand essay on the wing, that they have no means of resting or obtaining food while thus occupied in traversing the ocean, and I think it will be freely allowed that there is nothing on record more wonderful than the above ornithological fact, or which more clearly displays the wisdom and power of the Almighty in the creation of the feathered tribes.

November 1st, 1848.—Examined a specimen of the Yellow-crowned Wood Warbler (*Sylvicola coronata*), of Audubon, shot by Mr. Wedderburn in the Governor's Marsh this morning. It measured full five and a quarter inches in length—was very bright yellow on the rump, paler on the sides, and the crown of the head bright yellow at the base of the plumage, visible only by removing the surface to either side. This is the second specimen I have met with in these islands.

Also examined the wing of one of the Wild Geese shot at Riddles Bay by Mr. Hodgson Smith on October 19th. It consists of the two outer joints of the left wing. Extent from the joint to the tip of the wings, twenty-one inches; length of second or middle bone, upwards of six inches. Carpal joint, sixteen inches. Second quill-feather the longest. First quill-feather curved on the inner web and consequently narrowed for three and a half inches near the extremity. Second quill-feather curved on both webs and narrowed four inches from the point. Third quill-feather sloped on the outer web only at three and a half inches from the end. Primaries, ten in number, dark brown with

white shafts, the outer feathers inclining to grey as they approach the greater wing coverts, under which they are entirely light grey. Secondaries, sixteen in number—the outer six rounded at the extremity, the remainder slightly pointed. Colour; greyish brown : outer webs finely margined with very light grey or white, extending to the tips and inner webs. Greater wing coverts (of the primaries) grey, with brown shafts; greater wing coverts (of the secondaries) white, powdered with grey. These are followed by the long axillary feathers of a dark greyish brown on both webs broadly margined with white; the visible portion of the shafts of these feathers, black; beyond that, white. Base of the secondaries, entirely white. Bastard-wing, consisting of three stiff feathers, grey, with brown shafts, the outer feathers terminating in a sharp point. Lesser wing coverts, light ash grey, margined with white. The under wing coverts, pure white.

From the information afforded by the examination of this wing, I think there can be no doubt that the Goose shot by Mr. Hodgson Smith is the young of the Snow Goose (*Anser hyperboreus*), commonly known as the Blue-winged Goose of North America. The superior dimensions of the Canada Goose, compared with the Bermuda specimen, and the decidedly inferior size of the four remaining species of the genus *Anser* common to this portion of the globe, at once point to *Anser hyperboreus* as the species under consideration; and this opinion is well supported by the bluish-grey and white appearance of the external plumage of the "wing," and the pure white of the inner wing-coverts, Mr. Smith's statement notwithstanding. Hezekiah Frith, master of the ketch, "Peri," tells me that on his voyage from these islands to Baltimore in August last, viz., on the 25th of that month, latitude 35°, and

longitude 70° , he fell in with great numbers of Plover flying to the southward in flocks, many of them three hundred strong; could hear the flocks passing over him during the following night; and on his return voyage to this port, on the 22nd of September, being then in about the same longitude, he again met numerous flocks of these birds pursuing their flight in the same direction.

November 2nd, 1848.—Mr. Salton Smith has informed me that a man, named Smith, belonging to the whale boats, captured on Black Rock, during the past summer, one old Cahow and two young ones; that he took them home with him, where the old bird made its escape, and the young birds both died.

He also informs me that, on visiting the said rock about a week afterwards (about the middle of August), he found it almost covered with "Redshanks" (*Sterna hirundo*) and their young; that the latter have the bills and feet black or brown; and that the red colour does not appear in those parts for some time.

I also learn from Mr. Salton Smith that an immense flock of Plover passed over St. David's Island, a short time before the gale of the 15th ultimo. These birds he describes as flying low, and in a due south direction. He thinks there must have been nearly two thousand in the flock. They trailed in long lines from a leading cluster, and appeared to be a hundred yards in extent. Since Mr. Wedderburn shot the two Snipe in December last—mentioned on the 20th of that month—he makes it a practice to count the number of tail feathers in every specimen of the Snipe which he kills; and this morning he killed one with seventeen feathers in its tail. I examined

these feathers myself, and found eight of them belonging to the right side, and nine to the left. In all other respects this bird resembled the common Snipe of America. I presume this to be an accidental deviation from the general rule.

November 3rd, 1848.—Mr. Wedderburn brought in this morning another specimen of the Yellow-red-poll Wood Warbler (*Sylvicola petechia*) of Audubon. It measured five and two-tenth inches in length, and corresponded in every respect with that killed on the 17th of December last.

Saw a Snipe killed by the same gentleman, with the under plumage *pure white*. It had sixteen feathers in the tail.

November 6th, 1848.—Mr. Wedderburn showed me a Snipe, killed by him this evening, which had, strange to say, *eighteen* feathers in its tail. In all other respects it resembled the common Snipe of America. How is this extraordinary circumstance to be accounted for?

November 17th, 1848.—Visited the marshes in the neighbourhood of Hamilton, and the ponds at Spanish Point. The former are in excellent order for Snipes, and yet not one of those birds could I meet with; indeed, save one solitary Kingfisher, I saw nothing.

November 23rd, 1848.—Mr. Wedderburn has been out several days without finding a Snipe, or any other autumnal visitant, save one common Blue Heron, which he shot yesterday; this being the second example he has obtained.

I have also failed in obtaining, or meeting with, any of these migrants. May we not conclude from this that all have passed onward to the south ?

One exception to the above remark is a Bittern, which feeds daily in a swamp close to Dick Keye's garden, near Hamilton, and which retreats into a very thick piece of reeds, close by, whenever disturbed. Eels appear to be its favourite food.

November 24th, 1848.—Measured the Great Blue Heron, shot by Mr. Wedderburn on the 22nd inst. Length from bill to tail, three feet and a quarter of an inch ; legs included, five feet and three-fourths of an inch.

November 26th, 1848.—Examined a specimen of the American Pipit (*Anthus ludovicianus*). Length, six inches ; carpal joint, three and one-tenth inches. Three first primaries nearly equal. Tail, twelve feathers ; outer tail feather, white, excepting the base of the inner web ; second feather with a white tip and outer edge ; legs, greenish dark brown ; claws, black and long, hind claw longer than the toe, very flat, and considerably curved ; bill, brown, and reddish yellow at the base of lower mandible ; greater and lesser wing coverts, broadly margined with light brown. The head was much shattered by shot, but the buff-coloured band over the eye was distinctly visible. Upper plumage, olive brown or dark grey ; under parts, as described by Audubon. The bill was slightly deflected, with a very small notch near the tip. I consider this to be a young bird, and it is entirely new to our Bermuda list.

It was shot yesterday by Mr. C. Fozard, being one of a

flock of four, met with in Facey's Marsh. It closely resembles the Tit Lark of Great Britain.

November 27th, 1848.—Mr. Wedderburn met with two Snipe in this neighbourhood to-day.

November 29th, 1848.—Saw a specimen of the Yellow-bellied Woodpecker (*Picus varius*), shot by Mr. Wedderburn this day. With the exception of one Carolina Water Crane, no other bird was met with.

I have every reason to believe that on the 27th a Qua Bird, or American Night Heron, of Audubon (*Ardea nycticorax*), in adult plumage, was shot at the sluice gates, by a young man named Walker. He describes the bird as larger than a duck, not web-footed, of a bluish grey and white colour, and with two or three white feathers, nearly as long as the finger, projecting from the crown or crest at the back of the head. The bird—as usual in Bermuda—was destroyed. I have endeavoured to obtain some portion of it, and have been promised a leg and a wing, but as yet they have not been received. Should this circumstance be confirmed, it will be the first instance of an adult specimen of this bird coming under my observation here.

December 4th, 1848.—Two Snipe were killed this morning by Mr. Wedderburn. None found in the afternoon.

Saw the person who is supposed to have shot the Qua Bird on the 27th ultimo, and from his description of the

bird, have little doubt it was an adult specimen. No portion of this bird was preserved.

Learn through Mr. Wedderburn that Mr. McLeod, 2nd Battalion 42nd Highlanders, stationed at St. George's, shot a Kildeer Plover (*Charadrius vociferus*) there yesterday—a very fine specimen.

December 9th, 1848.—Rambled across the Hamilton Ferry with my gun. Fell in with two Night Herons, in spotted plumage, at the Chief Justice's Pond, and killed both. Male—twenty-five and eight-tenth inches in length; breadth, upwards of forty-seven inches. Female—not so long by an inch. Both very fat. Ranged the sea shore from beyond the Sand-hills to Hungry Bay without seeing a bird. May we not say, with truth, that we have a sea coast without sea birds?

December 12th, 1848.—Mr. R. D. Fraser informs me that in Port Royal Bay, last evening, he saw an immense Hawk hovering over the water, almost within gunshot, and that on two separate occasions he observed it to dash into the water after its prey. This bird he describes as being brown above and whitish about the head and under parts—an Osprey, no doubt.

While out with my gun this evening, I visited the swamp near "Dick Keye's" cottage, to seek for the Bittern which frequents that spot. Saw it rise from the open part of the marsh, and retreat into the thick tall reeds at the upper end. These reeds were seven or eight feet high. With much difficulty I forced my way to the spot, but so dense

was the cover that all my efforts to rise the Bittern were of no avail, and I had very great difficulty in forcing my way out again.

December 13th, 1848.—Examined a specimen of the *Gallinula chloropus*, or Common Moor Hen, shot by Mr. Wedderburn, at the sluice gates. It measured over twelve inches in length. Bill and frontal membrane, olive green—the former yellowish at the tip. Had every appearance of being a bird of the present year.

Mr. Wedderburn also tells me that he shot three Snipe and saw a fourth, in a small piece of marsh at Somerset last evening. Two of these Snipe were observed at a considerable height, coming in (as Mr. Wedderburn supposed) from the westward; wind south-west.

Went this afternoon to witness some Seine fishing by Captain Rollo and Mr. Wedderburn of the 42nd Regiment, at Boss' Cove; while so employed an Osprey glided, with the speed of thought, over the neighbouring hills of Point Shares, and, circling twice over the shallow bay near us, disappeared higher up the Creek. Some time afterwards his Kestral-like note was distinctly heard on the opposite side of the bay, and the bird itself discovered sitting on the summit of a tall palmetto stump. Mr. Wedderburn immediately went over in his dingy, and succeeded in killing it. It was not so large as some former specimens shot here, but its plumage appeared to be that of an adult bird, probably a male. The upper parts were of the usual colour—the lower, pure white with the exception of a few brown streaks about the lower part of the neck. Third quill-feather longest; four first quills remarkably diminished in

breadth on the inner webs, towards their extremities. Mr. Wedderburn supposes this to be the bird he has so often taken for a Buzzard.

Mr. Wedderburn shot a Bittern near the sluice gates, on his return from Hamilton, which he unfortunately lost among the thick reeds and mangroves.

December 13th, 1848.—A common Blue Heron (one of those captured after the October gale), kept by the Rev. H. B. Tristram, at Ireland Island, was seen some weeks ago, to kill a Ground Dove, which it immediately swallowed entire.

December 18th, 1848.—Hunted the Governor's Marsh this evening, and found nothing. Visited the Marsh, near "Dick Keye's," and contrived to get a shot at the Bittern (*Ardea lentiginosa*), that has haunted that spot for some weeks. It proved to be a fine specimen, full twenty-seven inches in length. Sent it to Mr. Wedderburn.

January 1st, 1849.—Examined a Gull, shot this morning by Mr. Wedderburn. It measured twenty-one and a half inches in length, was of a brown colour, darkest on the upper parts, and mottled with spots of a dull white or very light brown. Bill, black, with the extreme point white. Tarsi, brown, and about two inches in length. Feet, clay colour—nails black. Tail, with a broad dark-coloured band near its extremity, the outer feathers above the band nearly white. Quill feathers slightly tipped with dirty white. I consider this to be a young bird of the past season, of the species *Larus zonorhynchus*, or Common

American Gull of Audubon, though somewhat exceeding the dimensions given by that author. This is a further addition to our Bermuda fauna. It is described as the "Grey Winter Gull," in the "New York Fauna."

January 4th.—Saw a finely-plumaged specimen of the Yellow-crowned Wood Warbler, shot by Mr. Wedderburn at Riddles Bay this morning.

January 8th.—Heard that Mr. Richard Dill had killed a Wild Duck near the head of Hamilton Water. Walked to his residence in the hope of being able to ascertain the species. As usual, found the bird had been picked, and made ready for cooking. Succeeded in finding the head on the rubbish heap, where also were scattered the wet feathers. The feet (of this duly trussed body) were large, and of a dirty yellow, or clay colour; nails, the same; the feathers of a dull greyish black. This bird was seen in the morning swimming in the water near Mr. Dill's house, apparently much exhausted by the stormy weather of the two preceding days. It was followed in a boat, and killed by a blow from a stick. I consider this to be the female of *Fuligula perspicillata*, or Surf Scoter of Audubon.

The bill to the gape measured two and three-tenth inches; colour, light brown on each side, dark brown on the upper part and rounded point, with a patch of the same colour near the base; plumage of the head, dark brown, with a light coloured band spotted with dark brown extending from the bill to the cheek below the eye. The eye was indistinct, but the iris appeared of a dirty white. This is a new bird to our list.

Mr. Wedderburn brought me two very beautiful specimens of the Scaup Duck (*Fuligula marila*) shot by him

this day at Warwick Church Pond. They were both very much alike, sixteen and a quarter inches in length, with beautiful dark chestnut brown heads and necks, and a band of brilliant white plumage round the base of the bill. This band measured six-tenths of an inch in the widest part, being narrower on the upper part; chin also white. The white mirror was not confined to the secondaries, but extended to the primaries, excepting the four or five external ones. The upper plumage was of a rich brown, in which the delicate white pencilling of the second plumage, said to be peculiar to the male, was beginning to spread. Lower parts whitish, more or less mottled with brown. Audubon describes this as the markings of the female.

January 11th.—Shot a Snipe in the Governor's Marsh. Tail feathers, fifteen—imperfect.

Mr. Wedderburn came over from Ireland Island to-day, and informed me that Captain Wingrove, of H.M.'s steamship "Scourge" (now laying at the dockyard), captured, with one of his boats yesterday, a female specimen of the Hooded Merganser (*Mergus cucullatus*), of Audubon. This is a further addition to our fauna.

January 13th.—Mr. Wedderburn writes me word that a private of his company captured in the muzzle of a cannon inside the Keep, Ireland Island, last night, a beautiful specimen of the Acadian Night Owl (*Uluia acadica*), of Audubon, now alive and well. Another addition to our list. He also adds that five Kildeer Plover have been killed by Captain Drummond, 42nd Regiment, at St. George's.

January 17th.—Visited the ponds between Hamilton and Harrington Sound in search of Water-fowl. Saw not a single bird.

January 18th.—Several Snow Buntings (*Plectrophanes nivalis*) have recently been observed in the open part of the dockyard at Ireland Island by persons whose testimony can be relied on. Others are reported to me as having been met with on the hills of the north shore near the new lunatic asylum, and I learn from the Rev. H. B. Tristram that four or five very fine specimens of this bird were killed at St. George's by Captain Drummond, of the 42nd, on the 12th inst. The weather for some days previous had been boisterous and cold, with wind at north-west.

January 20th.—Mr. Wedderburn called on me this morning with the set-up specimens of his Acadian Owl (caught on the 12th inst.) and a very fine Snow Bunting (*Plectrophanes nivalis*), the latter shot yesterday on the glacia at Ireland Island from a small flock of four or five.

January 29th.—A few days ago it was reported to me that a solitary "Gull," of a brownish colour, had been noticed for some time to haunt the north shore near the admiral's residence. To-day Mr. Wedderburn called to tell me that on the 27th he killed a young specimen of Bonaparte's Gull (*Larus bonapartii*), being a further addition to the list of Bermuda birds.

February 3rd, 1849.—Heard this morning that a young man named Walker, who resides near the Sluice Gate Ponds, saw on Sunday last a "White Crane" in that neighbourhood. It being Sunday, he did not attempt to shoot it, but a younger brother of his went down and disturbed the bird several times. It is described as being considerably larger than the Common Blue Heron, and "*as white as cotton.*" On seeking for it on the following morning Walker saw nothing of it.

Went out this evening and searched all the ponds and mangrove creeks in that vicinity. Met with a Kingfisher only.

February 14th.—Darwin, who visited the Galapagos Islands (immediately under the equator) in Her Majesty's brig "Beagle," between September 17th and October 20th, mentions the Rice Bird (*Dolichonyx oryzivora*) as the only North-American bird there met with. This is the most southern range of the Rice Bird yet observed. Gosse describes them as visiting the Island of Jamaica in vast numbers during the month of October. "Early in November," he says, "they depart for the southern continent. They usually return in the month of April for a few days, on the northward migration, when the males are conspicuous in their nuptial dress."

During the present month two Shrikes (of grey plumage and undulating flight) have been reported to me as being met with in different parts of the Islands. Also one Owl, about the size of a Pigeon, and a small Hawk. Have been too much occupied with the performance of official duties to seek them. Mr. Wedderburn sailed for England, *via* Halifax, on the 16th instant.

March 17th, 1849.—Several of the Gull species have been noticed about Hamilton Water during the last few days, and this evening Mr. Fozard brought in a beautiful specimen shot in the harbour. It proved to be *Larus tridactylus*, or Kittiwake Gull, in mature plumage; the bill being greenish yellow, the tail pure white, and the back of the head somewhat tinged with pearl grey, darkest on the auriculars. It measured sixteen and a half inches in

length. Eight of these birds were seen by Mr. Fozard, who shot two others, which he failed in recovering from the water.

The weather from the commencement of the present month has been particularly boisterous, the wind blowing hard from east-north-east, and latterly north-west.

Mr. W. B. Smith showed me a young female specimen of the Pintail Duck (*Anas acuta*), which was shot at Riddles Bay. It measured twenty-one and a quarter inches in length. Is not the author of the "New York Fauna" wrong when he describes the tail of this bird as consisting of fourteen feathers only? There were *no elongated* upper tail coverts to this specimen, and sixteen feathers in the tail itself.

March 26th.—Learn from a person resident at Port Royal that some "Long-tails" (*Phaëton æthereus*) were observed "last week," in the vicinity of Burgess' Point. In the neighbourhood of Hamilton not a land or sea bird is to be seen or met with; native residents excepted.

The Rev. H. B. Tristram informs me that on Sunday, the 18th instant, he observed two Tropic Birds on the shore of Somerset, being the first this season, and that many have been noticed since by others.

April 7th, 1849.—One of the lighthouse keepers, named Smith, tells me that a few days since he observed a bird as large as a Turkey sitting upon a palmetto tree at Riddles Bay. It was black on the upper parts, with a white breast. The bill yellow, about six inches long, and hooked at the

point. Is certain the throat was not of an orange colour. May not this have been a Frigate Bird (*Tachypetes aquilus*)?

Mr. W. B. Smith (of Riddles Bay) informs me that the Crows (*Corvus americanus*) have young ones in the neighbourhood of Warwick Church, that while driving into town during the last few days he has seen them on the wing in company with the old birds, and that they are easily distinguished from the latter by their inferior size.

Mr. Fozard walked to the Lighthouse yesterday, and visited the south shore for the express purpose of obtaining (if possible) a few specimens of the Tropic Bird. He saw not a single bird of that species, though he remained watching their favourite haunts until sunset.

April 8th.—Found the young of the *Orpheus carolinensis*, or Cat Bird, some days old. This bird is very common in these islands, and remains throughout the year. The *Pitylus cardinalis* has also completed its nest, though I failed in finding eggs in them.

April 13th.—The Rev. H. B. Tristram informs me that he has lately seen a male and female specimens of the Yellow-bellied Woodpecker (*Picus varius*), both shot in the neighbourhood of Ireland Island—the former in full plumage, and the latter now in his own possession.

April 18th.—Mr. Hodgson Smith sent me a beautiful specimen of the Blue Heron (*Ardea carulea*) of Audubon and Wilson, shot by him at Riddles Bay this morning. It proved to be a female bird, in immature plumage.

Length, twenty-one and a half inches; extent, thirty-six and a half inches; bill, three and three-fourths inches long,

from the frontal plumage, lead colour towards the base, and dark horn colour on the outer half; upper mandible, notched near the extremity; lower mandible, white on the under side; nostrils, linear. Around the eye, to the base of the bill, the skin was uncovered, and of the same leaden hue tinged with yellow. Eyes, black; head, crested, with "loose unwebbed feathers" two and a half inches long, of a pearl grey colour, interspersed with a few long, slender, white plumes about the nape; lower portion of the neck, covered with long white taper feathers, the pointed ends of which extended over the upper portion of the breast. One of these feathers was shaded with grey.

Lower parts, pure white; under wing coverts, the same, slightly touched here and there with grey or light purple; back of the neck, light grey, becoming darker on the anterior portion of the back; rump, white; tail, of twelve feathers—the four centre ones, of a dark brown, somewhat mottled with white, the outer ones, white; back, covered with long tapering pointed feathers, extending from the shoulders to the centre of the tail; colour, white, speckled with grey. There was no appearance of curl at the end of these plumes. Wings—scapulars, white, powdered with bluish grey; primaries and secondaries, pure white, the former margined at the tips with grey; great secondary coverts, and three of the long axillary feathers, of a grey and purplish brown, darkest on the latter; second and third quills equal, and of a greater length than the remainder; carpal joint, ten inches; legs and toes, yellowish green, except on the anterior parts, which were olive brown; tibia, bare for two and a half inches; tarsus, three and a half inches in length; nail of hind toe, much the largest. This is the first bird of this species that I have met with in these islands, and is therefore an addition to our list.

April 19th.—Examined a very beautiful male specimen of the Tyrant Fly-Catcher (*Muscicapa tyrannus*), shot this morning by Mr. Marriott near his own residence. It was in very perfect plumage, and measured eight and a half inches in length. With the exception of one killed in March, 1847, this is a solitary instance of its visiting the Bermudas.

Mr. Orde, 42nd Regiment, informs me that he killed a Spotted Sandpiper (*Totanus macularius*) in spring plumage on the 14th instant. He considers it a vernal visitant.

Mr. Orde also tells me that he has lately visited the south shore, near Gibbs Hill, that the Tropic Bird is common there, but keeps so much over the water, that of four specimens killed by him all fell into the sea, only one of which was recovered by him. He says they have not yet commenced laying.

April 21st.—Received a very fine specimen of the Green Heron (*Ardea virescens*), shot this morning by Mr. Hodgson Smith at Riddles Bay.

It was carefully measured without stretching, and gave the following dimensions: length, nineteen inches; extent, twenty-seven inches. This is somewhat above the ordinary size of this bird.

Irides, gold colour; nostrils, linear and pervious. Upon the inner margin or angle of the lower mandible, a bright spot or streak of bright carmine. Legs, deep yellow or orange, with a shade of russet-brown along the fore part of the tarsi and toes; tail, entirely dark green; dorsal plumes extending to within one and a half inches of the extremity of the tail. I consider this to be a male bird in the plumage of this season of the year.

The Rev. H. B. Tristram writes to me from the Dockyard, saying that a splendid live specimen of the Purple Gallinule (*Gallinula martinica*) was brought to him this morning by a sapper, and that there were several others of the same species in company on the breakwater, where this was taken.

He also reports "numbers" of Night Hawks (*Chordeiles virginianus*) to have made their appearance at Ireland Island. An Osprey and a Pigeon Hawk had also been seen.

Mr. Orde, 42nd Highlanders, killed two Green Herons (*Ardea virescens*) this afternoon, in full plumage, extremely beautiful, and very different from the autumn birds.

April 23rd.—A *strange* bird, reported by Mr. Marriott as having been seen by himself and his neighbours frequenting the cedar groves in the vicinity of Paget's Church. It is said to be brown, mottled with whitish spots; larger than any barn-door fowl, and of strong flight; perching in trees when disturbed! As there are some domestic fowls living in a wild state in that neighbourhood, I was almost disposed to think that one of them had been mistaken for the supposed stranger, but the parties will not for a moment allow it to be possible.

Went out this afternoon with Marriott and Fozard. Saw five or six Night Hawks feeding over the Chief Justice's Pond, three of which, all males, were killed. Saw nothing of the *strange* bird.

April 24th.—Received another note from the Rev. H. B. Tristram, dated the 21st (Saturday), mentioning his

having shot a *new* bird, the Blue Yellow-backed Wood Warbler (*Sylvicola americana*), a beautiful male specimen in full plumage, though much injured by the shot.

He also mentions having seen another "Warbler" and two Purple Gallinules in the dockyard on the same occasion. Also that he had a Carolina Crake alive in a bird-cage.

Heard from the Colonial Treasurer, and also from his son, that two yellow-legged birds were seen by them wading about Warwick Church Pond this morning. From the description given, I am inclined to think they must be Green Herons.

April 26th.—Visited the pond and marshes near Warwick Church. Shot a Carolina Crake (*Ortygometra carolinus*), and a bird which I took to be the common Gallinule, but which I lost in the dense growth of reeds and rushes, although I had a setter with me. A bird entirely new to me got up, wild and solitary, from a small pond in this thick cover. I fired, though it was hardly within range, and was struck with the beauty of its plumage, which appeared to be of a dark *indigo blue*, glossed or shot with green. As it rose over the hill before me, with the bright sun shining on its back and wings, I can speak most positively on this point. In size it was somewhat less than the American Bittern, and its flight similar to that of the Heron tribe.

Mr. Hodgson Smith wrote me word yesterday that he had seen a rare bird of a large size, and of a dark blue colour; probably of the same species. Now, the only bird answering to this description is the Glossy Ibis (*Ibis falcinellus* of Audubon), and I very much regret that no specimen has yet been obtained to place this discovery beyond all doubt. Saw a Green Heron at the pond, and followed

it from tree to tree without getting a shot. Mr. T. Darrell, who lives close by, tells me it is there every day feeding opposite his windows. Mrs. Darrell also informs me that a white or dove-coloured bird had been wading in the same place for some hours in the early part of the morning. She described it as being too large for a Heron—saw it settle on a tree—thinks it must be a “Crane” of some kind. The Common Blue Heron (*Ardea herodias*) is invariably termed a “Crane” in the Bermudas.

April 28th.—Lieutenant McLeod, 42nd Highlanders, killed a Spotted Sandpiper (*Totanus macularius*) to-day in full plumage. Saw two Night Hawks, and shot one of them.

May 7th, 1849.—Met Mr. Hodgson Smith, and had a conversation with him concerning the “dark blue” bird. He tells me he discovered it sitting on the margin of the same small pond where I disturbed it on April 26th; that it was about the size of the American Bittern, and like the Heron species in shape. It was very tame, and allowed him to approach within short gun shot, and make several attempts to let off his gun, but the nipple having unfortunately broken with the first of these attempts, the bird ultimately took wing, and disappeared in the direction of Warwick Church Pond. Mr. Hodgson Smith also tells me that the Green Heron is common in his neighbourhood just now, and that he has ceased shooting them, under the impression that we had specimens enough.

May 11th.—Sailed to Gibbs Hill with Lieutenants Orde and McLeod of the 42nd. Crossed over to the south shore to seek Tropic Birds and their eggs. Were not an

hour hunting the rocks, and returned without finding a single nest. Saw one Tropic Bird at a distance on the wing.

Landed and gave chase to a Green Heron on James' Island, on our way down. It escaped to an island at some distance.

At this season of the year small patches of barley, ripe, or nearly so, may occasionally be seen standing near some of the cottages. On passing one of these patches, in the vicinity of Gibbs Hill to-day, Mr. Orde observed two birds, each suspended by the legs to a stick, and was shocked, on a closer inspection, to find they were Tropic Birds in a living state. He inquired of the good woman of the house the reason of their being placed in that situation. She informed him they were hung up as scarecrows, to keep away the chickens which invaded her ripe barley. The unfortunate birds were immediately released by Mr. Orde, and once more winged their way to the wide ocean, leaving their benefactor to bear the brunt of a severe scolding from the good dame, who *dared* him to prosecute her for cruelty.

May 14th.—Saw the entire skeleton of a Yellow-billed Cuckoo (*Coccyzus americanus*), which was found yesterday washed on shore, near Hungry Bay, by Mr. Marriott. The tail was perfect, and most of the larger feathers of the wings. It had probably perished at sea on its vernal flight to the North.

May 16th.—I have always doubted the correctness of Wilson's statement that the female of the *Pitylus cardinalis* (or "Red Bird" of these islands) "often sings nearly

as well as the male," and was therefore much surprised, while taking a walk near Mount Langton, this evening, to hear the notes of this bird proceed from what certainly appeared to be a female. It is impossible to mistake the brilliant red of the male for the russet garb of the female at this season of the year, when these birds are in full plumage, and busily engaged in rearing their young. (I had just before found a Red Bird's nest, containing three eggs.) This bird sent forth its song from the top of a cedar within shot, and I regretted having no gun with me, that I might have ascertained by dissection and placed beyond doubt the truth or otherwise of Wilson's assertion.

May 17th.—Lieutenants Orde and McLeod, 42nd Highlanders, returned to Hamilton this evening from a visit to the Black Rock, opposite the entrance to Castle Harbour. They landed there without difficulty, in the forenoon, and upon a ledge about half-way to the summit, captured two fine specimens of the genus *Puffinus*, or Shearwater, one of which was sitting upon a single egg, the other had nothing under it. Both of these birds were found in holes of the Rock, and allowed themselves to be captured by the hand.

A young bird was also found upon the same rock; it appeared to be the same species, and was covered with black down. This was not disturbed.

Carefully examined the specimens brought in, of which the dimensions were as follows:—Length, upwards of thirteen inches; extent, twenty-six and three-tenths inches; bill from the forehead, one and one-tenth inches; from the gape, one and six-tenths inches; carpal joint, eight inches; tarsus, one and five-tenths inches; second quill longest; bill, light bluish lead colour; both mandibles decurved at

the extremity, and tipped with black ; surface of the upper mandible, and a narrow line on each side of the lower, also black ; nostrils, tubular ; irides, dull white ; plumage of the upper part, blackish brown ; the greater secondary wing coverts being slightly tipped or margined with white ; eyelids, cheeks, sides of the neck, and lower parts pure white ; *no* dusky patch on the sides of the breast ; under tail coverts, dusky brown, ending in the dark colour of the upper plumage ; tail of twelve feathers ; outer margin of the tarsus and outside toe, black ; tarsi much compressed ; hind nail very small, and inserted considerably above the lower end of the tarsus ; inner side of tarsus, webs, and inner toes, pale flesh colour ; under coverts of the wing, white ; inner margin of the wing, from the shoulder to the carpal joint, mottled with brown and white.

The foregoing was rather the larger specimen of the two. The lesser one measured thirteen and three-fourths inches in length, twenty-six in breadth, and had a longer bill. It had also a dusky patch on each side of the breast. In all other respects it was like the former.

The egg, which was taken under the first of these specimens, was of a pure white, nearly as large as a common fowl's, but finer and more polished on the surface.

I think there can be no doubt that this is the *Puffinus obscurus*, or Dusky Shearwater, of Audubon, although the length of the bird given by him is stated to be eleven inches only. In the "New York Fauna" these dimensions are set down at from ten to eleven inches. These must be errors, arising probably (as in the case of the Phalarope), from consulting the set-up specimens of some cabinet or museum. This is the first time I have met with this bird in Bermuda, and I look upon its discovery as highly interesting. Whether the larger species, the *Puffinus cinereus*, also breeds in the same locality or not, further investigation

and enquiry must decide, though I cannot help entertaining an opinion that it does so, and that it will be found identical with the "Cahow," described by Governor John Smith in his account of these islands, published in 1629.

The former of these specimens proved a female bird and the latter a male.

June 2nd, 1849.—Mr. McLeod, of the 42nd Regiment, visited the Black Rock, off Castle Harbour, this day. He tells me he saw four Terns only there, two of which he killed, and failed to recover from the sea. One Tern's (*Sterna hirundo*) egg was found and brought in. The young Shearwater, seen on the 17th ult., was still on the rock, and grown but little, though partially feathered. The parent birds were not seen.

June 21st.—Mr. Ord and McLeod, of the 42nd Regiment visited the Black (or as they call it "Gurnet Head") Rock last evening, and this morning. Of Terns they saw none and the only bird on the rock appeared to be the young Shearwater, first observed on May 17th, and which they brought away. It is precisely like the two specimens of *Puffinus obscurus*, lately taken on the same rock, excepting that the under portion of the body was densely covered with long, thick, white down. The upper plumage was uniformly dark in colour, and not mottled. Several specimens of *Phaëton æthereus* were shot by these gentlemen, who reports these birds as very abundant in that part of the islands. The five specimens I examined possessed, one elongated feather only, in the tail, although a second feather appeared in one or two instances to be growing, and had already attained to the length of a few inches.

July 19th, 1849.—Mr. Orde, 42nd Regiment, sent over for my inspection a specimen of the Spotted Sandpiper (*Totanus macularius*). It was a young bird without spots, and measured seven and three-fourths inches in length. This is the first migratory bird from northern latitudes that has come under my observation this season. On May 24th last, I noticed two of the Sandpiper tribe very busy feeding in the wash of the sea below the Sand Hills. I had no gun with me at the time, but have reason to believe they were a pair of Spotted Sandpipers, stragglers of the season. I visited the spot on the following day with the intention of shooting them, but they were not to be found though I searched the coast for miles. I do not think these birds breed in Bermuda, but consider them as our earliest visitants from the north at this very warm season of the year.

July 30th.—Recognised the well-known whistling note of the Yellow-Shanks (*Totanus flavipes*), as it passed over the town of Hamilton this evening, about an hour and a half before sunset. It was thrice repeated. How wonderful is the regularity with which this bird visits the Bermudas! Weather serene. Wind south-east.

August 2nd, 1849.—Saw a fine specimen of the Yellow-legged Sandpiper (*Totanus flavipes*), in the possession of Mr. Orde, who obtained it yesterday from a boy at Harris' or Peniston's Pond, by whom it had just been shot. It was remarkable for being excessively fat. Mr. Orde also obtained at the same pond a little Sandpiper (*Tringa pusilla*). Many of these birds were stated by the boy to have been at the pond when first he visited it. Mr. Orde reports two brown-looking Sandpipers seen by himself.

We may, therefore, safely conclude the advance guard of the great migratory column from the north to be on the move.

August 3rd.—Mr. Orde brought in from the islands in the Sound a remarkably fine specimen of Turnstone. It was evidently an adult bird in mature plumage. This is the earliest arrival of the *Strepsilas interpres* that I have noticed. Another bird of the same species was in company with the above.

August 4th.—I learn from Mr. Orde that he shot several Semipalmated Sandpipers (*Tringa semipalmata*), at Peniston's Pond to-day.

August 8th.—A solitary Sandpiper (*Totanus macularius*) shot by Mr. Fozard to-day.

August 14th.—Examined a fine specimen of the Hudsonian Curlew (*Numenius hudsonicus*). Length, almost eighteen inches. Bill, three and a half inches. This bird was shot by Mr. Fozard, on the hillside, near the north shore, and appears to have been a solitary straggler, as it was found quite alone.

This and the two preceding days have been distinguished (or the afternoons) by very dark weather accompanied with heavy rain, thunder, and lightning. During the rain of the 12th (Sunday) a flock of birds was reported to me, by Tatem, the fisherman, to have come in from the eastward, and passed along the north side in a westerly direction, flying very low. My informant could not undertake to say what kind of birds they were, though he thought they were Curlews.

That flocks of birds are met at sea both to the west and south of these islands, and all flying to the south, at this season of the year—say from the commencement of the present month—I learn from various masters of Bermuda vessels, and to-day a passenger from Turk's Island assured me that a few days since, when about ninety miles west of Bermuda, a flock of thirty birds passed the ship, flying very rapidly to the south. May not these flocks consist of Hudsonian Curlews, which, according to Pinnent, frequent the hills of the Labrador coast in countless numbers at this season of the year?

August 15th.—Between the hours of nine and ten this evening, a flock of Curlew or Plover passed within a short distance of our open windows, and, judging from the clear, loud, whistling notes, were proceeding to the south. The night was very dark and stormy, with frequent showers of heavy rain.

These birds must have been flying very low. A flock supposed to be the same, passed over the residence of Mr. Thomas Hall at this precise time. Course, south.

August 16th.—Visited the North-side Hills and Sluicagate Ponds at daybreak. Saw nothing.

Was shown two specimens of the *Charadrius semipalmatus*, American Ring Plover of Audubon, shot this afternoon, at Riddles Bay, by Mr. Orde.

August 17th.—Mr. Fozard shot two Pectoral Sandpipers (*Tringa pectoralis*), one of which I saw in the possession of Mr. Orde.

August 21st.—Mr. Fozard brought in a very fine specimen of the Red-breasted or Brown Snipe (*Macrorhamphus griscus*), shot by him in the Marshes between Spanish Point and this town. It measured upwards of ten inches in length. This is the second instance of meeting with this bird.

August 23rd.—Visited the Chief Justice's Ponds, Hungry Bay, and Harry Tucker's Pond. Saw nothing but one *Totanus vociferus*. Mr. Orde, who returned the same evening from St. George's, mentioned to me that he observed several Swallows flying about in the vicinity of that town. Have seen no Swallows in this neighbourhood this year.

August 28th.—Mr. Orde informs me that in passing Paget's Church last evening, he saw six or seven Swallows sitting on the roof-top of that building. Went out this evening and hunted the neighbourhood of Paget's Parish and Hungry Bay, but saw nothing of the Swallow kind, or indeed, of any other migratory bird.

August 30th.—Mr. Fozard tells me that while walking on the North Shore, near the Wells, yesterday, he saw a flock of Plover come in from the north-west, and pass over these islands in a south-easterly direction. They were at a considerable elevation, and formed a cluster, from whence proceeded two curved lines in the rear. Mr. Fozard estimated the number of this flock at three hundred birds.

September 3rd, 1849.—Mr. Josiah Dickenson, while looking at the New Church yesterday, at sunset, in company

with Mr. D. McPhee Lee, observed a flock of Plover or Curlew, numbering about fifty birds, passing at a considerable height to the south-east.

Captain Rollo, 42nd Highlanders, informs me that on the 31st ult., he observed a large flock of birds pass over Mount Langton, towards the south-east. Is certain they must have numbered two hundred. They were very high, with long trailing lines from a leading cluster.

September 5th.—Mr. Samuel Nelmes, one of the oldest sea-going navigators of these islands, told me to-day, as he cleared out his schooner for Prince Edward Island, that when commanding the brigantine "Carib," twelve or thirteen years ago, on a voyage from London to Bermuda, in the month of September, and sailing in the latitude of these islands, with fair breezes and a continuation of remarkably fine weather, the vessel going four or five knots only, and the Bermudas distant between four and five hundred miles, he fell in with endless flocks of Plover, all flying in a south-east direction.

On referring to the Custom House Records, I find that this voyage was made in the year 1833; the date of the Master's report at the Custom House, in Hamilton, being September 14th.

Though aware that an immense body of these wonderful migrants sometimes crossed the latitude of these islands some miles to the eastward, this is the first instance, which has come to my knowledge, of their stretching so far in that direction, being upwards of a thousand miles from the nearest part of America.

September 6th.—Flocks of Plover repeatedly seen to-day flying to the southward, by various individuals.

September 10th.—Hear daily accounts, from persons of respectability, of flocks of Plover passing over these islands in a south or south-easterly direction. At 10 p.m. on the 8th, the night being calm, and the moon not up, heard Plover passing over the town of Hamilton. These flocks, I understand, continued passing until midnight. To-day Mr. John Tucker tells me that he heard Plover pass over Riddles Bay last night; these continued passing for some time. A sharp look-out has been kept for these birds along the north and south shores, upon the neighbouring hills, and among the islands in the Sound, but, as yet, not a single flock has been met with, nor a single specimen brought in.

September 11th.—Mr. Triscott and two officers of the 42nd Regiment made a boating excursion, among the islands in the Sound this morning, in search of Plover. A few stragglers only were met with; two of these (*Charadrius marmoratus*) and two Turnstones (*Streptilas interpres*) were brought in by the party.

Visited the pond near Warwick Church, in the evening, and there shot a solitary specimen of the *Totanus vociferus*, or Great Yellow-shanks Tattler. This bird had been previously wounded in one leg.

The Master of the brigantine "Lady of the Lake," on reporting his vessel from New York, informed me that on the passage he observed two flocks only of Plover. These were rather large, containing from three to four hundred each, and were flying so directly to the south-east that he concluded they were bound to the Bermudas. Heard no flocks passing during the night. Weather fair during the voyage.

September 13th.—Mr. Fozard reports that he saw a Snipe (*Scolopax wilsonii*) last evening, on his return across the Governor's Marsh, having been to the north side seeking Plover. This being unusually early for the arrival of this bird, I proceeded in the evening, with Mr. Fozard, to the marsh in question, where we succeeded in finding a couple of genuine Snipe, wild, and strong on the wing when flushed. One of these I killed and brought in.

This is the only instance within my experience of the Snipe visiting the Bermudas in the month of September.

At the head of the Governor's Marsh, near Minton's Cottage, we met with a solitary Spine-tailed or Chimney Swallow, *Chatura pelasgia*, of Audubon, which I contrived to bring down. This is the only bird of this species I have met with in these islands, and is consequently an addition to our fauna.

Yesterday and to-day the wind has blown a fresh breeze from the east and east-north-east. Flocks of Plover were distinctly heard by several persons last night, passing over these islands to the southward. None, however, have deigned to notice the Bermudas.

September 17th.—Mr. Marriott showed me a very pretty specimen of the Sanderling (*Calidris arenaria*) shot by him this morning, on the beach, near the sand hills, on the south shore. There were five birds in all of this species when the above was killed.

September 18th.—Flocks of Golden Plover continue to be heard nightly, as they pass over these islands in the usual direction. Not only are they heard by persons residing in Hamilton and Ireland Island, but in various

other parts also. Mr. Hodgson Smith tells me he has kept a sharp look-out with his gun at Riddles Bay, and has seen many flocks pass over the islands to the southward, not one of which has appeared disposed to alight. The weather is now remarkably fine, with a north-easterly breeze, followed by calm and serene starlight nights.

September 19th.—Spent an hour in the Governor's Marsh this evening, with the view of bringing in the remaining Snipe seen there on the 13th instant. Was surprised to find three of those birds, one of which was fired at by Mr. Fozard, and a few feathers knocked out. Searched in vain for them after being once flushed.

September 20th.—Mr. Downes informs me that while bathing in the creek near Mr. Saltus's residence this morning, a Kingfisher made its appearance on the rocks close by. This is the first I have heard of, returning from the north, this season.

September 22nd.—All last night the wind blew strongly from the south-west, and to-day from west and west-north-west, the sky looking very dark to windward, the scud passing rapidly overhead, and a slight shower occasionally sweeping by to leeward. Mr. Marriott brought in another Sanderling, shot by him this morning on the south shore, and a black boy came to the office with a Green Heron (*Ardea virescens*) in immature plumage, which he killed with a stone from a stone wall near the wells on the north shore.

Went out with my gun in the evening, crossed the Governor's Marsh, and searched in vain for Snipe, then ranged the north shore, to Spanish Point and Boss' Cove,

and home through the marsh, without seeing a bird of any kind.

Mr. Orde, who had been out in the opposite direction, to Peniston's Ponds, returned with twelve or thirteen Swallows, among which were two species new to Bermuda, viz., the Purple Martin (*Hirundo purpurea*) and the White-Bellied Swallow (*Hirundo bicolor*) of Audubon. The first measured seven and a half inches in length, by fifteen and a quarter span, the latter, five and a half inches long, by eleven and a half extent. Five specimens of *Hirundo rustica*, were all alike, and answered to the description of the female bird; probably they were the young of the present season. Mr. Orde mentions that he must have seen two hundred Swallows at Peniston's Ponds, besides thirty or forty at Mr. Harry Tucker's Pond.

A large Hawk made its appearance yesterday morning in the neighbourhood of my house, and actually alighted for some time upon the roof of the Custom House. He has been observed more than once since his first visit, and I am in hopes he has taken a fancy to my domestic Pigeons, in which case we may become better acquainted. Not having seen it myself I can offer no opinion on its species.

September 24th.—Learn from various sources that the flight of Swallows which so suddenly appeared towards the evening of the 22nd instant, was equally numerous at Ireland Island, Riddles Bay and Hamilton Water. Thousands of these interesting birds are said to have visited all these places precisely at the same time, and many still continue about the ponds and neighbouring marshes.

Mr. Marriott informs me that while shooting at Swallows

on Saturday evening, he disturbed a White Heron of large size, and a Blue Heron (*Ardea herodias*) still larger, in the Chief Justice's Pond—that he saw them in the same place yesterday, but, it being Sunday, they were not molested. Went out this evening in the hope of falling in with these birds, and actually got a long shot at a large White or Greyish Heron, among the mangroves at Hungry Bay. Two others had been seen not long before by a man working close to Mr. Harry Tucker's Pond. He described them as perfectly white, and sitting on the trees near the pond. Saw several Purple Martins, and White-bellied Swallows, also a few Spinetails, or Swifts, two Kingfishers, one Carolina Crake, and a Mosquito, or Night Hawk, during my walk.

Mr. Hodgson Smith tells me he saw a "White Heron" at Riddles Bay, and killed twenty-one Golden Plover during the blow on the morning of the 22nd.

September 25th.—Saw three specimens of the Turnstone (*Streptilas interpres*), shot by Mr. Orde this morning. This bird is now rather common among the islands of the Sound. Visited Hungry Bay again this evening, saw two Green Herons, a Spotted Sandpiper, some White-bellied Swallows, a few Night Hawks, a small bird which I took to be a species of Bunting or Reed Sparrow. This I shot, but it fell into a dense bed of sedge, so thickly peopled with ants that I was fairly baffled in my attempts to find it. Upper plumage brown, under parts yellow, dotted over with dark spots. Could neither see or hear of the white strangers of yesterday.

September 26th.—Captain Drummond, of the 2nd Battalion 42nd Highlanders, stationed at St. George's, tells me

that towards the evening of the 22nd instant, that town and neighbourhood were suddenly visited by thousands of Swallows, which appeared to have come in from the south. The Purple Martin and the White-bellied Swallow were very numerous.

This information perfectly coincides with what I have already noted, and induces me to believe that the immense flight which appeared on that day, and extended from Ireland Island, along the south shore to St. George's, were driven here by a hurricane, which probably met them somewhere between Nassau and these islands.

Stone, the town constable, who was in eager pursuit of the tall white bird, which I fired at on the 24th instant, and who, from being concealed among the mangroves, had a fair opportunity of observing its form and appearance; confidently asserts that it was "*no Heron.*" He describes the bird as brownish white in plumage, with a very long neck, and equally long legs, and a peculiar bill, "something like a Parrot's,"—he also mentioned the fulness about the under part of the lower jaw resembling a Gull's pouch. Showed him Wilson's print of the Wood Ibis, which he at once said was much too long in the bill, and heavy in form about the neck and body, for the bird he saw. His eye then caught Wilson's figure of the Flamingo. This, he said, was precisely the shape and make of the bird in question and the form of the bill exactly similar. I have no doubt, judging from this testimony, and from what I observed myself (the head was the only part concealed from my observation), that this bird was a Flamingo of the present year, in its greyish white plumage. Stone tells me he followed the long-necked stranger to Peniston's Ponds, where he fired at it without success.

September 27th.—While out with my gun last evening I observed a small bird very closely resembling the White-eyed Greenlet, of these islands, in appearance. The sharpness of its “twit-twit” alone attracted my notice, and I had almost persuaded myself to risk the cruelty of a mistake, when the bird moved off into a grove of mangroves. On my return home Mr. Orde called with a small bird in his hand, wishing to know if it was the Greenlet of these islands, commonly called “Chick of the Village.” The black eye at once decided the question in the negative. Mr. Orde told me the peculiarity of its flight induced him to shoot it. This morning another specimen of the same species was brought in by Mr. Fozard. It measured five and a quarter inches in length, and agreed exactly with Wilson’s description of the immature young of the Pine-creeping Wood Warbler (*Sylvicola pinus*) of that author and Audubon. This is another addition to the birds of Bermuda.

The master of the brigantine “Falcon,” which vessel rode out the late gale about fifty miles north-west of Bermuda, tells me that many small birds came on board during the blow, among them several “Chicks of the Village.” These were probably Pine Warblers, which closely resemble that bird.

Mr. Fozard brought me an elegant specimen of the *Ardea candidissima*, or Snowy Heron, of Audubon, which he shot near the sluice gates this morning. It measured twenty-two and a quarter inches in length; plumage, pure white; legs, black, with a yellowish-green line along the back part. Feet, yellow; a bare skin of an orange yellow extended from the bill to the eye. Dorsal train extended to the extremity of the tail, and curled upwards at the ends.

The long silky plumes of the head and breast also very conspicuous.

This is the first bird of its species I have met with in the Bermudas, and, of course, a further addition to our list. It was a solitary bird.

Mr. Orde returned from a cruise in his boat this evening, having in his possession two Rice Birds, which were shot by him from a flock of nearly twenty.

September 29th.—Drove to Hungry Bay with Mr. Orde, determined to wade the shallows among the mangroves, in search of the Flamingo and two White Herons said to haunt that spot. On reaching the bay we had the satisfaction of seeing a Snowy Heron (*Ardea candidissima*) feeding outside the mangroves. The tide was flowing in a gentle stream into the bay, and the beautiful bird seemed busily engaged with its occupation. Leaving Mr. Orde behind a stone wall to watch the bird, I proceeded to walk round, and by wading drive it towards him. I had not gone far before a Heron rose from the margin of the bay in front of me and disappeared among the mangroves. This I had the good fortune to espy sitting in a tree, from which I knocked him down: it proved to be a fine specimen of the Yellow-crowned Night Heron (*Ardea violacea*) in adult plumage. Length rather more than twenty-two inches. The long dorsal plumes of the back one inch longer than the tail only; the long, tapering, white plumes of the head, mentioned by Wilson, were wanting; in other respects this Heron agreed with Wilson's description.

It is the second bird of its species I have met with in Bermuda. The report of my gun disturbed two Snowy Herons from Mr. Orde's part of the bay, besides two Night

Hérons, one of which, in immature plumage, I subsequently killed.

Saw nothing of the Flamingo, although I waded among the thick mangroves, from end to end of the bay.

Mr. McLeod, 42nd Highlanders, killed a Green Heron near the sluice gates this morning, and Mr. Hinson sent me another specimen. Both were young birds of the present year—making four different species of Heron observed in the same day.

October 1st, 1849.—Received from Mr. Hodgson Smith a young or female specimen of the Pied-billed Dabchick (*Podiceps carolinensis* of Audubon). The length of this little Grebe was thirteen inches; breadth, twenty-two. It corresponded exactly with Audubon's description of the female. This is a further addition to our list of Bermuda birds.

October 3rd, 1849.—Visited the Chief Justice's Ponds and Hungry Bay, in company with Mr. Fozard. Killed a Carolina Crake at the former, and at the latter Mr. Fozard was so fortunate as to shoot another specimen of the *Ardea candidissima*. Length, twenty-two and a quarter inches; dorsal plumes, wanting; legs, black in front, yellowish-green at the back; feet, of the same light green. This is probably a young bird. At the same time and place, I killed a very full plumaged example of the *Ardea virescens*, or Green Heron, and also a *Sylvicola pinus*—the Pine-creeping Wood Warbler of Audubon. Legs, clay colour; feet, nearly bright yellow.

Mr. Fozard shot a remarkably fine plumaged Snipe

(*Scolopax wilsonii*), which appeared to be in its summer dress. Heard from Major Dunsmure that Snipe were heard passing over his house on the nights of the 30th ultimo and the 1st instant.

October 4th.—Went out this evening for the express purpose of ascertaining if any Snipe were to be found in the marshes. Hunted all their favourite spots, without finding a single bird, save and except *the one* Snipe, in a certain corner of the Governor's Marsh, which has haunted that corner from the 13th ultimo. This bird I killed. Saw a Green Heron at the sluice gates.

October 6th.—Mr. Fozard was out early this morning, endeavouring to find the Flamingo, said to have been seen among the mangrove swamps at the sluice gates. Saw a Water Thrush (*Seinrus noveboracensis*), shot by him. Mr. Fozard killed another of these birds, and reports having seen a Bittern (*Ardea lentiginosa*). I have heard the well-known note of the Water Thrush in thick swamps, from the beginning of September last. Yesterday, a boy brought a live Rice Bird to the office, which he had run down in the Governor's Marsh. It was purchased by Mr. Marriott.

October 8th.—The Common Blue-bird (*Sialia wilsonii* of Audubon) has been far less numerous than usual since the spring of the year. To-day, while in the marshes (looking for Snipe), I was struck with the unusual number of Blue-birds compared with what we have been accustomed to see; and Mr. Fozard, who was with me, remarked the same increase. Indeed, the Blue-bird has been unusually scarce (comparatively speaking) during the

past summer, and I am very much disposed to set down the increased number observed this day to migration.

Three Yellow-billed Cuckoos (*Coccyzus americanus*), seen by Mr. Downes in the Dockyard, Ireland Island, one of which flew on board the hulk, "Medway."

October 9th.—Torrents of rain fell during the whole of last night and this morning, accompanied by a strong wind from the south-west. Mr. Downes called at the office and informed me that he had killed a Heron (*Ardea herodias*) before leaving home, at the pond in the rear of his house ; that a second was in company, and a couple of Teal rose from the pond at the time.

Received a message from a Mr. James, stating that a large white bird was in his pond, in the neighbourhood of the town. Laid down my pen, walked out instanter, and killed a Snowy Heron (*Ardea candidissima*), from a large weeping willow growing in the swamp. It was a young bird of this year. Went out in the evening with Mr. Fozard, and notwithstanding the rain, one Common Gallinule, one Carolina Crake, seven Pectoral Sandpipers, one Solitary Sandpiper, and a Rice Bird were brought in. Saw a few Snipe only ; also a Mosquito Hawk, and five Blue-winged Teal. Mr. Fozard observed two Yellow-billed Cuckoos near the Governor's grounds. Met Mr. Downes, who had shot a Blue-winged Teal.

Understand from Mr. Orde, who left St. George's to-day, that some Snowy Herons, Yellow-billed Cuckoos, flocks of Pectoral Sandpipers, and other migratory birds, had been observed in that neighbourhood ; no doubt driven in by the stormy weather.

