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BIRDS OF THE SOUTHERN LESSER ANTILLES.

BY AUSTIN H. CLARK.

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No. 7.—BIRDS OF THE SOUTHERN LESSER ANTILLES.

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INTRODUCTION.

THE specimens which, together with my field notes, serve as a basis for this list, were collected during a continuous residence in the Lesser Antilles from August 3, 1903, until September 22, 1904. I was on Barbados from August 3 to October 18, 1903, and again from January 2 to 16, 1904. On St. Vincent I remained from October 19, 1903, to April 10, 1904 (exclusive of two weeks spent on Barbados and a couple of short trips to the Grenadines) and again from July 2 to 11, and from September 14 to 21, 1904. I visited Bequia from November 30 to December 3, 1903, and from February 8 to 12, 1904, also calling in on my way to and from the other Grenadines. I spent December 9 to 11, 1903, on Mustique; March 23 and September 13, 1904, on Canouan; April 15 and part of March 24, April 26, and September 12 on Mayreau; April 24 and May 3 on Prune; March 25 to May 6, and September 5 to 11 on Union Island; July 29 on Petit Martinique; July 12 to September 5 on Carriacou; and from May 10 to June 30 on Grenada.

I had previously taken a few notes on the birds of the larger islands (Grenada, St. Vincent, and Barbados) during a trip through the West Indies from Trinidad to Bermuda, in 1901, when I spent August 9 in Grenada, August 10 in St. Vincent, and August 11 to 13 in Barbados.

The specimens collected during the trip are at present in the collection of Messrs. E. A. and O. Bangs, of Boston, Mass.

LITERATURE.

Barbados.—The first account of the birds of Barbados is that of Ligon. His descriptions of the habits of the different species are bright and very interesting, but there is no attempt at classification, nor are all the species mentioned. Sir Hans Sloane touched at

Barbados on his way to Jamaica, and includes some notes on the avifauna of the island in his narrative of the voyage and in his account of the natural history of Jamaica, making particular mention of sea birds, which he probably only met with off the coast (many species are abundant within sight of Barbados) inferring, from their abundance in the vicinity, that they inhabited the island. He also gives wild geese as visitors to the island (presumably in winter) although none of the other writers on the Lesser Antilles includes them, and there is but one record, a Brant shot in 1876. Hughes (1750) gives the first really good account of the birds of Barbados, his list being compiled from observations taken on the island during a residence in the northern part while rector of St. Lucy's parish. His descriptions (which are in many cases accompanied by measurements) are as a rule good enough to admit of satisfactory identification. It is a noteworthy fact that his notice of the breeding of *Puffinus lherminieri* in St. Lucy's, although apparently overlooked since his time, was proved to be correct through the researches of Col. H. W. Feilden almost 140 years later; and the truth of his assertions regarding *Vireosylva calidris barbadense* (giving it as an inhabitant of the Scotland district) I was enabled to confirm 154 years after his date of writing. Sir Robert H. Schomburgk ('48) included a list of the birds in his history of the island, which, although not so carefully prepared as that of Hughes, contains some interesting features, being the first list adopting the binomial system of nomenclature, and recording the first capture of a Ruff (*Pavoncella pugnax*) on the American side of the Atlantic. Between 1848 and 1889 there were many short notices published dealing with certain of the birds of the island, and in the latter year Col. Feilden prepared an article on the ornithology of Barbados, containing the results of his observations and a summary of previous lists, prefaced by a description of the geology and faunal characteristics of the island. This is the best account that has appeared dealing with the avifauna of any one of the Lesser Antilles.

St. Vincent.—There have been three lists published on the birds of St. Vincent, besides a few notices on certain species inhabiting that island. The first general catalogue is that of Lawrence, which includes the field notes of Ober, taken while collecting in St. Vincent; the second, which is in some ways superior, is by

Lister, who resided for some time in the island, and was thoroughly acquainted with its ornithology. The latest list is by the present author, and is of practically no scientific importance, having been compiled from memory during a stay there for the West Indian bulletin, at the instance of Sir Daniel Morris. It was written more as a guide to protective legislation than as an enumeration of the species inhabiting the island, and is, unfortunately, replete with editorial and typographical errors. The preface, including an account of the geology of St. Vincent, is, however, useful.

The Grenadines and Grenada.—Wells' articles on the ornithology of Carriacou are (except for a few passing notices by the earlier authors, and a short note by Lawrence) the only references we have to bird life in the Grenadines, and the present author has been the first to undertake a thorough investigation of those islands. It is to be regretted that nothing has hitherto been written concerning this district, where the South American and West Indian forms are more or less intermixed, as otherwise we should have at our command much valuable information regarding the encroachment of the continental element upon Lesser Antillean territory, a considerable part of which appears to have taken place in very recent years. Four lists of the birds inhabiting Grenada have been published in addition to a number of articles that mention certain species of that island or describe new forms. The first was by Lawrence ('78b) based on the notes and collections of Ober. Six years later, John Grant Wells, a native of Grenada, published at St. George's a small pamphlet containing the names of the birds of Grenada, as identified by Lawrence. This was followed in the same year by an excellent account of the avifauna of the island written by Wells, and prepared for publication by Lawrence. In recent years there has appeared in each issue of the Grenada handbook a list of the names, both scientific and local, of all the birds known from Grenada, and another of the birds found at Carriacou. The former was compiled by Wells for the Handbook, and the latter was taken from his articles on the birds of Carriacou.

The appended bibliography contains the more important references to the literature on the ornithology of the southern Lesser Antilles, and the works of the earlier authors who have dealt with this group of islands in general. Monographs of certain groups, books dealing with North, Central, or South American species, or

with the birds of the world which include notices of species herein mentioned, are omitted; but the references to them may be readily found by consulting the bibliography and the authors listed under each species in Cory ('89, '92), in Ridgway's Birds of North and Middle America, and in the Catalogue of birds in the British museum.

GEOLOGY AND GEOGRAPHY.

Barbados.—Barbados, although not separated from the main Antillean chain or from South America by any great expanse of water (the nearest islands, St. Vincent and St. Lucia, being only about one hundred miles away), can lay claim to being truly oceanic in the sense that it has never formed part of a continent since the introduction of its present comparatively meager fauna.

The strata which form the basement series of Barbados are extremely contorted, and have been greatly disturbed. They consist of silicious sandstones, calcareous sandstones, clays containing selenite, clays impregnated with mineral oils, and, at some points, bituminous coal. Their precise age has not yet been determined, but they are probably late Eocene or Miocene, and point to a correlation with those of Trinidad, and, consequently, at one period to a connection with the South American continent. These strata, over about six sevenths of the superficial area of the island, or about ninety-one thousand acres, are covered with a capping of coral rock, while the area from which the coral has been denuded by sub-aerial causes, and where the basement rocks are exposed, occupies only about sixteen thousand acres, locally known as the "Scotland district" because of its peaked and hilly character. It is in this part of the island that the highest altitudes are reached — Mt. Hillaby, 1104 feet, Mt. Misery, 1053 feet, and Hackleton's Cliff, 997 feet, among others. The rest of the island is low and rather flat, or at most gently rolling, thus offering a great contrast to the Scotland district, which is a part of the island that the average tourist never sees. It can hardly be doubted that these basement rocks (or Scotland series) were formed either as estuarine or shallow sea deposits, and in close contiguity with some great land area. Resting unconformably upon the Scotland series are vast deposits of oceanic ooze, built up, in some cases almost entirely, from the tests of rhizopods.

The modern coral cap of the island has been built up step by step on these thalassic oozes as they emerged from the ocean.

The present island of Barbados dates back no further than the period when the process of upheaval brought the deep-sea deposits sufficiently near the surface to admit of the reef-builders commencing work. The deep water which surrounds Barbados (soundings of 1000 to 1500 fathoms being shown on the charts between it and the Antillean chain, and of over 1000 between it and Tobago to the southward) is proof that it has had no continental connection since it emerged as a reef from the ocean.

Barbados is situated in latitude $13^{\circ} 4' N.$, and longitude $59^{\circ} 37' W.$, and is the most easterly of the Antilles. It is about 21 miles long by 14 broad, with an area of 166 square miles, being about the size of the Isle of Wight. The population is nearly 200,000. The chief town is Bridgetown, on Carlisle Bay, near the southwestern extremity; the next in importance is Speightstown, in St. Peter's parish, towards the north, with the remaining town, Holetown, situated between them in St. James. The island is almost entirely under sugar cane, there being but a few small bits of woodland, remnants of the forests with which it was covered at the time of its discovery. The rainfall is said to be about 60 inches, the rain usually coming in the shape of transient showers. The dry season occurs in the winter and early spring months.

St. Vincent.—The geological formation of St. Vincent is purely volcanic, and all the rocks on the island indicate that origin. A central backbone of mountainous country (not a single ridge, as shown on many maps) varying in height from 2000 to 4000 feet and densely wooded, traverses the island from north to south. At the northern end of this ridge is the highest peak on the island, the Soufrière; next to it is the Morne Garou with an altitude of over 4000 feet, while at the southern extremity is Mt. St. Andrew, 2500 feet, overlooking the Kingstown valley. Rocky and wooded spurs run down to the sea along the western or leeward coast, ending abruptly in high rocky cliffs, that alternate with small sandy beaches at the ends of the valleys. The windward side of the island, especially toward the north, is a broad and fertile tract that slopes gently back from the sea for a distance of some four miles to the base of the hills of the central mountain range. It is known locally as the Carib country from having been, upwards of a century ago, allotted to the aborigines for their occupation.

All the valleys are fertile and well watered with streams of good water, whose origin is high up in the mountains. These streams in the dry season are comparatively small, but swell into raging torrents after heavy rains. The windward slopes of the Soufrière and vicinity are drained by the Dry River. The channel of this river, a stream of average size before the eruption of 1812, was at that time completely filled and choked with scoriae, rocks, and gravel underneath which the water now ordinarily finds its way to the sea, disappearing some distance before it reaches the coast. In floods, however, the water comes down with great force and in large quantities, filling the rocky bed, which is 200 yards across at the point where the windward road crosses it. On these occasions it is very destructive, and has already washed away many acres of cane land on its right bank.

The slopes of the higher mountains are scored with deep ravines, and during the rainy season white clouds hover over them day and night. Here the vegetation partakes largely of an arboreal character, with an abundant undergrowth of ferns, and, on the margins and banks of streams, species of Scitaminae, Aroideae, Cyperaceae, and some palms. Of the true ferns there are four species of *Cyathea*, two of *Hemitelia*, and three of *Alsophila*. At all elevations on the mountain slopes are numerous open glades, showing the sites of former cultivations that have become covered with coarse grasses and dry-loving ferns, such as *Gleichenia*.

In the lowlands, in valleys, and on easy slopes, the original vegetation has been for the most part cleared off, and in its place are fields of arrowroot, sugar cane, and other plants. On the rocky cliffs are found numerous trees and bushes of stunted growth, some of them overhanging the sea.

St. Vincent (like Barbados) is singularly free from swamps; hence there is nowhere any large extent of that tangled vegetation so characteristic of marshy districts in the tropics. The mangrove trees are only very sparsely distributed. The manchioneel (*Hippomane mancinella*) and the seaside grape (*Coccoloba uvifera*) are found on the sea beaches in the Windward district.

The island of St. Vincent is situated 98 miles directly west of Barbados, and 21 miles south-southwest of St. Lucia. It is 18 miles in length by 11 in breadth, with an area of 132 square miles, and a population of about 40,000. The chief town is Kingstown,

in the southwestern part; next in importance comes Georgetown, on the windward coast near the Soufrière. The other towns are Chateaubelair, near the base of the Soufrière on the leeward coast, Barrouallie, about halfway between Chateaubelair and Kingstown, Layou, between Kingstown and Barrouallie, and Calliaqua, three miles southeast of Kingstown. The rainfall is roughly 100 inches, but varies greatly in different parts of the island, being considerably more in the mountains.

The Grenadines.—The island of Bequia, the largest of the Grenadines except Carriacou, and the most northerly of the group, lies about 9 miles south of St. Vincent. It is of irregular shape, long and narrow, running from northeast to southwest. It is about 6 miles in length, with an area of 6 square miles and a population of about 2000. Near the southwestern end is the town, situated on a fine natural harbor, Admiralty Bay. A large part of this island is low and almost flat, or gently rolling, and presents a strong contrast to St. Vincent, but there is some rugged land toward the northwest, where the island ends abruptly in a tall cliff known as Bequia Head. There are some moderate elevations behind the town toward the windward coast. There are no swamps on the island, but small patches of mangroves are found along the beaches on the windward coast, especially on the seafront of the Spring estate. There are also many manchioneel trees along these beaches. The island is now largely given up to pastures in the flatter districts, the beautiful Spring estate with Industry just beyond and Union near the town being the most extensive of these. The hilly parts of the island are covered mostly by woods, which, however, are not so luxuriant as are those on St. Vincent, since the rainfall is only about half as much. There are no ponds nor streams on the island.

Off the shores of Bequia are a number of small keys, the majority of them thickly covered with scrubby vegetation. The most important of these are Petit Nevis and Isle à Quatre to the southward, and Western Key, just south of the entrance to the harbor.

Père Labat (1722, p. 220) states that in his time Bequia contained dangerous snakes, and was for that reason known as "Petit Martinique," though, as he says, it might just as well have been called "Petite Sainte-Lucie."

Battowia, about 9 miles southeast of Bequia, is little more than a large rock, thickly covered with stunted vegetation. The sides are

precipitous, and the cliffs about the island serve as breeding places for many sea birds, chiefly boobies (*Sula*).

Half a mile southwest of Battowia lies Balliceaux. It is a little larger than Battowia but less rugged and contains a considerable amount of cleared pasture land.

South of Bequia and southwest of Balliceaux lies Mustique, the prettiest of all these little islands. The land is gently rolling or nearly flat, and is largely cleared for the pasturing of horses and cattle. In a belt across the middle of the island and toward its eastern end the trees have been allowed to remain. The woodland is of the same character as that on Bequia — strangely free from underbrush for tropical growth. Near the northern shore there is a large pond with a wide border of mangroves, and near the eastern end there is a quiet, almost landlocked, mangrove-lined bay. Along the northern coast there is a fringe of manchineel and other large spreading trees, of varying width, just such a growth as is preferred above all others by the Seaside Dove (*Zenaida zenaida aurita*), which is consequently very common here. Taken all together, Mustique puts one strongly in mind of a well laid out northern park, with its bits of woodland, ponds, fences, and so forth. There are about 60 people on the island, including Mr. Charles Wallace, the manager, and tenants of the Hazell family of St. Vincent, to whom the island belongs.

There are many small islets and keys about Mustique, to the north being, among others, the three rocks known as the Pillories, upon which are usually to be seen many sea birds, chiefly pelicans and boobies; to the southwest, Petit Mustique, and, farther still, Savan and Petit Canouan.

The island of Canouan, southwestward of Bequia and Mustique, is separated from them by a long stretch of open sea, broken only by the little keys just mentioned. It has, according to Edwards (*Hist. West Indies*, vol. 1, p. 405) an area of 1777 acres, or about 2.8 square miles. It is in general rugged and hilly, but there is some flat land near the southern extremity. Almost the whole of Canouan is covered with rough scrubby growth, exceedingly difficult to penetrate. There are no pastures to speak of, and no high woods. The main town is toward the center of the island, about a mile from the bay (which is in the southwestern part) and near a large, almost landlocked cove, locally known as the "Canash." The

residence of Mr. Henry Snagg, the principal owner of the island, is here, and near it is a little stone chapel in which breeds a colony of martins (*Progne dominicensis*). There is a small collection of houses near the shipping bay, mostly of "wattle and daub." The population of Canouan is stated to be about 400.

Mayreau, or Mayero, lies a few miles southwest of Canouan. It is a small island, with almost no trees except a few manchioneels on the beaches, and is bare and windswept. It is mostly given up to the cultivation of "Marie Galante" cotton, and (in the spring) Indian corn. There is a small amount of scrubby growth on a hill to the northeast of the town. All the houses on Mayreau are near the top of a fairly high hill, about half a mile from the southern shore. The walk up to the town from the beach is very tiresome — a continuous climb without the slightest shelter from the heat of the sun. The chief house of the island, the residence of Miss Jane R. St. Hilaire, the principal owner, is pleasantly situated on the summit of the hill just mentioned, and commands a splendid view of Union Island, Carriacou, and Grenada to the south, and of the northern Grenadines and St. Vincent to the north.

There are a number of small keys about Mayreau, the most important being the Tobago Keys or Four Sisters, just to the southeast, a group of four small islands all much alike and very near together, each a rounded hill with a small bit of flat land, covered with scrubby trees, bushes, and cactus; a detestible plant known locally as "nettle" (but much more to be dreaded than the plant to which we give that name), and in the flat places, with "burr grass." There is a very small sand bar just southwest of these islands, on which may usually be seen a few terns (*Sterna maxima* and *S. dougalli gracilis*) and gulls (*Larus atricilla*). A large solitary rock 203 feet high known as Sail Rock rises from the sea several miles to the eastward of Mayreau, and is the home of many sea birds.

South of Mayreau and just halfway between Bequia and Grenada is Union Island, with an area (according to Edwards) of 2150 acres or about 3.2 square miles. This island is high and rugged, particularly in the western half; but toward the eastern end there is a considerable area of flat land at the base of the hills, especially on the northern side, where they slope more or less gradually toward the sea. There is a gap in the central backbone, through which a bridle path passes from one coast to the other, with a mod-

erately steep slope up to the hills on the east side. Toward the west is a fairly level valley extending in for half a mile or so when it suddenly rises to a high grassy plateau used for pasturing stock, and locally called the "Savanna." This gap is dominated on each side by a high mountain, the one on the western side being very steep and having an altitude of 1010 feet. The chief town of the island, Ashton, is situated at its base. The principal house of the island, the home of former owners, is a large brick structure on a hill at the southeastern extremity of the island, about two miles from Ashton. Near it is a collection of about a hundred wattle-and-daub houses, comprising the village of Clifton. The rough land about the base of the hills is put under cotton and corn, and the flat land under pigeon peas and sweet potatoes. The population is estimated at a little over 2000.

Just east of Union Island lies the small island of Prune. This key is mainly flat and swampy, but has two steep hills, one in the northeast, and the other in the southwest corner. The vegetation is mainly tall scrub and stunted trees, with numerous mangroves, especially in the northern part. This island is remarkable as being the only place where *Dendroica ruficapilla* occurs in abundance in the Lesser Antilles, south of Dominica.

Near the town of Ashton is Frigate Rock, a tall rocky hill rising abruptly from the sea.

The island of Carriacou, the largest and most important of the Grenadines, lies about eight miles south of Union Island, and twenty miles north of Grenada. It has an area of about 13 square miles. In the center of the island is a ridge, running from north to south, of fairly uniform height, with two peaks of considerable elevation, High North (980 feet), and Chapeau Carré (960 feet) at its southern end. A number of spurs run out from this ridge to the sea on either side, between which are remarkably level valleys extending in for some distance from the coast, and then rising rather abruptly to the central ridge. In many of these valleys, notably at Harvey Vale on the southern shore, near the town of Hillsboro' on the west, and at Lauriston halfway between, there are extensive swamps. On the ridges and on many of the hillsides there is a large amount of scrubby growth and stunted trees; but on the gentler slopes and in the valleys the land is mostly taken up with the cultivation of "Marie Galante" cotton and Indian corn, as

on the neighboring islands. In the flatter areas, particularly at Dumfries on the east, Harvey Vale on the south, and Beausejour near Hillsboro', there is a considerable area of flat pasture land. The hills have been very largely denuded of trees for the purpose of building peculiar craft of from five to fifty tons burden known locally as sloops and schooners. There are some rocky cliffs on the southern end of the island, and off the southeastern, southern, and southwestern shores lie the small islets known as Frigate Island, Saline, White, and Sandy Islands, Isle de Large, Mabouya, and Jaques Adam. These are mostly small wooded hills rising out of the sea, with a bit of flat land about their bases. Some are mere rocks. Carriacou, like all the Grenadines, is very dry, having a rainfall of only about 50 inches, or less than half that of St. Vincent and Grenada, and no running water. The population is about 7000.

Petit Martinique (so called because the French who discovered it found snakes there which they considered similar to those on Martinique) lies a few miles to the northeast of Carriacou. It is merely a conical hill, sloping down evenly to the sea on all sides, with a small strip of comparatively level land about the base. The vegetation resembles that of Carriacou. Between it and Carriacou lies Little Tobago, a small island, thickly covered with scrub (mainly thorn bushes) and cactus. Just to the north lies Little St. Vincent, simply a moderate-sized hill rising out of the sea. Petit Martinique has a population of 350, and Little St. Vincent, 20.

Between Carriacou and Grenada is a long string of rocks and islets, of various shapes and sizes, the most important being Isle Ronde and Les Tantes. About halfway to Grenada is a high and precipitous rock known as "Kick-'em-Jenny," formerly a leper settlement, but long since uninhabited. It forms the home of hundreds of sea birds, mainly boobies (*Sula*).

Carriacou appears to be, in the main, composed of beds of fine-grained volcanic sands and tuffs. On the eastern slopes of the island, and at Belair (in the center), at an altitude of 600 feet, the tuffs of which the hills are composed, are covered with layers of a shallow-water foraminiferal limestone, from ten to twenty inches in thickness. It therefore appears to consist of layers of volcanic ash which were deposited in the sea, and afterwards covered with the shallow-water deposit. Later this was subjected to upheaval, with

the result that part of the limestone was raised to at least 600 feet above sea level. The rest of the Grenadines are geologically much like Carriacou, but appear to lack the limestone capping of that island.

Grenada.—Grenada is situated in latitude $12^{\circ} 3' N.$ and longitude $61^{\circ} 45' W.$, and is approximately 90 miles north of Trinidad, 68 miles south-southwest of St. Vincent, 60 miles northwest of Tobago, and 100 miles southwest of Barbados. It is the most southerly of the true West Indian islands, as Tobago and Trinidad are faunally and geologically a part of South America. It is about 21 miles long by 12 miles in greatest breadth, and has an area of about 120 square miles. In shape it is an irregular oblong, lying north and south, broader at its southern than its northern extremity, with a central backbone of mountainous country running through its whole length, somewhat closer to its western than to its eastern seaboard. The highest altitudes are Mt. St. Catherine (2749 feet), Mt. Sinai (2300 feet), and the mountain overlooking the Grand Etang (2014 feet). Along the eastern and southern coasts the mountains slope gradually to the sea, so that the land is therefore undulatory and fairly level; but on the western side the mountains fall more or less abruptly, and give the coast a rugged and picturesque appearance. The higher portions of the slopes are wooded, while the lower slopes are given up to the raising of cocoa and nutmegs, with occasional cane-fields. In the vicinity of Grand Anse and Point Saline at the southern extremity of the island, where the rainfall is comparatively small, there is a large amount of scrubby growth, with a considerable area under pastures. This part of the island is strikingly different from the remainder, and brings forcibly to mind the conditions existing on the Grenadines. There are a number of small wooded islets and numerous rocks along the eastern and southern shores. The chief town, St. George's, is situated on an excellent natural harbor in the southwestern part of the island. Next in importance comes Grenville or Labaye, on the windward coast, in the parish of St. Andrews. The other towns are Sauteurs, on the northern end in St. Patrick's parish, and Gouyave and Victoria between Sauteurs and St. George's on the leeward (western) coast. The population of Grenada is about 70,000.

Grenada, like St. Vincent, is volcanic, but is apparently of greater age than the majority of the Lesser Antilles. Below from 700 to

800 feet, the valleys are principally cut in beds of volcanic conglomerate, tuffs and ashes, frequently intersected by dikes of basalt and andesite lavas. At elevations above 700 feet beds of conglomerate and tuffs are far less common, and the hillsides consist chiefly of disintegrated lavas of various kinds, the fragmental materials of which have doubtless been removed by the great amount of denudation that the rocks have undergone. Partially decomposed lavas possessing to some degree the properties of pozzuolano are of frequent occurrence, and are locally termed "tuff." In the extreme north of the island are some raised limestone beaches.

Politically, Barbados is a colony by itself, having no connection with the other British West Indies. Grenada, St. Vincent, and St. Lucia form what is known as the colony of the Windward Islands, with the seat of government at Grenada. St. Vincent includes not only the island of that name, but also all the Grenadines north of Carriacou. The southern part of Petit Martinique, Carriacou, and the islets to the south are governed from Grenada.

METEOROLOGICAL AND GEOLOGICAL PHENOMENA.

Barbados has, in the course of its history, been visited by a number of hurricanes of varying severity. The last notable one occurred in September, 1898, and laid a large part of the island in ruins. The destruction of avian life was very great. Hundreds of birds were killed outright in the woods and fields, and many more were blown off into the sea and drowned. The decrease of some of the species, as for instance the blackbird (*Holoquistis fortirostris*) was at the time very marked, but they have all now nearly regained their former status.

On September 11, 1898, St. Vincent experienced one of the most destructive hurricanes that has ever occurred in the West Indies. The center of the storm passed directly over the island, and the interior forests as well as the fruit trees on the cultivated areas were almost entirely destroyed. On the next day the island appeared as if it had been swept by fire; there was not a leaf nor any green thing in sight. Everything was brown. The number of birds was very sensibly diminished, those of the "high woods," especially the parrots (*Amazona guildingii*), appearing to have suf-

ferred the most. Hundreds, if not thousands of birds were killed on the island, and quantities were driven out to sea and lost. *Alenia albiventris* after the storm became a common resident on Union Island and Carriacou (possibly on some of the other Grenadines also), places where previously it had been unknown. It has since, however, died out at both places. One or two parrots (*A. guildingii*) were picked up dead on the shores of St. Lucia. The effects of the storm were not felt all at once. For days afterwards parrots and "Ramier" (*Columba squamosa*) would stray into the smaller towns in so helpless a condition that many fell a prey to the negroes. It is possible that starvation was the cause of this, as every green thing had been destroyed, and it was several days before the trees began to put forth buds. When the vegetation did begin to recover from the shock the whole island, I was told, presented much the appearance of a rugged New England landscape in the spring. A number of the parrots were obtained alive at this time, and some of them are living in captivity yet. Several were sent to England, where, I believe, one or two are now in the Zoological society's garden at Regent's Park, and Messrs. T. R. Nairn and Thomas Osment of Kingstown have each a beautiful bird in their possession.

