

# ADDITIONAL NOTES ON THE BIRDS OF HAITI AND THE DOMINICAN REPUBLIC

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## INTRODUCTION

In continuation of biological studies in Hispaniola under the Smithsonian Institution, we were engaged in field investigations in Haiti and the Dominican Republic in the spring of 1931, being occupied principally with birds but making supplementary observations in other fields as opportunity presented. Our principal objective was the exploration of certain areas from which information and specimens were particularly needed. The expenses of field work were borne by the Smithsonian Institution, with certain assistance from Dr. W. L. Abbott, whose interest in this region has been of long standing. The Bureau of Biological Survey of the United States Department of Agriculture cooperated in this work through the detail of the junior author, particularly to permit study of the spring migration among migrant birds from North America on this interesting island.

## ITINERARY

We arrived in Port-au-Prince, Haiti, on the morning of March 22, 1931, landing from the Panama Steamship Line S.S. *Ancon* in the blaze of morning sunshine usual at this season of the year. Through the courtesy of Captain Davis, captain of the port, our equipment was expeditiously passed through customs, and we were soon comfortably established ashore. At noon with friends we visited Kenskoff, driving up by automobile, to make our first observations, in part over a trail traversed laboriously on foot during an earlier visit by Wetmore in 1927.

Through the courtesy of the authorities, necessary permits for our work and other details were soon arranged. On March 25 we traveled by automobile with S. W. Parish to Cap-Haïtien, and continued next day to the sisal plantation of the Haitian American Development

Co., near Terrier Rouge, where we were hospitably received by Mr. and Mrs. R. L. Pettigrew and were given quarters in the guest house, which was on an eminence overlooking the bay at Fort Liberté. The thorny scrubs of the level plain had been cleared from an area of 7,500 acres to allow the planting of sisal, and a further clearing of like extent was at the time under way. On March 27 and 30, we visited the low, double-pointed hill called Morne des Mammelles (pl. 1), located a short distance west of the bay, being the only eminence in an otherwise level landscape, where we found the flat-billed vireo and the piculet. On March 29 we went by launch to old Fort La Bouque at the entrance of the bay. Birds were abundant all through this region. On March 31 we returned to Port-au-Prince, stopping en route at Pont de l'Estère to secure a specimen of the tawny-shouldered blackbird and of the thick-knee.

Through the courtesy of Colonel Cutts and Maj. J. E. Davis, U.S.M.C., in the early morning of April 3 the senior author made a reconnaissance by air of the La Hotte Mountain Range at the western end of the Tiburon Peninsula with Sergt. R. A. Trevelyan as pilot. We left the flying field at Port-au-Prince at sunrise, traveling west along the coast, and then crossing to Aux Cayes, which gave a point of departure for the trip into the interior. Fortunately the morning was clear, as the peaks of La Hotte are ordinarily hidden in clouds, and the mountain came into sight as soon as we had crossed the center of the peninsula, bulking on the horizon high above any of the other ranges. Beyond Camp Perrin we turned directly toward La Hotte, crossing above a wonderful stand of dense rain forest that covered the eastern and southeastern slopes of the mountain, beginning apparently at about 1,000 meters altitude or higher. Obviously the section was one of heavy rainfall. To the north of the mountain were rolling ridges with considerable human habitation. Crossing over Desbarriere, Trevelyan turned directly toward the north face of the mountain, flying above a deep intervening valley. The northern slope of the Pic de Macaya was covered with pine forest of large size, without sign of trails or human habitation. A deep valley separated Pic du Formon from Macaya, the tree growth there being dense and principally rain forest. La Grande Colline, the third peak in the mountain complex, lower in elevation than the other two, was covered principally with pine. Traveling first at a few hundred feet elevation to get the lay of the land, we later descended so that the airplane traversed the deep intervening valleys and crossed the highest points of all three peaks only a few feet above the trees. On the northwest point of Macaya, the highest of the three, was a small clearing made by Engineer Dejour the year previous. We crossed and recrossed over slopes whose wild beauty it is difficult to describe, looking down into the dark, wet depths of jungle, where there was no indication

that man had ever set foot, and which the imagination peopled with any manner of strange and unusual birds. Both Macaya and Formon are long ridges with little plateau area at the top, extending east and west with steep pitches on the eastern faces.

We left the mountain finally from the south face of Formon. From Port à Piment a valley with many habitations leads up to a rolling cultivated plateau, apparently the region designated on maps as Les Platons, which offers easy access to the base of Formon and the rain forest on the southwest face of the mountain.

With knowledge gained from this reconnaissance, which through the intelligent cooperation of Sergeant Trevelyan was most complete, we proceeded with arrangements for field work in the La Hotte section, one of the major objectives of the expedition.

On April 5 we left Port-au-Prince by automobile with S. W. Parish and with H. W. Krieger, of the National Museum. We arrived that afternoon at Aux Cayes, where we spent the night, and continued next day by way of Camp Perrin to Post Avancé, which marked the end of construction passable for vehicular traffic on the proposed highway to Jérémie. From here Mr. Krieger returned, while we organized a pack train with the assistance of Engineer Dejour, who had worked in the La Hotte area, and whose services had been obtained through the assistance of Commander Duncan, of the Travaux Publique. Post Avancé has an altitude of approximately 450 meters. The work of arranging the packs was slow as usual, and it was 2 o'clock in the afternoon before we were on our way. Our route followed the line established for the continuation of the motor road, going steadily upward, with views of the sea and Île à Vache in the distance. At Tombe Cheval we descended a steep and muddy pitch in a blinding rain, and about 5 o'clock reached the summit of the ridge at Geffard, where we stopped for the night at a little native hut, the fog and rain still continuing. We started to erect a tent but were given the use of one room in a little dirt-floored house, where there was space for our cots and where we were under shelter. Our camp was at 740 meters.