October 10th.—Had four specimens of the Yellow-billed Cuckoo sent to me, by different persons, this morning. I am told that “numbers” of these birds appeared on the 8th and 9th instant at Ireland Island, Port Royal, and Walsingham, where they were termed “American Robins.” A coloured man also brought me a living specimen of the Osprey, or Fish Hawk, which he captured during the heavy rain on the night of the 8th instant, roosting on a stone wall, near Prospect Hill. It was a young bird of the present year, and was purchased by Mr. Marriott, with the intention of keeping it alive. Heard of several flocks of Ducks and Teal having been seen in the neighbourhood, and went out in the evening in the hope of meeting with some of them. Saw one Duck and two Teal only, and killed a Snipe and Carolina Crake. Marshes well flooded with water. The Green Heron still continues to be met with in almost every mangrove swamp. Observed several Night Hawks and three Purple Martins during my walk.

October 11th.—So numerous is the Carolina Crake at this moment, that in the course of an hour I walked up eight of them this evening. Visited Hungry Bay and the Chief Justice’s Pond. Saw two Common Night Herons, two Green Herons, and a Common Gallinule.

October 13th.—Mr. Orde, 42nd Regiment, showed me a beautiful specimen of the Blue Heron (*Ardea cœrulea*) of Audubon, in adult plumage. It measured twenty-two inches in length, had shed the longer of its dorsal plumes, and its legs and feet were of a dull green colour on the under side, and brown on the upper. In all other respects it agreed with Audubon’s description. It was shot by Mr. Nicholas Peniston, at his ponds, this morning.

Mr. Trimmingham brought to the office a very beautiful specimen of the Wood Thrush (*Turdus mustelinus*), which agreed with Audubon's description in every particular. This is the first of its species observed here, and, of course, an acquisition to our list.

A living specimen of the Yellow-billed Cuckoo was brought to the office to-day, being the second living example of that bird we have received within a few days.

Mr. Fozard came in this morning with two and a half couple of Snipe, shot before breakfast, in one corner of the Governor's Marsh. He reports these birds to be uncommonly numerous.

Went out at 3 p.m. and was surprised to see so many Snipe in the marsh. They actually rose in twos and threes all round you. Mr. Fozard and Mr. Marriott accompanied me and assisted to keep up a merry popping. Nine couple and a half were killed and bagged, besides several Water Crakes, and a few Pectoral Sandpipers. So thick and dense is the fern and sedge in some parts of the marsh that several Snipe were lost in it after being killed. I think we must have seen a hundred and fifty Snipe at least, and all within the compass of a mile. This is decidedly the most numerous visitation of this bird which has taken place during the last nine years. Yesterday was fair, with a northerly breeze; to-day the wind is from the south-west, and blowing a stiff breeze.

While hunting among sedge and bushes for Snipes I heard a strange cry from a thick bush, and ascertained that it proceeded from a Yellow-billed Cuckoo, which I succeeded in capturing alive. It was uninjured, and in excellent plumage.

October 14th.—A numerous flock of birds, supposed to be Curlew, passed over this town (Hamilton) about nine o'clock last night. They were heard by several persons; seemed to be flying to the south. Night very dark.

October 15th.—At daylight this morning I visited the neighbouring marshes, gun in hand, to ascertain if the Snipe were still to be found there in the extraordinary number mentioned on the 13th instant. Hunted the same ground and estimate the number found as not more than a fifth of those seen on Saturday. I, therefore, conclude that the larger portion of these interesting travellers have passed on to the south.

Killed three and a half couple of Snipe, a couple of the Common Gallinules, and a Blue-winged Teal (*Anas discors*). The larger of the Gallinules measured fourteen and a half inches in length, by twenty-two and three-fourths in extent. The Carolina Crake continues to abound in every marsh. Saw a Yellow-billed Cuckoo, and two Green Herons, one of which was shot by Mr. Fozard. The Pectoral Sandpipers also common. Home by breakfast-time, 9 a.m.

October 16th.—Went out this morning at daybreak to assist Mr. Fozard in killing Snipe for Mrs. Elliot.¹ Returned at nine o'clock with four and a half couple. These birds are becoming more scarce every day.

October 17th.—Messrs. Fozard and Marriott hunted the neighbouring marshes this evening and found two couple of Snipe only, one couple of which was brought in by Mr. Fozard.

¹ The wife of the Governor of Bermuda.

Received a specimen of the Golden Plover, shot by Mr. Hinson. It being one of the larger kind, I took its dimensions:—Length, eleven inches; length of bill, from gape, one and two-tenth inches; carpal joint, seven and three-tenths inches; extent, twenty-two inches; bill, upper surface, one inch; legs, sooty black; bill, ditto; upper plumage spotted with yellow and white; under side, greyish white, without any mixture of black; quill shafts marked with white, in the manner described by Wilson, and which appears to be common also to the *Charadrius helveticus*.

October 18th.—At this season of the year the Common Gallinule (*Gallinula galeata*) is often found in marsh ponds, where, for months previous, it has been unknown. This autumnal appearance must either arise from the scattering of native broods, or from an influx of migrant strangers from the American coast. I am inclined to consider the latter as the most likely cause; which will account for this bird being more common in some seasons than in others. Originally this Gallinule must have been a migratory bird, and what reason have we to suppose that its habits have changed in this respect?

October 20th.—Hunted the Governor's and Facey's Marshes; found four Snipes only, of which I brought home one couple. These were in very plump condition. Those which visited us on the 13th instant were not so fat as we generally see them; probably they had lost weight by remaining on the American coast until driven off by severe weather.

The Carolina Crake is every day becoming less common, also the Pectoral and Solitary Sandpipers.

Saw Captain H. M. Drummond, 42nd Highlanders, and learn from him that on Tuesday, the 9th instant, he left his quarters, at St. George's, in his boat and visited the coast along St. David's Island. Here he found the Yellow-billed Cuckoo in thousands—"absolutely in thousands"—every cedar tree along the shore having five or six of these birds upon the upper branches. This extraordinary visitation extended from Cooper's Island, as far north as St. Catherine's Fort, but no further in that direction. On the following day most of these birds departed, leaving, however, many stragglers, which daily became less numerous. All the specimens examined by Captain Drummond were females (?).

The Pine Warbler (*Sylvicola pinus*) was also observed in considerable numbers; also several specimens of the Wood Thrush (*Turdus mustelinus*), of which examples were obtained. Captain Drummond also shot on that day a beautiful female specimen of the Rose-breasted Grosbeak (*Coccyborus ludovicianus*), a new bird for our list; as indeed is the Wood Thrush before mentioned.

On the day following Captain Drummond shot a specimen of the Black-and-White Creeping Warbler (*Mniotilta varia* of Audubon), being a further addition to the ornithology of these islands. A Flycatcher, name unknown, was also shot by Captain Drummond on the 9th instant. A similar specimen was obtained at Somerset, by Mr. McLeod, of the 42nd, who has promised to let me examine it. This latter gentleman tells me he has also shot a Wood Thrush, and a Hawk very like the British Merlin, also a Grebe (*Podiceps carolinensis*).

Mr. Marriott reports that at eight this morning he observed a White Heron flying about the neighbourhood of the Chief Justice's ponds, from which he thinks it had

been disturbed. It appeared, through the telescope, to be of pure white plumage. Mr. Wheatley, Paymaster of the 42nd, reports a small White Heron on the wing, in the same vicinity, and at the same time.

Saw a single specimen of the Great Yellow-Shanks Tattler (*Totanus vociferus*) pass over the town in a southeasterly direction. It was high in the air, its under plumage glistening with light and its well-known whistling note clear and loud. A male specimen of this bird was observed at Ireland Island, by Mr. McLeod.

October 21st.—Mr. J. D. Anderson (Civil Engineer, in charge of the Works at Ireland Island), tells me that on the morning of the 9th instant, "numbers of Yellow-billed Cuckoos" were observed by him among the cedar trees inside the keep. On asking him to explain how far he meant the word "numbers" to extend, he replied that he saw at least four hundred of those birds there; and at Somerset, on the evening of the same day, the trees were full of them.

October 22nd.—Learn from the driver of the Somerset Mail that his brother observed, about ten days since, *two* wild Geese, of white plumage, come in from the sea and "pitch" in "the Bay" (Mangrove Bay), where they remained only for a short time. They flew out to sea, and have not been seen since. These were, doubtless, a pair of Snow Geese (*Anser hyperboreus*), of Audubon.

October 23rd.—Examined Mr. McLeod's specimen of the "Unknown Flycatcher," shot on the 9th instant, which I find to be six and three-fourths inches long, second

quill-feather longest, first and third equal. Tarsi compressed, and one inch in length; carpal joint, upwards of three inches. Bill, five-tenths of an inch on the upper surface, with a notch near the extremity of the upper mandible, small, but very distinct. Colour, dark brown or blackish, inclining to yellow at the base of the lower mandible, bristles small. Tarsi, feet and nails, dusky brown; hind nail much curved; tail, one inch longer than the closed wings. Whole of the upper plumage, dark olive brown. Chin, white, a dark curved line extending from each side of the same to the side of the neck. Upper part of the breast, dull cream colour to the shoulder of each wing and thickly marked with large dark brown arrow-headed spots (pointing upwards); lower part of the breast, light greyish brown, faintly spotted with light brown spots. Sides, light olive brown. Lower tail coverts, white, tail feathers pointed at the ends. Primaries and secondaries edged with a lighter coloured margin. An indistinct bar of the same lighter colour across the wing.

I think there can be little doubt that this is a bird which has been overlooked by Wilson and Audubon, or, at all events, confounded with some other. Gerand, in his "History of the Birds of Long Island," describes the present specimen as "*Turdus olivaceus*" or Olive-backed Thrush.

The specimen from which the above particulars were taken was in a very perfect state of preservation. Of course it is an addition to our fauna.

Saw Lieutenants McLeod and Montgomery, 42nd Regiment, return last evening from the Governor's Marsh, with two couple of Snipe and one Yellow-billed Cuckoo. The former birds said to be abundant in one particular part of

the marsh. The Cuckoo's stomach on being opened was found to be crammed with grasshoppers. A live specimen, lately in my possession, fed eagerly upon the common cockroach.

October 25th.—A Snowy Heron (*Ardea candidissima*) was shot this morning at the head of Hamilton Water, by Mr. Hinson. It was a bird of the present year.

Mr. Orde killed two couple of Snipe and three Carolina Crakes before breakfast this morning. Number of Snipe killed by self, up to this date, during the present autumn, twenty-five.

October 26th.—Captain Drummond, 42nd Highlanders, writes from St. George's that the Thrush recently shot by him proves, on a careful examination, to be the same as Mr. McLeod's specimen (*Turdus olivaceus*). He describes the tail as being dark olive brown, each feather tipped with dark brown, and pointed at the end; he also says there is a broad bar of dingy white running across the inside of the wings.

Captain Drummond likewise mentions his having shot (on the 25th instant) two beautiful specimens of *Alauda alpestris*, the Shore or Horned Lark of Audubon, and that Mr. McLeod, in company with him, killed an example of the Bay-winged Bunting (*Emberiza graminea* of Audubon)—both additions to our fauna.

Captain Drummond also shot a large species of Fly-catcher—he thinks the Tyrant or King Bird—but unfortunately lost it among some arrowroot. Two or three "Tree-creeping Warblers" have been seen between St. George's and the Ferry. They were reported to Captain

Drummond as beautifully striped black and white, and about the size of the "Chick of the Village"—"running up and down trees."

Walked out with my gun, and killed a specimen of *Anas carolinensis*, the American Green-winged Teal of Audubon. Length, fourteen inches; extent, twenty-one and a half inches; a little white on the fore part of the neck. Speculum, of bright black and green, broadly barred above with white; the white feathers deeply tinged with chestnut colour; abdomen and lower tail coverts, thickly spotted with brown, the spots increasing in size and depth of colour towards the tail. It was alone when killed.

October 27th.—Up to the present date I have continued to receive information of *occasional* flocks of birds being heard at night whistling their way over these islands to the south. Whether these flocks consisted of Plover, Curlew, or what other description of bird, at this late season, I am unable to state. As the Plover is early in its movements, I am disposed to think these late flocks belong to some other genus.

October 29th.—Nine or ten couple of Snipe were killed in the Governor's Marsh by different individuals during the past week. To-day, I shot one there, and although I hunted the valley as far down as the sluice gates, I saw no other. Not a single Carolina Crake was met with, and of Sandpipers only two—a Solitary and a Pectoral.

October 31st.—Mr. Orde sailed to Somerset Bridge, and returned with one *Tringa pusilla*, a solitary bird.

November 1st, 1849.—Mr. Orde shot three specimens of the *Tringa semi-palmata*.

November 9th.—Examined a specimen of the Long-eared Owl (*Otus vulgaris* of Audubon). It measured thirteen and a half inches in length and thirty-six and a half in extent. Wilson's description of this bird is far superior to that of Audubon. This example was brought in from Gibbs' Hill by Mr. Bluck, and was alive for upwards of two hours. Feathers of the erectile tuft, largely tipped with white; wings, when closed, extending exactly to the end of the tail. The large brown spot, at the base of the primaries, was very conspicuous on the light buff colour of the inner portion of the wings.

This is the only specimen that has been shot since February, 1847.

Mr. Leoblan, who resides at "Woodstock," tells me that a large Hawk was seen to kill one of his fowls this morning, and was only driven away by his children throwing stones at it.

This is the second fowl destroyed at Woodstock lately, probably by the same bird.

An Osprey has been observed for some time past to frequent the neighbourhood of Spanish Point. Two days since one of this species appeared in Hamilton Harbour, and was seen to perch for some time on the mast of a small sloop at anchor off the town.

November 10th.—Visited the neighbouring marshes in company with Mr. Fozard. Found a single Snipe in the Governor's Marsh, which I killed. Saw no other bird of

any kind. The same ground was hunted at daylight on the 5th inst. by Mr. Fozard, without meeting with a Snipe, Water Crake, or any other bird. We may, therefore, fairly presume that the autumnal migration has passed by.

November 12th.—Saw a great Yellow-shanks Tattler (*Totanus vociferus*) pass over my residence this morning, whistling his well-known call as he went along. This I consider to be late in the season for the appearance of this bird.

Sailed to Spanish Point, and visited Cobler's Island. Killed a fine specimen of the Kildeer Plover (*Charadrius vociferus*). Saw two other birds which I took to be Curlews, but failed in getting a shot at them. Hunted the marshes on my way home, and found nothing.

Near a small bay at Spanish Point I was agreeably surprised to meet with a European bird—a genuine cock Goldfinch—feeding on some thistle heads, which allowed me to approach it within a few yards. Had I not been aware of a recent importation of many of these birds from the Island of Madeira, and of the escape of one or two at the time of landing, I should indeed have been puzzled to account for its appearance in such a locality. Of course it was not molested. Query—Might not many of our British birds be colonized in the Bermudas—for instance, the Black-bird, Song Thrush, Common House Sparrow, Rook, &c.?

November 18th.—Mr. Orde came over this morning with a specimen of the Snow Bunting (*Plectrophanes nivalis* of Audubon), which had been sent to him by the Attorney-General's son—Darrell. It measured six and a half inches in length, and agreed in every material point with Wilson's

description of this bird in the plumage of the summer season. I understand that Mr. Darrell shot two of these birds yesterday. This is the earliest arrival of the Snow Bunting yet observed in these islands.

A fine Hawk passed over my residence this afternoon. It appeared in shape, and manner of flight, very like the Pigeon Hawk, though somewhat larger in size.

November 19th.—Visited the Chief Justice's ponds, the Sandhills, and coasted it from thence to Hungry Bay. At the former of these places a small flock of birds, not exceeding twelve, passed over my head at a considerable elevation, but being charged with large shot, I was induced to fire at them, and to my agreeable surprise one bird dropped away to leeward slightly winged, and fell among the cedar trees between the pond and the High Road. This I hunted for in vain, and much to my regret gave up the search. What these birds were I am unable to say; in size they resembled the Snow Bunting. At Hungry Bay shot a Black-crowned Night Heron (*Ardea nycticorax*), of Audubon, in the spotted plumage of the young. Saw a Carolina Crake at Mr. Harry Tucker's pond.

November 20th.—A large Gull was observed in the upper portion of Hamilton Water to-day. Went after it with my gun, and fired a long shot without success. From what I could observe of the colour of its plumage, I should say it was the Western Gull (*Larus occidentalis*), of Audubon.

NOTE.—To see a Sea-gull in the Port of Hamilton is an uncommon occurrence.

Mr. Wedderburn, of the 42nd Highlanders, arrived by the Thames steamer, from England yesterday. He informs me that when about thirty miles to the eastward of these islands, and previous to sighting them, he observed one Tropic Bird on the wing. There can be little doubt that this is a straggler from these shores, and a rare occurrence at this season of the year.

The Rev. H. B. Tristram, of Castle Eden, Durham, in a letter dated the 29th ultimo, writes as follows:—"Your Grebe, which I sent home in 1847, has been pronounced by Yarrell and Jardine, to be the young of the *Podiceps carolinensis*, a species very different from the Slavonian."

Now Audubon describes the male *Podiceps carolinensis* as being fourteen inches in length, and the very perfect young specimen obtained on October 1st last measured thirteen inches only. The Grebe alluded to by Mr. Tristram measured fifteen and a half inches long. I state this from my own examination of the bird, which was certainly very different in appearance from the *Podiceps carolinensis* lately shot here. See Yarrell's description of the Slavonian Grebe in its winter plumage. Also the Horned Grebe of Audubon, and the "New York Fauna." The latter of these authorities gives the length at fourteen and a half to fifteen and a half inches.

November 21st.—The Gull mentioned yesterday again made its appearance in Hamilton Water this evening. Went down to the Barrack Wharf and succeeded in shooting it. It proved to be the Western Gull (*Larus occidentalis*), of Audubon. Length, upward of twenty-four inches. Extent, five feet. Outer half of the bill, black; inner portion, lightish horn colour. Eyes, black. Legs,

pale clay, approaching to flesh colour. Plumage, similar to that of the *young* male, described by Audubon.

November 23rd.—All yesterday and to-day the wind has blown a strong breeze from the north. Went out at three p.m., and spent an hour and a half hunting the Governor's and White's Marshes for Snipe. Found four only, all of which I killed, without missing a shot.

November 25th.—A boy brought me a live Bittern, which he had knocked down with a stone in the Governor's Marsh. One wing was broken.

December 4th.—Mr. McLeod brought me a specimen shot in the Governor's Marsh last evening. Length, five and nine-tenths inches. Bill, short and stout, without any appearance of being notched near the extremity. Upper mandible, black; the lower, light horn colour. Gape, yellow. Eye, apparently black. Legs and feet, pale clay colour. Tarsi, much compressed. Hind toe, large, the nail long and much curved. Third quill feather, longest; second and fourth, equal. Tail, long, somewhat rounded, and extending one-sixth beyond the closed wings. Crown, streaked with black and bright bay upon an ash coloured ground. Cheeks, nape, and sides of the neck, and throat of the same bluish ash, a dark streak extending from the eye to the neck, and two other dark lines from each corner of the mouth. Chin and belly, yellowish white; vent and sides, pale reddish brown, streaked, and spotted with dark brown, the spots being thickest on the undertail coverts. General colour of the upper parts, reddish brown, boldly marked with streaks and spots of a very dark brown. Primaries, light brown, the first conspicuously edged with white on the outer margin,

the three next finely margined with the same, the outer vanes of the remainder bright ferruginous or bay. Smaller and greater wing coverts of the same bright bay, blended with bold streaks of dark brown. The three axillary feathers in each wing, black, edged externally with white. Tail coverts and tail of the same reddish brown; the tail feathers marked with black down the centre; the tail coverts spotted with black. No white whatever about the tail.

December 7th.—Captain Drummond, who saw the skin of this bird, at Mr. McLeod's quarters, and compared it with Wilson, pronounced it to be the Swamp Sparrow of that author (*Fringilla palustris*). The Swamp Finch, of the "New York Fauna."

This is an addition to our ornithology.

Mr. Wedderburn killed an immature specimen of the Green Heron to-day (*Ardea virescens* of Audubon). Saw no other bird.

Mr. Orde shot a *young* spotted Sandpiper.

December 11th.—A large Hawk has been noticed both yesterday and to-day, passing over the town in the vicinity of the new church. It was twice seen by Mr. Wedderburn this evening.

December 12th.—All last night and this morning the wind blew fresh and strong from the north-west. Walked out in the afternoon and visited the Chief Justice's ponds and Hungry Bay. At the former I found the surrounding cedar trees teeming with Blue-birds (*Sialia wilsonii*) which

rose with rapidity from one part of the sheltered bottom to another. There was an unusual appearance of wildness and vigour in these birds, which induced me to think they were strangers recently arrived here. I was strengthened in this opinion by observing among them a small flock of seven or eight birds, which were evidently, from their flight of a different kind. These I contrived to get a shot at, while perched in the upper branches of a cedar, and killed one specimen. It proved to be a Cedar Wax-wing (*Bombicilla carolinensis* of Audubon), in beautiful plumage. Length, six and six-tenths inches. Tail tipped with bright yellow for one quarter of an inch only. Primaries, edged externally with white. No waxen appendages to the secondaries. Crest, very long. Probably this was a young male bird of the present year. Saw nothing else during my walk.

Met Mr. Wedderburn this evening, who had ranged the country from the sluice gates to Peniston's ponds, and killed one Kildeer Plover, being the only bird met with.

December 15th.—Learn from Mr. Robert Kennedy, the Colonial Secretary, that his coloured servant shot a Wild Duck, in the ditch which runs through the marsh at the back of Mr. Kennedy's house, on the 12th instant; that it was a very fine *black* Duck, with a bright green spot on each wing. This, no doubt, was the *Anas obscura*, or Dusky Duck, of Audubon, a species which has not come under my observation for the last two winters.

Mr. Wedderburn tells me that among the mangroves which grow near the sluice gates he put up two Least

Bitterns (*Ardea exilis* of Audubon) to-day, and contrived to miss them both. This is the second instance of the occurrence of this bird in the Bermudas. Mr. Wedderburn also mentions that two or three Gulls were seen about the Hogfish yesterday, while he was on guard at Ireland Island.

Was out yesterday myself, and hunted the marshes from Mr. Lightbourne's to Honeymoon Cottage, examining every ditch, pond and creek for Ducks. Saw two Great Blue Herons, and one Kingfisher only. Not a Snipe has been seen since the 23rd ultimo, although the marshes are in admirable condition for these birds.

December 17th.—Visited the Chief Justice's ponds and disturbed a flock of nine or ten Cedar Waxwings in the cedar trees. Shot one only, a beautiful specimen, precisely like that killed on the 12th instant. The crop of each was filled with ripe cedar berries. I have no doubt this is the same flock, though the flight of Blue-birds had moved elsewhere. No birds on the sea-shore near the Sandhills.

Mr. Fozard brought me a fine specimen of the Dusky Duck (*Anas obscura*), which he shot this evening near Minton's house, at the head of the Governor's Marsh. It was found in company with Minton's tame ducks, and although stoned, and fired at with a pistol, was seen to return in a short time. It measured upwards of twenty-one inches in length, by two feet eleven inches in extent; the outer margin of the speculum, tipped with a narrow line of white, indicating a male bird. In all other respects it agreed with the description of Audubon.

December 20th.—Heard by accident that a Wild Duck had been killed by Astwood, the Salt-Kettle ferryman.

Crossed the ferry in the hope of ascertaining the species, and found the wounded bird alive, in a hen coop. Astwood had fired three shots at it, without effect, and ultimately knocked it down with a stone. His excuse for missing the bird so often is its diving suddenly, at every discharge of the gun. It was a handsome Duck, about twenty-one inches in length, with a bill like the common domestic Ducks, but smaller. Plumage, reddish brown. Feet, orange colour—a narrow white line, about half-an-inch long, behind each eye. Made an offer to purchase the bird, and returned to town.

At 6 p.m., the bird was sent to me. It measured twenty-one and three-fourths inches in length; eyes, hazel, and very dark, with little appearance of irides. Bill, bluish, with a black nail at the extremity, and a large black mark in front of the nostrils. Tail of fourteen pointed feathers. Mirror, grey, with a light tinge of greenish blue on some of the secondaries which compose it, the whole narrowly tipped with white. Legs and feet, orange yellow. Colour of the head, reddish brown, darkest on the crown, an indistinct, narrow white line behind each eye, extending down the neck, and about two inches in length. Neck, upper parts, and tail, greyish brown. Neck and side of breast, reddish brown, thickly mottled with bright chestnut. Flanks, broadly marked with the same chestnut colour. Wings, brownish grey, the primaries tipped with very pale drab. Lower part of the breast and abdomen, grey, mottled with spots of chestnut colour. Under wing coverts and axillary feathers, light grey, those in the middle of the wing marked with undulating bars of a somewhat deeper shade. When *handled* this duck's voice was rather like the quack of the female domestic duck; at other times it resembled the clucking of a domestic hen.

Could find no description of Audubon's or Wilson's to warrant me in coming to any decision regarding the species

to which it might belong, and was almost inclined to think it appertained to the domestic family. Mr. Wedderburn examined the bird with no better success. I therefore cut the feathers of one wing, and placed the duck in hospital, with the view of watching (should it live) the progress of its present moult, and thereby obtain the desired information. I consider it to come nearer the female of *Anas strepera*, the Gadwall, of Wilson and Audubon, than to any other wild species I am acquainted with.

Learn from Mr. Wedderburn that Captain Drummond confidently reports having seen a Hawk Owl (*Surnia funerea*), in the vicinity of St. George's, on Sunday last, the 16th instant. It passed very close to him on the wing. This bird is supposed to have been previously observed and fired at by an officer of the reserved battalion.

Mr. McLeod, of the 42nd Regiment, tells me that one day in October last the Rice-bird was particularly abundant in the Governor's Marsh. Thousands were seen by him on that occasion, but on re-visiting the marsh the following day all were gone. Does not recollect the date of this visitation.

Saw a large dark-coloured Hawk pass over the new church in a westerly direction. Walked out with my gun, and in Mr. Kennedy's Marsh, found one of his servants watching a brood of chickens with a gun in his hand. He told me a large Hawk had recently killed and carried off four of that brood, and that his usual hour of appearance was 4 p.m. Assisted in watching for the depredator for half-an-hour. He did not, however, favour us with his presence.

December 24th.—Walked to the Chief Justice's pond and again found the Cedar Waxwings. Shot one of them and lost it among the thick rushes. Hunted the cedar groves of Tankfield, and ranged along the south shore for some distance, but saw nothing. Blue-birds less numerous than usual.

1850.

January 2nd.—Visited the Governor's Marsh, and walked from thence to the sluice gates. Saw nothing but one solitary Kingfisher. On my return, passing the workshop of Watkins, the painter (which commands a view of the marsh, commonly called White's), I was informed by him that about six weeks since he observed a very beautiful bird pass over to the opposite side of the marsh, the plumage of which was of a splendid dark blue, or purple (or like a particular paint which he showed me in a powdered state); was quite certain it was not the Great Blue Heron, which was familiar to him, and far too large for the bird in question. I have reason to believe from Watkins' description of the colour and size, that he must have either seen the *Ardea cœrulea*, in adult plumage, or the Glossy Ibis (*Ibis falcinellus*).

January 12th.—Mr. Marriott sent me a specimen of the Pigeon Hawk (*Falco columbarius* of Audubon), shot this morning by Mr. F. Trimmingham. Length, eleven inches. Extent, twenty-three inches. Bill short, strongly toothed, of a light blue, tipped with black. Skin surrounding the eye, extending downwards to the base of the skull, light brown. Irides, indistinct, but apparently dark. Legs, yellow. Claws, black and very sharp. Second quill

longest, first and fourth of equal length. Closed wings, one inch and a fourth shorter than the tail.

Head, reddish brown, streaked with darker brown or dusky black. Upper parts, of the same colour, each feather having a black central line and dark margin.

Tail of twelve feathers, showing four bands of dull white, and tipped with the same, the bars of the two centre feathers less distinct than those on the lateral ones.

Wings, same colour as the upper plumage. Primaries and secondaries, marked with round spots of reddish white. Lower parts, dull yellowish white, streaked laterally on the breast and sides with large dark brown spots.

Femoral or thigh feathers, very long, tinged with pale red, and streaked longitudinally with dark brown. Throat, white. Under side of the wings, lightly reddish brown, thickly studded with round spots of dull white. Primaries and secondaries beautifully barred with numerous spots of the same colour.

I consider this to be a young male specimen, and have been careful in noting these particulars, with the view of comparing hereafter with those of the female Sparrow Hawk (*Falco sparverius* of Audubon), so exactly the dimensions of the present species, and so similar in many other respects.

January 16th.—Mr. Wedderburn informs me that he flushed two Snipes in the Governor's Marsh to-day.

January 17th.—Receive accounts, almost daily, of the continued depredations of a large Hawk in this neighbourhood. On Sunday he attacked a brood of young ducks, near the Parade Ground of Hamilton, three of which he is said to have carried off during the course of that day, and to have killed a fourth, which he was compelled to drop.

This morning, and the two preceding ones, he has been observed on the borders of Mr. Kennedy's Marsh. Mr. Kennedy's servant saw this Hawk attack his master's poultry this morning, and strike down a hen, which he was prevented making a prize of. On examining the quarry its head was found to be nearly severed from the body. I have no doubt from these accounts that the Hawk in question is *Falco peregrinus*, and from the number of chickens, &c., destroyed, it is probable that a pair of these birds, at least, are now on a visit to these islands.

January 19th.—Paid a visit to the Governor's Marsh, sluice gates and sea-shore. Found one Snipe near Saltus' Marsh, which I killed; it was in moult. Tail feathers, nine only. Met with nothing else, save one Kingfisher and a Green Heron. Crossing Mr. Kennedy's Marsh, I found his coloured servant with a gun, watching for "the Hawk" which almost every morning and afternoon attacks that gentleman's poultry. Yesterday a cock was pounced upon, in the presence of some workpeople, who succeeded, however, in driving away the Hawk, though not before the poor cock had been severely punished. Saw nothing of this gallant marauder.

January 22nd.—Mr. Marriott brought in a very beautiful male specimen of the Lesser Redpole (*Linaria minor* of Audubon), or the *Fringilla linaria* of Wilson. Shot last evening, in his own garden. It measured five and a quarter inches in length, had a large spot of deep crimson on the head, and was tinged with a delicate shade of the same colour on the throat, breast, sides and rump. In short, it agreed in every particular with Wilson's description of this bird.

January 24th.—Mr. Wedderburn tells me he obtained a fine specimen of the American Crossbill (*Curvirostra americana* of Wilson), a few days ago, from a man at the Dockyard, who captured it alive there. It is still in a state of captivity, and appears from the redness of its plumage to be a young male. This is an addition to our fauna.

Walked to the Chief Justice's pond, and from thence through the Cedar Groves to the Sandhills, and along the South Shore to Hungry Bay and Harry Tucker's pond. Expected to fall in with a sea bird or two, the weather having been rough and boisterous for some days, and the wind still blowing strong from the north. In this, as usual, I was disappointed, the coast appearing to be entirely deserted. Met with a small land bird, however, which I killed—a Yellow-rump Warbler (*Sylvia coronata* of Audubon). It was a male in excellent plumage, the yellow of the rump being particularly bright.

February 1st.—Johnson, the coloured store-keeper, who resides near Mr. Kennedy's entrance gate, brought me a very fine living specimen of Wilson's Duck Hawk (*Falco anatum* of Bonaparte), which he had shot on the wing, near his own house. This powerful Hawk has been notorious for some time past in the neighbourhood of Hamilton, from the frequency and boldness of his attacks upon ducks and fowls. It appeared to strike its prey both with the bill and talons—at least I presume so, from the fact of a duck's bill having been severed from the head; and in another instance, a hen, which was rescued immediately after being struck, was found with her neck all but cut through. This is the second instance that has come to my knowledge of this Falcon being met with in

the Bermudas. Span of the foot, four and six-tenths inches. Eyes, large and very dark.

February 2nd.—Accompanied Messrs. Wedderburn and Orde in a drive round Harrington Sound, visiting all the marshes and ponds *en route*. Saw one Diver in Trott's pond, and expended a considerable portion of powder and shot in our endeavours to kill him, but without success. Five Kingfishers, one Night Heron, one Great Blue Heron, one Green Heron, and a small Sea Duck, supposed to be the Buffet-headed Duck, were also met with, but none of them were obtained.

February 5th.—Mr. Wedderburn returned from Trott's pond this evening, with the Grebe which we so vainly endeavoured to shoot on the 2nd instant. It proved to be a young male specimen of *Podiceps carolinensis*, the Pied-billed Dabchick of Audubon. Length, fourteen inches. Bill crossed with a dark-coloured bar, between the base and the extremity. Chin, white. Lower parts, yellowish white, mottled with indistinct spots of brown. Upper plumage, of the usual dark colour, beautifully glossed with purple. Feet, dusky olive.

February 6th.—Received intelligence of a flock of small birds having been seen in the neighbourhood "with red backs and bluish wings." Went out with Mr. Wedderburn and hunted the Cedar Groves without success. From all that I can gather concerning these birds, I have reason to think they will prove to be American Crossbills.

February 7th.—Met the Rev. J. N. Campbell, Chaplain of the Dockyard, Ireland Island, who informed me that a day

or two since his servant observed some small web-footed birds in a piece of grass land near his house, one of which he captured and brought to him. Mr. Campbell described this bird as being black on the upper parts; white below; legs, black; feet, webbed like a duck's; bill, short, thick, and pointed; and so small in body as not to exceed five or six inches in length. Unfortunately (there is generally some fatality attending *rare* specimens in Bermuda), the rev. gentleman's pig demolished this great curiosity, and although Mr. Campbell tried to obtain another specimen he was not successful.

Can this be the Little Auk or Guillemot, *Alca alle* of Wilson? I know of nothing else approaching our rev. friend's description.

Mr. Wedderburn's Crossbill I examined a few days ago; it was then set up, and its plumage appeared to be chiefly carmine and dull yellow; an indistinct line of dull white crossed each wing at the end of the secondaries.

February 11th.—Learnt from Mr. Marriott that a Woodpecker has been observed among the cedars near his house. It was seen to climb the stems of trees and tap at the bark with its bill, and had the usual crimson spot on the back of the head.

February 12th.—Received a note from the Rev. J. N. Campbell, in reply to one of mine on the subject of the small sea-bird, mentioned by him on the 7th instant. Mr. Campbell says he has little doubt from Wilson's description of the Little Auk, that it was that bird and regrets not being able by any observations of his own to assist me in establishing, with certainty, its identity with the same. He concludes with the following words: "It was brought to me

on or about the 28th of last month ; was taken when in company with four or five others, the rest escaping. It appeared to be a young bird. Its plumage, as far as I remember, agreed with Wilson's description. The bill, upper part of the head, back, wings and tail, were black. Throat and breast, white (I think). Feet and legs, black. Was not surely a crafty bird, as it ran for concealment or protection under a stone which afforded none, and was easily taken.

"I only regret that in consequence of the omnivorous propensity of my grunter, I am deprived of the pleasure of asking your acceptance of the specimen."

February 13th.—Compared the Tobago Phaeton, which was presented to Mr. Wedderburn by Sir William Jardine, with a specimen of the Bermuda Phaeton. The former is considered by Sir William to be a *new species*, and in a work recently published on Tropic Birds alone, is described as the Phaeton Athereus ; our Phaeton being termed *P. flavirostris*. In one respect the birds differ very materially, viz., in the markings of the plumage ; the Tobago specimen having the upper parts of a white ground, each feather being transversely barred with several black lines in the form of a bracket, giving to that part of the plumage a striped or zebra-like appearance. On the larger feathers this marking is more broadly developed ; the scapulars, axillaries and oral parts were chiefly composed of very dark feathers, more or less mottled with white. The bill, orange red ; under parts of plumage, white ; the feet wanting. In the size of the two specimens I could observe no distinction ; the primaries of each were duplicates of one another, and in every respect the identity of the species appeared to me beyond the possibility of doubt. I must,

therefore, record it as my opinion that Sir William Jardine's Tobago Phaeton is nothing more than the young of OUR "Phaeton Athereus" in immature plumage, and this opinion is borne out by the much smaller size of the two elongated feathers of the tail of the Tobago specimen; their length, too, being less than that of the adult bird.

It is perhaps not generally known that the young of our Tropic Bird remains in its nesting place until capable of flight; that it then disappears from our shores, and is supposed to proceed at once to sea, in company with the parent birds. This takes place about the middle or the end of July, and probably with some a month later. The young bird is then white, marked about the head, neck and upper parts, with black or brown bracket-shaped bars, but much more sparingly than in the Tobago specimen. The lower parts, I think, are altogether white, and the long tail feathers entirely wanting. The Tobago specimen is therefore nothing more than might be expected of any Phaeton when further advanced in the plumage of the young.

February 20th.—Mr. Wedderburn shot a Kingfisher and two Carolina Crakes in the neighbourhood of the sluice gates this morning, and invited me to visit Spanish Point with him, to search for a small bird very much resembling the British Skylark, which he had observed there, and shot at. Failed in finding the unknown bird, and saw nothing but two Carolina Crakes near the sluice gates, one of which was shot by Mr. Wedderburn.

NOTE.—All last night and this morning it has been blowing a strong gale from the west and north-west.

February 22nd.—A large White-backed Gull was seen about the upper part of Hamilton Water this morning.

Walked out with my gun in the evening, but failed in meeting with it. This Gull was reported to me by two respectable natives as being a "White Crane," a tolerable proof of the scarcity of sea-birds on the coast of these islands.

February 26th.—Mr. Wedderburn came in from the Governor's Marsh this evening with two beautiful specimens of the North American Robin (*Turdus migratorius* of Wilson). They were in fine plumage, measuring ten inches and nine and three-quarter inches in length, were exceedingly plump and heavy, and proved to be male and female. Mr. Wedderburn tells me these interesting birds formed part of a small flock of five, and that he unfortunately lost a third specimen which fell among some thick bushes. This Thrush is an old and familiar acquaintance of mine, being found by thousands in Prince Edward Island, where it becomes very tame; I have found its nest in my garden there. It made its welcome appearance about the 10th of April, and left us on the approach of winter. That it should find its way from the north, over so wide an expanse of ocean, to these islands, and at so early a season of the year, is remarkable, and proves how little we estimate the power of flight in many birds. This Thrush is a further addition to the ornithology of Bermuda.

February 27th.—Examined a mutilated specimen of the Gull tribe, which had evidently been dead for some days. The length was fourteen inches. Bill, black, of slender form, and notched at the tip. Feet, light orange. Head, white, with a dark spot on the auriculars. Back and wings, pearl grey, the latter with a band of mottled black or brown extending from the bastard-wings to the axillars.

Three outer primaries, black on the exterior web and part of the adjoining inner one, the intervening shaft being white. Inner webs, white, changing gradually into pearl grey on the secondaries, both webs of the two outer quills black at their extremities—the remaining wing feathers also black towards the extremity and tipped with white. First quill the longest. Tail of twelve white feathers with a broad black line (margined with white) on the extreme end. Shaft of the fourth primary, white. Lower parts, pure white.

This is no doubt an immature specimen of *Larus bonapartii*—Bonaparte's Gull of Audubon. This is the second time this Gull has been obtained in these islands.

Mr. Wedderburn was out this morning and met with three further specimens of the Red-breasted Thrush or Robin (*Turdus migratorius*) one of which he shot. He described them as very tame, and hopping about precisely like the English Thrush—says he could have killed them all at one shot, but was satisfied with taking one, and has requested his friends not to destroy the remainder. Mr. Orde, who passed through the Governor's Marsh in the evening, reports having seen five of these interesting little birds there.

NOTE.—On the 19th and 20th of this month it blew a gale of wind from the south-west, and from that point to the north-west.

February 28th.—Mr. Wedderburn visited Spanish Point this morning, and disturbed the lark-like bird mentioned on the 20th, which took refuge on Cobler's Island. On his return to town, Mr. Wedderburn proceeded in the "Black Watch" to the said island, where he succeeded in shooting

the bird, which proved to be a fine specimen of the Shore Lark (*Alauda alpestris*) of Audubon, being the third of its kind observed in the Bermudas.

Examined a Gull shot by Mr. Orde at Spanish Point. Length, twenty-two inches; extent, forty-nine. Bill, pale flesh colour, with the exterior third black. Irides, pale yellow. Head, white. Back and wings, pearl grey, more or less mottled with brown. Primaries of a dark brown colour, the inner ones tipped with white. Tail of twelve feathers of the same brown shade as the primaries—the outer feathers being mottled with white. Legs, pale flesh colour. Under parts, mottled with very light brown. This is unquestionably the young of *Larus argentatus*, the Herring or Silvery Gull of Audubon.

March 1st.—Observed a very small Hawk pass over the outskirts of the town this morning. It appeared to be considerably less than the Pigeon Hawk, and was probably *Falco sparverius* of Audubon.

March 4th.—Mr. Marriott yesterday walked to Port Royal Church, on the south shore near the light-house, and during service was surprised to see a Tropic Bird pass by. Seven others were subsequently seen in the same locality, and all, as Mr. Marriott observes, with the long taper tail feathers very conspicuous. This is earlier by ten or twelve days than the general appearance of these birds.

March 5th.—The "Salt-Kettle" Duck, mentioned on the 20th of December last, has associated from the commencement of the year with a Drake and two Ducks of the common domestic kind, kept with the other poultry in a yard at the back of my house. It has apparently recovered

from its wounds, but continues very lame on one leg; so much, indeed, as to induce me to believe the thigh has been permanently injured by a shot. This Duck has become almost as tame as its companions—feeds freely on Indian corn, and spends much of the day hunting for worms and insects on an adjoining piece of grass. Its plumage continues the same as when first captured, but there is a fineness in the form of the head and neck, which particularly distinguishes it from the common duck—its habits, too, are different. Unlike its companions, on approaching the tub of water which stands in the yard, it springs, or rather hops, from the ground, and stands on the edge with ease to itself, dipping and washing while in that position—it is also fond of getting into the tub when full of water, at which times it becomes exceedingly lively. During the last week five small eggs of a dirty white colour, certainly one half the bulk of a common Duck's egg, have been brought in from the yard; they are supposed to be from the "Salt-Kettle Duck," its companions laying regularly at the same time. This duck is also remarkable for never quacking like the common kind, uttering a short squeaking note, and sometimes clucking like the common hen.

March 7th.—Mr. Wedderburn visited the Governor's Marsh to-day with the view of endeavouring to obtain a *Turdus migratorius* for Captain Drummond. Mr. Wedderburn met with five of these birds, close to the spot in which he first discovered them on the 26th ultimo. They were very tame, and a fine specimen having been obtained, the remainder were not molested.

March 8th.—Visited the Chief Justice's pond, Hungry Bay, and all the ponds thence to Peniston's or Spittal

pond, also every cedar grove on the line of march. Saw one great Blue Heron, one common Gallinule or Moor Hen and three Carolina Crakes. Killed two of the latter only. Red-birds very abundant and in high plumage.

March 9th.—Hear from several persons to-day that a large black bird, with a deeply forked tail appeared on the wing in Hamilton Harbour yesterday about noon, and one individual assured me it was a "Frigate Bird." I have, therefore, no doubt that one of these birds has actually visited this port.

Captain Drummond, a short time ago, fell in with a flock of "Mealy Redpoles" in beautiful plumage, feeding among the small bushes which are so abundant in many places.

Dr. A. Harvey mentioned having recently met with a flock of a dozen or more birds of a similar description feeding on the sage-bush berries, near Hamilton. Their red breasts were very conspicuous. The doctor says they dispersed in different directions on his dismounting from his horse and throwing a stone at them.

March 12th.—Examined a specimen of the Shrike genus, shot this day by Mr. Wedderburn in the neighbourhood of Peniston's ponds. It measured ten inches in length by thirteen and eight-tenths inches in extent. Length of the different quill feathers precisely the same as in Audubon's description of *Lanius borealis*, great American Shrike; eyes, hazel or black; iris, somewhat lighter; bill, black, lighter at the base; tail of twelve feathers—the four centre ones black; the outer ones white on the ex-

terior web, and in other respects agreeing with Audubon and Wilson. This is the third time I have experienced the very unsatisfactory manner in which *Lanius borealis* and *Lanius carolinensis* have been described by different authors, and really, judging from the light ash colour of the head, neck and back of the present specimen, the size of the bird and the length of the quill feathers, I am almost inclined to think that both belong to the same species. On referring to De Kay's "New York Fauna," however, I find *Lanius septentrionalis* the only species thus described, and the characteristics of the young stated to be "greyish drab" and "four of the middle tail feathers wholly black." His excellent illustration of that bird has the ends of the outer primaries entirely black, the inner ones being slightly margined with white. The length is stated to be from ten to ten and a half inches and the extent fourteen inches. Now all these statements perfectly agree with the present specimen, and indeed with two former ones obtained here, and which from the four black feathers of the tail I was induced to set down as *Lanius carolinensis*. I am, therefore, satisfied that the Shrike now under consideration, and those which have hitherto been noted as "Loggerheads," are the young of Northern Shrike or Butcher Bird, *Lanius septentrionalis* of De Kay's "New York Fauna."

March 13th.—Heard that a "large white bird" was seen on White's Island, opposite this town, in the early part of the day, causing a considerable sensation among the clerks of various stores; of these, one ran to borrow a gun, another to obtain a supply of ammunition, while a third was dispatched for copper caps, and during all these preparations the bird took wing, with its long legs dangling behind it, and wended its way in the direction of the Chief

Justice's pond, which was far too distant for the young commercial Nimrods to follow it. Determined to search the surrounding country for so rare a bird, for I presumed it to be no other than the *Ardea egretta* (Great American Egret of Audubon), I visited the Chief Justice's ponds, where I disturbed a common Night Heron, and gave him the contents of both barrels, without success. The report of my gun disturbed a flock of six cedar birds, which very provokingly passed directly over my head before I could charge. Saw a Kingfisher dash into the pond in pursuit of prey, and heard the note of the Carolina Crake, calling in two different portions of the sedgey margin. I then walked to Hungry Bay, here I found nothing; but at Mr. Harry Tucker's pond I put up a Great Blue Heron, hit him hard, and pursued him to the top of an adjoining hill where I toppled him out of a cedar tree. It was in beautiful adult plumage, and weighed four and a half pounds, its condition being full and plump. On my return to the Chief Justice's pond, I recognised the familiar note of the American Robin (*Turdus migratorius*) among some tall cedars, and soon found two of those birds, which I followed through some neighbouring cedar groves; here the number increased to five or six, all strong on the wing and rather wild. Saw Mr. Wedderburn on his return from the Governor's Marsh in the evening; was told he had met with one "Robin," and one Herring Gull, neither of which were shot. No other birds were seen. In my ramble this morning I met Colonel Macdougall riding in from St. George's, and learnt from him that Captain Drummond has been out, in the vicinity of that town, endeavouring to shoot a Wheatear (*Saxicola ænanthe*), which has recently appeared there.

March 15th.—Mr. Marriott (who lives near the Chief

Justice's pond) came to office this morning with a female specimen of *Turdus migratorius*, shot by him in that neighbourhood; length, nine and three-fourths inches. Mr. Wedderburn also brought in from the sluice gates, a beautiful example of *Ardea exilis*, the Least Bittern of Audubon, being the second time this bird has been shot here. As two of this elegant little species were observed in the same locality, on the 15th of December last, it is probable that a few have remained in Bermuda during the winter months.

March 16th.—Learn from Mr. Orde that he saw a Snipe (*Scolopax wilsonii*), which was killed by the Armourer-Sergeant, at St. George's yesterday, near the spot on which a game of cricket was being played.

The "White Heron" having been seen by Mr. Fozard, soon after daylight this morning, flying towards Hungry Bay, I joined Mr. Wedderburn and proceeded to hunt the bays and marshes in that direction. Met with the flock of Cedar Waxwings on the hill above the Chief Justice's pond, but failed in obtaining a shot at them. At Hungry Bay, Mr. Wedderburn killed a Kingfisher. Saw no other birds.

Examined Captain Drummond's specimens, shot at St. George's in October last, viz., *Mniotilla varia*, *Coccyzus ludovicianus* (female), and *Turdus olivaceus*. The latter is a fuller plumaged specimen than the one shot by Mr. McLeod, the sides and the lower parts of the body being darker, and of a beautiful purplish grey, faintly spotted with light brown. Length of quill feathers, and other

characteristics, precisely the same as in Mr. McLeod's Thrush.

March 19th.—Walked over to Tankfield to look for Cedar Waxwings; met with nothing but one solitary Crow (*Corvus americanus*), the cawing note of which was quite refreshing. This is the second instance only, of my falling in with this native bird during a ten years' residence in the Bermudas.

March 21st.—Examined a beautiful living male specimen of the Carolina long-tailed Dove (*Ectopistes carolinensis* of Audubon). Length, twelve and a half inches. This little Dove was shot at Salt-Kettle, last evening, by Mr. Joseph Harvey, and presented by him to Mr. Somers Tucker, who hopes to be able to keep it alive, although it has a leg and a wing fractured. This is the only specimen of the kind that has come under my observation in these islands; it is consequently a further acquisition to our fauna.

Accompanied Mr. Wedderburn to the Devonshire Marsh, to look for some Snipe which he had noticed there while marching past with his regiment, in the early part of the day. Found three of those birds (*Scolopax wilsoni*), and succeeded in killing one. This had fourteen feathers only in the tail, one of which was considerably shorter than the rest, and all were conspicuously tipped with white. Hunted the Governor's Marsh on our return, in hopes of finding Snipe. In this we were unsuccessful. In the tall cedars growing at the back of Mr. Ewing's (the speaker's) residence, saw two American Robins, and Mr. Wedderburn observed another, making three altogether.

Mr. Wedderburn shot a common Gallinule or Moor Hen (*Gallinula chloropus*) on the 19th, which measured thirteen inches in length, and subsequently proved to be a female specimen. It was compared in the presence of Captain Drummond and myself, with a British Gallinule, killed in Scotland, about twelve months ago, by Mr. Wedderburn, and which measured fourteen inches long, being a male bird. No difference whatever (except in size) could be discovered in these two specimens. The male Gallinule of these islands will occasionally exceed fourteen inches in length, and in other respects is precisely similar to the British specimen above mentioned. In a British female specimen, shot by Mr. Wedderburn, at the same period, the white on the outer margin of the first primary is wanting, and the plumage is of a somewhat darker hue than the male bird's. This female is also considerably less than the male Gallinule. The difference of colour probably arises from age. I do not think there is ground for supposing that two distinct species of this Gallinule exist in Great Britain, and therefore I have no hesitation in stating, that, in my humble opinion, the Gallinule of Bermuda is identical with the common Moor Hen (*Gallinula chloropus*) of the British Islands.

Mr. W. Joel, who resides on the margin of the Devonshire Marsh or Cedar Swamp, informs me that several "yellow birds," so termed in the United States, recently visited that neighbourhood. He described them as small birds of a bright yellow colour with black wings. These were probably the American Goldfinch (*Carduelis tristis* of Audubon).

March 23rd.—Mr. Wedderburn, who returned from St. George's this afternoon, tells me he was out yesterday with

Captain Drummond, and vainly attempted to shoot the "Wheatear" that for some time past has frequented the vicinity of the naval tanks. Mr. Wedderburn says there is no mistaking the bird, which is a female, and from being shot at has become very shy and wary. That he went out at daylight this morning to look for it again, but failed in meeting with it. Captain Drummond states that flocks of *Linaria minor*, the Lesser Red-poll of Audubon, have recently been seen in the neighbourhood of St. George's, and Mr. Wedderburn saw four specimens of the same laying upon Captain Drummond's table yesterday. Why are these birds now met with only at the eastern extremity of these islands?

March 25th.—Heard from Captain Drummond that he had shot a Yellow-bellied Woodpecker (*Picus varius* of Audubon). At St. George's this morning, a second Woodpecker of the same species was observed at the same time.

March 27th.—Mr. Wedderburn visited Devonshire Marsh to-day, and found one Snipe only, which was killed on the spot where the three were seen on the 21st instant. This Snipe had fifteen feathers in its tail. He also shot a fine plumaged male Carolina Crake.

March 30th.—Mr. Wedderburn shot a Flycatcher this morning from the top of one of the cedars which border my garden. It proves to be of a species entirely new to us, and is described by Audubon as *Muscicapa dominicensis* or Pipiry Flycatcher. Length, eight and eight-tenths inches. Bill, very broad. Under wing coverts, pale yellow. Primaries attenuated in the manner described by Audubon. The arrival of this bird may be taken as an indication of

many insectivorous birds being on their vernal flight to the north.

Saw a beautiful specimen of *Hirundo bicolor*, the White-bellied Swallow of Audubon, shot at Ireland Island yesterday, and presented to Mr. Marriott. It was in very bright plumage.

Walked to the sluice gates, Oxford Point, and Spanish Point. Saw a Woodpecker and two American Robins on the Speaker's grounds, the Woodpecker (I think, *Picus varius*) was very shy. Heard the notes of two Water Thrushes near the sluice gates. These little birds have requested that impracticable morass during the entire winter.

Mr. Wedderburn killed a Water Thrush (*Sylvia novæ-oracensis*), at Riddles' Bay.

April 1st.—The Carolina Turtle Dove, mentioned on the 21st ultimo, having died in confinement, was sent to me this morning. It agreed perfectly with Wilson's description of the male bird.

Last night it blew a gale of wind from south-west to north-west, and the Duck Falcon having been left on a seat in the garden, the cage was blown down, a portion of the roof knocked off, and the gallant bird was discovered in the morning perched on a bench close by. Thinking he might be unable to fly, from the effect of his wounds, directed some raw beef to be placed near the cage with the view of recapturing the bird; he preferred, however,

taking to his wings and flew towards the new Church, from the top of which one of the workmen watched his progress across the harbour and over the Chief Justice's house. This interesting Hawk had been in confinement exactly two months, and afforded me an excellent opportunity of observing his habits. The marking of its plumage is correctly given in Wilson's "Ornithology." Its attitude, however, was far from graceful on all occasions, and when the bird reposed upon its perch, it assumed the upright position generally given to the Falcon tribe of Europe. The power and courage of this Hawk I have never been able to test. Full-sized Norway rats he destroyed with as much ease and dexterity as smaller game. On introducing a large live rat into the cage, he would immediately descend from his perch to the floor of his prison, raise one foot when the rat approached, clutching it by the back, and instantly bringing the other foot into play, fairly stood upon the unhappy animal, driving the talons home; and during the very brief struggle which ensued, spreading his wings to support himself on either side, the ends of the primaries being in contact with the bottom of the cage. The Falcon's powerfully curved bill was then called into play, and was invariably applied to the vertebra of the neck, which no doubt was dislocated, as the animal ceased to exist from that moment. All this was the affair of a few seconds only. I have known him to kill three rats in one morning. His voracity was extraordinary, and all kinds of birds, small animals and meat, provided they were tolerably fresh and uncooked, were greedily devoured. As an instance of his gastronomic powers, I once gave him a large rat about an hour before sunset, which was disposed of that evening. On the following day he consumed two others, equally large, and on the morning after, a fourth of the same size, besides a pigeon and a

Blue-bird. Kingfishers and other small birds were almost always decapitated before being plucked of their feathers, and rats skinned in a very expert and perfect manner, the entire skin being left in the cage, inside out. Such were the habits of this fine Falcon, whose recovery and escape gave me real pleasure, and though Nature has endowed him with a ferocious disposition towards the feathered race and smaller animals, his courage and noble bearing entitle him to admiration and respect, and I wish him well wherever he may think proper to rove.