Bequia was also considerably damaged by this storm, but the other Grenadines escaped; there was a strong gale at Canouan, and a moderate one at Union Island, but only slight damage was done at the former place and none at all at the latter.

On May 7, 1902, occurred the first of the late eruptions of the St. Vincent Soufrière, which resulted in the loss of almost 2000 lives and the total destruction of every living thing on and in the vicinity of the volcano. The whole district was buried under tons of "ash" and scoria. The devastated area was about one third of the entire island and was the district from which the types of *Myadestes sibilans* and *Catharopeza bishopi* had been obtained; it was on the Soufrière, actually within the crater, where formerly the latter of these two birds had been most frequently met with, and the higher altitudes of that mountain were the chosen home of those exclusively woodland species which inhabited the island. The ejecta from the volcano fell with sufficient force at Belair estate at the opposite end of the island (fourteen miles away) to riddle the leaves of the breadfruit trees and, without doubt, to kill such small

birds as had not taken refuge under cover. After the eruption the whole island looked as if it were covered with gray snow. This possibly resulted in the death from starvation of many of such species as are habitually ground feeders (e. g., *Geotrygon montana*). The ash fell in great quantities on Bequia and on Mustique, but appears not to have done any damage, at least as far as the avifauna is concerned. Further eruptions occurred on September 3 and October 15, 1902, and on March 22, 1903, but probably their effect was very slight as compared with the great havoc wrought by the outburst of May 7.

Neither Grenada nor the Grenadines (with the exception of Bequia) have ever experienced a storm severe enough to have seriously affected their bird life.

PRESENT STATUS OF BIRD LIFE.

In the West Indies, as Taylor says (Ibis, 1864, p. 157), birds are not nearly so abundant as in northern countries. In the islands under consideration, they are much commoner on Grenada than anywhere else, doubtless because of the fact that this island is outside of the hurricane belt. The Grenadines are well stocked with birds (although the number of species is limited), but they are not very plentiful in Barbados, while there is hardly a species which may be called common on St. Vincent. Birds seem never to have been common on the last-named island, a fact recorded by Ober in 1878.

On my first visit to St. Vincent on August 10, 1901, I was struck with the scarcity of birds as compared with the same or closely related species on Grenada, from which island I had come. *Calospiza* I did not meet with at all, although I had found *C. cucullata* common enough at Grenada. *Elaeena*, *Pyrrhulagra*, the black *Coereba*, *Columbigallina*, *Holoquiscalus*, and *Merula* could hardly be called even fairly common, although I had seen plenty the day before at St. George's. Even the little "Grass-bird" (*Tiaris bicolor omissa*) was comparatively few in numbers, although as a rule abundant on all the Lesser Antilles.

When I next saw the island, on October 19, 1903, coming from Barbados, the contrast between the conditions on St. Vincent and

those on the island I had just left was very striking; but I cannot say I noticed that the birds about Kingstown were much, if any, fewer than on my previous visit.

Unfortunately, I did not go into the woods when I was first on the island; but Lister, writing in 1880, gives the impression that *Cinclocerthia*, *Catharopeza*, *Myadestes*, *Geotrygon*, and *Amazona* were rather common in his time. Ober says that *Troglodytes musicus* was of very frequent occurrence in 1878. *Cincherminia* apparently has always been rare. Lister did not find it, nor did Ober obtain any specimens of it, although he heard its "unmistakable whistle" and saw "it as it flitted by in the dusk of the high woods."

At the present time *Amazona guildingii* must be put down as decidedly uncommon; and if another hurricane should occur within the next few years it is doubtful whether the species could survive it.

Catharopeza bishopi I failed to find at all. I made a special search for this bird as I was particularly anxious to obtain a good series, but could discover no trace of it anywhere. Ober says that it was found "in the crater and dark gorges of the Soufrière." If it were confined to that district there can be no doubt as to its fate. Lister records it as "confined entirely to the high woods" but does not specify at what points he met with it. As the Soufrière was the most frequently visited portion of the wooded area (there being a rest-house near the summit, accessible by a bridle path, where parties often spent the night) he might very well have seen it there only. As no one else mentions it, and the natives of the island, even the manufacturers of "mountain dew" whose occupation keeps them largely in the most remote districts, are wholly unacquainted with it, it must be considered as extremely rare, if it is still to be found at all.

Cinclocerthia ruficauda tenebrosa is now very rare, although it may possibly be found in certain remote localities. I spent many days in the high woods in localities where this bird used to be common but neither saw nor heard one.

Myadestes sibilans I did not obtain, although I searched for it at many points on the higher ridges and about the summit of Mt. St. Andrew, where it used to be of frequent occurrence. Its note is well known to many of the people on St. Vincent, but I could

find no one who had heard it since the eruptions. Probably this bird is to be found yet in certain places, as it is hard to believe a species as common as this was, has entirely disappeared.

Cinchlerminia I did not meet with, nor could I find *Geotrygon montana*. The latter bird is probably gone, as the mongoose (*Herpestes*), which is now abundant all through the St. Vincent woods, finds this bird an easy victim, and has very seriously reduced its numbers, if not actually extirpated it from some of the other islands (as Grenada) which have suffered neither hurricanes nor eruptions in recent years.

LOCALLY EXTINCT SPECIES.

The early writers on the ornithology of Barbados (Ligon, Hughes, Schomburgk) mention nine birds as occurring on that island which are unknown to-day as residents. They are: a grebe, probably *Podilymbus podiceps* (Hughes; Schomburgk, "*Podiceps dominicus*"); a hawk, very likely *Buteo antillarum* or a closely related form (Ligon; Schomburgk, "*Buteo borealis*"), the Purple Gallinule, *Ionornis martinica* (Hughes), the Ramier, *Columba squamosa* (Hughes, recorded as a visitor), a parrakeet, ? *Conurus* (Hughes; Schomburgk, "*Psittacus passerinus*"), an owl, possibly *Strix nigrescens* or a closely related form (Schomburgk, "*Strix flammea*"), a trembleur, *Cinlocerthia* (Ligon; Hughes; Schomburgk, "*Turdus jamaicensis*"), a "wren," *Allenia* (Ligon; Hughes), and a "thrush," ? *Margarops* (Hughes; Schomburgk, "*Turdus mustelinus*")

In St. Vincent the Mountain Ground Dove, or "Perdrix" (*Geotrygon montana*) and the normally colored form of *Coereba atrata* (= *C. saccharina* Lawr.) seem to have disappeared. Some of the other birds which I failed to find, are possibly extinct, but further investigation is necessary to determine the question satisfactorily.

The normal form of *Coereba wellsi* appears no longer to exist on Grenada, although it is abundant on all the Grenadines.

INTRODUCED SPECIES.

A number of birds foreign to the fauna of the West Indies have been introduced into these islands by man, and some species have been introduced from neighboring localities.

At Barbados, *Merula gymnophthalma* has been introduced from Grenada and now breeds. *Mimus gilvus*, also from Grenada, seems to be gaining a foothold. *Sicalis arvensis luteiventris* is now very abundant in St. Phillip's and part of Christ Church parish. *Mimus polyglottos orpheus* has been recently introduced from Jamaica, but has not yet nested. I obtained a specimen of *Estrelda astrild* in a pasture in St. Joseph, and have seen *Paroaria cucullata* and *Melospittacus undulatus* at large in Hastings. These three last were probably escaped cage birds, as I could find no evidence that they had been intentionally liberated. Many additional species have been found in an apparently feral state on Barbados, but as none of them appear to have become established, a list of them would be merely a waste of space.

In St. Vincent the English Pheasant (*Phasianus colchicus*) has been liberated on some of the Grenadine dependencies, but did not long survive. The Guinea Fowl (*Numida meleagris*), which is common in a domesticated state in all these islands, has been allowed to run wild on Balliceaux. The Venezuelan Quail (*Eupsychortyx sonnini*) has been naturalized on Mustique, and the "cocorico" (*Ortalis ruficauda*) on Bequia and Union Island. The Grenada Blackbird (*Holoquiscalus luminosus*) was brought into the leeward district of St. Vincent from the Grenadines, but seems to have disappeared. The "tickbird" (*Crotophaga ani*) is supposed to have been introduced into the island in the sixties from Tobago by a Mr. Chapman, and is said not to have existed there previously. The natives at the present time usually refer to it as the "Chapman-bird" for this reason.

EXPORTED SPECIES.

The Barbados Blackbird (*Holoquiscalus fortirostris*) has been introduced into St. Croix, St. Kitts, Antigua, and Demerara. So long ago as 1848 mention is made of its introduction into British Guiana. Schomburgk says that these birds are "said to have been introduced into Demerara, where they are now numerous. As a counter-present, Barbados received its crapeaux (*Bufo aqua*) from that colony."

THE MONGOOSE.

The mongoose (*Herpestes*) has been introduced into Barbados, St. Vincent, and Grenada. It is now thoroughly at home everywhere, is very abundant, and is found in all situations, even in the depths of the high woods on the two last-mentioned islands, although it does not occur on any of the Grenadines. Since its advent the ground doves (*Columbigallina*) have become much fewer on these islands, while *Geotrygon montana* appears to have entirely gone from St. Vincent, and to have become very rare on Grenada. Other birds are also affected, though to a less degree.

THE WEST INDIAN AVIFAUNA.

There are about 300 species of birds peculiar to the West Indies, of which about 200 occur in the Greater Antilles only, and 90 in the Lesser only. The remainder are species of more or less wide distribution. Of genera there are 41 confined to the West Indies. *Pyrrhulagra* and *Margarops* are of rather general distribution, while of the remainder, 28 are Greater Antillean (one of these, *Mimocichla*, having a representative in the Lesser Antilles on Dominica) and 11 Lesser Antillean (although two of these, *Sericotes* and *Bellona*, occur on St. Thomas, and the latter also on Porto Rico). These Lesser Antillean genera are: *Eulampis*, *Sericotes*, *Bellona*, *Gmelinius*¹ *Melanospiza*, *Leucopeza*, *Catharopeza*, *Cinclocerthia*, *Rhamphocinclus*, *Allenia*, *Cinchlerminia*.

In the Greater Antilles the resident species appear to have been derived mainly from Central America, with many accessions from North America, especially in the Bahamas and Cuba. The Bahamas, owing to their oceanic character, have an avifauna of comparatively recent origin, consisting largely of derivatives from North American stock, but apparently related more closely to the Greater Antilles, particularly to Cuba. The single peculiar genus, *Callicheli-don*, is of rather uncertain status.

Jamaica appears to be the most important faunally of the Greater Antilles, and contains the largest number of peculiarly West Indian

¹ *Gmelinius* Boucard (type *G. bicolor*), Gen. Hummingbirds, p. 108, 1892.

species. Although Cuba has the same number of endemic forms, many of them are evidently of North American origin, and cannot therefore be considered faunally as important as those of Jamaica. Haiti has two more peculiar genera than Jamaica, but it has only 31 peculiar species as against 43 on Jamaica, and only 48 West Indian forms as against Jamaica's 60. Toward the east the avifauna diminishes in intensity, Porto Rico having but one peculiar genus, 10 West Indian genera, 18 peculiar species, and 37 West Indian species, while St. Thomas contains 4 West Indian genera, 1 characteristic species, and 11 West Indian forms.

Passing to the Lesser Antilles, we find that the group comprising Guadeloupe, Dominica, Martinique, and St. Lucia is the most important, as it contains 46 peculiar species and 5 peculiar genera. In this group should also be placed Montserrat and the northern end of St. Vincent. This gives us 6 peculiar genera and 49 peculiar species. The Lesser Antillean genera not included entirely within these limits are: *Eulampis* (Nevis to St. Vincent), *Sericotes* (St. Thomas to Grenada, and Barbados), *Bellona* (Porto Rico to Grenada, and Barbados), *Cincloerthia* (St. Kitts to St. Vincent), *Allenia* (St. Eustatius to Grenada). The included genera are: *Gmelinius* (Dominica), *Melanospiza* (St. Lucia), *Leucopeza* (St. Lucia), *Catharopeza* (St. Vincent), *Rhamphocinelus* (Martinique and St. Lucia), *Cinchlerminia* (Montserrat to St. Vincent).

In this group of islands as defined the following species call for special mention. *Aestrelata ?haesitata* formerly occurred in the mountains of Guadeloupe and Dominica. *Setophaga ruticilla* is known as a resident on Dominica only. This appears to be an isolated colony from North American stock, comparable to the case of *Erismatura jamaicensis* and *Querquedula discors*, both of which breed in the Grenadines. *Nomonyx dominicus* (Guadeloupe and Dominica), *Guara alba* (Dominica), *Melanerpes lherminieri* (Guadeloupe), and *Mimocichla albiventris* (Dominica) represent colonies of Greater Antillean forms, while *Saltator guadeloupensis* (Guadeloupe, Dominica, and Martinique), *Ceryle stictipennis* (Guadeloupe and Dominica), *Antrostomus rufus* (St. Lucia), *Urubitinga anthracina cancrivora* (St. Vincent), and *Regerhinus uncinatus* (Grenada)¹ are unmistakably South American. The parrots of this region

¹The continental species which have worked up from Trinidad and Tobago are not considered in this connection.

also (*Amazona imperialis*; *A. bouqueti*, *A. versicolor*, and *A. guildingii*) are related to *A. vinacea* of South America, while those of the Greater Antilles (except *A. agilis* and *A. vittata*) belong with *A. albifrons* of Central America.

Two of the Lesser Antillean species (and genera), *Sericotes holosericeus* and *Bellona exilis*, as mentioned above, have habitats overlapping Greater Antillean territory, while with other species the reverse is the case. These latter are *Poecilonetta bahamensis* (south to Guadeloupe), *Dendrocygna arborea* (south to Antigua), and *Phoenicopterus ruber* (Anegada, and formerly Antigua and Guadeloupe).

The islands whose avifauna forms the basis of the present paper (Barbados, St. Vincent, the Grenadines, and Grenada) are perhaps the most interesting of all the Lesser Antilles. Barbados, like the Bahamas, is oceanic, while the others show the diminishing intensity of the West Indian fauna as we go southward, correlatively with the increasing number of South American forms.

In the discussion of the avifauna of St. Vincent, the Grenadines, and Grenada, the first thing that claims our attention is the South American element. Trinidad has, according to Chapman, 199 resident land birds, all of which are continental, or closely related to continental forms. On Tobago we find 65 resident land birds, all but 6 of which occur (or have closely related forms which occur) on Trinidad; but these 6 (including *Mimus gilvus* and *Ortalis ruficauda*¹) are all of South American stock, some of which may yet be found in Trinidad. Grenada has 13 birds common to it and Tobago, and all but one of these (*Mimus gilvus*) common to it and Trinidad, while three others (*Calospiza cucullata*, *Troglodytes grenadensis*, and *Merula nigrirostris*) are localized forms from purely South American stock.² On the Grenadines there are only 8 of these continental birds, viz.: *Merula gymnophthalma*, *Sporophila gutteralis*, *Mimus gilvus*, *Elaeena martinica flavogastra*, *Molothrus attonitens*, *Tyrannus melancholius satrapa*, *Myiarchus tyrannulus tyrannulus*, *Muscivora tyrannus*, while *Chaetura poliura*, *Calospiza*, *Merula nigrirostris*, and *Troglodytes* are lacking, although all four reappear on St. Vincent.

¹ Claimed by some to have been introduced from Venezuela, although originally described from Tobago.

² *Troglodytes* occurs northward to Guadeloupe; *Calospiza* and *Merula nigrirostris* are found also on St. Vincent.

The distribution of these South American forms on the Grenadines is as follows. *Merula gymnophthalma* occurs in all favorable localities throughout the islands. *Mimus gilvus* is everywhere very abundant. *Myiarchus tyrannulus tyrannulus* is common everywhere. *Elaeena martinica flavogastra* I obtained only on Bequia and Mustique, but it very likely occurs on the other islands. *Molothrus atronitens* is common as far north as Canouan. It is, however, of recent occurrence. *Tyrannus melancholius satrapa* I obtained on Union Island. *Sporophila gutteralis* is locally common at Carriacou, where, however, it is a recent arrival. *Muscivora tyrannus* is common on Carriacou in the wet season.

On St. Vincent these South American forms are reduced to four of those found on the Grenadines, with four more which do not occur on the smaller islands. They are: *Elaeena martinica flavogastra*, *Mimus gilvus*, *Merula gymnophthalma*, *Myiarchus tyrannulus tyrannulus*; and *Merula nigrirostris*, Troglodytes, Calospiza, *Chaetura poliura*. In addition to these we have as a resident *Urubitinga anthracina cancrivora*, corresponding with *Regerhinus uncinatus* of Grenada.

Besides these established species I obtained a specimen of *Florisuga mellivora* on Carriacou, met with a stray example of *Sporophila gutteralis* at Kingstown, St. Vincent, and found a single *Anthracothorax gramineus* on Union Island, all of which were apparently accidental visitors, although it is not at all improbable that they may become residents at some future time.

Turning now to characteristically West Indian genera, we find that Grenada has only four, viz.: *Pyrhulagra*, *Allenia*, *Bellona*, *Sericotes*; and the Grenadines only the two hummingbirds, although *Allenia* was for a time resident there. The first of these four genera is of rather wide distribution throughout the West Indies, the species in question (*P. noctis*) having roughly the same range as the representatives of the other three genera.

St. Vincent has these four genera, and in addition four others peculiar to the Lesser Antilles; they are: *Eulampis*, *Cincherminia*, *Cinclocerthia*, *Cartharopeza*, the last being confined to that island.

Besides these characteristic genera, St. Vincent has the following forms which are worthy of note: *Myadestes*, *Elaeena martinica martinica*, *Cypseloides*, *Chaetura acuta*, *Bellona exilis (ornata)*, *Amazona*.

The first three, while not primarily West Indian, are more or less characteristic of that region, and their absence from Grenada is noteworthy. *Chaetura acuta* is Lesser Antillean (Guadeloupe to St. Vincent). The crested hummingbird of St. Vincent is *Bellona exilis* (Porto Rico to St. Vincent) *ornata* (St. Vincent) instead of *B. cristatus* of Grenada, the Grenadines, and Barbados. *Amazona guildingii* of St. Vincent also connects that island with those to the north, being closer to *A. imperialis* of Dominica than to any other species. There is no good evidence that any parrot ever existed on Grenada.

The avifauna of St. Vincent shows a correlation with that of Grenada; in each island *Calospiza* occurs, the two species (*C. versicolor* and *C. cucullata*), although perfectly distinct, being closely related; both islands have dimorphic species of *Coereba* that occur in the normal coloration of the genus, and also entirely black (*C. atrata* and *C. wellsi*); and both have closely related subspecies of *Pyrrhulagra noctis*.

Now those forms common to St. Vincent and the islands toward the north, but not occurring on Grenada, *viz.*, *Eulampis*, *Cincherminia*, *Cinlocerthia*, *Myadestes*, *Cypseloides*, *Amazona*, *Chaetura acuta*, *Elaeena martinica martinica*, and *Bellona exilis* are, with the exception of the two last, inhabitants of the high woods, these two only occurring both there and in the lowlands. Moreover, *Elaeena martinica martinica* is only found in the northern and middle parts of the island, and is absent from the region about Kingstown.

The forms common to St. Vincent and Grenada (*viz.*, *Elaeena martinica flavogastra*, *Mimus gilvus*, *Merula gymnophthalma*, *Pyrrhulagra noctis*, *Sericotes holosericeus*, and *Myiarchus tyrannulus tyrannulus*) are primarily lowland species, and *Elaeena martinica flavogastra*, *Merula gymnophthalma*, and *Mimus gilvus* are, the two first entirely, and the last largely, restricted to the Kingstown valley. *Merula nigrirostris*, the black form of *Coereba atrata*, *Calospiza*, and *Alenia albiventris* occur very generally on the island, but all are rare in the high woods. *Troglodytes musicus* (which is nearer *T. mesoleucus* of St. Lucia than to *T. grenadensis*) occurs everywhere.

Thus we find that faunally St. Vincent is divisible into two regions, the higher altitudes, and particularly the vicinity of the

Soufrière in the northern part of the island, being a continuation of the Montserrat-St. Lucia district, while the lowlands, especially the Kingstown valley in the southern part of the island, belong faunally to Grenada and the Grenadines.¹

Certain other species not mentioned above are worthy of passing notice. *Progne dominicensis* and *Tiaris bicolor omissa*, as would be expected, occur in all favorable localities; *Vireo calidris barbadosense*, *Euphonia flavifrons viscivora*, and *Tyrannus dominicensis rostratus* (the second the southern form of a Lesser Antillean species, and the others chiefly Lesser Antillean forms of West Indian species) occur in these islands, the second on St. Vincent and Grenada only, the others everywhere. The Lesser Antillean "Kili Hawk" (*Falco sparverius caribbearum*) does not occur between St. Lucia and Grenada, although found on both these islands. The mangrove cuckoos of Grenada and the Grenadines appear to be true *Coccyzus minor minor*; but a deeper-colored, large-billed form (*C. m. vincentis*) occurs on St. Vincent (and St. Lucia also). *Buteo antillarum*, a rather wide ranging species, is found on St. Vincent, Bequia (Grenadines), and Grenada, and the Lesser Antillean Owl (*Strix nigrescens*) otherwise known only from Dominica, also occurs on these three islands. A yellow warbler (*Dendroica ruficapilla*) occurs on Grenada, Carriacou, Union Island, and Prune (Grenadines), which is also known from Cozumel Island (Yucatan), St. Andrew's Island, Curaçao, Dominica, and Guadeloupe.

Two species are resident in the Grenadines which are not found elsewhere in the Lesser Antilles: the Ruddy Duck (*Erismatura jamaicensis*) and the Blue-winged Teal (*Querquedula discors*). The Whistling Duck (*Dendrocygna discolor*), not otherwise known from the Lesser Antilles: is casual as far as St. Vincent, and possibly breeds on Barbados.

The sea birds of these islands offer no peculiarities in their distribution.

The most noticeable features in connection with the avifauna of Barbados are the small number of resident land birds, and the almost entire absence of sea birds, of which but one species (*Puffi-*

¹ *Holoquiscalus dispar*, confined to this region, forms an exception as it takes the place of *H. luminosus* of the Grenadines and Grenada.

nus lherminieri) now breeds on the island, and such common forms as *Larus atricilla* and certain of the terns (*Sterna*, *Anous*) occur only as uncommon visitors. The geological structure of the island, together with its isolated geographical position, the paucity of swamps and marshes, and the almost complete destruction of the original forests, which have everywhere given place to the canefield, account satisfactorily as Col. Feilden remarks for the lack of birds.

There are at present on the island 16 resident species and subspecies, viz.: *Dendroica capitalis*, *Coereba barbadensis*, *Vireosylva calidris barbadense*, *Pyrrhulagra barbadensis*, *Tiaris bicolor omissa*, *Holoquiscalus fortirostris*, *Elaeena martinica barbadensis*, *Tyrannus dominicensis rostratus*, *Sericotes holosericeus*, *Bellona cristata emigrans*, *Zenaida zenaida aurita*, *Columbigallina passerina trochila*, *Butorides virescens maculata*, *Gallinula galeata*, *Fulica caribaea*, *Puffinus lherminieri*.

It will be noticed at once that most of these species and subspecies, and all of these genera are of very general occurrence throughout the Lesser Antilles. Six species and subspecies, viz.: *Dendroica capitalis*, *Holoquiscalus fortirostris*, *Coereba barbadensis*, *Elaeena martinica barbadensis*, *Pyrrhulagra barbadensis*, *Bellona cristata emigrans*, are recognizable forms, peculiar to Barbados.

Evidently, then, the avifauna of Barbados, as might be expected in an oceanic island so situated, is wholly made up of very generally distributed types, birds which, from their abundance in this region, would be theoretically the first to reach any new land in the vicinity.

Barbados being generally flat, with very little physiographical differentiation, and with almost the whole island under the same conditions of cultivation, its birds are generally distributed, and not grouped into faunal zones as are those on other islands, although, of course, certain species are rather more partial to pastures (as *Columbigallina*), and others to woodlands (as *Elaeena* and *Tyrannus*). *Vireosylva* alone among the land birds has a restricted habitat, being confined to certain portions of the Scotland district. The one sea bird (*Puffinus lherminieri*) is only found on a small rock off the shores of St. Lucy's parish.

In former times, if we may place any reliance on the writings of Hughes (1750), Ligon (1763), and Schomburgk (1848), there were also resident on Barbados the following: *Allenia*, *Cinclocerthia*, ? *Margarops*, ? *Conurus*, *Buteo* (? *antillarum*), *Strix* (? *nigrescens*),

?*Podilymbus podiceps*, *Ionornis martinica*; while according to Hughes the Scaled Dove (*Columba squamosa*) used to visit the island regularly. It is probable that most, if not all, of these birds did occur when Barbados was clothed in natural forest, as *Allenia* is a common and widely distributed form; *Cinlocerthia* is common from Nevis and Barbuda to St. Lucia, and used to be on St. Vincent; *Margarops* occurs from the Bahamas to St. Lucia, and has been obtained in recent years on Barbados; *Buteo antillarum* is abundant on the neighboring islands; *Strix nigrescens* is common on Dominica, St. Vincent, and Grenada; *Podilymbus podiceps* occurs throughout the West Indies, and has been found on Barbados; and *Ionornis* is a common bird in the West Indies wherever there are swamps. No parrakeet is at present known from the Lesser Antilles; but Hughes and Schomburgk both mention one, and there appears to be good evidence that these birds formerly existed on Martinique and Guadeloupe, so I believe we are safe in admitting it, at least provisionally.

Owing to the rather general and intelligent interest taken in ornithology at Barbados, and to the fact that all parts of the island are accessible to the sportsman, and also because of its geographical position away from the other islands and not protected, so to speak, at all by them, a rather full list of migrants and accidental visitors has been recorded, no less than 50 from North America (including the shore birds), 13 from neighboring islands and the adjacent mainland, and 5 from the Old World.

ANNOTATED LIST.

Podilymbus podiceps (Linn.). PIED-BILLED GREBE.—The Pied-billed Grebe is a rather uncommon resident on Grenada, Isle Ronde, and Carriacou. There is a specimen in the British museum from Barbados.