The following morning we were out at dawn and, after the usual difficulties besetting this type of travel, were under way a little after 9 o'clock. A slide had blocked the trail a short distance ahead, making necessary a detour through a dense rain forest over steep trails, deep in mud, where our animals slipped and plunged and we were at times compelled to descend and walk for our own safety. In places mudholes that we could not avoid were belly-deep on our mules. The rain forest extended to Donté, the route leading through the edge of the great expanse of forest that had been seen from the air. The trail had been blocked at Donté to prevent passage, but we filled in the cut and proceeded without other incident than considerable loud talk. The slope beyond became steadily steeper until finally we had

to walk while the packs were removed and carried by porters. From Geffard we had descended to 250 meters, but on this high point we were again at 740 meters elevation. While waiting at the top of the ridge for part of the outfit, we collected a fine cloud swift.

Rain began again, and we crossed a series of stony ridges grown with low trees where habitations were few, to stumble and slip finally down a long pitch into the cultivated valley at Les Glaces, where we forded the stream of this same name. At Les Glaces we found a scattered settlement of 40 or 50 houses whose inhabitants were amazed to see white men. With darkness approaching we continued over muddy trails until we came out suddenly on the broad highway that was being pushed across from Jérémie, and in a blinding rain reached the settlement of Deron, where we were hospitably received in the house of Lifaite Loco, Chef de Seccion, who placed a room at our disposal and provided quarters for our men. The terrific down-pour that began with our arrival continued without abatement until 4 o'clock the following morning, so that we were thankful for the galvanized-iron roof over our heads in spite of the tremendous noise that the water made upon it.

As the streams were so high that fords were impassable, we remained until April 8 at Deron to make collections and to dry out our outfit. The region was an undulating plateau rising in high hills, on which were small areas of the original forest. Elsewhere the land was cultivated or planted to coffee. The elevation at the house of Loco was 620 meters.

We left Deron at 1:15 on the afternoon of April 9, having been delayed by waiting for the return of a man sent the previous day to Corail for supplies. Our way led over rolling ridges covered with coffee, and supporting a considerable population. Late in the afternoon we came out on a knife-edged ridge, with a trail following along the top and the slopes falling away abruptly on either side, and climbed a steep pitch to a pointed knoll grown with pines. This was the Bois Pin Lacadonis, and as we rested we admired the open stand of pines in contrast to the dense jungle growths that we had crossed previously. After fording a small stream below there, part of the outfit took the wrong trail and was soon in trouble on the steep slopes, with animals down so that part of the loads had to be carried by hand. While we waited we watched circling flocks of the mountain swallow (*Lamprochelidon sclateri*) and collected one for a specimen. With the outfit assembled once more, we continued as rapidly as possible over muddy trails until we arrived at dusk at the little group of houses known as Bois Lacombe, where we were cordially received by a friendly old man and were given a tiny little house that had barely room for our three cots side by side. The elevation there was 925 meters.

At dawn the following day we were awakened by the songs of a great multitude of gray robins. Two pack animals were exhausted and were left behind in the care of a native, while their burdens were taken by porters. These arrangements took so much time that it was after 11 o'clock before we were moving through pleasant sunshine down to three crossings of the Rivière des Roseaux (pl. 1), where the fords followed ledges of rock along which our animals scrambled like goats with narrow escape from slipping into the deeper water at either side. The stream was at 680 meters elevation, and on leaving it we traveled up steep slopes where a multitude of trails led through tangled scrub, causing much discussion among the men as to the proper one to follow, until we were again at 900 meters altitude. Occasional ridges were grown with pine, but this was not abundant. Gray robins, honeycreepers, and an occasional migrant warbler were noted from our mules. We heard the calls of narrow-billed todies and trogons, and parrots and pigeons were abundant. We remarked on the entire absence of crows and paroquets. At 3:15 we came to the half dozen huts marking the settlement of Desbarriere, on a narrow ridge at an elevation of 985 meters. In view of the uncertainty as to what was ahead of us, we stopped here for the night, obtaining the use of a little hut where we were very comfortable. The steep-sided ridges at this point were cultivated, having little natural forest except on the highest hills. Beyond a narrow, pine-covered ridge, opposite our caye, we had glimpses through driving clouds of fog of the huge bulk of the Pic de Macaya (pl. 2), its forest-covered slopes appearing dark and mysterious through the shifting veil of mist, which finally closed into a blank wall of cloud and spread across to where we ourselves were standing.

The following morning, April 11, we awoke to a drizzling rain that made the clay soil of the steep trails slippery and treacherous. Finally the sun appeared, and in due time we were under way; we climbed with difficulty to the summit of a hill at 1,090 meters elevation, continued across these high slopes to Amiel, and descended finally to the Rivière Anglais, where at the little group of cayes called La Cour Z'Anglais we came to the end of trails that mules could travel. We camped here in a box canyon beside the stream at an elevation of only 565 meters. The following morning it was necessary to secure porters to continue our journey, which occasioned some difficulty, as, though arrangements had been made at Desbarriere for a number of men, they appeared under the leadership of a wily old gentleman who demanded an exorbitant price for their services which we refused to pay. It was afternoon before we were finally on our way with part of our outfit, leaving the rest in storage at La Cour Z'Anglais.

Rain began to fall as we started, and we climbed with difficulty over narrow trails that led up and down through coffee plantations, little

fields, and tracts of forest over a series of ridges whose slopes in places were almost precipitous. Rain fell steadily. Our train of porters gradually separated, because of differences in weight in loads carried and the capabilities of the individual men for this kind of travel. Darkness overtook us on the mountain slope, and we found shelter in a small caye where we spent the night, sitting over a little fire, brewing tea, and sleeping as we could. The following morning, April 13, we reached our objective at the little group of three huts called Caye Godet, the last human habitation on the higher slopes of the Pic de Macaya (pl. 2). At 1,275 meters at the edge of the rain forest we dug out a little level space and pitched our tent. Below us the mountain descended steeply into a deep valley with slopes cultivated in bananas, sweetpotatoes, coffee—grown without shade because of the almost continuously clouded sky—and other crops. Across rose the steep pitches of La Grande Colline, called locally Changelange, and ahead we had a glimpse of the forested slopes of Pic du Formon, the third of the peaks of La Hotte. La Grande Colline had an extensive stand of pine, while rain forest covered Formon.