April 2nd.—Went out with Mr. Wedderburn and hunted the Governor's Marsh and part of Mr. Wood's property. One specimen of the Tyrant Flycatcher—*Muscicapa tyrannus*—a very fine bird, and three Yellow-bellied Woodpeckers were killed by Mr. Wedderburn and all within the area of a square mile. These Woodpeckers (*Picus varius*) were all of them deep crimson on the crown of the head, but minus the crimson on the throat, and proved to be females. No other birds were met with. Can a stronger proof be wanted to prove the *Picus varius* to be a migrant recently arrived on its vernal flight towards the north?

It is exceedingly rare in Bermuda, but has recently appeared at St. George's and this neighbourhood, and no doubt at Ireland Island and elsewhere.

One Carolina Crake was shot by Mr. Wedderburn in the morning.

April 4th.—Examined a fine specimen of the Yellow-crowned Night Heron (*Ardea violacea* of Audubon), shot yesterday in the neighbourhood of the Chief Justice's pond by Mr. Conyers, the clerk of Paget's Church. It measured twenty-three inches in length, and was in spring plumage,

the dorsal plumes extending very nearly to the tip of the tail.

Received intelligence of a "Wild Duck with a white crown," being seen this morning in Warwick Church pond. Proceeded thither immediately, and found the said Duck to be a male Blue-winged Teal; succeeded in shooting it, and with much difficulty obtained possession of my prize. It was in splendid plumage.

April 5th.—Mr. Wedderburn returned to his quarters this evening with one Kingfisher, one Carolina Crake and three American Crossbills (*Curvirostra americana* of Wilson). This is the first time the Crossbill has been shot by any person here (so far as my own experience will enable me to speak), though a specimen was captured alive at Ireland Island in January last. These Crossbills were found in James' Marsh, on the road to Pembroke Church, a locality in which I had reason to believe they had been seen more than once of late, but where I had sought for them in vain. The male bird was in the red plumage, the two females in brown and yellow ochre, the upper mandible curving to the right or left of the under one.

A Woodpecker observed by Mr. Wedderburn in the neighbourhood of Woodstock.

April 6th.—Saw a fine male specimen of the Cedar Waxwing (*Bombcilla carolinensis*) shot by Mr. Wedderburn in the Cedar Grove at the back of Speaker Ewing's residence; it was in bright plumage, but did not exhibit the vermilion tips on the secondaries. There were two others in company.

April 8th.—Examined a beautiful female specimen of the Snowy Heron (*Ardea candidissima*) of Audubon, shot by Mr. Wedderburn at the sluice gates. It was in full plumage, precisely like that shot in the same place on the 27th of September last. The tarsi, however, were entirely black in the present example.

Mr. Wedderburn reports having seen a flock of five Cedar Waxwings near the sluice gates early in the morning, also one Belted Kingfisher, a Carolina Crake, and a very young Blue-bird (*Sialia wilsonii*) were killed by him. This is the first young bird I have seen this season, and may be considered very early.

April 9th.—Mr. Wedderburn tells me he met with another Snowy Heron this morning. It was wading in the very spot where he killed the one yesterday, but being wary, escaped. Saw three Tyrant Flycatchers shot by this gentleman, and understand a fourth was seen by him. Two of these were found sitting on a railing which crosses White's Marsh, and the other two in the small marsh near Mrs. Williams'. Mr. Wedderburn also saw a Kingfisher at the sluice gates.

Mr. Jennings Tucker's son called at the office to-day, with a bird that he had shot on the south shore yesterday. It was entirely new to me. Measured seven inches in length, by eleven in extent; bill, stout, long, sharp, pointed and of a yellowish horn colour; eyes, dark; feet, light blue; nails, short and much curved; upper part of the plumage, yellow-olive; tail of twelve feathers, the external ones nearly half an inch shorter than the rest, of a brownish colour, lighter on the edges, as were the wings and

primaries. Lower parts from the chin to the tail coverts, orange yellow. Second quill feathers the longest. On a careful examination of this bird, and on comparing it with Wilson, Audubon and De Kay's works, I find that it belongs to the Tanager genus, viz., the *Pyrranga aestiva*, or Summer Red-bird of Audubon, of course in female plumage. The colour and peculiar formation of the bill, the divided extremity of the tongue, the form and position of the nostril, the length and curve of the claws, and the length of the second primary, sufficiently point out this species. The authors I have here mentioned are in general much too brief in their descriptions of *female* birds, a matter of little consequence, doubtless, in a country where both sexes are to be found in equal numbers, but *to us*, when a female specimen only is occasionally to be met with, the want of fuller information regarding their plumage, &c., is much felt.

April 9th.—Captain Drummond sent Mr. Wedderburn a telegraph from St. George's to say he had obtained a Pelican which had been shot there, *Pelicanus fuscus*, no doubt.

April 10th.—Mr. Wedderburn shot another Cedar Waxwing this morning, in Mr. Ewing's cedar grove. As the small flock was remarkably tame, he is of opinion these birds have recently arrived here; those near the Chief Justice's pond being shy and wary. Met Mr. Wedderburn near the Chief Justice's pond in the evening; he had killed a full plumaged Green Heron, and fired at a Woodpecker (*Picus varius*). Accompanied him to the sandhills and hunted the south shore from thence to Hungry Bay without seeing a bird. At Mr. Harry Tucker's pond a solitary

Sandpiper was found and shot by myself, being the only Sandpiper I have seen for some months.

April 11th.—Examined a beautiful male specimen of the Savannah Bunting (*Emberiza savanna* of Audubon). Length, five and a half inches. This bird was shot by Mr. Wedderburn on the borders of a marsh close to the town, and is a further addition to the Bermuda list. It agreed in every way with the descriptions of Wilson and Audubon.

Another Green Heron (*Ardea virescens*) was shot at Hungry Bay this afternoon.

April 12th.—Accompanied Mr. Wedderburn to search for the Snowy Heron, reported to have been seen yesterday, at, or near, the sluice gates. Succeeded in finding it, and although very shy, it was eventually shot by Mr. Wedderburn. Nothing could exceed the beauty and snowy whiteness of this elegant male bird's plumage. Like the specimen shot on the 8th instant, the legs were entirely black, and the feet of the usual yellow. Killed a Kingfisher in the same locality, and then sailed to Burgess' Point, and the islands about the Sound. Met with nothing but two Great Blue Herons, which we failed in obtaining. A Sandpiper, supposed to be *Totanus macularius*, was also seen.

Mr. Orde writes from St. George's, that he has killed a male specimen of *Picus varius*, in that part of the islands.

April 15th.—Heard of a "beautiful bird" having been seen near Mr. Hodgson Smith's gate, at the head of Riddles' Bay, about four miles from Hamilton. The bird

was reported to be an English Goldfinch. Walked out with Mr. Wedderburn in search of it. Found the stranger in the mangrove trees, and succeeded in killing it. It proved to be a beautiful male Rose-breasted Song Grosbeak (*Coccyborus ludovicianus*) of Audubon, in full and splendid plumage. Length, seven and three-tenths inches. In all other respects it agreed with Wilson's description of this bird. A female specimen, shot in October last, by Captain Drummond, near St. George's, and the specimen above mentioned, are the only two birds of this species that have been killed here within my experience.

A coloured man, named Isaac Lightbourne, sent me for inspection, an elegant example of the Purple Gallinule (*Gallinula martinica* of Audubon). It measured twelve and a half inches in length only, and proved a male bird. Plumage as described by Wilson and Audubon. This rare bird was shot at the head of Pembroke Marsh, and became the property of Mr. Wedderburn.

April 16th.—A note was placed in my hands this morning by Mr. Wedderburn from Captain Drummond, stating that he shot a Pipiry Flycatcher (*Muscicapa dominicensis*), on Saint David's Island, yesterday, and that Mr. Orde immediately afterwards killed another, which was unfortunately lost among the sage bushes.

Sallied forth, after office, with Mr. Wedderburn, in quest of ornithological rarities, and visited Hungry Bay, &c. Saw nothing, and proceeded thence to Devonshire Church, intending to hunt the margin of Brackish Pond. One Solitary Sandpiper and a Purple Gallinule were

met with; this latter was knocked over by Mr. Wedderburn, but escaped in the thick cover of the marsh—much to our disgust. On the north side of the swamp, a beautiful Blue Heron (*Ardea cærulea*) was pointed out to us, on the grassy margin, where it appeared to be feeding without the slightest dread or fear, though persons were continually passing within a few yards, and attempts had been made to knock it down with stones. We were informed by the inmates of a cottage close by, that this Heron had frequented the same spot for three days. Of course it fell a victim to our guns.

It measured twenty-two and three-tenths inches in length; was a male bird, with the dorsal plumes extending four inches beyond the tail. According to De Kay, this bird varies in length from twenty to twenty-five inches.

During the past month I have received intelligence from several persons of a flock of small birds, of a red colour, with short forked tails, having repeatedly been seen feeding on the cedar trees in the neighbourhood of Hamilton, and particularly about Pitt's Bay. I have no doubt, from the information thus gathered, that these were American Crossbills (*Curvirostra americana*) of Wilson. All my endeavours to fall in with this flock have proved unavailing.

April 17th.—Mr. Wedderburn reports having seen two Purple Gallinules this evening in the Chief Justice's Marsh, one of which he winged and lost. A Carolina Crake and the Solitary Sandpipers, seen yesterday, were brought in by Mr. Wedderburn.

April 18th.—Learn from Mr. Orde that Captain Drummond has in his possession, at St. George's, a specimen of

the Scarlet Tanager (*Pyrranga rubra* of Audubon), which was captured by a cat in that neighbourhood.

Another Green Heron shot this afternoon at the Chief Justice's pond.

April 19th.—At an early hour this morning I received from Mr. Marriott a specimen of the Scarlet Tanager (*Pyrranga rubra* of Audubon), in the splendid plumage of the male bird. Length, seven inches. This elegant example was captured by a coloured man residing near the Sand Hills, and kept in a state of confinement until it died. It had evidently been dead, when received, for some days.

Captain Drummond has written to Mr. Wedderburn confirming Mr. Orde's statement of yesterday, and has made a skin of the Scarlet Tanager in his possession. I have reason to believe that a few other specimens of this bird have been observed by different individuals within the last fortnight, although this is the first instance of its being obtained. It is an addition to the birds of this isolated and distant spot.

Drove to the "Flatts" in the St. George's mail, with Mr. Wedderburn, and proceeded thence to the south side of Harrington Sound, visiting the ponds in that vicinity; shot a fine specimen of the Belted Kingfisher, two Yellow-billed Woodpeckers, in female plumage, two Tyrant Flycatchers, one Green Heron, and a beautiful example of the Summer Red-bird (the *Pyrranga æstiva* of Audubon), in full male plumage. Length, seven inches and two-tenths. This is the first time a male bird of this species has come under my observation. The female bird was seen near the spot on which the male was killed. She was in the olive-coloured and yellow plumage described on April 9th.

April 20th.—Mr. Wedderburn returned from Peniston's Pond to-day, with two beautiful specimens, male and female, of the Summer Red-bird (*Pyrranga æstiva* of Audubon). They both somewhat exceeded seven inches in length. Another of these, in female plumage, was seen in the same neighbourhood.

Mr. Marriott showed me a fine specimen of the Tyrant Flycatcher, shot by himself near his own house this morning. He reports having fired at a second one, probably the mate of the above, for they are generally found in pairs.

April 22nd.—I have omitted to mention that about a month ago, Mr. Orde, of the 42nd Highlanders, observed among the timbers of the old "Royal Oak," then being broken up at the Dock Yard, Ireland Island, a small bird, which allowed him to approach within a few yards to examine it, and which Mr. Orde is satisfied in his own mind was the Maryland Yellow-throat Warbler (*Sylvia marilandica* of Wilson). Being officer of the guard at the time, Mr. Orde was prevented from adopting measures to obtain possession of the stranger. The old "Royal Oak"—a line-of-battle ship—was in former days stationed at Weymouth, England, and used as a yacht by George the Third.

Hunted the marshes and Cedar Groves in the neighbourhood, this evening; saw nothing but one Tyrant Flycatcher, which I shot, and lost among the cedars bordering the marsh. Mr. Fozard, in returning from the sluice gates, shot a European Goldfinch—probably the one mentioned on November 12th.

April 25th.—Met with Captain H. M. Drummond, at Ireland Island to-day, and learned from him that he has obtained a second specimen of the Scarlet Tanager, in male plumage. It was shot in a garden at St. George's, by his own servant, on the same day (18th instant) on which he got the former one. The female was seen in the same garden.

April 26th.—The Common Gallinule (*Gallinula chloropus* of Audubon), has, at the present time, a brood of young ones, in a small pond, on the south side of the swamp, at the foot of Mrs. Salton's Hill. Five young birds, about half-grown, were there observed feeding with the parent Gallinule on the 19th instant, and on the following day Mr. Wedderburn saw the old bird and one young one on the same piece of water.

April 27th.—Yesterday I accompanied Mr. Wedderburn, in his boat, and cruised over the Great Sound to the Somerset shore, and home by the Lighthouse and Burgess' Point, without meeting with a bird of any kind. To-day Mr. Wedderburn walked to Peniston's pond, taking his two boat-boys and a spaniel to assist him in beating the bush, &c., but failed in his endeavours to obtain specimens, having seen nothing except one Carolina Crake. From this, it would appear that all those birds, which so far deviated from their ordinary course, during the vernal flight towards the north, as to make, and touch at, these Islands, have passed on.

April 29th.—Mr. Wedderburn showed me a specimen of the Purple Gallinule (*Gallinula martinica*), which was sent to him by a coloured person. It was probably shot early

this morning, and did not exceed in size the specimen obtained on the 15th instant. It proved to be a female specimen, and measured very nearly thirteen inches in length.

April 30th.—During the last four days, reports have been current of a strange bird having been seen in various localities, but more particularly in the vicinity of Riddle's Bay, Hamilton Water, and the Chief Justice's pond. This bird is described by persons who have seen it, as larger than a Turkey, of a grey colour, and not at all resembling the Heron in form or appearance. Yesterday, at noon, it appeared in the harbour of Hamilton, flying very low. Some neighbours, who saw it rise from the front of the town to a great elevation above the water, quaintly described it as "a moving body, of a dark colour, and square form." They watched its motions for some time, and at last witnessed its perpendicular descent into a small bay, termed the "Redhole," where it is said to have disappeared with the velocity of a thunderbolt. The most amusing part of the testimony was that one observer described this "moving body" as *white*, and another was quite sure it had neither wings or tail!

I have reason to believe this wonderful apparition is nothing more than a Brown Pelican (*Pelicanus fuscus*), probably the mate of the one shot at St. George's on the 9th instant. It has been seen sitting on the rocks bordering the Sound, and yesterday was met with at the Chief Justice's pond. Both Mr. Wedderburn and myself have sought for this bird in vain.

May 2nd.—The flock of American Crossbills was seen this morning by two persons, viz., Mr. C. Fozard, in

some cedar trees, near Sir William Burnaby's front gate and by Mr. W. N. James, on the road to Pembroke Church.

May 3rd.—Mr. Wedderburn observed several American Crossbills this morning in the cedars near the mess house, and hurried to his quarters for a gun; but on returning to the spot, they had disappeared, nor could he meet with them in the vicinity.

May 9th.—Saw several very fine specimens of the Tropic Bird (*Phæton æthereus*), brought in by Mr. Wedderburn to-day from the south of Gibb's Hill. One of these I found to measure thirty-two inches and one-third in length. It was a very beautiful example of its kind, and was remarkable for the rosy colour of the two elongated feathers of the tail, and for the shorter ones being tipped with black—a peculiarity not observable in any of the remainder. Mr. Wedderburn also obtained one egg of this *Phæton*; it was a deeply coloured red one. Two of these Tropic Birds were shot, each with an anchovy (so-called) in its bill. The fish were five inches long.

May 14th.—Learn from Mr. Fozard that a Night Hawk (*Campyrmalgus americanus* of Wilson) was observed by him last evening hawking moths around his house, and to-day Mr. Wedderburn mentions another having been seen near the barracks, together with a Swallow. None of these were obtained. My little son reports having met with a Night Hawk in his ramble this evening, viz., "a brown bird, about the size of a Pigeon, with a white spot on each wing."

Mr. Wedderburn tells me that an officer on board H.M. Ship "Wellesley" (which arrived here from the West Indies on the 31st of March last) stated that on the passage numbers of Woodpeckers and Swallows came on board that ship; that the Woodpeckers had all of them "crimson heads," with yellow plumage below, and were so numerous that nearly every man in the ship secured one for himself. I have not ascertained the latitude or longitude in which this interesting reconnoitre took place but will endeavour to do so. This Woodpecker was no doubt *Picus varius*, a species which, a few days later, was found in unusual numbers in various parts of Bermuda.

May 20th.—Saw a Night Hawk (*Caprimulgus americanus*) pass close to the windows of my house at sunset this evening.

I understand from Mr. Wedderburn that the surgeon of the flag-ship "Wellesley" has recently shot, near the admiral's residence, a Summer Red-bird (*Pyrranga æstiva*), in full plumage of the male bird.

May 22nd.—I hear from Mr. Wedderburn that Captain Drummond and Mr. Orde visited the Gurnet Head, or Black Rock, off Castle Harbour, on the 20th instant. Two young Dusky Shearwaters (*Puffinus obscurus*) were found in separate holes of the rock, and one egg was obtained (of the same bird), which appeared to be addled. The old birds were not seen.

May 26th.—It has been stated to me by three or four different individuals that a Wild Swan, of a grey colour (*Cygnus americanus*, American Swan of Audubon, in

plumage of the young [?]) was shot in the vicinity of Hamilton, some fifteen years ago, by a Mr. Dunscomb, now dead, but whose widow is still living, and, until recently, retained in her possession a foot of the said Swan. My endeavours to obtain permission to examine this ornithological relict led to the discovery of its being no longer in existence. Mr. William White, an old resident proprietor on the margin of the marsh near Hamilton, recollects the circumstance—that this Swan had been observed, for three or four days, in the marsh near his residence, before it was shot ; that it was not wild or wary during that period, and would allow persons to approach within shot of it. Mr. White also tells me he has seen Swans of a pure white in the same marsh, besides several Wild Geese and many Ducks, but this was fourteen or sixteen years ago, since which they have been rarely seen. This Swan sold for three dollars.

June 2nd.—Mr. Arthur Downes, of the Commissariat, who resides on the margin of a salt water creek, at Honeymoon Cottage, and amuses himself by rowing a small skiff within the same, tells me that in coasting along the belt of mangrove trees, about sunset, he has lately disturbed a Night Heron, not only once, but several times, and that the bird appears to have taken up its abode in that locality. The vernal appearance of the Night Heron is very unusual.

June 5th.—Captain Drummond, 42nd Royal Highlanders, being now quartered in Hamilton, I had an opportunity this afternoon of examining the Pelican, which was shot by a native Mudian at St. David's Island, on the 9th of April last. It is the brown species appertaining

to America. Crown of the head, yellow, tinged with chestnut; neck, yellowish white; general colour of the body, dusky brown, beautifully streaked about the lower portion of the back and sides with white. I understand, from Captain Drummond, that two or three Pelicans of this description were observed in the neighbourhood of St. George's at the period when this specimen was obtained.

Also saw the Scarlet Tanager, shot by Captain Drummond's servant at St. George's, on the 18th of April last. It is a male bird in full plumage, and is beautifully set up by Captain Drummond.

June 10th.—Learn from Dr. Muir, of the 42nd Highlanders, that Mr. Wedderburn killed a Roseate Tern (*Sterna dougallii* of Audubon) off the Dockyard this morning, being the first that has been observed in this portion of Bermuda during the present summer.

June 12th.—Received information from a little negro boy that a strange bird had for some time past frequented some cultivated lands on the north hills, held by Lane and Minton. This bird was described to me as being something less than a Pigeon, and of a light green colour about the neck. My little informant also stated that about twelve or one o'clock, in the "middle" of the day, this strange bird would be often seen rising in the air to a great height, when it appeared not to know how to get down again, and would at last fall down like a stone, while on the wing it would make a "curious noise." This was quite sufficient to arouse my curiosity, and being satisfied that the boy's description could not apply to any of the native birds, and that perhaps I should meet with the

Meadow Lark of America upon our hills, I took my gun, and proceeded to the spot. Called at the cottage where my informant lived, and saw his mother, from whom I learned the usual haunts of the stranger, and was on the point of leaving when, to my utter surprise, the well-known delightful cadence of the European Skylark burst in full power and sweetness upon the senses. The woman at once exclaimed, "There he is," and endeavoured to point out the bird as he floated beneath the clouds above us, but as fate would have it, my eye met not the moving speck. All doubt being at an end as to the real character of the strange bird, I followed in the direction in which it was seen by the woman "to go down like a stone," and diligently hunted for an hour without finding it, and then, the weather being warm, I seated myself upon a stone, determined to wait till the interesting songster should think proper to take another flight. In a quarter of an hour he rose at a considerable distance, and after pouring forth a flood of melody (which to me, who had not heard the Skylark for sixteen years, was an indescribable pleasure), went down in the true Skylark style, on the top of a neighbouring hill. Of course, I followed, and with no little sense of shame for the act, shot the poor bird as it rose in a fallow field—a genuine *Alauda arvensis*, or European Skylark, and a total stranger to the neighbouring shores of America. Whence he came is an interesting problem for the consideration of ornithologists.

It was a male, and it is by no means improbable that the female of this bird may be engaged in the duties of incubation at the present time. I am not aware of her having been seen by anyone, but judging from the well-known habits of the male bird, I am inclined to think he was not altogether alone. This is an addition to our list of birds.

Mr. Wedderburn tells me that on the 10th instant he shot two Roseate Terns, from a flight of about twenty of those birds. Saw one of the specimens to-day, which had been set up by Captain Drummond.

June 24th.—Captain Drummond informs me that in the piece of marsh adjoining Mr. Harry Tucker's pond (to the eastward) he put up a Purple Gallinule (*Gallinula martinia*) yesterday. Captain Drummond had no gun with him at the time.

July 1st.—The "Peri," a small vessel belonging to these islands, and recently returned from an onion voyage, brought from the Island of Inagua (one of the Bahamas) two young Flamingos. The master, J. T. Yates, tells me that he had about a dozen of these birds on board, all of which died at sea, excepting the two already mentioned. They were the property of passengers, and were captured the day before he sailed by a party who walked into the country for that purpose, and with trousers tucked up above their knees, invaded the lake and islands where they breed. Old and young were met with in abundance. Must endeavour to obtain authentic information of the breeding habits of this curious bird.

July 4th.—Met with one of the "Peri's" passengers, an intelligent native named Hollis, who had been present at the Flamingo hunt above mentioned, and questioned him regarding what he saw of the habits, &c., of that bird. He stated that he visited Lake Rosa with some companions at a distance of fifteen miles from the port where the "Peri" lay, and waded to some of the islands which dotted its surface—the water being only knee-deep. On one of

these islands they disturbed a large number of Flamingos, at least two hundred, which were too shy to admit of a near approach, and were all in red plumage. These would settle on some distant margin of the lake, in line, resembling a company of soldiers. On searching the rocky shore of the island in question, many young Flamingos were discovered, some of which were run down and captured. They have an awkward gait, but scuttle along at a good pace. These were in the grey plumage, and of different stages of growth, the larger just putting out the quill feathers of the wings. Hollis confidently states that he saw upwards of a thousand old Flamingos on the lake that day, or rather, on the small portion of it visited by him; he also saw many nests of this bird, and found several of their eggs, which appeared to have been thrown out by the old parent birds, and proved to be addled; they were white, and about the size of a Common Goose egg. The nests were composed of mud and sticks, more or less raised on account of surrounding water; the highest of these were certainly not more than nine inches from the ground, while many others were nearly level with it. The surface was hollowed out, and capable of containing about two eggs—not more. Referred to Wilson's "Ornithology," and read the paragraph which describes the elevated nest constructed by this bird, to admit of its long legs dangling on each side during the duties of incubation. At this my informant smiled, and assured me he saw nothing of the kind, that he had particularly noticed many of their nests, and in no instance did the height of any of them exceed what he had already stated. I think this statement highly satisfactory.

July 5th.—Mr. Fozard reports having seen a Spotted Sandpiper flying up Hamilton Water this day. Its well-

known note of tweet, tweet, was the cause of his noticing the bird.

July 12th.—Was passing Mr. Dean's front entrance, on my way home, at half-past six this evening, when the well-known whistling note of the Yellow Shanks was distinctly heard over the adjoining marsh. This bird, *Totanus flavipes*, has heretofore been noticed as arriving on or about the last day of this month. The note was repeated several times, or I should have been inclined to doubt its reality.

July 14th.—Mr. Wedderburn tells me he observed three Yellow Shanks (*Totanus flavipes*) pass over the town to-day. A single one was also seen on the wing by Captain T. Drummond-Hay, of the 42nd Highlanders. Weather, dark and blowy; wind, south-east.

July 15th.—Mr. Orde visited Tucker's and Peniston's Ponds to-day, and saw six Spotted Sandpipers (*Totanus macularius*), three of which he killed, viz., two in full spotted plumage and one young one. Mr. Orde also met with a single *Totanus flavipes*, or Yellow Shanks. This he fired at and missed. A labouring man near the spot stated to Mr. Orde that this bird had frequented the same pond for the last three days.

July 23rd.—Captain Drummond and Mr. Orde drove to the Flatts, and Trott's pond to-day. Eight Spotted Sandpipers and one *Tringa pusilla* (the Stint of America) were brought home. Hear from Mr. C. Fozard that he saw five Spotted Sandpipers on White's Island, in Hamilton Harbour, early this morning.

Saw a specimen of the Common Cat-bird (*Orpheus carolinensis*), broadly marked with white on the primaries of each wing and on each side of the central tail feather, so as to give the bird a complete pied appearance. It was an old bird, probably a female, and in moult. One centre tail feather was wanting. This curiosity was killed by Captain Drummond during the day's excursion to the Flatts.

The Spotted Sandpipers I have examined this season were mostly adult birds, beautifully spotted on the neck, breast, and sides; and so excessively loaded with fat as to render the operation of skinning one of much difficulty.

July 31st.—Mr. C. Fozard informs me that a *Totanus flavipes* passed over his head this morning while fishing in Hamilton Water.

Mr. Marriott, who spent yesterday in fishing for Groupers on the south-west shoals, tells me that a Stormy Petrel came so close to the boat that he almost caught it with his hands. Is positive that its tail was square, and not forked. He also states that Tropic Birds were very numerous about "Daniel's Island," off the extreme western point of Somerset.

August 1st.—Mr. Marriott (who resides on the crest of a hill overlooking the south shore) tells me that last evening, shortly before the setting of the sun, while busily engaged in his garden, he heard distinctly above him the notes of a numerous flight of Sandpipers, or what he considered to be. Although the evening was clear and

tranquil, the birds were not visible to the eye, nor indeed could they be seen even with the aid of a telescope. Judging by the notes of tweet, tweet, continually repeated, Mr. Marriott considers this flight to have passed on in a southerly direction, and he continued to hear small parties of the same birds, passing in the same direction, for some hours afterwards. As the first flock occupied fully fifteen minutes in passing over his residence, the number, he thinks, must have been immense. Mr. Marriott is well acquainted with the note of the Yellow Shanks (*Totanus flavipes*), and is quite confident the flock of last evening was of some different species.

This is the first time I have heard of so early an instance of large bodies of birds passing to the southward. Of course, the species will remain unknown to us until some gale shall accidentally drive these early travellers to take refuge on our shores. I am inclined to regard this invisible flight as a body of Spotted Sandpipers (*Tringa macularia* of Wilson), and that on account of the note, more than anything else, though I have never heard of their being seen in such flocks. There is another bird which occasionally visits us at this early season. I allude to the small *Tringa semipalmata*, the note of which is somewhat feeble.

August 2nd.—Mr. A. Downes, who resides at Point Shares, corroborates the above statement. He states that about seven o'clock on the evening of the 31st ultimo, he was walking alone on the hill near his house, and he very distinctly heard the notes of a numerous flock of Sandpipers; they appeared to come in direction from the Admiral's House, *i.e.*, from the north. For some time he thought the flock was flying round and round the spot on which he stood, and yet, notwithstanding their numbers,

not a single bird was to be seen. Their note he describes precisely in the same manner as Mr. Marriott. This was no doubt the same passing flock, and these united observations would prove their course to have been towards the south-east.

August 7th.—Was informed by Mr. C. Fozard that *Totanus flavipes* passed over Hamilton Harbour somewhat abundantly at an early hour yesterday morning. Mr. Marriott visited the Chief Justice's Ponds last evening in the expectation of finding them there, but saw nothing whatever.

August 14th.—On my return from St. George's this evening I observed, on the south side of Harrington Sound, two Swallows—I think of the species *Hirundo rustica*.

Saw many Tropic Birds on the wing along the shores of Harrington Sound, particularly the eastern shore, where no doubt they breed.

August 15th.—Old Mr. William White, my neighbour, tells me that some years ago he counted seven beautiful white birds in his marsh, similar in form to the Snowy Heron (*Ardea candidissima*), which is set up in our drawing room, but very much larger—to use his own words, “they were as white as the driven snow, had not a coloured feather among the whole of them, and stood about as high as the table”; indeed, the Snowy Heron was “a mere chicken in size when compared with them.”
Query—*Ardea egretta*?

August 19th.—About the 20th ultimo the “Salt-kettle Duck” commenced laying her third batch of eggs, and on

the 5th instant was sitting closely upon twelve. The nest was at the foot of a cedar tree, concealed by sage bushes, and was composed of dead grass and vegetable *débris*, lined with grey down. Seeing the Duck feeding at the kitchen door, I took the opportunity of demolishing her nest, having previously ascertained that the eggs contained no embryo. The eggs were of one uniform size and colour, as described on a former occasion.

A native coloured man, named "Nat Keel," resident on the verge of the rolling "sand banks" of Paget's Parish, called on me a few days ago, and told me he captured the Scarlet Tanager which Mr. Marriott sent to me on the 19th of April last. He first observed it among the peach trees which grow in front of his small wooden house, and caught it in a trap of horsehair nooses set for Cat-birds on the rim of a tub of water. After keeping it in confinement for about three days it died. He saw no other Scarlet Tanager at the time, nor did he ever previously observe the bird in the islands. This man, "Nat Keel," has so thoroughly the features, lank hair, and full black eye of the Mic Mac Indians of North America, and is, moreover, so perfectly distinct from the different races of African and Asiatic blood prevalent in the Bermudas, that I think there can be little doubt of his Indian origin. Robertson says, in his "History of America," that many Indians of the Mic Mac tribe were captured by the settlers of James's River, in the early settlement of that portion of the coast. These were sold and exported as slaves, many being sent to the Bermudas. Mr. W. B. Smith, the present Receiver-General of the Colony, tells me that in his boyhood he has often heard his father speak of certain families being descendants of North American Indians,

and that "Nat Keel" (now about sixty years of age) has always been considered a person of this description.

August 20th.—Mr. Orde returned from a visit to Trott's and Peniston's ponds this afternoon, with two fine specimens of *Totanus vociferus*, and two Pectoral Sandpipers (*Tringa pectoralis*). He had also succeeded in obtaining a very fine Solitary Sandpiper, some Semipalmated Sandpipers, and the Little Sandpiper (*Tringa pusilla*). Mr. Orde reports these Sandpipers to be in considerable numbers at Peniston's pond. *Totanus flavipes* was not met with. All the specimens obtained were excessively fat.

August 23rd.—Mr. Orde came in from a cruise among the islands in the Sound to-day with one Spotted Sandpiper and one Blue Heron (*Ardea herodias*). The latter measured three feet seven inches in length, and appeared to be a young bird of the present year; it was very plump in condition. No other birds were observed by that gentleman.

September 10th.—That flocks of birds have been heard passing over these islands within the past week, particularly during the night, and that some flocks have been seen so passing in the daytime, I learn from the testimony of persons of the highest respectability in the colony (if this possession can be so called).

Mr. Orde, of the 42nd, tells me he has killed two Turnstones recently, and that at Shelly Bay he saw and shot at a Sanderling of very white plumage.

September 12th.—Mr. Downes reports having seen a Night Hawk last evening at sunset in the street fronting

the harbour. Mr. C. B. Fozard, who came passenger in the "Lady of the Lake," which came into port this morning from New York, tells me that yesterday, many miles to the westward of these islands, a Belted Kingfisher flew on board, apparently much fatigued, and took up a position on the fore-yard arm, where it remained until dark. At midnight the lighthouse was sighted, and at daylight this morning the vessel well in with the land. When Mr. Fozard went on deck the Kingfisher had disappeared, and in all probability made good his landing in the Bermudas. This is the first of the species I have heard of since the Spring.

A small strange bird was likewise reported to me as having been frequently seen yesterday and to-day in Mr. Harris's garden, and two persons assure me they saw two or three "real long-billed Snipes" go down in the neighbouring marshes. These are all indications of the great southerly migration now to be expected.

September 14th.—Mr. Downes, who was out with his gun this evening, tells me that he saw two Kingfishers, being the first he has met with this Autumn. He also fell in with a *Totanus vociferus*, which he wounded and carried home.

September 17th.—On the 13th instant a large bird was observed passing up the harbour of Hamilton in front of the Custom House. It appeared to be of a bluish-grey colour, was about the size of a Heron, but had no long legs visible, as in that genus. As the bird was going from us, the head and neck were not seen. To-day, Mr. Edwin Jones reports a "Wild Goose" to have passed him when near the Chief Justice's Wharf. This is probably the same

bird, but whether of the Canadian species or the *Anser hyperboreus* has not been ascertained.

September 18th.—At sunset this evening I had the satisfaction of seeing a genuine *Scolopax wilsonii* pass over a portion of my premises adjacent to White's Marsh, calling loudly as it flew along. This is the first I have seen this autumn.

Mr. Orde informs me that on the 15th instant a Purple Martin (*Hirundo purpurea*) was seen at Ireland Island, and on the day following an Osprey. That on the 17th the Belted Kingfisher was very abundant at Somerset, several specimens of which were shot by that gentleman. The Hudsonian Curlew, the Turnstone, and the Semipalmated Sandpiper are among the birds recently seen by him.

September 19th.—Mr. Orde returned this morning from a visit to Peniston's Ponds. He tells me he met with a Solitary Green-winged Teal (*Anas carolinensis*), two Purple Martins, two White-bellied Swallows, and Yellow-legged Sandpipers in abundance. The Teal he succeeded in killing.

Mr. Hodgson Smith tells me he was out at dawn on the 17th instant, and saw several flocks of Golden Plover on the hills near the Iron Lighthouse; these, however, were so harassed and fired at by some twenty coloured sportsmen that they were soon driven away.

September 20th.—Shot a Blue-winged Teal (*Anas discors*) in White's Marsh this morning. It was in immature plumage.

Saw a Night Hawk (*Chordeiles virginianus*) near the Rev. J. Campbell's entrance gate, at Ireland Island. Another of these birds has been seen hawking about my own residence, at sunset, during the past week.

September 24th.—On the 19th instant, a “large brown bird” was reported to me, as sitting upon the mast-head of a vessel anchored in Salt Kettle Bay. It had been seen in the same place the preceding evening. On the evening of the 19th it was shot, during twilight, by a son of the Attorney-General's, and I understand from that functionary that it measured across the wings five feet and a half. It proved to be an Osprey, or Fishing Hawk (*Pandion haliaetus*).

The Night Hawk (*Chordeiles virginianus*) occasionally to be met with of an evening and in the early morning.

Mr. Fozard tells me that while fishing near White's Island two days ago, he noticed two small birds feeding upon the rocky shore close by, very much resembling the Ring Plover in size and appearance, but of a dove colour above, with the lower parts white. This little bird, he says, had a very musical note. There can be little doubt these birds were a pair of Piping Plovers (*Charadrius melodus*).

September 29th.—On the 24th instant a hurricane, or revolving gale, is supposed to have passed near the eastern portion of these islands, in the usual northerly direction. The wind north-east, and blowing fresh, with a very heavy sea breaking on the south shore, causing a sheet of foam for nearly two miles from the beach. The thermometer

80°. Barometer fell from 30 to 29. On the following morning the wind was at north, and later in the day north-west. Heavy clouds prevailed during both days. This blow does not appear to have caused any birds to visit this portion of Bermuda, though I understand an Osprey and several couples of Golden Plover have been shot at, or near St. George's.

A *tournfortia* bush growing close to my bedroom window is now full of little white pulpy berries, which contain the seed of the shrub. These berries appear to be a favourite food with the White-eyed Greenlet (*Vireo noveboracensis*), which may be seen any day feeding on them in the presence of a Hawk (*Falco peregrinus*), whose perch is within a few yards of the bush. I have also observed this little bird feeding upon the ripe pods of the capsicum, known here by the term of bird pepper. It plucked the entire pod, carried it into a neighbouring peach tree, and there swallowed it whole—a tolerable proof of the powers of so small a bird in disposing of size and pungency.

The elevated ground on the north shore, on which the Skylark was obtained on the 12th of June last, has since been frequently examined by myself and others, when seeking for Golden Plover; nothing, however, has been seen of a companion or progeny to that bird, from which I conclude that it must have been a solitary wanderer.

October 2nd.—Weather dark and cloudy, with rain. Mr. Marriott obtained a specimen of the Common Gallinule (*Gallinula chloropus*), shot by Mr. Dill, at the head of Hamilton Water this morning. A large Heron passed the

town, and was attacked by two Kingfishers near Red Hole. Heard of two or three Teal having been seen during the day. The Gallinule was a young bird, and measured thirteen and a quarter inches in length.

October 4th.—Received information that Snipe (*Scolopax wilsonii*) had been seen to go down in White's Marsh. Turned out with my gun, and flushed five of those birds at the same time. Succeeded in obtaining five shots, and brought home two couples. Hunted the Governor's Marsh as high as Minton's cottage, but could find no others. First of the season.

October 5th.—Hunted the neighbouring marshes early this morning, and found three Snipe and one Night Heron in spotted plumage, all of which I bagged. Saw one Solitary and two Pectoral Sandpipers.

Mr. Orde reports having seen and shot at a Blue Heron (*Ardea cærulea*) in the Somerset Marshes to-day.

October 7th.—Two Boatswain Birds (*Phæton æthereus*) were observed by Mr. Orde to-day.

October 8th.—At an early hour this morning hunted the marshes between my abode and Minton's for Snipe. Found only three, two of which, with a Blue-winged Teal, I brought in. Saw one Carolina Crake during my ramble.

I understand that on the night of the 5th instant (it being very dark at the time, with pouring rain), many

small birds were captured on the outer ledges of the lantern of the Iron Lighthouse. Several of these birds are now in the possession of persons residing near the spot. They are described as being all alike—brown on the upper parts and yellow below.

Mr. Hodgson Smith has promised to send me some of them.

October 9th.—Hunted the Governor's Marsh at day-break with Mr. Orde. Found one Snipe only, which I killed. Saw no other bird.

October 11th.—Visited the Governor's Marsh and the sluice gates; saw two Pectoral Sandpipers and two Snipe; shot one of the latter.

October 12th.—A Tropic Bird passed within a few feet of a party fishing in the Sound; indeed, it is said that the bird's tail touched the hat of one of the piscators.

October 13th.—Yesterday I succeeded in finding the "Salt Kettle Duck's" nest among the bushes at some little distance from the house. It is her fourth attempt to raise a brood this season. The nest was composed of dry grass and down, neatly built; and contained fourteen eggs of the same size and colour as usual. To-day, on pointing out the nest to my little boy, I observed ants were attacking her about the head, and on taking the poor thing off its nest, both eyes were found to be closed. One, I knew, had been so for some time, but the other had been partially open up to yesterday, when I fed her with corn at the back door. On examining the parts, I find the eyelids have grown together, so as totally to impede

sight. Whether the eyes remain uninjured by the ants, which have thus blinded the poor Duck, I cannot undertake to say, though I am of opinion that an operation will remove the existing impediment to sight. Of course, I removed the Duck into hospital, and destroyed her nest.

October 14th.—Mr. Hodgson Smith sent me a small bird to-day, being one of those mentioned as having flown against the lighthouse on the 5th of this month. It proved to be the *Sylvicola pinus*—Pine-creeping Wood Warbler of Audubon. Length, five inches and one-fourth. Extent, nearly nine inches. This specimen had been put into a cage with some canaries, and had no doubt died from starvation.

Shot one couple of Snipe in the marshes this morning, being the only birds I met with, Kingfishers excepted, of which there appear to be a greater number than usual.

October 15th.—Observed a large Hawk pass over the back of Hamilton this afternoon. It appeared to me to be the *Falco peregrinus* of Bonaparte, or Duck Hawk.

October 16th.—Met with Captain Drummond this morning, who informed me that he had just hunted the Governor's Marsh, and killed one couple of Snipe. Saw no others. Captain Drummond also mentioned that he observed yesterday a flock of small birds coming in from sea, and approaching his quarters (in the Commissioner's house, Ireland Island) from the north-west. These birds were about fifty in number, and formed a long line, rather than a compact body, while on the wing. On reaching Ireland Island (the extreme north-westerly part of the

Bermudas), the flock wheeled round two or three times, and then settled upon some cedar trees growing inside the Keep, from whence Captain Drummond shot two specimens, one of which was in adult plumage. They proved to be the *Sylvicola pinus*, the Pine-creeping Wood Warbler of Audubon. Captain Drummond further stated that he had observed five or six Herons and a flock of Geese pass over Ireland Island, the latter in the usual wedge-like form. One Yellow-billed Cuckoo and one Rose-breasted Grosbeck are likewise reported as having been recently seen on that island.

October 25th.—Have assiduously hunted the neighbouring marshes, cedar groves, and sea coast up to this period, and regret to record that the migratory season has nearly passed away without any influx of the feathered tribes from the north or any other point of the compass; indeed, it promises, like some former ones, to be almost blank and devoid of interest to the ornithologist. Not a single addition has been made to our list since the 12th of June, though my ornithological friends have been keenly on the *qui vive* for novelties.

November 4th.—Blowing hard for the last two days. Went out early this morning, and met with nothing. Heard from several persons that a flock of eight ducks had been seen in Hamilton Water on Saturday. The Rev. — Stowe informs me that on that day he shot a Coot (*Fulica americana*) swimming in the sea near his residence at the Flatts.

Captain Drummond shot a Bittern (*Ardea lentiginosa*) in the Governor's Marsh this morning. The only one that I have heard of this autumn.

November 7th.—Major Tulloch, 42nd Highlanders, tells me that on the 2nd instant he observed a flock of fourteen Wild Ducks flying to the southward. This flock has been reported to me by other persons who saw it on the same day, and positively declare they were not mistaken in taking these birds for Ducks. Their flight was sufficiently low to bring them within shot as they passed over the hills.

November 11th.—Hunted the neighbouring marshes at an early hour in the morning. Found one Snipe, which I killed. Saw no other description of bird. A Sussex Spaniel, recently imported from England, was with me on this occasion.

November 13th.—Shot a Duck in Mr. Kennedy's Marsh this morning, which was quite new to me. It measured sixteen inches in length, was dark brown, glossed with purple and green on the head and upper parts; wings, dusky; secondaries, slate coloured, margined with brown and tipped with white. Under plumage of the wing, slaty, the larger feathers near the body pure white. Legs and feet, bluish ash colour; the webbs, dusky. Hind toe, with a lobed membrane. Bill, black. Irides, dull orange. Rump, minutely dotted with white. The chestnut ring on the neck was obscure. In other respects this bird agreed with Audubon's and Wilson's description of the Ring-necked Duck (*Fuligula rufitorques*). This is an addition to our list of birds. As the specimen was not severely wounded, it is my intention to preserve it alive, if possible.

Saw a flock of small birds, of a dark brown colour, rise from a piece of dead guinea grass, and shelter themselves

in the dense reeds and rushes of the marsh near Mrs. Williams's cottage. Failed in my endeavours to obtain a specimen. Was under the impression they were Swamp Sparrows.

November 18th.—A "Wild Duck" reported by the Receiver-General to have been seen by him while crossing the ferry to Hamilton. Went in search of it, and found the ferryman (Lightbourne) had just shot the supposed Duck, which proved to be nothing more than an American Coot (*Fulica americana*). Examined the Chief Justice's Ponds and Hungry Bay; saw one Kingfisher only. In the Governor's Marsh I obtained one Carolina Crake, the only bird of this species killed by me this Autumn! Hunted White's Marsh for Snipe; found a Schinz's Sandpiper, which I killed and sent to Mr. Orde.

November 20th.—Mr. Kennedy's coloured servant "Wellington," brought for my inspection a Blue-winged Teal and an American Coot, both of which were shot by him a few hours previous, in the ditch which runs through the marsh adjacent to my residence. These birds were killed at one shot, rather a curious circumstance, considering how seldom either species is to be met with in the islands.

November 25th.—A person named Smith sent me a living specimen of the Pigeon Hawk (*Falco columbarius* of Audubon). As it was severely wounded in one wing, it was immediately killed. This little Hawk, I am told, boldly attacked the poultry, and was only driven from the yard by stones thrown at it. It was afterwards shot by the donor. Length, twelve inches, full measure; probably a female. Plumage, immature.

Yesterday and last night it has blown hard from south-west to north-west. Hunted the marshes from Minton's to the sluice-gates. Found a few Snipe, and managed to bag three of them. Also shot a Carolina Crake.

November 29th.—Mr. Orde showed me a Snow Bunting (*Plectrophanes nivalis*), shot by himself at the Dockyard on the 27th instant. The flock consisted of four of these birds, three of which Mr. Orde obtained at one shot. The one I saw was in the usual Autumnal plumage, and very fat.

November 30th.—Saw a specimen of the Western Gull (*Larus occidentalis*), shot by Mr. Orde this morning. It had been previously wounded in the upper joint of the tarsus so severely as to cause the limb to be reversed, the anterior portion of it being towards the tail, and the foot bent forward, so as to bring the upper portion of it to the ground. How this bird—which had evidently been wounded many weeks ago—could not only maintain itself, but wander so far from the coast of America, it is interesting to enquire. There was another of the same species in company when this one was killed.

December 2nd.—Hunted the Pembroke Marshes this morning; found three Snipe, a couple of which I killed. Found the flock of small brown birds, mentioned on the 13th ultimo, in the same spot, and succeeded in shooting one of them. Length, five inches. Bill, very stout, the upper mandible slightly curved. Edges, ascending from the gape to beneath the nostrils, then direct; very slightly notched near the tip. Hind toe, robust; third, united to the fourth at the base. Claws, arched, long, compressed,

and acute. Tail, notched, and composed of twelve feathers, pointed at the ends. Fifth quill, nearly as long as the first, the intervening ones longest, and considerably curved inwards at the extremity of the outer webs.

Colour: upper mandible dusky; lower one, yellowish horn colour. Tarsi, feet, and claws, dark brown or dusky; soles of the feet, dull white. Eyes, dark. Upper portion of the head, and all the upper parts, reddish brown; each feather darkest in the centre. Secondary coverts, reddish yellow on the tips and outer webs. Quills, dark brown, finely margined with yellowish brown. Scapulars, reddish brown, broadly barred with dusky. Tail, rather more than an inch longer than the closed wings, and entirely of a dark brown colour. Under parts, yellowish grey. Breast and sides, with numerous minute brown streaks.

I consider this to be the Henslow's Bunting (*Emberiza henslowi* of Audubon), in immature plumage. This is a new bird in these islands. Specimen presented to Mr. Orde.

December 4th.—Met Mr. A. S. Trott in Hamilton this morning, and was informed by him that eighteen "Wild Ducks" had recently frequented the pond near his house, for several days! all of which had now taken their departure. This is probably the flock seen by Major Tullock on the 2nd ultimo, and of which I could obtain no tidings.

December 5th.—Examined a beautiful specimen of the Snow Bunting (*Plectrophanes nivalis*), shot by Mr. Hinson this morning on the hills of Port Royal, in the neighbourhood of the lighthouse. Mr. Hinson reports these birds to be *in thousands* in that part of the islands, and describes the noise made by them as very remarkable. Regret very much the want of a boat or vehicle to convey me to the

spot, for the purpose of verifying so interesting an occurrence. On making further enquiry on this subject, I find the expression of "thousands" to be greater than the circumstances warrant. Mr. Hinson assures me there were three or four flocks of these Snow Buntings, *each* composed of several hundreds.

The Hawk (*Falco peregrinus* of Audubon), mentioned on the 1st of April last, as effecting its escape from captivity, was unfortunately recaptured some weeks afterwards during a heavy rain by a fisherman, resident on the north shore of the island, by whom its wings were clipped, and the poor bird once more consigned to all the miseries of a state of thralldom. It remained in the possession of its new master for about a month, when it was sold to a person in the town of Hamilton, and was subsequently purchased by Lieutenant J. W. Wedderburn of the 42nd Royal Highlanders, by whom it was sent to me on that gentleman's departure for Barbados in July last. From that period to its death, which occurred on the 26th or 27th ultimo, I had an opportunity of improving my acquaintance with the character of this interesting bird. The following circumstances may perhaps be worth noting.

This gallant Hawk often enjoyed his liberty for weeks together, and latterly became so tame that he would allow me to take him up upon my arm and carry him from one place to another. If a dead bird or rat, were held up to him, even at the distance of twenty yards, he would immediately approach, half hopping and half flying, and take the prey out of your hand by jumping up and seizing it with its talons. He was particularly fond of attacking chickens, whether young or well-grown, and had a great partiality for a pair of white Bantam Fowls, and a female

"Gadwall" which ran with the other poultry, indeed, they were often in his clutches, and as often rescued by the inmates of the house. As fresh meat is not to be obtained every day in the Bermudas, and mice, rats, and even the native wild birds, are sometimes scarce about the premises, it was no uncommon occurrence for "Hawkey" to go without his allowance. At such times he would condescend to eat a slice of fresh fish, a description of food he had been accustomed to, during his residence with the fisherman. The large white larva of a species of Chafer, very common in Bermuda, was a *bonne bouche* which he never refused. These he would take up singly in one foot, using the same precisely in the manner of the Parrot tribe. He was fond of standing on the brink of a small Duck Pond, but for what purpose (whether washing or drinking) I could never ascertain. The dark colour of the upper plumage was gradually changing to a light and slaty hue. After a wet night or heavy shower, this Hawk would take up some convenient position on a post or rail, and with outspread wings and tail keep up a constant fanning of the air, for the purpose of drying his plumage. His courage and voracity never forsook him, and only two days before his death, he made an attack upon the Wild Duck (Gadwall), from the back of which he was beaten off with sage bushes and stones. The cause of its death is unknown to me.

December 19th.—Shot a fine specimen of *Charadrius vociferus* or Kildeer Plover, in Mr. Kennedy's ploughed marsh land. Length, nine and three quarter inches. It was a lovely bird and very fat.

December 21st.—Went in chase of two Ducks, which made their appearance in Hamilton Harbour this morning.

They both took wing on being fired at ; the second barrel, however, brought down one of them. While the little dingy lay to, for me to reload my gun, the wounded bird was rejoined by its companion ; another shot was fired at the latter without success, when the former *dived*, and although we remained quiet on the spot where it disappeared, and kept a bright look out all around for nearly a quarter of an hour, not a feather became visible. The water was perfectly clear with a slight ripple on the surface, and the nearest land three or four hundred yards distant. This is an instance of the extraordinary power possessed by some birds of submerging themselves at pleasure. I have particularly observed it in the common Dobchick of England, and in the Canada Goose (*Anser canadensis*), but by what means a body so much lighter than an equal bulk of water, can be made to remain below the surface of that fluid, I am at a loss to understand. When submerged these birds lie perfectly quiet with outstretched neck and keep a nostril (perhaps both) in communication with the surface to obtain a supply of air ? In the present instance I lost the Duck, which was evidently winged, and which I am disposed to think was either a Scaup or a Ring-neck.

December 23rd.—Mr. C. Fozard, who watched me while in pursuit of the Sea Ducks on the 21st with an excellent telescope, informed me to-day, that soon after I quitted the spot where the Duck disappeared, the bird again made its appearance, swimming about on the surface of the water. Mr. Fozard then went for his gun, and got a man to skull him off to that part of the harbour. The wounded bird dived before he got within shot of it, appearing again at a little distance ; a second time it dived on the approach of the boat, appearing as before ; but finding the

boat still in its track, to the astonishment of Mr. Fozard and the coloured boatman, it continued to swim away from them with the head only above water. This manœuvre not being sufficient to elude the vigilance of its pursuers, it dived again and where it went to Mr. Fozard was unable to say, for it never showed afterwards though the water all around was clear and spacious. I note this as a corroboration of my own observations.

December 24th.—Learn from Mr. Orde that a Merganser was shot yesterday by Captain Drummond (now stationed at St. George's), that it was marked with white on each wing, and measured nineteen inches in length. This is probably a young specimen of *Mergus cucullatus*—the Hooded Merganser of Audubon.

Some Ducks, supposed to be "Scaups," were seen by Captain Drummond on the same day, in the waters of Castle Harbour.

January 22nd, 1851.—Visited Riddles Bay, and there met with a flock, consisting of about a dozen Kildeer Plover. Fired a long shot at them, but failed in obtaining any specimens. Disturbed them three times.

Rowed to one of the islands in the Sound with Mr. Hodgson Smith, to shoot Rabbits. Found several among the sharp rocks and thickly-growing, stunted cedars, and succeeded in shooting four couple. They were of the domestic kind, of a yellow, grey and black colour, and in excellent condition, though the herbage was exceedingly scanty.

February 3rd.—Yesterday, our old house-dog, "Nell," dashed into the neighbouring marsh, and amused herself

for some time in hunting Snipe, several of which she repeatedly flushed in the presence of Dr. Muir, of the 42nd Regiment.

This morning (Monday), I visited the marsh at daylight, and hunted all the favourite haunts of that bird in the vicinity, and though I found the fresh trail in several spots, I failed in finding a single snipe. This morning was bright and calm, I therefore conclude that the Snipe seen yesterday have already moved to the southward. Saw two Carolina Crakes at the sluice gates, of which, I killed one.

Two specimens of the "Whistling Duck" have recently been introduced here by a Mr. Young of this town, who received them from Turk's Island. They appear to be young birds, and run with the poultry in the yard.