Mr. J. H. Riley (: 04b, p. 278) finds that two birds of this species from Antigua and Barbuda differ slightly from North American examples. Mr. B. S. Bowdish remarks (*Auk*, vol. 19, p. 357, 1902) that a specimen obtained by him at Aguadilla, Porto Rico, is

smaller than northern birds; an examination of a series from the West Indies may demonstrate a recognizable local race.

Hughes (1750, p. 71) mentions a grebe "of the bigness and much the color of the American quail" as resident in Barbados in his day, and refers to it under the name of "The Two-Peny Chick." Sir Robert Schomburgk includes *Podiceps dominicus* in his list of the birds of Barbados, calling it the "Two-penny Chick," a name at present used on the island for *Porzana carolina*. Col. Feilden ('89a, p. 503) refers the grebe mentioned by these two authors to *Podiceps dominicus*, following Schomburgk; but as that species is unknown from the Lesser Antilles, whereas *P. podiceps* is of very general occurrence and has been recently taken on Barbados, I have thought it best to refer it to the latter.

NOTE.—*Colymbus holboelli*, recorded by various authors (following Wells, '86, '86a, *Podiceps holboelli*) from Grenada (Isle Ronde. Grenadines) is in reality *Erismatura jamaicensis* (q. v.) wrongly identified.

Oceanites oceanicus (Kuhl). WILSON'S PETREL.—Recorded from Grenada and Carriacou. Without doubt of casual occurrence near all these islands.

Puffinus lherminieri Less. DIABLOTIN; AUDUBON'S SHEARWATER.—This is the only sea bird resident on Barbados. It breeds regularly, though in small numbers, on Bird Rock, off the northern coast of St. Lucy's parish, from which place Col. Feilden ('89, p. 60) has obtained the eggs in March.

Hughes says, speaking of Barbados in 1750: "The several cavities in the cliff facing the sea [in St. Lucy's] are proper dens for Raccoons, and such wild beasts. They are likewise a place of safety for several sea-birds to breed in, especially at a place called 'Bird Rock,' where are to be seen at most times of the year a great many of their nests and eggs. The young ones are sharp-billed, wet-footed, and very fat, but taste fishy. The old ones are seldom or never seen in the day time, for they are obliged to range to so great a distance from the shore for food that they have been seen scores of miles from land."

I have seen Audubon's Shearwater in Kingstown Bay, St. Vincent, and it is sometimes common about the entrance to Bequia Harbor. It occurs throughout the Grenadines, breeding, according to Wells, on most of the small islets about Carriacou, especially on Bonaparte Rocks.

About Grenada it is not rare, and breeds commonly on "Mouchoir Quarré" and the Labaye Rocks. Wells says that formerly numbers of the dried young of this species used to be brought into the market at Grenville (Labaye), obtained on the former islet. He says of some he caught on Labaye Rocks: "The birds on being brought out into the light appeared to be quite foolish, and, beyond a feeble attempt to bite, seemed to make no effort to escape. I kept them alive for some days; they would take no food during the day, remaining perfectly quiet; but at night they fed on scraps of fish, and at intervals uttered a peculiar cry like a cat-howl."

This little bird when flying skims along close to the surface of the water, acting in every way much like its larger northern relatives.

The single egg is dull white in color.

Phaethon americanus Grant. YELLOW-BILLED TROPIC-BIRD. — There is a skin of this bird in the British museum which was procured on St. Vincent in 1890, by Mr. G. Whitfield Smith, F. L. S., the present commissioner of the island of Carriacou. There are no other records.

Phaethon aethereus Linn. PAILLE-EN-QUEUE; BO'S'N; RED-BILLED TROPIC-BIRD. — This bird is occasionally seen at Barbados. One was captured near Chancery Lane after a gale in 1877 but was not preserved.

In February, March, and April it is common along the leeward coast of St. Vincent, where it breeds in holes in the cliffs. There is a considerable colony of them near Old Woman's Point, just west of Kingstown, and another at Layout.

At Bequia they breed in numbers in the inaccessible cliffs of Bequia Head, but I did not find them elsewhere. Usually they are not very common among the Grenadines, but great numbers breed on Battowia and Balliceaux, and there are other colonies on Frigate Island, Rose Rock, Kick-'em-Jenny, and Les Tantes, between Carriacou and Grenada. It is locally common about the cliffs of the last-named island.

The wing beats of this and the preceding species are continuous and rather rapid, somewhat suggesting the flight of certain ducks. When near the cliffs, however, they often sail about, after the fashion of Noddies (Anous). Both the Yellow-billed and the Red-billed Tropic-birds are often met with very far from land.

The egg of the Red-billed Tropic-bird is deposited in a hole in a cliff or under some projecting ledge or rock, and is light purplish in color, minutely sprinkled with neutral tint and claret brown.

Sula cyanops (Sundev.). BLUE-FACED BOOBY. — Occurs sparingly on Kick-'em-Jenny, and probably also at Battowia. The eggs are uniform dull white.

Sula leucogastra (Bodd.). BOOBY; FOU. — Abundant, except in the vicinity of Barbados. This bird is always to be found along the leeward coast of St. Vincent, where some of them may usually be seen toward evening perched on the cliffs, where they spend the night. The majority, however, begin to fly down the coast at about three in the afternoon, making for Battowia, which island is the favorite roosting place of all the sea birds in this region.

These birds are usually seen in little companies of three to eight, often containing one or more individuals of other species, most commonly *S. piscator*. Hundreds of boobies, mainly of this species, nest at Battowia and Kick-'em-Jenny, and there is said to be a large colony on Little Tobago (off Petit Martinique).

The eggs are one or two in number, dull greenish blue, and are laid in a coarse nest, placed usually in low trees (often several on one tree) or on the ground. The breeding season is from February to May.

Sula piscator (Linn.). WHITE BOOBY; FOU BLANC; WHITE-TAILED BOOBY. — The White Booby is often seen flying about the channel between St. Vincent and Bequia, and occasionally about the leeward coast of St. Vincent, in company with others of the genus. It is said to breed commonly on Battowia, toward which island it may be seen making its way every evening to roost. It nests in numbers on Kick-'em-Jenny, and is sometimes seen about the islands in that vicinity, and along the coasts of Grenada.

The plumage in which the bird is brown, with the exception of the tail and upper and under tail coverts, which are white, is more common here than the white form, and individuals of this color are often seen in little companies by themselves, or with white adults, or with Common Boobies (*Sula leucogastra*).

The nest, like that of *S. leucogastra* is a loose structure, usually placed on low trees or bushes; eggs one or two, dull greenish.

NOTE.—Wells ('86a, p. 630) says that there is "a small duck, quite black, occasionally found in the sea [about Grenada]. I shot one a couple of years ago." The only black duck-like bird which is maritime in habit and which might stray into these waters is the Brazilian Cormorant (*Phalacrocorax brasiliensis*), which possibly may range as far north (in the West Indies) as Grenada, as it occurs about Trinidad, and either this or a closely allied form is abundant along the Venezuelan coast. Mr. Wells was very little acquainted with birds, except with those of Grenada (cf. his identification of *Erismatura jamaicensis* as *Colymbus holboelli*), and as this little cormorant more or less resembles some ducks in general habits, he might very well have referred to it as a duck.

Pelecanus occidentalis (Linn.). BROWN PELICAN; GRAND-GORGE.—The Brown Pelican is an irregular visitor to Barbados. In 1886 and 1887, according to Col. Feilden, it appeared in flocks of hundreds.

This bird occurs along the shores of St. Vincent, mainly about Young's Island and Calliaqua, but is not at all abundant as a rule.

It is common throughout the Grenadines, especially about Carriacou, on the Pillories (near Mustique), about the leeward coast of Mayreau, and in the vicinity of Bloody Bay and Clifton, Union Island. It occurs mainly in the winter months, and almost wholly disappears in the spring, but returns in early summer. The Brown Pelican does not breed anywhere in these islands, but is merely an annual visitor, possibly from southern North America and the Greater Antilles. Ober says that this bird "breeds on the rocks north of Grenada, as well as through the Grenadines"; but as after careful search and exhaustive inquiry I could find not the slightest sign of their ever having done so, I cannot attach any weight to the statement. Ober, himself, never visited the localities mentioned and probably relied on the assertions of natives at St. Vincent or at Grenada, who are (the lower classes) absolutely unreliable. He also gives the Spoon-bill (*Ajaia ajaia*) as casual in Grenada, and the Long-billed Curlew (*Numenius longirostris*) as having occurred on St. Vincent (there are no Lesser Antillean records) apparently on the same authority.

Dutertre says that in the year 1656 there was a great mortality among birds of this species, and that the shores of St. Lucia, St. Vincent, Bequia, and the Grenadines were strewn with their dead bodies. The Brown Pelican occurs all about the coasts of Grenada.

NOTE.—I have been told by several trustworthy persons that White Pelicans have occasionally been seen among the Grenadines. Although there is a possibility that they may have been examples of *P. erythorhynchos* (which Mr. J. H. Fleming tells me he has seen in the harbor of St. John, Antigua), still they might have been Brown Pelicans somewhat lighter on the back than usual.

Fregata aquila (Linn.). COBBLER; FRIGATE BIRD; MAN-O'-WAR.—The Frigate Bird, or, as it is called locally, the Cobbler, is rare at Barbados; but Col. Feilden writes that he has observed it passing over the island at a great height, and it is occasionally shot there. Sloane (1707, p. 30) says that he first observed them on nearing Barbados. Both he and Ligon (1673, p. 61; 1674, p. 103) write that the appearance of this bird is popularly supposed to foretell the coming of a ship. He also noticed that "there are more of these in the firm land of America than in these isles," and that "it follows the Pelican in the air to catch its dung for food."

About St. Vincent, the Grenadines, and Grenada this bird is rather common, but not so abundant as along the Venezuelan coast, particularly in the vicinity of Margarita Island. In the Grenadines they breed in numbers on Battowia, whence the young are sometimes taken for food.

The nest is a loosely built structure, placed either on the ground or in low trees. The eggs are one or two, dull greenish white.

Ardea herodias Linn. GREAT BLUE HERON; GRAY GAULDING; CRABIER MONTAIGNE.—A regular and not uncommon visitor to these islands, arriving in October. Col. Feilden says that it arrives at Barbados in October and November in parties that sometimes consist of ten or twelve individuals. Hughes, writing in 1750, speaks of this bird as a winter visitor to Barbados, saying that it is very seldom seen there, but is much commoner at Antigua.

This heron is found every winter along the leeward coast of St. Vincent, especially in the vicinity of Young's Island and Calliaqua.

On Carriacou, Wells writes that on one occasion he saw eight of them together in Harvey Vale pasture.

Wells records it from Grenada as "a migrant; not numerous."

Herodias egretta (Gmel.). AMERICAN EGRET.—Col. Feilden says: "I procured one at Graeme Hall swamp (Barbados) on July 4, 1888, an adult female in beautiful plumage. It was alone at the time." There are no other records for these islands.

Egretta candidissima (Gmel.). SNOWY HERON.—This bird

is of casual occurrence on St. Vincent, the Grenadines, and Grenada. In October, 1903, one of them could be seen almost every day about the mouth of the Richmond River, St. Vincent.

Wells gives it as uncommon on Carriacou, but he never found it on Grenada, although Ober took a specimen there.

Ober in his account of this bird in Grenada must have had in mind the immature of *Florida caerulea* (*caerulescens*). The Snowy Heron by no means occurs in "abundance," nor is it second to *Butorides virescens* (*maculata*) in point of numbers.

Florida caerulea caerulescens (Lath.). BLUE GAULDING; WHITE GAULDING; LITTLE BLUE HERON.— St. Vincent, owing to the absence of swamps, offers but few attractions to birds of this class. The Blue Gaudling is, however, occasionally seen along the shores, especially about the bases of the cliffs on the leeward coast, in the vicinity of Young's Island, near Calliaqua, and about the mouth of the Richmond River, on the now barren ground.

On the Grenadines this bird is common, being, in fact, the most abundant of all the herons. It is particularly numerous in the swamps at Harvey Vale, Carriacou.

On Grenada this heron is found everywhere on the seacoast and in all the swamps. It is mainly a maritime species in these islands, and subsists largely upon fish, which it is very expert in catching. It is generally seen feeding out on a coral reef, or in the shallow water near shore. After heavy rains, however, it frequents the low-lying pastures, and is very common about the Beausejour and Harvey Vale Flats, Carriacou.

Its flight is particularly strong, and it is often seen high in air passing from one small island to another.

I was unable to find any nests of this species in the swamps on Carriacou, as it usually breeds on the small islets off the coast.

The nest is loosely constructed of dry sticks, and often several are placed on the same tree. The eggs are two, sometimes three, rarely four in number, and are bluish green.

Butorides virescens maculata (Bodd.). GAULDING; LITTLE CRABIER; HYALLEE; GREEN BITTERN.— I have referred the Green Bitterns of these islands (as has Mr. Riley, :04b), to Boddaert's *Cancroma maculata* (Boddaert, Table pl. enl., p. 54, 1783, Le Crabier tachété de la Martinique, Pl. enl., 912) as West Indian specimens agree in being smaller than those from North America,

although there appears to be no difference whatever in color in perfectly fresh examples. The differences in size are apparent from the following table. The measurements are in millimeters.

Butorides virescens maculata.

Sex.	Locality.	Wing.	Tail.	Tarsus.	Culmen.
♂	Barbados	157	63	43	57
	"	163	62	49	58
	"	162	54	47	53
	"	165	59	46	57
	" juv.	163	65	46	52
	"	160	46	47	55
	"	177	62	48	57
	"	160	65	46	60
	" juy.	142	48	46	46
	Bequia	164	68	50	60
	"	169	68	48	59
	Carriacou	160	60	46	57
Grenada	171	64	49	56	

Butorides virescens virescens.

♂	Wayland, Mass.	181	70	51	63
	" "	167	68	48	62
	" "	176	66	50	56
	" " juv.	168	66	50	50
	St. Mary's, Ga.	186	71	48	58
	" "	181	76	51	61
	" "	173	63	51	60
	Florida	180	73	48	63
	"	180	61	51	64

On Barbados this bird is fairly common in places where it is not disturbed. Col. Feilden says he has started as many as a dozen from a single tree in Valentia swamp at one time. It breeds in the grounds of Codrington college, about Joe's River, St. Joseph, and in parts of St. Andrew's. At other points it is not abundant, and, owing to constant persecution, has become very shy.

On St. Vincent the Green Gaudling is not very numerous, and is found mainly along the lower reaches of the rivers, sometimes along the seacoast.

It occurs on all the Grenadines, being most common on Carriacou, at Harvey Vale, and is the most abundant heron on Grenada.

It nests in May, June, and July, the nest and eggs being exactly like those of this species in the north.

Nycticorax nycticorax (Linn.). BLACK-CROWNED NIGHT HERON.—On June 8, 1904, while in Grenada, I examined a fine adult skin of this bird (unsexed) which had been obtained about a month previously by Mr. Charles Vernet near St. George's.

At Harvey Vale, Carriacou, on August 29, 1904, I saw a fine adult of this species in the swamp near the oyster beds, but failed to obtain it.

The British museum possesses skins of this heron that were obtained on St. Vincent by Mr. G. Whitfield Smith, and two which he procured on Grenada, in 1890.

Other West Indian records are: Jamaica, Bahamas, Cuba, Isle of Pines, Porto Rico, St. Kitts, Antigua, and Trinidad.

This bird is probably a rare resident in the swamps throughout the Lesser Antilles.

Nyctanassa violacea (Linn.). CRABIER; YELLOW-CROWNED NIGHT HERON.—On September 12, 1903, at Barbados, I purchased an immature female of this species from a negro near Bathsheba, St. Joseph, who had caught it a few days previously. It was one of a flock of seven which had appeared in the vicinity of Bathsheba. This particular bird had managed to get inside of a kitchen house in a small village, and was there captured.

The Yellow-crowned Night Heron is uncommon on St. Vincent. On October 27, 1903, while hunting for bats in a large cave near the town of Barrouallie, I surprised one of these birds that had evidently gone in there to spend the day. The British museum has several skins from this island, obtained by Mr. G. Whitfield Smith. It is unknown to most of the inhabitants, but appears to occur regularly about Calliaqua and Young's Island.

On Bequia it is not uncommon, although from its habit of spending the day among the mangrove roots it is rarely seen unless a careful search is made for it. I met with it on Mustique, Mayreau, Canouan, and Prune. On Union Island it is very common in the vicinity of a large mangrove-bordered pond near the northern coast, and is often seen at other points. On Carriacou it is abundant, especially about Harvey Vale where one or two may be seen in the pastures at any time hunting for crabs. It is common on Grenada, especially near the sea.

This bird is mainly nocturnal, coming out of the mangrove swamps at dusk to hunt for crabs in the pastures and to fish along

the coast. Stray individuals are, however, often seen during the day. In general habits it much resembles *Nycticorax nycticorax* and its cry is similar. It is very good eating, and is often shot for food. The Yellow-crowned Night Heron may be considered as abundant in these islands wherever there are swamps.

The rudely constructed nests are built in the mangrove trees in the swamps; the eggs are usually three, blue green in color.

Anas boschas Linn. MALLARD. — Hughes (1750, p. 77) says: "The very few [wild ducks] that migrate to this island are of the same make and species with those in England." Had he had in mind any other duck than the Mallard it seems probable that he would have spoken more at length.

At the present time this duck is a rare migrant, occurring on St. Vincent, the Grenadines (Mustique and Carriacou), and Grenada.

Querquedula discors (Linn.). BLUE-WINGED TEAL.— This little duck is a common winter visitor to Barbados, St. Vincent, the Grenadines, and Grenada, occurring in flocks of from ten to twenty.

It breeds regularly at Isle Ronde in the Grenadines, where Wells obtained incubated eggs on January 3, 1883, and probably also in the swamps of Carriacou, where it is found throughout the year.

The nest is of grasses, on the ground in the swamps; the eggs are six to ten, brownish buff.

Nettion carolinense (Gmel.). GREEN-WINGED TEAL.— The Green-winged Teal is a common visitor to the ponds and swamps of St. Vincent, the Grenadines, and Grenada, arriving in October and leaving in April. Schomburgk ('48, p. 682) gives it as occurring at Barbados.

Hughes (1750, p. 77) says, speaking of "The Teal": "As this differs little, or not at all from those in England [*Nettion crecca*], it will not be necessary to give a particular description of it. It will be sufficient to observe that in England they are seen every winter, tho' hither [Barbados] they come but once a year, and very few in numbers, and some seasons none at all."

Ligon (1673, p. 61) mentions the teal, and gives an amusing description of how, when one is shot, the others keep coming back until all are killed.

Spatula clypeata (Linn.). SHOVELER; SPOONBILL.— Col. Feilden says that this duck is an annual visitor in small numbers during the months of October and November. There are no

records for the other islands (St. Vincent, the Grenadines, and Grenada), but probably the Shoveler is at least an occasional visitor to all of them. Cory gives it as recorded only from Jamaica, Cuba, Porto Rico, and St. Thomas.

Erisimatura jamaicensis (Gmel.). RED DIVER; RUDDY DUCK. — The Ruddy Duck is a rare straggler to Barbados; one was obtained on September 13, 1888, and another in the fall of 1887, at Chancery Lane.

This bird is occasionally found on St. Vincent and Grenada, is a resident on some of the Grenadines, and a visitor to the others. Wells found it breeding at Lauriston swamp in Carriacou, and it is abundant at the pond at Isle Ronde, nesting in the latter part of the winter.

Wells records *Colymbus holboelli* from Grenada (Isle Ronde), calling it the "Red-backed Diver," and says: "Abundant at Isle de Rhonde Pond." The bird is, however, this species which is here locally known as the "Red Diver."

The following references, therefore, should be placed under the synonymy of this duck: —

Podiceps holboelli Wells, List birds Grenada, p. 12 (1886); Wells and Lawr., Proc. U. S. nat. mus., vol. 9, p. 633 (1886); Cory, Auk, vol. 5, p. 156 (1888); Cory, Birds W. I., p. 284 (1889).

Colymbus holboelli Cory, Auk, vol. 5, p. 156 (1888); Cory, Birds W. I., p. 284 (1889); Cory, Cat. W. I. birds, pp. 81, 185 (1892).

The nest is placed on the ground in swamps; the eggs are six to ten in number, creamy white.

Dendrocygna discolor Scl. and Salv. TREE DUCK; WHISTLING DUCK. — On September 7, 1903, when in the woods about the upper reaches of Joe's River, Barbados, I saw three of these ducks. They flew by me several times, and finally alighted in a tree some distance off, but could not be approached near enough for a shot. My little black boy immediately recognized them as "Coot." A week later I shot one of these birds from the top of an immense silk-cotton tree in this vicinity, but was unable to find it. Col. Feilden writes that in September, 1887, a flock of twenty-seven of these ducks appeared in Graeme Hall swamp, and that a wounded one was captured and taken to Dr. C. J. Manning, in whose aviary he saw it a year later, alive and well.

On February 6, 1904, while I was at Kingstown, St. Vincent, Mr. T. M. Macdonald of Wallilibou sent me a wounded bird of this species which had been caught on his estate near Barrouallie. He told me that a few days before a flock of about two dozen of them had appeared in Barrouallie Bay, and subsequently flew over to the Wallilibou estate. They were so tame that ten or more were killed by the negroes with sticks and stones. He tells me he never before met with this bird on St. Vincent.

Mr. Charles Wallace afterwards told me that a few days previous to this he had seen a flock (probably the same one) on the pond near his house on Mustique, and that he had never before observed this species.

Branta bernicla (Linn.). BRANT.—Col. Feilden says that he considers himself justified in including this goose as having certainly visited Barbados on one occasion. "My authority is Mr. J. P. Massiah, M. P., who shot the bird in question at Chancery Lane on November 15th, 1876. His accurate description leaves no doubt in my mind that the bird was of this species. During an experience of over thirty years, Mr. Massiah has never seen but this one wild goose in Barbados, nor could I hear from any other source of wild geese having been seen or obtained, except in this single instance."

This is especially interesting in being the only recorded instance of the occurrence of the Brant in the West Indies. The White-fronted Goose (*Anser albifrons gambeli*) has been taken in Cuba, the Snow Goose (*Chen hyperborea*) in the Bahamas, Cuba, Jamaica, and Porto Rico, the Blue Goose (*Chen caerulescens*) in the Bahamas and Cuba, and the Canada Goose (*Branta canadensis*) in Jamaica.

[*Vide* Doubtful Species; *Branta canadensis*.]

Catharista urubu (Vieill.). CORBEAU; BLACK VULTURE.—Mr. Francis Coull tells me that about twenty years ago two of these birds lived for a while on the Montrose estate, Grenada, but subsequently disappeared. I have been credibly informed by a number of people that this bird is occasionally seen in Grenada.

Wells records *Urubitinga anthracina* from Grenada, but it is much more likely that it was this species, as he gives it as doubtful, and usually in the case of the *Urubitinga* there is no possibility of a doubt, as the glaring white bands on the tail at once make it clear what the bird is. When soaring, the two birds are strikingly alike;

but it is very seldom that the Black Hawk is seen about the tree-tops.

Falco peregrinus anatum (Bonap.). DUCK HAWK.—Col. Feilden obtained a female of this species from Mr. E. N. Armstrong of the Crane hotel, St. Philip's, Barbados, which was shot on the windward side of the island, November 17, 1888.

On St. Vincent a few of these hawks are seen every winter, when they attract attention by their great quickness of wing, and are distinguished by the natives from the Fish Hawk, and the local "Chicken Hawk" (*Buteo antillarum*). They are found about the cliffs of the leeward coast chiefly.

The Duck Hawk is of casual occurrence in the Grenadines. I had a bird described to me which was shot on Mustique and was probably of this species. It has not been found on Grenada.

Falco columbarius. PIGEON HAWK.—Schomburgk gives this species as resident in Barbados in his time. Although he is not confirmed by Hughes, there is a possibility that it may have bred in Barbados, as it is said to occur throughout the year on Dominica at the present time. The Pigeon Hawk is now of casual occurrence on Barbados in the winter months.

On St. Vincent it is a rather uncommon migrant; I saw one near Calliaqua in January, 1904.

Wells records this bird as a migrant, arriving in Grenada and Carriacou with the shore birds. It is probably a casual visitor to the other Grenadines.

Falco sparverius caribbaearum (Gmel.). KILI HAWK; SPARROW HAWK.—Col. Feilden says that on October 27, 1888, while driving in Christ Church parish, Barbados, a small hawk dashed past the horse's head; it was, he thinks, undoubtedly of this species.

I saw a Sparrow Hawk at Kingstown, St. Vincent, on February 6, 1904, and another at Industry estate, Bequia, December 2, 1903, but it is probable both were stragglers, as I did not see nor hear of any others in these islands, except that I was told that Mr. H. G. Selwyn Branch once took a specimen at Bequia.

On Grenada it is a rather rare resident, mainly in the windward district. I only met with it once, on the outskirts of St. George's, in May, 1904.

Buteo antillarum Clark.

ANTILLEAN CHICKEN HAWK; GREE GREE.

Buteo antillarum Clark, Proc. biol. soc. Washington, vol. 18, p. 62, Feb. 21, 1905.

Type locality.—Chateaubelair, St. Vincent.

Color.—Above brown, the feathers white at the base and margined with rufous to the tips, the white bases showing through on the nape, and giving that region a mottled appearance. Wing coverts margined all around with rufous. Lores whitish; head all around brown, the feathers margined with rufous, being darkest at base of bill and under eyes. Throat light buff, streaked with blackish brown. Breast rufous brown, mottled with light buff, more heavily toward abdomen, which is mainly light buff barred with rufous brown. Under tail coverts light buff. Thighs buff, barred with many transverse lines of rufous. Under wing coverts buff like the thighs, many of the feathers having small black central streaks. Upper tail coverts tipped with white. Tail brown, tipped with light grayish brown, with white at the extremity, crossed by two bands and an indicated third band of light grayish brown, becoming white on the inner webs of the feathers.

Iris yellowish white¹; cere yellow; feet orange yellow; bill dark slaty.

This species differs from *B. platypterus*, to which it is most closely allied, in being smaller and much more rufous; the rufous edgings to the feathers above wider, the underparts more rufous, and the thighs buff, more thickly barred than in that bird. In the young the ground color below is buffy white, becoming darker on the abdomen and thighs. The iris is yellowish white in all stages.