Above our camp on Macaya, rain forest extended to 1,800 meters elevation, where it was replaced by a stand of tremendous pines 4 to 6 feet in diameter, their lower limbs cloaked in moss and epiphytes, and the ground beneath covered with dense growths of dripping bracken.

From Caye Godet a trail extended to the lower edge of the forest, and it was practicable to follow the crest of a narrow ridge to the summit of the mountain. The peak extended in a general east and west direction, with a very narrow plateau at the summit. To 1,950 meters elevation the ascent was very steep and difficult, but beyond was a more gently sloping shoulder leading to the narrow plateau mentioned at 2,120 meters, rising slightly higher toward the west. Limestone was exposed at the altitude last named. This upper portion of the trail had been opened by Haitian engineers of the Travaux Publique, but at the time of our visit signs of their passage had been almost obliterated. Since the summit had at some time been swept by fire, in some years there must be a reduction in precipitation. We climbed to the summit on April 17, worked halfway along the elevated ridge, and on April 20 ascended again to the eastern end. Because of the dense growth collecting and observation were difficult, and on the whole the mountain was less interesting than the high ridge of La Selle, visited by Wetmore in 1927.

Rain fell daily, and heavy mists covered the mountain slopes for the greater part of the time. Mr. Parish left for the coast on April 15, accompanied by Dejour, and on April 22, with our observations completed, we broke camp and transported our outfit by porters to La Cour Z'Anglais, where we arrived about noon. We had expected to

continue farther, but heavy rain made it inexpedient to attempt the steep climb out of this valley, and we remained until the following day. At noon on April 23 the last of the outfit reached Amiel, and we continued to the north of Desbarriere over trails that alternated in liquid mud and rock. That night we camped at Bois Lacombe, and continued on April 24 through Les Caves to Les Glaces, where we made camp above the crossing of the stream. On April 25 we reached Post Avancé, and the following noon were at Camp Perrin, where we transferred our outfit to a decrepit motor truck and continued to Aux Cayes.

On April 27, through the courtesy of Lieut. Charles Klein, in command of the Garde d'Haiti at Aux Cayes, we were given the use of a launch, and in it we crossed to Île à Vache, where we made camp back of the sandy beach of the little land-locked harbor of Feret Bay (pl. 3). After the muddy trails of La Hotte it was a welcome sensation to be clean and dry and to walk about on level ground.

Rolling hills rising 25 to 30 meters cover the western half of the island, while the eastern portion is low and swampy. The coast is irregular, with low cliffs exposed at the headlands and several small bays having sandy beaches. Though much of the island is cultivated, there were numerous tracts of scrub and low forest. Small birds were common, and we were interested to note the presence of Cape May warblers, barn swallows, and other North American migrants. On April 30, S. W. Parish joined us again. On May 1, we returned to Aux Cayes, and continued by automobile to Port-au-Prince, arriving late in the evening.

On May 5 we went by motor to Jaemel, making collections at several points. The Trouin Valley, through which the road crosses, is of interest as marking the western limit of the Massif de La Selle.

On May 6 we left by automobile for the Dominican Republic, crossing by way of Las Cahobes and Belladère over a road made difficult by heavy rains. At Comendador, through personal letters from Gen. Rafael Trujillo, President of the Dominican Republic, we were courteously received. We continued to San Juan, where we spent the night, and on the next day we followed the main highway east to near Azua, and then turned off for Barahona, entering a dry, desert section grown with a variety of cacti and other desert plants that proved so interesting that it was late in the afternoon before we came down over the rough road through the hills into the canefields filling the valley of the Río Yaque del Sur. At Barahona, Frank Warmoth, manager for the Barahona Co., devoted to the production of sugar, and his assistants, John L. Segall and George Hamor, received us most hospitably and assisted in obtaining a boat for a journey to Beata Island. On May 9 we collected south of Barahona at La Cienaga, 15 kilometers distant, where we found considerable growth of forest. At 7 o'clock

that evening we left Barahona on the *Rosita*, a 10-ton single-masted sailboat carrying two jibs, with a crew of three men. With a favorable wind we reached the island of Beata about 1 p.m. on May 10. The little cove at Ocrik on the northern side of the island had a sandy beach above which stood two small houses. Don Eduardo Echevaria, in charge of the salt works, not now in operation, received us hospitably and gave us a room in one of his houses, a welcome that was much appreciated, as the intense sun would have made living in a tent almost unbearable. Beata Island is low and has a slightly undulating surface composed of a mass of limestone much eaten by erosion, so that the ground is rough and broken. Thorn-covered trees, bushes, and vines grew from scanty soil accumulated in crevices in the rock, and with abundant cacti formed a jungle so dense that it was to be penetrated for any distance only along trails cut laboriously into the interior. In a few places there was a thin covering of soil, but over most of the island the bare rock was exposed. The coast was bare and open, with stretches of sandy beach alternating with low, rocky headlands. Though the West Indies Pilot gives an elevation of 100 meters, the highest points we observed were not more than 35 meters.

Our field work was carried on principally early in the morning, as by 11 o'clock the blazing sun beating down on the island made any physical exertion arduous, and even in the earlier part of the day the heat was at times most oppressive. Snakes were fairly common, and lizards abounded, some of those taken proving new to science, as did also several forms of land shells that we collected. Within 15 minutes after leaving camp on our first morning afield we obtained a form of *Microligea* that was recognized instantly as being unknown. On May 14 we went out in the boat to five isolated limestone rocks lying in a semicircle 2 to 5 kilometers offshore. Three of these were 30 to 45 meters long by 15 meters wide, elevated 6 to 12 meters above the sea. Bridled terns and noddies nested there, and we found a few boobies.

We left Beata Island about 5 p.m. on May 15, but on account of calms and headwinds did not reach Barahona until 2 a.m. on May 18. On May 19 we started for Haiti, stopping 6 kilometers north of Habanero, beyond the Río Yaque del Sur, to collect in the cactus-grown desert (pl. 4). That night we were in San Juan, Dominican Republic, and on the following morning, May 20, crossed into Haiti, pausing in the rolling plains area east of Las Cahobes to collect a small series of grasshopper sparrows. We arrived in Port-au-Prince that evening.