February 10th.—Yesterday (Sunday), I walked down to White's Marsh, and turned my spaniel in with the view of ascertaining if any Snipe were there. Was surprised to see the dog put up two couple of these birds. Visited the marsh this morning, and flushed the whole of these birds at the same time; one of which I killed. Failed in finding the remainder a second time, although I hunted every likely spot for miles. Have never known the Snipe to remain so late in the winter before.

March 19th.—Last night the wind blew strongly from the south-west, with heavy showers of rain. Went out this evening with my gun. Examined White's Marsh, the Speaker's Grove, the Governor's grounds, and crossed over to the North Shore, skirted this to the Admiral's,

and returned home by Boss Cove and the sluice gates. Saw neither land or sea bird during my walk; *i.e.*, of vernal migrants.

March 25th.—Heard yesterday from Mr. C. Fozard that some Snipe (*Scolopax wilsonii*) had been disturbed in Mr. Vaughan's marsh, and a neighbour sent me word that he had seen one of those birds in White's Marsh, last evening. Took a turn through the neighbouring marshes this day, and flushed one Snipe only, which I did not get a shot at.

Understand that a person named Smith (a tailor), killed a Snipe a few days ago, which was remarkably fat, and on opening which, eggs were found in the ovarian.

March 26th.—Hunted the marshes again at an early hour this morning; found two Snipe, one of which I killed—a female specimen of *Scolopax wilsonii*. Met the Governor (Captain Elliott) walking along the North Shore, and was informed by him that he had seen two large brown Gulls on the wing not many minutes before. These are probably the same two birds which have been observed for some days past, feeding on the "*White Fry*," in the vicinity of the beef contractors' stalls.

April 2nd.—Went out with Mr. Fozard to ascertain the truth of a certain report concerning a large bird, said to appear at evening and morning twilight about the hills east of Government House. Soon after the sun went down, the stranger made its appearance, a large Owl, the under plumage of which appeared to be beautifully barred alternately with brown and white. The upper plumage,

I had not an opportunity of observing, as my companion by an injudicious long shot, drove the bird away. This Owl occasionally hovered in the air, at an elevation of fifteen or twenty yards, very much in the style of the European Kestrel, tumbling from his position, and recovering himself when half way down. I do not think I ever saw the species before; suppose it to be "*Syrnium nebulosum*," the Barred Hooting Owl of Audubon.

April 3rd.—Flushed two Snipe in Vaughan's Marsh on my way to the North Hills this evening. Missed one of them.

April 4th.—Observed two Kittiwake Gulls (*Larus tri-dactylus*, of Audubon), in Hamilton Harbour, almost within shot of the Custom House. They were in full plumage, with the tail feathers pure white.

April 16th.—The weather having been wet and boisterous during the past four days, I took a somewhat extensive walk to-day, to ascertain if any vernal migrants had touched upon these shores. Examined the Chief Justice's Pond, the grounds of Tankfield, and the cedar groves, from hence to Hungry Bay, to Mr. Harry Tucker's pond, and across the country to Devonshire parish, near the church. Returned home *viâ* the North Hills, and ascertained from the inmates of a cottage there, that the owl, mentioned on the 2nd instant, had not been observed from that date. In Vaughan's Marsh, flushed and shot a Snipe (*Scolopax wilsonii*), and in White's Marsh did the same; with these exceptions, I met with nothing whatever in the bird line, during my long ramble.

April 19th.—Received information of three Snipe having been seen in White's Marsh to-day, and a White Heron between that and the sluice gates. From the description of the latter, I have no doubt it was the snowy species, *Ardea candidissima*.

April 21st.—At an early hour this morning hunted the marshes for Snipe, without the slightest success. Saw the White Heron near the sluice gates, but failed in obtaining a shot. Disturbed one Carolina Crake.

April 22nd.—Met a coloured man in the street to-day, with a wounded specimen of *Ardea virescens*, or Green Heron. It was in fine plumage, and had been recently shot.

April 23rd.—A coloured woman brought me a live male specimen of the Night Hawk, which she picked up on the road from Devonshire parish. With the exception of one of these birds reported to me by my little son two evenings ago, this is the only instance of the occurrence of this species this spring.

April 24th.—Several Night Hawks made their appearance in the marsh adjoining my grounds last evening. Went out and shot two of them, which were both females. Visited the marshes at an early hour this morning. Heard a shot near the sluice gates, and found that a Mr. Walker (who resides near the spot) had just killed the Heron mentioned on the 19th and 20th. It proved to be the Blue Heron (*Ardea cærulea*, of Audubon), in which the change of plumage from white to grey or purple, was

distinctly shown. Length, twenty-two inches. Extent, thirty-five. Iris, bright straw colour. Head, neck, and a portion of the back, bluish grey. The long plumes from the centre of the back were grey towards the base and white at the outer extremity, extending three inches beyond the tail. Lower portion of the back, the rump and tail, pure white; legs, dark olive brown; soles of the feet, ash colour; bill and membrane extending from the eye, blue, except the external half of the bill which was black; nails black, centre one pectinated.

Saw another specimen of the Green Heron in town to-day. It was in the possession of a lad who was deaf and dumb, so that I could get no particulars.

From Captain Drummond, I hear that he has noticed several birds which have recently arrived in the vicinity of St. Georges', viz. :—Purple Martin, Green Heron, Great Heron, Night Hawk, some large Hawks—which he took to be *Falco borealis*—the Red-tailed Hawk of Wilson, and three Carolina Crake. One of the latter actually flew in at the window of Captain Drummond's quarters, and was captured in his room, and another was found in the pigsty. Observed four of these Crakes this morning, one of which I killed. Flushed, also, a fine Snipe, which I missed.

April 28th.—Having reason to believe that a revolving gale had passed to the westward of these Islands during the past two days, I turned out at daybreak this morning with my dog and gun, and hunted the neighbourhood in hopes of finding a few strange birds. Six Carolina Crakes, one Green Heron, and a couple of Snipe (*Scolopax willsonii*) were all that I met with; of these I brought home the Heron and one Snipe. The latter was very fat. The Water Crakes I did not fire at.

Young Blue Birds to be seen among the cedars. In some seasons these beautiful birds are very abundant and at others equally scarce. This spring their numbers are decidedly reduced much below the usual standard. Is this caused by migration? or do these birds fall a sacrifice to drought and scarcity of water? I think the former the most likely cause, and that our native birds go off with the large flocks of the same species which sometimes touch here during the winter season.

Several Night Hawks in White's marsh this evening.

April 29th.—A Green Heron was sent to me from Riddles Bay, where it was shot by a coloured person.

May 1st.—Met Captain Drummond, 42nd Highlanders, in town this morning, who informed me that he saw a number of Swallows on the wing near Hungry Bay, as he came up from St. George's; that they appeared to be of different species, one of which was black.

Walked out with my gun in the evening, and visited the Chief Justice's pond, Hungry Bay, and Mr. Harry Tucker's pond, but failed in meeting with a single bird of the Swallow tribe. As the day was fair, and the breeze from the south, these birds had probably passed onward to the north. Saw a Woodpecker, which I took to be *Picus varius*, but failed in getting a shot at it.

Captain Drummond also informs me, that on the 24th ultimo, he observed (at St. George's) a "Scarlet Tanager," within a few yards of him. It was a male bird in splendid plumage.

May 2nd.—Received another specimen of the Green Heron this morning from Mr. James Hall. It was killed at the head of Hamilton Water.

May 3rd.—The grandson of my neighbour, Mr. White, a boy of about thirteen, tells me that while amusing himself near his grandfather's residence this morning, he saw "a very beautiful cock red bird, brighter in colour than our birds, and with black wings." After pointing it out to some young friends who were present, the bird took wing, and flew up into some tall cedars near my entrance gate. This was no doubt the scarlet Tanager, but as the information did not reach me until after sunset I was unable to take advantage of it.

In reading a very pleasing little work on "Game Birds and Wild Fowl" by Knox, I came across the following—speaking of the mode in which the Peregrine Falcon strikes its quarry—Knox inclines to the opinion that "it is by means of the powerful hind talon that the deadly wound is inflicted," and remarks "that if a Grouse, a Duck, or a Woodcock, which have been thus suddenly killed by a Peregrine Falcon be examined, it will generally be found that the loins and shoulders are deeply scarred; the back of the neck much torn, and even the skull sometimes penetrated by this formidable weapon." He further observes that "as the stroke is almost always delivered obliquely, that is in a slanting, downward direction from behind, this laceration could not be effected by any of the talons of the front toes; nor would the severest possible blow from the breast of the Falcon produce such an effect." He then instances a Woodcock which was struck down by a Peregrine within a few yards of Colonel Bonham, 10th

Hussars, who "could see distinctly" that the blow was delivered by the hind talons, adding—"the effect was instantaneously fatal" the back of the Woodcock being completely ripped up, and the lower part of its skull split open."

It will, perhaps be considered presumptuous in me to doubt the correctness of an opinion emanating from persons so eminently qualified to deal with this question, as Mr. Knox and Colonel Bonham, but as these gentlemen appear to me to have arrived at a conclusion not borne out by the observations upon which it is supposed to be founded, I shall claim the privilege of making a few remarks upon the subject.

That a Grouse, a Duck, or a Woodcock, which has been struck down by a Peregrine, will generally be found with the loins and shoulders deeply scarred; the back of the neck much torn; and even the skull sometimes penetrated, is doubtless the case, but have we any just reason to suppose that all this laceration is the work of the powerful hind talons of the Falcon? When the quarry is struck, it is in a "slanting downward direction from behind." Now may we not presume that in thus striking at a velocity so much beyond that of its unfortunate victim, and when the powerful hind talons are deeply scoring the loins of its prey (the two bodies moving as they do in the same direction, and in a medium so subtile as the atmosphere) the Falcon must rapidly part with a portion of this velocity, increasing that of the quarry to an equal degree? And may not this momentary collision afford ample opportunity to the aggressor, not only to clutch his prey with all his powerful talons, but likewise to apply the formidable power of his sharp pointed and curved bill to the vertebra of the neck, or to the cranium, and thereby cause the destruction of the quarry, previous to casting it adrift in mid-air?

That such is the mode in which the Peregrine Falcon strikes its quarry I firmly believe, and ground that belief on the habits of a very fine specimen of the Duck Falcon—*Falcon peregrinus*, of Buonaparte—which I kept in a state of captivity for several months. Whether this noble bird be identical with the European species or not, I will not at present undertake to say; probably it is not—still the habits of the two are so similar, that we may safely reason upon the analogy. If the action of the Peregrine be regarded in this light, then is the appearance of the recently killed quarry—as described by Mr. Knox—duly accounted for, without depriving this noble Falcon of the use of the greater portion of those weapons which are evidently bestowed upon it by divine providence, to assist in the capture of its prey.

The following is an instance of the bold and pertinacious manner in which the lesser of the Falcon tribe will sometimes attack its victim. While shooting in the marshes of Abbeville, some years ago, the sudden and repeated quack of a wild Duck was heard at some distance, and as the sound seemed to approach nearer and nearer to the spot on which I stood, I was induced to conceal myself among the long flags of a neighbouring ditch, in the hope of obtaining a shot. The Duck soon became visible as it approached me on the wing, uttering the same loud and continued quacking. It passed nearly within shot of me, and I could distinctly perceive some small Hawk, or Falcon, fixed upon its back, without outspread, but motionless wings, apparently making a desperate attempt to wound the Duck with its bill. In this manner both birds crossed the river Somme, and the Paris Road beyond; the Duck, evidently in great distress, making for the hills above. I watched them to the top of the hill, and saw them pass through a row of apple trees, when they

became lost to my sight, but another member of the family who had been out shooting on the hills, that day, happened to cross this line of flight on his return and discovered the remains of the unfortunate Duck, where, doubtless it had been destroyed by its small though dauntless and persevering enemy. Whether right or wrong, it was my impression at the time that the aggressor was either the Hobby (*Falco subbuteo*) or the Merlin (*Falco aesalon*) of Bewick.

May 7th.—Captain Drummond informed me this evening, that a few days since he observed a second instance of the Scarlet Tanager on St. David's Island. It was a splendid male bird, and sat pluming itself on a railing only a few yards distant. It is worthy of remark that this very beautiful bird should visit these Islands for two successive seasons, previous to which it appears to have been unknown.

May 12th.—A Scarlet Tanager was reported last evening as having been seen near Captain Whitney's residence, on the road to Spanish Point. Hunted all the surrounding cedar groves to-day; saw nothing but native birds. Returned home by the sluice gates, where my dog put up one or two Carolina Crakes.

May 19th.—The son of Mr. Frank Peniston tells me that about three weeks ago he was on the shore of Harrington Sound, and saw there a very extraordinary bird, does not know what kind of bird it was, never having seen such before. He described it as somewhat larger than the Common Blue Bird, of a bright red colour, with black wings and black tail. There can be no doubt that this

was a Scarlet Tanager, which had recently arrived here, several of that beautiful species having been observed about the same period.

May 23rd.—Learn from Mr. Arthur Downes (of the Commissariat Department) that a beautiful bright red bird, with black wings and tail, was noticed some weeks ago to frequent the garden of Mrs. Wainwright's house, "Waterloo," in the vicinity of this town. As it was not disturbed by any person, it remained in the garden for three or four days, when it suddenly disappeared. Here, again, we have doubtless another instance of the Scarlet Tanager visiting these islands.

May 30th.—A coloured boy brought me a very perfect specimen of the Purple Gallinule this evening, which had been shot in the marshes adjoining Hamilton. This is the only instance of the occurrence of this bird (*Gallinula martinica*) that has come to my knowledge this year, and as the wind has blown steadily from the eastward for the last ten days or so, I do not think it has just landed on our shores; probably it has been here for two or three weeks.

June 2nd.—Mr. Arthur Downes presented me this morning with a living specimen of the Large, or Wandering, Shearwater (*Puffinus cinereus* of Audubon), which he found during his morning's ride lying on the road which skirts the opposite side of Hamilton Harbour, unable to fly. It appeared to be uninjured, and its plumage was quite perfect. This is the first time this species has come under my notice during a residence of ten years in the islands, and yet I am disposed to think it occasionally breeds about the rocky entrance of Castle Harbour.

It measured upwards of nineteen inches in length. Expanse of wings, three feet eight inches, wings extending beyond the tail one inch. Eyes, black; nostril tubes open and distinct, not concealed. Tarsi and webs, on the outer side dusky; on the inner, yellowish flesh colour. Hind toe, consisting of a nail only. Bill, bluish black. Crown of the head, including a portion of the cheeks, back, wings, and tail, dark brown; each feather on the back and scapulars, bordered with a lighter colour. Inner webs of quills, white towards the base. Rump, whitish, finely mottled with brown. Chin, lower portions of the cheeks, neck, and breast, pure white. Thighs and lower tail coverts, partaking of the brown colour of the upper plumage. Belly, light brown or grey. Under wing coverts, white, dotted on the upper edge with dark brown spots. Axillaries, white, broadly tipped with dark brown. I consider this to be a bird of last year, gradually assuming the plumage of the adult. While at office this morning another of these birds was brought to me by a man, who said that on his way to town with his son he observed the bird swimming near the shore, opposite the town of Hamilton; that his son went into the water, and, by diving under the bird, contrived to catch it by the leg. It was an exact duplicate of Mr. Downes' specimen.

I know not how to account for the sudden appearance of these two rare birds—the weather for the last fortnight having been fair, with a strong easterly wind, except during yesterday, when we had a strong breeze, or “half a gale of wind,” from the north-west.

June 9th.—Mr. E. Jones, recently arrived in his brother's vessel, the “G. O. Bigelow,” from Porto Rico, tells me that a day or so before they made Bermuda, a “Shearwater” approached so closely to the schooner that he killed it

with a pistol, in the hope of preserving it for me, but was compelled to throw it away. There can be no doubt, from the description given by Mr. Jones, that this Shearwater was the larger species, *Puffinus cinereus*.

June 11th.—Mr. William Gosling informs me that on Monday evening last, the 9th instant, he saw two Swallows on the wing over the pond near Warwick Church—of what species he could not say. Thinks they had white bellies.

July 11th.—While Mr. Fozard was fishing in Hamilton Harbour, at an early hour this morning, he heard the tweet, tweet of the Spotted Sandpiper not far distant, though he failed in seeing the bird itself.

July 14th.—Tropic Birds very abundant on the north shore between Hamilton and St. George's; also on the south side of St. George's Island. The eastern end of Harrington Sound is likewise much frequented by this bird. Indeed, wherever the coast exhibits a rugged declivity of rocks or shallow bays, the resort of innumerable small fish, this bird is to be seen busy on the wing. I believe it is seldom seen swimming in the water, though it often plunges perpendicularly to secure its prey, in the manner of the Tern family.

July 20th.—Three Spotted Sandpipers seen in the Pembroke Marshes to-day.

July 23rd.—The Wild Duck, mentioned in these notes as having become quite domestic, and which enjoyed its

liberty with the tame ducks about the house, has been missing from the 4th of May last, and I much fear has been stolen from the adjoining marsh. I was much interested in the possession of this Duck, watching its habits and periodical change of plumage closely, with the view of ascertaining its species. This, however, I have not been able to establish with any degree of satisfaction to myself, owing to the very slight and imperfect manner in which ornithological works, in general, describe the female of any particular species. Whether my last specimen was the female Red-Head or not, I will not undertake to say, but I have always been inclined to that opinion. Previous to its sudden disappearance, this Duck was still laying, and some idea may be formed of her laying qualities, when I mention that on the 20th of February last she had already produced a dozen eggs. They were all of the same size and colour as those of last year; and like them, produced nothing when placed under a sitting hen or duck.

July 28th.—A stormy, dark day, heavy clouds passing rapidly from the south-west, with squalls of wind, lightning and thunder. The total eclipse of the sun, announced in the Bermuda almanac, failed in making its appearance to-day, although at ten and half-past ten the sun was distinctly visible. Heard from two different sources, that the Yellow-Shanks Tattler had been seen and heard last evening—viz., at Darrell's Pond, and at the Dockyard.

August 12th.—Mr. Arthur Downes informs me that he observed five Swallows on the wing near his residence this morning, and that they appeared to resemble the common Swallow of England.

While in the yard, this evening, a Swallow passed leisurely over the spot, flying due south. I took it to be *Hirundo rustica*. This is the first of the Swallow tribe I have seen this season.

August 13th.—Saw a Swallow several times this morning in the front street, opposite the Custom House. It was of the white-bellied species. On my return home I saw Swallows on the wing over the neighbouring marsh, and was informed by my neighbour, Mr. White, that they had been very numerous there, earlier in the day.

August 15th.—At seven this morning, Facey's boy "Edmund," came over to let me know that White's Marsh was "alive with birds." Went down half-an-hour afterwards when they had entirely disappeared. Ascertained that they were Swallows, with white bellies and forked tails. Nothing more was seen of these birds during the day in that locality, indeed not a straggler remained behind.

At this season of the year the native Cat-bird (*Orpheus carolinensis*), is a constant attendant upon the grape vines which shade the back entrance of the house, feeding upon the fruit as fast as it ripens. It is a very familiar bird, and is a decided admirer of the small capsicum pepper, which it plucks and swallows with avidity at a few yards distance from the observer.

August 16th.—Heard the shrill whistling note of *Totanus flavipes*, or Yellow-Shanks Tattler, as that bird passed over the town to-day.

August 18th.—Mr. Fozard tells me he walked over to the marsh near Minton's yesterday, intending to visit the north shore to reconnoitre for birds, but the weather was so oppressively warm he was obliged to put back. Found a flock of about seventy Swallows busy on the wing near Minton's. These he watched for some time. Could distinguish two species only, viz., the White-bellied (*Hirundo bicolor*) and the chimney or Barn Swallow (*Hirundo rustica*). Have seen four of the former species in my own neighbourhood to-day. Thermometer 85° in the shade.

August 26th.—The two species of Swallows which recently appeared in these islands have altogether disappeared, at least I have not seen any since the 19th instant, and then a solitary white-belly only, feeding up and down the ditches of White's Marsh. I have recently heard, on very good authority, that a number of Swallows were observed on Sunday, the 10th instant, sitting upon the white roof of a small cottage on the Spanish Point Road.

In the year 1847 these interesting birds made their first appearance on the 7th of August.

August 28th.—Mr. Fozard saw three or four large Yellow Legs passing over Hamilton Water this morning. This is the *Totanus vociferus*, which annually appears at this season.

August 29th.—Heard of two somewhat numerous flocks of birds having been seen to-day—one by Mr. Hinson, of about three hundred in number, and the other by Mr. James, of about one-third that number. All these flocks pass in Bermuda under the denomination of "*Plover*."

September 4th.—Captain Richardson informs me that while in a boat fishing on the north shore, near the Admiral's residence, yesterday morning, he observed six large, dark-coloured Wild Ducks pass on the wing in the direction of Somerset Bridge. This event, so very unusual in these islands, induced Richardson to mention the circumstance to me. Perhaps these Ducks may be part of a flock of seven which, for some time past, I understand, has frequented a large salt-water pond near Mr. A. S. Trott's house. Mr. Trott told me some days ago that one Duck has been shot there weighing two and a quarter pounds. He described it as brownish on the back, and called it the "Canvass Back," but no dependence whatever can be placed in the descriptions given by natives, and as they seldom give strangers an opportunity of judging from an examination of such specimens, the true species is likely to remain unknown, until accident shall place it in the power of some friend to ornithology to kill one.

The master of the brigantine, "Griffin," which arrived here from Halifax, Nova Scotia, on the 2nd instant, tells me that he saw one or two flocks of birds during the passage moving in the same direction with himself, and that these flocks were much oftener heard during the night than seen by day; supposes them to be "Plover."

September 7th.—For some days past it has been represented to me, from various individuals, that flocks of birds have been observed by them passing over the islands.

About fifty Golden Plover were also reported among the islands in the Sound. To-day I learn that Mr. Selby, on his way from St. George's in a small sailing boat, not

only saw a flock of Plover pass overhead yesterday, but fell in with a string of five Wild Ducks.

September 15th.—Heard from two different sources to-day that on Saturday last, the 13th instant, Kingfishers were observed for the first time this autumn. This accords with the period of that bird's return from the north last year. Is not this regularity of movement very wonderful?

September 17th.—Mr. Fozard, who was out this morning with his gun, tells me he fell in with a pair of Ring Plover (*Charadrius semipalmatus*), one of which he killed. Observed many Kingfishers chasing one another about the sluice-gates, and heard and saw several Water Thrushes in the same neighbourhood. He found the marshes much flooded by the late heavy rain, but saw no other birds of any kind—natives, of course, excepted.

Mr. Wedderburn, of the 42nd Highlanders, in a letter written on board the Cunard steamer, "Canada," on the 16th of August last, having made the coast of Newfoundland that morning, and kept close in with the shore all day, writes as follows:—"There have been large flocks of Sandpipers passing on their southward migration all the morning; I saw them come from the land and fly *due south*, quite close to the water's edge. It is really time for them to get to a warmer climate; I only wish I was following them, for the cold is terrible. We passed two very large icebergs this morning, and were quite close to one—a most splendid one—which must have been two hundred feet high at the least."

Let us, for the present, presume that the Sandpipers, seen by Mr. Wedderburn, flying *due south* continued their course in that direction, and we shall find that they would cross the latitude of the Bermudas ten degrees to the eastward of those islands; and if we may be allowed to follow the line of flight to the South American coast, we shall find its termination somewhere between Paramaribo and Cayanne, being forty-one degrees, or two thousand four hundred and sixty miles of open sea to traverse. That thousands and tens of thousands of birds, formed only for existing on the land, compass this wonderful flight in their annual migration to the south, is, I think, established beyond a doubt. The Golden Plover of America (*Charadrius marmoratus*) may be quoted as a case in point, and I have already noted an instance of countless flocks of that species having been met with between four and five hundred miles *east* of Bermuda.

If seafaring men could be induced to pay some little attention to these subjects, much valuable information would be obtained on the hitherto mysterious movements of the feathered tribes—movements too wonderful for the comprehension of unreflecting minds.

September 20th.—Succeeded in obtaining a few feathers taken from the two Wild Ducks shot at Peniston's Ponds, on the 15th instant, by a tailor, named John Smith, of this town. As these were chiefly the purplish-green feathers of the speculum, bordered with black and margined with white at the extremity, there could be no doubt of their belonging to the species "*Obscura*," or Dusky Duck of Audubon. A white quill feather of the medium size accompanied these mementos of the slain, and is said to have been taken from the wing. This I believe to be

quite correct, though none of my ornithological works mention quill feathers of that description, and I have no skinned specimen to refer to. Both were male specimens, and very fat. They formed part of a flock of five—probably those observed by Mr. Selby on the 6th instant.

September 24th.—At 9 p.m. last night heard the piping notes of passing flocks of Plover for the first time this season. The night was very dark, with distant lightning in the north-east, and the heavy clouds threatening a continuance of the soaking showers which have fallen at intervals for some days past. What little wind there was came from the north-east. These birds continued to pass on, in a southerly direction, in successive flocks all night; and I learn to-day, from various individuals, that such was the case at Spanish Point, the vicinity of the lighthouse, and along the north shore of this parish.

Judging by the notes of these Plover, their flight must have been at a low elevation. Mr. Fozard, who visited the north shore early this morning, tells me that small flocks of Plover were now and then to be seen making the land from a northerly direction. I examined a couple of these birds (*Charadrius marmoratus*), shot by this gentleman. They were of the usual Golden Plover size, without any black whatever on the lower parts, which were of a yellowish white or whitey-brown colour, transversely barred on the flanks with light brown. Legs, of a dingy black. Bill, black. These are the only Golden Plover I have seen this year. It rained the greater part of last night, and to-day it has poured at intervals.

September 26th.—Heard the note of the *Totanus flavipes* now and then, as one or two of these birds passed over the

neighbourhood. Saw Mr. Hodgson Smith to-day, who tells me there are flocks of Plover on the Port Royal Hills, which are pursued by so many coloured and inexperienced gunners that it is a service of danger to shoot there.

Mr. Smith shot a small Curlew on the shore this morning, which, from his description, I presume to be the Esquimaux species. A flock of birds, supposed to be Plover, passed over the parish of Devonshire last evening, in a south direction; they are described as forming one long line of more than a hundred birds.

September 27th.—A “school” of twenty *real* Snipe reported to have been in White’s Marsh while I was at office. This I took the liberty to doubt, but as birds of some kind had evidently been seen by my neighbours, I turned out with my gun to ascertain, if possible, what they were. In a neighbouring marsh I fell in with a flock of twenty or thirty Pectoral Sandpipers, probably the same adverted to, and of these I killed half a dozen. Beat the marshes from Minton’s to Ingham’s, saw one Solitary Sandpiper, one *Tringa pusilla*, and two Snipe, the true *Scolopax wilsonii*, one of which I bagged. These are the first Snipe I have seen or heard of this season. They were found singly and far apart, and the one shot was extremely fat. Found the marshes flooded by the late rains to such an extent as to prevent Snipe from harbouring in them. The water where exposed to the sun was *more* than tepid, forming an agreeable warm bath to wade in. “Snipe shooting in warm water” was certainly a novelty, and I question if invalids might not indulge in it with impunity. Thermometer, 80°.

September 30th.—A Snipe was shot this morning by a young man named “Walker,” who resides near the sluice gates, Spanish Point.

October 2nd.—Cloudy, all day, and threatening rain. Hunted White's Marsh, and from thence to the sluice gates, without meeting with a bird of any description. At night raining fast.

October 4th.—Again reconnoitred the neighbouring marshes with dog and gun, without the slightest trace of Snipe or Water Crake. Saw a Wild Duck near the sluice gates, which escaped in the thick mangroves with the loss of a few feathers only; cannot say of what species. Two Pectoral Sandpipers also observed but not fired at.

October 11th.—Yesterday the weather was dark and threatening, the wind blowing stiffly from the east. At night heavy squalls of wind and rain. To-day it has continued half a gale of wind from the south-east, the sky being very dark and cloudy, with an occasional fall of rain. Hunted the Pembroke Marshes in the evening. Shot "*the Snipe*" that has frequented the Governor's Marsh from the 27th of September, thus making a clean sweep of all that have been seen in this neighbourhood. Killed a Carolina Crake, and lost it among the thick sedge. This is the first of its kind I have seen this autumn. Saw nothing else, excepting a Night Hawk, which I watched for some time as it dodged about in pursuit of its prey close to me.

The Kingfishers, which arrived in September, appear to have passed on; at least, I have not seen one about the sluice gates—a favourite haunt—though I have been there several times lately.

October 13th.—Heard the shrill whistling note of the *Totanus flavipes* to-day as it passed over the town.

October 14th.—Hunted the Pembroke Marshes from Minton's to the sluice gates. Found two Snipe below Government House, both of which I killed. Saw no other bird of any kind.

October 15th.—Mr. Fozard tells me that while fishing in a boat off the end of Ireland Island yesterday afternoon, he observed a small flock of Ring Plover (*Charadrius semipalmatus*) come in from the north, and continue their course to the extreme end of Spanish Point. These little birds passed within a short distance of the boat, were about ten in number, flew close to the surface of the water, and "appeared to be fatigued."

October 16th.—Another Black Duck (*Anas obscura*) was killed at Peniston's Ponds on the 14th instant by Mr. C. Darrell. Three others were in company with this Duck. They are said to be exceedingly shy.

October 17th.—A coloured person named Basden presented me this morning with a male specimen of the Night Heron, in the spotted plumage of the young. It was in excellent condition, and measured twenty-five and a half inches in length by three feet seven inches in extent. This is the first of *Ardea* family that I have seen this season. Basden also informed me that he shot a curious bird in the pond near his house a few days ago. When first observed by him it was swimming with the head and neck only above water. After three or four attempts to shoot it he at last succeeded in wounding it in the neck; in this state it was kept alive for two or three days, and ultimately it made its escape. He described the bird as

about the size of a small Duck, brown on the upper parts of the body and white beneath. Bill, pointed. Feet, webbed in a curious manner. Legs, very flat, and set on close to the tail, causing the bird to stand with its body erect. This was doubtless a Grebe, but of what particular species must remain unknown.

October 18th.—Mr. C. Hinson reports that a flock of about a dozen Blue-winged Teal made its appearance in Riddle's Bay a few days since, and after flying over that piece of water took its departure. Mr. Hinson shot two of these Teal in the same locality yesterday.

Mr. Fozard called on me this morning with three fine Snipe in his hand (*Scolopax wilsonii*), which he had killed in the Governor's Marsh. Heard also from various quarters that the Snipe were in, and after office hours went out with my gun and shot two couples and a half, very fine birds. Saw one Rice Bird (which I killed and lost), one Kildeer Plover, and Mr. Fozard saw two Carolina Crakes. The Snipe were not abundant. Those which I saw did not exceed ten in number. These birds probably arrived during a deluge of rain (without wind), which lasted from noon until dark yesterday. I understand from Mr. Lee that many Plover passed over the town last night.

October 19th.—Observed a Moor Hen (*Gallinula galeata*) in the Marsh near my residence. It was flushed by my dog, "Snipe," after a busy hunt of a quarter of an hour. Note.—These birds do not breed in this neighbourhood, nor are they even met with here during the summer.

October 20th.—Visited the Pembroke Marshes in the evening. Shot two couples of Snipe, the Moor Hen mentioned yesterday, and one Carolina Crake.

October 22nd.—Went over the same beat this morning early, viz., from the sluice gates to Minton's. Killed three Snipe and a Gallinule, different in colour from anything I have before seen. Length, thirteen inches. Extent, twenty-four and a-half. First quill feather one inch shorter than the second, second and third equal, and longest. Bill, one inch and a fourth in length, from the gape. Tarsus, three inches. Span of the foot full five inches.

Bill, light olive green towards the extremity. Frontal plate, and base of upper mandible, dark brownish olive. Lower mandible marked on each side with a horizontal red streak. Nostrils, perforate (*i.e.*, open from side to side), Irides, dull whitish. Upper surface of the head, neck, and wings olive green, somewhat shaded with purple. Rump and tail, dark olive brown. Primaries, dusky brown on the inner webs. First quill feather externally margined with white. Legs, greenish yellow. Toes and nails, dull ochre yellow. Under surface, chin, breast, and inner part of thighs, light cinereous. Neck, olive brown. Tail coverts, pure white. Under side of wings, dark grey, shaded on the upper margin with light purplish-blue. Flanks same colour as lower portion of the back. I think there can be little doubt of this being the young of the *Gallinula martinica* or Purple Gallinule, in its first plumage. This bird is a rare visitant to Bermuda, and never remains to breed. The young specimen must, therefore, have found its way to us over the sea. It is the first instance of the occurrence of the *young* that has come to my knowledge.

October 24th.—Was shown a Common Gallinule (*Gallinula galeata*), by Mr. Zuill. It had been shot in his neighbourhood this morning, and, as Mr. Z. had never seen a bird like it before, he was anxious to know if he could get it stuffed (!) Saw the *Totanus flavipes* pass over the town. Heard that a large Hawk had been seen to destroy a young Turkey, near the sluice gates; also that a numerous flock of Plover passed over Mr. Kennedy's house at nine o'clock last evening, it being very dark and raining at the time. Induced by these circumstances, I sallied forth with my gun, found only one Snipe, in the Governor's Marsh, and one Carolina Crake. The former I bagged. Saw a bird on the wing, which I took to be a Golden Plover. Marshes much flooded by the late rain.

October 26th.—In travelling to St. George's, I noticed a flock of five or six Greater Yellow-shanks (*Totanus vociferus*) in a flooded marsh, a little beyond Shelley Bay. Shot a Blue-winged Teal, which had associated itself with the tame ducks near the house.

October 27th.—Hunted the Governor's Marsh; found three or four Snipe, one of which I killed.

October 28th.—Mr. Fozard came to me to-day to report that three Wild Geese had been seen a few minutes previously, in Mr. Harry Tucker's pond; about one mile and a-half from town. Deprived, as I am, of my clerk in the office, and having no one but myself to attend to the public business of H. M. Customs at this port, I was unable to go after these birds. Saw Mr. Hinson as I was returning home, and was informed by him that two wild Geese

had been observed at Port Royal (near the lighthouse) on Sunday last ; that great numbers of small birds, supposed to be Rice Birds (but which I have reason to believe are Rice Warblers) have been teeming in every bush there. Was promised a specimen.

Mr. Hinson tells me he has shot several very fine Golden Plover recently in the same locality.

Mr. Gilbert (the auctioneer) showed me the wings of the *Chordeiles virginianus*, or Common Night Hawk. The bird itself had been destroyed by a cat. Two other Night Hawks were observed near Mr. Gilbert's residence.

October 30th.—Sallied forth in the evening with the dog and gun. Flushed three Snipe in the Governor's Marsh, all of which I missed. Killed a Common Gallinule, or Moor Hen, in Mr. Kennedy's ditch ; also a Carolina Crake. Find the evenings too short for the examination of half my beat.

In passing James's cottage to-day I found his boys had yesterday captured a "Wild Duck" in the adjoining piece of marsh. It was alive in a hen coop, tethered by one leg. From a cursory examination of the bird, I am inclined to consider it as the *Fuligula ferina* of Audubon, in immature plumage. If so, it will be an addition to our ornithology. The owners of the Duck not being at home, I could only make known my desire to become a purchaser of the specimen.

November 1st.—Walked out to James's yesterday, and bought the "Wild Duck" mentioned on the 30th. Placed it in a large coop on the grass plat, and supplied it

with water and food. During the night the poor bird was attacked by ants, and early this morning it died.

It measured eighteen inches in length and thirty and a half inches from wing to wing. Bill, entirely black, two inches and six-tenths from the forehead to the nail, and one inch and a tenth deep at the base. Irides, dull red. Legs and feet, ash. Webs, dusky. Tail, of fourteen short feathers. Checks and throat, lightish brown, marked with small streaks of a darker colour. Upper portion of the head and neck, dark brown. Back and wings, dusky brown, the former powdered with minute white spots, giving it a grey appearance. Outer primaries, dusky brown, gradually verging into slate, which continues across the entire wing. Both primaries and secondaries more or less dusky at the extremities, the latter being tipped with a white edge. Under parts, light brown, darkest about the neck and tail coverts. Axillaries and under wing coverts chiefly white; the remainder grey. Legs placed considerably backward, or near the tail. Toes nearly three inches long. There can be no doubt of this being a Canvass-back Duck (*Fuligula valisneriana*), of the present year, in immature growth and plumage. The form of its bill is precisely the same as that figured by Wilson in his plate of the Canvass-back. I have been very careful not to confound the present specimen with the Red Head, or *Fuligula ferina*, of other authors. This is an addition to the birds of these islands. It proved to be a female.

November 2nd.—Shot two Snipe in the neighbouring marshes. Saw one Moor Hen, one Carolina Crake, and one Kingfisher.

November 5th.—Shot one Snipe to-day. Beautiful moonlight night, with very heavy dew. Placed my

Dolland thermometer outside the front door at 11 p.m., and found it to stand at fifty-two and a half degrees. This is very low for the season of the year in Bermuda.

November 6th.—Shot a fine specimen of the Virginian Rail (*Rallus virginianus* of Audubon), which was cleverly routed by my dog "Snipe" from a wide ditch thickly overgrown with tall flags. It measured nine and a quarter inches in length by thirteen and one-third from wing to wing. Bill, barely one and a half inches in length. This very handsome little Rail proved to be a male, and, from its dimensions and markings, I presume it to be a bird of the present year. This, too, is an addition to our ornithology. It is worthy of remark that, notwithstanding the whole of the Gallinules and Crake Gallinules known to the Northern Continent of America have been obtained in Bermuda, this is the only instance which has come to my knowledge of a genuine *Rail* being met with. It was in good condition.

November 8th.—Observed a Pigeon Hawk (*Falco columbarius*) within a few yards of me when working in the garden to-day. It perched in a tall cedar close at hand. This is the only bird of the Hawk tribe that I have seen for many months.

Hunted the marshes at an early hour from Government House to the sluice gates. Found two Snipe only, one of which I killed. Also shot a beautiful specimen of the Least Crake Gallinule (*Ortygometra jamaicensis* of Audubon). It was found in the thick sedge of the Governor's Marsh. Length, five and six-tenths inches. Carpal joint, three inches. Legs, dusky brown. Irides, bright gold

colour. In other respects it agreed with Audubon's brief description of this bird. This is the second time this diminutive Crake has come under my observation, the former specimen having been shot by Lieutenant Wedderburn on the 19th of November, 1847, in the same locality.

Mr. John Darrell tells me that in the vicinity of Peniston's ponds yesterday four Wild Geese passed within a short distance of him, apparently directing their course to that piece of water. He describes two of them as being "fine birds," the remaining two something less in size. Colour, dark grey. May not these wanderers be the young of the Snow Goose in their immature mantle of bluish-grey? I regret that my official duties will not permit me to go in search of these birds.

November 11th.—Went in search of a large Hawk, said to have been beating the marshes near my residence during my absence at office. Failed in meeting with it. Saw one Snipe and one Carolina Crake only.

November 12th.—"A large bird in the marsh," announced by the neighbours early this morning. It proved to be the Great Blue Heron (*Ardea herodias*), in immature plumage. Succeeded in shooting it. Length, three feet six and one-tenth inches. This is, doubtless, a recently-arrived stranger. It was very fat.

November 13th.—Saw Mr. A. S. Trott in the town, and enquired if any birds had been seen in the large piece of water near his residence. He replied that several Ducks had been there of late, adding, as a matter of great

curiosity, that he had seen a boy with a live Bat, which he had recently captured. That the animal had a broken wing. Promised to obtain it for me if he could. This is probably the Hoary Bat—the first of the Bat genus I have heard of for many months.

November 14th.—A Duck with “a wide, blue Bill,” grey back, and white band round the base of the bill, seen by Mr. Fozard, in the Chief Justice’s pond. Probably a Scaup (*Fuligula marila*).

November 15th.—Visited the Chief Justice’s ponds this evening, with Mr. Fozard, with the view of bringing in two Divers, which have frequented that locality for some days past. Found the spot in possession of some juvenile sportsmen, who acknowledged to firing at two Wild Ducks, and one “Didopper,” without success. They had, however, shot a Carolina Crake there, which they called a “Snipe.” Walked to Mr. Harry Tucker’s pond, and visited Hungry Bay,—saw nothing but a Kingfisher, but learned from Tommy Smith, the piscatorial Crispin, that he had disturbed five Wild ducks at the latter place a few minutes before. Returned to the Chief Justice’s ponds, found the boys still there, with their gun; and contrived to kill, each of us, a Carolina Crake. When leaving the ponds two Bats made their appearance, and continued hawking for insect prey over the water. Three shots were fired at them unsuccessfully, when it became too dark, and we were obliged to come away. These are the first Bats I have seen this Autumn.

Captain Hunt reports having seen eight or nine Wild Ducks at Tucker’s Island, and Mr. Darrell (auction-

eer) states that he saw eight flying down Hamilton Harbour this morning. The ferryman tells me his boat was within three lengths of one this afternoon, and an old coloured man, near the Chief Justice's pond, assures me that for some nights past five Wild Ducks have frequented that piece of water, and may be heard quacking and feeding there in the night time. Many similar reports reach me daily, so that I may safely say there are more wild fowl in the Bermudas at the present time, than have appeared at any period within the last eleven years. I very much wish that my official duties would allow me to give a better account of these strangers.

November 18th.—Another visit to the Chief Justice's ponds this evening, in company with Mr. Fozard. Found the same party of boys there, with a gun, and consequently saw nothing of the Grebes. A Moor Hen, a Carolina Crake and a Kingfisher, or rather two of the latter, were all the birds we fell in with. Waited expressly for the Bats, and saw only one, which we failed in getting a shot at. Came home in a shower of rain.

Examined the skeleton remains of a small Grebe, which was found in the margin of the Chief Justice's pond this evening. Plumage, dark brown above and lighter brown below. Tarsi, one and two-tenths inches in length. Have no hesitation in pronouncing this to be the Pied-billed Dobbick (*Podiceps carolinensis*) of Audubon, in immature plumage. It must have been dead for nine or ten days.

November 19th.—Killed a Green Heron at the sluice gates this morning, being the only *Ardea virescens* I have met with this autumn. Saw two or three King-

fishers, but no Snipe or other birds, one *Ardea herodias* excepted.

November 23rd.—Disturbed a large Wild Duck from a ditch in White's Marsh this morning. It was of a very dark brown colour, marked with grey on the back. Am under the impression it was a Canvass-back.

November 24th.—Ranged the marshes from Minton's to the sluice gates early this morning. Saw nothing of the Canvass-back Duck of yesterday, but fell in with five Snipe, one couple of which I bagged; also killed a Carolina Crake, and a Belted-Kingfisher.

Mr. Downes informs me that while at St. George's, yesterday, he saw a Golden Plover, which had been shot the day previous, by an officer of the 56th Regiment.

November 25th.—Edwin Jones, master, and part owner of the schooner, "*G. O. Bigelow*," when reporting his vessel from England this morning, informed me that about nine or ten days after his departure from Bermuda, in September last (with pardoned convicts on board for England), the weather for several days having been light, with an easterly breeze, and the vessel being then between five and six hundred miles east of these Islands, "great multitudes of birds," which he took to be Plover, were seen passing over the vessel, in a southerly direction, for two days. These birds he describes as flying in flocks, some of which amounted to many thousands, others were considerably less, diminishing in number to parties of fifty and thirty. He also states that during the whole of one

night these flocks could be distinctly heard passing over the ship. These were, doubtless, the American Golden Plover (*Charadrius marmoratus*), on their great southern flight, which annually crosses this latitude about the tenth of September. The "*G. O. Bigelow*" left the Bermudas on the third of September last, consequently the flight, now described by Mr. Jones, must have been seen by him on or about the twelfth and thirteenth of that month.

The very extraordinary power of flight possessed by the American Golden Plover, and some other migratory birds, is now so firmly established by repeated observations, similar to the above, that no enquiring mind can reasonably entertain a doubt of that wonderful over-sea migration from the North, which annually occurs between the two great continents of America, and is known to extend as far into the Atlantic as longitude fifty-four.

May not the knowledge of these occurrences tend to enlarge our views with reference to the actual state of migration in other portions of the Globe—Europe, for instance?

November 26th.—I learn from some of my neighbours, who reside on the margin of the adjoining marshes, that the Blue-Winged Teal has occasionally been known to associate, for days together, with the domestic Ducks—feeding with them in the ditches, and even following them home at night. Two of these Teal were taken alive by Mr. James, a few seasons ago, who found them in his Duck house with the tame Ducks; and Mr. White captured another, under similar circumstances, two years ago.

December 2nd.—A son of the Attorney General (Mr. Darrell) brought me a specimen of the Cedar Bird

(*Bombycilla carolinensis* of Audobon), being one of three shot on the 30th ultimo, from a flock of twelve birds, at Peniston's ponds. It was without the red tips to the secondaries. Young Darrell reports having seen five "Wild Ducks" at the ponds.

December 6th.—David Tucker, a coloured man, sent me a very fine specimen of the American Coot (*Fulica americana*). It was very recently killed, and very plump, and measured sixteen inches in length by twenty-eight in extent.

December 10th.—Walked through White's Marsh, and from thence to the sluice gates. Found two Snipe only, both of which got away unhurt. Saw the large Hawk mentioned on the 11th ultimo. It is a very long-tailed one, and was flying very sedately when I observed it. Colour, light brown below, darker above. Also met with one Carolina Crake and a couple of Kingfishers.

December 13th.—Soon after daylight this morning "the Hawk" made its appearance in White's Marsh. Went down with my gun and concealed myself among the cedar trees close by, and, after waiting some ten minutes, saw the stranger approaching from Mr. Kennedy's grounds. The moment the bird was within range I fired, and had the satisfaction of seeing it fall "dead." It proved to be the Marsh Hawk, of Wilson, or Common Harrier (*Circus cyaneus* of Audubon)—a very fine specimen—twenty and a half inches in length, by three feet eight and a half inches in extent. Nothing can be more correct than the general description given by Wilson of this handsome bird—of course, I speak of the female only, the present

example being of that sex. The only deviation observable was in the tail, which was crossed by five dark coloured bars in place of four. This Hawk was in plump condition. Its stomach was completely empty.

This is the second instance in which this Harrier has been killed here. In the latter part of 1840 I observed two of these Harriers beating the low ground between Warwick Pond and Riddles Bay. From that period to the 10th instant I am not aware of ever having seen it.

December 18th.—Mr. Brass mentions that yesterday morning, at daybreak, in passing by the Public Building in Hamilton, he observed a flock of fine Plover, perhaps two dozen in number, running about the ground in front; and to-day, Rose, the gardener, reports a flock of Plover on the hill above that part of the town. He describes them as having much white in their plumage, with a soft piping note. Saw a coloured man shoot at them without effect. These, I have no doubt, were Kildeer Plover, which generally appear at this late season of the year. A solitary one was in my neighbour's garden for some hours on the 16th instant.

December 20th.—Mr. Williams (of the Commissariat) tells me that several "Plover" have been killed at Ireland Island within the last few days. Cannot say of what species.

December 21st.—Four couple of Kildeer Plover (*Charadrius vociferus*) were shot during the past week on Gibbs' Hill by an officer of the 56th Regiment, now stationed in Hamilton.

December 22nd.—Received a specimen of the *Fulica americana* from Mr. Walker. It was shot near the sluice

gates, and is the second Coot killed by him in the same locality within the last few days.

December 24th.—Examined a *living* specimen of the Gull tribe. Length, twenty-four inches; eyes, dark hazel; outer half of the bill, black; the inner portion being light brown colour; wings extending full two inches beyond the tail; upper plumage, greyish-brown, mottled with very light yellowish-brown, becoming lighter and more grey towards the head, which was somewhat of a lighter shade; under parts, greyish-brown; legs and feet, clay colour; nails, black.

This, according to De Kay, appears to be the Winter Gull (*Larus argentatus*) in immature plumage. Audubon gives the length of the young of this species as eighteen and three-fourths inches only. The iris of silvery white, mentioned by the former, is, however, altogether wanting, and in that respect it approaches the description of the young *Larus marinus*, or Great Black-Backed Gull. The identity of this Gull must therefore remain a matter of uncertainty to me. This bird was of a darker brown than any former specimen of the Gull tribe that has come under my observation. It was captured in the Great Sound within the past month.

Three couple of Snipe (*Scolopax wilsonii*) were shot in the Governor's Marsh yesterday by two officers of the 56th Regiment. This is an unusual occurrence at this late season of the year.

1852.

February 28th.—While out with my gun at an early hour this morning, I observed four of the Crow family—

appertaining to these islands—winging their way over the Governor's Marsh in the direction of Prospect Hill. They were very noisy, cawing incessantly. A single Crow of this species, viz., *Corvus americanus*, has for some time past frequented the marshes in this neighbourhood.

Being in search of native specimens for a friend in Nova Scotia, I to-day killed a Red-Bird (*Pitylus cardinalis*), which was singing loudly on the top of a cedar tree. This bird, to my great surprise, was, in plumage, precisely similar to the female, and Wilson's extraordinary statement that the female of this species sings like the male bird immediately occurred to my mind. I was glad, therefore, to have it my power to examine the sex of my newly-shot specimen, convinced that I should find it to be a male bird in immature plumage. In this, however, I was disappointed; for, on dissecting the body, no vestige could I discover of ovarium to guide me to a conclusion one way or the other.

March 8th.—Took a long walk with my little boy in the afternoon of yesterday (Sunday), and on the north side of Brackish pond disturbed a small grey bird, which, from the sluggish mode of flight, I took to be wounded. It alighted on the grassy margin of the swamp, and allowed me to approach within a few yards of the spot on which it *lay* (for it appeared unwilling to make use of its legs and feet). After a second flight I succeeded, with the aid of a sloping bank, in approaching near enough to enable me to knock the bird down with my walking stick. It proved to be a fine specimen of the Grey Phalarope (*Lobipes hyperboreus*). Length, eight and six-tenths inches; bill, black, the base reddish-orange; front, crown, throat, sides of the

neck, breast, lower parts, flanks and under tail coverts, pure white. Around the base of the bill the plumage was brown or dark slate; a dark brown line extended from the front of the eye to half an inch beyond, over the auriculars, where it was joined by a band of the same colour, which passed over the back portion of the head. From the centre of this band a narrow streak of grey ran down the back of the neck, widening as it approached the upper parts, which were of a beautiful bluish-grey colour with darker streaks down the centre of each feather. Rump somewhat lighter in colour, the long feathers on each flank marked with long streaks of grey. Wings and tail as described by Wilson, minus the "brownish yellow." Legs and feet, pale lead colour, the webs and part of the lobed membranes yellow; an ash-coloured point extended from the back over the sides of the breast. This is the third instance of this bird being met with in the Bermudas, two specimens having been obtained in March, 1848. Failed in ascertaining the sex, though I have no doubt, from its plumage, that it was a male bird. The stomach contained numerous fragments of dark-coloured shell, similar to that of small mussels.

This bird was not injured in any way.

Flushed a Snipe (*Scolopax wilsonii*) on the east margin of Brackish Pond Marsh. Was informed by a boy, who lived close by, that it had haunted the same locality for many weeks.

March 9th.—Mr. C. Fozard tells me he met Smith (tailor) yesterday, returning home with his gun, and a very fine Golden Plover (*Charadrius marmoratus*) which he had killed on the North Shore. Mr. Fozard describes

this Plover as very fat, and in beautiful plumage. It appears that Smith observed the bird on the North side, as he returned from the Flatts, whither he had been to witness the launch of the "*Dispatch*," and on revisiting the spot with his gun, and finding the Plover still there, he shot it. This is the only instance that has occurred during a residence of eleven years, of the Golden Plover being met with in these Islands at this vernal season of the year. Mr. Fozard's authority on this subject I consider to be unquestionable.

March 15th.—Hear from two or three different quarters that strange birds have been seen, such as Swallows and small land birds. Have been too much hampered with the never-ending duties of my office to attend to these reports by hunting the surrounding country.

March 17th.—Visited the Chief Justice's pond, Tankfield, and the South Shore, thence to Hungry Bay, and Mr. Harry Tucker's ponds. Then crossed the widest portion of the Islands to Brackish pond, returning by the Rev. J. Lightbourne's. Met with a Bittern (*Ardea lentiginosa*) at the Chief Justice's pond, which I missed. This bird I understand, has frequented that piece of water for some months past. Found two Carolina Crakes at Mr. Tucker's pond, one of which I bagged. Saw the *one* Snipe and a Woodpecker (*Picus varius*) at Devonshire Marsh.

Was unsuccessful in meeting with any newly-arrived land birds. As usual the sea coast appeared to be entirely deserted by the feathered tribe.

March 24th.—The House Cat walked into the kitchen to-day with a Carolina Crake in her mouth, which I presume she captured in the Marsh close by, though I never observed her prowling in that direction.

April 4th.—In passing the Chief Justice's pond, sent the Spaniel in, and disturbed the Bittern seen on the 17th ultimo.

April 19th.—Mr. Hunt Marriott (late of the Customs Department in these Islands, and recently appointed Controller of Customs at Berbice), who for some years was a Lieutenant in the East India Company, and stationed at St. Helena, makes the following statement in a letter addressed to me on the ninth of May last, from England: "You know I always said our St. Helena Tropic Bird was different to the Bermuda one. I have the *two* before me now, and I give you the dimensions of the St. Helena one, as near as I can take them, from a stuffed and set up specimen. Circumference of bill at base, two and a half inches; length from base of bill to *end* of long tail feather, two feet eight and a half inches; tip of wing to shoulder one foot five and a half inches; length of tail feather to its insertion, one foot ten inches. Tail feathers, thirteen in number; quills, outer half brown, inner white; the feathers above the quills, black, edged with white; back and shoulders, white, barred with black. All the under plumage a *satin* white; bill, red; under, over, and in front of eye, black—much more distinct and deeper than in Bermuda specimen. Indeed the two are most undoubtedly distinct, and that of the Mauritius is another distinct one. Our St. Helena specimen is one half larger than yours at Bermuda." On comparing the above statement with a specimen of the Bermuda Tropic Bird, now in my possession, I am convinced that Mr. Marriott's conclusions regarding the St. Helena specimen are incorrect. The following observations will more fully explain the grounds of this opinion. First—In the circumference of the bill, at the base, the proportions are about equal. Second—

The length of Mr. Marriott's specimen from St. Helena, measuring from *base* of bill to extremity of tail feather, he sets down as two feet eight and a half inches. My specimen, measured from those points, gives two feet seven inches. Now it is probable the term, "base of the bill" is an error, and intended for *point* or extremity of the same, in which case the length of my Bermuda specimen must be increased two inches, which would make it equal to two feet nine inches. Thirdly—There must be some mistake in measuring the St. Helena *Phaeton* from the "Tip of the wing to the shoulder." Mr. Marriott gives the length as one foot five and half inches. My own specimen is eleven inches only. I therefore presume that my friend has included the first and second joints of the wing. Fourthly—"Length of tail feather to insertion," in St. Helena specimen, one foot ten inches. My Bermuda one, one foot seven and three-fourths inches. Fifthly—Quill feathers and secondaries. These are exactly similar in both specimens. Sixthly—Back and shoulders of the St. Helena bird, "*white barred with black.*" In my own specimen those parts are pure white. Lastly—Under plumage of the St. Helena specimen, "*satin white.*" The Bermuda specimen before me is white, lightly tinged with roseate, except the under tail coverts, which are streaked with dusky. Bill in both specimens, red, or orange-red would be more correct. "Over, under, and in front of eye, black," in the St. Helena specimen; and described as more distinct and deeper than in the Bermuda one. That before me has a *black* streak extending from near the bill over and across the eye, to an inch beyond.