A comparison of the specimens from St. Vincent with eight others from Dominica, shows that the Dominica bird is darker and more sooty above, more heavily marked on the breast, and deeper

¹The iris of *B. platypterus* is brown; but Dr. Glover M. Allen tells me that he once obtained an immature bird of that species at Intervale, New Hampshire, which had yellow irides.

buff on the underparts, suggesting the presence of a recognizable local race on that island. The iris of the Dominica birds is given as white.

I have examined an example from Cuba (in the collection of Messrs. E. A. and O. Bangs) which agrees very well with the St. Vincent birds, except in size. It is marked "male" but is the size of the females from St. Vincent. There is a possibility that the bird is wrongly sexed.

Schomburgk gives *Buteo borealis* as a resident on Barbados. Although there is a possibility that *B. borealis* occurred on Barbados at that time (as it does at the present day on St. Kitts and in the Greater Antilles) it appears to be more probable that this species (or a closely allied form) was the one referred to, as it is common on the neighboring islands of Dominica, St. Lucia, St. Vincent, and Grenada, while *B. borealis* has never been met with so far south. Hughes does not mention any hawk; but Ligon says (1673, p. 60; 1674, p. 101): "The birds of this place [Barbados] (setting two aside) are hardly worth the pains of describing, yet, in order, as I did the beasts, I will set them down. The biggest is a direct Bussard, but somewhat less than our Gray Bussards (*Buteo buteo*) in England, somewhat swifter of wing; and the only good that they do is sometimes to kill the rats." At the time Ligon wrote the greater part of Barbados was still clothed in natural forest, and it is very probable that some species of *Buteo* was resident. No *Buteo* has, however, been recorded from the island in recent years.

The "Chicken Hawk" is very common all over St. Vincent and Grenada. It regularly occurs on the northern end of Bequia (north of the Spring estate) where it breeds, and occasionally it visits Mustique. I saw one on Carriacou on August 27, 1904, near the late Mr. John Grant Wells' residence at Hermitage; but as he does not record it from that island it must be a rare straggler there.

This hawk is a great plague to poultry raisers on St. Vincent, but on the other hand is of use to the agriculturist, as it feeds largely on the mole-crickets, which, since the introduction of the mongoose and the consequent killing off of the large ground lizards, have increased to an alarming extent. I once took eighteen of these insects from the stomach and crop of a single hawk. Lister ('80, p. 43) says that in the stomachs of all he examined he found the remains of lizards and snakes. In his time, however, the mongoose had not

reached St. Vincent, and reptiles were relatively much more numerous.

Ober gives this bird as occurring on the Grenadines, but this must be a mistake, as except on Bequia and Mustique it is wholly unknown to the natives, nor could I find any trace of it.

In habits this species resembles *B. platypterus*. The nest is rather bulky, and is usually placed in a large tree, often a bread fruit or a cabbage palm. In the spring of 1903 there was a nest in one of these palms in the Botanic gardens at Kingstown, St. Vincent, from which young were successfully raised. The eggs are usually three in number, dull bluish white in color and are (in the six sets which I have examined, in the collection of the late Mr. John Grant Wells, now in the possession of Dr. Dunbar B. B. Hughes of Carriacou) unspotted. I was informed by natives that this bird always lays unspotted eggs.

Pandion haliaetus carolinensis (Gmel.). SEA HAWK; FISH HAWK. — Col. Feilden says of this bird in Barbados: "An irregular and somewhat rare visitor in the fall. Several appeared during the month of October, 1887. One of these is preserved in the collection of Dr. C. J. Manning; another, a female, shot about the same time, is in the possession of Mr. Herbert Hart. An adult male, shot at Graeme Hall swamp on September 28th, 1888, was forwarded to me in the flesh by Dr. Manning."

It occurs regularly as a visitor to St. Vincent, the Grenadines, and Grenada, arriving in August, although stray individuals are sometimes to be met with throughout the year. When I was staying at Chateaubelair, St. Vincent, in October, 1903, there was a single individual of this species that could almost always be found about the mouth of the Richmond River. Mr. Thomas Huckerby, the Wesleyan parson of the district, told me it had been there for about six months. At Union Island, Mr. L. McIntosh showed me the claws of eight or ten of these birds which he had shot there. I met with it myself among the Grenadines at Mustique, Bequia, Union Island, Prune, and Carriacou.

Regerhinus uncinatus (Cass.). RING-NECKED HAWK. — This hawk is a resident in Grenada, but is not numerous. It is usually found in the vicinity of the seacoast.

Urubitinga anthracina cancrivora Clark.

CRABIER; ST. VINCENT BLACK HAWK.

Urubitinga anthracina cancrivora Clark, Proc. biol. soc. Washington, vol. 18, p. 63, Feb. 21, 1905.

Type locality.—Barrouallie, St. Vincent.

Color.—Adult female (type): general color, deep sooty black, the bases of the feathers of occiput, hind neck, and back white, then buff just below the black ends, the buff and white showing through in a sort of irregular mottling; upper and under tail coverts tipped with white, downy feathers of crop region grayish white; malar region dull buff, finely streaked with black; thighs black, the feathers very narrowly tipped with dull rusty. Wings black, the secondaries and tertiaries mottled and partially banded with dark grayish and rusty, the rusty color predominating on inner webs, the grayish on outer. Bases of primaries mottled with whitish on inner webs; quills also white, forming a grayish white wing spot on under side of closed wing. Tail banded black and white as follows: the feathers mottled at base with white, forming an incomplete whitish band, then a broad black band, another narrow and incomplete white band, a broad black band, then (at about the middle of the tail) a broad white band, followed by a much broader black band and white tips. Shafts of rectrices white at base, becoming black in the first broad black band, and remaining black on upper surface to the end of the tail, but white again on under surface through the broad white central band.

Feet, cere, and base of bill orange; iris brown. Tip of bill black.

This subspecies differs from *U. a. anthracina* in having a longer and relatively narrower bill, with the tip more produced; and in color in having the feathers of the hind neck and back spotted with buff and white (in *U. a. anthracina* the hind neck is spotted with whitish, but there is very little if any on the back), and being in general of a deeper and more sooty black.

Lawrence ('78a, p. 194) remarked that the single specimen sent

up from St. Vincent by Ober did not satisfactorily agree with one in a somewhat similar state of plumage from Mexico. Unfortunately, it was an immature bird.

Mr. J. H. Gurney ('76, p. 487) says that one of these hawks from St. Vincent was living in the Zoological society's gardens in London in 1876. "This example was in immature dress when it arrived in the gardens, but is now in full plumage, with the exception of a slight tinge of rufous brown on the back, and sides of the head, and also on the tertials." He further states that this bird after a moult became slaty or grayish in color, due to a whitish bloom on the feathers, that soon wore off. This condition is comparable to that seen in many birds when in a perfectly fresh condition, and is well brought out in *Caloenas nicobarica* and in the dorsal plumes of *Butorides virescens*.

This large hawk is common in the higher woods of St. Vincent, where it frequents the immediate vicinity of water courses, keeping usually near the ground. It is especially numerous in the woods behind the town of Barrouallie. As it very rarely soars, and is naturally retiring and shy, keeping well away from cultivated areas, it might very well escape the observation of anyone to whom its presence on the island was unknown. The Black Hawk is said by the natives of St. Vincent to subsist entirely upon crabs, and wherever it occurs many little heaps of broken crab shells may be found along the streams. A peculiar fresh-water species (*Geocarcinus ruricola*) which hatches directly from the egg into the adult form, is abundant in the upper reaches of the St. Vincent rivers, has the same local distribution as this bird, and is the species upon which it is said chiefly to feed.

This bird is eaten by the negroes of St. Vincent, and by them is held to be superior to fowl. Its cry is a series of ascending whistling notes, and bears a striking likeness to that of a young turkey, but is, of course, very much louder. In general actions and manner of flight the Black Hawk bears a strong resemblance to the Black Vulture (*Catharista urubu*), but is almost never seen above the tree-tops; when it does soar, however, the similarity is very striking.

Ortalis ruficauda Jard. COCORICO; COCKRICO; GUAN.—The Cocorico is found in the woods on the northern end of Bequia, and on the western end of Union Island, particularly about Chatham

Bay, but it is not so common now as formerly. It was introduced from Tobago.

Numida meleagris Linn. GUINEA FOWL.—The “Guinea Bird” is common in a domesticated state in all these islands, and has been allowed to run wild in Balliceaux (Grenadines).

Colinus virginianus (Linn.). BOB-WHITE; QUAIL.—Schomburgk ('48, p. 681) includes this bird in his list of the birds of Barbados but he is not confirmed by other early writers.

Col. Feilden says that it “is a very rare visitor to Barbados. Dr. Manning has a specimen shot at Bank Hall in St. Michael’s parish during September, 1886; the same gentleman saw another in St. James’ parish during September, 1887, but did not succeed in shooting it.”

Eupsychortyx sonninii (Temm.). QUAIL (St. Vincent).—This bird was formerly common on Mustique, to which island it was brought by sloops trading between St. Vincent and Venezuela, but is now rare.

Ober is mistaken in giving *Colinus virginianus* from Mustique, as there was never any quail but this on the island. Its habits and notes are like those of the American Quail, and these may have deceived him.

Porzana carolina (Linn.). SORA; TWO-PENNY CHICK.—The Sora is a regular fall and winter visitor to these islands, and is found wherever there are swamps. In Barbados it is well known to the natives who call it the “Two-penny Chick” although formerly that name was applied to a grebe.

On St. Vincent it is found in October and November about the mangroves in the vicinity of Arnos Vale and Calliaqua, and I found it on Bequia and Mustique. It is fairly common at Carriacou and on Grenada, and there are specimens in the British museum from Union Island obtained by Mr. G. Whitfield Smith.

Ionornis martinica (Linn.). CASCAMBIOL; PURPLE GALLINULE.—Undoubtedly Hughes (1750, p. 71) refers to this species as the “Blue-pated Coot.” He says: “They [Coots or Moor Hens] are distinguished into three kinds; the white [*Fulica caribaea*], — the red [*Gallinula galeata*], — and the blue-pated.” They were apparently common on Barbados in his day. At the present time they are only accidental visitors to the island. One was shot by Dr. Manning in the autumn of 1887, and Lieut. Venour of the West

India regiment told Col. Feilden that he saw one captured by some boys with a dog in the swamp below St. Ann's fort in the same month and year.

This bird is rare on St. Vincent, but may sometimes be found in the vicinity of Arnos Vale and Calliaqua. It is common on Grenada and the Grenadines wherever there are swamps. On some of the smaller islands it is very abundant, as at Isle Ronde and Mabouya, where the natives catch it in fish pots baited with corn. They also hunt out and destroy numbers of nests every year, because they say it destroys their growing corn, climbing up the stalks and tearing to pieces the ears.

The nest is placed on the ground in swamps, and is composed of grass and weeds. The eggs are from six to ten, creamy white, finely dotted with umber.

Gallinula galeata (Licht.). RED SEAL COOT; WATERFOWL; FLORIDA GALLINULE. — Col. Feilden says, speaking of Barbados: "Resident. A few still lingered in Graeme Hall swamp in 1888, from whence I obtained a nest with seven eggs in the month of July, when I fully identified the bird. It used to be plentiful at several spots in the island, particularly so at Valentia swamp, and at a pond on the Three Houses estate, but has been exterminated, I think, in those places."

A few of these birds may be found about Calliaqua, St. Vincent, but they are far from common.

On Bequia they are sometimes to be found about the roots of the mangroves on the Spring estate beach. At Mustique they are abundant on the large pond near Mr. Wallace's house. They occur on Canouan, on Mayreau, on the Tobago Keys, on Union Island, and are especially abundant on Carriacou and on Isle Ronde.

On Grenada they are common everywhere among the mangroves, being particularly numerous about Lake Antoine. They are often seen in the harbor of St. George's, about the mangroves in the quiet lagoon across from the town.

The nest is like that of *Ionornis martinica*, and is placed on the ground in swamps. The eggs are from six to ten, light buff spotted with brown.

Fulica caribaea¹ Ridgw. WHITE SEAL COOT; WATERFOWL;

¹ I have thought it best to refer the Coot of these islands to this form, although no specimens were obtained.

POULE DE L'EAU.— Col. Feilden records this species as a resident in Barbados as late as 1888. Mr. A. M. McLean told him that about twenty-five years ago the Water Hen and Coot were both abundant at Graeme Hall swamp, and it was no uncommon sight to see twenty or thirty of both species swimming about together in the open water. The cutting down of the brush about Valentia swamp a few years ago banished them from there, and it is probably no longer a resident of the island.

I did not meet with this bird on St. Vincent, but Lister says: "I think this bird is only an accidental visitor to the island. An individual of this species was captured alive in an exhausted condition after a severe gale, in Brabon Bay by a Mr. Nevison, who kindly sent it to me."

On the Grenadines the White Seal Coot is common at Mustique, Mayreau, and Union Island, occurs at Canouan, and is abundant at Carriacou and at Isle Ronde. It is common in all the large swamps on Grenada, and is found on the Grand Etang Lake and on Lake Antoine.

Vanellus vanellus (Linn.). LAPWING.— Col. Feilden writes: "Dr. C. J. Manning has in his aviary a live Lapwing which was shot at and injured in one wing on December 24, 1886, in the island of Barbados. This bird has been in confinement eighteen months when I saw it, and appeared to be quite healthy." Mr. J. H. Fleming (Auk, vol. 18, p. 272, 1901) records this species from the Bahamas.

Squatarola squatarola (Linn.). WHITE-TAILED PLOVER; BLACK-BELLIED PLOVER; GRAY PLOVER; LOGGERHEAD.— Col. Feilden says: "This is a rather rare autumnal visitor (to Barbados), in some years none alighting; it generally arrives after the Golden Plover, toward the close of the shooting season; it hardly ever settles in the pastures, or by the decoy ponds, but on the rocky shores, where it consorts with Ringed Plovers, Turnstones and Sanderlings. I procured a specimen on September 22, 1888." Wells says that small numbers arrive in Carriacou in September and October.

It is recorded from Grenada, but thus far has not been obtained on St. Vincent, although it probably visits that island, as well as most of the Grenadines.

Charadrius dominicus Müll. GOLDEN PLOVER.— Col. Feilden says: "Stragglers arrive (at Barbados) as early as July and the

beginning of August, but the main flights come with the first heavy weather after August 27, and long experience and observation prove that this date is kept year after year with wonderful accuracy. The course of all the migratory Charadriidae across Barbados in the autumn is from the northwest to southeast, and if the wind blows from the southeast, the birds are brought down to the island, for it appears to be a tolerably well established observation that birds prefer migrating with a 'beam' wind. A shift of wind from the northeast, with squally weather to the southeast, is ardently longed for by the Barbados sportsmen towards the end of August, as this forces the migratory hosts to alight instead of passing over at a great height, as they are seen to do when the wind is from the northeast. The first arrivals of this species are invariably black-breasted birds, showing that the old birds precede the young; and the first comers are nearly all males. The young birds without black on the breast appear about September 12, and continue to pass till the end of October; sometimes stragglers are as late as November. Even in the most favorable seasons, only a fraction of the immense flights that pass over the island ever alight; but if, attracted by the green land and 'mock-birds' pegged out near the shooter's hut, they deviate from their line of flight, they are doomed; for so well do the sportsmen imitate the call of the Golden Plover, and so irresistible is the charm, that the birds come down to it, and, in spite of gaps in their ranks, they wheel round and dash past the shooter again and again till all are killed."

This bird is not abundant on St. Vincent, but is common on the Grenadines and on Grenada, although Wells says the numbers are becoming fewer and fewer every year.

Oxyechus vociferus (Linn.). KILLDEER.—Wells records the Killdeer from Carriacou and from Grenada as a "rare migrant." It is probably casual in all these islands.

Aegialitis semipalmata (Bonap.). RING-NECKED PLOVER.—Common in all these islands, arriving toward the end of August, and remaining until November, frequenting the beaches and pastures, often in company with the smaller sandpipers.

Aegialitis hiaticula (Linn.). RING PLOVER.—Recorded by Col. Feilden from Barbados, one having been obtained by him which was killed at Chancery Lane, September 10, 1888. This is the only record for the species south of Canada on the American side of the Atlantic.

Arenaria interpres (Linn.). ROCK PLOVER; CALICO-BIRD; TURNSTONE.— Common on all these islands, arriving in August, although individuals may be found at all seasons. They frequent the beaches and the more open parts of the mangrove swamps, running about between the roots of the mangroves after the manner of the Sora (*Porzana carolina*). It is in this latter situation that they are usually met with in spring and summer, when they are remarkably tame.

During the migrations they occur in flocks of sometimes as many as thirty or forty individuals; but in the spring and summer they are usually found in the swamps in companies of five or six.

The adults in the rufous plumage are the first to arrive, while the immature follow in September.

Gallinago delicata (Ord). WILSON'S SNIPE.— Col. Feilden says that this bird is a regular autumnal visitor, sometimes in considerable numbers, to Barbados. Mr. Massiah has shot as many as ten couples in a day at Chancery Lane, and Col. Feilden has shot them there himself in the months of September, October, and November.

From Hughes' (1750, p. 78) description of the habits of the "Hiding Mopus" and the measurements he gives for that bird it seems probable he refers to this species. The other "Mopuses" appear to be two of the smaller shore birds. The name is not at present applied to any bird at Barbados.

On Grenada and the Grenadines, this is a rather uncommon migrant, arriving in October and November. It frequents the swampy lowlands near the sea.

The Snipe has so far not been recorded from the island of St. Vincent, but it probably occurs there as a rare visitor. The absence of swamps possibly accounts for its never having been obtained there.

Macrorhamphus griseus (Gmel.). DUCK-LEG; DUCK-BILL; DOWITCHER.— Col. Feilden says: "Though a regular, is somewhat of a rare visitor, appearing along with flights of Yellow Legs (*Totanus flavipes*) in August and September. It is, however, sufficiently numerous to be given a local name by the Barbadian sportsman."

Mr. G. Whitfield Smith has obtained this bird in Grenada and his specimens are now in the British museum.

NOTE.— Probably *M. scolopaceus* also occurs in these islands, although there are no published records. Dr. Sharpe, in the Catalogue of birds in the British museum, does not distinguish between these two birds, but puts all the West Indian specimens under *M. griseus*.

Micropalama himantopus (Bonap.). CUE; STILT SAND-PIPER.— Col. Feilden says: "Arrives with the Yellow Legs in July, and continues to pass all through August, and generally into the middle of September, when the flights cease, but stragglers drop in at intervals till October. This bird is easily attracted by the imitation of its call-note, and the flocks are very compact, so that at times many are brought down at one discharge of a gun. They feed on the edges of fresh-water swamps, and do not alight on the dry meadows, nor on the sea-beach. The flights only remain on the island a few hours."

This bird visits the Grenadines and Grenada during the migrations, but is not very common. It has not been recorded from St. Vincent.

Tringa canutus Linn. KNOT.— Schomburgk gives this species the local name of "Mopus." It is a rare visitor to Barbados. Dr. Manning ('96, p. 372) in 1886 shot one on December 7, two on the 17th, and three on the 27th. Col. Feilden has one obtained September 6, 1888. It has not been recorded from the other islands.

Actodromas maculata (Vieill.). CHIRP; OCTOBER CHIRP; PECTORAL SANDPIPER.— Col. Feilden writes: "The Pectoral Sandpiper commences to arrive in July and August, increasing in numbers till October, when they usually appear in immense flights; a few stragglers pass over as late as the early part of November. This bird on its arrival in the island frequents flooded and marshy spots where the grass is short, likewise feeding on ploughed lands. The Barbadian sportsmen, many of whom have the most discriminating ear for the notes of the various migratory birds, consider that there is a difference between the notes of the smaller and earlier arrivals, which they designate 'Chirps,' and those of the later arrivals, which are called 'October Chirps'; these are, as a rule, larger and finer looking birds, but I think it is merely that with this species the immature precede the adult on the southward migration. Mr. Massiah has drawn my attention to a habit of this bird which I have not previously seen noticed; when reaching the ground and alighting from passage, all the individuals in the flight

throw themselves on the ground with their breasts touching it, in the position of a brooding hen, or pigeon on eggs. Has this habit anything to do with its trivial name of Pectoral Sandpiper?"

The difference in size between the sexes in this bird is frequently considerable (*vide* Sharpe, Cat. birds Brit. mus., vol. 24, p. 562, 1896), the female averaging about three quarters of an inch less than the male in length, while in the large series collected by Mr. John Murdoch at Point Barrow, Alaska (*vide* Lieut. Ray's Report of the expedition, p. 111, 1885), "the smallest female was fully an inch and a half shorter than the longest male." From this it would appear that the females take precedence over the males in the migrations, and not the young over the adults. It has been noticed in New England (*vide* Auk, vol. 16, p. 179, 1899) that the smaller birds are the first to arrive in any given locality, while the larger ones appear a week or so after.

The Pectoral Sandpiper is abundant on Grenada and the Grenadines during the migrations, and is fairly common on St. Vincent.

Actodromas fuscicollis (Vieill.). GRAY NIT; WHITE-RUMPED SANDPIPER. — Col. Feilden says: "Arrives in July and continues on the island (Barbados) till the end of November, receiving additions to its numbers. It flies in company with *E. pusillus* and *A. minutilla*, and I have brought all three down at one shot."

There is a specimen in the British museum from St. Vincent, obtained by Mr. G. Whitfield Smith, but otherwise it has not been obtained in these islands, except at Barbados, although it is probably a rather common migrant.

Actodromas minutilla (Vieill.). COCKROACH NIT; LEAST SANDPIPER. — Common on Barbados from the middle of July till the end of October. It occurs on all the other islands, but not in such numbers as at Barbados.

Erolia ferruginea (Brünn.). CURLEW SANDPIPER. — Wells says that small numbers of the Curlew Sandpiper arrive in Carriacou in September and October. He also records it from Grenada.

Ereunetes pusillus (Linn.). GRASS NIT; SEMIPALMATED SANDPIPER. — Everywhere abundant in these islands, arriving about the middle of July and remaining till November.

Calidris arenaria (Linn.). SANDY SNIBE; SANDERLING. — Occurs throughout these islands, frequenting the beaches in little companies; arrives in August, but is never very abundant.

Limosa fedoa (Linn.). MARBLED GODWIT. — Wells records the Marbled Godwit as a rare migrant on Grenada and Carriacou, one or two arriving with the first flights of Yellow-legs (*Totanus flavipes*).

Limosa haemastica (Linn.). HUDSONIAN GODWIT. — Col. Feilden says: "An annual visitor (to Barbados), in some years far more numerous than in others, generally arriving in October. Mr. Massiah informed me that he has a note that on October 10, 1878, this species passed over the island in large and continuous flocks the whole day. I have an example in my collection, a male, shot at Graeme Hall swamp by Mr. Herbert Hart on October 6, 1888."

Totanus melanoleucus (Gmel.). PIKA; GREATER YELLOW-LEGS. — Col. Feilden says: "This bird arrives as early as May; I have a note of their having been seen at Graeme Hall swamp on May 5, 1888 (*vide* C. Manning), but the main flights occur during September and October, arrivals continuing in diminished numbers till the middle of November. It appears in comparatively small parties, a flock of twelve or fifteen being considered a large flight."

The Pika is common on St. Vincent, Grenada, and the Grenadines during the migrations. The British museum has specimens from Union Island, Grenada, and St. Vincent, collected by Mr. G. Whitfield Smith.

Totanus flavipes (Gmel.). LONG-LEGS; YELLOW-LEGS. — Abundant on all these islands, arriving about the middle of July. On the Grenadines a few may be found in the swamps throughout the year.

On October 2, 1903, I saw one of these birds flying about inside the "new crater" of the St. Vincent Soufrière. What it was doing up there 4000 feet above the sea is hard to imagine even though in its present state the floor of the "new crater" does somewhat resemble a beach. This was the only bird seen on the volcano with the exception of a few martins (*Progne dominicensis*) near its base.

Helodromas solitarius (Wils.). BLACK-BACK; SOLITARY SANDPIPER. — Common on Barbados, St. Vincent, and the Grenadines from July till December. It is found singly or in pairs, sometimes in little parties in favorable localities. If a party of these birds be started, the individuals fly away independently of each

other, or in pairs, just as they do in the north. On Grenada and St. Vincent it is usually found along the rivers, but does not ascend them so high as does *Actitis macularia*. On Barbados this is not reckoned a game bird, and is not hung up with the other shore birds after a day's shooting, as it is supposed to spoil them. This is probably due to its strong and rather disagreeable odor.

Pavoncella pugnax (Linn.). RUFF.—Schomburgk ('48, p. 681), says: "The Ruff Sandpiper is a British bird, and I have been informed that it is the first time that this species has been recorded as having been found on the other side of the Atlantic. Mr. Bishop sent it to me among other migrating birds, and observed that its name was not known, from which I infer that its occurrence in Barbados is a singular circumstance."

Col. Feilden obtained another specimen of this bird in full breeding plumage from Mr. H. Alleyne, which was shot by Mr. H. Simson of Bridgetown in Graeme Hall swamp in 1878.

Symphemia semipalmata (Gmel.). WHITE-TAILED CURLEW; WILLET.—A regular, but rather uncommon visitor. I saw one at Chateaubelair, St. Vincent, in October, 1903, and it is recorded from Barbados, Carriacou, and Grenada.

Bartramia longicauda (Bechst.). COTTON-TREE PLOVER.—Col. Feilden says: "Generally arrives (in Barbados) about the middle of August, and a few remain until March. On arrival the flocks break up and scatter over the grass-lands, corn-fields, yam and sweet-potato patches, feeding on grasshoppers, beetles, and other insects. They are not attracted by the 'mock-birds,' neither do they respond to the whistle of the sportsman. They run as fast as a Guinea fowl, and generally rise well out of shot. Their note is peculiarly pretty, a soft liquid cry. The local name given to this bird took its origin from its habit of frequenting the cotton fields when this plant was cultivated in Barbados."¹

Wells says that small numbers arrive in Grenada and Carriacou during September and October. They are very wary, and frequent the hilly pastures. It has not been recorded from St. Vincent.

The Upland Plover is becoming more and more scarce every year, according to the natives in these islands.

¹ Hughes' "Cotton Tree Bird," however (1750, p. 72), is evidently a *Passerine*. *Vide* Hypothetical species. "The Cotton-Tree Bird."