On May 20 we collected in the region of Thomazeau, visiting Source Caïman and getting a view of the shore of the Étang Saumâtre (pl. 6), with a flock of flamingos standing in the shallow water. The great swamp at Trou Caïman was entirely dry. The following day we





VIEW ACROSS SISAL FIELDS TOWARD MORNE DES MAMMELLES.  
Near Terrier Rouge, Haiti, March 30, 1931.



CROSSING THE RIVIÈRE DES ROSEAUX.  
Below Bois Lacombe, Haiti, April 10, 1931.



NEAR BASE OF PIC DE MACAYA.  
From Desbarriere, Haiti, April 11, 1931.



HUTS AT CAYE GODET.  
On Pic de Macaya, Haiti, April 21, 1931.



FERET BAY.  
Île à Vache, Haiti, April 29, 1931.



BAY AT WESTERN END OF ÎLE À VACHE.  
Haiti, April 30, 1931



RÍO YAQUE DEL SUR.

At Boca del Baos, Dominican Republic, May 19, 1931.



DESERT VEGETATION.

Between Barahona and Azua, Dominican Republic, May 19, 1931.

visited a region of stony slopes 5 kilometers west of L'Arcahaie, which completed our work in the field, as rains had been steadily increasing until the roads out of Port-au-Prince became impassable. We sailed for New York on the S.S. *Ancon* on May 27.

#### THE AVIFAUNA OF LA HOTTE

The only ornithological work in the La Hotte area prior to our visit was that of R. H. Beck, who traveled in the interest of the American Museum of Natural History. His itinerary, taken from his manuscript journals, available through the kindness of Dr. F. M. Chapman and Dr. R. C. Murphy, is as follows:

On June 15, 1917, Beck came to Les Anglais, and on June 18 proceeded inland up steep slopes where he found coffee growing to 1,200 meters. He camped at the last available water above the highest native hut. Beyond there were no trails, and progress was impeded by trees blown down by a recent hurricane. On the following day he cut a trail to the top of a long ridge leading toward a high peak and continued until he came to two pines. On returning to his camp at noon he found that his men had deserted him. On June 21 he moved to another site and on the following day cut a trail to near the level of pines. On June 24 he again climbed to the summit of the ridge near the base of the peak, returning June 26 to Port à Piment. On July 1 he went again inland, and on July 4 cut another trail along the ridges toward the high peak.

From the fact that Beck came into this region from Les Anglais and Port à Piment, it is evident that his collections were made on the slopes of La Grande Colline. From his specimens Wetmore described *Calypophilus tertius tertius*, the only bird now known to be peculiar to this region.

From the viewpoint of its avifauna on the basis of somewhat limited present knowledge, La Hotte is rather disappointing, as its interest comes principally from those forms that do not occur. Among the birds peculiar to the higher mountains of the island we found only Chapman's ground warbler (*Microligea montana*), the Hispaniolan elaenia (*Elaenia albicapilla*), and Sclater's swallow (*Lamprochelidon sclateri*). The paroquet was not observed, though parrots were common, and the Hispaniolan ground warbler (*Microligea palustris palustris*) was absent. It would appear that the region has been one of isolation to which certain widespread forms have not penetrated, in most cases probably because of the dense rain forest that has not allowed the proper environment. Isolation is, however, the only explanation to be given for the absence of *Microligea palustris palustris* as the entire section is well suited to the needs of this form.

The foregoing remarks must not be construed to indicate that this difficult mountain region is barren ornithologically. The abundance

of solitaires, the sharp-shinned hawks of its forests, the swallows and swifts that play over the mountain slopes, and the variety of other birds that are constantly about are of perennial and never-failing interest. The little observation that has been carried on there has been on Macaya and La Grande Colline. In addition to further investigations of the birds of these mountains there still remain the dark forests of Formon, known at present scientifically only to the botanists Ekman and Barker, who cut a trail to the summit and there collected plants.

#### THE BIRDS OF ÎLE À VACHE

Île à Vache, between 10 and 12 kilometers distant from the main shore, opposite the town of Aux Cayes, is about 12 kilometers long by 5 or a little more wide. The shoreline is irregular, being cut by several bays. The western end is elevated and rolling, with low hills, partly cultivated and partly in scrub, none of the tracts of forest being extensive. The eastern section is low and swampy and has not been carefully investigated. There are no doubt several swamp-loving birds still to be reported from this area. The Parish-Smithsonian Expedition of 1930 made the first collections on this island, their studies<sup>1</sup> being so interesting as to make it desirable to do further work. Our stay was productive, adding a number of forms to the previously known list.

The bullfinch (*Loxigilla violacea parishi*) and the palm tanager (*Phaenicophilus poliocephalus tetraopes*) are peculiar, differing slightly from those of the main island. In view of the proper ecologic conditions that exist, it is curious to note the absence of such species as todies, woodpeckers, and palm-chats, to mention only a few among the forms endemic on the main island so closely adjacent. The known bird list now totals 54 forms, as follows:

Antillean grebe.....	<i>Podilymbus podiceps antillarum.</i>
Yellow-billed tropic-bird.....	<i>Phaëthon lepturus catesbyi.</i>
West Indian brown pelican.....	<i>Pelecanus occidentalis occidentalis.</i>
Frigate-bird.....	<i>Fregata magnificens rothschildi.</i>
Louisiana heron.....	<i>Hydranassa tricolor ruficollis.</i>
Little blue heron.....	<i>Florida caerulea caeruleascens.</i>
West Indian green heron.....	<i>Butorides virescens maculatus.</i>
Yellow-crowned night heron.....	<i>Nyctanassa violacea violacea.</i>
West Indian tree-duck.....	<i>Dendrocygna arborea.</i>
West Indian red-tailed hawk.....	<i>Buteo jamaicensis jamaicensis.</i>
Ridgway's hawk.....	<i>Buteo ridgwayi.</i>
Osprey.....	<i>Pandion haliaëtus carolinensis.</i>
Hispaniolan sparrow hawk.....	<i>Falco sparverius dominicensis.</i>
Hispaniolan clapper rail.....	<i>Rallus longirostris vafer.</i>
Antillean gallinule.....	<i>Gallinula chloropus portoricensis.</i>

<sup>1</sup> Wetmore, A., Birds collected in Cuba and Haiti by the Parish-Smithsonian Expedition of 1930. Proc. U.S.Nat. Mus., vol. 81, art. 2, July 22, 1932, pp. 1-40; pls. 1-7.