Now there is nothing in the description of the St. Helena Tropic Bird to warrant the supposition of its being distinct from our own. The Bermuda specimen, which Mr. Marriott compared it with, was under the full size, and probably a

female (I speak from personal knowledge). That from St. Helena was doubtless a young male bird, transversely barred with black on the back and shoulders, in that peculiar bracket-like form, common to the young *Phæton æthereus* of this Island. Then we have the extraordinary statement that the St. Helena bird has *thirteen* feathers in its tail, being one more than the full complement—one of which is twenty-two inches long, and could only have belonged to an adult male bird. It is evident from this, that the St. Helena *Phæton* is a young male bird, of the usual size, and in immature plumage; and that the long tail feather which it sports, is nothing more than an artificial decoration, given to it by some clever taxidermist, with the view of obtaining a better price for the made-up specimen!

April 20th.—Shiel, the fisherman, captured during the past winter a Seagull with a black head, which he kept alive in a spare room, but which eventually made its escape. There can be little doubt, from the man's description of the bird, that it was *Larus atricilla*, the Laughing Gull of Audubon. Shiel lives at some distance from the port, which will account for my not having seen this Gull.

April 22nd.—Soon after sunset last evening, while blowing a strong breeze from the south, with occasional showers, a number of Night Hawks (*Chordeiles virginianus*) made their appearance in the low grounds near my house. They were exceedingly active in the pursuit of their prey, and flew so low, and with such rapidity, as sometimes to pass within arm's length of me. One indeed almost flew into my face. This is the first appearance of the Night Hawk this season, being within one day of its visits on former occasions. How very wonderful is this punctuality

of movement, and how truly does the Prophet Jeremiah exclaim that the "Stork knoweth her appointed times, and the Turtle and the Crane and the Swallow observe the time of their coming."

April 23rd.—Mr. G. Trimmingham presented me with a specimen of the Tyrant Flycatcher (*Muscicapa tyrannus*), which was shot by him this morning a few miles from Hamilton. This is the first of its species I have met with during the present season.

April 24th.—In walking round my garden this morning, I observed a bird of unusual appearance move from one cedar tree to another, and went in for my gun, with the aid of which I soon obtained possession of the stranger. It proved to be the Yellow-billed Cuckoo (*Coccyzus americanus* of Wilson), and, if I mistake not, this is the first instance of its being met with on its vernal flight to the north.

April 25th, Sunday.—Walked through the marshes to the sluice gates. Saw a Green Heron and a large Blue Heron only. Have received information of several Yellow-billed Cuckoos being seen, and of two being shot at St. George's. I have reason to believe a White Heron has also been observed in this neighbourhood.

April 27th.—Mr. J. Darrell, son of the Attorney General of this colony, assures me that a Humming Bird made its appearance under the windows of his father's house yesterday morning, where it was busily engaged entering the large white bell-shaped flowers of the *stramonium*; that

the members of the family were summoned to the window, and several of them witnessed this extraordinary and novel sight. Mr. Darrell described the bird as being greenish in colour, with red on some portion of the body, though he could not exactly remember where; the tail, the only part visible at times, he is positive was tipped with white.

April 28th.—Mr. Walker tells me that when at Port Royal three or four days ago he saw a number of strange birds, which puzzled him for a time, but which he is convinced were Yellow-billed Cuckoos. Saw as many as seven or eight sitting upon the same rail. This was on the north side of the hills, below the lighthouse.

While at my dinner, received intelligence of a *large* bird being in the adjoining marsh. Started immediately with my gun, and saw the bird at a considerable distance. It appeared to be dark brown, with long rounded wings, which formed an acute angle above the body resembling the letter V. Poised in this manner, the bird was describing circles in the Buzzard style, with very little motion of the wings. I followed this stranger through the marshes to the sluice gates and the bogs beyond, where I lost all trace of it. Three different parties of working people, who had an opportunity of observing the bird as it passed over them, within gun shot, described it as being "the size of a good Turkey," black in colour, with the quill feathers separated from each other like the fingers on a man's hand. Returned home impressed with the belief that I had seen the Great Eagle Owl (*Bubo virginianus*) for the first time in my life. Saw a Kingfisher at the sluice gates. This is unusually late for that bird to remain here.

April 29th.—Mr. Fozard tells me that for three mornings a very large bird has passed over his residence at five o'clock; that an apprentice boy, who saw it each time, and who says it flew so low that he might have hit it with a stone, describes it as dark brown, somewhat lighter on the lower parts of the body. In size, &c., the boy's description agrees with my own observation of the bird I saw yesterday. I have no doubt it is the same, and its early appearance, and westerly beat over the town, strengthen the opinion of its being the Great Horned Owl.

The Receiver General informs me that the White Heron seen by him in passing Warwick Church pond on the 24th instant, appeared to be fully as large as the Great Blue Heron. Standing three feet in height, it rose from the pond as he passed, and flew up into some cedar trees on the adjoining hill side.—Query, *Ardea egretta*.

April 30th.—At three o'clock yesterday afternoon, shut up my office, and crossed the harbour with dog and gun, in search of ornithological rarities near the Chief Justice's pond, a strange note issued from a grove of cedars; I soon discovered a small bird sitting on the lower branch of a stout cedar tree, where it continued to repeat its plaintive note. Of course, it fell a sacrifice to the cause, and proved to be the Wood Pewee Flycatcher (*Muscicapa vireus* of Audubon), a new bird to the ornithology of these islands. It measured six inches in length, by ten in extent. Second quill the longest, first shorter than the third, and longer than the fourth. Bill, flattened and very broad towards the base. Upper mandible, black; the lower, flesh-coloured. Legs and feet black. Eyes, dark hazel. In all other respects this bird also agreed with the description given by

Wilson. The tail was considerably forked. I then walked through Tankfield, and examined the south shore, thence to Hungry Bay. While so employed two "Crows" (*Corvus americanus*) passed over my head, cawing merrily. These I did not molest. At Hungry Bay I enquired of a fisherman, if he had seen any birds about? He replied, "that as he sat there watching the whales outside the buoy, three black birds, somewhat larger than Pigeons, had crossed the water and rounded a corner of the swamp close by." Following in that direction, I soon disturbed a Purple Gallinule (*Gallinula martinica*), which rose from the bank, and dropped among the mangrove roots before I could bring my gun to bear. This was no doubt one of the birds seen by my friend the fisherman. I then disturbed two Herons, one of which was a full-plumaged Blue one (*Ardea cærulea*); the other was white on the lower part of the body, but mottled with grey on the upper parts. In size and manner of flight it resembled its companion, and I have no doubt was the *Ardea cærulea* of the past year, gradually changing from white to purple plumage. Saw also two Green Herons, at which I refused to shoot.

The Night Hawks, so abundant on the 21st instant, have gradually diminished in numbers. One or two stragglers only remaining in the neighbourhood. Saw the Kingfisher at the sluice gates.

May 3rd.—I have omitted to mention that the master of the American brig, "Sarah Peters," who reported his arrival from George Town, South Carolina, with a heavy cargo of timber, on the 28th of April (having been five days only on the voyage), states that "on every day since leaving the American coast," his vessel was visited by *land birds*. These he describes as being small, and many of

them like Field Sparrows, though he does not know their names.

Walked to Hungry Bay yesterday. Saw one Purple Heron, one Green ditto, and one Carolina Crake. Of the latter I have observed three or four lately. Night Hawks few.

May 11th.—Mr. Falconer, the schoolmaster, called on me to-day with a fine specimen of the White-winged Crossbill (*Loxia leucoptera*), which had been shot by one of his pupils. It was a male bird, six and a half inches in length, of a beautiful carmine, mottled with dusky, or very dark brown, on the upper and lower parts, mixed with a few touches of yellow about the rump. Wings and tail as described by Wilson. I have seldom skinned a fatter bird than this proved to be.

I understood the same boy has a grey bird, of the same species, now in his possession, alive! Probably a female *Loxia leucoptera*.

This is a further addition to the ornithology of these islands.

May 15th.—Mr. George Trimmingham presented me to-day with the "White Heron," which for the last three weeks has frequented Hungry Bay. It measured twenty-one inches in length. Bill, blue from the centre to the base; outer extremities, black. Irides, bright yellow. Membrane surrounding the eye, and extending to the bill, light blue. Legs and feet, light olive; dusky on the anterior side. Middle claw, pectinated on the inner side. Feathers of the upper portion of the head, of a light grey colour; the three elongated plumes extending about two inches beyond the crest. Neck, very light grey. Back,

same colour as the crown of the head, mottled with a few spots of a deeper shade. Rump and tail, pure white, crossed by a bar of grey on the upper tail coverts. Dorsal plumes, two inches longer than tail, of a deep grey, and one broadly edged with white, another sprinkled with white towards the extremity; others were nearly all white, the grey colour forming a dark line down the centre only. Wings, white, patched with same grey colour on the scapulars. Primaries, tipped on the outer edges with brownish-grey; under parts, pure white. This is doubtless the Blue Heron (*Ardea cærulea*), beginning to assume its purple plumage, the same as described by me on the 30th of April last.

It was exceedingly fat, and the tips of the outer primaries worn off, apparently by use.

May 15th.—Dr. Laird informs me that he has killed two Tyrant Flycatchers of late, and seen one Purple Gallinule.

May 18th.—Hearing that some "*White Partridges*," packed in ice, had arrived in the mail steam-packet, "*Levantine*," from Halifax, Nova Scotia, I made a point of ascertaining the fact. Found five or six brace of the birds still unsold, and purchased a leash of them. They proved to be the Willow Ptarmigan, or Grouse (*Lagopus albus* of Audubon). That which I examined was sixteen and one-third inches in length; the bill remarkably stout; a conspicuous spot of red wattle over each eye. Tail of sixteen feathers; the centre pair white, the remainder black with white tips (Audubon must be in error when he gives the number of tail feathers as fourteen only). Wings as described in Audubon's "*Synopsis*." These birds were

particularly plump and weighty for their size. Ripe unbroken cranberries were taken from their crops.

I find from Captain Hunter, of the "Levantine," that these Ptarmigan, or rather Willow Grouse, were brought by him from St. John's, Newfoundland, since his last visit to these islands on the 22nd of April last. It is a singular circumstance that my first acquaintance with this bird should take place in the Islands of Bermuda.

May 27th.—Was summoned from the breakfast table by my little son to see a large bird soaring in the air, almost directly above the house. It was the Osprey (*Pandion haliaetus*), describing circle after circle, and evidently surveying the ditches of the adjoining marsh, which teem with Golden Carp, many of them large in size.

June 5th.—Mr. George Trimmingham presented me with a beautiful specimen of *Toiianus vociferus*, the large Yellow-shanks Tatler of Audubon, which he had shot this morning at Hungry Bay.

It measured thirteen inches in length, and was in very perfect plumage. No others were in company with it. This is another of our autumn birds visiting the islands for the first time at this season of the year.

July 22nd.—Dr. Innes, of the Medical Staff, informs me that on Friday last, the 19th instant, he saw a flock of birds moving about Peniston's ponds, which were pronounced by Mr. Trott, the Provost-Marshal, to be Yellow-legs. These birds were supposed to be recent arrivals from the north, none having been previously observed there this season.

I have no doubt this statement is correct ; consequently the Yellow-legs (*Totanus flavipes*) is earlier than usual this season ; the 1st of August being the general period of its arrival in the Bermudas.

July 28th.—I was assured by Mr. John Darrell to-day that on the 5th of July, 1850, he shot seventeen Yellow-legs (*Totanus flavipes*) at Peniston's ponds. Is quite certain he killed them on that date !

July 31st.—A coloured boy brought for sale, at the office to-day, a living specimen of *Totanus flavipes*, or Lesser Yellow-shanks, which he told me he had captured by "running it down on the shore at the lane"; in other words, at the head of Hamilton Water. This is the first of its species that has come under *my* observation this season ; and truly does it keep its "appointed time." For some days past we have had strong breezes from the south-west, and to-day it blows a very stiff breeze from the south and south-west.

September 1st.—Was told by the Rev. J. U. Campbell that about noon yesterday he witnessed an extraordinary flight of birds passing over these islands at a considerable elevation. Thinks the flight extended full half a mile in length, the birds flying in single file, like Wild Ducks, and forming one long line without a leading cluster. My informant could not undertake to say of what description of bird this flight consisted. Weather cloudy and calm, with rain in the afternoon.

Mr. Hodgson Smith reports a very large flock of Plover at Burgess' Point this morning, and carried from town a

stock of ammunition wherewith to attack them, and promised specimens of any birds he may kill.

September 4th.—Some strange birds reported to be in the adjoining marsh this evening. Went down with dog and gun, and found a small flock of six or seven Rice Buntings, which rose from the long grass and settled on a cedar bush. One of these I brought home for examination. It proved to be a veritable *Dolichonyx oryzivora*. As many as a dozen of these birds were seen perched on the tall reeds close by, at an early hour this morning. Is not this unusually early for the autumnal appearance of this Bunting?

September 9th.—Mr. John Darrell presented me with a specimen of the Water Thrush (*Seiurus noveboracensis*), recently killed. He reports having shot another of these birds at the same time, and also mentions having seen two Kingfishers, being the first indication of the arrival of these two migrants during the present season.

September 10th.—Flocks of Plover occasionally heard during the night passing to the southward.

September 13th.—Yesterday and to-day it has blown freshly from the south to south-west, and a few flocks of Golden Plover made their appearance on our shores, but this evening they were very scarce. In a long walk along the north shore I fell in with but one small flock, and on my return by the sluice gates I observed one Pectoral and four Solitary Sandpipers.

September 15th.—Mr. Fozard writes to me from his new place of residence, Somerset, that on the 13th instant he bagged sixteen Yellow-shanks (*Totanus flavipes*). Two Solitary Sandpipers, one Golden Plover, and a "real Snipe," the latter however was very poor, and scarcely "*fitting to eat*,"¹—probably a wounded bird of the past season.

A coloured boy called at the office to-day with two Rice Buntings to enquire what they were.

September 16th.—On my way to Somerset yesterday I observed one flock of about a dozen Golden Plover, feeding close to the roadside; and at St. George's Bay, five or six Turnstones got up from the rocky shore. To-day I visited the north shore, and fell in with one small flock of Golden Plover only, about twelve in number, but failed in getting a shot at them. Saw no other birds.

September 17th.—The Rev. J. U. Campbell sent me early this morning a specimen of the Hudsonian Curlew (*Numenius Hudsonicus* of Audubon), the first I have seen or heard of this autumn. It appeared to be a young bird, and measured sixteen inches in length.

September 19th.—Returning from church I saw a large bird, of pointed wing, soaring over White's Marsh. It was dark brown on the upper plumage, and light below. Took it to be an Osprey.

September 21st.—Mr. Fozard sent me a very beautiful specimen of the Osprey, or American Fish Hawk (*Pandion*

¹ A Bermudian expression.

haliaetus of Audubon), which had evidently been killed this morning. It measured about twenty-one inches in length; the back and wings of a rich brown, each feather beautifully tipped with white, as was the tail. Lower parts of a pure white, except on the breast, which exhibited a few streaks of brown. Head white, mottled or streaked with the same colour. Am disposed to think from the size, &c., that this was a male bird, and probably the same seen by me on Sunday last. The distance to Somerset, in a straight line, being about seven miles.

Learn from Mr. Anderson, Civil Engineer at H.M. Dockyard, that he saw a person yesterday with a large Duck in his hand. That he examined the bird, and is satisfied it is the same as that described by Wilson as the Dusky Duck (*Anas obscura*). This is the second which has been shot recently in this vicinity, one having been killed a few days ago at Peniston's ponds.

September 22nd.—The Osprey again made its appearance over White's Marsh this morning, and continued soaring in circles over it for some time, when it wended its flight to the sluice gates.

September 25th.—Dr. Innes reports having flushed a real Snipe (*Scolopax wilsonii*), on or about the 20th instant, at Somerset; he failed in putting it up a second time, from the impracticable nature of the swamp it alighted in.

September 30th.—A heavy swell has been rolling in upon the south shore of the islands from the morning of the 28th instant. The sky to the westward on that and the

following day had a peculiar leaden appearance, giving rise to the belief that a revolving gale was then passing in a northerly direction between us and the American Coast. Last night the wind got up with heavy squalls of rain, and to-day it has blown a gale from the south to south-west. Went out with my gun in the evening, walked through the neighbouring marshes in company with the Rev. J. U. Campbell. Found no Snipe, but fell in with a Blue-winged Teal, and a flock of Sandpipers. The former I bagged, with eleven Pectorals, and one Semi-palmated Sandpiper. I have omitted to mention that much distant thunder and lightning prevailed on the 28th and 29th, and that a thunder cloud discharged its electric fluid last evening immediately over Salt Kettle, shattering a window-blind at the residence of the late Mr. Henry Hunt.

October 1st.—At sunset this evening a Snipe passed over my head while busy in the garden, piping away in the most noisy manner.

This is the first *Scolopax wilsonii* that I have seen this autumn. The Rev. J. U. Campbell, who was out in the neighbouring marshes to-day, brought in a couple of Blue-winged Teal, one Snipe, and a few Pectoral Sandpipers. He reports having met with a flock of seven Blue-winged Teal, four of which were killed. Saw no other Snipe than the one he bagged.

October 2nd.—Sallied forth at sunrise this morning; found one couple of Snipe and one Carolina Crane. Killed one of the former only.

Understand from good authority that Mr. Clutterbuck, of the 56th Regiment (now quartered at Ireland Island), shot a Frigate Bird (*Tachypetes aquilus*) at Somerset, on the 30th ultimo.

October 8th.—In crossing to Ireland Island this afternoon I observed two birds soaring over the Sound at a considerable elevation, which, from their appearance, were certainly new to me. They were of large size, with long, narrow, pointed wings, and a tail of rounded form, much too long for that of the Osprey. In colour they appeared to be dark brown on the under side, the upper being quite invisible. The head did not project at the end of a long neck, nor was there the slightest indication of forkedness about the tail. These birds sailed round and round in large circles, rarely, if ever, striking the air with their pinions. They were unlike the Osprey in their outward form, and the dark colour of the under plumage was sufficient to distinguish them from that bird. I am strongly inclined to think the strangers were a couple of Pelicans (*Pelicanus fuscus* of Audubon). Understand that these birds have frequented the Sound for some days past, and that one of them was fired at by an officer on detachment here.

October 16th.—Last night it rained heavily, and to-day, being cloudy and dark, I walked through all the neighbouring marshes, with dog and gun, in search of rarities. Found nothing but three or four Snipe, and those single birds, far apart, and a small brown bird, which I fancied was *Emberiza henslowi* of Audubon. This I very stupidly omitted to fire at as it rose from the long grass of the marsh, and I failed in finding it afterwards. Killed one of the Snipe, which was very fat.

October 18th.—Again hunted the adjoining marshes. Found two Blue-winged Teal, one Snipe, and one Carolina Crake. Killed one of each, and returned home, having

met with no other birds—one Pectoral Sandpiper excepted.

October 22nd.—Observed a large Sea Gull (*Larus accidentalis*) on the wing in Hamilton Harbour to-day. The wind blowing a gale from the south-west, with heavy squalls of rain at intervals.

October 29th.—Hunted the lower grounds from White's Marsh to the sluice gates. Met Mr. Kennedy's coloured servant, "Wellington," with a female Dusky Duck (*Anas obscura*), which he had just shot in the ditches of White's Marsh; and soon afterwards picked up a tame Mallard, which had fallen a victim to the same shot.

Saw one Blue-winged Teal in the Mangrove Swamp near the sluice gates, at which I fired both barrels without success. Met with nothing else; indeed, a more blank season for autumnal strangers I do not recollect.

November 9th.—Mr. Hodgson Smith informs me that a few days ago he saw a "Wild Goose" passing on the wing. It was alone; and, from the well-known "honk," he is satisfied it was the Common Wild Goose of North America (*Anser canadensis*).

November 17th.—A coloured man brought me a wounded specimen of the American Coot (*Fulica americana*), which had been shot this morning at the head of Hamilton Water.

November 23rd.—During the last four or five days the weather has been very boisterous, the wind blowing and

veering from south-west to north-west and north. A "large Hawk" was seen in the vicinity of our residence yesterday, and to-day a "Wild Duck" was reported in the adjoining marsh. Went down with my gun, and fell in with Mr. Harford, of the 56th, who had just killed a Blue-winged Teal, and I saw him kill a second soon afterwards. This gentleman showed me a specimen of the Least Bittern (*Ardea exilis*), which he had shot near the sluice gates.

Hunted the neighbouring marshes in his company, but found nothing more. He told me he had flushed two or three couples of Snipe in White's Marsh and its immediate neighbourhood.

November 28th.—Observed a Woodpecker in the cedar trees of my own grounds, and watched it for some time; have no doubt it was the Yellow-bellied species (*Picus varius*).

December 25th.—During divine service this morning I happened to look out of the church window adjoining our pew, and observed an Osprey (*Pandion haliaëtus*) soaring in the blue vault of heaven over the Governor's Marsh. After watching its movements for some time, it disappeared in an easterly direction, over an intervening grove of cedar trees.

1853.

January 22nd.—Mr. P. C. Smith, of Riddles Bay, brought me a fine specimen of the Kittiwake Gull (*Larus tridactylus*), the tail feathers of which were broadly tipped with black. This is the first of the Gull species I have seen

during the past three months. As stormy weather generally prevails at this season of the year, it is probable we may be visited by more of these interesting sea birds shortly.

February 22nd.—On the 19th instant I received a specimen of the Hawk tribe from Mr. Francis Peniston, of the Flatts. It was recently killed; and measured fourteen inches in length by upwards of twenty-five in extent. The bill was blue at the base, and black towards the extremity, with the upper mandible largely toothed. Irides, very bright orange or gold colour. Tarsi slender, two and one-tenth inches long, and of a greenish-yellow. Feet, bright yellow. Claws, long, sharp, and black. Fourth and fifth primaries, equal and longest. First quill feather two inches shorter. Tail, of twelve feathers, of a light brown colour, showing five bars of dark brown; the widest being at the extremity, which was tipped, or margined with dull white. Head, back, rump, and wings of a rich brown. The forehead, cheeks, nape of the neck, and line over the eye, mottled with white. Shoulders, largely mottled with spots of pure white; the feathers showing large blotches of white when raised by the hand. Chin and breast, yellowish white, beautifully marked with longitudinal spots of brown, with a fine line of black or dusky drawn down the shaft of each feather. Under side of the wings of the same yellowish-white, beautifully spotted with brown; the secondary wing feathers having five or six distinct, wavy bars of brown traversing them, which became disunited on the primary quills. Tail coverts, white. Tibial feathers, long, mottled with light brown and white, and pencilled in the centre of each feather, like the breast.

I was so busily engaged in the preparation of some long and troublesome "Returns" when the specimen reached me,

that I came away from office forgetting the bird was lying on my table.

The following day, being Sunday, I brought it home, compared it hastily with Wilson, made a note of its measurement, plumage, &c., and erroneously concluded that it must be a somewhat larger specimen than usual of the female Pigeon Hawk (*Falco columbarius*); under that impression I allowed my little twin daughters (nearly four years old) to carry it into their nursery, where it remained as a plaything for two days. On the evening of the 22nd, further investigation discovered to me the error I had committed; but on seeking for the bird it was nowhere to be found; and it was only by rummaging the dung-hill by candle-light, that I regained possession of it. It proved to be a female specimen of the Sharp-shinned Hawk (*Astur fuscus* of Audubon; *Astur velox* of Wilson); and, consequently, a new bird to the ornithology of the Bermudas. Wilson's description is very accurate. Succeeded in making a very good skin of this Hawk.

March 16th.—Mr. Fozard sent me from Somerset, a clean killed specimen of *Picus varius*, the Yellow-bellied Woodpecker.

March 22nd and 24th.—Observed an Osprey soaring over White's Marsh.

April 8th.—While attending my office this morning, my attention was called to two Herons, which had alighted upon a low ledge of rock at the northern end of White's Island, in the middle of Hamilton Harbour. They were of large size (probably *Ardea herodias*); and, from the circumstance of their allowing boats to pass at no great dis-

tance from them without taking wing, I am disposed to think they had recently arrived from the southward. It is seldom this wary bird approaches so closely the haunts of man. I was too much engaged to go after them.

April 26th.—Observed *young* Red-birds (*Pitytus cardinalis*) for the first time this season.

April 27th.—Mr. Harford, 56th Regiment, tells me that a few days ago,—*i.e.*, during the present month—one of the whale-boat men, stationed at David's Island, captured a strange bird on the rocks at St. David's Head, which he brought alive to St. George's, and sold to Mr. Tolcher, of the 56th. This bird, Mr. Harford assures me, was a "Least Bittern," precisely similar to the one shot by him in November last, mention of which was made on the 23rd of that month.

June 3rd.—Mr. A. Hinson sent me a very fine specimen of *Himantopus nigricollis*, the Black-necked Stilt of Audubon, which he had shot about an hour previously, in the pond near Warwick Church. This bird had been noticed for some days past wading about that piece of water, and was killed, at my particular request, by Mr. Hinson. This is the first instance on record of its having being met with in Bermuda. It measured thirteen and five-tenths inches in length, by twenty-six and six-tenths in extent. Bill, to the gape, upwards of two inches; naked portion of the tibia, three inches; tarsi, four and four-tenths inches. In the markings of the plumage, &c., this curious bird agreed perfectly with Wilson's account, excepting that the darker parts appeared to be of a *black-*

purple, and the tail a light drab, glossed with the same black-purple towards the extremity. It proved to be a male bird, and was exceedingly fat.

June 8th.—On returning from my office this afternoon my attention was drawn, by my little boy, to a bird soaring over the water of Hamilton Harbour. It was of large size, I should say very considerably larger than the Osprey, and appeared to be of heavier and slower flight; although in describing circle after circle at an elevation varying from thirty to forty feet, it was quite beautiful to watch the perfect ease with which it sailed to windward against a strong easterly breeze without striking the air with its wings. This bird appeared to be of a deep chocolate colour above and below; with a tail rather short than otherwise, square at the end, and the “primaries” standing separate from each other at their extremities. After spending a quarter of an hour in beating the waters of our harbour, the stranger slowly wended his way towards the Sound. I am strongly inclined to think this must be a “Sea-Eagle.” Its wings were not long and pointed, but wide, ending, as before observed, in quill feathers, separate and distinct at their extremities.

The similarity of this bird to the one seen by me on April 28th, 1852, struck me at once; though, in the present instance, it exhibited far more activity of wing. Doubtless the young of the Bald, or White-headed Sea-Eagle (*Falco leucocephalus* of Audubon).

June 30th.—Lieutenant Clutterbuck, Adjutant of the 56th Regiment, tells me that two days ago he obtained from Mr. Harford, a Mother Cary’s Chicken (*Thalassidroma wilsonii* of Audubon), which had been shot by Mr. Harford while fishing at some miles distant from the shore.

It had several companions of the same square-tailed species, and was by no means fat when skinned by Mr. Clutterbuck.

July 3rd.—On the 16th of last month, Mr. Fozard sent me a young *Phaeton æthereus*, taken from the nest at Somerset, and apparently about three weeks old. It exhibited the usual plumage of the young bird, viz., white, marked on the back and wings with transverse bars in the form of a bracket. Having no convenient place for rearing this nestling, I decided on preserving its skin, as a proof of the errors committed by ornithologists in England.

July 10th.—Mr. Harford tells me that while out in his boat near St. George's yesterday, he shot six young Tropic birds on the wing, with the down still about them, and the long tail feathers just growing. Long as I have resided in the Bermudas, this is the only instance of the kind that has come to my knowledge. These young birds were skinned and eaten by his men stationed at Fort Cunningham.

July 19th.—I learn from Major Byles, 56th Regiment, that the steamer "Merlin," which arrived yesterday from New York, brought, among other things, in her ice box, some Yellow-legged Sandpipers, some of which the Major purchased under the denomination of "Snipe." Of course, these can be no other than the *Totanus flavipes*.

July 20th.—Mr. John Darrell informs me that on Saturday last, the 17th instant, he shot three Yellow-legged Sandpipers (*Totanus flavipes*) at Peniston's ponds. I have

not yet seen or heard one of these birds. Riding from St. George's on that day, I distinctly heard the "tweet, tweet" of the Spotted Sandpiper near the Ferry.

August 7th.—Sailed to the dockyard and back again to-day with Lieutenant Godley, 56th Regiment, who stated, that on his way over to Hamilton, he saw and counted ten Golden Plover in a flock. These birds appeared to be coming in from the north. Wood, the boatman (formerly in the employ of Mr. Wedderburn, 42nd Highlanders), corroborated this statement, and was quite confident they were Golden Plover. He further assured me that on Thursday last, the 4th instant, he saw a flock of Turnstones. These are early instances of their kind, if correct, though I cannot help thinking the Golden Plover may be a mistake, and that the Yellow-shanks Tattler has been seen and taken for it.

Saw one large Blue Heron (*Ardea herodias*) near Boss' Cove.

August 11th.—Met Mr. Fozard in town to-day, who reported having seen a flock of nine or ten Pectoral Sandpipers fly over the Dockyard on Sunday last. These are probably the same mentioned by Mr. Godley as Golden Plover.

My neighbour's grandson, Charles Ingham, tells me that on Saturday last, the 7th instant, he observed a Swallow near his father's residence, on the road to Spanish Point: This is the first I have heard of this season.

August 12th.—Four Swallows were seen this evening on the north shore, near the Ducking Stool, by some of my own family, who were out for a walk.

August 16th.—Mr. Hodgson Smith, of Riddles Bay, tells me that while fishing in the Sound yesterday, three flocks of "Plover" were observed by him "coming in from the northward." Is confident they were "Plover."

I have already remarked that the term "Plover" is indiscriminately applied in Bermuda to every kind of Sandpiper and beach bird.

August 20th.—Blowing a gale from south-south-west. Sallied forth in the evening with my gun, and near the sluice gates saw two Solitary Sandpipers, and a flock of about fifty Semi-palmated Sandpipers. Returned home in a heavy rain—drenched.

August 21st.—Walked to Hungry Bay this evening. Saw many Semi-palmated Sandpipers, one Spotted Sandpiper, and a few of the large Yellow-shanks there.

August 22nd.—Mr. Walker, who lives near the sluice gates, informed me to-day that he was out with his gun on Saturday evening, the 20th instant, and fell in with a flock of Golden Plover on the north shore, between Clarence Hill and Mount Langton, from which he killed six birds.

I also hear that some Golden Plover have been shot by two officers in the vicinity of St. George's. Should there be no mistake regarding the identity of these "Plover," it will be the earliest visitation that has come to my knowledge.

August 24th.—There can be no doubt of the Golden Plover (*Charadrius marmoratus*) having actually made its appearance in these islands within the last four days. Several of these birds, I understand, having been killed

near Gibb's Hill on Sunday last, and a couple this day were brought in by Captain Austin, of the 56th Regiment: Though I have seen none of these Plover myself, it is impossible to doubt the testimony of so many individuals all tending to the same point. Is not this remarkably early for these birds to be on their great southern flight?

August 26th.—Mr. A. Hinson, who resides at the foot of Gibb's Hill, tells me that during the stormy weather of the 19th and 20th instant he was out with his gun, and never had better shooting at the Plover. He particularly mentioned two species as abundant, and laying among weeds and sage bushes, as if for the purpose of shelter.—the one, the ordinary Golden Plover of this part of the world, and the other, a larger Plover, with "black about the head." This I take to be *Charadrius helveticus* of Audubon, or Black-bellied Plover. Ring Plover (*Charadrius semi-palmatus*) he also describes as numerous in that locality. A large Curlew (probably *Numenius hudsonicus*) and a real Snipe (*Scolopax wilsonii*) are also reported as having been observed. I may here remark that other persons have assured me of the presence of the latter within the past week; but that I consider their evidence as doubtful, seeing that the Snipe has only once appeared so early as the 13th of September for several years past. Weather very warm. Thermometer, eighty-three to eighty-four.

August 27th.—Dr. Innes, 56th Regiment, informs me that on Monday, the 22nd, hearing that Plover had come in, he sailed with a friend to Cooper's Island, where he found numbers of the Sandpiper tribe, viz., the Greater and Lesser Yellow-shanks, the Semi-palmated small one,

and the little Ring Plover. Several of these were killed, together with two Esquimaux Curlew and two Golden Plover. The doctor mentioned, as a curious fact, that having shot three small Sandpipers, which fell on the rocks close to the wash of the sea, he was surprised to see them *carried bodily* off by the crabs (which abound along the shore), and had to run and draw them from the holes into which the crabs had taken them, and that, too, before he could re-load his gun.

September 3rd.—Strolled into the neighbouring marshes in search of a strange bird seen by my little son, and stumbled upon a Blue Heron (*Ardea cærulea*), which I killed. It was in full plumage, and upwards of twenty-two inches in length.

September 8th.—At 10 p.m. heard a flock of Plover passing to the southward. The night was starlight, with a young moon nearly set, and the breeze at south-west.

September 17th.—Mr. Peniston sent me a curious specimen of the Common Cat Bird (*Orpheus carolinensis*) with the plumage of the head nearly all white. Two or three of the primary quills were also white, and sundry feathers about the back.

September 27th.—Blowing half a gale from the north-east since yesterday. Sallied forth at three o'clock with dog and gun, and hunted the neighbouring marshes for Snipe. Found nothing but one Carolina Crake on the hills near "Prospect." Saw two Rice Birds, one of which I shot; and on the north shore fell in with two Turn-

stones—one of these I also killed, which, with the Water Crake above-mentioned, constituted my day's *chasse*. Met with a Solitary Sandpiper in Beeman's Marsh. No other birds seen.

October 4th.—This being the time at which the Snipe generally appear in these islands, I took my gun, and hunted the most likely places in the neighbourhood this evening, but found neither Snipe nor any other migratory birds.

October 5th.—On returning from office was told that "some Snipe" had been seen about White's Marsh. Hunted the neighbourhood immediately, and found two (the first Snipe *I have* seen this autumn), one of which I killed. A flock of Pectoral Sandpipers were also met with, and these, I doubt not, were the "Snipe" reported to have been seen. Saw one Solitary Sandpiper, which, to my surprise, settled on the upper rail of a fence. Heard the rattling note of a Kingfisher near the sluice gates.

October 8th.—A coloured man, who lives in the marsh, not far distant, called to show me a Bittern (*Ardea lentiginosa*), which he had just shot; and my own dog flushed a Carolina Crake on the edge of White's Marsh, which took refuge in my own grounds.

From this I conclude that birds are dropping in.

October 11th.—Hunted the neighbouring marshes this evening, and found three or four couple of Snipe and a few Pectoral Sandpipers; killed a couple of each.

A person at the lighthouse reports having seen a flock of "Wild Geese"; another man states that he counted twenty-one "Cranes" on Morgan's Island. For "Cranes" read the "Great Blue Heron," and the flock of Geese is accounted for.

October 12th.—Out with my gun for two hours this evening. Killed two couple of Snipe (*Scolopax wilsonii*).

October 13th.—Captain Harvey, of the brigantine "Tornado," from New York, brought me a specimen of the Golden-winged Woodpecker (*Picus auratus*), captured at sea on the 8th instant. It was one of a "great number" of Woodpeckers that came on board the ship in latitude 36° and longitude $74^{\circ} 30'$; and was kept alive for some days, when it died for want of proper food. The wind, at the time of the visitation, was blowing a fresh breeze from the northward. Captain Harvey mentions that several other kinds of birds were met with on the passage.

October 15th.—Killed another couple of Snipe this evening. Saw no other birds.

October 17th.—Darrell, the head keeper of the Iron Lighthouse, tells me he observed "two Wild Geese" pass over Gibb's Hill within the last few days. Is quite certain they were Wild Geese, but cannot say of what particular kind.

October 18th.—Killed one Snipe to-day near the sluice gates; while hunting the bushy swamp my attention was

aroused by the note of some, to me, unknown bird. Succeeded in shooting the little stranger. It proved, on examination, to be a male specimen, in immature plumage, of the Maryland Yellow Throat, or Yellow-breasted Warbler (*Trichas Marylandica* of Audubon), and a new bird to the ornithology of these islands. Length, from the tip of the lower mandible (the upper being shot away), four and six-tenths inches; lower mandible from the gape, rather over five inches. Colour of latter, light brown, inclined to yellow on the under side. Tail rounded, the outer feathers being considerably shorter than the middle ones. Legs and claws of a light brown or clay colour. Upper parts dark olive green. Quills and tail feathers, dark brown, edged with a light shade of olive green. Shafts of the tail feathers, white on the under side. From the base of the lower mandible over the eye and coral space, a distinct band of mottled brown and black was visible. Chin, throat, and anterior portion of the breast, brilliant yellow. Lower tail coverts also yellow, but less bright. Edge of the wing and margin of the outer primary, yellow. Inner wing coverts mottled with brown and yellow.

October 22nd.—Found one couple of Snipe only in the adjoining marshes, bagged one of them, and, with the exception of a single Kingfisher, saw no other birds.

October 27th.—Took a turn round the marshes after the recent rainy weather, but could find nothing but one couple of Snipe and one Kingfisher. Killed one of the former.

October 28th.—A coloured boy brought me a dead specimen of the Great Blue Heron (*Ardea herodias*) this

morning, which he offered for sale. He told me it was captured at Ireland Island on the 26th instant. It had a broken thigh, caused, as the boy said, by the boys "sky-larking" with the poor bird—in other words, throwing stones at it.

October 31st.—Killed a Carolina Crake in the marsh, and found a single Snipe, which I left behind me. The Carolina Crake is a rare bird this autumn.

November 7th.—It has blown a very strong breeze from the north-east for the last few days. Hunted the marshes this evening for birds, and saw nothing but one Snipe, one Water Crake, one Kingfisher, and one Water Thrush.

November 16th.—Observed two Herons on the wing at twilight this evening. They were flying low over White's Marsh, and appeared to be the common Night Heron (*Ardea myctitorax*). Marshes much flooded by the recent heavy rains.

November 17th.—Hunted the low grounds from White's Marsh to the sluice gates, in company with Captain Austin, 56th Regiment. Saw six Snipe, two couple of which we bagged, viz., Captain Austin, one; self, three birds.

November 18th.—Mr. William B. Smith sent me a very beautiful specimen of the Snow Bunting (*Plectrophanes nivalis*), full seven inches in length. It appeared to have been killed yesterday.

November 22nd.—Killed a Carolina Crake near the sluice gates, but hunted the marshes and ponds in vain for Snipe and other birds.

December 2nd.—Mr. Barss, who returned to these Islands from New York in the "Merlin" steamer, on the 12th of October last, informs me that, during the passage, he captured several small birds that came on board the vessel, the names of which he was unacquainted with. He endeavoured to keep them in a common wire cage, but the little prisoners made their escape through the space between the wires. Mr. Barss also mentions the capture of a beautiful Dove, with a long pointed tail, which became so tame as to run about on deck. This bird was left on board the steamer, where it was a great pet with the crew. It was, doubtless, the Carolina Long-tailed Dove (*Ectopistes Carolinensis*).

Learn from Mr. George Trimmingham that he killed a Turkey Buzzard a few days ago at Mr. Harry Tucker's pond, and that the skin is now in the possession of Dr. Munro, in charge of the sick at the Prospect hill encampment. Mr. Trimmingham also mentioned his having shot "a very small Hawk," which was likewise in Dr. Munro's possession. As the former is entirely new to our ornithology, and the latter not known to Mr. Trimmingham, I shall use my best endeavours to obtain an inspection of both specimens.

December 13th.—Sailed over to Ireland Island to see a large Owl, recently shot there, but not materially wounded, by a person named Llewelin. It proved to be a fine specimen of the Snowy Owl (*Surnia nyctea* of Audubon), and, judging from its size and plumage, a female. Llewelin informed me that he shot it on the 29th of November last, and that it measured rather more than five

feet from wing to wing. He also mentioned that when he fed this bird it frequently erected a little tuft of feathers on each side of the head so as to resemble ears or horns.

December 19th.—Mr. Walker, of the hill overlooking the sluice gates, near Spanish Point, brought to me, this morning, a very beautiful male specimen of *Falco sparverius*, the Sparrow Falcon, or Sparrow Hawk, of Audubon. It measured ten and three-tenths inches in length, by twenty-two and four-tenths inches in extent, and agreed with all the particulars of Wilson's description of the male bird of this species, except that the exterior tail feathers were not white, the outer vane and tip only being so marked, the inner vane being of a somewhat lighter bay, and the shaft of the feather marked on its outer side with a line of black extending to the broad bar of the same shade, which crosses near the end of the tail. This bar does not extend to the outer, or white portion, of the external feathers. Tail composed of twelve feathers. This beautiful little Falcon was in splendid plumage. It was in the act of attacking some chickens when shot. Being a "new bird," I have great pleasure in adding it to our list.

December 21st.—Observed a Grebe swimming and diving in Hamilton Harbour, in close proximity to the shipping. Probably *Podiceps carolinensis*.

December 29th.—Dr. Munro very kindly sent me his specimen of the Turkey Vulture for inspection. It measured exactly two feet six inches in length, carpal joint thirty-four inches. Fourth quill the longest, the first

nearly seven inches shorter. Bill, light horn colour; plumage, &c., as described by Audubon and Wilson. This is, doubtless, a male specimen of *Cathartes aura*, the Red-headed Turkey Buzzard, or Vulture of Audubon, and consequently a new bird to the ornithology of the Bermudas. Was struck with the similarity of form and colour to those of the unknown birds seen by me on the 8th of October, 1852. The "very small Hawk," mentioned by Mr. Trimmingham, was so much injured by shot that Dr. Munro was compelled to throw it away. Species consequently unknown.

1854.

January 1st.—Learn from old Hans that a few days since a flock of Wild Geese appeared in the small marsh below his cottage very early in the morning. They numbered nearly a dozen, but one of the Geese refused to alight, and continued flying round and round the marsh until the others joined him, when all went away together towards the south. They were of a brownish colour.

January 3rd.—Mr. Fozard, the Colonial Revenue Officer stationed at Somerset, tells me that on or about the 30th of November last, being then confined to his house by an attack of Yellow fever, he was told by his wife that two large "*White Birds*" were flying near the house, and that one of them had perched upon a lemon tree. Mr. Fozard was too unwell to go out after them, though he states that he could distinctly hear their sharp note, resembling the single bark of a small dog, which convinced him they were "*Snowy Owls.*"

January 20th.—My son John reports having seen a small Hawk, spotted on the breast like the Sparrow Hawk mentioned on the 19th of last month, and about the same size, settle in a tree close to Mr. Kennedy's field this afternoon.

February 8th.—Mr. Fozard sent me a very beautiful specimen of the Herring or Silvery Gull (*Larus argentatus* of Audubon). Length, twenty-three and a half inches. Bill of a yellowish putty colour, banded with orange-red at the deepest portion of the lower mandible. Iris very bright, light gold colour. The first seven quills brownish-black towards the end (as described by Audubon), the tips being white. The outer quill, with a patch of white, exactly one inch in length, on both webs, near the extremity. No white spot on the inner web of the second quill as mentioned by that author. The seventh quill feather marked with brownish-black on the outer web only.

This is the only specimen of the Gull family that I have seen, either dead or alive, for many months.

March 4th.—Observed a solitary "Herring or Silvery Gull" on the wing in Hamilton Harbour to-day, being the only *living* specimen of the Gull tribe I have seen for a very long time.

March 10th.—On the 2nd instant a large bird was observed on the wing in the neighbourhood of my own house. I did not see it myself, nor could I gain any useful information from those who were more fortunate, except from my own little son, who assured me its head and neck were white, and its size that of a Turkey. To-day

I received a message from a coloured boy (Adolphus Wellington), informing me that last evening he saw "a very large bird with the head and tail white," and my own son, John, tells me he saw the same bird pass over White's Marsh this morning. Old Jem Stow, a coloured man, employed last week in mending the roads near the Spanish Point Marshes, tells me he saw a very large bird answering this description, sitting by the side of the main ditch in Mr. Saltus' Marsh. This evening the bird has again been seen near my own residence, and I have little doubt the stranger will prove to be the White-headed Sea Eagle (*Haliæetus leucocephalus* of Audubon), a bird hitherto unknown in these Islands.

March 11th.—Walked to the sluice gates and the Bays beyond in search of the White-headed Eagle, and thence to Minton's, laying wait in the thick bushy part of the Governor's Marsh, in hopes of intercepting the stranger on his way to roost. Remained in concealment until twilight set in, when I returned home without seeing the object of my search. During my absence the Eagle had been observed dashing into the main ditch of White's Marsh (within sight of my own windows) after Golden Carp. A little coloured boy, who lives on the margin of the Marsh close by, described the bird as brown-bodied, with white head, neck, and tail, and larger than a Turkey.

April 9th.—The "Eagle" again seen in this immediate neighbourhood, at an early hour this morning, by two different individuals.

April 10th.—Captain Bull, 56th Regiment, sent me this evening a remarkably fine male specimen of the Golden-eye

Duck (*Fuligula perspicillata* of Audubon), measuring nineteen and three-tenths inches in length, and answering precisely to the descriptions of the male bird by Wilson, and the above-mentioned author. This is the first time, during a residence of nearly fourteen years in Bermuda, that this Duck has been met with; it is, consequently, an addition to its ornithology. Extent, thirty and a half inches.

April 12th.—Went forth with gun and dog this evening, hoping to fall in with something new in the bird way. Saw one Kingfisher and two Carolina Crakes only.

April 15th.—Met Minton, who told me that a Wild Duck had lately appeared in the "Canal" (*i.e.*, ditch) near his residence, which was of a black and white colour, and so devoid of shyness, as to allow persons to approach it within a few yards. It remained with his tame ducks for a week, but disappeared four or five days since. This was, doubtless, the Golden-eye Duck, shot by Captain Bull on the 10th instant, who fell in with it near the sluice gates, and killed it in the water, from which it appeared unwilling to rise.

April 19th.—Two Night Hawks (*Chordeiles virginianus*) observed near Mr. Dean's this evening.

April 20th.—The White-headed Eagle seen to pass over White's Marsh, in a westerly direction, early this morning.

April 30th.—Examined a box of bird skins, prepared by Captain Tolcher, 56th Regiment, since his arrival in the

Bermudas. It contained, among others, the following specimens:—

- Two Pigeon Hawks.
- Two Snow Buntings.
- One American Ring Plover.
- One Pectoral Sandpiper.
- One Solitary Sandpiper.
- One Sanderling.
- Three Yellow-Crowned Wood Warblers.
- One Least Bittern.
- Two Kittiwake Gulls in immature plumage.

The three Yellow-Crowned Wood Warblers were shot at Somerset, from a flock of those birds, numbering upwards of a hundred. The Least Bittern was captured alive at St. David's Head, as described on April 27th.

May 19th.—Mr. Fozard, who resides at Somerset, tells me that that part of the island was visited in the latter portion of last month with considerable numbers of the Night Hawk (*Chordeiles virginianus*).

July 24th.—Heard simultaneously from Warwick pond and Spanish Point that "Sandpipers had arrived." I have no doubt that these are the Spotted Sandpiper, the earliest of our northern visitors, which invariably make their appearance at this season.

July 26th.—Mr. John Darrell tells me that he visited Peniston's ponds at a very early hour yesterday morning, and killed "seven couple of the Yellow-legged Sandpiper" (*Totanus flavipes*). Saw about one hundred of these birds there; also a few Spotted Sandpipers.

August 9th.—Hear from different parts of the islands, that flocks of birds have already been observed passing over on their southern flight. Wood, the boatman, reports a large flock of “Curlew,” seen by him yesterday.

August 11th.—Mr. Hodgson Smith called on me yesterday to state that, in passing the pond near Warwick Church, he saw three wild ducks there, which he thought were Blue-winged Teal. Early this morning, Mr. Philips, of the 56th Regiment, visited the pond to look for them. Saw one Duck only, at which he fired both barrels without success. Supposes it to be a “Widgeon.”

August 16th.—Observed a Swallow in the front street of Hamilton to-day, being the first I have seen this season. Learn from Mr. Trimmingham that one was seen by him on the 6th instant.

August 17th.—Was informed by Mr. Walker that he saw a dozen Swallows near his own house, by the sluice gates, this morning. Observed three myself hovering over White's Marsh in the evening, viz., *Hirundo bicolor* and *Hirundo rustica*.

August 18th.—Swallows dashing up and down the front street of Hamilton, causing an unusual appearance of life in that thoroughfare. Learn from several individuals that hundreds of these interesting birds were seen yesterday and to-day in the vicinity of Mangrove Bay, Warwick pond, and along the south shore towards St. George's.

The small Wild Duck is still to be seen daily in Warwick pond. Thermometer, eighty-six at noon.

August 19th.—Crossed the Ferry, and walked to Warwick pond in search of the small Wild Duck, which has frequented that locality for upwards of a week. Failed in finding it. Saw two Crows (*Corvus americanus*) and an abundance of Swallows. Could distinguish only the White-bellied and the "Barn" species. Four Semi-palmated Sandpipers also seen.

August 20th.—Heard the note of the Solitary Sandpiper (*Totanus solitarius*) in White's Marsh to-day. Thermometer, eighty-five.

August 21st.—Heard the loud whistling note of the Yellow-shanks Tattler (*Totanus flavipes*) as that bird passed over the town this afternoon.

August 23rd.—At 10 p.m. heard "Plover" passing over for the first time this season. They appeared, from their whistling notes, to be in small parties of two or three only. The night was starlight, and the air perfectly calm. Thermometer, eighty.

August 24th.—Very few Swallows to be seen. Mr. Phillips, 56th Regiment, killed a Carolina Crake this evening. Plover distinctly heard passing over Gibb's Hill last night. Colonel Oakley, in consequence, purchased a supply of ammunition to-day. Mr. Phillips, who was fishing some miles from the shore yesterday, tells me that he observed a flock of about two hundred Plover, coming in from the north and passing in a south-easterly direction. They were flying in a line like Wild Geese.

August 26th.—The flight of Plover (*Charadrius marmoratus*) which passed over these Islands on the night of the 23rd instant, was heard at the same hour at Gibb's Hill, Warwick Parish, Hamilton, Prospect Hill, and the Flatts. One of my informants, who was on Prospect Hill, describes the numbers as immense, and flying very low. The passage of these birds occupied about one hour, and their course was southerly, probably south-east. Only two stragglers have been noticed on our shores.

Not a swallow is to be seen either in this neighbourhood or elsewhere that I can hear of. They have doubtless proceeded on their southern flight. Nothing can well exceed the heat of Bermuda at this season of the year.

Captain Bassett, 56th Regiment, tells me he was out with Colonel Oakley at an early hour this morning at Gibb's Hill, and returned home with one "Golden Plover," the first of the season. Two others were in company but escaped.

August 30th.—The swallows which visited us on or about the 16th instant remained for a few days only. Not a single straggler has been seen since the 24th.

September 1st.—Colonel Oakley and Captain Bassett, of the 56th Regiment, who have been residing for the last fortnight at Gibb's Hill, tell me that in that neighbourhood a day or two ago, they counted no less than *eleven* Crows in sight at the same time, ten of which were perched upon the cedar trees. This is double the number hitherto observed, arising, doubtless, from the young of the present year.

September 2nd.—On returning from office I was told by my little son that he had seen three or four "Rice Birds" in the adjoining marsh, and even thrown sticks at them. He described them as being yellow on the breast, and brown above. Went out with my gun in the evening, but failed in obtaining any of these birds, which were too wary to let me approach them. Visited the sluice gates, and returned home by the north shore. Saw one Solitary Sand-piper only.

September 5th.—A flock of fifteen or sixteen Rice Birds were disturbed in White's Marsh this evening. Went out with my gun, and shot four specimens.

September 9th.—A flock of Curlews reported by two different persons to have been seen last evening on the extreme point of Cobler's Island, near the Hog-fish Beacon. Mr. Fozard assures me that as he passed the point in his boat he could distinctly see the downward curve of their bills (*Numenius borealis*, or Esquimaux Curlew). Thermometer eighty-four and five.

September 12th.—A Crow passed over my garden this morning, and saluted us with his cheerful "caw"—a rural sound so seldom heard in this part of Bermuda, that I cannot refrain from recording the circumstance.

September 13th.—At twilight this evening an Owl was observed in the immediate neighbourhood of my own house. It was seen by three of my children, and is described as barred, with brown and white on the under side, and "hovering" at times in the air. Watched with my

gun for the stranger until dark, but without seeing it. Am very much inclined to think it must be the Barred Hooting Owl (*Syenum nebulosum* of Audubon).

Heard a flock of Plover pass over from the north towards the south-east, between the hours of nine and ten. Night calm and starlight.

September 14th.—Learn from Mr. Phillips, of the 56th Regiment, that he saw in the possession of Dr. Knox at Ireland Island, a specimen of the Sooty Tern (*Sterna fuliginosa*), shot in that vicinity on the 12th instant. Two others were in company with it when shot.

September 16th.—A boy came to me to-day with a living specimen of the common Gallinule (*Gallinula galeata*), which was captured in the back yard of his mother's house in this town.

Captain Tolcher, 56th Regiment, tells me that on the 11th instant he killed a genuine Snipe (*Scolopax wilsonii*) on Long Bird Island, near St. George's. As this bird was wading at the time in Salt Water, I am inclined to think it may have been the Red-breasted Snipe. It was in capital condition.

September 19th.—Walked to the sluice gates this evening. Saw two Carolina Crakes, two Rice Birds, and one Bat. The Rice Birds I killed.

September 29th.—A Water Thrush reported to have been seen near the tunnel which passes under the high road near Hamilton.

September 30th.—Visited the neighbouring marshes to ascertain if any Snipe had arrived. Saw nothing but one Carolina Crake, which I killed. Marshes still very dry.