Tryngites subruficollis (Vieill.). BUFF-BREASTED SAND-PIPER.— This bird is recorded as a rare visitor to Barbados. Col. Feilden has one obtained in the autumn of 1887, another on October 6, 1888, and a third about the year 1847.

Actitis macularia (Linn.). SPOTTED WAG; SPOTTED SAND-PIPER.— Abundant throughout these islands, many remaining all the year. On Barbados it is especially common along the streams in the Scotland district. On Grenada and St. Vincent it follows up the water courses into the mountains, to the borders of the high woods and even beyond.

Numenius hudsonicus Lath. CROOK-BILLED CURLEW; WOODCOCK; HUDSONIAN CURLEW.— Rather uncommon, though regular migrant, arriving in the early part of August. It has not yet been recorded from St. Vincent.

Numenius borealis (Forst.). CHITTERING CURLEW; ESKIMO CURLEW.— Col. Feilden says: "Arrives about the end of August, but passes more frequently in September. The first I obtained in 1888 was on September 5, when immense numbers passed over the island, though comparatively few alighted. The same day great flocks of Golden Plover (*Charadrius dominicus*) and Long Legs (*Totanus flavipes*) arrived. I saw over a hundred of each of these species shot at one stand by a single gun." Hughes (1750, p. 77) says: "These, as well as most Curlews, often come in great flocks. They are next in bigness to the Crooked-billed Curlew." Both Hughes and Schomburgk ('48, p. 681) give this bird the local name of "Shivering Curlew."

Wells says that at Carriacou and Grenada this curlew comes in with the plovers, but remains only a few days. On September 5, 1904, I saw two birds of this species on a mudflat near Harvey Vale, Carriacou, in company with great numbers of Yellow-legs (*T. flavipes*). These were the only examples I met with during my entire stay in the West Indies.

The Eskimo Curlew has never been recorded from St. Vincent although it doubtless occurs there.

Recurvirostra americana Gmel. AMERICAN AVOCET.— Col. Feilden says that Mr. Massiah informed him that he shot an Avocet at Valentia swamp in the autumn of 1880, and Mr. I. Tingling shot another on October 1, 1888, at Finney's Hill, St. Philip's, Barbados.

Himantopus mexicanus (Müll.). BLACK-NECKED STILT.—

Col. Feilden says, speaking of this bird on Barbados: "A rare visitor, though seldom a year passes without one being shot at Graeme Hall swamp. Mr. I. Tingling informed me that he saw one there in the autumn of 1887, and another on September 17, 1888."

Ober obtained this bird on St. Vincent, and there is an adult female in the British museum collection procured by Mr. G. Whitfield Smith on that island in 1889.

Stercorarius crepidatus (Gmel.). JAEGER.—An adult female of this species with enlarged ovaries was brought to Col. Feilden alive on July 10, 1888, at Barbados. It had been caught by a fisherman with a hand-net. The bird was rather thin, but not emaciated.

Mr. M. J. Nicoll observed a bird of this species between St. Vincent and Carriacou on January 27, 1904. There are no other records.

Larus atricilla Linn. MAUVE; LAUGHING GULL.—Specimens of this species from these islands are somewhat smaller than others from more northern points in its range; but as in many gulls, birds from the north average larger than examples from more southern localities. I have not considered it advisable to give it a subspecific name.

The Laughing Gull is casual on Barbados. Col. Feilden has a specimen shot by Dr. Manning in the summer of 1887, and another killed on July 24, 1888.

This bird is common along the shores of St. Vincent and Grenada, but in the former island is mainly confined to the Kingstown district. In Grenada one or two may usually be seen flying about the docks and wharves of St. George's.

In the Grenadines the Laughing Gull is common everywhere, particularly so about Carriacou, where it is seen in flocks of twenty or thirty. Wherever pelicans are feeding there are usually to be found a few birds of this species, watching for a chance to get a share of the larger birds' meal, which they do by alighting on the latters' heads and reaching down into their beaks.

At Carriacou after a rain these birds frequent the pastures in numbers, particularly at Beausejour and Harvey Vale. They nest on the small islets about Carriacou, and rather generally on the more isolated keys all through the Grenadines.

The eggs are three, sometimes four, dark buff, with blotches of brown, that sometimes form a ring about the larger end.

Measurements.

Sex.	Locality.	Wing. mm.	Tail. mm.	Culmen. mm.	Depth of Bill. mm.	Tarsus. mm.
♂	Union Island, Grenadines	293	120	37	11	43
	" " "	300	120	37	10	44
	St. Mary's, Ga.	345	130	42	12	53
	" "	343	141	40	12	52
	Little Gaulding Key, Bahamas	315	120	38	12	47
	Anastasia Island, Fla.	350	130	42	12	50

Gelochelidon nilotica (Hasselq.). GULL-BILLED TERN. — This is a rare visitor to these islands. Col. Feilden obtained two specimens at Barbados, one killed October 6, 1888, and the other on the following day. There are no other records.

Sterna maxima Bodd. ROYAL TERN. — The Royal Tern is found rather sparingly along the leeward coast of St. Vincent, throughout the Grenadines, and about Grenada, being rather more numerous about Barrouallie in St. Vincent, the Tobago Keys and the southern part of Carriacou in the Grenadines, and Grenville in Grenada, than at other points.

The eggs are three in number, laid on the ground in sandy places; white or greenish buff in color, blotched with brown of different shades, especially toward the larger end.

Sterna dougalli gracilis (Gould). CARRECT; ROSEATE TERN. — The resident West Indian Roseate Terns appear to have the bill with more or less red at the base instead of wholly black as in more northern birds, so I have referred them provisionally to Gould's *S. gracilis*. Mr. Saunders (Proc. zool soc. London, p. 652, 1876) gives an interesting account of the variations in the color of the bill in this species, and says that all the birds he has seen with the red bill have been from tropical localities. Gould's type came from Australia.

The Roseate Tern is seen rather rarely about the leeward coast of St. Vincent, but is more common about Grenada. It is of fairly common occurrence in the Grenadines, breeding, among other places, at Frigate Island and Rose Rock near Carriacou. Formerly it bred in numbers at Isle Jaques Adam near the town of Hillsborough, but for some reason has of late years deserted this locality.

The nest is made on the ground in sandy places. It is composed of sticks, dry weeds, etc. The eggs are three or four, varying from

white to deep brown in color, spotted and blotched with dark brown of various shades.

NOTE. — Probably *S. dougalli dougalli* should have a place in the avifauna of these islands as a winter visitor from North America. Mr. Cory has specimens taken in Guadeloupe in September which have the bill wholly black, while others in his collection, taken near Antigua in June and July have the base of the bill red for from one third to one half its length.

Sterna antillarum (Less.). LEAST TERN. — One specimen of the Least Tern was obtained at Chancery Lane, Barbados, on September 8, 1888, and another on October 17, of the same year. There are no other records.

Sterna fuliginosa (Gmel.). TWAROO; HURRICANE-BIRD; SOOTY TERN. — The Sooty Tern is common at sea in medium sized or large flocks in this part of the Caribbean, especially in the channel between St. Vincent and St. Lucia, and between these islands and Barbados. It is occasionally seen along the leeward coast of St. Vincent, usually singly, and small flocks are often to be met with between Bequia and Canouan. It is abundant in the southern Grenadines, from Carriacou to Grenada, breeding on Isle Ronde, Kick-'em-Jenny, Lee Rocks, Bonaparte Rocks, and Isle de Large, as well as on some of the smaller islets.

Although abundant within sight of Barbados, it has never been known to visit that island.

The single egg is placed on the ground, usually in sandy spots, and is white, blotched with reddish brown and lilac.

Sterna anaethetus (Scop.). BRIDLED TERN. — This species is common about the southern Grenadines, nesting abundantly at Lee Rocks, and on Rose Rock. There are also smaller colonies on many other of the smaller keys, and a number breed on White Island, in the midst of a rookery of several hundred Noddies (*Anous stolidus*). Single birds or pairs are frequent in the northern Grenadines and about the shores of St. Vincent and Grenada. I have seen it a few miles off the coast of Barbados when out in a flying-fish boat, but it has never been seen or taken in the immediate vicinity of that island.

The egg of this species is placed on the ground, and is creamy white, spotted and blotched with reddish brown and umber, especially toward the larger end.

Hydrochelidon leucoptera (Meisn. and Schom.). WHITE-WINGED BLACK TERN.—One specimen of this bird was obtained by Col. Feilden on October 24, 1888.

Hydrochelidon hybrida (Pallas). WHISKERED TERN.—There is a mounted specimen of this species in the British museum marked "Barbados" presented by Sir Robert H. Schomburgk. He does not, however, include it in his list of the birds of that island (*vide* Saunders, in Yarrell's British birds, 4th ed., vol. 3, p. 529, 1884; Cat. birds Brit. mus., vol. 25, p. 10, 1895).

Anous stolidus (Linn.). MWEN; NODDY.—The Noddy is common among the Grenadines, nesting at Isle de Large, Rose Rock, and White Island near Carriacou, and on Western Key off Bequia. There are also other less important breeding places. This bird is often seen at sea about these islands, and sometimes visits the coasts of St. Vincent and Grenada, particularly the windward coast of the latter island. I have met with it within a few miles of Barbados when out in a flying-fish boat, but it has never been taken there, nor seen near the shore.

The flight of this species is different from that of other terns, reminding one of the flight of the boobies (*Sula*).

The nests are placed on low bushes or trees, sometimes on the ground. The single egg is grayish yellow, spotted and blotched with reddish brown and lilac.

Columba squamosa Bonn. RAMIER.—Sir Hans Sloane in his Natural history of Jamaica (1707, vol. 1, p. 34) says, speaking of Barbados, that "Turner (ap. Purchas. p. 1265) found Hogs, Pigeons, and Parrots there."

Hughes (1750, p. 76), says, speaking of "The Wild Wood Pigeon": "This is about the bigness of an House Pigeon."

"The head is of a blackish color; and from the under bill to the breast, of a light mouse color; from thence to the belly and the under part of the tail, of an ash color; the upper side of the neck, back, and wings, of a dark ash color, growing lighter toward the extremities of the wings."

"These come hither, tho' in no great numbers, about the latter end of July or August, always alighting upon trees, and feeding upon the berries of them."

These references must refer to this species; Hughes' description of the color is rather inexact, but was perhaps taken from memory;

his note of the size is very close, and he noticed the exclusively arboreal habits of the birds. There is no other pigeon or dove of this nature which could reasonably be supposed to have been an annual visitor to Barbados.

The Ramier is not rare in the high woods of St. Vincent (to which part of the island it is confined), and is common at the higher altitudes of Grenada and on all the Grenadines. On these latter islands it occurs at all points, even among the low bushes along the seashore. Ramier are particularly abundant on Prune Island, the Tobago Keys, the western end of Petit Martinique, and on Church Rock, between Battowia and Balliceaux. Their numbers have of late years seriously diminished on the small islands, probably on account of their not being given sufficient protection during the breeding season. They nest from the latter part of May until August, mostly on the smaller keys. After the breeding season they disappear almost entirely from the Grenadines, but return the following May.

This is the chief game bird of these islands, and is much hunted. The flight is rapid and powerful, and the birds regularly cross over from one island to another to feed, returning at night to roost on the smaller keys. Formerly numbers could be shot any evening about four o'clock from Clifton House, Union Island, as they flew from that island over to Prune to spend the night. They could be obtained at Hermitage House, Carriacou, in the same manner, as they flew past, going to one or other of the small keys near by.

Dr. Dunbar B. B. Hughes, the district medical officer at Carriacou, told me that in the spring of 1904 he shot a pure white bird of this species on one of the small islets near that island. At about the same time there was another, largely mixed with white, on Canouan, but it was very wary and nobody succeeded in killing it.

During the recent eruptions of the Soufrière on St. Vincent, large flocks of Ramier visited Grenada, probably from that island, but subsequently disappeared.

The nest is a loose structure, usually placed rather high. The eggs are two, white, much like those of the Domestic Pigeon.

Zenaida zenaida aurita (Temm.). WOOD DOVE; BEQUIA DOVE; TOURTERELLE; SEASIDE DOVE.—The Wood Dove is common on Barbados in places where it is accorded protection, notably in the grounds of Codrington college, the grounds of Gov-

ernment house, and about Mr. James H. Inniss' residence, Gazettees. At other points it is not abundant, and is very shy.

This bird is not a resident at St. Vincent, but a few of them stray over from the northern Grenadines, especially in the spring, visiting the district about Calliaqua and Arnos Vale. The natives recognize the fact that this species is not a resident, but occurs commonly on the neighboring islands as such, and hence apply to it the name of "Bequia Dove," in somewhat the same way that they call the *Holoiscalus* of St. Vincent the "Bequia Sweet."

On the Grenadines it is abundant, and may often be seen over the sea, passing from one island to another, or from the northern Grenadines to St. Vincent. It breeds on all the islands and keys, and is especially numerous on Battowia, Balliceaux, Mustique, the Tobago Keys, and Prune. Although a lowland species, it occurs at all points in the smaller islands.

On Grenada it is common all along the coast, especially toward the southern end of the island; but is rarely found far from the sea. It frequents mainly the open pastures and sea cliffs.

One specimen, obtained at Barbados, had a single white feather near the middle of the back.

The nest is a loosely constructed affair, like that of *Zenaidura macroura*, placed in trees or bushes. The eggs are two, white.

Zenaida vinaceorufa Ridgw. TRINIDAD GROUND DOVE.—Lawrence ('85) separated the bird from Grenada and Carriacou, giving it the name of *Z. rubripes*, but later writers have not followed him. Von Berlepsch ('92) says: "Eine sorgfältige Vergleichung dieses Curaçao-Vogels mit einer Serie von 10 auf der Insel Carriacou (Grenadinen) von Herrn. J. Grant Wells gesammelten Exemplaren — welche als Typen zu *Z. rubripes* Lawr. zu betrachten sind — hat mich davon überzeugt, das *Z. rubripes* mit *Z. vinaceorufa* Ridgw. zusammen fällt. Ebenso wenig vermag ich einen Trinidad-Vogel sowie ein ♂ von Suonga, British Guiana (Coll. Whitely), von der typischen *Z. vinaceorufa* Ridgw. aus Curaçao zu unterscheiden."

Lawrence says, quoting Wells, in the article containing the original description, that this is not a common bird on Grenada. Several specimens were obtained on Glover's Island, where Wells thinks they resort during the nesting period, and one (type of *Z. rubripes*) on Grenada proper.

On Carriacou this species was formerly abundant but is now on the decrease. It is only found about the southwestern end of the island, especially on the Harvey Vale and Beausejour pastures. On July 12, 1904, I found a number (perhaps a dozen pairs) at the latter place and obtained four, but did not again meet with it, although I searched carefully in its favorite haunts. It is said to occur mainly in the summer, appearing in July, and is locally supposed to come from the mainland and from Trinidad, as does the Fork-tailed Kingbird (*Muscivora tyrannus*); hence its local name. It nests sparingly on Carriacou, and on the smaller islets off the coast.

In habits it much resembles *Zenaidura macroura*. The loosely constructed nest is placed in low trees; the eggs are two, white.

Engyptila wellsi Lawr. PEA DOVE.— This species is confined to the island of Grenada and to the islets just off the coast, on some of which it is very numerous.

Columbigallina passerina trochila (Bonap.). GROUND DOVE; ORTOLAN.— This bird is common on Barbados, especially in the pastures near the seacoast. It was more abundant formerly before the introduction of the mongoose. Col. Feilden states that he has heard of as many as fifty couples being shot in a day by two guns; this could hardly be accomplished now.

On St. Vincent the Ground Dove is not at all abundant. The only places where it can be seen at all commonly are the Kingstown valley and the neighboring windward district. It keeps near the seacoast, never venturing far into the hills.

On Grenada it is found in numbers about the southern end of the island, and is fairly common at other points, keeping, however, near the sea. As on the other islands, the mongoose has made serious inroads into its ranks.

On the Grenadines, where the mongoose does not exist, it is abundant, except on some of the smaller keys, notably Prune, where it is rare.

On Barbados and St. Vincent the negroes catch numbers of these birds in traps and "springes," the latter being supple twigs bent into a spiral form and secured in that position with twine, from which, as well as from the twig, horsehair nooses project upward. The bait is placed on the ground underneath.

The nests are placed on the ground in tufts of grass, in bushes,

or in trees, sometimes as much as ten feet from the ground. The two eggs are white.

Geotrygon montana (Linn.). PERDRIX. — Formerly common in the higher parts of St. Vincent and Grenada, but now probably extirpated from the former island, and very rare on the latter. It is essentially a ground species, thereby falling an easy prey to the mongoose.

Wells says that the nests are usually placed near the ground in trees or on stumps, very often in a tree fern; the eggs are two, light coffee-color, one usually darker than the other.

Coccyzus minor minor (Gmel.). CUCKOO MANIOC; RAIN-BIRD. — On examining a series of thirty-eight specimens of *Coccyzus minor* from the islands of Dominica, St. Lucia, St. Vincent, the Grenadines, and Grenada, I find that there are three forms apparently well worthy of recognition.

The bird from Dominica has been named *Coccyzus minor dominicae* by Captain Shelley (Cat. birds Brit. mus., vol. 19, p. 306, 1891), and is characterized as having a larger and thicker bill than *C. m. minor*, and in being darker, especially below. Mr. Riley (: 04b, p. 285) has renamed this form *C. m. shelleyi*, believing the name *dominicae* to be too close to *dominicus*, given (*Cuculus dominicus*) by Linnaeus (Syst. nat., vol. 1, p. 170, 1766) to the resident West Indian Yellow-billed Cuckoo (*C. americanus*); but it seems to me that the two terms *dominicus* and *dominicae* are sufficiently distinct, and no change in nomenclature is called for, although it certainly would have been better had Captain Shelley chosen some other designation for his new bird.

The series of 19 specimens of this species from the Grenadines and 4 from Grenada collected by myself shows that the birds from these localities are identical, there being no difference between those from Grenada and those from the smaller islands. Mr. Riley (*loc. cit.*) includes Grenada in the habitat of *C. m. dominicae*, and gives the measurements of a specimen from that island which certainly is not the form I obtained there. All my birds were taken in the vicinity of Point Saline, near the southern end of the island, on low-lying ground, open, or grown up to scrubby bushes and cactus, just such conditions as obtain on the Grenadines. The larger part of the island, however, is damp and more or less wooded resembling in this respect Dominica, St. Lucia, or St. Vincent; and

it is very possible that there are two forms here, one inhabiting the hot and dry lowlands in the southern part of the island, and the other the moist wooded regions. Unfortunately, I have not been able to obtain a specimen of true *C. m. minor* from South America¹ for comparison with my birds from Grenada and the Grenadines, but I have thought it best to refer them to this form, as they agree fairly well with Buffon's plate. In color they are pale below especially on the throat and breast. Compared with an example of *C. m. nesiotes* from Jamaica, while only slightly paler on the abdomen, they are strikingly less buffy on the throat and breast, which are almost a dead white tinged with gray (more pronounced in the males) particularly along the sides of the neck. The bill is small and weak in comparison with that of St. Vincent birds.

The Cuckoo Manioc is common on all the Grenadines. It is slow and stupid in its actions, and frequents hillsides grown up to scrub, although it is sometimes found on the borders of mangrove swamps. Its cry is a peculiar guttural rattle, sounding in the distance like the noise made by the American marsh frog (*Rana palustris*).

On Grenada this bird is uncommon, and appears to be mainly confined to the low scrubby districts in the vicinity of Point Saline, where the conditions are similar to those on the Grenadines.

The nest is loosely built, like that of *C. americanus*, and generally well hidden. The eggs are two or three in number, pale green.

The Mangrove Cuckoos which I obtained on St. Vincent appear to represent a well marked local race, for which I propose the name

***Coccyzus minor vincentis* subsp. nov.**

ST. VINCENT CUCKOO.

Coccyzus minor Lawr., Proc. U. S. nat. mus., vol. 1, p. 193, 1878; Lister, Ibis, 1880, p. 41; [Clark], W. I. bull., vol. 5, p. 88, [1902]. (Part.)

Coccyzus minor dominicae Shelley, Cat. birds Brit. mus., vol. 19, p. 308, 1891; Cory, Cat. W. I. birds, pp. 102, 141, 1892; Mayn., Cat. birds W. I., 2d app., p. 36. no. 76. 1, 1903. (Part.)

Coccyzus minor shelleyi Riley, Smiths. misc. coll., vol. 47, p. 285, 1904. (Part.)

¹ The type locality of *C. minor* is Cayenne.

Type.—No. 12,796, ♂ ad., coll. E. A. and O. Bangs. Peter's Hope, St. Vincent, Feb. 11, 1904.

This form resembles *C. m. dominicae* from Dominica, but is paler below, and has a longer and stouter bill. The color of the underparts is intermediate between that of *C. m. dominicae* and *C. m. minor* from the Grenadines, but the bill is considerably larger than in either.

Mr. Riley includes the St. Vincent Cuckoo under *C. m. dominicae*, but appears to have had no specimens for comparison. None of the six Dominican birds which I have examined shows any approach to this light-colored, large-billed form.

Mr. Nicoll (:04, p. 565), speaking of the Mangrove Cuckoos of St. Vincent, says that they are apparently intermediate between *C. m. minor* and *C. m. maynardi*; but he himself obtained no specimens on the island, and his statements are based on birds in the British museum collection. The two examples which I took, as well as others which I saw, were intermediate between *C. m. minor* and *C. m. dominicae* in color. Mr. Nicoll's observations would, however, be applicable to birds from the Grenadines in a rather worn state of plumage, or to specimens in a faded condition from those islands; and, in view of the rarity of this bird on St. Vincent, and the abundance of *C. m. minor* on the Grenadines, it is very possible that the examples examined by Mr. Nicoll from "St. Vincent" were in reality of Grenadine origin.

Unfortunately for ornithology, the colony of St. Vincent includes not only the island ("mainland") of that name, but also all the Grenadines north of Carriacou. Now St. Vincent proper and the Grenadines, as pointed out, lie in different faunal areas, and unless one can be absolutely certain where a specimen was taken, it is unsafe to admit it into consideration. The Grenadine towns are locally regarded simply as country villages of St. Vincent, just as much as Georgetown, Layou, Chateaubelair, or Barrouallie on the island itself. To give an idea of the confusion which might arise: *Ortalis ruficauda* is found only on Bequia and Union Island, and *Eupsychortyx sonnini* occurs only on Mustique, but all these islands are politically "St. Vincent." Moreover, *Coccyzus minor* (*minor*), *Holoquiscalus luminosus*, and the Yellow-breast, *Coereba wellsi* (form *morrissi*) are abundant on all the Grenadines, while the corresponding forms, *C. minor* (*vincentis*), *H. dispar*, and *C. atrata*

(form *saccharina*) occur only on the island of St. Vincent, and are all very rare. Therefore, unless it can be proved that specimens of Mangrove Cuckoos, blackbirds, or Yellow-breasted Honey Creepers could not by any chance have been procured on Bequia (only six miles from Kingstown) such specimens must be disregarded in considering the avifauna of this district.

On the Grenadines, the plumage of birds fades with remarkable rapidity, owing to the small rainfall and general absence of trees, and the consequently dry, hot, and unsheltered conditions under which the birds live. This fading is very noticeable in the Mangrove Cuckoo, and it is unsafe to draw any conclusions from any but perfectly fresh material.

Measurements.

Sex.	Locality.	Wing. mm.	Tail. mm.	Culmen. mm.	Depth of Bill. mm.	
♂	<i>C. m. vincentis</i> (type)	St. Vincent	137	177	30	12
	" (topotype)	"	137	176	31	12
	" (average of four)	St. Lucia	139	178	28	11
	<i>C. m. dominicae</i> (average of three)	Dominica	143	166	28	11
	" " " "	"	143	167	28	11
	<i>C. m. minor</i> (average of three)	Bequia	134	176	27	11
	" " " "	"	130	173	25	10
	" (average of eight)	Union Island	133	169	27	10.5
	" (average of three)	" "	133	168	26.5	10
	" (average of two)	Carriacou	134	167.5	26.5	10
	" " " "	"	132	176	27	11
	" (average of two)	Grenada	133	173	27	10
" " " "	"	132	172	28	11	

The seven specimens examined from St. Lucia all agree in color with the St. Vincent birds, but approach those from Dominica in the character of the bill. Only the two having the largest and the two having the smallest bills were measured.

The Cuckoo Manioc is rare on St. Vincent at present. I met with several in the upper part of the Peter's Hope valley, near Barrouallie, and saw single individuals in the woods behind Chateaubelair (October, 1903), on Belleisle Hill (February, 1904), and in the grounds of the Agricultural school at Kingstown (February, 1904).

Lister remarks that he has often heard its notes when entering the high woods, although he mentions that it also occurs in the lowlands. It appears to be now confined to the borders of the high woods and to clearings in the higher mountain valleys.

Coccyzus americanus (Linn.). YELLOW-BILLED CUCKOO.— Col. Feilden records the capture of a male of this species at Graeme Hall swamp, Barbados, on October 6, 1888.

Wells saw a pair at Grand Anse pasture, Carriacou, in 1896, one of which, a male, he obtained, and since then has found them every year.

I shot a male on the Spring estate pasture, Bequia, on November 30, 1903.

It has never been obtained on St. Vincent or Grenada, but probably occurs as a rather rare winter visitor; Mr. Cory gives it from Barbuda, and Mr. Chapman obtained one on Trinidad.

Crotophaga ani Linn. TICK-BIRD; CHAPMAN-BIRD; CORBEAU.— The Ani is common on St. Vincent about the cleared land. It is said to have been introduced into the island from Tobago in the sixties by a Mr. Chapman, by whose name it is now commonly known.

On Grenada it is very numerous. Among the Grenadines it occurs on the southern end of Bequia (Friendship estate), on Mustique, Canouan, Union Island, Petit Martinique, and Isle Ronde, but is absent from the other islands.

The nest of this species is a bulky structure of sticks and dry leaves, placed in a tree or bush, usually rather low. Several pairs use the same nest, all the females laying their eggs in it. Sometimes three or four may be seen sitting on the nest at one time. The eggs are green, covered with a white calcareous deposit, through which the ground color shows faintly.

Amazona guildingii (Vig.). ST. VINCENT PARROT.— In view of the rarity of this bird in collections, and considering the fact that nothing has been written on the variations in its plumage, nor on its young stages, I have thought it best to go somewhat into detail in regard to its coloration. I obtained eight specimens, no two of which are exactly alike in either measurements or plumage.