Spotted sandpiper.....	<i>Actitis macularia.</i>
Black-necked stilt.....	<i>Himantopus mexicanus.</i>
Laughing gull.....	<i>Larus atricilla.</i>
White-crowned pigeon.....	<i>Columba leucocephala.</i>
Zenaida dove.....	<i>Zenaida zenaida zenaida.</i>
West Indian mourning dove.....	<i>Zenaidura macroura macroura.</i>
White-winged dove.....	<i>Melopelia asiatica asiatica.</i>
Cuban ground-dove.....	<i>Columbigallina passerina insularis.</i>
Mangrove cuckoo.....	<i>Coccyzus minor teres.</i>
Ani.....	<i>Crotophaga ani.</i>
Palm swift.....	<i>Tachornis phoenicobia phoenicobia.</i>
Hispaniolan vervain hummingbird.....	<i>Mellisuga minima veilloti.</i>
Hispaniolan mango hummingbird.....	<i>Anthracothorax dominicus.</i>
Gray kingbird.....	<i>Tyrannus dominicensis dominicensis.</i>
Hispaniolan flycatcher.....	<i>Myiarchus dominicensis.</i>
Bank swallow.....	<i>Riparia riparia riparia.</i>
Barn swallow.....	<i>Hirundo erythrogaster.</i>
Hispaniolan cliff swallow.....	<i>Petrochelidon fulva fulva.</i>
Caribbean martin.....	<i>Progne dominicensis.</i>
Hispaniolan mockingbird.....	<i>Mimus polyglottos dominicus.</i>
Jamaican vireo.....	<i>Vireo olivaceus olivaceus.</i>
Black-whiskered vireo.....	<i>Vireo olivaceus barbatula.</i>
Hispaniolan honey-creeper.....	<i>Coereba bananivora bananivora.</i>
Black and white warbler.....	<i>Mniotilta varia.</i>
Hispaniolan golden warbler.....	<i>Dendroica petechia albicollis.</i>
Cape May warbler.....	<i>Dendroica tigrina.</i>
Yellow-throated warbler.....	<i>Dendroica dominica dominica.</i>
Northern prairie warbler.....	<i>Dendroica discolor discolor.</i>
Black-poll warbler.....	<i>Dendroica striata.</i>
Black-throated green warbler.....	<i>Dendroica virens virens.</i>
Ovenbird.....	<i>Seiurus aurocapillus aurocapillus.</i>
Northern water-thrush.....	<i>Seiurus noveboracensis noveboracensis.</i>
Northern yellowthroat.....	<i>Geothlypis trichas brachidactyla.</i>
Redstart.....	<i>Setophaga ruticilla.</i>
Hispaniolan grackle.....	<i>Holoquiscalus niger niger.</i>
Île à Vache palm tanager.....	<i>Phaenicophilus poliocephalus tetraopes.</i>
Yellow-faced grassquit.....	<i>Tiaris olivacea olivacea.</i>
March's grassquit.....	<i>Tiaris bicolor marchii.</i>
Parish's bullfinch.....	<i>Loxigilla violacea parishii.</i>

## BIRDS OF BEATA ISLAND

Beata Island is located off the extreme southern end of the Barahona Peninsula, separated by a distance of 10 kilometers from the nearest point of the main island. The intervening channel is only  $2\frac{3}{4}$  fathoms (4.9 meters) deep in the center. Five flat-topped rocks of the same formation as the island project in a semicircle off the northern coast. It is evident that Beata has had close connection with the adjacent shore, though probably it has been separated for many thousands of years. The island is about 8 kilometers long by 7 kilometers broad, and according to the West Indies Pilot has a maximum elevation of 100 meters. From our personal observation we believe that there is

some error in this, as in the northern half of the island the maximum altitude is less than 50 meters. From tree tops at the farthest point to which we penetrated we had a view of the entire island, and in the slightly undulating expanse of scrub that extended beyond our observation post we saw nothing to indicate a greater elevation, as the terrain rose only slightly in low, rolling ridges.

The island is of limestone formation (pl. 5) with the surface, though generally level, much eroded, so that the stone projects in small sharp-edged points that cut one's shoes badly. Along the north coast, projecting headlands, whose rocky points rise only a short space above the sea, alternate with sandy beaches back of which there are small, saline lagoons and areas of grass. Inland there is a solid stand of scrub growing from 3 to 10 meters tall, only occasional trees being of large diameter (pl. 5). There is much cactus, and many of the shrubs are so thorn covered that it is difficult to penetrate the interior except along two trails that have been cut recently, one of which leads a little more than halfway across the island. Certain areas have considerable soil, but over extensive sections the scrub grows from holes in the rocky surface. There are occasional small savannas in the interior grown with grass, 4 or 5 acres in extent. Water holes produce only brackish water.

Along the coast the wind-swept vegetation is low and stunted, so that it was possible to pick a way through, with some trouble, as the rock in places was much broken. The sea had undercut many ledges. Deep potholes were common, and it was necessary to walk circumspectly to avoid falling on the eroded stone.

Toward the center of the island the amount of visible soil is decidedly less than near the coast, and there are extensive sections of limestone entirely exposed. The scrub inland was lower and more thorny, and many slender-trunked palms with globular heads grew 10 meters or more in height, rising above the general tree level. Scattered West Indian birches (*Elaphrium*) with heavy trunks and limbs bulked large in the other growth.

So far as we have ascertained, the first collections in natural history to be made here were obtained by Dr. G. K. Noble, of the American Museum of Natural History, who worked here from October 1 to 4, 1922. From his material he described four new forms of reptiles. Dr. R. Ciferri visited Beata briefly in May 1926, devoting his attention principally to plants, but securing a few birds, among them being a booby that lived in captivity for some time.