October 6th and 7th.—After three months of dry, hot weather, the rain fell heavily on both these days, flooding the marshes, and rendering them too wet, even for Snipe.

October 9th.—Mr. Phillips, 56th Regiment, shot a couple of Snipe in the Governor's Marsh, the first of the season in this part of Bermuda. Captain Tolcher, I understand, killed a couple of these birds at Somerset on the 4th instant.

Mr. Fozard tells me that on Saturday evening last, the 7th instant, he killed a common Black, Wild Duck in the Governor's Marsh, which he subsequently dined upon. On enquiry I was told that the bill of this Duck was of a red colour round the base, and that a large round dark spot marked each side of the upper mandible, also that the bird itself tasted strongly of fish when eaten. From these particulars there can be no doubt that this "Black Duck" was in reality the Scoter, or Surf Duck (*Fuligula perspicillata* of Audubon), one specimen of which only has hitherto come to my knowledge, which was killed in Hamilton Water on the 18th of January, 1849. Mr. Fozard's Duck had for several days associated with the tame Ducks of a person named Minton. Failed in securing the head or any portion of the specimen.

October 19th.—A wet day. Mr. Phillips, 56th Regiment, killed a couple of Snipe in White's Marsh.

October 20th.—Walked out for an hour with my gun. Killed two Carolina Crakes and seven Pectoral Sandpipers. Saw three or four Snipe, but failed in bagging any of them.

October 22nd.—All yesterday and to-day it has blown a gale of wind, veering gradually from north-east to south-east, then to south-west, and moderating at north-west. Heavy rain accompanied this tornado, and flooded the neighbouring marshes. Ducks, Snipe, and Plover reported as having been seen. Went out with Mr. Phillips in the evening, and in the marsh, opposite Facey's cottage, got within a stone's throw of eight Wild Ducks, which seemed indisposed to move, but ultimately took wing. Two others close by we left undisturbed. Was under the impression that they were the Pintail Duck.

October 23rd.—In the marshes by sunrise. Found them occupied in all directions by white and coloured "Gunnery." Met a coloured man, named Dickenson, with a couple of Ducks, which he had killed. Was surprised to find they were the American Widgeon (*Anas americana* of Audubon), the first of the species yet observed in these islands. Length of the larger one, twenty inches; extreme breadth, thirty-three inches. Eye, black. Feet, slate colour. Second quill longest. Bill, small and fine; of a light slate colour, with the nail black. Head and neck beautifully speckled with yellowish-white, and dusky. Each side of the breast, the sides, and thighs, rich chest-

nut colour. Fore part of the neck dotted with small spots of purple. Two middle tail feathers pointed, and half an inch longer than the rest. In other respects it agreed with Wilson. This specimen was evidently a young male of the present year, and its companion of lesser size, but similar plumage (the chestnut colour excepted), a female of the same species.

Saw a coloured boy with a couple of Wild Ducks in his hand, and detained him at my office while I examined them. One of these proved to be a fine male Pintail Duck (*Anas acuta*), in its first, or immature, plumage. Length, just over twenty-three inches. Extent, thirty-six inches. The other was an American Widgeon, probably a female, eighteen and a half inches in length, white below, with a little chestnut colour on the sides (compared with the male specimen before described), and, like the others, with no speculum on the wings. The boy said these birds were killed by Mr. Napier, of the Commissariat Department.

Mr. Phillips, of the 56th, killed two couples of Blue-winged Teal, a female Widgeon, and a couple of Snipe before breakfast this morning; and a couple of Widgeon later in the day.

Mr. John Darrell presented me with a beautiful dead specimen of the Sooty Tern (*Sterna fuliginosa*), which he found, in a state of exhaustion, lying on the ground, when shooting in the vicinity of Devonshire Church. It measured in length eighteen and three-tenths inches, and in extent thirty-four inches, and was in beautiful adult plumage. Mr. Darrell tells me he killed two and a half couple of Blue-winged Teal, three Snipe (*Scolopax wilsonii*), and two Yellow-legged Sandpipers in the same neighbourhood.

Mr. Fozard also killed a couple of Widgeon, which he intended to show to me, but meeting with Dickenson's boy on his way to my office, with a specimen precisely similar, he refrained from doing so.

October 24th.—Continue to hear accounts, from various parts, of the number of "Ducks" shot by this person and that. A man named "Turner" stands conspicuous among them all, he having killed *eight* on Sunday last. Indeed, the Duck tribe have been more abundant than I ever knew them to be in these distant islands. The Snipe shooting is also affording its share of amusement. Major Bull and Captain Tolcher, of the 56th Regiment, killed four and a half couple of these birds yesterday at Somerset; and Mr. Phillips and Mr. R. Darrell each a couple this morning in the Pembroke Marshes.

October 25th.—Mr. Phillips informs me that while out boating to-day he fell in with a flock of Terns, about fifty in number, one of which he shot, and produced for my inspection. It was the Common Tern (*Sterna hirundo*), a young bird of the present year. Bill, black, with the lower mandible orange colour, two-thirds of its length from the base. Legs and feet, dull orange. Eye, black. Tail, somewhat shorter than the closed wings. Primaries, marked in the manner described by Audubon.

October 27th.—Mr. Phillips, 56th Regiment, found White's Marsh full of Snipe this morning, and shot three and a half couple before breakfast. Went out myself at 3 p.m., and bagged three of those birds. They were in beautiful condition.

Several of the Common Tern (*Sterna hirundo*) made their appearance in Hamilton Harbour this morning, flying about close to the wharves and shipping. During a fourteen years' residence in Hamilton this is the first and only time this bird has been seen in its waters by myself, though I have reason to believe that, during the gale of the 22nd instant, a similar visitation occurred. The natives invariably call them "Gulls."

October 30th.—Visited the Barracks at Ireland Island yesterday, and had an opportunity of seeing Captain Tolcher's collection of bird skins. Two of these appeared to be new to me, and, with the Captain's permission, I brought them away for examination. One of them (the supposed "Sooty Tern," mentioned on the 14th of September last) proved to be *Sterna stolidus*, the Noddy Tern of Audubon, a bird new to our ornithology. It measured fourteen inches in length. Legs and feet, dull sooty brown. Nails, black. Bill, black, and rather more than one inch in length from forehead. Wings, long and pointed. Second primary somewhat longer than the first. Shafts of primaries, white on the under side. Tail, of twelve feathers, forked, and three and four-tenths inches shorter than the closed wings, each feather increasing in length from the centre or fork. Forehead and region of the eye, black; remainder of upper parts, dark sooty brown, finely marked with transverse bars of dull white. Wing coverts, more boldly marked with white, the axillaries in particular; the white being invariably at the extremity of each feather. Some of the tail feathers also tipped with dull white. Under parts, dull sooty brown throughout. I consider this to be a young bird of the present year.

The other specimen was a very perfect skin of the Baltimore Oriole (*Icterus baltimore* of Audubon). Length, seven and three-tenths inches. Second and third quills longest; fourth, longer than the first. Bill, dark horn colour, with base of the lower mandible nearly white. Legs and feet, dark blue; but, doubtless, much lighter in the living bird. Tail of twelve feathers, the outer one on each side shorter than the rest by a quarter of an inch. Plumage of the head, back, rump, and tail, yellowish brown; the two former spotted with dusky; and all, more or less, tinged with the prevailing orange. Wings, blackish-brown and marked precisely as Audubon describes those of the young male bird. Under parts, orange; under side of the tail feathers partaking of the same colour. Under wing coverts, near the base of the primaries, orange.

This is also a *new bird* to the ornithology of these islands. Understand from Captain Tolcher, that it was killed by him about three weeks since, at Somerset; and that Mr. Harford, of the 56th, shot a specimen precisely similar about the same time, which he threw away as not worth preserving.

Observed among Captain Tolcher's recently-killed specimens, two Short-eared Owls (*Otus brachyotus*), two Sanderlings (*Calidris arenaria*), and one Least Crake Gallinule (*Ortygometra jamaicensis*). A skin of the Marsh Harrier (*Circus cyaneus*) Captain Tolcher had been compelled to throw away. This bird was also shot a few weeks ago.

During the tornado which prevailed on the 22nd instant, a large Hawk was seen to alight in the Dockyard, Ireland Island. This bird allowed itself to be captured; and is now in the possession of Captain Pye, 56th Regiment. I saw it yesterday tethered to a large stone, near the Officers' quarters, looking healthy and well. It is a noble

specimen of the Duck Hawk (*Falco peregrinus* of Audubon), and has received no injury whatever. This is the third specimen of the Falcon that has been obtained here.

Mr. Walker, who resides near the sluice gates, sent me a newly-killed specimen of the Carolina Long-tailed Dove (*Ectopistes carolinensis* of Audubon). It was in excellent plumage; but had lost the longer feathers of the tail. This Dove was very plump and fat. It is the second that has come under my observation in the last fourteen years. I understand it was captured alive by some coloured person, who transferred it to Mr. Walker.

Mr. Phillips and Captain Tolcher each killed two couple of Snipe before breakfast this morning in the marshes near Hamilton.

October 31st.—Hear from good authority that a resident of St. David's Island, shot sixteen couple of "Wild Ducks" during the gale of the 22nd instant. This man states that he saw at least two hundred of the Duck tribe together on that occasion. These "Ducks" were the Blue-winged Teal.

November 1st.—Hunted the Pembroke Marshes with Mr. Phillips, 56th Regiment. Saw very few Snipe. Two Teal, one heron (supposed to be *Ardea virescens*), three Carolina Crakes, and one or two Kingfishers. One Blue-winged Teal, one Crake, and the Heron, were killed. The latter the dogs refused to bring out of the water. It was consequently abandoned.

November 3rd.—Lieutenant Martley, 56th Regiment, sent for my inspection, this evening, a fine female specimen of the Common Wild Duck (*Anas boschas* of Audubon), which he shot on the wing in Warwick ponds. This Duck was so

familiar to me that I omitted to take the usual dimensions, &c., and it was only after the messenger had left I recollected this bird was not on our ornithological list. I immediately hurried down to the Officers' quarters to correct this omission, but found the sportsman had taken his departure in one direction, and the servant with the Duck in another. Audubon's description of the female Wild Duck (Mallard) appears to correspond precisely with Mr. Martley's specimen. I have, therefore, no hesitation in enrolling it as a Bermuda bird.

November 5th.—Hunted the neighbouring marshes in company with Mr. Phillips, who bagged a couple of Snipe; my own *chasse* consisting of a couple of Snipe and one Moorhen. Saw no other birds.

November 11th.—Walked through the Pembroke Marshes. Not a single Snipe to be seen. Killed a female Widgeon (*Anas americana*), the only bird met with. Length, seventeen inches; extent, thirty-one inches.

November 18th.—Mr. Fozard sent me a beautiful specimen of the Snow Bunting (*Plectrophanes nivalis*). It measured seven and one-eighth inches in length; was in excellent plumage; and could not well be fatter. This bird was killed at Somerset. Rambled as far as Boss' Cove and back with my gun. Saw nothing but one Kingfisher, one Water Thrush, and one Great Blue Heron.

Mr. Phillips informs me he was shooting to-day, with Mr. "Charlie Darrell," in the neighbourhood of Brackish pond and Mr. Trotts, and that they bagged between them two Widgeon, three Blue-winged Teal, and one couple of

Snipe. Several other Snipe were seen, and one Teal, a tolerable proof that this part of the island has been little disturbed by sportsmen.

December 2nd.—Mr. Phillips, 56th Regiment, tells me he observed a flock of Kildeer Plover in the vicinity of St. George's this morning.

December 3rd.—Recognised the note of the Kildeer Plover on the borders of White's Marsh.

December 9th.—Received from Dr. Higgs a specimen of the American Bittern (*Ardea lentiginosa*), which he killed in the Pembroke Marshes this day.

December 11th.—Flocks of Kildeer Plover reported as having been seen on the shores of Somerset, and along the north side.

December 21st.—Learn from the Rev. — Stowe, that he killed a Wild Duck in Flatts' Bay, near his own house, a few weeks ago, and which, from his description, particularly of the *webbed hind toe*, I had reason to believe was a Golden Eye. On showing him the skin of that bird, he immediately recognised it as the duplicate of his own. He described the Duck as a clever diver. Its crop was found to be stuffed full of the minute crabs which abound in the floating gulf weed.

1855.

January 9th.—Major Cox, 56th Regiment, reports having flushed a Snipe, in crossing the marshy ground on the east side of the Spanish Point road, this afternoon.

January 17th.—Examined a specimen of Kildeer Plover shot by my young neighbour, Charles Ingham. These birds have appeared during the past month in small flocks along the shores of these islands.

January 21st.—Visited the “Tamarind Tree” with my children this evening, in the spreading branches of which I observed a Yellow-bellied Woodpecker (*Picus varius*), and watched its peculiar motions for some time. This bird appeared to disregard our presence, keeping, however, as much as possible on the off-side of the branch for concealment. In the small bay opposite “Honey-moon Cottage” we disturbed four Spotted Sandpipers.

January 25th.—Went into White’s Marsh this evening, and flushed a couple of Snipe (*Scolopax wilsonii*) twice without getting a shot at them. This is very late for these birds to appear.

January 26th.—Hunted the Pembroke Marshes from end to end. Found three Snipe widely separated from each other, and killed only one, a very fine bird. Saw a Great Blue Heron (*Ardea herodias*).

February 1st.—Captain Tolcher, 56th Regiment, sent me a freshly-killed specimen of the Grebe family. It measured fourteen inches in length, and two feet in extent; the carpal joint upwards of five inches. Irides, blood-red, with a fine circle of bright yellow surrounding the pupil. Legs, apparently issuing from the tail, very flat, dusky black, externally; and light yellowish-green, flesh colour, and grey, on the inner side. Upper part of the head, including

the eye, dusky brown. Back of the neck and upper parts of the bird of the same colour. Wings somewhat lighter, with a chestnut spot immediately over the second joint from the extremity. Seven of the secondaries white. Throat, sides of the head (nearly meeting behind), white. Lower portion of the throat, upper part of the breast and rump, greyish-brown. The remainder of the lower parts silvery white. Under wing coverts also white. Bill pointed and *not* hooked at the extremity. Head considerably puffed out by the elongated plumage, or ruff. Twelve outer primaries dusky brown.

I have no hesitation in recording this as the *Podiceps cornutus*, or Horned Grebe of Audubon, of which one specimen only has previously been obtained by me in these islands. Three other Grebes of the same species were in company when this was shot at Spanish Point on the evening of the 31st ultimo.

March 2nd.—Observed two Herring Gulls (*Larus argentatus*) on the wing over Hamilton Harbour to-day.

March 4th.—On the way to Devonshire Church this evening a Marsh Harrier (*Circus cyaneus*) crossed the road, and slowly beat the sage bush of an adjoining enclosure, where it attempted to capture a small bird. The white rump and long tail were conspicuous in this bird.

March 13th.—Two tropic birds (*Phæton æthereus*) were seen in the Great Sound by Captain Wallace, of the 56th Regiment, this day, being the first that have appeared from the southward this spring.

March 18th.—Dr. Higgs informs me that he saw a large brown Owl last evening on the north shore, near the Ducking Stool; that it sat upon the stone wall within a short distance of him, and afterwards flew up into a tree, where he left it.

March 29th.—Mr. Hudson Smith sent me, by the Somerset mail, this morning, a fine specimen of the North American Robin (*Turdus migratorius*). Length, ten inches. It appears to have been shot yesterday. This is the first bird of the kind I have seen here since the spring of 1850.

March 31st.—Received intelligence of a "Wild Duck" having been seen in White's Marsh, and two others near the sluice gates. Went out with my gun, and succeeded in killing the first, which proved to be a male Blue-winged Teal, in splendid adult plumage. Two Moorhens, or Coots, I am not certain which, were observed near the sluice gates at the same time, one of which I killed, but from the easterly wind blowing off shore it drifted away from me. Saw one Water Thrush, and heard the rattle of the Kingfisher.

April 2nd.—Yesterday it blew a gale from south, veering gradually to west. To-day the weather is clear and bright. Saw a Yellow-bellied Woodpecker in the front street of Hamilton, climbing the branches of the stunted "Pride of India" trees.

April 4th.—Saw Captain Tolcher, of the 56th, in town to-day, who told me that on the 2nd instant he shot a Frigate Bird (*Tachypetes aquilus*) at Ireland Island, which measured upwards of seven feet from wing to wing.

April 5th—Captain Tolcher shot a Yellow-crowned Wood Warbler (*Sylvicola coronata* of Audubon) this day.

April 10th.—Mr. Charles Smith brought me a fine specimen of the Tyrant Fly-catcher (*Muscicapa tyrannus*), shot by his young brother at Riddles' Bay yesterday. Length, eight and a half inches.

It is an extraordinary circumstance that common Fowls, imported from the United States of America into the Bermudas, though landed in best order and condition, sicken and die soon after their arrival in the colony; whether from change of climate, or of food, I cannot say, or from what other cause, but certain it is that in the course of a few weeks dozens of these birds will dwindle down to as many units, notwithstanding every care had been bestowed upon them. Geese, Ducks, and Turkeys appear exempt from the cause of this mortality, and Fowls bred in the islands do not suffer from it, even if associated with the imported birds. I have more than once attempted to improve the fowls about my own residence by purchasing handsome birds from American vessels, but after moping about for some days with drooping wings and pallid combs they invariably died.

BIRDS OF BERMUDA.

The systematic names in the following List, with the exception of Nos. 33 and 108, are taken from Audubon's "Synopsis of the Birds of North America," published in 1839.

With the exception of Nos. 115 and 125, no Bird has been included in this List which has not come under my own personal observation and examination.

NATURAL HISTORY OF THE BERMUDAS.

VULTURINÆ.

- No. 1.—*Cathartes aura*.—Red-headed Turkey Vulture,
or Turkey Buzzard.
-

FALCONINÆ.

- „ 2.—*Pandion haliaetus*.—Osprey, or Fishing Eagle.
„ 3.—*Falco peregrinus*.—Peregrine Falcon, or Duck
Hawk.
„ 4.—*Falco columbarius*.—Pigeon Falcon, or Pigeon
Hawk.
„ 5.—*Falco sparverius*.—Sparrow Falcon, or Sparrow
Hawk.
„ 6.—*Astur fuscus*.—Sharp-shinned Hawk.
„ 7.—*Circus cyaneus*.—Common Harrier.
-

STRIGINÆ.

- „ 8.—*Surnia nyctea*.—Snowy Owl.
„ 9.—*Ulula acadica*.—Acadian Night Owl.
„ 10.—*Otus vulgaris*.—Long-eared Owl.
„ 11.—*Otus brachyotus*. Short-eared Owl.
-

CAPRIMULGINÆ.

- „ 12.—*Chordeiles virginianus*.—Virginian Night Hawk.
-

CYPSELINÆ.

- „ 13.—*Chaëtura pelasgia*.—American Spine-tail, or Swift
Hirundinæ.
-

HIRUNDINÆ.

- „ 14.—*Hirundo purpurea*.—Purple Martin.
„ 15.—*Hirundo bicolor*.—White-bellied Swallow.

- No. 16.—*Hirundo rustica*.—Chimney Swallow.
 „ 17.—*Hirundo riparia*.—Bank Swallow.
-

MUSCICAPINÆ.

- „ 18.—*Muscicapa dominicensis*.—Pipiry Flycatcher.
 „ 19.—*Muscicapa tyrannus*.—Tyrant Flycatcher.
 „ 20.—*Muscicapa virens*.—Wood Pewee Flycatcher.
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SYLVICOLINÆ.

- „ 21.—*Myiodioctes mitratus*.—Hooded Fly-catching Warbler.
 „ 22.—*Sylvicola coronata*.—Yellow-crowned Wood Warbler.
 „ 23.—*Sylvicola pinus*.—Pine-creeping Wood Warbler.
 „ 24.—*Sylvicola petechia*.—Yellow Red-pole Wood Warbler.
 „ 25.—*Sylvicola americana*.—Blue Yellow-backed Wood Warbler.
 „ 26.—*Sylvicola discolor*.—Prairie Wood Warbler.
 „ 27.—*Innitiilta varia*.—Black and White Creeping Warbler.
 „ 28.—*Trichas marilandica*.—Maryland Yellow-throat.
-

SYLVIANÆ.

- „ 29.—*Sialia wilsonii*.—Common Blue Bird.
-

TURDINÆ.

- „ 30.—*Orpheus carolinensis*.—Black-capped Mocking Bird.
 „ 31.—*Turdus migratorius*.—Migratory Thrush, or Robin.
 „ 32.—*Turdus mustelinus*.—Wood Thrush.
 „ 33.—*Turdus olivaceus*.—Olive-backed Thrush.

MOTACILLINÆ.

- No. 34.—*Seiurus novæboracensis*.—Aquatic Wood Wagtail.
 „ 35.—*Anthus ludovicianus*.—American Pipit.
-

ALAUDINÆ.

- „ 36.—*Alauda alpestris*.—Shore Lark, or Horned Lark.
-

FRINGILLINÆ.

- „ 37.—*Plectrophanes nivalis*.—Snow Lark Bunting.
 „ 38.—*Emberiza graminea*.—Grass, or Bay-winged Bunting.
 „ 39.—*Emberiza savanna*.—Savannah Bunting.
 „ 40.—*Emberiza henslowi*.—Henslow's Bunting.
 „ 41.—*Ammodramus palustris*.—Swamp Sparrow.
 „ 42.—*Linaria minor*.—Lesser Redpole Linnet.
 „ 43.—*Loxia curvirostra*.—Common Crossbill.
 „ 44.—*Loxia leucoptera*.—White-winged Crossbill.
 „ 45.—*Pitylus cardinalis*.—Cardinal Grosbeak, Red-bird, or Virginian Nightingale.
 „ 46.—*Coccyzus ludovicianus*.—Rose-breasted Song Grosbeak.
 „ 47.—*Pyrrhuloxia aestiva*.—Summer Red-bird.
 „ 48.—*Pyrrhuloxia rubra*.—Scarlet Tanager.
-

AGELAINÆ.

- „ 49.—*Dolichonyx oryzivora*.—Wandering Rice Bird.
 „ 50.—*Icterus baltimore*.—Baltimore Hang-nest, or Golden Robin.
-

CORVINÆ.

- „ 51.—*Corvus americanus*.—American Crow.

LANINÆ.

No. 52.—*Lanius borealis*.—Great American Shrike.

VIREONINÆ.

„ 53.—*Vireo noveboracensis*.—White-eyed Greenlet,
“Chick of the Village.”

AMPELINÆ.

„ 54.—*Bombycilla carolinensis*.—Cedar Waxwing.

„ 55.—*Alcedo alcyon*.—Belted Kingfisher.

PICINÆ.

„ 56.—*Picus varius*.—Yellow-bellied Woodpecker.

CUCULINÆ.

„ 57.—*Coccyzus americanus*.—Yellow-billed American
Cuckoo—Cow Bird.

COLUMBINÆ.

„ 58.—*Columba passerina*.—Passerine Dove—Ground
Dove.

„ 59.—*Ectopistes carolinensis*.—Carolina Long-tailed
Dove.

RALLINÆ.

„ 60.—*Gallinula martinica*.—Purple Gallinule.

„ 61.—*Gallinula chloropus*.—Common Gallinule, or
Moorhen.

- No. 62.—*Fulica americana*.—American Coot, or Mud Hen.
 „ 63.—*Ortygometra carolinus*.—Carolina Crake-Gallinule, Sora Rail.
 „ 64.—*Ortygometra noveboracensis*.—Yellow-breasted Crake-Gallinule.—Yellow-breasted Rail.
 „ 65.—*Ortygometra jamaicensis*.—Least Crake-Gallinule.
 „ 66.—*Rallus virginianus*.—Virginian Rail.
-

CHARADRIINÆ.

- „ 67.—*Charadrius helveticus*.—Black-bellied Plover.
 „ 68.—*Charadrius marmoratus*.—American Golden Plover.
 „ 69.—*Charadrius vociferus*.—Kildeer Plover.
 „ 70.—*Charadrius semi-palmatus*.—American Ring Plover.
 „ 71.—*Charadrius melodus*.—Piping Plover.
 „ 72.—*Streptilas interpres*.—Turnstone.
-

SCOLOPACINÆ.

- „ 73.—*Tringa pectoralis*.—Pectoral Sandpiper.
 „ 74.—*Tringa himantopus*.—Long-legged Sandpiper.
 „ 75.—*Tringa schinzii*.—Shinz's Sandpiper.
 „ 76.—*Tringa semi-palmata*.—Semi-palmated Sandpiper.
 „ 77.—*Tringa pusilla*.—Little Sandpiper.
 „ 78.—*Tringa arenaria*.—Sanderling Sandpiper.
 „ 79.—*Lobipes hyperboreus*.—Hyperborean Lobefoot, or Grey Phalarope.
 „ 80.—*Totanus macularius*.—Spotted Sandpiper.
 „ 81.—*Totanus solitarius*.—Solitary Sandpiper.

- No. 82.—*Totanus flavipes*.—Yellow-shanks Tatler.
 „ 83.—*Totanus vociferus*.—Greater Yellow-shanks Tatler—Tell-tale Godwit or Snipe.
 „ 84.—*Totanus semi-palmatus*.—Willet, or Stone Curlew.
 „ 85.—*Scolopax wilsonii*.—Common American Snipe.
 „ 86.—*Scolopax noveboracensis*.—Red-breasted Snipe.
 „ 87.—*Himantopus nigricollis*.—Black-necked Stilt.
 „ 88.—*Numenius hudsonicus*.—Hudsonian Curlew.
 „ 89.—*Numenius borealis*.—Esquimaux Curlew.

 ARDEINÆ.

- „ 90.—*Ardea nycticorax*.—Black-crowned Night Heron—Qua Bird.
 „ 91.—*Ardea violacea*.—Yellow-crowned Night Heron.
 „ 92.—*Ardea lentiginosa*.—American Bittern.
 „ 93.—*Ardea exilis*.—Least Bittern.
 „ 94.—*Ardea virescens*.—Green Heron.
 „ 95.—*Ardea herodias*.—Great Blue Heron.
 „ 96.—*Ardea carulea*.—Blue Heron.
 „ 97.—*Ardea candidissima*.—Snowy Heron.

 ANATINÆ.

- „ 98.—*Anser hyperboreus*.—Snow Goose.
 „ 99.—*Anas boschas*.—Mallard, or Common Wild Duck.
 „ 100.—*Anas obscura*.—Dusky Duck.
 „ 101.—*Anas strepera*.—Gadwall Duck.
 „ 102.—*Anas americana*.—American Widgeon.
 „ 103.—*Anas acuta*.—Pintail Duck.
 „ 104.—*Anas sponsa*.—Wood Duck, or Summer Duck.
 „ 105.—*Anas carolinensis*.—American Green-winged Teal.

- No. 106.—*Anas discors*.—Blue-winged Teal.
 „ 107.—*Anas clypeata*.—Shoveller Duck—Micoine.
 „ 108.—*Fuligula marila*.—Scamp Duck (of Europe and
 America.)
 „ 109.—*Fuligula rufitorques*.—Ring-necked Duck.
 „ 110.—*Fuligula rubida*.—Ruddy Duck.
 „ 111.—*Fuligula perspicillata*.—Surf Duck.
 „ 112.—*Fuligula valisneriana*.—Canvas-back Duck.
 „ 113.—*Fuligula clangula*.—Golden-eye Duck.
 „ 114.—*Fuligula Albeola*.—Buffet-headed Duck.

MERGINÆ.

- „ 115.—*Mergus cucullatus*.—Hooded Merganser.

PELECANINÆ.

- „ 116.—*Phalacrocorax dilophus*.—Double-crested Cor-
 morant.
 „ 117.—*Tachypetes aquilus*.—Frigate-Bird. Man-of-War
 Bird.
 „ 118.—*Pelecanus fuscus*.—Brown Pelican.
 „ 119.—*Sula fusca*.—Booby Gannet.
 „ 120.—*Phæton æthereus*.—Common Tropic Bird.

LARINÆ.

- „ 121.—*Sterna fuliginosa*.—Sooty Tern.
 „ 122.—*Sterna hirundo*.—Common Tern.
 „ 123.—*Sterna dougallii*.—Roseate Tern.
 „ 124.—*Sterna stolidus*.—Noddy Tern.
 „ 125.—*Larus sabini*.—Forked-tailed Gull.
 „ 126.—*Larus tridactylus*.—Kittiwake Gull.
 „ 127.—*Larus zonorhynchus*.—King-bill Gull, or Common
 American Gull.

- No. 128.—*Larus occidentalis*.—Western Gull.
 „ 129.—*Larus argentatus*.—Herring, or Silvery Gull.
 „ 130.—*Larus bonapartii*.—Bonaparte's Gull.

 PROCELLARINÆ.

- „ 131.—*Puffinus cinereus*.—Wandering Shearwater.
 „ 132.—*Puffinus obscurus*.—Dusky Shearwater.
 „ 133.—*Thalassidroma wilsonii*.—Wilson's Petrel, or
 Mother Carey's Chicken.

 COLYMBINÆ.

- „ 134.—*Podiceps cornutus*.—Horned Grebe.
 „ 135.—*Podiceps carolinensis*.—Pied-billed Dobchick.

The following European birds have also come under my observation in the Bermudas, viz. :—

- No. 136.—*Saxicola ænanthe*.—The Wheatear, or White-rump.
 „ 137.—*Alauda arvensis*.—The Skylark.
 „ 138.—*Crex pratensis*¹.—The Landrail, or Corn Crake.

In addition to the foregoing list, the following may be mentioned as birds known to belong to the ornithology of the Bermudas, but of which no specimens were obtained during a residence of fourteen years :—

¹ This *Crex pratensis* was shot in Pembroke Marsh by Lieutenant Wedderburn, on the 25th of October, 1847. It may be interesting to record that the skin of this bird was, the following year, taken to England by Colonel Drummond, at Mr. Wedderburn's request, and presented to the late Mr. Yarrell; and at the sale of Mr. Yarrell's effects, after his death, Colonel Drummond, recognising the skin, became the purchaser, and a few years ago presented it to Canon Tristram, in whose collection it now is.

- No. 1.—*Ortyx virginiana*.—Common American Partridge or Quail.¹
- „ 2.—*Haliaeetus leucocephalus*.—White-headed Sea Eagle.
- „ 3.—*Syrnium nebulosum*.—Barred Owl.
- „ 4.—*Ibis falcinellus*.—Glossy Ibis.
- „ 5.—*Ardea egretta*.—Great American White Egret.
- „ 6.—*Phœnicopterus ruber*.—American Flamingo.
- „ 7.—*Anser canadensis*.—Canada Goose.
- „ 8.—*Cygnus americanus*.—American Swan.
- „ 9.—*Larus atricilla*.—Black-headed Gull.

The following birds are added on the reliable testimony of highly respectable informants, viz. :—

Trochilus colubris.—Ruby-throated Humming Bird.

Rusticola americana.—American Woodcock.

Mergus merganser.—Goosander.

Mergulus alle.—Little Auk, or Common Sea Dove.

NOTE.—A Snipe, differing from the common Snipe of America, and supposed to be *Scolopax gallinago* of Europe, was shot by my friend Wedderburn, in December, 1847.

Nos. 29, 30, 45, 51, 53, 58, and 61, of the foregoing list, are native birds resident throughout the year. Of these,

¹ In former years a common bird, well known to many persons in the islands, who have described to me its nest of numerous eggs, and the sport afforded by Partridge shooting in those days. There can be no doubt of the introduction and naturalisation of this beautiful bird at some period, the remembrance of which has passed away. It was certainly never once met with from 1840 to 1855, although a migratory bird of North America. It may, therefore, be considered as extinct.

Nos. 29 and 61 are known also to visit the islands as migrants.

Nos. 120, 122, and 123 are summer visitants, returning to southern latitudes at the end of the breeding season. No. 132 also breeds on the coast, winter movements unknown. The remaining birds are all visitants.

JOHN L. HURDIS.

August 20th, 1875.—The following additions to the birds found in the Bermudas are taken from “Notes on the Ornithology of these Islands,” now in the course of publication in the *Field*, by Lieutenant G. S. Reid, R.E.

- Red-bellied Nuthatch.—*Litta canadensis*.
 Prothonotary Warbler.—*Protonotaria citræa*.
 Blue-eyed Yellow Warbler.—*Dendroica æstiva*.
 Black-throated Green Warbler.—*Dendroica virens*.
 Black-throated Blue Warbler.—*Dendroica cærulescens*.
 Bay-breasted Warbler.—*Dendroica castanea*.
 Golden-crowned Thrush.—*Seiurus aurocapillus*.
 American Redstart.—*Setophaga ruticilla*.
 Red-eyed Vireo.—*Vireosylvia olivacea*.
 Pine Linnet.—*Chrysomitris pinus*.
 Snow Bird.—*Junco hyemalis*.
 Fox Sparrow.—*Passerella iliaca*.
 Indigo Bird.—*Cyanospiza cyanea*.
 Cow Bird.—*Molothrus pecoris*.
 Olive-sided Flycatcher.—*Contopus borealis*.
 Traill’s Flycatcher.—*Empidonax traillii*.
 Ruby-throated Humming Bird.—*Trochilus colubris*.
 Black-billed Cuckoo.—*Coccyzus erythrophthalmus*.
 Golden-winged Woodpecker.—*Colaptes auratus*.

- American Goshawk.—*Astur atricapillus*.
 Red-tailed Buzzard.—*Buteo borealis*.
 Rough-legged Buzzard.—*Archibuteo lagopus*.
 Passenger Pigeon.—*Ectopistes migratoria*.
 Bartram's Sandpiper.—*Actiturus bartramius*.
 Red-breasted Merganser.—*Mergus serrator*.
 Gull-billed Tern.—*Sterna anglica*.
 Manx Shearwater.—*Puffinus anglorum*.
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BUTTERFLIES AND MOTHS.

Archippus (*Danaïa archippus*).—This large brown Butterfly is common, and may be seen during every month in the year. The larvæ feed chiefly, if not entirely, on *Asclepias curassavica*, which grows wild by the roadsides, and is known by the improper name of "Ipecacuanha."

The caterpillar of the Archippus is quite two inches long, and encircled from one extremity to the other with bands of black, white, and yellow. It makes no cocoon, but suspends itself by a black ligament from the tail end to stone walls and railings, and continues in the pupa state exactly twenty days. The chrysalis is of a delicate pale green colour, dotted in various parts with golden spots.

The perfect insect is abundant throughout the year.

October 10th, 1847.—Hundreds and hundreds of a small yellow Butterfly, with brown tips to the wings, made their appearance in all directions to-day. Also a very pretty brown Moth with pink underwings.

October 23rd.—A large brown Butterfly, with a white margin round the wings, resembling the British "Camber-

well Beauty," crossed my path to-day, as I was returning from office. This insect was entirely new to me. It disappeared among the peach trees of a neighbouring garden.

November 17th, 1847.—The beautiful Moth, with speckled and pink wings, mentioned as making its appearance on the 10th of October last, is still to be met with in abundance.

The large brown butterfly (*Danaïs archippus*) is also common at the present season.

September 4th.—The Red Admiral Butterfly (*Vanessa atalanta*) which made its appearance about the 10th of May, has become scarce during the last week or ten days.

The Painted Lady (*Cynthia cardui*), however, is more numerous this season than usual; it makes its appearance about the same time that the Red Admiral begins to disappear. The Pink Under-wing Moth is also now beginning to be met with.

May 14th, 1849.—The Red Admiral Butterfly observed to-day, for the first time this year, in my own garden.

May 15th.—A large brown Butterfly speckled with spots of white, supposed to be *Danaïs berenice*—very rare. This is merely a variety of *Danaïs archippus*, the black lines upon the wings being absent. It is exhibited at the British Museum as "*Danaïs Berenice*" from the United States, and the zoological magnates of that noble institution insist upon its being a distinct and perfect species.

I certainly think they are wrong.

September 11th, 1849.—Walked to the North Hills, and captured several specimens of the Painted Lady Butterfly (*Cynthia cardui*). Extent, two and six-tenths inches. These Butterflies seem to agree perfectly with Westwood's description of the British *Cynthia cardui*.

Also captured a small brown Butterfly, two inches in extent, with three, or rather four, very conspicuous spots, or eyes, upon its wings, *i.e.*, two on each. The Red Admiral was also seen and captured.

September 22nd.—Saw two specimens of the small Yellow Butterfly to-day, being the first of the present season observed by me.

July 6th, 1850.—Mr. Marriott tells me that on his way home yesterday he fell in with a cream-coloured specimen of the *Danaïs archippus*; and, after half an hour's chase in the hot sun, succeeded in capturing it, and it is now in his collection. This is the only instance of a *drab* colour Butterfly of this species that I have heard of.

September 23rd, 1853.—Reclining on a grassy bank in my own garden, in conversation with Mr. William White, I was surprised and charmed to behold a beautiful Butterfly, of a delicate brimstone colour, tinged with a greenish hue, flitting with wonderful activity about a patch of sweet potatoes close by. It was about the size of the large white Butterfly of England, and evaded all my endeavours to capture it. This is the only instance, in a residence of nearly thirteen years, of my meeting with this insect.

October 9th, 1853.—The Yellow Butterfly, seen on the 23rd ultimo, was seen both yesterday and to-day by my

little son, who followed it from our garden across Mr. Kennedy's and Lady Burnaby's grounds, without being able to capture it. He describes it as the colour of "mustard"; rapid in flight; and seldom settling.

September 12th, 1854.—Observed the small Brimstone Butterfly on the wing for the first time this season.

Vaneisa cœnia.—Brown Butterfly, with eyes or spots on its wings, common throughout the year; known to the inhabitants by the name of "Musk Butterfly."

Sphinx cingulata, the largest species of Moth known in the Bermudas, is not uncommon, and frequents the night blooming shrubs. The caterpillar of this Sphinx feeds on the green shoots of the sweet potato, and grows to a large size.

The Pink-Underwing.—Very common; appears about the 17th of August to the middle of November.

The Painted Lady Butterfly (*Cynthia cardui*), met with on the North Side Hills from August to November; also numerous in the quarries of Ireland Island.

Vanessa antiopa (the Camberwell Beauty).—One specimen only observed by myself near the gaol at Hamilton.

Terias lisa of Boisduval.—A North American Butterfly. Antennæ, club shaped; upper wings externally bordered

with dark brown, upwards of a third of an inch wide at the angle. Under-wings rounded, and externally bordered with dark brown. Colour of surface, bright sulphur yellow. Primary wings, paler yellow on the under side, with a central black point. Outer border, near the fringe, tinged with ferruginous. Secondary pair same colour, marked with one, and sometimes two, black points near the centre, and sprinkled with small patches and particles of ferruginous. Female, pale yellow.

I glean from letters received from my friend, John Mathew Jones, dated from Halifax, Nova Scotia, the 7th of August and 7th of September of the present year (1875), that a vast flight of *Terias lisa*, consisting of millions of those insects, was observed on the 1st of October, 1874, "far out at sea," viz., six hundred miles from the coast of America; and that this marvellous host of Butterflies was enabled to reach the islands of Bermuda.

Let us attempt to enquire how, and by what natural means, this extraordinary and wonderful accumulation of American Lepidoptera were assembled together, and moved across so wide an expanse of ocean, at a season of the year well known to be subject to storms of great violence.

The problem is somewhat wide, embracing as it does, the natural history of that particular Butterfly, and some knowledge of the winds which blow in the latitudes wherein this remarkable phenomenon is said to have occurred.

Terias lisa is common, I believe, to the southern portion of the United States. My acquaintance with this Butterfly dates from the 10th of October, 1847, upon which day it suddenly appeared in great abundance at, and near,

Hamilton in the Bermudas, hundreds being seen at the same time hovering in every direction. These disappeared in a few days. In the following year this Butterfly was very rare in the same locality, though the Rev. H. B. Tristram informed me of his having seen at least fifty on one day near the Flatts. On the 22nd of September, and 12th of November, 1849, a few specimens were recorded; and on the 15th November, 1850, a few more, being the only ones observed in that year.

It would appear, from these dates, that *Terias lisa* comes forth late in the autumn. It is also probable that the specimens seen in the Bermudas in the years 1848 to 1850 were descendants of the numerous visitation of October, 1847. Between October, 1840, and October, 1847, the occurrence of this Butterfly had not been noticed in those islands. The plant whereon the caterpillar of this species feeds in the southern States of America is unknown to me; and it is just possible that the absence of its favourite food in the Bermudas may have been the cause of the diminished numbers of the perfect insect seen there after the year 1847.

Assuming (for I am no entomologist) that *Terias lisa* abounds in the southern States of America during the months of September and October, and, bearing in mind that at that season of the year violent revolving gales from the vicinity of the equator occasionally pass in a northerly direction, midway between the American coast and the Bermudas, extending in area from one to the other, prior to curving on their cyclonic course to the north-east, *en route* for the frozen regions of the pole; that such storms have not unfrequently a radius of three hundred and forty geographical miles; that the inner portion of the circle may be considered as a hurricane of wind and rain, moderating towards the outer circumference to squalls and

sunshine ; and that they move in a direct course at the rate, more or less, of fifteen miles an hour, a tolerable idea may be formed of the manner in which the millions of *Terias lisa*, mentioned by Mr. Jones, have been gathered together on the land, and swept six hundred miles away from it over the vast Atlantic.

It must be obvious to everyone that diurnal Lepidoptera are not seen during the night time, neither do they leave their retreats during wet and stormy weather, consequently these Butterflies would be found on the wing only in the daytime, and it is reasonable to suppose they would come forth on the first appearance of fine weather after a storm.

The outer circumference of a tropical storm passing over many miles of country would thus come in contact with large numbers of Butterflies on the wing, hurrying them away, helplessly down wind, in a continuous and comparatively narrow belt, or zone, without injury to themselves—for it may be safely inferred that, like æronauts in the car of a balloon, Butterflies on the wing under such circumstances would be insensible to the rapidity with which they were floating through the atmosphere. In this manner might large numbers travel from the shores of America to the distant islands of Bermuda in ten or twelve hours—measured by the speed of an ordinary balloon—there to be cast adrift by the onward progress of the storm.

That such is the mode in which large flights of Lepidoptera are assembled together on the land is borne out by the evidence of various writers.

It is idle to suppose that Butterflies instinctively migrate from one locality or country to another. When seen congregating in immense numbers on land or sea, there is every reason to believe they have been gathered together in the manner here stated.

Captain Fitzroy and Mr. Darwin allude to a vast host of countless myriads of Butterflies met with ten miles off the bay of St. Blas, on the east coast of South America, which consisted chiefly of a species very similar to the English *Colias edusa*. Captain Fitzroy estimated this insect multitude to be not less than one mile in width, several miles in length, and two hundred yards in height. The seamen on board the ship observed that it was "*snowing butterflies*." Mr. Darwin states that the day on which this occurred was fine and calm, but that before sunset a strong breeze sprang up from the north, which must have caused tens of thousands of the butterflies and other insects to have perished.

March, 1876.—Mr. John Mathew Jones has recently given to the world, through the pages of a periodical ("Psyche"), published by the Entomological Club, of Cambridge, United States, an interesting account of the arrival of the vast concourse of Lepidoptera in the Bermudas.

It is stated by that gentleman that "early in the morning of the 1st of October, 1874, several persons living on the north side of the main island, perceived, as they thought, a cloud coming over from the north-west, which drew nearer and nearer to the shore, on reaching which it divided into two parts, one of which went eastward, and the other westward, gradually falling upon the land. They were not long in ascertaining that what they had taken for a cloud was an immense concourse of Butterflies (*Terias lisa*), which flitted about all the open grassy patches and cultivated grounds in a lazy manner, as if fatigued after their long voyage over the deep. Fishermen out near the reefs, some few miles to the north of the islands, very early in the morning, stated that numbers of these insects fell upon

their boats, literally covering them. They did not stay long upon the islands, however, only a few days ; but during that time thousands must have fallen victims to the vigorous appetites of the Blue Bird (*Siala sialis* of Baird) and Blackbird (*Orpheus carolinensis*), which were continually preying upon them."

The Editor of the "Bermuda Royal Gazette," of February the 1st, 1876, corroborates Mr. Jones's statement in the manner following:—

"In our supplementary to-day, will be found a highly interesting account by J. Mathew Jones, Esq., Entomologist, of a visit to these islands on the 1st of October, 1874, of clouds of numerous small Butterflies. About eleven o'clock on that morning, a gentleman, who had occasion to take a drive towards the Crawl from Devonshire, called at our office, and brought with him one or two of these insects, and which, he said, covered his carriage and his horse both on his way to and from the Crawl, more particularly on his downward journey. Whilst he was yet talking to us, numbers of the Butterflies made their appearance in the air, coming, as it were, to confirm the gentleman's report."

As the authority quoted by Mr. Jones, with reference to the first visitation of *Terias lisa* to those islands, I may be permitted to state that, at the date mentioned, I had been resident in the Bermudas for seven years, and had devoted considerable attention to the natural history of that distant group without once meeting with a specimen of this Butterfly. On the 10th of October in that year—1847—thousands and thousands of *Terias lisa* suddenly appeared, flitting about in every direction. I captured a few specimens, as already stated, in perfect ignorance of what they were, or whence they came, and these I carried with me to England in 1855. Here my friend Jones, on looking over

my small collection of Bermuda Lepidoptera, asked for, and obtained my permission to take it to the British Museum. From the examination there made I learned for the first time that my unknown specimens were the American Butterfly (*Terias lisa*). I was still in the dark, however, with regard to their sudden appearance, never dreaming it to be possible they could have crossed the ocean to the Bermudas.

Mr. Jones's account of the more recent visitation has, however, thrown so strong a light upon that of 1847, as to render it impossible to doubt that both events are due to one and the same cause.

Bermuda being composed of comminuted sea-shell, from the surrounding surf-beaten reefs of coral, washed up by the waves, and driven by the wind into its present form of hills and dales, there must have been a period when terrestrial vegetation had no existence therein, and when its fauna was limited to the myriads of sea birds, which occupied and bred upon its shores. It is to the deposit formed by these birds in centuries of the past that the islands are indebted for their surface soil.

When discovered by Bermudez, in 1515, the islands were covered by a growth of cedar and other trees, the seeds of which had, unquestionably, been floated from the shores of America, together with those of various plants. Vegetation must, therefore, have preceded the advent, or rather the establishment of land birds and insect formations, otherwise they could not have supported life.

Hence we may infer that, in times far beyond the reach of history, the native species of Lepidoptera now found in the Bermudas, or the greater portion of them, were introduced from America by the same natural causes which conveyed the great flight of *Terias lisa* to those islands in October, 1874.

Native Butterflies found in the Bermudas :—

Danais archippus.

Danais berenice.

Vanesse atalanta.

Vanesse cænia.

Cynthia curdii.

INSECTA.

October 10th, 1848.—During the last seven summers this part of Bermuda has been infested with Ants to a fearful degree ; not only did they teem on the streets and highways, so as to render it impossible to walk without destroying numbers, but hill and dale, and even the dwellings of men were equally alive with this insect pest.

Dense columns of them might be seen travelling up and down every tree, and great was the havoc they occasioned among young Pigeons and Poultry, nor did the full-grown domestic rabbit escape their deadly attack, and pigs are sometimes destroyed by them.

In the present summer we have happily escaped this enormous nuisance, the legions of Ants being reduced within reasonable bounds. The cause of this extraordinary decrease is entirely unknown to me.

There are two species of Ant in the Bermudas—the one very small, and *supposed* to be a native insect ; the other (*Formica*) larger, and said to be an importation from the West Indies. The latter prevails in Hamilton and the surrounding neighbourhood, where the former has disappeared.

If we bear in mind the original formation of the Bermudas, it must be evident that no insect can be indigenous to them.

Every housekeeper, every gardener, and all dealers in

articles of food, are keenly alive to the destructive habits of the Ant. Nothing appears to escape their active search, and whether it be meat, milk, sugar, honey, cake, or fruit, the ingenuity of the owner has to be exercised in order to save the same from utter destruction.

The Ant appears to have a natural repugnance to common whale oil, for which reason it is generally used by the natives and others as a protection against these annoying depredations. Store-room tables have their legs placed in tin or leaden cups filled with oil; shelves made to hang from the ceiling have their iron supports passing through tin funnels of the same; and iron meat-hooks are guarded in a similar manner. It is only by these means that any article can be considered safe from these marauders.

Finding the Ants one morning disposed to attack a bottle of honey, I placed the same (a common wine bottle) in a soup plate on the sideboard, carefully filling the plate with water. On returning to the room a short time afterwards I found the bottle swarming with Ants, and on a closer inspection, was greatly surprised to find a column of those insects passing and re-passing on the surface of the water between the rim of the plate and the bottle of honey in the centre. This they appeared to do with ease to themselves, merely wetting their feet in the operation, or, in other words, absolutely walking on the water.

There is another peculiarity in the habits of the Ant which deserves to be mentioned. If a couple of Snipe have been shot in the marshes, and are destined as a present to some friend, to save them from the Ants during the night they are suspended by a single thread from the upper part of an open window, and, notwithstanding this precaution, they will be found covered with

Ants in the morning, while others continue to descend the long and slender passage of communication. Are we to ascribe this property of discovering food to the power of scent ?

The Ant is also very destructive to rabbits, whether old or young. The hutches should be made to stand on legs, by coating which with tar from time to time the inroads of this destructive pest may be kept in check.

The common Weevil of Bermuda (*Calandra granaria*) is one of those pests which render it impossible to victual forts or islands for a lengthened siege. It multiplies with wonderful rapidity, and great is the havoc, caused by the teeming multitude of its larvæ, to flour, Indian corn, meal, biscuits or rice.

In September, 1847, my neighbour, Mr. Harris, told me that a crop of Indian corn, harvested only the month before from his garden ground, was seriously attacked by this little insect *before* it was gathered, and that several other persons had their corn in a similar state. This fact must be highly discouraging to growers.

The "Merrywig," or "Merrywing," is a very minute, brown insect, especially troublesome to sitting fowls. They appear in myriads, frequently causing the fowls to abandon their nests.

The Common Earwig numerous at one season of the year.

The Common Cockroach of Bermuda (*Blatta americana*) is very numerous during the hot season; and before a

shower of rain in the evening will come flying through the open windows in a most unpleasant manner. It is most destructive to books, boots, shoes, and indeed anything and everything covered with leather.

Another species of Cockroach is *Blatta maderensia*, or "Knocker," which is much larger than the former species, and less abundant.

The Common Flea (*Pulex irritan*) exceedingly numerous in the early spring, said to come with the whales.

The Chigre, Chigor, or Jigger (*Pulex penetrans*), a minute burrowing Flea.

August 2nd, 1847.—Saw a coloured boy killing a Centipede (*Scolopendræ*) in the front street. This insect was not more than five and a half or six inches long. It was too much mutilated to keep as a specimen, and was interesting only on account of its being the sole instance of my meeting with it in a state of nature, during the all but seven years that I have been in the islands.

A few years since a Centipede of about eight inches in length was captured in the Barrack yard by some men employed in digging the foundation of a new guard house, which was afterwards shown to me by the adjutant, Lieutenant Smith, 20th Regiment, preserved in spirits. These are the only instances of the Centipede having been found in this part of the islands that I am aware of. It is said to be more common at St. George's.

The Mosquito (*Culex*) very troublesome during the summer months. There are two, if not three, distinct species. The Plumed Gnat, or Mosquito, and the common kind of Mosquito that is not plumed. Hinder legs barred

with alternate black and white rings, and generally suspended or raised in the air. A third kind frequents the marshes in immense numbers; it is of a brown colour, with the body apparently filled with mud, and leaves a disagreeable, dirty spot if killed on the person.

Of *Muscidæ* there are three or four species—a House Fly, very troublesome in some seasons, which is closely allied to the *Muscidæ domestica* of Europe; and also a Grey Fly of the, same size, frequently mistaken for the House Fly, but which is, in fact, a Cattle Fly with a sharp proboscis, biting severely; a black Blow-fly, which lays eggs; and a grey one, which produces its larvæ alive.

A beautiful Green-headed Gad-fly is not uncommon—*Gastrus equi*.

The large “Silk Spider” (*Epeira clavipes*) is very well known throughout the islands. It spins its web from tree to tree.

The Hunting Spider, of a grey colour, is not uncommon. I have often killed a fly and fixed it on the point of a pen to watch the approach and spring of this insect.

The large House Spider of Bermuda, although different in shape and colour, is about the same size as the *Epeira*. Measured the span of this spider by rule and compass, and found it to be four and a half inches.

The Tick (*Ixodida*). I have seen at least a hundred on the fore legs of a heifer. The insect is white, and the size of a large pea.

The Cicadæ (*Fidicina tibicen*); common, and very noisy during the last months of the year. High up on the cedars

it makes the groves re-echo with a continual buzzing note, which much resembles the noise of a cutler's wheel, and is known to the Bermudians as the "scissor-grinder."

August 14th, 1850.—Was very much surprised this evening (which is calm and dark) to see a bright, luminous spot moving through the atmosphere, in a somewhat undulating course towards the open windows of my residence; on approaching which it rose towards the eaves and disappeared. I immediately exclaimed, "a Firefly," and ran out of the house, with the view of watching its movements. It was not, however, to be seen.

The Firefly of North America is familiar to me; and I should certainly say is much smaller than the brilliant insect so accidentally observed to-night, the phosphoric light of which appeared to be delicately tinged with green. This is the first instance of a Firefly being seen in the Bermudas that I am aware of. The question will naturally arise as to whence, and in what manner, it could have been introduced. My own humble opinion leans to the probability of its having been brought here from the West Indies in the many boxes of plants occasionally landed at these islands.

Mr. Trimingham, of Hungry Bay, subsequently assured me that he had more than once seen the Firefly in Bermuda, and that its occurrence was beyond all doubt.

The "Honey Bee" is common in the Bermudas, and may be seen in the cottage gardens, in square, wooden boxes, ranged upon a wooden bench. The Bees near Hamilton frequent the sugar warehouses in the town. The windows being always open they pass between the

iron bars ; and, as every hogshead and barrel have holes bored at each end, they carry away no small quantum of sugar in the year. The honey is of good quality, and sells at the rate of two shillings per quart bottle.

MAMMALIA.

Non-resident, and supposed to be Migratory.

Vespertilio pruinosus.—Hoary Bat of North America.

Vespertilio noctivagans.—Silver-haired Bat.

Resident.

Mus musculus.—Common Mouse.

Mus decumanus.—Common Brown or Norway Rat.

Mus rattus.—The Black Rat.

Mus tectorum.—The Tree Rat of Savi.

Balæna atlanticus.—A Right Whale.