Color.— Adult: ¹ "Orange brown, edges of feathers black; pileum white, turning to yellow on the hind part; lores and feathers under the eye, white. Occiput, throat, and sides of head, blue, with bases of feathers yellowish green; lower part of the neck more or less tinged with green; the feathers of the abdomen green near the

¹ Salvadori, Cat. birds Brit. mus., vol. 20, p. 273, 1891.

black edges. Under tail coverts green yellow; spurious wing and primary coverts green, the first with a bluish tinge, the last orange at the base of the outer ends. An orange wing speculum at the base of the first three or four secondaries; primaries black, with their bases yellow; secondaries blue, edged with green, the first three or four with the bases of the outer webs orange, forming the wing speculum. Bases of the inner secondaries yellow; tertials partly green; upper part of the metacarpal edge, yellow orange, the lower part green, with the edges of the feathers blue; smaller under wing coverts orange, mixed with green, greater ones and bases of the inner webs of the quills, yellow; tail above, yellow and orange at the base, blue in the middle, and yellow at the tip; below, orange at the base, yellow at tip, green in the middle; bill pale horn, tarsus gray."

In fresh specimens the iris is orange, the feet light bluish gray, the naked skin about the face and eyes grayish at base of bill, becoming bright blue behind; bill light bluish gray at base, becoming ivory-white at tip. In some specimens the skin of the face was much brighter than in others, and was brighter in the brown birds.

No. 1 (immature): general color above dull greenish brown, becoming brighter green on rump. Breast brown, becoming green on abdomen. Under surface of quills green (instead of yellow) with only a tinge of yellow at the base. The orange speculum on the secondaries is present, but there is no yellow on the primaries. Tail yellow at base, becoming orange near the central band, this color extending into the band in the shape of an inverted V on each feather. The central band is green, becoming blue distally. Tip of tail orange, the extremity of each feather greenish yellow. Hind head, throat, neck, and sides of head, forward to over eye, blue. Pileum and lores clear white; occiput orange.

No. 2: resembles no. 1, but the head is brighter in color, with less blue. The feathers under the eyes are light orange, tipped with blue, and the general coloration is somewhat browner. There is no yellow on the primaries. The tips of the tail feathers are yellow, becoming orange on the inner webs of all but the central pair.

No. 3: back dull orange brown, tinged with green, becoming dark chestnut on rump. Greater wing coverts orange brown; lesser under wing coverts bright yellow, tipped with black. Basal half of primaries yellow, forming a large yellow patch on extended

wing, continuous with the orange wing speculum. Bend of wing brown, green, and orange. Distinct collar about neck, green. Pileum dirty white, tinged with grayish blue, becoming more strongly blue toward occiput. The bases of the feathers are orange, this color encroaching more and more on the feathers posteriorly. Feathers under eye, yellow at base, green and blue at tip. Occiput blue, the feathers being orange at the base, then green, tipped with blue and edged with black. Feathers of throat orange, tipped with blue. Basal portion of tail yellow, becoming distally deep orange red; central band, the basal half green, the distal blue; tip orange, becoming greenish at the extremity.

No. 4: In general brighter and browner than no. 3; the pileum is clearer white, becoming orange on occiput. Feathers under eyes orange, tipped with white. There is very little blue on the hind head and neck, but there is a distinct green collar. The rump is brighter than in no. 3, becoming orange brown on upper tail coverts.

These are the most distinct color types represented. The main differences between the immature and the adult seem to be that the former are dull brownish green, brightest and greenest on the rump and abdomen, duller on the head, the pileum being suffused with gray, and with the primaries entirely green. In life the difference between these two types of plumage is very noticeable. The adults seen against a background of tropical foliage appear decidedly yellow, with the middle third of the wing basally orange, and distally yellow, and the wing entirely yellow underneath. The young appear green, with only a small patch of orange on the wing. When a pair, one of the yellow type of coloration and the other of the green, are seen flying together, as they often are, the difference is much more striking than in the prepared specimens; so much so, in fact, that it is a rather prevalent idea on St. Vincent that there are two species of parrots on the island.

Measurements in Millimeters.

	♀ ¹	♂	♂	♂	♂	♀	♀	♀	♀
Wing	272	256	254	262	260	259	252	257	278
Tail	163	172	172	177	186	184	180	195	172

¹ From Cory, *Birds W. I.*, p. 185, 1889.

Lister says: "An inhabitant of the high woods It appears to breed during the months of April and May, though no one has yet been able to procure the young.

"The individuals that have been sent to Europe are birds that have been winged. During the latter part of August and the beginning of September I shot several examples that were moulting."

Ober says that it "is confined to the great central ridge running through the island. Like the Ramier (*Columba squamosa*) it feeds in the tops of the highest trees, its season for good condition being the later months of the year."

This fine bird is now decidedly rare on St. Vincent, where it is confined to the highest wooded slopes in the center of the island, behind Barrouallie. Some idea of its scarcity may be had from the fact that during a walk from Hermitage, in the upper Cumberland valley, south along the central ridge of the island only two were met with, although it is in this region that it is said to be most common. I stayed for four days in the Richmond valley, near the Morne Garou, where many parrots have previously been obtained, but neither saw nor heard one. Formerly it was very numerous, and was still common at the time of the great hurricane (1898). In that storm many were destroyed; two were picked up dead on the shores of St. Lucia, and a considerable number were disabled and caught by the natives. For days after the storm, parrots would be found in the smaller towns in a more or less helpless condition, due probably to hunger, for, as has been previously stated, the woods were at that time practically barren.

Before the species had recovered to any extent from the effects of the hurricane, the late eruptions occurred and probably killed many of the birds, as that part of the island best suited to them was laid waste.

In actions and general habits this parrot resembles *Amazona amazonica*. Like that species it is gregarious, and, in the days when it was abundant, occurred in large flocks. Now, however, it is only met with singly or in pairs. When flying it keeps up a loud and harsh "kak-kak-kak," the second syllable being louder than the first, and the third loudest of all. The flight is heavy and slow, like that of *A. amazonica*. When on the wing the bright orange speculum continuing into an elongated yellow patch on the primaries is very conspicuous. When in the trees these parrots keep

up a low and continuous jabbering, unless alarmed, when they become quiet. On being shot at they become extremely noisy and give out a series of shrieks and "kaks."

Owing to the steepness of the slopes and the nature of the undergrowth in the district where these birds occur, I found it exceedingly difficult to obtain specimens. Even if one were killed outright, a long search was necessary before it could be found, and to get wounded ones was usually out of the question.

When in the Richmond valley my native guide pointed out to me some very large dead trees, on a high ridge, where he said parrots used formerly to "camp" and about which they could be heard "barking" at any time. Probably these trees served as a nesting site for some of these parrots. None of the natives whom I questioned knew anything about the breeding habits of these birds, nor had it ever occurred to them that they might nest inside of trees, although many of them had found owls (*Strix nigrescens*) in such situations.

Mr. J. T. Thorne, until lately a magistrate in Demerara, who lived many years ago in St. Vincent, told me that a pair of these parrots once nested in an old estate chimney near Kingstown, and that two young were obtained from the nest.

? **Conurus** sp. PARRAKEET. — Schomburgk ('48, p. 681) gives "*Psittacus passerinus*" as occurring in Barbados, and Hughes (1750, p. 73) says: "The Parakite. This is of the frugivorous kind, and about the bigness of a thrush, having a longer and more crooked bill. It feeds on all manner of berries, popaws, and ripe plantains, residing chiefly in inaccessible gullies. The bird borrows its name from its resemblance in make, but not in plumage, to the small green Parakite." Hughes was very accurate in his statements (*vide* under *Vireosylva calidris barbadense*), and is here confirmed by Schomburgk. From the writings of various early authors (Du Tertre, de Rochefort, Labat, etc.) we gather that parrakeets were formerly abundant on Martinique and Guadeloupe, and there is no reason why they might not have been plenty in Barbados also.

Owing to the flatness of Barbados and the consequent accessibility of all parts of the island, one would expect that any of the parrot tribe that existed there at the time of its discovery would very quickly disappear, inasmuch as they appear to be the most readily exterminated of all birds possessed of the power of flight.

Melospittacus undulatus (Shaw). WARBLING GRASS PARAKEET. — While I was staying at the Marine hotel, Hastings, Barbados, in January, 1904, a bird of this species was to be seen every day flying about with a flock of blackbirds (*Holoquiscalus fortirostris*) which lived in that vicinity, as much at home as if they had been others of its own kind. This bird had been there several months. I was informed that it had escaped from a cage, and that a gentleman on the island had others which he intended to liberate in an attempt to introduce the species.

Ceryle alcyon (Linn.). LOGGERHEAD MANGO-BIRD; KINGFISHER. — The Kingfisher is common from late summer till spring in all the islands, keeping near the sea. A few remain throughout the year.

Strix nigrescens (Lawt.). JUMBIE-BIRD; CHAWAN; OWL. — Schomburgk gives *Strix flammea* as indigenous to Barbados. It is not at all improbable that this or a closely related subspecies was there in his day, although neither Hughes nor Ligon makes any mention of it.

This owl occurs rather sparingly all over St. Vincent, but is most common in the town of Kingstown, where it may be heard about the streets every night. There is a colony of them in the jail.

On the Grenadines it is only found on Bequia, but is rather common there, especially toward the northern end, and about the Spring estate. It has occurred on Union Island (where one was once captured in the church) and on Carriacou as an accidental visitor. It is common in Grenada, and may be seen every night flying about over the housetops in St. George's.

The nest is commonly placed inside of old houses, out-buildings, churches, hollow trees, etc. The eggs are three or four, white.

Chordeiles virginianus (Briss.). NIGHTHAWK. — Col. Feilden has a male specimen of the Nighthawk which was obtained by Mr. Herbert Hart in St. Philip's parish, Barbados, on September 29, 1887. From what I learned while on Barbados, I consider Col. Feilden justified in believing this bird to be an annual visitor to the island. A bird answering to its description is well known to many of the people there, and I heard of several instances of its capture. The Nighthawk probably occurs casually in autumn and winter on all these islands.

Cypseloides niger (Gmel.). BLACK SWIFT. — Lister says

that this bird "may be seen flying over the pastures in great numbers after rain" in St. Vincent. The British museum collection contains specimens obtained in that island in May, 1890, by Mr. G. Whitfield Smith.

Chaetura acuta (Gmel.). LESSER ANTILLEAN SWIFT.—Lister says that this bird is the commoner of the two species of swifts on St. Vincent. There was a large colony of swifts in the chimney of the Montrose estate works near Kingstown which I presumed to be this species, although I did not obtain any specimens.

Chaetura cinereiventris guianensis Hartert. GUIANAN SWIFT.—Wells says that this bird occurs everywhere on Grenada, but is more numerous in the mountains. It does not occur north of that island.

Chaetura poliura (Temm.). SOUTH AMERICAN SWIFT.—Common everywhere on St. Vincent and Grenada, especially in the woods and adjacent clearings. There are no swifts on the Grenadines.

Hemiprocne zonaris (Shaw). RINGED GOWRIE.—Wells says: "On the 13th. July, 1882, I was travelling through Tuilleries estate (Grenada) and observed a large flock of birds hovering over a rocky hill. I got close up to them, and found them to be large swifts, with a white collar round the neck. I went back about a mile and borrowed a gun, but just as I got to the hill again, a hawk swooped down and dispersed them. I am told they frequent that particular hill every year. I saw several of them on the 9th. August about Grenville one afternoon after a heavy storm. I have no doubt they are identical with the 'Ringed Gowrie' described in Gosse's 'Birds of Jamaica.'"

Glaucis hirsuta (Gmel.). BROWN HUMMINGBIRD.—This hummingbird is rather common in the more wooded portions of Grenada. It does not occur north of that island.

Eulampis jugularis (Linn.). RED-THROATED HUMMINGBIRD; DOCTOR-BIRD.—Ober says that at the time of his visit this hummingbird was the most numerous of all on the Soufrière. At the present time it is not at all common, and is almost wholly confined to the high woods.

I saw one on March 9, 1904, about a white cedar tree just behind the house of Rev. David Duffus in Bequia. Mrs. Duffus tells me that it is very rare on that island.

When alive this bird is readily distinguished by its large size, very dark color, and loud "peep," much like the cry of a lost chicken.

Sericotes holosericeus (Linn.). GREEN-THROATED HUMMINGBIRD; LARGE DOCTOR-BIRD.—I find I can match Gould's plates of *S. holosericeus* and *S. chlorolaemus* with specimens obtained on Barbados. The extent of the blue on the lower breast is a very variable character, and those birds in which it tends to shade into the green of the throat are apparently immature. Females usually, if not always, have longer bills than the males, and the blue on the breast is generally more restricted, tending to form a rhombic spot, and is not quite so sharply cut off from the green as in the males. I have examined a large series of this bird from all points in its range, and cannot see the slightest ground for subdividing it. The range of individual variation, as brought out by my series of twenty-eight examples from Barbados, is very great.

This hummingbird is common everywhere on Barbados. On St. Vincent and Grenada it is confined to the lower districts near the seacoast, and is not abundant, being, in fact, rather rare on the former island.

Among the Grenadines it is local. On Bequia I found it common in the town, and about the Spring estate. On Canouan only one was met with. At Union Island there were usually one or two to be found about some cedars behind the town of Ashton, and about another clump, midway between Ashton and Clifton. Two were seen on the flat land near Clifton Bay.

On Carriacou it was very common about the cedar trees near Hillsborough on the road to Harvey Vale, and was often seen at other points. I did not meet with it on the other keys. As a general rule in the Grenadines, wherever cedar trees are in blossom, one is apt to see this bird.

This is one of the few of the smaller West Indian birds I have seen at sea. I have met with it over the open water between certain of the Grenadines, and on September 23, 1904, while going from Montserrat to Antigua one of these birds appeared when we were about a third of the way across, and stayed about the boat for some time.

On August 27, 1903, I obtained at Barbados a female of this species with the throat white.

I have never seen but one nest of this bird. It was obtained at Belair, St. Vincent, and was composed of down, bits of fine leaves, etc., and was saddled on a small twig. There was one egg, white, the size of those of *Bellona cristata*.

Trochilus colubris Linn. RUBY-THROATED HUMMINGBIRD.—Col. Feilden says that this bird has been so accurately described to him that he has little doubt of its having occurred at Barbados. There are no records of actual capture for these islands, but it has been obtained on the Bahamas, Cuba, and Porto Rico.

Florisuga mellivora (Linn.). JACOBINE.—On August 9, 1904, I procured an immature male of this species near the residence of Mr. G. Whitfield Smith, Top Hill, Carriacou. It was probably an accidental visitor, as I saw no others, and had it occurred on the island during the life of Mr. Wells, he would probably have noticed it.

There are many sloops trading between Carriacou and Trinidad, one of which this bird may have followed up from the latter island, where it is common. Mr. Chapman gives an interesting account of an example of *Volatinia jacarini splendens* coming up from Trinidad to Grenada on a steamer, and very likely this bird reached Carriacou by some such method. Possibly the northward extension of the range of certain South American birds (as *Molothrus atronitens*, *Sporophila gutturalis*, *Tyrannus melancholius satrapa*, and *Muscivora tyrannus*) in recent years may have been due in a measure to this habit.

Anthracothorax gramineus (Gmel.). ROSCAL.—A young male of this species was observed just behind the town of Ashton, Union Island, on September 9, 1904. It was the only example met with.

Bellona exilis ornata (Gould). ST. VINCENT CRESTED HUMMINGBIRD; SMALL DOCTOR-BIRD.—This bird is generally distributed over St. Vincent, but is not abundant at present. The nest and eggs resemble those of *B. cristata*.

Bellona cristata cristata (Linn.). COULIBRE¹; SMALL DOCTOR-BIRD.—The Coulibre is common on Grenada and on all the Grenadines. It is especially pugnacious and torments many of the larger birds, not even allowing other hummingbirds to feed on the same tree with it.

¹ According to Labat (1722, vol. 4, p. 317) this is the Carib name.

The nest is very small, constructed of fine dry leaves and cotton lint, lined with down. The eggs are two, white.

I have examined a specimen of this species (a male) with the crest perfectly white, taken on Grenada.

Bellona cristata emigrans LAWT. BARBADOS CRESTED HUMMINGBIRD; SMALL DOCTOR-BIRD. — This "Small Doctor-bird" is common all over Barbados, to which island it is confined. The nest and eggs resemble those of *B. c. cristata*.

Tyrannus dominicensis rostratus (Scl.). RAIN-BIRD; PIPPIREE. — On Barbados this bird is an uncommon resident. I have seen it in St. Michael's (nesting), at Hastings near the Marine hotel, and obtained it in Foster Hall woods. On St. Vincent this is one of the commonest species, and it is abundant on all the Grenadines and on Grenada.

In actions it is much like *T. tyrannus*; its notes resemble "*pip-piree pipipiree*" uttered sharply.

The nest resembles that of *T. tyrannus*, and is usually placed rather high. The eggs are three, buff, spotted with lilac and brown.

Tyrannus melancholius satrapa (Licht.). YELLOW-BREAST PIPPIREE. — This bird occurs on Grenada, but is not common. On April 20, 1904, I took an adult female of this species at Clifton, Union Island.

Muscivora tyrannus (Linn.). FORK-TAILED FLYCATCHER. — This is an annual visitor to Grenada and Carriacou, appearing in considerable numbers in August (according to Wells). I did not meet with it during my stay on Carriacou, but I found that the people were well acquainted with it. As a rule it frequents open ground. On Carriacou it is found about the low-lying pastures, particularly about Harvey Vale. On Grenada it is most common on the windward coast, about Grenville. It has never been known to nest in these islands.

On Trinidad and Tobago also this species is a migrant, coming over from the mainland during the wet season.

Myiarchus tyrannulus tyrannulus (Müll.). LOGGERHEAD; PIPPIREE GROS TÊTE. — Mr. Riley (:04a, p. 275) has recently described a *Myiarchus* from St. Vincent and Grenada (the type locality being Grenada) under the name of *Myiarchus oberi nugator*. His series consisted of nine specimens: three from

Dominica, one from St. Lucia, two from St. Vincent, and three from Grenada.

I have reviewed the matter very carefully with a series of 68 skins from the West Indies: 4 from Dominica, 7 from St. Lucia, 17 from St. Vincent, 34 from the Grenadines (Bequia, Mustique, Mayreau, Union Island, the Tobago Keys, Prune Island, and Carriacou), and 6 from Grenada. These were compared with 21 specimens of true *M. t. tyrannulus* from Colombia, and three from Margarita Island, Venezuela, making in all 92 examples.

I have been unable to find any characters by which birds from Grenada, the Grenadines, or St. Vincent may be distinguished from continental specimens. There is no difference in size. The extent of the white markings on the wings is variable, for some birds from the Grenadines (agreeing with others from Colombia) have almost no white at all, while in others the bands are very wide. In the 57 birds from St. Vincent, the Grenadines, and Grenada, the rufous on the upper tail coverts is very conspicuous, more so than in the four from Dominica. In fact, in the living bird, as I am acquainted with it in these islands and on the mainland, it is a prominent characteristic. The colors of the head, back, and underparts are identical in birds in the same state of plumage from these islands and from Colombia.

The only character I have been able to discover by which specimens from the continent might be distinguished from others from Grenada, the Grenadines, or St. Vincent, is the extent of the brown markings on the tail. In examples from these islands the brown encroaches on the rufous of the inner web for an area just equal in extent to the outer web; that is, the brown area is the same on each side of the quill; on the outer it occupies the entire outer web, and on the inner a space just equal to it. As a general rule, the brown on the rectrices of continental specimens encroaches somewhat more on the rufous of the inner web; but this is not at all constant, one of the birds from Margarita Island having less brown than most of the Grenadine examples.

As in all other ways continental and insular (St. Vincent, the Grenadines, and Grenada) birds are identical, I am forced to consider them all as typical *M. t. tyrannulus*, and to treat the form as one which has worked its way up the islands from the continent as far as St. Vincent, in the same way that *Mimus gilvus*, *Molothrus*

atronitens, *Volatinia jacarini splendens*, *Merula gymnophthalma*, *Sporophila gutteralis*, *Elaeena martinica flavogastra*, *Tyrannus melancholius satrapa*, and a few others have done.

Mr. Cory ('92, p. 145) writes that his specimens of this bird from St. Vincent have light-colored bills, while those from the other islands are dark-billed. All the examples (17) which I procured on St. Vincent had dark bills; but I have seen old skins from that island (collected by Richardson) and others from St. Lucia (collected by Semper) in which the beak was light horn color. It appears to be due entirely to fading, as I never met with a bird in the flesh, nor handled a fresh skin with other than a dark-colored beak.

M. t. oberi from Dominica appears to be hardly worth more than subspecific rank. Newly moulted specimens of this form differ from newly moulted examples of *M. t. tyrannulus* in having only the wing bars dull grayish buff (instead of white) inclining to rufous, and having the brown on the tail occupying the entire outer half of the rectrices instead of only about the outer third, as in the case of the typical form.

The seven specimens from St. Lucia are intermediate between those from Dominica and those from the more southern islands.

Fading produces a great change in the colors of this bird. The feathers of the back on their first appearance are dark olive greenish, and the new feathers contrasting strongly with the worn ones, give the bird a spotted look. Dominica, in the localities inhabited by *M. t. oberi*, is very damp with a comparatively large rainfall, and the bleaching glare of the tropical sun is tempered by cloudy conditions, so that the birds retain their greenish cast until the beginning of a new moult. The color of the underparts also does not fade to an appreciable extent; but on the Grenadines, which are dry and hot, with practically no cover, the new feathers lose the greenish color and begin to turn brown even before the moult is complete. When the fresh plumage has been wholly assumed, therefore, the bird is of an olive brown color, quite different from fresh examples from Dominica, although the feathers on their first appearance were of exactly the same shade. As the fading increases the brown slowly becomes a brownish gray, and the underparts become lighter yellow. On Grenada, St. Vincent, and St. Lucia, the birds do not fade so much as on the more exposed Grenadines, but are nevertheless browner than those from Dominica.

This bird is rather uncommon on St. Vincent. It is found at the lower elevations, never in the high woods. The only locality where I found it in any numbers was at a place called Revelation, near Barrouallie. On the Grenadines it is usually common, frequenting scrubby growth, and it is common on all parts of Grenada.

The note of this species is a sharp "whit," uttered either singly or in a series. It is a rather stupid bird, and usually keeps near the ground. The food consists largely of berries which it obtains by hovering under them and reaching up.

The nest is constructed of sticks and leaves, and is placed in holes in trees or walls. It often contains a bit of snake-skin. The eggs are usually three, exactly like those of *M. crinitus*.

Blacicus flaviventris Lawr.— One specimen, the type, was obtained by Mr. J. G. Wells in St. Andrew's, Grenada, and another was seen by him on the Grand Etang road. This appears to be somewhat of a doubtful species.

Elaeena martinica flavogastra (Thunb.). YELLOW-BELLIED TOPKNOT.— This form is common on Grenada. On the Grenadines I obtained specimens on Bequia and on Mustique. On St. Vincent it is fairly common in the immediate vicinity of Kingstown, but I did not find it elsewhere.

It is rather remarkable that on the Grenadines and St. Vincent, both this form and *E. m. martinica* occur side by side. On St. Vincent *E. m. flavogastra* is only found in the Kingstown valley, and the other in the out-districts; but on Mustique I shot both from the same tree. Possibly *E. m. martinica* is the original inhabitant, and *E. m. flavogastra* a recent introduction from Grenada.

In life the three subspecies of *E. m. martinica* occurring in these islands are quite distinct. *E. m. barbadensis* has a cry sounding like the word "pee-chittler," with a strong accent on the first syllable; *E. m. martinica* has the same note, but the accent is on the last syllable; *E. m. flavogastra* is intermediate. Moreover, *E. m. martinica* is usually seen singly, and frequents underbrush or low trees; *E. m. flavogastra* generally goes in small companies and is found in the upper parts of the trees, resembling *E. m. barbadensis* in this respect. All three are active birds, always on the alert, with crest erect. Their food is largely small berries, which they obtain in the same manner as does *Myiarchus tyrannulus*, by hovering under them and reaching up.

The nest of this bird is constructed of fine roots, grasses, bits of bark, and cotton lint, lined with feathers and cotton. It is very compactly made, and is usually placed flat on a large horizontal branch, or in the fork of two large branches. The eggs are two, delicate light pinkish buff, with large spots of lilac and brown at the larger end.

Elaenea martinica martinica (Linn.). TOPKNOT. — On St. Vincent this bird is found on scrubby hillsides at low or moderate elevations. It is particularly common about Lowman's village, and from there up to the high woods. I did not meet with it at Chateaubelair, but obtained a number about Peter's Hope, where it occurred near the borders of the woodlands. In general habits this bird resembles *Myiarchus tyrannulus*, but is more active. One of its notes is a clear, long-drawn "whe-e-ew" with a falling inflection. It resembles a similar note of *E. m. flavogastra*, but can be distinguished on close acquaintance. Another call, often introduced by the one just mentioned, resembles the word "peewhittler" with the accent on the last syllable, repeated two or three times. The song resembles, as Wells says, the words: "Ladies, ladies, ladies, you're lazy" repeated over and over again. It has a peculiar tone, suggesting that of a wooden rattle. Every morning as soon as it begins to get light these birds begin their song, keeping it up almost without intermission until well after sunrise. I have never heard them sing at any other time. On the Grenadines the songs of this bird and of *Mimus gilvus*, which is most noisy at the same time, are the most characteristic of all the bird songs. In fact there are no other songsters there except *Merula gymnophthalma* which is an evening singer and not very common.

The nest and eggs are exactly like those of *E. m. flavogastra*.

Elaenea martinica barbadensis (Cory). PEEWHITTLER. — Hughes (1750, p. 73) says, speaking of "The Pivet": "Altho' this bird feeds upon fruit, its bill is of the same make with those of the carnivorous kind; and it intirely subsists by berries or suchlike fruit of trees. . . . A Pivet is about the bigness and colour of our largest kind of sparrows [*Pyrrhulagra barbadensis*] and hath a wild chirping note."

Schomburgk ('48, p. 681) does not give this bird as a resident, although he mentions it as *Elania pagana*.

The Peewhittler is common on Barbados wherever there are

patches of woodland or groves of trees. Like the two other subspecies, it is largely frugivorous.