During our observations we obtained a list of 50 forms of birds, which we believe includes the principal species of the island, and will be extended mainly through record of additional forms of herons and others of aquatic habit about the lagoons, and of wood warblers and other migrants from North America. One wood warbler (*Micro-*



*ligea palustris vasta*) we have described as new. This bird, in apparently the same form, extends through the arid scrubs of the adjacent Dominican coast, as we have specimens that we cannot distinguish from the Beata group from Trujin and Habanero. The bullfinch of Beata is smaller than that of the main island, and cannot be separated so far as we can ascertain from *Loxigilla violacea parishii* of Île à Vache. We have identified it therefore as of that race. The pearly-eyed thrasher (*Margarops fuscatus fuscatus*) abundant on Beata, is not known elsewhere in Hispaniola, though it occurs on Mona and Desecheo Islands, between the Dominican Republic and Puerto Rico. The presence of the burrowing owl is also worthy of comment. It will be noted that todies, parrots, lizard-cuckoos, woodpeckers, palm-chats, and various other birds peculiar to Hispaniola were not obtained on Beata.

Following is the known list of the birds of the island:

Audubon's shearwater.....	<i>Puffinus lherminieri lherminieri.</i>
Yellow-billed tropic-bird.....	<i>Phaëthon lepturus catesbyi.</i>
West Indian brown pelican.....	<i>Pelecanus occidentalis occidentalis.</i>
Brown booby.....	<i>Sula leucogastra leucogastra.</i>
Frigate-bird.....	<i>Fregata magnificens rothschildi.</i>
Egret.....	<i>Casmerodius albus egretta.</i>
Louisiana heron.....	<i>Hydranassa tricolor ruficollis.</i>
West Indian green heron.....	<i>Butorides virescens maculatus.</i>
Yellow-crowned night heron.....	<i>Nyctanassa violacea violacea.</i>
Flamingo.....	<i>Phoenicopterus ruber.</i>
Bahama pintail.....	<i>Dafila bahamensis bahamensis.</i>
West Indian red-tailed hawk.....	<i>Buteo jamaicensis jamaicensis.</i>
Ridgway's hawk.....	<i>Buteo ridgwayi.</i>
Semipalmated plover.....	<i>Charadrius semipalmatus.</i>
Rufous-naped plover.....	<i>Pagolla wilsonia rufinucha.</i>
American black-bellied plover.....	<i>Squatarola squatarola cynosurae.</i>
Ruddy turnstone.....	<i>Arenaria interpres morinella.</i>
Eastern willet.....	<i>Catoptrophorus semipalmatus semipalmatus.</i>
Least sandpiper.....	<i>Pisobia minutilla.</i>
Pectoral sandpiper.....	<i>Pisobia melanotos.</i>
White-rumped sandpiper.....	<i>Pisobia fuscicollis.</i>
Semipalmated sandpiper.....	<i>Ereuntes pusillus.</i>
Sanderling.....	<i>Crocethia alba.</i>
Black-necked stilt.....	<i>Himantopus mexicanus.</i>
Laughing gull.....	<i>Larus atricilla.</i>
Gull-billed tern.....	<i>Gelochelidon nilotica aranea.</i>
Roseate tern.....	<i>Sterna dougallii dougallii.</i>
American bridled tern.....	<i>Sterna anaetheta recognita.</i>
Sooty tern.....	<i>Sterna fuscata fuscata.</i>
Least tern.....	<i>Sterna albifrons antillarum.</i>
Royal tern.....	<i>Thalasseus maximus maximus.</i>
Cabot's tern.....	<i>Thalasseus sandvicensis acuflavidus.</i>
Noddy tern.....	<i>Anous stolidus stolidus.</i>
White-crowned pigeon.....	<i>Columba leucocephala.</i>

Zenaida dove.....	<i>Zenaida zenaida zenaida.</i>
Cuban ground-dove.....	<i>Columbigallina passerina insularis.</i>
Yellow-billed cuckoo.....	<i>Coccyzus americanus americanus.</i>
Hispaniolan burrowing owl.....	<i>Speotyto cunicularia troglodytes.</i>
Palm swift.....	<i>Tachornis phoenicobia phoenicobia.</i>
Hispaniolan mango hummingbird.....	<i>Anthracothorax dominicus.</i>
Belted kingfisher.....	<i>Megaceryle alcyon alcyon.</i>
Gray kingbird.....	<i>Tyrannus dominicensis dominicensis.</i>
Hispaniolan flycatcher.....	<i>Myiarchus dominicensis.</i>
Barn swallow.....	<i>Hirundo erythrogaster.</i>
Pearly-eyed thrasher.....	<i>Margarops fuscatus fuscatus.</i>
Jamaican vireo.....	<i>Vireo olivaceus olivaceus.</i>
Hispaniolan honey-creeper.....	<i>Coereba bananivora bananivora.</i>
Beata ground warbler.....	<i>Microligea palustris vasta.</i>
Hispaniolan grackle.....	<i>Holoquiscalus niger niger.</i>
Parish's bullfinch.....	<i>Loxigilla violacea parishii.</i>

#### THE LIST OF HISPANIOLAN BIRDS

From our collections we have described two new forms, the Île à Vache tanager (*Phaenicophilus poliocephalus tetraopes*) and the Beata warbler (*Microligea palustris vasta*). In addition our records include the first report of the white-rumped sandpiper. These increase the known bird list for Hispaniola and its island dependencies to 222 forms, including the Hudsonian godwit collected by Ciferri in the Dominican Republic.<sup>2</sup>

#### ACKNOWLEDGMENTS

The success of our work has been due in large measure to friendly assistance that we received in many quarters. The American minister, Dr. Dana G. Munro, was most courteous and considerate, and with members of his staff gave freely of time and information. On our arrival in Port-au-Prince we were met by a representative of Captain Davis, captain of the port, who had arranged to pass our equipment through customs. Col. R. M. Cutts, in command of the Marine forces, was personally interested in our investigations, assisting through means that otherwise would not have been available. Through Colonel Cutts, and Maj. J. E. Davis, in charge of the Marine Corps Air Service, an aerial reconnaissance of the La Hotte region was possible, a journey that was accomplished with Sergt. R. A. Trevelyan as pilot.