Physeter macrocephalus.—Sperm, or Spermaceti Whale

Having for some years past noted in my journal the occasional appearance of Bats in the Bermudas, and being convinced that the visits of these animals are periodical, I place on record the following remarks with the view of showing upon what grounds this opinion has been founded :—

Bats are not known to breed in these islands, nor are they to be found here during the greater portion of the year. I have noted a solitary instance of one being captured in the month of August, which is my earliest date of

the autumnal appearance of these animals. The middle of September, however, may be set down as the usual period of their visitation. In October, November, and December, a few of these curious animals may be observed at evening twilight, in vigorous flight over some secluded valley, creek, or pond, twisting and turning (at acute angles) in pursuit of their insect prey, and affording ample proof of the extraordinary power of wing with which nature has endowed them.

From the circumstance of the only two species yet obtained, being common to North America, viz., the "Hoary Bat" (*Vespertilio pruinus*), and the Silver-haired Bat (*Vespertilio noctivagans*) of De Kay, it may be considered as beyond a doubt, that these interesting strangers come to us from that portion of the globe.

Admitting such to be the case, let us enquire how these aeronauts have been enabled to cross an expanse of six or eight hundred miles of ocean in order to reach the Bermudas, and whether we should regard them in the light of accidental travellers blown off the American coast, or as creatures guided by the finger of Heaven (instinctively, as we term it), seeking a more southern abode.

I learn from the intelligent master of an American brigantine, recently in this port, that, in the month of October last (1851), while on a voyage from Newport to South Carolina, his vessel being from a hundred and fifty to two hundred miles from the land, with a strong westerly wind blowing at the time, a Bat, of "a reddish-brown colour," came on board during the night, and was captured by the seamen, in whose possession he saw it. Here, then, is a proof of the power of the Bat to extend its flight for a considerable distance over sea. May we not infer that its route, thus far, had been performed subsequently to the previous setting of the sun? and had not the animal's

course been arrested by falling in with the "Warren Brown?" What was to prevent a continuation of its flight, perhaps to the shores of Bermuda, or even to a far more distant land?

That the Bat genus does cross the ocean from the shores of America to the Bermudas I regard as an established fact, proved by the periodical visitations I have already alluded to. Now, if an animal, so local in its habits as the Bat is supposed to be, should be accidentally blown off the American coast, and compelled to wander over the ocean until it reached the islands of Bermuda, one might be led to suppose that the mild climate of those islands, with the abundance of insect food at command, would be so completely congenial with its nature, as not only to induce the stranger to become a permanent resident in its new abode, but likewise to relinquish altogether the desire of repeating, what many might consider, a dangerous and fatiguing flight over the waters of the Atlantic. Such, however, is not the case, our Bat visitors disappearing about the end of December, or early in the following month, but whither they go I am unprepared to say, though I think it likely they continue their course to the southward. This simple fact appears to me to set at rest the supposition of Bats being accidentally blown off the American coast. Is not the cause, or impulse, which dictates this departure from the shores of Bermuda, of the same mysterious and divine character as that which influences the periodical migration of the feathered tribes?

I have spoken of the autumnal appearance of the Bat, because at that season only is it generally to be met with. One exception to this rule occurred in the month of April, 1849, when I observed two of those animals busy on the wing over a secluded pond, near Paget's Church; and another in 1852, late in the month of March, when a soli-

tary *Vespertilio pruinosus* was met with in the Pembroke Marshes. As several species of birds have recently arrived on their northern flight, it became a problem in my own mind whether the Bats might not be travelling in the same direction.

The Bat is by no means a common animal in the Bermudas. In some years it is rarely seen, in other seasons it is more common. I have met several of the native inhabitants who had never seen one.

If the foregoing observations be correct regarding the movements of the Bat genus, in the latitude and longitude of these islands, it would appear highly probable that *Vespertilio pruinosus*, and perhaps some other of the North-American Bats, may be found inhabiting the West India Islands and the coast of South America. The means of ascertaining this point, I regret to say, do not exist in Bermuda; but should these surmises eventually prove to be founded in truth, I may be permitted to enter my claim to the discovery of the roving habits of the genus *Vespertilio* of the Western Hemisphere.

September 14th, 1848.—Mr. Fozard tells me a Bat made its appearance last evening close to his residence, and continued there for some time.

September 22nd.—Mr. Fozard reports that "the Bat" again appeared close to his house last evening, but that he did not succeed in obtaining a shot at it.

November 9th.—Met Stone, the Town Constable, in the street to-day with a live Bat, which he had captured hanging to a rail. It was purchased by Mr. Wedderburn, and measured five and two-tenths inches in length, and fifteen

and a half inches in extent. Mouth large and well furnished with teeth, the canines above and below very conspicuous. Ears broad, short and rounded. Tail entirely included in the membrane. A small white patch at the elbow, and another at the wrist (viz., on the upper surface). Body covered with thick, soft yellow or buff-coloured fur, each hair tipped externally with white, giving it a beautiful white-grey or hoary appearance, hence its name, the Hoary Bat (*vespertilio pruinosus*.) Muzzle, blackish-brown, surrounded by a broad band of fawn colour. Under parts greyish-buff or clay colour.

When annoyed by anything, it opened its mouth, wrinkled up its lips, exhibited its teeth, and uttered a sharp, short squeak.

As Bats, as a rule, are met with in the Bermudas only at this particular season, their migration from the northern parts of America, to seek their food in more southern latitudes, appears to me beyond all doubt. Like the Night Hawk, and some other of the insectivorous feathered tribe, which visit us at the same season of the year, the "Hoary Bat" leaves us after a brief stay, though moths and other insects abound here at that time.

Wonderful must be the power of flight possessed by this little animal to enable it to traverse six or seven hundred miles of ocean at one effort (to say nothing of those which may be supposed to pass on, without coming into contact with this small and isolated *dot* in the wide ocean, and which eventually may be presumed to reach the southern limit of their flight in safety), thus emulating even the splendid aerial performances of the *Charadrius marmoratus*, and other migrating birds.

December 2nd.—Have heard of two Bats having recently been seen at St. George's, and one or two elsewhere.

December 11th.—Mr. Downes tells me he saw a Bat near the head of Hamilton Water on the evening of the 9th inst., and Mr. Marriott reports having seen one in the same neighbourhood.

September 2nd, 1849.—My neighbour, Mr. Barss (who resides on the opposite side of the street, within a few yards of my house) captured a Bat in the lumber yard adjoining his house, last week, which he kept alive for some days, and which subsequently made its escape. I did not see the animal myself, but from the description given, it could be no other than the Hoary Bat, a specimen of which, in my possession, was particularly alluded to, as in every respect resembling Mr. Barss' recent prize.

This Bat must have been a stranger to this neighbourhood, where no animal of its kind has been seen for nearly twelve months, and then a solitary one only.

October 8th, 1850.—A coloured man called at the office this morning with a living Bat, which he had captured in a tree near the Admiral's house. Believing it to be altogether a new species in these islands, I purchased the specimen for the purpose of examination. It measured eleven inches in extent, by three and a half in length, including the tail. The tip of the tail extending beyond the membrane. The body was covered with long hair, of a black or very dark brown hue, tipped here and there with white, particularly from each side of the neck, to the posterior portion of the back, forming a whitish band, in the form of the letter V. The under surface of shorter fur, sprinkled all over with white hairs.

Compared this specimen with a skin of *Vespertilio pruinus*, which is very different. Consider the live Bat to be

unquestionably the Silver-haired one (*Vespertilio noctivagans* of De Kay), and, consequently, an interesting addition to our fauna.

October 9th.—Dr. Muir, 42nd Highlanders, tells me that he observed a Bat busy on the wing at Ireland Island about ten days since.

The Mice and Rats of Bermuda have, doubtless, found their way there in ships, and multiplied. May, in his account of the Shipwreck of the "Sea-Adventure" in 1609, states that *no* rats or mice were found in the Bermudas; and then a few years later, we read in "Smith's History of Virginia," that "the Islands of Bermuda were at that time overrun with Rats, which destroyed the corn of the previous year, and the Governor and Council decided that it was necessary to plant the crop, for the year in question, on the Island of Somerset, as it was the only place of any size free from the dreaded vermin."

"*Mus decumanus*" swims and dives remarkably well, and sometimes attains large dimensions.

Some years ago, while passing up the front street of Hamilton, during a sudden shower of rain, I witnessed a sight seldom to be met with, and stood for some time to notice it. The weather for many days previously had been very warm and rainless.

In the ground floor window of a merchant's warehouse quite a dozen of the common brown Rat were crowding and scrambling for the drops of rain water which trickled down the outer surface of each pane of glass, and with open mouths vainly attempting to arrest each drop of the precious fluid. A painful sight, indicating the absence of fresh

water in the vicinity, and reminding one of the alarming increase of this animal during the early settlement of the islands. These, however, it is said, disappeared in a mysterious and sudden manner, difficult to be accounted for. There can be little doubt the disappearance of this threatened pest of Rats was due to the prevalence of drought.

Let us hope that the famished Rats of Hamilton fared better than their predecessors of old.

February 15th, 1850.—In trapping Rats which occasionally infest my premises, I have remarked so great a difference in the appearance of some of them as to induce a belief that two or more distinct species exist in these islands. There can be no doubt that *Mus decumanus*, the common brown Rat, with its whitish belly, is one of them; and I have trapped a *very white-bellied* Rat that was of a red colour above, which may possibly be another species. The other is a smaller animal, about fourteen inches long, including the tail, of a dark lead colour inclining to black, particularly on the upper parts, and entirely free from white. Head more rounded, or roman shaped, and ears much larger than in the brown Rat. Indeed, I am very much disposed to think this lesser Rat is *Mus rattus*, the old black Rat of Europe, which I have often destroyed near Abbeville, in France. I must endeavour by further observations to decide this point.

August 26th, 1884.—On this day I received a printed copy of the "Mammals of Bermuda," from the pen of my friend, John Mathew Jones, of Waterville, in Nova Scotia; printed by the Smithsonian Society, of Washington, United States.

Page 156.—Order Rodentia.—*Mus decumanus*, the common brown Rat, is described as a “resident destructive” of those islands. And *Mus rattus*, the black Rat of Europe, is likewise mentioned as being so scarce “that it may be almost said to be extinct.”

Then follows *Mus tectorum*, the Tree Rat of Savi. This native Rat came under my observation on one occasion only, during a long residence in the Bermudas. In the early part of 1850 I removed from my place of residence to a cottage on the western limit of the town of Hamilton. The cottage stood upon three acres of ground, and consisted of a ground floor only. My family had scarcely settled down in their new abode when the scamper of a rat was heard again and again on the ceiling above. The animal was soon captured with a common gin. It proved to be unlike anything I had previously met with in Bermuda or elsewhere, being somewhat less in size than the brown Rat, and more delicately formed. Its colour was bright bay or light chestnut on the upper portion of the body, and pure white on the belly and under parts.

Never having heard of the existence of a Tree Rat, I was bewildered with the appearance of my capture; and, under the impression that it might possibly be a variety of the common Rat, I made a note to that effect.

This event took place four years prior to my friend, J. M. Jones's first visit to Bermuda. I am, therefore, very pleased that he has enabled me to identify my white-bellied specimen with *Mus tectorum* of the Smithsonian Mammals of Bermuda. The nest of this Rat I have never seen.

In reference to *Mus rattus*, the black Rat, mentioned by Jones as being all but extinct in the Bermudas, I may here observe that such was not the case thirty years ago, having destroyed many of them in my own house; and, on one occasion, killed three at a single shot.

In the "Visitors' Guide to Bermuda," by J. M. Jones, I find Brackish pond—a grove of cedars, palmettas, and shrubs of various kinds, surrounded externally by a circular bog or morass—is described as the abode of the Tree Rat (*Mus tectorum*), so well known in the southern states of America. "Here," the author says, "amongst the close thicket of shrubs, palmettas, giant ferns, and cedar trees of this dense region—the solitude of which is seldom disturbed—may be found high up in the branches of old cedars, and occasionally in the shrubs around, the curiously-constructed nest of the *Mus tectorum*,"—a species unknown to the inhabitants of Bermuda until captured by himself, and identified by Professor Baird and Dr. Covey, of the Smithsonian Institution.

It is difficult to account for the introduction of this Rat into the Islands of Bermuda.

WHALES.

Balæna Atlanticus.—Common on the south shores of Bermuda from March to July. The beef, or rather veal, of the young Whale is eagerly sought after by many of the inhabitants, and said to be very good eating. Whalebone from this species was displayed amongst the Bermuda productions at the Great Exhibition of 1862.

On the 21st of April, 1849, a Whale was towed into Somerset forty-five feet long. It was found dead by the whale boats, and is supposed to have been killed by the Sword Fish; others say it was stranded on the reefs. There is, however, every reason to believe it was killed by an American whaler, fishing off these islands.

June 1st, 1849.—A Spermaceti Whale (*Physeter macrocephalus*) drifted on shore to-day, south of the Lighthouse. It is supposed to have been killed by the crew of an American whaler which has been cruising off these islands for some days past.

In the summer of 1840, a whale of this species, was killed by the island boats near St. George's. These are the only instances of its capture in the Bermudas, during the last nine years. The present specimen was only half grown.

July 28th, 1851.—A Spermaceti Whale, (*Physeter macrocephalus*) was killed some weeks ago by the boats of a whaling company off St. David's Island. This is a rare occurrence on the shores of Bermuda, though at a short distance from the coast the American whaling vessels annually capture a few of these valuable creatures.

The "Bermuda Royal Gazette" of December the 23rd, 1879, mentions the following—"A multitude of Whales—The barque 'Elsinore,' which arrived at New York on the 23rd of October, from Rio Janeiro, reports that six days before, when abreast of Bermuda, she passed through an immense shoal of Whales. The captain says that, in an experience of many years, he never saw so many Whales together. The procession must have been at least two miles long." It is a very uncommon thing to fall in with a large gathering of Whales so far south as Bermuda.

On the 9th of April, 1887, a Seal was harpooned in the Bermudas. My friend John Mathew Jones, in a letter from Halifax, Nova Scotia, dated the 1st of June, observes:—"The Seal captured at Bermuda turns out to be a veritable

Seal after all. I have received a good description from a gentleman of the name of Lane, at St. George's, who examined it when exhibited in ice, and with Bartram's description in the Gazette, makes it, with hardly any doubt, a *Phoca itulina*," or common Harbour Seal, of Northern Europe and America."

This is the only instance of a Seal visiting the Bermudas.

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FISHES.

Sturgeon, or common Lancet Fish (*Acanthurus phlebotamus*). Length, six to twelve inches.

— — —

Cow Pilot, a species of *Chæton*, and improperly called a "Pilot Fish."

— — —

Half-Beak or Gar Fish (*Hemirampus braziliensis*). Length, seventeen and a quarter inches.

— — —

Golden Carp (*Cyprinus auratus*), abundant in the ditches.

— — —

Marbled Angler (*Antennarius marmoratus*), four species.

— — —

Spotted Thread Herring (*Opisthronema thrissa*)—Good's list—*Chatæssus signifer* of De Kay.

— — —

Spanish Mackerel, or Horse Mackerel (*Scomber Colias*). common.

The Common Mullet (*Mugil albula*), abundant, and of large size.

Banded Pipe Fish (*Syngnathus fasciatus* of De Kay), a species of Squilla.

Sword Fish (*Xiphias gladius*).

Bone Fish, or Grubber.

Porcupine Fish, or Sea Hedgehog.

July 31st, 1847.—Mr. Marriott showed me a beautiful specimen of the Choetodon, which he obtained from one of the fishing boats. It was alive at the time. Body covered with scales of a silvery white, head and central portion of each eye curiously crossed with a black band, margined with yellow above the eye. Irides (remainder of) yellow. Snout of the same colour. Upper and lower jaws furnished with strong teeth. Mouth very small. Tail, dorsal and anal fins, bright yellow; the former and the latter delicately barred with white near the exterior. Dorsal and ventral spines, yellow. The extremity of the dorsal fin conspicuously marked with a black spot, a larger and somewhat indistinct spot appearing at the base of that fin.

February 22nd, 1848.—Was shown a specimen of the *Exocætus volitans*, or Flying Fish, about the length of one's finger, caught by Mr. Marriott in Hamilton Harbour. It had two very curious, dark-coloured, fan-like barbs, suspended from the lower jaw, and was barred with brown and yellow on the under side of the body.

Mr. Spring-Rice tells me that one of these fish *flew* on board the ferry boat a few days ago, as he was crossing in her from the town. He consigned it to its native element.

May 11th, 1848.—The master of the schooner “Adeona,” just arrived from Turk’s Island, presented me with a living specimen of the Marbled Angler, an extraordinary-looking little fish, which he captured at sea, amongst the floating gulf weed. It died an hour after I received it, and was preserved in spirits. Length, two and six tenths inches.

June 22nd, 1848.—James Stow, our boatman, brought me a live specimen of a curious little fish taken in a fish-pot in Hamilton Harbour. It appeared very like (if not identical with) the specimen presented to me on the 11th of May last.

January 31st, 1849.—Saw a small fishing-boat at the wharf to-day, from Castle Harbour, with a number of large fish for sale entirely new to me. They averaged from ten to thirteen pounds each, were something like a Mullet, with a longer and sharper head; colour, light brown above and white below; the eye protected with an outer coating of thick gelatinous matter. The fisherman called them “Rooters,” and assured me they were very rarely met with in Bermuda. In this instance he had enclosed upwards of five hundred in his net, which was broken to pieces in their rush to escape, and only a fourth of that number captured. A ship master who was present described the fish as common at Jamaica, where it was known as the “Bone Fish,” or Grubber.

February 17th, 1849.—The schooner “Earl Dundonald,” on a recent voyage from Demerara to Bermuda, was found suddenly to leak in the locker abaft the cabin. On examination it was discovered that a Sword-fish (*Xiphias gladius*) had penetrated the port quarter of the vessel with its horn, which had passed through the copper sheathing, an outer planking of pitch-pine an inch and three-quarters thick, the centre of a cedar timber five inches thick, and, lastly, through the ceiling of pitch-pine, one and a half inches in thickness, breaking off at the base with the concussion. This is supposed to have taken place on the Demerara coast.

Went on board, with several gentlemen, to examine this natural curiosity, and found the horn of the fish firmly wedged in the inner lining of the ship, and projecting exactly ten inches beyond the woodwork. It was very nearly at a right angle with the keel, pointing slightly upwards, and was split from its base to within about four inches of the projecting point, so as to resemble, in some measure, an upper and lower mandible. The extreme end was rounded and blunt like the end of a person’s finger, the horn increasing in thickness towards its base. The surface of one side of this horn was rough and rasp-like when grasped by the hand, the other parts smooth. In colour it appeared dark brown.

Allowing six inches for the space between the outside plank and the inner lining, and one inch only for the thickness of the outer planking, in which this horn is bedded, the entire length of this curious weapon must be seventeen inches. Captain Drummond, of the 42nd Highlanders, who was present, described the horn as different in shape to that of the Sword-fish of the Mediterranean, and probably belonging to some species of Sword-fish common to the coast of America.

While on this subject I will record the following anecdote, which was related to me by Mr. John Bluck, of this town, a person of intelligence and respectability, whose statement may be relied upon:—

In the year 1827, while proceeding from Bermuda to Havanna, in a vessel called the "Sally Ann," and when near the "Hole in the Wall," approaching the Grand Bank—the master of the ship being on the look-out in the rigging of one mast and my informant in the other—a large fish was seen by the latter approaching the stern of the vessel. One of the seamen, who stood on the quarter-deck trailing a long fishing line at the time, being cautioned to keep a good look-out for the fish, actually succeeded in hooking it. A struggle followed between the man and the fish, when suddenly the line "slacked," and the man reported the fish "gone." This, however, proved to be a mistake, for "on hauling in the slack of the line" the fish was found to be still firmly hooked. On its reappearing near the surface, to the astonishment of everyone on board, it charged the vessel, and at one bound cleared the taff-rail of the quarter deck, perforating with its horn (for it proved to be a Sword-fish of about forty pounds weight) the thick wood-work of the trunk or raised portion of the cabin, the horn breaking off close to the head with the concussion. This horn Mr. Bluck described as about fourteen inches long, four or five inches of which had gone quite through the cabin trunk.

It was the impression of those on board, that the man who held the fishing line, was the object of attack on this occasion. This, however, may be questioned; but there can be little doubt that if the Sword-fish had struck the man, he would have lost his life. The hook and line were firmly attached to the mouth of this fish when it fell on the deck of the "Sally Ann." The horn was cut out and kept as a curiosity "for some years."

February 28th, 1849.—Examined the Sword, or bony excrescence of the *Xiphias gladius*” which had been extracted from the bottom of the “Earl Dundonald.” Unfortunately the woodwork in which this sword was so firmly bedded, was not cut out with it.—Fragments, however, of the three kinds of wood penetrated by this extraordinary fish, and which had been chiselled away by the carpenter, were to be seen. The pointed extremity of the sword had evidently been broken off in the recent collision, or, it may be, by some attempt by those on board, to drive it back, leaving a jagged surface equal in size to the end of the little finger, the remaining portion measured seventeen and three-quarter inches to the fractured base. Circumference at the thickest part, five and a half inches. The upper surface was fine granulated, forming a rough exterior, very much resembling coarse sand paper to the touch; the sides exhibited a coarser granulation, the under surface being smooth and horn-like in appearance. The form of this weapon is not round, but compressed into an oval form, the upper and lower surface being of the greatest breadth. This curious weapon was fixed in the ship’s bottom with the smooth part facing the bows. The base of the horn, when in this position, exhibited a gentle curve upwards. Yarrell mentions a dead Sword-fish found on the Essex coast, in 1834, which was ten feet long, of which the sword measured three feet. By this rule of proportion our specimen was probably five feet in length.

March 26th, 1849.—Saw the head of an Amber Fish, which weighed, without the gills, twenty-one pounds. The entire fish said to have weighed fully a hundred pounds. This fish is not uncommon in the fishing boats of Hamilton Harbour where large specimens may be seen.

Mr. Edwin Jones, of the "G. O. Bigelow," got his vessel upon the north-west reefs in very calm weather, and while hard and fast lowered a boat to fish in the deep water outside the ledges. He told me he found the Amber Fish to be abundant and very large, but when hooked, they were always attacked by Sharks, and when the line came to the surface, the head only remained. These heads indicated fish of a large size. The Amber Fish is far the best of all Bermudian fish for the table.

Bream.—These fish appear in large shoals, and are much sought after by the Bermudians, who frequently surround them, and keep them ringed within the net till convenient to carry them away. They are excellent eating, especially when split open and broiled on the gridiron.

March, 1849.—The small fish, commonly called the Anchovy, immense shoals of which frequent the Bermuda shores at this season of the year, is, I have every reason to believe, the "Sardine"; indeed, two persons have each assured me that they have captured it within the last twelve months.

June 25th, 1849.—The Golden Carp (*Cyprinus auratus*) is now common in the ditches and marshy pools near the town of Hamilton. It is said, and I believe correctly so, that this beautiful fish was first introduced into Bermuda by Mr. Dunscomb (of Paget's Parish), and the late Mr. Richard Wood—the latter gentleman stocked a very small artificial pond with them, near the road which leads from Pembroke Church to Spanish Point; two weeping willows of large size, the one standing, the other prostrate,

sufficiently mark this spot—that from this pond a few fish were purloined by idle boys, and transported to the adjoining ditches, from which the present stock has sprung.

Owing to the long continuance of very dry weather, the ditches are now much lower than I ever remember them to have been ; this the coloured boys take advantage of, and, with the aid of a small scoop net, capture many of these Golden Carp, which are carried from house to house for sale. The fish are of all sizes, from two to seven or eight inches in length, the smaller ones being of a brown colour, from which I conclude that they do not assume the golden hue until they arrive at a certain age and size. They have all a small tubular projection on the nostrils, which is described in “Pennant’s Zoology” as forming a “sort of appendage above the nose.” Some of them are beautifully spotted with black.

It is curious, in these islands, where brooks and springs of fresh water are entirely unknown, and where until of late years no attempt to drain the marshes had taken place, to find a fresh-water fish so soon occupying the only waters—brackish though they be—in which it could exist.

I have known this fish to be destroyed by the tidal waters of the ocean about the upper part of White’s Marsh, the lower part of which may be considered as the outward limit of its range ; from thence it extends through all the ditches to the head of the Governor’s, or Pembroke Marsh.

August 22nd.—Examined a specimen of the Cat Phœbe of Bermuda, caught by Mr. Fozard. It was broadly banded with brown on a yellowish ground (like the Perch of England), and had spots and streaks of light blue on each side and below the eye.—Irides white.

Common Shark (*Carcharias vulgaris*), found in abundance, and the young sold as food.

September 27th, 1849.—A coloured man called at the house to-day with the backbone of a large shark for sale. He stated that it was killed "away in the deeps," from a small row boat, a few days since, not with hook and line, but by running a noose over the tail, and towing the animal to the shore, when it was discovered to have "drowned itself." My informant assured me it measured nine feet in length, and that he had sold the jaws, containing six rows of teeth, to an officer at the Dockyard. Judging from the vertebra I saw, I do not think the length exaggerated.

Mackerel Porbeagle (*Lamna punctata*), of De Kay's "New York Fauna."

March 19th, 1850.—A Shark was brought alongside the wharf this morning, of a description unknown to the fishermen and other persons collected to see it. It measured, from the nose to the extreme end of the tail upwards of seven feet in length, the pectoral fins were eighteen inches long, and the teeth in three rows—those in front being long and pointed, more or less curved inwards, and standing apart from each other. In De Kay's "New York Fauna," this Shark is correctly figured, and described as *Lamna punctata*—the Mackerel Porbeagle, of America, commonly known by the popular name of Mackerel Shark. It was taken with a hook and line in the south-west spit, by a common fishing boat. Its carcase was immediately sliced up and sold in pieces as food to the native inhabitants of the Metropolis of the Bermudas.

January 16th, 1851.—A Shark was captured yesterday at Ireland Island which measured eleven feet in length. Mr. Ballingall (the naval storekeeper), tells me he saw it opened, and that the head and fore quarter of a calf with the skin upon them, two Turtle with shells about nine inches in length, and some other delicacies, were found in its stomach. The heads of both Turtle had disappeared, though one of the Turtle appeared to have been killed a very short time. This Shark was taken with a hook and line. Species unknown.

From the *Bermuda Royal Gazette*, of November 2nd, 1880, I take the following:—“‘Do Sharks harbour their young?’ An interesting specimen of Porbeagle Shark (*Lamna punctata*) was recently caught off Great Neck, L.I. It was a female, and was sent to Mr. E. G. Blackford, who is the recipient of all strangers who make their home in the briny deep. Mr. Blackford volunteered all the information he possessed, as follows: ‘When I received her she had been dead more than seven hours. From the immense size of her stomach I thought she must have swallowed a barrel or two of moss bunkers, and to gratify my curiosity I opened her. Imagine my surprise when, instead of moss bunkers, I found *ten little Sharks*, evidently her offspring, and all just the same size, exactly two feet long. I should say they were about six months old; for a young Shark, when hatched from the egg, measures about four inches. It has been a disputed question among fishermen for some time whether young Sharks, in time of danger, do not seek safety in the mother’s stomach. I think this case clearly proves that they do, for the little ones were perfectly sound; there was no mark on them, as if digestion had begun; and I have no doubt that, if the mother had not been captured, as soon as the excitement was over the little ones would have

worked their way out into salt-water again ; and, in due time, been big enough to give some unfortunate fisherman considerable trouble.' The Shark measured six feet eleven inches in length, and was captured in a school of moss bunkers or 'menhaden.'"—*Sea World*.

The Hammer-headed Shark has been taken in the waters of Bermuda.

April 24th, 1887.—A Sturgeon, measuring eight feet three inches in length, was captured in the Great Sound ; and in December of the same year a Porpoise, seven feet nine inches in length, was killed near the Ducking Stool by Mr. George Trott. The flesh distributed as food.

Sea-Horse (*Hippocampus brevirostris*) occasionally met with.

October 31st, 1851.—A fisherman, drawing his nets for Turtle, in the harbour of Hamilton yesterday, captured a "curious fish," which he requested me to look at this morning. I found it attached to a small line, swimming about the fisherman's boat. When taken out of the water it uttered a grunting noise. Length, twelve inches ; extent, about fifteen. Colour of the upper parts, greenish-brown, Membrane of the *wings*, black, spotted with blue towards the extremity. Two long, powerful spines were recumbent on the back part of the head, and numerous small spines presented themselves on the posterior part of the body towards the tail.

Could find no description of this fish in any work at the Public Library, except a brief account in "Adam's Encyclopædia." From this I am inclined to think our

specimen to be the common *Dactylopterus*, or Flying Gurnard of the Mediterranean (*Trigla volitans* of Linnaeus), which is described as common in that sea, though entirely unknown along the ocean coast of Europe; also as being found on all the central and southern shores of America, even as far north as Newfoundland. This distribution of the *Dactylopterus volitans* is supposed to be aided by the waters of the Gulf Stream. The fish appears to be unknown to the Bermuda fishermen.

April 20th, 1852.—Shiel, the fisherman, visited the Public Library to-day with a strange fish, captured by a brother piscator, and which was supposed to be a *Cod Fish*. I unfortunately missed seeing it myself; but Stevens, the librarian, tells me it measured from twenty-seven to twenty-eight inches in length. On looking over De Kay's plates of the New York Fishes, Stevens at once recognised that of the Cusk (*Brosmins vulgaris*) as agreeing in every particular with the fish he had examined. He was quite positive as to the long, unbroken dorsal fin and rounded tail.

This fish was sent to the Custom House expressly for my inspection, but by some mistake was taken into the Colonial Offices.

It was considered by many persons to be a "*Cod Fish*."

October 24th, 1852.—Walking down the front street of Hamilton this morning my attention was drawn to a commotion in the water caused by a shoal of Mackerel (*Scomber colias*), as they dashed furiously at the small fish and "fry" which frequent the shallows. On approaching to watch their proceedings, the Mackerel

retired, but not before the rocky shore was strewn with "Robins" and other smaller fish, which, in their attempt to escape from their voracious enemies, had fairly leaped on shore. These I picked up, and restored to their native element. I know not the proper name of these "Robins," but they are a handsome, plump fish, six inches in length.

AIR-BLOWN FISH.

It is the custom of Bermuda fishermen, when they take a large fish, such as Groupers and Rock Fish, to pass a small rope through their gills, and tow them alive into port. The fish thus brought to market are almost always so blown with air as to float belly upwards, being unable to retain their natural position in the water. The fishermen assured me this does not arise from towing, and that all fish caught in *deep* water invariably come to the surface in that state.

Shallow-water fish, they say, are never blown in this manner.

Again, the Porcupine Fish, when hooked, comes to the surface expanded with air into the form of a ball, with its formidable spines erect; but when taken in a fish-pot it does not exhibit this extraordinary inflation, and the spines are recumbent.

August, 1855.—Eels (*Anquilla*).—Common in the ditches of Pembroke Marshes, where they are sometimes taken of two or three pounds weight, and are very like the English Eel. They greedily devour young ducklings. My neighbour, Mr. White, has now a brood of ducks, nearly full-

grown, one of which had a foot bitten off, when young, by an Eel. From some unknown cause, a number of these Eels have recently died in the ditches. The Bermudians have a prejudice against Eels, and never eat them; consequently the island fishing boats never bring them in.

NOTE.—Captain H. M. Drummond, so frequently mentioned in these notes, assumed the name of Hay after leaving the 42nd Royal Highlanders, and is now known as Colonel H. M. Drummond-Hay, of Seggieden, Perth, Scotland.

Colonel Drummond-Hay, at much labour and expense, examined the waters of Bermuda, and made beautiful drawings of the fishes there found. These drawings, one hundred in number, were kindly lent to the Smithsonian Society, of Washington, United States, in January, 1878, and the following extract I take from "Proceedings of the United States National Museum," by G. Goode and Tarleton H. Bean. Page 173: "The National Museum possesses two specimens of a Serranoid Fish apparently undescribed, for which we purpose the name of *Epinephelus Drummond-Hayi*, dedicating the species to Colonel Drummond-Hay, of Seggieden, Perth, Scotland, formerly of the British Army, by whom the species were discovered at the Bermudas in 1851."

"A collection of water-colour drawings, lent to the Smithsonian Institution by Colonel Drummond-Hay, contains an excellent sketch of one of these fishes, which was taken by him on the outer reef of the Bermudas in 1851. This specimen weighed fifty-two and a half pounds. The drawing is on the scale of one-fifth."

This is followed by a scientific description of the specimens here mentioned.

August 22nd, 1877.—Spotted Eel. Examined the skin of the Spotted Eel taken in Bermuda by Colonel H. M. Drummond-Hay. Length, from nose to end of tail, five feet four inches; breadth at base of pectoral fins, five inches; breadth at half length, four and a half inches; breadth at three-quarters length, four inches; from snout to commencement of dorsal fin, 9·2 inches; from snout to pectoral fins, six inches; from termination of dorsal fin to end of tail, 2·6 inches; from termination of ventral fin to end of tail, 1·5 inch; dorsal fin dried level with the skin; ventral fin, imperfect; depth about one inch. Colour of skin, orange tawny throughout. Upper portion of the head thickly spotted with dark brown spots, about the size of a pea. From the head, along the centre of the back to the end of the tail, large, irregularly-shaped spots of same colour. Two lines of large oval spots run parallel to the above, along the sides from end to end, the lower ones not exceeding the size of a sixpence, making five rows in all; that is, two rows on each side, in addition to the dorsal line.

This Eel was stated by Professor Goode to be *Ophithys triserialis*.

While stationed at the port of Hamilton, in the Bermudas, I sometimes looked into the wells of fishing boats as they lay at the quay-side, which constituted the fish market of the town. The apertures made in the bottom of the boats, for the admission of sea-water, afforded sufficient light to see the various kinds of fish there swimming about in captivity. On one or two different occasions, or it may be more, the fisherman called my attention to a very brilliant specimen of the fish kind, called the "Blue Fish." It was about nine inches in length, and of a dazzling blue colour. Under the impression that the fish was not uncommon in

the waters of Bermuda, I very unwisely omitted to secure a specimen for examination ; and never having seen the fish out of water, I remain in ignorance of its proper name.

Whether the Bermuda Blue Fish be identical with the Blue Fish described in Block's "Natural History of Fishes," I am not in a position to decide, though I think there is reason to suppose that it may be the same.

My friend, Mr. J. Mathew Jones, considers it *Platyglonus cyanostigma* ; a fish frequently taken in pots around the shores of the islands, which, in the adult form, is of a brilliant azure blue.

Miss C. F. Gordon-Cumming, in her interesting book, "At home in Fiji," in writing about the fish there found, states, "There were great, red fish, and purple-green fish, and some of bright gold, with bars or spots of black; but loveliest of all are the shoals of minute fish—some, of the most vivid green, others of a blue that is quite dazzling. Some of the loveliest of these are so tiny that you can keep a dozen in a tumbler; other are about the length of your finger. Only think what a prize they would be if we could convey them safely to the great aquariums of Britain."

In reference to the foregoing extract from Miss Gordon-Cumming's letters from the Fiji Islands, I may here observe that a tiny fish of a resplendent blue colour above, and brilliant corset of red or orange red, is frequently to be found in the small rock pools of water, left by the tide, on the shores of Bermuda. My first acquaintance with this very beautiful little fish was from four or five specimens brought in by my late friend, G. F. O'Reilly (*circa* 1850), who was then resident in the Bermudas. They were in an ordinary carafe, or water bottle, less in size than the English minnow, and appeared to be vigorous and full of life.

I am not ichthyologist enough to give the proper name of this gorgeous little beauty, which may or may not be identical with that of the Islands of Fiji. Miss Gordon-Cumming's description of the many beautiful fishes to be met with on the coral reef of Fiji reminds me very closely of my own experience in the Bermudas. Let us hope that further research may throw additional light upon this interesting subject.

Nomeus gronovii (Goode's list.) A rare fish—no Bermuda name. This little fish was caught in Hamilton Water in May, 1847, and sent by Mr. Marriott to Colonel Drummond-Hay, who made a beautiful drawing of it.

The Spotted Thread Herring (*Opisthronema thrissa*) Goode's list, *Chalæssus signifer* of De Kay. This fish Colonel Drummond-Hay has taken in considerable numbers in St. Catherine's Bay, on the north-east shore of St. George's. Length about ten inches. One ray about half the length of the fish itself, extends from the termination of the dorsal fin, in a curve towards the tail. This peculiarity, from its resemblance to a thread, has given rise to the name of the fish.

April 15th, 1872.—Received a letter this day from my friend, John Mathew Jones, dated from the Bermudas, the 26th ultimo, in which he exultingly announces the taking of a "*Pelagic fish-nest*" from floating gulf-weed thrown up on the south shore of those islands. The wonderful discovery of one of these nests by Professor Agassiz, while on a recent voyage to the West Indies, has been going the round of the American papers, and my friend Jones is the *first* English naturalist who has ever taken or described

this wonderful piece of nature's handiwork, which he thinks will prove to be a finer specimen than that of Professor Agissiz. He ends his statement by expressing a hope to forward by the same mail a drawing of the specimen for publication in the *Illustrated London News*.

The following account of the "Pelagic Floating Fish-nest," by John Mathew Jones, is taken from *Nature*, for the week dated April 11th, 1872 :--

Page 462—"Among other rarities which I have been fortunate enough to procure since my arrival in the Bermudas, is a large Pelagic Fish-nest, similar in most respects to that which Agissiz has so recently described, and which was obtained by the American expedition in the Gulf Stream in December last, while on a voyage to the West Indies. As I am very busy at present preserving and packing specimens, and the mail steamer nearly due, I have only time to send you (by way of St. Thomas') a very brief description of my nest, which has been preserved in diluted alcohol. It was taken from a mass of gulf weed (*Fucus natans*) blown ashore about a month ago. This weed, by the bye, has been especially abundant about the Bermudas during the present winter, thousands upon thousands of tons having been cast on shore by the waves during the stormy weather which has prevailed. The size of the whole mass is about eight inches by five as it hangs suspended, the former measurement being the depth. The weed is thicker at the top, and is woven together by a maze of fine elastic threads, affording a raft, from which depends the clustering mass of eggs, which I cannot illustrate better than by asking your readers to imagine two or three pounds of No. 7 shot grouped together in bunches of several grains, and held in position by the elastic thread-work previously mentioned. These threads are amazingly strong especially at their terminal bases on the fucus

sprays, where several are apparently twisted together like the fibres of rope, and are admirably adapted to hold the mass in a position where it must always be subject, more or less, to violence, from the continued agitation of the waves in these stormy latitudes. The seaweed is not only on the summit, but sundry sprays are interwoven with the mass of eggs, thereby rendering the fabric still more solid and secure. It is truly a wonderful specimen of nature's handiwork : a house built without hands, resting securely on the bosom of the rolling deep."

From *Annals and Magazine of Natural History*, for December, 1874, I take the following :—

"Unrecorded fishes recently added to the collection in the British Museum. From the pen of Dr. Albert Günther, F.R.S. :

"Fundulus bermudæ.

"D. 14. A. 12. L. lat. 35. L. transo. 13.

"The height of the body is one-fourth of the total length (without caudal), the length of the head rather less than two-sevenths. Snout short, not longer than the eye, with the lower jaw ascending and projecting beyond the upper. The width of the inter-orbital space is contained twice and one-third in the length of the head, the diameter of the eye four times. The origin of the dorsal fin is opposite to the sixteenth scale of the lateral line, and midway between the root of the caudal and the præopercular margin. The first anal ray corresponds to the fourth or fifth of the dorsal fin. Anal fin much higher than long. Brownish-olive, with numerous dark greenish, indistinct crossbands in the male. A single specimen, three inches long, has been sent by J. Mathew Jones, Esq., F.L.S., from the

Bermudas. (It is abundant in the ditches of the marsh immediately below the residence of Thomas F. J. Tucker, Esq., in Devonshire Parish.)"

"*Sygnathus jonesii*.

"D. 18. Segment, 17 + 32.

"Allied to *Sygnathus nitidus*, and, perhaps, to *Sygnathus crinitus*, but without plaments on the head; a ridge runs across the operculum, but without reaching to its end. Head and snout, short; the latter somewhat bent upwards, shorter than the post-orbital portion of the head, keeled above, but without spines in the median line. Inter-orbital space, concave; crown occiput with a median keel. Keels of the body, sharp, but not spiny; the lateral keel of the trunk passes into the lower keel of the tail. Tail, twice as long as the trunk without head. The base of the dorsal fin is not raised above the level of the back; it occupies six segments, of which the first is the anal segment. Caudal, very short, blackish-brown; upper half of the trunk with three, upper half of the tail with seven, equidistant whitish cross bands.

"A single female specimen has been sent by Mr. Jones from the Bermudas. It is four and a half inches long. (This specimen, with four or five others, was taken on the south shore of Devonshire Parish, under stones at low water.)"

The first of these little fish—*Fundulus bermudæ*—is known in Bermuda as the "Killie Fish," or "Bermuda Minnow," and is found in abundance in the brackish ditches near Spanish Point, and in the muddy bays or mangrove swamps about St. George's.

Colonel Drummond-Hay, who made a drawing of this fish in 1848, states that it rarely attains a greater length than three or three and a half inches.

CRUSTACEA.

Land Crab (*Gecarcinus ruricola*); clay-coloured; nocturnal in its habits.

Common edible Crab (*Lupa dicantha*) of the United States of America.

Sea Spider, or Spider Crab (*Lichinia canaliculata*).

Long-tailed Crab, Stump, or French Lobster (*Scyllarus equinoxialis*).

Soldier, or Hermit, Crab (*Pagurus* ——), not uncommon.

Cray Fish (*Palinurus* ——), commonly called the "Lobster" in Bermuda. It is of large size, and fairly abundant.

Sand Bug (*Huppa* ——), buries in the sands.

Common Prawn (*Palæmon serratus*); not uncommon.

Common Shrimp (*Palæmon vulgaris*); to be found in the rock pools at low water.

There are other species of crabs, the names of which are unknown to me; one which climbs the mangrove trees, and one which the fishermen call the "Coral Crab"; the latter quite as large as any crab found on the islands, with very long claws, the outer joints of which are margined with roseate or carmine; back, claws, and legs, beautifully furnished with numerous short, white spines; the outer margin of the shell also adorned with these spines, four of which project forwards over the mouth. It differs much from *Pericera cornuta* of the West Indies, one of which was taken from a fish-pot at Hamilton on April 11th, 1850.

December 13th, 1847.—Examined a fine specimen of the *Palæmon serratus*, or Common Prawn, caught in Hamilton Water by Mr. Marriott on the 11th instant.

This is the only specimen of its kind I have seen in Bermuda. It measured, from the "tip of the nose" to the end of the tail, five and a third inches in length, and, including the antennæ, eleven and a quarter inches. Rostrum extended forward to a line with the external part of the eyes. The six anterior legs furnished with feet, jaws, or pincers; the lateral pair pointed at the extremities, making in all eight legs; colour, pale red. This prawn appears to be in every respect similar to the prawns usually met with in England.

Shrimps are also to be found in Bermuda. I have often seen them in twos and threes in the little pools of sea-water left among the rocks by the receding tide; and on one occasion Mr. Marriott actually sent us a plateful of the same, which he had taken in Hungry Bay. These also appeared to be identical with the Common Shrimp (*Palæmon vulgaris*) of England.

January 4th, 1851.—Yesterday it blew a gale from the south-west, causing some swell in the waters of Hamilton Harbour; and to-day one of the ferrymen brought me a fine living specimen of the *Palæmon serratus*, or Common Prawn, which had been washed into his boat during the blow. In size it nearly resembled the specimen mentioned on December 13th, 1847, which was caught by Mr. Marriott.

January 30th, 1852.—Was informed by Mr. Hinson, who resides at Port Royal, that he had captured "a quantity of shrimps" in the small pools, which the late stormy weather had barricaded with seaweed along the margin of the Bay. These "shrimps" he described as being the length of the middle finger, with a serrated projection from the upper part of the head; doubtless

the prawn (*Palæmon serratus*). On enquiring what he meant by the word "*quantity*," he said as many as he could hold with both hands; and that there appeared to be a considerable number of these prawns in the shallow water among the mangroves.

REPTILIA.

Green Turtle (*Chelonia mydas*), the Common Turtle of the Bermudas; not over abundant.

Hawks-bill, or Tortoisehell Turtle (*Chelonia imbricata*); not unfrequently taken.

October 28th, 1852.—A few days ago a young snake was brought to me from Facey's stables, where it was found dead among the litter of the stalls. It had evidently been dead for a considerable period; was of a dark colour on the upper portion of the body, and light below. The plates on the upper part of the head struck me as being very large and distinct. The tail, long and slender; the length (as well as I could obtain it from so dried a specimen) was from nine to ten inches. There was no appearance of venomous fangs in the mouth. As snakes are unknown in the Bermudas, I have no doubt this one has been brought here from the United States in some truss of hay. It was probably a young specimen of the American "Black Snake" (*Colubu constrictor* of De Kay).

Our *only* reptile is the Lizard, so often seen running in and out of the stone walls which abound in Bermuda. This lizard I consider to be the Blue-tailed Skink of De

Kay, but from the difficulty of obtaining full-grown specimens I have not been able to satisfy myself on this point. I once captured a splendid specimen of this lizard in a large earthenware jar, which had been placed close to a stone wall to be aired in the sunshine. The reptile was unable to escape, in consequence of the inner side of the jar being glazed. The tail was steel blue, and the creature altogether so beautiful that I restored it to liberty, forgetting that I wanted a specimen.

May 8th.—Examined a specimen of the Lizard, common in these islands. Length, seven inches. Upper parts entirely dark brown, without any appearance of longitudinal stripes. Cheeks and underside of the head and throat ferruginous salmon colour. Under parts, light blue. Jaws furnished with teeth of a globular form; could perceive no second row on the palate. In other respects this reptile agreed with the description of *Scincus fasciatus* (the Blue-tailed Skink of the New York Reptilia). This specimen had been killed for some time, and had probably lost much of its true colours.

TREES, SHRUBS, AND PLANTS OF BERMUDA.

Juniperus bermudiana.—Bermuda Cedar, or, in other words, the Virginian Cedar, grown in the calcarious soil of Bermuda.

Citrus aurantium.—Orange. Cultivated in gardens.

Citrus tuberosa.—Common Citron. Cultivated.

Citrus limom.—Common Lemon. Grows wild.

Citrus acris.—Sour Lemon, or Lime. Wild.

Citrus decumana.—Shaddock. Cultivated.

Citrus aurantium acre.—Seville, or Wild Orange.

A seventh species of *Citrus*, called the "Grape Fruit," is also cultivated in gardens, and is nearly twice the size of an Orange.

Amygdalus.—The Peach, said to be an importation from Madeira. Two varieties.

Ficus virens.—Common Purple Fig.

Ficus nymphæifolia.—Small white, early Fig.

Punica granatum.—Pomegranate Tree. The Wild Pomegranate with double flowers, also common.

Amygdalus ———.—Loquat Tree, recently introduced from China. Twelve feet in height, and loaded with yellow fruit the size of common plums.

Mangifera indica.—Mango, to be seen in Mr. Ballinghall's garden, where the fruit ripened in 1851. Imported in the French frigate, "Hermione," which was wrecked on the Bermuda reefs.

Persea gratissima.—Avocada Pear.

Morus alba.—White Mulberry. Planted for food for silkworms. Another species is planted in the low part of the Court House enclosure at Hamilton.

Tamarix gallica.—Tamarisk, called in Bermuda, "Spruce."

Vitis vinifera.—Grape Vine. Red and White.

Juglans.—Butter Nut, or the "Otaheite Walnut."

Musa sapientum.—Banana. There is also a dwarf variety. A delicious fruit.

Musa paradisiaca.—Plantain. This is frequently stewed for second course.

Cocos nucifera.—Cocoa Nut.

Carica papaya.—Papaw. Male and female; a yellow fruit, the size of an orange, with black seeds.

Phœnix dactylifera.—Date palm.

Areca oleracea.—Cabbage palm.

Chamærops glabra.—Dwarf palmetto of the West Indies ; grows freely ; and it is from the leaf of this tree that the celebrated “ Bermuða plait ” is made.

Chamærops excelsa. — The tall growing Palmetto ; indigenous.

Salix babylonica.—The Weeping Willow.

Rhizophora mangle.—Mangrove tree ; common near the shores, and in the marshy lands.

Ricinus communis.—Palma Christi. Castor-oil plant. Wild.

Tamarindus indica.—Tamarind tree. Grows to a large size. Some very fine ones at Walsingham.

Cytharexylum cinereum.—Fiddle-wood tree.

Melia azedarach.—Pride of India tree. Planted near houses for ornament.

Crescentia cujete.—Calabash tree.

Hibiscus syrianus. — Syrian Hibiscus. Common in gardens. Known as the “ Althœa.”

Hibiscus mutabilis.—Changeable Rose.

Hibiscus rosa sinensis.—The “ Coral Flower ” of Bermuda.

Nerium oleander.—The Oleander, Red and White. The double variety very handsome, and very common.

Plumeria rubra.—Red, or sweet-scented Jasmine. In gardens.

Hymenæa coubaril.—Locust Tree of the West Indies.

Coccoloba unifera.—Round-leaved Seaside Grape.

Lantana aculeata.—The Prickly Lantana, or large red Sage Bush. Common in garden hedges.

Cactus opuntia.—Prickly Pear. Grows wild everywhere.

Salvia coccinea.—The Scarlet - flowered Sage. Road sides.

Lantana salvifolia.—The common Sage Bush, which

overruns uncultivated land, and forms the natural under-wood of the islands.

Cactus cochinillifer.—Cochineal Plant, or Indian Fig. In gardens.

Cereca crenata.—Life, or Chandelier Plant. Common everywhere.

Arundo bambos.—Bamboo Cane. In lofty clumps.

Arundo fax.—Cultivated Reed.

Saccharum officinarium.—Common Sugar Cane.

Yucca glorioso.—"Spanish Bayonet," with magnificent clusters of white bell-shaped flowers.

Agave americana.—Great American Aloe. Blossoms freely.

Aloe barbadensis.—Barbadoes Aloe. The bitter juice of this Aloe is not infrequently prepared for exportation.

Asclepias curassavica.—Curascoa Swallow Wort, or Bastard Ipecechuana. The favourite food of the caterpillar of *Danais archippus*.

Argemone mexicana.—*Mexican argemone*, or Prickly Yellow Poppy.

The Bermudians dye silk, ribbons, &c., with the blossoms of this plant.

Sisyrinchium bermudiana.—Iris-leaved Sisyrinchium, or Bermudiana. A pretty little flower; grows wild among the rocks and sage bushes.

Verbena stachytarpheta.—West Indian Vervain.

Cæsalpinia pulcherrima.—Barbadoes Flower Fence, common in gardens.

Hedera helx.—Common Ivy. Recently introduced; grows freely on northern aspects.

Convolvulus nil.—Azure Convolvulus. A beautiful annual, growing to the height of eight or ten feet, and spreading over the top of a peach, or other tree in the form of an umbrella. Seeds abundantly.

Nicotiana tabacum.—Virginia Tobacco. In the wild state by the roadsides.

Virburnum tinus.—Lauristinus.

Amaryllis equestris.—Red Lily of Bermuda.

Amaryllis sarniensis.—Guernsey Lily.

Amaryllis atamasco.—White Blossom, fragrant.

Euphorbia laurocerasifolius.—Poison Weed, a handsome Creeping Plant, climbing trees to the height of thirty feet or more.

Ficus elastica.—India Rubber Tree, grows in the low ground near Government House Gardens, to the height of twenty or twenty-five feet.

There is a long trailing species of *Convolvulus*, common on the sea shore, and known as the "Bay Bean," which seems identical with *Ipomæa maritima*, the handsome Pink or Purple *Convolvulus* of Eastern Australia, a single stem of which will measure fifteen yards in length. If my recollection be correct, the leaves of the Bermuda plant are like those of the Laurel, and of a bright glossy green.

Nyctanthis.—Tournefortia, or Night-blowing Jasmine, of powerful fragrance at night only.

The *Fuschia* is frequently imported from New York, but the climate appears to be unfavourable to this plant, for, although it blossoms in the shade of a northern aspect, it is never known to thrive; a singular fact, considering that it forms hedges in Madeira, the latitude of the two islands being about the same.

The English Wallflower, Lilac, and Lavender grow freely, but refuse to blossom; and yet the German stock, when not destroyed by the aphis, blooms magnificently. The Strawberry of England bears fruit sparingly, but the Raspberry, Currant, and Gooseberry run entirely to wood, producing no fruit.

Apple trees occasionally bear fruit. They are, however, very little known in the islands, and are considered rarities.

Many other trees and plants, natives of the West Indies and elsewhere, might be enumerated, such as the Wild Olive, Surinam Cherry, Scarlet-blossomed Cordia the queen of shrubs with its charming clusters of pink flowers, Myrtles, Yellow and White Jasmine, Passion Flower, Mignonette, Sweet Peas, Roses of many kinds, the beautiful Shell Plant, Cacti, Lilies, Heliotrope, Evening Primrose, Narcissus, Geraniums, Verbenas, and a variety of other flowers. The Common Fern met with everywhere.

The Maiden-hair Fern found on the shady side of road cuttings.

Melons thrive well when the season is not too dry. Water Melons, both round and oval, attain a good size. The Bottle Gourd, introduced from Malta by the 42nd Highlanders, grows remarkably well.

Maranta arundinacea.—The Common Arrowroot of Bermuda, said to have been brought from Charlestown, South Carolina.

Canna coccinea.—A giant species of Arrowroot, known in Bermuda by the name of "*Tous le mois*."

Vegetables of many kinds, viz., Onions, Potatoes (common and sweet), Carrots, Turnips, Parsnips, Tomatoes, Cabbage, Lettuce, Radishes, Leeks, Shallots, Vegetable Marrows, &c., do well, considering the climate, though the cabbage kind are sometimes sadly riddled by grubs and caterpillars.

Indian Corn of several varieties is grown, which is chiefly used in the milky state as a vegetable, and makes an excellent breakfast dish.

Guinea corn, two varieties, used for green fodder.

Wheat is never sown as a crop.

Barley ripens in small patches, and is harvested by women, who cut off the ears with scissors, and carry them in their aprons.

Hemp, sown in my own garden, came to perfection, and seeded well.

Flax grows wild by the road sides.

Rice has been grown by way of experiment in wet and swampy ground with success.

Capsicums and peppers of various kinds do well, from the large Capsicum to the "Bird Pepper" (*Capreium vocatum*).

The edible Cassava (*Inniphia manihot*), common in gardens.