The nest and eggs resemble those of *E. m. flavogastra*.

Estrelida astrild (Linn.). PINK-BELLIED WAXBILL.— A male example of this bird in unworn plumage was obtained on August 17, 1903, on the Foster Hall estate, St. Joseph's, Barbados. It was feeding in company with a common Grass-bird (*Tiaris bicolor omissa*). Although probably an escaped cage bird, still this species may have obtained a footing on Barbados, as it has been a favorite bird for introduction into new localities, and appears to be well established in a number of places, among others Madagascar, Mauritius, and St. Helena.

Dolichonyx oryzivorus (Linn.). BOBOLINK.— The Bobolink is an annual, though rather uncommon visitor to these islands. A number of specimens have been obtained on Barbados by Mr. Herbert Hart, Dr. C. J. Manning, Col. Feilden, Mr. W. Lambert Philips, and others. Mr. Wells once killed two out of a flock of five on the eastern side of Grenada.

Molothrus atronitens (Cab.). COWBIRD.— Wells writes that this bird was not observed in Carriacou until June, 1899, when flocks of from six to ten were to be seen about Hermitage, and Harvey Vale pasture. It is now common on Carriacou, especially about Beausejour and Harvey Vale, and has spread to the neighboring islands, being found on Union Island about the savanna where the stock are pastured and about Bloody Bay on the northern coast, on Petit Martinique, Mayreau, the Tobago Keys, and Canouan.

On Grenada it has become well established, occurring generally over the island, and commonly in the Botanic gardens, about Grand Anse, and the Woodlands estate. Mr. W. E. Broadway, the curator of the Botanic gardens tells me that he first noticed the bird at Ballast Ground about four years ago. I saw a number of specimens of this bird in the collection of Mr. Charles Vernet at St. George's, who told me he had only met with it within the last two or three years.

In habits this bird closely resembles the common Cowbird (*M. ater*). Its song is rather pleasing, but weak. It is very much like that of *Euphonia flavifrons*.

I saw some eggs in the collection of Mr. J. G. Wells at Carriacou which were supposed to be of this bird. They were dull green with

rounded spots of black (like those on the eggs of *Ampelis cedrorum*). It is said by the natives to be non-parasitic.

Xanthocephalus xanthocephalus (Bonap.). YELLOW-HEADED BLACKBIRD. — Col. Feilden says: "Dr. Manning procured a specimen of this species in the autumn of 1887, which he kindly placed in my collection." The only other West Indian record is from Cuba, where Dr. Gundlach once purchased one in the market at Havana.

Holoquiscalus fortirostris (Lawr.). BLACKBIRD (Barbados). — Hughes writes: "These birds are very numerous in this island (though there are none at Antigua) . . . They are serviceable in destroying crickets and other vermin; yet this scarce compensates for the ravage they make in consuming our Indian and Guiney corn, the former chiefly when young; the latter, some after it is planted, as well as when ripe."

Ligon says: "The next is a Blackbird, with white eyes, and that so ill become her, as she is accounted an unhandsome bird; her voice is harsh, somewhat like our jay in England; they go in flocks and are harmful birds, for they are great devourers of corn and blossoms of trees, and the planters wish them destroyed, though they do not know which way. They are a kind of Stares [Starling], for they walk and do not hop as other birds. One thing I notice in these birds, which I never saw in any but them, and that is when they fly, they put their train into several postures; one while they keep it straight as in other birds; sometimes they turn it edgeways, as the tail of a fish, and by and by put it three square with the covering feathers atop, and the sides downwards."

This bird is common all over Barbados, especially about the estate works. Albinism appears to be rather common in this species. In September, 1903, I shot a male with some white feathers in its head at Grazettes, St. Michael; and while staying at the Marine hotel at Hastings during the first two weeks in January, 1904, I saw two partial albinos in a flock which lived in a large tree just outside my window. I had a good chance to observe them, as they used to come, in company with many others, to the gallery just under my window every morning to be fed. One had the third left primary white. This bird also had a deformed bill; the upper mandible was much arched, giving it something the appearance of an Ani. The other had several white feathers in each

wing; both were males. Dr. Manning tells me that he has taken two pure white examples at Black Rock.

These, like the others of the genus, are bright, active birds, with a great variety of notes. They are very noisy, keeping up an incessant jabbering when in a tree. Sometimes they will all suddenly become quiet, then give out a number of notes like "chee, chee," sounding then like a flock of Redwings (*Agelaius phoeniceus*). This only lasts a minute or so, then the jabbering begins again. The latter is a characteristic mixture of varied notes, and, if not sweet, certainly is not unpleasant.

This bird has a number of peculiar postures. One will be walking about, and suddenly stop, smooth down its feathers, point its bill straight up in the air, and hold this position a minute or so. Often two do this together, facing each other.

The song is a series of four whistling notes, the first and third strongly accented, and the last weak and prolonged. The local rendering of the song is: "We sha'n't be long." In singing, the bird ruffles up all its feathers, throws back its head, spreads its tail, and slightly spreads its wings. In flying, as Ligon noticed, the tail appears to be held in all sorts of ways; but on alighting it is usually brought down, spread out, and keeled, acting as a brake. About houses this bird is very tame, but in the country it is shy.

The nest is large and coarse, and there are usually several in the same tree. As a rule it is placed from six to fifteen feet from the ground. The eggs are generally three, light green, with black and dark brown spots, blotches, and scrawls, like those on the eggs of the Redwing (*Agelaius phoeniceus*).

Schomburgk says that this species is "said to have been introduced into Demerara, where they are now numerous. As a counterpresent, Barbados received its crapaux [*Bufo aqua*] from that colony." It has also been introduced into St. Croix, St. Kitts, and Antigua.

Holoquiscalus dispar Clark.

BEQUIA SWEET; "BARBADOS" BLACKBIRD.

Holoquiscalus dispar Clark, Proc. biol. soc. Washington, vol. 18, p. 61, Feb. 21, 1905.

So rare are specimens of this bird in collections that Mr. Ridgway was unable to examine one at the time he wrote his account of the genus *Holoquiscalus* for Part 2 of his "Birds of North and Middle America," and was forced to refer it questionably to *H. inflexirostris* of St. Lucia. Mr. Cory also, at the time he wrote the "Catalogue of West Indian birds" had but a single specimen, a male, and also referred it to *H. inflexirostris*. As a matter of fact, *H. dispar* is quite different from that species, and from *H. luminosus* of Grenada, the female being dull black, even darker than the female of *H. fortirostris*. The bill of *H. dispar* being much the same as that of *H. inflexirostris* does away with the chance that the bird might be the *Quiscalus mexicanus* of Cassin, as Cassin's type was a stout-billed bird like *H. martinicensis*.

This species is confined to St. Vincent, and is only found in the Kingstown valley and the neighboring windward district, where it is not very common. There is a small roost of them on the side of Dorsetshire Hill, just behind the town. It is called the "Bequia Sweet" by the peasantry from its notes, which resemble the syllables "*beck-way*¹ *sweet*," and from its resemblance to *H. luminosus*, which is abundant on that island. The name "Barbados Blackbird" is given to distinguish it from the common "Blackbird" (*Coereba atrata*), and, of course, from its resemblance to *H. fortirostris*. In habits this species resembles *H. luminosus*.

The nest and eggs are like those of *H. fortirostris*.

Holoquiscalus luminosus (Lawr.). MERLE; BLACKBIRD (Grenada).—This bird is common on Grenada and abundant on all the Grenadines, flying about from one to another. In actions it resembles *H. fortirostris*, but its notes are slightly different. The usual cry resembles, as Wells suggests, "*green corn sweet*." It does great damage by digging up newly planted Indian corn, and

¹"Beck-way": the local pronunciation of Bequia.

by tearing to pieces the young ears. At night it usually roosts in great flocks. All the birds in a certain district spend the night in one tree, and generally choose one that is large, more or less isolated, and conspicuous. On Carriacou there is a good-sized roost near Beausejour estate, another near Mount d'Or, and several more in different parts of the island. The largest in the Grenadines is in the middle of the town of Ashton, Union Island. There is a tall tree here which harbors many hundreds, and all the lower trees behind the town hold them by scores. They begin to collect an hour or so before dark, arriving in small or medium-sized companies. On Easter Sunday, 1904, there was an unusually heavy rain which killed a large number of these birds. The ground under the main roosting tree was strewn with their dead bodies.

The nest and eggs resemble those of *H. fortirostris*.

Pyrrhulagra noctis crissalis Ridgw. ROBIN; SPARROW.— This bird is fairly common on St. Vincent about the towns, but is rarely seen far from houses, and never in the woods. It frequents especially the large-leaved breadfruit trees (*Artocarpus incisa*), and is often to be found about the arrowroot works, feeding on the arrowroot. The notes of this bird are clear and loud, sounding like "*whéou, whéou, whéou.*" It also has a characteristic chirp.

The nest is a bulky domed affair with the entrance on one side. The eggs are white, evenly and finely speckled with lilac and red brown.

Pyrrhulagra noctis grenadensis Cory. RED-THROAT SEE-SEE.— This subspecies is abundant all over Grenada. In habits it is just like the preceding form, and the nest and eggs are the same.

Pyrrhulagra barbadensis (Cory). SPARROW.— This bird is very common on Barbados, and, about the houses, very tame, entering them freely. The Rev. Canon Bindley writes: "I have had a sparrow perch atop of a book as I held it in my hand reading; who, after liberally helping himself to toast and bananas, appeared to desire now to gratify an intellectual appetite hitherto unsuspected. One morning the same greedy creature actually fell into the milk jug, having overbalanced himself in his endeavors to reach the milk, and was rescued half drowned. Taking a half circle flight outside, he re-entered the window and, with feathers still milky, began another raid on the buttered toast. Sometimes, however, this excessive domesticity is destruction of more valuable

things than small eatables. I remember when a large table had just been set for dinner seeing a sparrow fly into the room and alight upon the edge of a champagne glass. This he at once upset by his weight, and it fell to the floor with a crash. He then coolly hopped to the next glass with the same result, and probably would have gone the round of the table had he not been at once detected and banished from the room. Worse still, a sparrow has been known actually to ruin a wedding-cake during the absence of the bride at church, chipping the icing with his beak, and rolling the sugar presentment of Cupid on the floor."

Tiaris bicolor omissa (Jard.). GRASS-BIRD; CANE SPARROW. — In the rather large series of this bird which I obtained from these islands, I am unable to find any characters by which specimens from any one island may be differentiated. Those from Barbados and Grenada agree with others from the Grenadines and St. Vincent. The extent of the black on the underparts and on the head is exceedingly variable. One or two of the females show traces of black on the chin and upper throat. A male obtained by myself on Margarita Island can be exactly matched by others from these islands.

The Grass-bird is abundant in all these islands, with the exception of some of the smaller Grenadines (notably Prune). It is the commonest bird on Barbados and Grenada, but on St. Vincent *Coereba atrata*, and on the Grenadines *Mimus gilvus* are perhaps more abundant. On St. Vincent and Grenada it is not found in the high woods.

This little bird is found mainly in open places, especially in grassy pastures. It keeps near the ground, in the grass or in low bushes. The song is a weak buzzing trill, like that of *Coereba atrata* or *C. wellsi*, and is given with the wings slightly elevated and the head thrown back.

The nest is a rather bulky domed structure, entered from the side, and is usually placed rather low. The eggs are three, sometimes four in number, white, spotted, especially about the larger end, with reddish brown. They resemble the eggs of *Coereba wellsi* somewhat, but the ground color is usually a clearer white, the spottings more distinct, more reddish, and more segregated about the larger end.

Sporophila gutteralis (Licht.). WHITE-BEAKED GRASS-BIRD.

— This bird is common on Grenada, especially about St. Patrick's. I found it not uncommon on Carriacou, along the central ridge of the island, from Belair to Chapeau Carré. As Mr. Wells did not report it from there, it is probably a recent arrival, but appears to be well established. On September 15, 1904, I heard, and subsequently saw an example of this species in the grounds of the Agricultural school, at Kingstown, St. Vincent.

It has a very loud voice for such a small bird. The song is clear and sweet, suggesting that of the Indigo-bird (*Cyanospiza cyanea*), and is usually given from a considerable elevation; in fact, this species is oftener seen in the tree-tops than near the ground, although it feeds largely on the seeds of grasses. It is very shy for such a small bird.

Volatinia jacarini splendens (Vieill.). GLOSSY GRASS-BIRD. — Wells says: "Rather shy (on Grenada): frequents pastures and guinea-grass fields, on the seeds of which it feeds, running along under the grass and picking up the seeds. Is fond of perching on a small dry shrub and springing up into the air several times, uttering a prolonged 'chur-r' always alighting in the same spot again. "Nest, in tuft of grass. Eggs white, thick brown spots at large end, and scattered smaller ones of same color on rest of egg."

I only saw two or three examples of this bird, in St. Andrew's, Grenada. It appears to be rather local.

Mr. Chapman says: "While *en route* from Trinidad to Grenada, a female of this species boarded the steamer. We were then about half way between the islands. The bird was in an exhausted condition, and was caught without difficulty. We anchored about half a mile off the harbor of St. George's, Grenada, where I have no doubt the bird went ashore, as I did not see it after leaving the island." This is interesting in showing how certain species may have been brought first to these islands and assisted in becoming established.

Paroaria cucullata (Lath.). BRAZILIAN CARDINAL. — On January 10, 1904, at Hastings, Barbados, I saw a single example of this species. It was probably an escaped cage bird.

Sicalis arvensis luteiventris (Meyen.). GRASS CANARY. — Very common in St. Philip's parish, especially near the Crane hotel. Mr. A. A. Evelyn of Spencer's (Christ Church) writes that it may be seen in flocks of fifty to a hundred in his district. It has been recently introduced into Barbados.

Euphonia flavifrons viscivora Clark.

MISTLETOE-BIRD; BLUE-HEAD; LOUIS D'OR.

Euphonia flavifrons viscivora Clark, Proc. biol. soc. Washington, vol. 18, p. 19, Feb. 2, 1905.

This bird is common on St. Vincent on the higher and steeper slopes, especially in the upper Cumberland valley, and in the woods behind Mt. Wynne and Peter's Hope estates. I saw two in the woods behind Chateaubelair, and found it fairly numerous in winter in the Clare valley, and on Fort Charlotte Hill.

This species would often pass unnoticed were it not for its loud voice, as it usually keeps well in the inner part of the trees and bushes, and is just about the size of the leaves of the trees upon which it is most often seen. Although common, it is rather difficult to procure owing to the precipitous nature of the slopes it inhabits, unless one is fortunate enough to discover a loblolly tree with fruit, or a silk-cotton tree just budding, where, if there are any about, they will be found in abundance.

The call notes of this bird are three in number. One is a plaintive whistle, somewhat like the whistle of the Redwing (*Agelaius phoeniceus*), another is a chatter like that of the Baltimore Oriole (*Icterus galbula*), but lower pitched and not quite so loud, and the third is a characteristic quick and sharp double chirp. The last is the usual alarm note, but may be given at any time. All the notes are clear, and loud for such a small bird, and can be heard a long way across the valleys on a still day. The song is low and sweet, occasionally punctuated by a clear whistle. Except for the whistling note, it bears a strong resemblance to that of *Molothrus atronitens*. In singing, a position is generally chosen in the lower branches of a tree, near the trunk, and the bird is at such times very unsuspecting. It is usually met with in little parties of from six to a dozen.

On Grenada it is not very common, and is only found in the higher parts of the island.

Calospiza versicolor (LAWR.). GOLDEN Tanager.—This bird is not very common on St. Vincent. It is found in the higher parts of the island, but is sometimes seen in the lowlands, particu-

larly about Edinboro' and Lowman's Village. At Chateaubelair I only met with four or five during my stay of about a month.

The song of this species, which is much like that of the St. Vincent Wren (*Troglodytes musicus*), is a series of half a dozen loud and clear whistling notes, increasing in volume; and ending abruptly. It is introduced by a squeaky sound that suggests the song of the Palm Tanager (*Tanagra palmarum*).

When high up in the trees this species usually appears of a red gold or burnished copper color, the wings and tail appearing black; but when in the low bushes it may appear straw yellow, bronzy, or bright green, according to its position with reference to the light.

This species is confined to the island of St. Vincent.

Calospiza cucullata (Swains.). SOUR-SOP BIRD; BLUEBIRD. — This species is confined to the island of Grenada, where it is everywhere common. It usually keeps rather low, in small trees or bushes, but is often seen high up in the trees. In actions it resembles *C. versicolor*, but the song is different—much like that of *Tanagra palmarum*, but considerably less squeaky and disagreeable. It has a very characteristic chirp.

The nest is very like that of the Purple Finch (*Carpodacus purpureus*) but not quite so compact. It is usually placed about six feet from the ground, but may be much higher. There is a great deal of variation in the color of the eggs, some being white thickly covered with longitudinally elongate streakings and spottings of gray (in some fairly uniform, in others mainly confined to a ring about the larger end); and others white, with gray and brown markings, or with spots of various shades. The nesting season is early spring.

Piranga erythromelas Vieill. SCARLET Tanager. — There is a specimen of this bird in the United States national museum labeled as having been obtained in Barbados.

Progne dominicensis (Gmel.). WEST INDIAN MARTIN. — Schomburgk gives this bird as a visitor to Barbados in his time. It has not been found there in recent years.

On St. Vincent it is common about the sea cliffs near Barrouallie, and is often seen flying about at other points, especially on the devastated district at the base of the Soufrière, about the Kingstown valley, and in the windward district.

On the Grenadines it breeds in the church at Canouan, and at

various places on Carriacou. I have seen it on Mayreau and Petit Martinique, and stray examples at Ashton and Battery Hill, Union Island.

It is common on the lowlands of Grenada.

Hirundo erythrogastra (Bodd.). BARN SWALLOW.—Hughes (1750, p. 73), says: "As the make of this bird every way answers the description of those of the same species [*H. rustica*] in England it would be needless to describe it." He says further that in the winter (?) months "they retire to their holes in the rocks, and do not appear during those months."

The Barn Swallow is common in all these islands from August until March, appearing in large flocks at Barbados and Carriacou. I have seen it on St. Vincent, and on Mustique, Bequia, and Union Island among the Grenadines.

Vireosylva calidris barbadense Ridgw. MONKEY-BIRD; LADY-BIRD; LADIES' RELATED.—A comparison of the measurements of 23 males and 19 females of this form from St. Eustatius to Grenada, including 6 breeding birds from Barbados and 7 from the Grenadines (Bequia, Union Island, Prune, and Carriacou), shows that, while the individual variation is rather large (largest male, wing, 82, tail, 66, culmen, 15, tarsus, 20, Barbados; smallest male, wing, 75, tail, 57, culmen, 16, tarsus, 20, Grenada; largest female wing, 79, tail, 65, culmen, 15, tarsus, 20, Dominica; smallest female, wing, 75, tail, 56, culmen, 16, tarsus, 19, Grenada) it would be impossible to divide this form further on the basis of measurements alone. I have a male from Carriacou larger than that given by Mr. Ridgway (Birds No. and Middle Amer., pt. 3, p. 140, 1904) from St. Lucia. My four St. Vincent birds are much larger than the three recorded by him, while all the measurements he gives may be duplicated in my series of Grenadine examples alone.

The color of this bird is exceedingly variable; but my series shows that it is wholly dependent on the season at which the birds are taken. When perfectly fresh, the bird is bright olive green above, with sides of the head light gray, the pileum brownish gray, this color distinct from the olive of the back and not grading into it, as in *V. c. calidris*, and the under parts white, with the sides, flanks, and under tail coverts tinged with sulphur yellow. The feet are slaty-blue, and the iris is reddish brown. Mr. Nicoll's (:04, p. 563) description and plate of "*Vireo lauræ*" refer to a bird of this sub-

species in a fresh condition. He says (*loc. cit.*) that *V. laurae* is "somewhat similar to *Vireo calidris*, but is much smaller, and of more intense coloration." I have birds even smaller and brighter than that figured as the type of *V. laurae* from the Grenadines and St. Vincent. Lawrence's description of *V. calidris* var. *dominicana* (Proc. U. S. nat. mus., vol. 1, p. 55, 1878) is essentially the same as Nicoll's of *V. laurae*.

After the assumption of the new plumage, the bird begins to get lighter and more grayish, and quickly loses the intense olive of the back, which becomes olive gray, while the cap loses its bluish cast, and tends to approach the grayish color of the back. The birds inhabiting the higher and more shaded districts (on Dominica, St. Lucia, St. Vincent, Grenada, etc.) never get beyond this stage; but on the more open areas (such as Barbados, the Grenadines, and the lowlands of St. Vincent and Grenada), they begin to assume a brownish color, which may go so far as to leave the bird a uniform dingy brownish gray above (head and back), with almost no yellow beneath, entirely different from the colors of fresh specimens. The type of *V. c. barbadense* (*vide* Ridgway, *loc. cit.*), as well as five examples collected by myself on that island, and a number of others from the Grenadines are in this condition. This fading begins immediately after the moult is complete, and progresses very rapidly on Barbados and the Grenadines, less so on the lowlands of Grenada and St. Vincent, while on the higher levels of these last-named islands it is sometimes scarcely perceptible. Fresh specimens from the islands southward of Guadeloupe are identical in color; but two birds from Marie Galante show a tendency to approach *V. c. calidris* in having the color of the cap shade into the green of the back.

Hughes, writing in 1750 (1750, p. 73, "The Spanish Lacker") said: "This bird is most commonly to be seen near Hackleton's Clift." At the present day it appears to be a breeding resident in this region only, although specimens are occasionally taken at other parts of Barbados. It is not a very common bird, but I found a considerable colony of them in Foster Hall woods, where I also found the empty nests and saw the young following the parents. Were it not for its loud notes the bird would often escape notice. It is interesting to note that Schomburgk ('48, p. 681, "*Vireo olivacea*") gives this species the local name of Monkey-bird by

which name it is known to-day among the peasantry of Barbados. Col. Feilden considers this bird an autumnal and winter visitor only; but his notes appear to have been made in the southern part of the island. It is possible, as Mr. Cory suggests, that the birds about Hackleton's Cliff and in Foster Hall woods are permanent residents, and the others, picked up from time to time at other parts of the island, are visitors.

This species is fairly common on Grenada, less so on St. Vincent, but more so on the Grenadines. It is found in all situations, except perhaps the highest and deepest woods, but is most common on the borders of woodland and about the edges of mangrove swamps. In habits it resembles *V. olivaceus*, and the nest and eggs are similar.

Coereba barbadensis (Baird). YELLOW-BREAST; SUGAR-BIRD. — Like all the Honey Creepers (*Coereba*) this is a very active little bird, rarely still a minute. It occurs commonly all over the island of Barbados, in the woods as well as in the open pastures, among the topmost branches of tall trees, and near the ground in small bushes. Its chirp resembles that of the local "Swamp Sparrow" (*Dendroica striata*). In general its actions resemble those of the Goldfinch (*Carduelis carduelis*) and it has much the same manner of flight. Wounded birds of this species are very quick to take cover under stones, logs, or leaves.

Coereba atrata (Lawr.). MOLASSES-BIRD; YELLOW-BREAST; SUCRIER. — 1. Normal form *saccharina* (Lawr.). — This bird is at present exceedingly rare, if not actually extinct. Ober succeeded in obtaining two specimens, but I failed to find any trace of it whatever. The fact of its having local names (Molasses-bird; Sucrier) would seem to suggest that it was formerly common on St. Vincent. Lister makes no mention of it.

2. Melanistic form *atrata* Lawr. BLACKBIRD. — This is one of the commonest birds on St. Vincent, and is found everywhere, except in the high woods. Its favorite haunts are banana patches and cocoa groves. The notes resemble those of *Tiaris bicolor omissa*, but are a little clearer, and it has also a characteristic chirp.

The nest is constructed mainly of grasses, and is domed, with the entrance on one side. The eggs are three, white, thickly spotted with light brown, some uniformly, others more heavily marked about the larger end.

Coereba wellsi (Cory). SUCRIER; YELLOW SEE-SEE. — 1.

Normal form *morrisi* Clark.—This bird is very rare on Grenada. Ober says that it “is not found in great numbers, as in some of the northern islands [? Grenadines]; indeed I have seen it but twice — on the mangrove flats of Point Saline.” This is inserted under the heading “*C. atrata*,” but must refer to the Grenada Yellow-breast, as no black species occurs on any of the “northern islands” (either Grenadines or northern Lesser Antilles), and the black form of this bird is abundant all over Grenada.

While I was staying at St. George's, Grenada, Mr. Charles Vernet very kindly presented me with a specimen of this form which he had taken himself in the vicinity of Point Saline. He told me it was the only one he had ever seen. The bird is indistinguishable from Grenadine examples, and, except in color, from a series of the black form from Grenada.

On the Grenadines, this bird is abundant, and is the most characteristic feature of the avifauna. In habits it exactly resembles the black variety of Grenada.

The nest and eggs are like those of *C. atrata* of St. Vincent, but the eggs are slightly smaller. The nests are sometimes placed in queer situations; there is one in the chandelier of the church at Hillsborough, Carriacou, and Mr. Wells saw one which was built in a tethering chain hung up for sale in a shop in the same town. The usual situation is a low bush, but I have seen one constructed at least twenty feet from the ground in a large tree. In the vicinity of cotton fields, the cotton lint is largely used in the building of the nests.

2. Melanistic form *wellsi* Cory. BLACK SEE-SEE.—This form is abundant all over Grenada, except in the high woods. It is confined to that island and is never found in the Grenadines.

The nest and eggs are identical with those of the preceding form.

Coereba luteola (Cab.). SOUTH AMERICAN HONEY-CREEPER.—This bird is accidental on Grenada. A specimen was obtained about the year 1886, and described by Mr. Cory ('89, p. 219) as *Certhiola godmani*.

Compsothlypis americana (Linn.). PARULA WARBLER.—Col. Feilden writes that Mr. Herbert Hart of Fairfield, St. Philip's, Barbados, gave him a mounted specimen of the Parula Warbler which he had shot in his garden in the month of June. He himself recognized one in a garden at Hastings on November 4, 1888, and subsequently met with others in different parts of the island.

There are no records for St. Vincent or for Grenada, but it is probably an annual visitor in small numbers, as it has been recorded from practically all of the other Lesser Antilles.