Through Dr. Munro we met the President of Haiti, M. Stenio Vincent. By direction of General Williams, in command of the Garde d'Haiti, and his assistant Maj. O. P. Smith, we obtained necessary permits for our firearms, and to other friends in that service we are indebted for many courtesies. We desire to mention particularly assistance received from Lieut. Charles Klein of Aux Cayes in arrangements for our trip to Île à Vache.

<sup>2</sup> See Auk, vol. 48, 1931, p. 596.

Dr. Carl Colvin, acting director of the Service Technique, a friend of long standing, and Commander G. A. Duncan, of the Travaux Publique, gave much valued aid.

In our work in the Dominican Republic, we have, first of all, to acknowledge the interest of Gen. Rafael Trujillo, President of the Republic, who personally issued us permits for our firearms and gave us letters that were passports in our entry into the Republic and in our travel there subsequently; without this authority our work would not have been possible. At Barahona we were received with the greatest courtesy by Frank Warmoth, in charge of the establishment of the Barahona Co., and by his assistants John L. Segall and George Hamor, who entertained us during our brief stay in Barahona and assisted in arrangements for our trip to Beata.

Mr. and Mrs. S. W. Parish, friends who met us on our arrival in Port-au-Prince, were interested in all details of our investigations. In Mr. Parish on several expeditions we had a companion whose assistance was most valuable and who shared with us the vicissitudes of difficult travel with never-failing good nature.

Finally we must acknowledge our indebtedness to many friends and acquaintances in both Republics who gave kindly aid in the peculiar work of two strangers from a foreign land.

#### ANNOTATED LIST OF BIRDS

### Order COLYMBIFORMES

#### Family COLYMBIDAE, Grebes

##### PODILYMBUS PODICEPS ANTILLARUM Bangs

##### ANTILLEAN GREBE

*Podilymbus podiceps antillarum* BANGS, Proc. New England Zool. Club, vol. 4, Mar. 31, 1913, p. 89 (Bueycito, Province of Oriente, Cuba).

On March 31, 1931, half a dozen grebes were seen on the Rivière Estère, near Pont de l'Estère. It is interesting to note that Des-courtilz<sup>3</sup> reported this species as common near this same point in April, 1799.

### Order PROCELLARIIFORMES

#### Family PROCELLARIIDAE, Shearwaters, Fulmars, and Petrels

##### PUFFINUS LHERMINIERI LHERMINIERI Lesson

##### AUDUBON'S SHEARWATER

*Puffinus lherminieri* LESSON, Rev. Zool., vol. 2, 1839, p. 102 ("ad ripas antillarum").

In the morning of May 10, 1931, three shearwaters came near our sloop when we were 5 or 6 kilometers northeast of Beata Island, and

<sup>3</sup> Voyages d'un naturaliste, et ses observations, vol. 2, 1809, p. 264.

since they flew past several times there can be no mistake as to their identity. Three or four more were observed at daybreak on May 16, when we were offshore a short distance below Cabo Mongon on the southeastern coast of the Barahona Peninsula. We made careful search for these birds among the stones of the northern headlands of Beata and also on offshore rocks but failed to find them. It is quite probable that there is a colony on Alta Vela Island, as the birds seen came from the southward. The records are of particular interest in view of the little that is known concerning this species in this area.

It may be further noted that Audubon's shearwater was recorded on March 21 near Watlings and Fortune Islands, and again on May 28 opposite Great Inagua, in the Bahamas.

## Order PELECANIFORMES

### Family PHAËTHONTIDAE, Tropic-birds

#### PHAËTHON LEPTURUS CATESBYI Brandt

##### YELLOW-BILLED TROPIC-BIRD

*Phaëthon Catesbyi* BRANDT, Bull. Sci. l'Acad. Imp. Sci. St. Pétersbourg, vol. 4, 1838, p. 98 (Bermuda).

About the rocky headlands of Île à Vache tropic-birds were observed from April 28 to 30, particularly at one point on the western end of the island. It appeared that they were preparing to nest in crevices in the rocks, but we could discover no eggs. Several times they were observed flying in pairs over the sea, and single birds or little groups returned constantly to hover before the cliffs. Two adult females were collected on April 30. A few were seen about Raquette Cay at the eastern side of the entrance to Feret Bay. The Haitian fishermen called this bird *gannet*.

On May 10, along the eastern coast of the Barahona Peninsula, tropic-birds were recorded flying about rocky headlands between Paradis and Enriquillo. One was observed on May 14 at Beata Island.

### Family PELECANIDAE, Pelicans

#### PELECANUS OCCIDENTALIS OCCIDENTALIS Linnaeus

##### WEST INDIAN BROWN PELICAN

*Pelecanus Onocrotalus*  $\beta$  *occidentalis* LINNAEUS, Syst. Nat., ed. 12, vol. 1, 1766, p. 215 (Jamaica).

One pelican was seen in the harbor at Port-au-Prince on March 22, two were observed over old Fort La Bouque at the entrance to Fort Liberté Bay on March 29, and another in the bay at Terrier Rouge, Haiti, on March 30. Around Île à Vache they were fairly common from April 28 to 30. At Oerik on the north shore of Beata



BARE LIMESTONE SHORE.

Beata Island, Dominican Republic, May 12, 1931.



LOW FOREST.

Beata Island, Dominican Republic, May 15, 1931.



ROLLING UPLAND.  
Near Las Cahobes, Haiti, May 20, 1931.



THE ÉTANG SAUMÂTRE.  
Near Glore, Haiti, May 22, 1931.

Island they were common from May 10 to 15 and fished steadily all day long in the schools of sardines within 50 yards of our door. We observed fully grown immature individuals with gray heads, adults with white crowns and necks, and numerous adults with the chestnut-brown necks of the breeding dress. We were told that they nested on the eastern shore of Beata.