There are several grasses to be met with in the islands, the Pond Grass, which grows luxuriantly in the low and moist grounds, and the Crab Grass (*Agrostis virginica*) being the most common. The latter grows throughout the year, and is a trailing grass, running along the ground to a great length, rooting at the joints, and bearing seed on one side of a succulent flat spike. May we not presume that this Crab Grass of Bermuda arises from seed washed from the shores of South Carolina? In 1841 two forest trees sprang up from a heap of seaweed, which had been collected during the previous autumn for manure; one of these trees, the common Soap-berry of the West Indies (*Sapindus saponaria*), I saw growing in the Governor's garden at Mount Langton.

Hedysarum onobrychis, a species of Sanfoin, which has been introduced from Malta, is sometimes grown.

The *Royal Bermuda Gazette* of February 16th, 1875, contains, in "Rough Notes of a Naturalist," an interesting account of the introduction of the Gorse-furze, or Whin,

into those islands; a veritable Gorse thicket on the north shore of Pembroke parish being then in bloom. It expresses a hope that the sunny shores of Bermuda may, in a few years, be clothed with a livery of its luxurious golden bloom, which would certainly be a pleasing contrast to the miserable foliage of the Sage-bush, which, from time immemorial, has covered the rocky hills and fertile valleys with its useless form.

The Gorse here mentioned was probably raised from seed gathered by myself on the Southampton Common. This seed was forwarded to my friend, John Mathew Jones, then resident in those islands, by whom sundry plants were presented to the Governor, General Le Froy, who lived upon the slope above mentioned.

“Whitfield’s Tree.”—In the grounds of Cavendish House near Hamilton, the residence of John Darrell, Esq., Attorney-General of the islands, formerly stood an ancient Locust (*Hymenæa coubaril*), under the shade of which the the great Whitfield is said to have preached to the native population many years ago. A stone marked the site of this tree when I visited the spot, about the year 1850.

Whitfield, like the Wesleys, made repeated tours to North America, generally preaching in the open air. Whitfield is said to have visited Bermuda for his health, arriving on March 15th, 1748, and remaining till the end of the following May—“the people loading him with provisions and other stores for his voyage, and presenting him with one hundred pounds sterling.”

The Calabash Tree (*Crescentia cujete*).—A few of these trees are found growing in the Bermudas. The Calabash

hangs from the underside of a stout branch. A tree of this kind, that stands in the immediate vicinity of the caves at Walsingham, is considered one of the "lions" of Bermuda, as it was under its shade that the poet Moore is said to have written a collection of odes and poems, illustrative of the scenery and life of the islands, where he held the post of Registrar to the Admiralty Court.

That very curious marine plant, commonly called the "Sea bottle," is common on the sea-sands during the month of May. These "bottles" are transparent, and shaped like a small balloon, the largest measuring about one inch in length. The inside is filled with sea-water, sometimes perfectly clear, at others deeply tinged with green, arising from small particles of sea-weed being hermetically sealed up with the confined water. They are sometimes washed ashore in a small cluster, as if they had sprung from the surface of some rock, and are without leaves or branches.

THE SAND HILLS.

On the south shore of Bermuda, about mid-way between its eastern and western extremities, and not far from Paget's Church, is to be found an extensive drift of comminuted shell, which, from its resemblance to ordinary sea-sand, is generally termed the "Sand Hills."

This accumulation of drift shell extends along the shore for upwards of half a mile, and advances inland for nearly the same distance. It appears to be of very recent date. In every south or south-westerly breeze the driven shell may be observed moving briskly over the gradually

ascending surface of this drift, and gently rolling down the elevated and even slopes of its extreme inland termination at an angle of about forty-five degrees, filling up the undulations of the surface of *terra firma*, and burying cedar groves and cottages in its onward progress. The accumulation is rapidly increasing, and, viewed from the higher ground near Hamilton, is seen towering above the steeple of Paget's Church. In high winds the driven shell is carried to a considerable distance beyond the accumulated drift, and then resembles a haze, or mist, overhanging that portion of the neighbourhood.

When we consider the peculiar formation of the Bermuda hills, the absence of all other material in their geological structure, from the vast beds of comminuted shell, interspersed with the small sea-shells entire, to the limestone rock (so termed), varying in its solidity from "soft" to "hard"—and the dip or cleavage of the same—may we not infer that the entire group of these islands has been formed precisely as the sand hills here mentioned. The circumstance of finding the skeleton of a duck, with two fossil eggs under it, embedded several feet below the surface, in solid "rock"—which was removed some years ago, to level the surface of the Dockyard—may tend to dispel any doubt which may exist upon the subject. This natural curiosity was seen by the Rev. Robert Mantack in the possession of an officer of the Royal Engineers, by whom it was carried to England.

The Bermuda Stone (so-called) is merely comminuted sea shell, more or less indurated by the absorption of rain water, impregnated in its course by carbonate of lime in solution.

The softer portion is generally preferred for building purposes, cutting freely with a common carpenter's saw; the more dense, for burning into lime and repairing roads.

The inner surface of the caves and crevices often exhibits beautiful incrustations and stalactites formed by the carbonate of lime above mentioned.

These distant sea-girt islands of Bermuda have, unquestionably risen from the vast Atlantic Ocean, six hundred geographical miles distant from the nearest point of the American coast.

Doubtless they are formed from sea shells which have been pulverised by the breakers upon the outer margin of the great reef, the action of the wind and sea causing the comminuted shell to accumulate on its southern edge, where in the course of time—of centuries—the shell, driven by heavy gales, has drifted into its present state of hill and dale.

One very remarkable feature in the geology of the islands is the occurrence of a layer of red earth, or marl, imbedded in the drift-shell.

This stratum of red earth is found within the limits of the town of Hamilton, and in the adjacent property of the widow of the late Honourable Robert Kennedy. It lies many feet below the present surface of the land, undulating horizontally with the shell formation on which it rests, and rising from the sea level of the principal marsh drain, to within ten or twelve feet of the hill tops which overlook the centre of the town.

The breadth from east to west, estimated from these points, may be half a mile, and there is every reason to believe the vein extends to the Harbour of Hamilton.

South of the above-mentioned marsh, this imbedded stratum of red earth appears conspicuously in a recent and somewhat extensive vertical cutting of the hillside, the material of which has been used in raising the level of the marsh. This cutting may be twelve feet perpendicular, and exhibits a section of pure white shell, with the vein of

earth running horizontally from end to end, in a clear and distinct red line, of from two to three feet deep, uniformly even on its upper and lower parts, and contrasting, in a remarkable manner, with the pure white formation above and below it.

Deputy-Commissary Goldie, in a lecture delivered in Hamilton on October 10th, 1867, stated that this vein of red earth had recently been cut through by the Royal Engineers, in sinking the well for the military works on Prospect Hill. Its estimated level is sixty-five feet above the sea, and it is overlaid by rock one hundred and thirty feet in depth.

Prospect Hill is about three miles to the eastward of Hamilton; and Mr. Goldie is of opinion that this red belt underlies all the hills from Prospect to Harrington Sound.

Arguing from these data, Mr. Goldie concludes that, at sixty or seventy feet above the sea level, "this island" was covered with soil.

This also appears to be the opinion entertained by my friend, Mr. John Mathew Jones, now President of the Institute of Natural Science, at Halifax, Nova Scotia, with whom I have corresponded on the subject.

Mr. Goldie does not, of course, intend to state in his lecture that the Gulf Stream commenced its mighty career subsequent to the formation of the Bermudas, or that no migration of the feathered tribes existed, over sea, prior to that event; but merely to imply that, when those islands rose above the surface of the ocean, various seeds and land birds found their way to them. Here we are perfectly of accord. Not being one of those, however, who deem "millions of centuries" requisite to the natural formation of a group of islands similar to the Bermudas, I am not prepared to accept the theory of an imbedded surface soil extending through the length and breadth of those islands.

If such were really the case, the imbedded surface soil would be apparent in the crumbling cliffs around their shores—if not in stone quarries and the deeper road cuttings, like that which forms the approach to Government House at Mount Langton. Much as I have wandered in those localities, I have seen no indications of the kind, beyond what are already mentioned.

If the imbedded surface soil does exist through the length and breadth of the islands, it will be evident that a long interregnum of the shell-drifting process must have taken place, in order to permit the detritus of rocks and decaying trees, to form that area of soil, and to allow, "after ages had passed," of the "first feathered songster being wafted over the broad waters of the Atlantic, to pour his wild music through the wooded glades of the land." I will say nothing of the subsequent accumulation of drift and the formation of the existing surface, although they represent a very considerable portion of time.

The only theory suggested to my mind by a contemplation on this subject is—that the stratum of red earth in question can be nothing more than the remains of an ancient bed of guano, the accumulation of myriads of sea-birds, which in past ages reared their young in certain parts of the Bermudas, prior to the introduction or the growth of trees. This guano is now decomposed by time and the filtration of rain water. A specimen of the red earth taken by myself from the vein in Mrs. Kennedy's field, was presented to Mr. John Mathew Jones, author of "The Naturalist in Bermuda," who caused the same to be analysed, and to that analysis I am indebted for the further confirmation of my theory, for on comparing the component parts of this earth with those of West Indian guanos, as given in the printed analysis of Mr. J. C. Nesbit, principal of the Kensington Chemical and Agricultural College, the

identity is at once apparent, due allowance being made for the loss of the soluble portion of the animal deposit.

It may be well to state that no mud banks exist on or near the shores of the Bermudas, from which, at low tides, the action of the sun and wind might have contributed to the red earth formation, and, the sea being almost unfathomable outside the coral reefs, the deposit must have arisen from other causes.

Let it not be supposed, either, that these islands of comminuted shell have been raised by plutonic power from the waters of the Atlantic, crowned with the red earth now in question. The hills and valleys of Bermuda owe their existence to the winds—a walk to the sand hills in Paget's Parish, on a fair day, when the breeze is blowing on shore, will satisfy the mind of any person that such is the case. Here you will see the shell sand, from the water's edge, drifting over the surface of accumulated sand banks, which increase their elevation as they proceed inland, terminating with a deep descent into some valley, and overwhelming groves of cedar trees, cottages, and gardens, in its progress. This accumulation of drift shell is rapidly on the increase, and, viewed from the higher ground above Hamilton, is seen towering above the steeple of Paget's Church. When the drifting particles of shell reach the limit of their ascent, they roll a little over the edge of the descending slope, where they become stationary for a brief period, or so long as may be necessary for the accumulation of a ridge of drift. This increasing ridge, becoming too heavy to retain its position on the sloping sand bank, slides down, spreading its material in a thin layer towards the bottom. This is repeated again and again, in the presence of the beholder, demonstrating in the clearest possible manner the formation of every hill in the Bermudas, for in all road cuttings the dip and cleavage of the shell rock correspond exactly

with the angle of descent observed at the Paget's sand hills; a sufficient proof that the islands have been moved into their present form by the action of the winds, and have not risen by plutonic power from the waters of the Atlantic.

Then, if trees and plants vegetated in the embedded soil, the roots and stems might be supposed to leave traces of their existence, either in the red soil itself or in the white shell immediately above and below the vein. Nothing of the kind is to be seen.

One characteristic of the geology of the Bermudas, alluded to in Mr. Goldie's lecture, must have existed from an early period, viz., the duck pools, formed by an incrustation of carbonate of lime. But for these recipients of rain water, in a land devoid of springs or fresh water ponds, all land birds must have perished.

How far the islands may be indebted to colonies of sea-birds for the surface soil of the present day, and whether the colour of that soil be due to them or to generations of the cedar tree, or to both, are questions we need not enter upon.

Analysis of the red earth of Bermuda, by Dr. Albert J. Bernays, Analytical Chemist, St. Mary's Hospital, Paddington.

Water	18.70
Silix and silica	36.70
Oxides of iron and alumina	35.50
Sulphate of lime	2.03
Carbonate of lime	3.51
Carbonate of magnesia ...	2.70
Cholorides, phosphates, &c., not estimated for want of material	0.86
	<hr/>
	100.00
	<hr/>

My knowledge of chemistry does not justify me commenting on Dr. Bernay's analysis. I will, therefore, merely remark that I find it difficult to understand how a deposit of earth which is found imbedded in a formation of calcareous sand, and is derived either from that formation or from the surrounding ocean, can be made to yield oxide of iron as a constituent. Perhaps the analytical chemist, in this instance, has allowed his mind to be influenced by the ferruginous colour of the earth, and has taken for granted that it was due to the presence of iron. If not, how is it possible to account for the unstained whiteness of the shell-deposit immediately below this layer of earth?

Taking all these circumstances into consideration, I cannot think I am far wrong in thus pointing to the probable origin of the red earth of the Bermudas.

Dr. G. H. Hartwig, in "The Sea and its Living Wonders," published in 1860, in describing the beds of guano which cover the small Chincha Islands to the depth of fifty or sixty feet, states that the "upper strata are of a greyish-brown colour, which lower down becomes darker; and in the inferior strata the colour is a rusty red, as if tinged by oxide of iron. The guano becomes progressively more and more solid from the surface downwards, a circumstance naturally accounted for by the gradual deposit of the strata, and the increasing superincumbent weight."

Colonel Nelson, of the Royal Engineers, when cutting the escarp of the north bastion at Ireland Island, came across a cavern which contained numbers of a delicate *Halix*, and a "heap of the dry red earth" of the islands, since determined by him to be mainly of animal origin. In this earth were quantities of birds' bones.

It is clearly evident that the "heap of dry red earth" found by Colonel Nelson in this cavern, above the level of the sea, would not have been there deposited by the sur-

rounding ocean, or by volcanic material from above ; I am, therefore, still under the impression that the red earth of Bermuda is the residue of a bed of guano deposited by sea-birds in ages of the past.

These changes must have taken place in ancient times, when the islands were unknown to the inhabitants of this world. When no animal life beyond sea-birds could there exist, in the absence of vegetation and fresh water.

How many centuries may have rolled into the past prior to the discovery of the islands by Bermudez, in 1515, we know not ; at that period, however, they were found to be covered with various kinds of trees, from the Cedar to the Palm, and even the Sage Bush, which overruns the barren lands of the far west of Northern America, growing in a red soil which had been formed upon the surface ; all, beyond doubt, from seeds which had floated across the sea from America, and been driven by violent winds to their positions.

Carbonate of lime now formed a crust in small hollows of the surface, sufficient to hold a scanty supply of rain water, which enabled land-birds and insect life to exist, when wafted from the westward by tropical winds. Now, this supply of fresh water is supplemented by that of poultry yards, and by rain water collected in the wide ditch which drains the Pembroke Marshes.

Such is the marvellous history of the past and present state of the Bermudas ; commencing with the coral polype ; the action of the winds and sea ; the deposit of sea birds ; and, ultimately, by the presence of man.

FRESH WATER SOURCES.

Born and brought up in England, it was but natural that I should be under the impression that a supply of water

for domestic purposes was to be obtained only from lakes, rivers, springs, and wells; and that water companies were requisite to convey this necessary of life to the dwellings of mankind.

I was ordered to Bermuda, and was there employed in the service of Her Majesty's Customs for the ensuing fourteen years.

I then found myself in a part of the world entirely devoid of all the ordinary resources for obtaining a supply of fresh water; though it is not uncommon to hear the native inhabitants speak of their "springs of fresh water." Now this is merely a *facon de parler*, for in reality there is not the smallest rill of running water in the islands; the so-called springs being nothing more than wells sunk a few feet in depth on the lower levels, particularly along the edge of the north shore.

From these a supply of water is obtained which can be used for many ordinary purposes, though the water in them is subject to rise and fall with the action of the tides.

There can be little doubt that these wells are supplied by rain-water percolating through the porous conglomerate of shell, of which the entire islands are composed; and that such rain-water is met, at a certain level, by the water of the ocean penetrating through fissures, or forcing its way by means of filtration. Under such circumstances it is difficult to conceive how the well-water should retain its purity, so as to be fit even for the use of cattle.

That fresh water, from being specifically lighter than sea-water, will, when undisturbed, float for some time upon the denser fluid of the latter, without much admixture of the two, I think highly probable, but the bare contact of rain and sea-water, in any degree, must, I apprehend tend to deprive the former of its purity. I will cite one or two cases in support of this opinion. On

my arrival in Hamilton, the principal town of Bermuda, I observed that a well, a few yards distant from the Steam Grist Mill, was much resorted to for water, and, on enquiring if it were fit for drinking, I was assured there was no finer water in the islands. A similar well had been sunk inside the engine-house of the said mill, for the express purpose of supplying the boilers (high pressure of ten horse-power) with "fresh water."

The mill was worked with the water obtained from this well for five or six years, when, in consequence of a slight explosion of steam, the boilers were opened, and the interior of each found to be coated, on the bottom and sides, with a solid crust of indurated grey salt and calcarious sediment, about two inches thick, which required a stout blow from a sharp iron pick to detach even a small portion of it; thus proving beyond a doubt that water hitherto considered to be *fresh* was in reality impregnated with a certain portion of salt.

Another instance of the impurity of well water occurred at the Arrowroot Mill of Mr. Harry Tucker, near Hamilton. A well had been sunk on the premises to provide a better supply of water for the process of extracting this well-known starch from the root or tuber; and, the water derived from his well being considered "pure," it was used in the preparation of the crop of that season. The arrowroot thus prepared, having been shipped to London, was there pronounced to be of inferior quality, and Mr. Tucker's agent wrote out to say that it was the opinion of persons who were in the habit of purchasing Bermudian arrowroot that brackish water had been used in the manufacture of it. This induced Mr. Tucker to cause an examination of the well water in question, the result of which fully confirmed the suspicions of the London dealers.

During the scarcity of rain water in the drought of 1849,

many of the poorer inhabitants were reduced to the necessity of using well-water only, which had a most injurious effect on the health of those persons, and was rapidly causing the spread of diarrhœa and fever, when a fall of rain happily replenished the many exhausted tanks, and rapidly restored the sufferers to their usual state of health.

In 1851, Mr. Somers Tucker, the Government Beef Contractor, who had upwards of a hundred bullocks in his stalls, and had been out of tank-water for some weeks, told me that he was compelled to make use of the water from the Corporation Well (a well sunk on the margin of White's Marsh, nearly level with the sea), that he drained the well every day and gave the cattle as much as they pleased to drink, but found the water scoured the cattle to an injurious degree, which he endeavoured to counteract by lessening their allowance of Indian meal and increasing that of upland hay.

It is useless to multiply examples like the foregoing. I have stated sufficient to prove that there are no "springs of water" in the Bermudas, and that the vaunted purity of the well-water is somewhat hypothetical.

The highest land in the Bermudas is Gibbs' Hill, which is about two hundred or two hundred and fifty feet in elevation; undulations of a lesser height, dotted with dwellings and groves of cedar, constitute the remainder of the landscape. All these hills owe their formation to the winds and waves. They stand upon the southern margin of a coral reef, and, when we consider that these hills are all formed from sea-shells which have been pulverised by the heavy breakers of the outer margin of the great reef, and blown into position by the wind, we are led to the obvious conclusion that it would be vain to seek for a supply of fresh water in islands so constituted—that any attempt to do so must end in failure.

With this preamble, I will now endeavour to describe the means by which the inhabitants of Bermuda are enabled to supply themselves with water for domestic purposes.

In the absence of mountains, lakes, rivers, springs, and all the usual sources from which to obtain water, they look towards the heavens, and trust to the clouds and rain of passing storms to furnish them with a supply.

All dwelling-houses are required by law to be provided with a sufficient tank, into which the rainfall of the white-washed roof is led for storage. This arrangement is amply sufficient, and a scarcity of water is but rarely known.

As all the tanks are lined with cement, water keeps pure in them for any length of time ; and, from having drank no other water during my long residence in these sea-girt isles, I can vouch for its excellent quality.

In addition to the tanks here mentioned, others are occasionally constructed upon the slope of some hillside, with the catch for water above, which is slightly walled in, levelled, cemented, and whitewashed.

To elucidate this water system more clearly, I will allude to Ireland Island, the most westerly of the group. This island is about one mile in length, and its greatest breadth about one-third of a mile, representing an area of some two hundred acres. It is a Crown reservation ; upon which Her Majesty's Dockyard is established, and a number of artisans and their families, representing a thousand individuals, reside. Three or four old line-of-battle ships are moored in the Camber, which in my time were occupied as hulks by some sixteen hundred convicts from England. A military force was also stationed in the Barracks ; while various officers connected with the hospitals and the civil service of the establishment, with their families, were also resident on the said island.

Spacious tanks were, of course, necessary to supply this comparatively numerous population, and spacious tanks were constructed. They stood in the open, above ground, with roofing above and open space below for the admission of air. The supply from these tanks was always abundant; and in the warmest and driest season of the year the water-cart was sent round to supply any residents who might be in need of water.

With this example before us, may we not express surprise that a water system so beneficial and devoid of heavy expenditure should be all but unknown to the inhabitants of Great Britain, and other parts of the Old World!

In 1849 Bermuda was subject to a long-continued drought. On May 18th, a thunderstorm, accompanied with heavy rain, passed over Hamilton at midnight.

In June the wind prevailed very much from the north-west, and from the 12th to the 18th of that month the islands were enveloped in a white mist, not unlike smoke, which was found by the Royal Mail Steam Packet to extend from New York to Bermuda. This mist completely obscured the sun's rays, and was supposed by some persons to be "fog," and by others "smoke." Subsequent intelligence proved it to be "smoke," arising from fires which had been raging for some weeks in the forests of New Brunswick, Nova Scotia, and Prince Edward Island, and which the prevalence of northerly winds had driven across the ocean to the Bermudas.

These fires were all induced by the extreme dryness of the season in the British North American Colonies. On June 25th, vegetation in the vicinity of Hamilton was parched up, and even the Indian corn, melons, and sweet potatoes were withering from drought. Water was very scarce, and the poorer classes begging it in every direction. This month ended without rain.

July 5th.—A well was sunk by the Corporation of Hamilton on the green opposite Dean's Academy, and another on the eastern boundary of the town; a third was also sunk on the north shore, near Mount Langton, through the benevolence of the Governor, Captain Charles Elliot, R.N., an inscription over which informs us that the work was performed by men of the 42nd Royal Highlanders. By July 25th the Sage Bush, which covers the Bermuda hills, and, to a distant observer, gives them the appearance of grassy verdure, shed its leaves from the effect of the continued drought, thus exposing to sight the rocky and sterile nature of the greater portion of the islands. The Cedars growing on the hills assumed a scorched appearance; the hardy Lemon Trees withered from the same cause; and the Pride of India, though still wonderfully green and vigorous, began to show the yellow leaf. Grass had long since disappeared. Tanks were mostly dry, and public wells were being sunk in several parishes.

Water became more scarce every day. The poorer people, who depended chiefly on the brackish water of the public wells for their daily use, were speedily attacked by diarrhœa and fever, which was fast spreading among them. Cows began to die from the scarcity of weeds and water. Our goat and kid had been fed with the boughs of the Pride of India for some time. The whole month had been clear and warm, without a single shower of any consequence until its close, when at sunset on the 31st welcome showers of rain commenced. The thermometer during this month ranged from eighty to eighty-two degrees.

In the spring, 1875, I received a letter from my friend, John Mathew Jones, dated from Bermuda, giving the following account of a *winter* drought in those islands. He states: "We have had a most curious winter, one long-

continued drought, and, as a natural consequence, all the tanks nearly dry. At Prospect the soldiers had to cart water from other sources, and in many parts of the islands even 'the wells gave out!' Great was the cry on all sides, 'What shall we do if this goes on another month?' Prayers for rain were offered in the churches, and every change of the moon was looked for with great interest. The crops were literally fading away, and the grass as brown and dry as in mid-summer. At last, on March 30th, rain began to fall, and, at intervals of a few days, has continued doing so, until now we have the tanks all full again I am happy to say."

Waterspout.—On September 12th, 1845, hearing that a waterspout was to be seen, I ran out of my office and for the first time in my life witnessed this phenomenon.

A dark cloud, slowly moving from north to south, and probably about one mile distant, from a part of which rain was falling, appeared to the eastward of the Court House Hill on which I stood. From the centre of this cloud, and in a portion of it free from the falling rain, descended a magnificent column of the same colour as the vapour above. This column was straight and almost perpendicular, and was pronounced by a spectator of respectability, who had resided thirty years in the Bermudas, to be the finest waterspout he had ever beheld. I much regret that an intervening hill prevented the base of this column from being visible to me, as it must have passed almost in immediate contact with the southern shore of the islands.

This column of vapour—for it could be nothing else—appeared to move at the same rate and in the same direction as the cloud, revolving from east to west, or, in other words, in a reverse direction to that of the hands of a watch. The inside or centre of the column appeared to be

hollow and filled with rapidly-ascending vapour, closely resembling the passage of smoke up a chimney flue. After an existence of some minutes the column began to lose much of its density, particularly at the extremities, and eventually the central portion of the column was alone visible, suspended in mid-air, considerably enlarged in diameter, and still revolving. Much gratified with what I had seen, I was on the point of leaving, when a second waterspout was observed to be forming in a portion of the same cloud, not far distant from the preceding one.

This at first appeared suspended from the lower edge of the cloud in the form of a long pointed icicle, widened at the base, which gradually extended and enlarged in a downward direction, until it exhibited a grand column of vapour, in every respect like the former, and revolving in like manner. During the latter half of its existence it assumed a graceful curve in lieu of its perpendicular appearance, then gradually disappeared at the extremities, leaving, as before, a whirling centre to disperse slowly in the surrounding atmosphere.

I was surprised to find so little resemblance to anything like a volume of water in the appearance of these so-called waterspouts. Indeed, with the exception of the shower of rain which fell from another part of the cloud, I saw nothing to induce the belief that fresh water, in the fluid state, was present during the phenomenon. On the contrary, the scene I had witnessed left an impression on my mind that these waterspouts can be nothing more than the dense vapour of a cloud whirled into the form of a hollow tube by the force of some revolving squall of wind, and thus filling the vacuum or centre of such revolving atmosphere to the fulness of its height and depth, as it sweeps over the surface of the earth. The downward direction of the vapour or cloud, from its early pointed

form, until it reached the earth's surface, and exhibited a column of uniform diameter, was palpable to the beholder; so, also, was the ascent of returning vapour in the vacuum, or interior of the column.

The Bermudas are subject to shocks of earthquake, but happily at rare intervals, and in a very slight degree. Hurricanes of great violence occasionally pass over the islands, and revolving gales very frequently occur during the winter months.

In December, 1875, a fearful tornado passed over that part of Bermuda called "Tucker's Town," and in its course lifted bodily a wooden house, of about thirty by twenty feet, with its inmates (a Mr. Daniel Smith, a pilot employed by the ships of war, his wife and four children) some ten feet from its foundation, and after splintering it to pieces, the fragments were blown into the water about a hundred yards off. Mrs. Smith, who was found on the opposite shore soon after the catastrophe clinging to a plank of the house, died from her injuries in a few hours. The bodies of the children were recovered next morning: three not far from their late home, and the fourth on the opposite shore. Smith, who prior to the sad event was sitting by an open window, lost all consciousness for a time, and on his senses returning, he found himself wedged between oleander trees, some twenty feet from his late home, doubtless thrown there from the window as the house was turned over by the wind. The screams of his youngest child aroused him, but everything was so enveloped in the darkness of the night that it was impossible for him, for some time, to tell where he was. Smith described the noise made by the approaching storm to the roaring of a cataract, whilst a hundred pieces of heavy ordnance were being discharged simultaneously. It was accompanied by flashes of vivid lightning

following each other in quick succession, as to give the impression that the whirlwind was enveloped in flame. The house was situated in a valley beneath a steep cliff, down which the wind rushed like a torrent, tearing up stout trees by the roots, and wrenching limbs from others. The walls and roof of a stone tank which stood by Smith's house were torn asunder. One side of the roof of the tank was lying on a hill a hundred feet from the water, where it had been carried by the wind; and some one hundred yards from where the house stood. There were some twenty or more whale and sail boats moored in the bay; ten were utterly destroyed, three of them belonged to Smith. Some others were very much injured.

When day dawned on the village on the following morning poor Smith became conscious that he was alone in a wilderness of sorrow—everything he held dear on earth was gone in a few short hours—his wife, his children, his home, and even the very means by which to make a living—his boats, were taken from him, the only thing left him was the suit of clothes he wore at the time of the accident. And, as if to render him still more wretched, if that were possible, some heartless wretch robbed him of all the money he possessed, some fourteen or fifteen pounds.

It would seem that the whirlwind, with a fearful rushing noise, struck the shore from seaward, about thirty yards south-west of the residence of Mr. A. S. Trott, on the south side of Hamilton Parish, and, passing south of the house (its breadth being here about thirty feet), wrenching stout limbs from trees in its way; and in some spots, where no wind in a straight course if ever so violent would do harm, this whirlwind caused much havoc. In one place it passed through a garden of cabbages, in which it made a road, the sides of which, some forty feet apart, are clearly defined, whilst in its centre not a vestige of vegetation was

to be seen ; still the cabbages on either side were as fresh and green as on the morning prior to the storm. To convey to the reader in words a faithful picture of the havoc committed by this storm is impossible.

Abbreviated from the *Bermuda Royal Gazette* of December 21st, 1875 :—

“ A hurricane of some violence passed over the Bermudas on the 29th and 30th of August, 1880, which was widely destructive in all parts of the islands. Vessels were sunk and stranded, boats demolished, public and private buildings blown down, unroofed, or dilapidated ; trees uprooted, broken and despoiled of foliage and fruit ; shrubs, flowers and crops of every kind destroyed or severely damaged ; stone walls, fences, telegraph poles laid prostrate ; and the causeway so much damaged by the sea as to require the labour of months to repair it. Ships involved in this gale while at sea required to be handled with extreme vigilance to enable them to weather it. Many cattle were lost in the transit from New York.”

The climate of Bermuda during the hot months of the year, though at times extremely oppressive, rarely ever exceeds a temperature of eighty-seven ; but the ground absorbs heat so largely during the day as to cause, by radiation, throughout the night, a temperature only four or five degrees lower than that of noon day, and the calmness of the nights is intense.

When a south-west wind prevails it comes so saturated with moisture as to somewhat resemble a vapour bath, and is most enervating to all.

In winter there are many days when fires are necessary to render the house habitable ; while at other times the temperature is warm and summer-like. The thermometer seldom falls lower than forty-five ; though in 1840 *frost*

was experienced on Christmas-Eve ; and on the following morning, in all low situations, white frost was visible. Water in tubs was frozen to the thickness of half-a-crown, and the subsequent blackened appearance of young lettuces and potato stalks sufficiently evinced the effect of this visitation upon the vegetable kingdom.

At this time I was a stranger in the islands, and had been duly gulled into the belief that the winter season was so mild and agreeable as to render fires unnecessary ; and the only miserable fireplace was in the kitchen. I can safely say I suffered more on this occasion from cold than during the whole of my long residence in a Canadian climate. Everyone in the house took refuge in bed some hours earlier than usual. Of course, "the oldest inhabitant" was quoted as never recollecting such an instance of frost in the Bermudas ; but if one may be allowed to judge of past events by those which happen in our own period, I should feel disposed to question the memory of this much respected and universal character, having been credibly informed by persons resident on Ireland Island that one or two instances of frost have been observed at that station within the last few years.

In January, 1849, the weather was sufficiently cold to destroy in their nests, on my own premises, several pairs of half grown pigeons ; and three favourite canary birds, belonging to a neighbour, perished from the same cause in one night. Many chickens were also carried off by the inclemency of the weather.

AURORA BOREALIS.

On November 17th, 1848, between ten and eleven p.m., I observed a red glare upon the sky, which induced me to get up from my bed and look out of the window.

Was surprised to find the heavens most beautifully illuminated by the aurora borealis, the vertical rays of light appearing to move over a surface of carmine, or deep rose colour. Often as I have witnessed this phenomenon in the latitude 46, and present longitude, I never before saw the aurora so brilliant in colour as on this occasion. During the eight years I had spent in Bermuda, this was the only instance in which I had enjoyed the sight of the aurora.

This aurora was witnessed at sea by Captain Drummond, who was returning from leave of absence, on board one of the Royal Mail Steamers from England, which in those days touched at the Bermudas. On that night, November 17th, when in about the latitude of Bermuda, and five hundred miles distant from the islands, he was called on deck between ten and eleven to see "a most wonderful sight." He says "on reaching the deck the whole sea appeared as one sheet of blood through which the ship was ploughing its way. Though I had seen many auroras I had never seen one like this, the whole sky of a deep carmine, shaded to rose, strongly reflected on to the sea, giving the whole expanse to the horizon as if of blood."

In 1851, at seven o'clock in the evening of September 29th, the aurora borealis was again seen in the Bermudas. The sky became beautifully illuminated all along the intervening hills of the north shore, for a considerable distance east and west. The lower portion that was visible to us exhibited the usual white light of the aurora—more or less divided at intervals—surrounded by a wide and luminous arc of the most beautiful roseate or carmine, extending almost to the altitude of the polar star, and ultimately much above it to the zenith. Through this reddened portion of the sky, rays of white light were continually shooting upwards, but these were evanescent, and disappearing at intervals.

At nine o'clock the brilliancy of the phenomenon had passed away, and at ten, when I last saw it, the northern part of the heavens was more faintly illuminated.

The night was calm and fair, with a light air from the south-east, and a young moon, which set between eight and nine.

November 2nd, 1851.—I observed by the English papers which arrived by this day's mail, that the aurora borealis was very vivid in London, at twelve p.m., on the evening of September 29th last, that its brilliancy at one time was supposed to arise from some tremendous conflagration in that metropolis.

Allowing for difference of longitude, the appearance of the aurora in Bermuda and at Halifax, Nova Scotia, was simultaneous with that recorded in London, and the fact of its being visible at the same moment from parts of the globe three thousand miles distant from each other, proves its elevation is far, very far above the atmosphere.

ON THE FORMATION OF THE BERMUDAS.

The remarkable coral reef upon which the Bermudas stand, is occasionally alluded to in my notes upon those islands, I will now endeavour to describe its wonderful history in ages past.

This coral reef extends, from east to west, twenty-four geographical miles; and from north to south, twelve to fourteen miles. It is needless to observe that the coral polype is never found in very deep water; consequently this marvellous superstructure must rest upon some foundation not very far below the level of the Atlantic.

This foundation proves to be a sub-marine mountain, rising abruptly from a base of only 120 miles in diameter, as verified by the visit of H.M.S. "Challenger" in 1876. "This peak," says Sir Wyville Thompson, in his "Voyage of the 'Challenger,'" "runs up, a solitary cone, to a height about equal to that of Mont Blanc, possibly a volcanic mountain, comparable in character with Pico in the Azores, or the Pic of Teneriffe."

The "Challenger," between Halifax and Madeira, took four soundings in the Atlantic, the deepest being off the Bermudas, where the lead sank four and a half miles.

The southern margin of the reef lies in north latitude $32^{\circ} 85'$, and west longitude $64^{\circ} 51'$.

How many centuries rolled into the past while this stupendous monument of coral was being built we have no evidence to guide us. Innumerable sea birds were probably the only occupants of the reef at this period; while mollusca and other shell-fish would abound upon its ample surface. Such must have been the existing state of this marine prodigy at this time.

We now approach the wonderful changes caused by nature: of tropical storms, passing from the equator to arctic regions, revolving on their onward course, as at the present day, and causing tremendous seas to break, first upon the southern margin of the reef, and veering with the gale to other points of the compass, taking their departure with mighty breakers upon the northern barrier of the reef.

In these violent disturbances of nature, millions upon millions of crustacea perished; their shells being pulverised by the heavy seas, and their particles washed upon the reef would assume the form of small heaps. These would dry under the powerful influence of the sun, and be driven by passing winds in various directions, particularly towards the southern margin of the reef.

In the course of centuries these drifts of comminuted shell gradually increased with every passing gale, until the mounds attained to the height of over two hundred feet in one locality, and some feet less in others.

Heavy rains percolated through these accumulations of driven shell, absorbing carbonate of lime, by which the particles of shell consolidated into a consistency resembling that of loaf sugar, forming a valuable record of the direction of the wind by which it had been driven. In this manner were the hills upon the southern margin of the reef formed, the entire material consisting of pulverised shell.

The only fresh water to be found at this period was met with in small pools in hollows of the surface, incrustated with carbonate of lime; these, however, soon dried up under the influence of a powerful sun, when there was none whatever to be got—no springs, no rivulets, no ponds, no anything by which animal existence could be sustained.

When first discovered in 1515, these hills of driven shell were covered by trees of various kinds, all of American origin, grown unquestionably from seeds which had floated from the eastern shores of that part of the globe. These seeds, like the pulverised shell, were then drifted by storms over every hill and dale, to be followed by the growth of trees found upon them by Bermudez.

Sir George Somers was wrecked upon the Bermuda reefs in the year 1609. Three years later the Virginia Company applied for an extension of their charter, with the object of including Bermuda within its limits. This was readily granted by King James the First, and dated March 12th, 1612. On April 24th following, the first ship sailed from England, and arrived at her destination on July 11th; Mr. Richard Moore, Deputy Governor of

Bermuda being in charge. Sixty emigrants were conveyed by this vessel. The settlement of Bermuda may be said to have commenced from the arrival of this ship.

For the progress of the islands, and their present state, I must refer the reader to John Smith's "History of Virginia," W. F. Williams's account of the Bermudas, published in 1848; and the "Naturalist in Bermuda," by the late John Mathew Jones, printed in 1859.

When Bermuda was discovered by Juan Bermudez in 1515, Oviedo, the historian, who was a passenger in Bermudez' vessel, states that "Bermudez was prevented from landing, and leaving a few hogs on the island, by a contrary gale springing up."

The inscription to be seen on "Spanish," or "Spaniard's Rock," is dated 1543. Henry May was wrecked at Bermuda, in December, 1593; and the "Sea Adventure" (with Sir Thomas Gates, Sir George Somers, and Captain Newport on board) in July, 1609. The inscription on "Spanish Rock" is, therefore, important; and there is every reason to believe that it is a true record of the wreck of some Spanish vessel, bound from Europe to the early Spanish settlement in America, laden with a cargo of hogs and other merchandise.

We know that a vessel was wrecked at that spot, and that she went to pieces, from the circumstance of her leaden hawse-pipes having been fished up in my own time. We also know from the inscription that one or more of her crew were saved, but what subsequently became of those unfortunate men there is no evidence to show.

The deck load of hogs, or a considerable portion of it, probably reached the shore alive, where the poor creatures would have little difficulty in finding food, though it is very possible they may have been much distressed by the want of water.

Thus, fifty years later, Henry May speaks of meeting with "many hogs, but these were so lean as to be unfit for food." Sixteen years after Henry May's visit to those islands, Sir George Somers found "herds of swine" there.

Of course, there were no hogs in the islands at the date of their first discovery, consequently we are compelled to look at the vessel wrecked at "Spanish Rock," in 1543, as the only source from whence those animals were introduced.

Strachy, who gives a most graphic account of the shipwreck of the "Sea Adventure," declares that he had witnessed many storms on the most dangerous shores of Europe and Africa, but never such a furious one as this, which seemed "fury added to fury, and one storm urging a second more outrageous. The sky poured down not rain, but rivers, yet without assuaging the tumultuous fury of the blast, the ship most violently leaked, and though two thousand tonne of water, by pumping from Tuesday noone to Friday noone, was discharged, notwithstanding the ship was halfe filled with water, and those who laboured to keep others from drowning were halfe drowned themselves in labouring ; all were despairing, when at this moment Sir George Somers descryed land. The islands on which they fell were the Bermudos, a place hardly accessible through the environing rocks and dangers ; notwithstanding they were forced to runne their ship on shoare, which through God's providence fell between two rockes that caused her to stand firm, and not immediately to be broken, God continuing his mercy unto them, that with their long boats they transported to land before night all their companie, to the number of one hundred and fiftie ; they carried to shore all the provisions unspoiled, all their furniture and tackling of the ship, leaving nothing but bared ribs as a prey unto the ocean.

"These Islands of the Bermudos have ever beene

accounted as an enchanted pile of rockes, and a desert habitation for divils; but all the fairies of the rockes were but flocks of birds, and all the divils that haunted the woods were but herds of swine. Yea, and when Acosta, in his first booke of the hystories of the Indies, averreth that though in the Continent there were diverse beasts, and cattell, yet in the Islands of Hispaniola, Jamaica, Margarita, and Dominica there was not one hoof, it increaseth the wonder how our people in the Bermudos found such abundance of hogs, and that for nine months' space they plentifully sufficed; and yet the number seemed not much diminished. Again, as in the great famine in Israell, God commanded Elias to flee to the brooke Cedron, and there He fed him by ravens. So God provided for our disconsolate people in the midst of the sea with foules, but with an admirable difference: unto Elias the ravens brought meate; unto our men the foules brought themselves for meate, for when they whistled, or made any strange noyes, the foules would come and sit on their shoulders, and they would suffer themselves to be taken, and weighed by our men, who would make choyse of the fattest and fairest, and let flic the lean and the lightest."

This fabulous assertion is repeated in Governor Smith's "History of Virginia," and by several subsequent voyagers.

Terrible hurricanes still, as of old, sweep over the Bermudas, but since the erection of a splendid iron lighthouse on Gibbs' Hill, the highest point in the islands, wrecks have been almost unknown.

This lighthouse is 160 feet high, and 245 feet above the level of the sea; it was erected at the expense of the Home Government, on condition of its being kept up at the expense of the Colonial Government.

The flash of the light is of great brilliancy, continuing for six or eight seconds; the interval between the flashes

being about sixty-two or sixty-three seconds. The light was first exhibited on May 2nd, 1846. From the top of the lighthouse you command an excellent view of the islands, which are said to number between three and four hundred; the greater portion, however, can hardly be termed islands, they being merely rocks, and are now considered the higher points of a large attole.

The principal of the group are five or six in number; Hamilton, or Bermuda proper, being the largest, it more than equalling all the rest.

The water around the islands, from its clearness and brilliant blue tint, forms the greatest natural beauty of the place. Objects may be seen at a great depth.

Boating is one of the chief amusements of Bermuda, the rig of the boats being peculiar to the islands.

The late Henry Hunt, Esq., a gentleman of some eighty years, gave me the following account of the *origin* of the one-masted rig.

He stated that, in his younger days, it was the custom to get up boat races for amusement, that boats at that period were invariably two-masted, and rigged as schooners—a turtle dinner being the prize generally sailed for.

Upon one occasion, when the boats of Salt Kettle and St. George's were to be the competitors, Mr. Hunt took great pains to have his boat in best order; but finding, on several trials with a well-known fast sailer, that he was out-reached and out-winded, in spite of all his efforts to trim up to her speed, he determined to alter the rig of his boat, and try what she would do when fitted with a single mast. The new rig was soon completed, and a trial by night, with the same fast boat, proved the great superiority of the *one*-masted craft upon every point of sailing. The change of rig was kept a profound secret, both mast and sail being housed during the day.

When the boats met for the race upon the appointed day, great was the surprise and disappointment of Mr. Hunt's friends to find that he proposed to sail his boat under such a novel rig ; one and all declared that they would not stand to the bets they had made upon his boat, and, at Mr. Hunt's request, these were all transferred to his own name.

The race was won with such perfect ease by the *one*-masted boat that, in the course of a year or so, every boat in the Bermudas had adopted the new rig, which remains unchanged to the present day.

It is to be regretted that Mr. Hunt died without any testimonial from his brother islanders in commemoration of this event.

ON THE PRESERVATION OF BIRDS BY THE BERMUDIAN LEGISLATIVE ASSEMBLY.

The following I take from the *Royal Bermuda Gazette* of September 6th, 1881.

“ The attention of the public is drawn to the provisions of the Wild Bird Protection Act passed during the present Session.

“ By this Act a penalty not exceeding one pound for every bird, besides costs, is imposed on every person who shall knowingly and wilfully shoot, or attempt to shoot, or use any boat for the purpose of shooting, or who shall use any trap, or other thing, to take, or who shall offer for sale, or have in his possession, any Red Bird, Blue Bird, Black Bird, Ground Dove, Chick-of-the-Village, Quail, Partridge, Long-tail or Boatswain Bird, Humming Bird, Kingfisher, Wood-pecker, Rice Bird, Crane, or Heron.

“ A penalty not exceeding five shillings for every egg, besides costs, is also imposed on every person who shall

take, remove or destroy, or who has in his possession, or offer for sale, the egg of either of such birds as are above mentioned.

“The Act obliges, under a further penalty, every person offending against its provisions to give his real christian name and surname, and place of abode, to any person requiring the same.

“The Act also offers a premium of four shillings for every Crow, and one shilling for every Crow’s egg, taken by any person, and destroyed before any resident Justice of the Peace ; but the Receiver-General is not required to pay a premium which does not amount to four shillings at least payable at one time to one person.

“By His Honour’s command,

“(Signed) R. E. WEBSTER, *Colonial Secretary.*”

I have quoted the above notice *in extenso*, with its array of local names of birds to be protected. The first five on the list are permanent residents, found at all seasons of the year. The Quail and Partridge are of recent introduction, and the six following are migratory birds, met with only at uncertain periods. I am not acquainted with the motives which have led to the passing of this Act, by the Bermudian Legislative Assembly, and can only infer that wanton destruction for commercial purposes has been the cause.

The Kingfisher, Woodpecker, Rice Bird, and “Crane or Heron,” arrive only during the autumnal migration, leaving the islands after a brief sojourn, or, at latest, in the spring.

The “Long-tail, Boatswain, or Tropic Bird,” is a summer visitant, breeding on the rocky shores, and disappearing in October. With this exception, all the birds mentioned in the official list are peculiar to America.

That the inhabitants of Bermuda should be desirous of preserving the native birds, which so greatly adorn their

gardens and cedar groves, is highly to be commended; although on what grounds the same protection is to extend to migratory birds I am unable to understand. That portion of the Act which offers a premium for the destruction of the American Crow (*Corvus americanus*) and its eggs I regard as barbarous and cruel in the extreme; and feel assured that the Island Legislature has been greatly misled in estimating the character of that highly ornamental and useful bird.

During my long residence in the Bermudas, these Crows, for many years, never exceeded a dozen individuals, all told, and, at the period of my departure, they had increased to twenty—a harmless number, incapable of injury, if so disposed.

In my ornithological wanderings in Bermuda one or two Crows would occasionally pass over my head with a joyous caw, reminding me of other lands; but I never for a moment thought of raising my gun to molest them; and the only specimen I ever obtained was shot at Spanish Point, and sent to me by a friend.

I had known this Crow years before in Prince Edward Island, and had become familiar with its habits. Many hundreds passed over my house every evening during summer, to assemble in a pine grove within sight, where they were accustomed to roost; in addition to which I possessed a handsome, tame specimen, at liberty on the lawn and garden, where it associated with a green Parrot, the two birds being upon the most friendly terms. Though so numerous in that agricultural island, no complaints ever reached me of its being injurious to the farmers. It was not seen in that island during the winter.

Bermuda is noted for the cultivation of winter vegetables, of which the potato crops form a large and prominent item; and now that the Colorado beetle has found its way to those

distant isles, the destruction of the Crow becomes a serious question.

In a paper upon the Colorado Beetle, by Dr. Robert Brown, F.L.S., published in the *Live Stock Journal*, of July 20th, 1877, he winds up his remarks in the following words :—" On the whole, looking at all the remedies, and all the checks for the Colorado Beetle, we are inclined to put more reliance on the common Sparrow and the Crow ; and if the present panic only results in farmers learning the value of the insectivorous birds, it will have done an excellent service to him ; it will have taught him a lesson we fear he is sadly in need of."

This, of course, applies to *Corvus corone*, the European Crow, and to the Rook ; but the habits of the two Crows are so alike in this respect, that I consider it would be a fatal error to destroy the few remaining Crows still found in Bermuda.

Of all the native birds which should be protected by law, and allowed to increase, none can compare with *Corvus americanus* in importance. A single Crow rendering more service to the tiller of the soil, than a dozen native Red or Blue Birds.

Let me express a sincere hope that these ornamental and useful Crows, which have held their own from the first discovery of Bermuda, and probably for centuries before that event, may not become the victims of the unwise and cruel legislation which has proscribed and sentenced them to extirpation. The Crow possesses a natural prescriptive right of existence in these islands, much older than that of man himself, and no right-thinking mind would willingly deprive it of the life and sustenance which a beneficent Creator has been pleased to bestow upon it.

It is with sorrow and regret that I record these sentiments.

It would be well if Longfellow's beautiful poem on the

“ Birds of Killingworth ” were printed in letters of gold, and a copy of it exhibited in a conspicuous part of Government House in Bermuda ; a second in the council chamber ; and a third copy on the walls of the House of Assembly, as a rebuke on the three branches of the Legislature, for their cruel abuse of power in passing the recent iniquitous law for the destruction of the few harmless Crows—*Corvus americanus*—which have been denizens of those distant sea-girt isles for unknown centuries, prior to their discovery by Juan Bermudez in 1515. Justly does the poet condemn

“ A slaughter to be told in groans, not words,
The very St. Bartholomew of birds ” ;

And exclaim,

“ Even the blackest of them all, the Crow,
Renders good service as your man-at-arms,
Crushing the beetle in its coat of mail,
And crying havoc on the slug and snail.”

In 1875, a number of English Sparrows were introduced into Bermuda, and turned adrift in and near Hamilton. These little birds thrived and multiplied, and made themselves very much at home in the gardens around.

On January 1st, 1884, looking over the pages of a *Royal Bermuda Gazette*, of November 18th preceding, I was grieved to find in the proceedings of the Legislative Council, that “ An Act to encourage the destruction of Sparrows ” had actually been read a third time, and passed on November 7th ! I cannot help looking upon this measure as an unjustifiable persecution.

“ Ill fares the land, to hastening ills a prey,
Where wealth of mind deteriorates, ‘ and men decay,’
Where Crows and Sparrows are deemed atrocious birds,
Fit only to be slaughtered by imperious lords.”

In the British possessions of India, where twenty-two thousand persons are annually destroyed by Tigers,

Leopards, Wolves, and Snakes, there is some justification for the slaughter of those creatures; but Bermuda has no such excuse for the exercise of cruelty. Why should a hostile feeling exist against the few Crows and Sparrows to be found in the islands?

From a *Royal Bermuda Gazette* of March, 1885, I take the following, dated from the Colonial Secretary's office:—

“ His Excellency the Governor has received information from the Right Honourable the Secretary of State for the Colonies that Her Majesty will not be advised to exercise her power of disallowance with respect to the following Acts of the Legislature of Bermuda, passed during the last sessions.”

Among thirteen Acts which follow is “No. 16—An Act to encourage the destruction of Sparrows in these islands’!!!

The above is a sad reflection upon the wisdom and inhumanity of a Colonial Government.

Let us hope that this idle and vicious tendency to persecution may be baffled by the laws of nature; and that, notwithstanding the cruel proscription of the few American Crows and domestic Sparrows of the Bermudas, they may increase and multiply in obedience to the laws of creation.

There are few places in the world, inhabited by man, where less injury could be imputed to Crows or Sparrows than in the Islands of Bermuda.

Agriculture is there unknown; a field of grain nowhere to be met with; and a small patch of Barley but rarely to be seen. All the crops are grown during the winter months, and consist of Potatoes, Onions, Tomatoes, and Arrowroot, for exportation, none of which the Crows or Sparrows care for. As grain-eating birds, they cannot be charged with doing injury to the fruit crops.

The chief support of the Sparrow would, therefore, depend upon the seeds of grass, sedge, and weeds of many kinds, with a multitude of grubs and caterpillars in the breeding season, wherewith to feed their young. A few grains of Indian Corn from the poultry yard may be added; but these no generous or right-minded person would object to.

In 1877 the English Pheasant and Partridge were introduced into Bermuda by Sir Robert M. Laffan, then Governor of the islands.

The Powee, or Curacoa Bird, was some years ago introduced into the Bermudas from the West India Islands. It is a handsome South American bird, and is occasionally kept in the gardens and grounds of the native residents as a domestic favourite. In size it resembles a female Turkey. It is of dark-coloured plumage, and crested. A female in my possession was very tame, though somewhat pugnacious to strangers, whom it would follow and peck at about the heels. I have seen a Powee in the Bermudas which sported a brilliant yellow crest, from which I am induced to think there must be a second species of this bird.

“BERMUDA.”

“Quaint old islands of Bermuda, thou art beautiful and grand!
 And, if I behold thee rightly, thou seem'st like a Fairy Land:
 Standing lonely in mid-ocean, free from chilling snow and ice,
 Thou hast given me the notion that thou art earth's paradise!
 The environment is wondrous—and I speak my feelings true—
 For the waters that surround thee charm me with their azure hue.
 Could I, like th'immortal Byron, picture thee in language rare,
 I could not pourtray thy waters more effulgent than they are.
 Quaint, though cosy, are thy houses, with their roofs as white as snow;
 While the ruins of some arouse memories of long ago.
 Thy white-dotted hills and valleys clothed in verdure all the year;
 Land of Springtime, land of Summer! where, oh where hast thou a
 peer?”

Smooth and unique are thy highways ; scenes of verdure grace each side ;

Scenes enchanting with their beauty, who would not enjoy a ride ?

As we journey, filled with rapture at the many scenes we meet,

Lo ! we see, in hanging clusters, the banana rich and sweet.

Here and there is seen the Palm-tree growing lofty—grand to view !

Lemons, Oranges, and Cocons, and likewise the slim bamboo.

Lastly, what we most admire (?), and which no one can disown,

Is the world-wide favourite Onion, which is so profusely grown.

For a sail that is romantic, naught can equal Little Sound ;

With its clear and placid waters ; while its shore with caves abound.

Many scenes might well be mentioned, scenes that charm the visitor—

Scenes that pen can hardly picture ; but to few will I refer.

Those that seemed to most impress me, and which filled with awe my soul,

Were the famous Joyce's Caverns, and likewise the " Devil's Hole."

All the pleasant scenes, Bermuda, coupled with thy balmy air,

Make the grandest habitation—nothing with thee can compare.

Honour to Juan Bermudez, who long since discovered thee,

Which, as records show, was early in the sixteenth century.

Those who're sick and need refreshing, and to go you know not where,

Sail at once for old Bermuda, try her warm and balmy air.

When you've reached that blissful haven, where, perchance, for weeks you'll dwell,

You will find delightful quarters at the Hamilton Hotel.

But if you desire quiet, where prevails the ocean breeze,

You will find it at Frascati, 'neath the tall o'ershadowing trees.

As I now take my departure for my own and native shore,

I admit with greatest candour that my leaving I deplore.

Would that I might dwell for ever with thee, near thy waters blue !

But it is not my good fortune, so must bid thee fond adieu !

Should thy shore I ne'er revisit, nor thy waters blue behold,

Pleasant thoughts of thee I'll cherish, memories that are untold."

The above lines appeared in the *Royal Bermuda Gazette*, of May 19th, 1885, written by a lady visitor from the United States, who spent one month in the Bermudas, and published an account of her visit in a little book entitled, " Bermuda."