Dendroica striata (Forster). SWAMP SPARROW; BLACK-POLL WARBLER.— One example was obtained by Col. Feilden on October 20, 1888. He saw others, however, and considers it a regular winter visitor to Barbados. It has never been taken on St. Vincent or on Grenada.

Dendroica ruficapilla (Gmel.). YELLOW-BIRD.— The subspecies of this form, *D. r. ruficapilla* (Guadeloupe and Dominica), *D. r. rufivertex* (Cozumel Island), *D. r. flavida* (St. Andrew's) and *D. r. rufopileata* (Curaçao), appear all to fall within the range of individual variation, if we can judge from the great differences exhibited by a series of sixteen specimens of the closely related *D. capitalis* of Barbados. The only specimen from Cozumel Island which I have been able to examine, as well as three specimens from Dominica (two kindly loaned by Dr. Louis B. Bishop) are inseparable from Grenadine examples.

This bird is rare on Grenada and rather shy, frequenting the mangroves about the swamps on the windward side of the island. At Carriacou it occurs rarely in the swamps at Harvey Vale. On Prune Island it is abundant in a swamp near the northern shore, and is common at other points on the leeward coast. On Union Island it is found in an extensive mangrove swamp near Ashton, and I have heard it in a swamp near Bloody Bay in the northern part of the island.

In habits it resembles *D. aestiva*, but its song is less varied. It is almost never seen outside of the mangrove swamps.

NOTE.—Mr. Ridgway gives (Birds No. and Middle Amer., vol. 2. p. 510, 1902) *Dendroica aestiva* as being unquestionably recorded from Grenada. I have examined the specimen upon which he based the statement, and find it absolutely indistinguishable both from *D. aestiva* and from *D. ruficapilla* in the same state of plumage. It is an immature male. As Mr. Ridgway at the time he wrote, was unaware of the occurrence of a resident Yellow Warbler on Grenada, and there is no way of telling which the bird really is, I have thought it best to regard it as an example of the local resident form.

Dendroica capitalis (LAWR.). YELLOW-BIRD; YELLOW-HAMMER.— This bird is common on Barbados, especially about pastures

in which grow clumps of seaside grapes (*Coccoloba uvifera*). In habits and song it closely resembles *D. aestiva*.

Catharopeza bishopi (Lawr.). BLACK AND WHITE SOUFRIÈRE-BIRD.—Although I spent a long time in different parts of the high woods of St. Vincent hunting for this bird, as I was particularly anxious to obtain a good series, I neither saw nor heard one. If it exists at all at the present time it is exceedingly rare. It is wholly unknown to the people on the island.

Ober, who discovered this bird, says that "it is very rare and very shy, and is found in the crater and dark gorges of the Soufrière." He writes further: "Its note is very sharp; either the male or the female give utterance to the syllable 'few few few' etc., eight or ten times, immediately answered by the mate with 'whit whit whit' etc., the same number of times."

Lister says: "This little bird is entirely confined to the high woods. In the stomach of one I found a small newt. This species may often be observed searching about amongst the stones and decayed logs that strew the courses of the mountain streams. The iris is hazel."

Seiurus noveboracensis (Gmel.). WATER-THRUSH.—Col. Feilden noted an example of this species at Brandon (Barbados) the residence of Mr. Edmund Taylor, on November 5, 1888, and another, which he secured, at Chancery Lane on the 24th of the same month. It is probably of regular occurrence in the autumn and winter, but is frequently overlooked because of its retiring habits and somber colors.

Mr. Wells has observed it on Carriacou all the year round. It occurs regularly on St. Vincent, the Grenadines, and Grenada, wherever there are mangrove swamps. It is comparatively seldom seen, being surprisingly shy for such a small bird, but its loud and characteristic note is often heard in the swamps.

Setophaga ruticilla (Linn.). GOLDFINCH; CHRISTMAS-BIRD; REDSTART.—This bird is common on Barbados, St. Vincent, and Grenada, arriving in the middle of September and remaining until February. On Barbados it is most common in the Scotland district, and about Foster Hall and Joe's River woods. On St. Vincent and Grenada it is found on moderate elevations, but not in the high woods. There are no records for the Grenadines; possibly these islands are too open and too dry to offer it any attractions.

Troglodytes musicus (Lawr.). WALL-BIRD; ST. VINCENT WREN.—Ober records this bird as common at the time of his visit. It appears to be rare at present; I only met with it three times: once on the border of the high woods behind Peter's Hope, once in Revelation valley, and once (heard singing) in the Botanic gardens, Kingstown.

The song is loud and clear, of five or six whistling notes. It also has a peculiar mellow chatter, something like that of *Euphonia flavifrons* but louder.

The nest, I was told, is constructed in holes in old walls or trees. I examined one in a large cabbage palm on Fort Charlotte Hill where the people said the birds had bred in former years.

Troglodytes grenadensis (Lawr.). GOD-BIRD; GRENADA WREN.—This species is common all over Grenada. In habits it resembles others of the genus. The song is like that of *T. musicus* of St. Vincent.

The nest is constructed in holes and recesses, of fine dry roots, etc., lined with feathers. The eggs are four, sometimes five, dirty white, thickly sprinkled with light reddish brown specks, and resemble those of *T. aedon*.

Cinchlerminia sanctae-luciae (Scl.). ST. LUCIA MOUNTAIN THRUSH.—Ober writes: "Have heard the unmistakable whistle of this bird [*C. dominicensis*, which he observed on Dominica] and have seen it as it flitted by in the dusk of the high woods, but have not obtained it." I found no trace of it on St. Vincent, nor were any of the natives acquainted with it.

Merula gymnophthalma (Cab.). YAM-BIRD; YELLOW-EYED GRIEVE.—On St. Vincent this bird is confined to the immediate vicinity of Kingstown and about Edinboro', where it is fairly common, especially in the Botanic gardens.

On the Grenadines it occurs on the northern end of Bequia, on Canouan, on Union Island (about Clifton), on Petit Martinique, along the high central ridge of Carriacou and in the lowlands at its southern end, and on Isle Ronde, but is nowhere common on these islands. It is common all over Grenada.

In habits the Yellow-eyed Grieve resembles the American Robin (*Merula migratoria*), but is much more shy and secretive. It is usually to be found in the interior of trees having thick, dark foliage, such as the mango (*Mangifera indica*), but sometimes,

especially in the Grenadines, is met with in scrubby growth. Occasionally it is seen on the ground hunting for insects after the manner of the Robin, but is at such times very suspicious. The alarm note is a melodious "chut," with a characteristic intonation. The usual call note is a liquid "pe-ou'-wou," entirely different from the call of any other bird with which I am acquainted, but suggesting the squeal of the Ani. The song, which is usually heard in the evening just before sunset (rarely in the early morning), is very like that of the Robin, but lacks the peculiar high and strained notes occasionally given by that species, being continuous, with little variation in the quality of the notes.

In life the bare skin about the eye is very conspicuous; it is bright yellow, inclining to orange, becoming orange on the eyelids. It is the same in both sexes. The bill is greenish yellow, becoming brown at the tip; the feet are light slaty, and the iris is brown.

The nest is like that of the Robin, and is usually placed rather low, a favorite situation being in a cocoa tree. The eggs are dull green, rather thickly speckled with reddish brown, especially toward the larger end. They are very variable; in some, the spots are very large, in others minute; in some evenly distributed, in others confined to a ring about the larger end.

This species was introduced into Barbados from Grenada in 1902, and in the next year a pair successfully raised a brood in the vicinity of the Garrison at Hastings.

Merula nigrirostris (LAWL.). GRIEVE; MOUNTAIN GRIEVE.—On St. Vincent this bird is not rare; it is found in the woods, about the clearings and in the vicinity of the mountain streams, most commonly in the upper part of the valleys behind Barrouallie and Chateaubelair. It is common in the Botanic gardens at Kingstown, where it is found with *M. gymnophthalma*.

It does not occur on the Grenadines, but is found in the deep woods on Grenada, where it frequents the valleys along the mountain streams.

In actions it resembles *M. gymnophthalma*, but is much less commonly seen in the open, and more often in the upper parts of trees. It has the same nervous flitting of the wings and tail observable in that species and in *M. migratoria*.

The alarm note is something like that of the Robin, but lower, and not so loud. Its call is a peculiar cry, unlike that of any other

thrush that I know. The cry of the young of both this and the preceding is like that of the young of the Robin.

Its song is a continuous repetition of the syllables, "*John Pierre oh, John Pierre oh, mi yes, mi yes, mi yes,*" with the stress on "*Pierre*" and "*mi,*" with a peculiar intonation, suggesting that of the Scarlet Tanager (*Piranga erythromelas*).

The nest resembles that of the preceding species, and is generally placed in a tree with dark foliage. The eggs are, as in case of the preceding bird, three in number; dull green spotted with reddish brown, the spots being rather larger than in the eggs of *M. gymnophthalma*.

Myadestes sibilans (LAWT.). SOUFRIÈRE-BIRD.—Lister says: "I met with this interesting bird on the Soufrière, and in every part of the high woods that I explored. Its song, which causes even those who care little for bird music to pause and listen, appears to be similar to that of a closely allied species, so well described by Mr. Gosse in his account of the birds of Jamaica. During the month of August I noticed that the birds did not sing their full song, but after giving a few notes would stop and give utterance to a harsh note, which reminded me of the discordant one which occurs in the song of the Greenfinch (*Ligurinus chloris*)."

Mr. George Durrant, of Georgetown, St. Vincent, who is well acquainted with this species, tells me the song resembles the syllables: "*I cook' my rice', I put' it out', flam', flam, flam'.*"

Although commonly supposed on St. Vincent to have been confined to the Soufrière, this bird occurred on all the higher ridges of the island. Mr. G. Whitfield Smith, who has taken many of them, tells me that they were particularly numerous on and about the summit of Mt. St. Andrew. I found no trace of it.

Cinclocerthia ruficauda tenebrosa Ridgw. TREMBLEUR.—Ober says of this bird: "Not so abundant as in the woods of Dominica, but still plentiful." Lister writes: "Not uncommon in the high woods. I never saw one on cleared land." I failed to find this bird, but it may still exist in certain remote localities.

Cinclocerthia sp. QUAKING THRUSH.—Ligon (1763, p. 60, "Thrush"; 1764, p. 101, "Grive"), Hughes (1750, p. 72, "The Quaking Thrush"), and Schomburgk ('48, p. 681, "*Turdus jamaicensis*"), give a bird evidently of this genus as occurring on Barbados.

Mimus polyglottos orpheus (Linn.). GREATER ANTILLEAN MOCKINGBIRD.—This species has recently been introduced into Barbados from Jamaica but does not yet appear to have become established.

Mimus gilvus (Vieill.). MOCKINGBIRD; PIED CARREAU.—On St. Vincent this bird is very common about Kingstown. It occurs throughout the Kingstown valley, and sparingly along the leeward coast to Chateaubelair. It is most abundant in the town of Kingstown, and in the Botanic gardens.

It occurs on all the Grenadines, and is there the commonest bird; on Grenada it is found abundantly everywhere (except in the deep woods), and is rather partial to neglected pastures.

The nest is rather coarse, of twigs, lined with finer twigs, midribs of leaves, etc., and is usually placed rather low. The eggs are usually three, pale olive or dull green, some very light, others dark, with spots, blotches, or a ring about the larger end, of brown. It is seldom that two eggs are found alike, even in the same set. I have seen a specimen (in the collection of Mr. John Grant Wells) immaculate, except for one or two small and very pale spots.

This species was introduced into Barbados from Grenada in May, 1901, and in the following spring one pair nested near the Garrison at Hastings, and another in the neighborhood of Chelston, the residence of Sir Daniel Morris.

Allenia albiventris (Lawf.). SPOTTED GRIEVE.—The name *Turdus montanus* given by Lafresnaye to this species (Rev. zool., May, 1844, p. 167) is preoccupied by *Turdus montanus* Voigt, (Thierreich, vol. 1, p. 484, 1831; Audubon, Orn. biog., vol. 4, p. 487, 1838, and Townsend, Journ. acad. nat. sci. Phila., 1839, p. 153). Lawrence's name of (*Margarops*) *albiventris* will therefore have to be used (*vide* Riley, : 04b, p. 288).

This bird is rather uncommon on St. Vincent. It occurs about the Queensberry estate in the upper Buccament valley, but is only casually met with at other points, although I have seen or heard it in many places in the woods from Chateaubelair to Kingstown. I obtained one in the Botanic gardens at the latter place, another at Edinboro', and a third at Peter's Hope.

Although Lister says it is never met with out of the high woods, I have most frequently found it in scrubby growth, or on the borders of woodlands. He gives it as not so commonly met with as *Cinlocerthia ruficauda tenebrosa*, but, he writes, "it may be common."

After the hurricane of 1898, this species appeared in numbers on Union Island and Carriacou, where it was resident, according to Wells, as late as 1902. I made a particular search for it during my stay on those islands, but did not find it and therefore, as in life it is a rather noticeable bird with a loud and characteristic note, am forced to the conclusion that it has since died out, as I explored both islands very thoroughly.

On Grenada it is not common, and appears to be confined to the higher wooded parts of the island.

Cory ('92, p. 121) gives this species as occurring on "Lesser Antilles [no.] 33 [= Barbados]"; probably this is a misprint for no. 32 (= Grenada), which locality is omitted.

The notes of this species are clear and loud, resembling the syllables "*whéou whéou whéou*" rapidly repeated half a dozen times or so, sounding much as if someone were calling a dog. In general it keeps near, but not on the ground, and its actions resemble those of thrashers (*Toxostoma*). Its attitude is very characteristic; the head is kept low, and the tail usually straight up in the air, or slightly inclined over the back. The yellow irides are very noticeable.

Allenia sp. "WREN."—Hughes (1750, p. 73, "The Wren") and Ligon (1763, p. 60, "Wren"; 1764, p. 101, "Roytelet") mention a bird, apparently of this genus, as occurring on Barbados.

Margarops fuscatus densirostris (Vieill.). MOCKING THRUSH.—Dr. C. J. Manning obtained a male of this species in his garden at Bagatelle, Barbados, on March 2, 1889. There are no other records.

Margarops sp. "THRUSH."—Hughes, (1750, p. 72, "Thrush"), Ligon, (1763, p. 60, "Counsellor; 1764, p. 102, Conseiller"), and Schomburgk ('48, p. 681, "*Turdus mustelinus*") mention what appears to have been a species of this genus as occurring on Barbados.

DOUBTFUL SPECIES.

Anas obscura Gmel. BLACK DUCK.—Schomburgk ('48, p. 682) mentions this species as a visitor occurring on Barbados. As no one else mentions it, and as none of the Black Ducks have

been recorded in recent years from the West Indies, except Jamaica and Cuba, the record seems rather doubtful.

Dendrocygna arborea (Linn.). TREE DUCK; WHISTLING DUCK.—Schomburgk ('48) gives this bird from Barbados. There are no records for *D. arborea* from Barbados, although *D. discolor* is reported from there. Possibly this is the species referred to. *D. arborea* has, however, been found on the Bahamas (Andros), Jamaica, Cuba, Haiti, Isle of Pines, Porto Rico, Virgin Gorda, and Barbuda.

Branta canadensis (Linn.). CANADA GOOSE.—Sir Hans Sloane (1707, vol. 1, p. 34; 1725, vol. 2, p. 323) says under *Anser canadensis* Willughb.: "I saw here [Barbados, vol. 1] the Wild Goose of New England, or Geese White and Gray of *Escarbot, Nova-Francia*, p. 90: Geese of *Hudson Purchas*, p. 602; of *Saris* ib. 373. Wild Geese of *Copland*, p. 466, who observed the same at the Cape of Good Hope [1]. Of *Payton*, who saw them in an Isle of Ethiopia 33° 30' lat. 487." Also (vol. 2): "I saw some of these at Barbadoes; they come from the north parts of America, and I think are better meat than the tame ones."

Numenius longirostris Wils. LONG-BILLED CURLEW.—Ober gives this species from St. Vincent, saying that he learned of its occurrence while on that island. It has never been taken except on Jamaica and Cuba.

Ajaia ajaia (Linn.). ROSEATE SPOONBILL.—Lawrence quotes Ober as saying that this bird is of casual occurrence on Grenada. Were this so, Wells, who lived on Grenada all his life would certainly have mentioned it.

HYPOTHETICAL SPECIES.

The Cotton-tree Bird.—Hughes (1750, p. 72) says: "This is a yellowish bird, about the bigness of a small sparrow; and is chiefly to be found among cotton trees." Possibly the bird referred to is *Dendroica striata*.

Tachornis phoenicobia.—Schomburgk refers to some bird under this name as occurring in Barbados. Possibly it was one of the swifts (*Chaetura*) that occur in the neighboring islands.

Amazona barbadensis (Gmel.). BARBADOS PARROT.—Sir

Hans Sloane (1707, vol. 1, p. 34) says: "Turner (ap. Purchas, p. 1265) found Hogs, Pigeons, and Parrots here [Barbados]." This is the only statement I can find of their occurrence on that island by a person who actually visited the place. Albin (Nat. hist. birds, vol. 3, p. 11, pl. 11, 1738, "The Barbados Parrot"), Edwards (Birds, vol. 4, p. 162, 1751, "The Great Green Parrot from the West Indies" [Barbados]; *t. c.*, p. 246, "*Psittacus viridis major occidentalis*"), Latham (Gen. syn., vol. 1, p. 284, no. 90, 1781, "The Ashfronted Parrot" [Barbados]; Gen. hist., vol. 2, p. 238, 1822), Brisson (Orn., vol. 4, p. 236, 1760, "Le Perroquet des Barbades . . . *Psittacus Barbadosensis*"), and Gmelin (Syst. nat., vol. 1, p. 339, 1788, "*Ps[ittacus] barbadensis*") give a parrot of the genus *Amazona* as having inhabited Barbados. The species as described is referable in all cases to varieties of *A. aestiva* or *A. ochroptera*. Possibly there was an *Amazona* allied to these species on the island at the time of its colonization, but there is no definite proof that such was the case. A species of the *A. amazonica* group (to which *A. aestiva* and *A. ochroptera* belong) is common (*A. amazonica*) on Tobago and on Trinidad.

There is a single passing reference to a parrot on Grenada, Dutertre (1667, vol. 2, p. 249) saying that the macaw on Guadeloupe is larger than "the large parrots of Guadeloupe or Grenada." Possibly Tobago is meant.

SPECIES KNOWN TO BREED.

BARBADOS.

- Puffinus lherminieri* Less.
- Butorides virescens maculata* (Bodd.).
- Gallinula galeata* (Licht.).
- Fulica caribaea* Ridgw.
- Zenaida zenaida aurita* (Temm. and Knip.).
- Columbigallina passerina trochilii* (Bonap.).
- Sericotes holosericeus* (Linn.).
- * *Bellona cristata emigrans* (Lawr.).
- Tyrannus dominicensis rostratus* (Scl.).
- * *Elaeena martinica barbadensis* (Cory).
- * *Holoquiscalus fortirostris* (Lawr.).

* Peculiar to the island.

- * *Pyrrhulagra barbadensis* (Cory).
- Tiaris bicolor omissa* (Jard.).
- Vireosylva calidris barbadense* Ridgw.
- * *Coereba barbadensis* (Baird).
- * *Dendroica capitalis* (Lawr.).

* Introduced.

- Sicalis arvensis luteiventris* (Meyen.).
- Mimus gilvus* (Vieill.).
- Merula gymnophthalma* (Cab.).

ST. VINCENT.

- Phaethon aethereus* Linn.
- Florida caerulea caerulescens* (Lath.).
- Butorides virescens maculata* (Bodd.).
- Nyctanassa violacea* (Linn.).
- Buteo antillarum* Clark.
- * *Urubitinga anthracina cancrivora* Clark.
- Ionornis martinica* (Linn.).
- Gallinula galeata* (Licht.).
- Columba squamosa* Bonn.
- Columbigallina passerina trochila* (Bonap.).
- Geotrygon montana* (Linn.).
- Coccyzus minor vincentis* Clark.
- Crotophaga ani* Linn.
- * *Amazona guildingii* (Vig.).
- Strix nigrescens* Lawr.
- Cypseloides niger* (Gmel.).
- Chaetura acuta* (Gmel.).
- Chaetura poliura* (Temm.).
- Eulampis jugularis* (Linn.).
- Sericotes holosericeus* (Linn.).
- * *Bellona exilis ornata* (Gould).
- Tyrannus dominicensis rostratus* (Scl.).
- Myiarchus tyrannulus tyrannulus* (Müll.).
- Elaeena martinica flavogastra* (Thunb.).
- Elaeena martinica martinica* (Linn.).
- * *Holoquiscalus dispar* Clark.
- * *Pyrrhulagra noctis crissalis* Ridgw.
- Tiaris bicolor omissa* (Jard.).
- Euphonia flavifrons viscivora* Clark.

* Peculiar to the island.

- * *Calospiza versicolor* (Lawr.).
- Progne dominicensis* (Gmel.).
- Vireosylva calidris barbadense* Ridgw.
- * *Coereba atrata* (Lawr.).
- † * *Catharopeza bishopi* (Lawr.).
- * *Troglodytes musicus* (Lawr.).
- * *Cinclocerthia ruficauda tenebrosa* Ridgw.
- Mimus gilvus* (Vieill.).
- Allenia albiventris* (Lawr.).
- ? *Cinchlerminia sanctae-luciae* (Scl.).
- Merula gymnophthalma* (Cab.).
- Merula nigrirostris* (Lawr.).
- * *Myadestes sibilans* Lawr.

THE GRENADINES.

- Podilymbus podiceps* (Linn.). Carriacou ; Isle Ronde.
- Puffinus lherminieri* Less.¹
- Phaethon aethereus* Linn.
- Sula cyanops* (Sundev.). Kick-'em-Jenny.
- Sula leucogastra* (Bodd.).
- Sula piscator* (Linn.).
- Fregata aquila* (Linn.).
- Florida caerulea caerulescens* (Lath.).
- Butorides virescens maculata* (Bodd.).
- Nyctanassa violacea* (Linn.).
- Querquedula discors* (Linn.). Isle Ronde.
- Erismatura jamaicensis* (Gmel.). Isle Ronde.
- Buteo antillarum* Clark. Bequia.
- Ionornis martinica* (Linn.).
- Gallinula galeata* (Licht.).
- Fulica caribaea* Ridgw.
- Larus atricilla* Linn.
- Sterna maxima* Bodd.
- Sterna dougalli gracilis* (Gould).
- Sterna fuliginosa* (Gmel.).
- Sterna anaethetus* (Scop.).
- Anous stolidus* (Linn.).
- Columba squamosa* Bonn.
- Zenaida zenaida aurita* (Temm. and Knip.).
- Zenaida vinaceorufa* Ridgw. Carriacou.
- Columbigallina passerina trochila* (Bonap.).

* Peculiar to the island.

† Genus peculiar to the island.

¹ Unless otherwise specified the birds breed in all suitable localities.

- Coccyzus minor minor* (Gmel.).
Crotophaga ani Linn.
Strix nigrescens Lawr. Bequia.
Sericotes holosericeus (Linn.).
Bellona cristata cristata (Linn.).
Tyrannus dominicensis rostratus (Scl.).
Myiarchus tyrannulus tyrannulus (Müll.).
Elaeena martinica flavogastra (Thunb.). Bequia ; Mustique.
Elaeena martinica martinica (Linn.).
Molothrus atronitens Cab. Canouan and southward.
Holoquiscatus luminosus (Lawr.).
Tiaris bicolor omissa (Jard.).
Progne dominicensis (Gmel.). Canouan ; Carriacou.
Vireosylva calidris barbadense Ridgw.
Coereba wellsi Cory. (Normal color phase only, = *morrisi* Clark).
Dendroica ruficapilla (Gmel.). Prune ; Union Island ; Carriacou.
Mimus gilvus (Vieill.).
Merula gymnophthalma (Cab.).

Introduced.

- Ortalis ruficauda* Jard. Bequia ; Union Island.
Eupsychortyx sonninii (Temm.). Mustique.
Numida meleagris Linn. Balliceaux.

GRENADA.

- Podilymbus podiceps* (Linn.).
Puffinus lherminieri Less.
Phaethon aethereus Linn.
Florida caerulea caerulescens (Lath.).
Butorides virescens maculata (Bodd.).
Nyctanassa violacea (Linn.).
Falco sparverius caribbaearum (Gmel.).
Buteo antillarum Clark.
Regerhinus uncinatus (Cass.).
Ionornis martinica (Linn.).
Gallinula galeata (Licht.).
Fulica caribaea Ridgw.
Sterna maxima Bodd.
Sterna dougalli gracilis (Gould).
Anous stolidus (Linn.).
Columba squamosa Bonn.
Zenaida zenaida aurita (Temm. and Knip.).

- Zenaida vinaceorufa* Ridgw.
 * *Egyptila wellsii* Lawr.
Columbigallina passerina trochila (Bonap.).
Geotrygon montana (Linn.).
Coccyzus minor minor (Gmel.).
Crotophaga ani Linn.
Strix nigrescens Lawr.
Chaetura cinereiventris guianensis (Hart.).
Chaetura poliura (Temm.).
Glaucis hirsuta (Gmel.).
Sericotes holosericeus (Linn.).
 § *Bellona cristata cristata* (Linn.).
Tyrannus dominicensis rostratus (Sel.).
Tyrannus melancholius satrapa (Licht.).
Myiarchus tyrannulus tyrannulus (Müll.).
Elaeena martinica flavogastra (Thunb.).
Molothrus atronitens Cab.
 § *Holoquiscalus luminosus* (Lawr.).
 * *Pyrrhulagra noctis grenadensis* Cory.
Tiaris bicolor omissa (Jard.).
Sporophila gutteralis (Licht.).
Volatinia jacarini splendens (Vieill.).
Euphonia flavifrons viscivora Clark.
Calospiza cucullata (Swains.).
Progne dominicensis (Gmel.).
Vireosylva calidris barbadense Ridgw.
 * *Coereba wellsii* Cory. (Black color phase only, = *wellsii* Cory)
Dendroica ruficapilla (Gmel.).
 * *Troglodytes grenadensis* (Lawr.).
Minus gilvus (Vieill.).
Allenia albiventris (Lawr.).
Merula gymnophthalma (Cab.).
Merula nigrirostris (Lawr.).

* Confined to the island.

§ Confined to Grenada and the Grenadines.

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