Several were seen at Puerto Caïman below Enriquillo on May 16, and others were noted in the harbor at Barahona on May 7, 18, and 19.

### Family SULIDAE, Gannets and Boobies

#### SULA LEUCOGASTRA LEUCOGASTRA (Boddaert)

##### BROWN BOOBY

*Pelecanus leucogaster* BODDAERT, Table Planches Enl., 1783, p. 57 (Cayenne).

On May 14 about 20 brown boobies were observed resting on isolated rocks 2 kilometers or more offshore from Beata Island, and two were taken, one being adult and the other still partly in immature dress. On May 16 a few were observed at sea between Beata and Puerto Caïman. This species is said to breed on Alta Vela Island.

This booby was also recorded on March 21 at sea near Watlings Island, in the Bahamas.

### Family FREGATIDAE, Man-o'-war Birds

#### FREGATA MAGNIFICENS ROTHSCILDI Mathews

##### FRIGATE-BIRD

*Fregata minor rothschildi* MATHEWS, The birds of Australia, vol. 4, pt. 3, June 23, 1915, p. 280 (Aruba).

At Île à Vache from April 27 to 30 frigate-birds were seen regularly about Raquette Cay near the eastern side of the entrance to Feret Bay. One was observed at Beata Island on May 11, one at sea between Beata and Puerto Caïman on May 16, and one offshore from Paradis on May 17.

In earlier work on the birds of the West Indies, Wetmore<sup>3a</sup> followed Rothschild in calling the West Indian bird *Fregata magnificens*, since birds from the Caribbean area appeared the same as the only two available from the west coast (La Paz and Mazatlan). Recently, Swarth<sup>3b</sup> has investigated this matter and finds that typical *magnificens* of the Galapagos Islands seems distinct in larger size, and that specimens of the *magnificens* group from the west coast of Mexico and Lower California are the same as those from the West Indies. The latter are thus to be called *Fregata magnificens rothschildi*.

<sup>3a</sup> The birds of Porto Rico and the Virgin Islands. Scientific Survey of Porto Rico and the Virgin Islands, vol. 9, pt. 3, 1927, p. 287.

<sup>3b</sup> Condor, vol. 35, no. 3, 1933, pp. 148-150.

## Order CICONIIFORMES

## Family ARDEIDAE, Herons and Bitterns

## ARDEA HERODIAS ADOXA Oberholser

## WEST INDIAN GREAT BLUE HERON

*Ardea herodias adoxa* OBERHOLSER, Proc.U.S.Nat.Mus., vol. 43, Dec. 12, 1912, p. 544 (Curaçao Island).

One of these herons was seen on March 30 on the bay at the Fond Blanc plantation near Terrier Rouge, Haiti, and another on May 9 near Barahona, Dominican Republic.

## CASMERODIUS ALBUS EGRETTA (Gmelin)

## EGRET

*Ardea Egretta* GMELIN, Syst. Nat., vol. 1, pt. 2, 1789, p. 629 (Cayenne).

One egret was seen near our camp on Beata Island on May 11, and one was observed in a marshy pasture near Thomazeau, Haiti, on May 22.

## HYDRANASSA TRICOLOR RUFICOLLIS (Gosse)

## LOUISIANA HERON

*Egretta ruficollis* GOSSE, Birds of Jamaica, 1847, p. 338 (Burnt Savanna River, Jamaica).

This heron was observed at Cap-Haïtien, Haiti, on March 26, and at Beata Island, Dominican Republic, on May 12 and 15.

## FLORIDA CAERULEA CAERULESCENS (Latham)

## LITTLE BLUE HERON

*Ardea caerulescens* LATHAM, Index Orn., vol. 2, 1790, p. 690 (Cayenne).

Individuals were seen near Cap-Haïtien on March 26, Terrier Rouge on March 29, Île à Vache on April 29, and near St. Louis on April 30.

## BUTORIDES VIRESCENS MACULATUS (Boddaert)

## WEST INDIAN GREEN HERON

*Cancroma maculata* BODDAERT, Table Planches Enl., 1783, p. 54 (Martinique, Lesser Antilles).

Following are records for this widely distributed form: Cap-Haïtien, Haiti, March 26; crossing of the Roseaux River, below Bois Lacombe April 10 and 23; Île à Vache, April 27 to 30; Jacmel, May 5; San Juan, Dominican Republic, May 6; Barahona, May 9; Beata Island, May 13 and 15; Comendador, May 20; Thomazeau, Haiti, May 22; L'Arcahaie, May 23.



## NYCTANASSA VIOLACEA VIOLACEA (Linnaeus)

## YELLOW-CROWNED NIGHT HERON

*Ardea violacea* LINNAEUS, Syst. Nat., ed. 10, vol. 1, 1758, p. 143 (South Carolina).

On Île à Vache from April 28 to 30 several yellow-crowned night herons were seen, and one night after dark one came stalking down the beach past our camp. On Beata Island, the species was fairly common from May 11 to 15, being noted usually in evening in flight over the lagoons or along the coast.

## Family PHOENICOPTERIDAE, Flamingos

## PHOENICOPTERUS RUBER Linnaeus

## FLAMINGO

*Phoenicopterus ruber* LINNAEUS, Syst. Nat., ed. 10, vol. 1, 1758, p. 139 (Jamaica, Cuba, and Bahamas).

On our landing at Beata Island on May 10, we were told that flamingos came to the lagoons back of the little house where we had our quarters and, after establishing our camp, on walking out in the evening we were delighted to see three stalking about in shallow water. The birds were observed here until our departure, coming and going irregularly during the day but apparently returning each night to sleep. Their tameness was a sufficient index to the remoteness of their island from the usual haunts of man, as it was a simple matter to approach the birds in the open, and when they flew they usually circled past us, at times within 30 yards' distance. We did not disturb them though it would have been easy to collect specimens. On the evening of May 15 at sunset, as we lay at anchor offshore from the tip of the Barahona Peninsula opposite Beata, nine flamingos flew slowly past with the evening light displaying their beautiful plumage to particular advantage. The sailors on our sloop said that the birds were common all through this section.

On the shores of the Étang Saumâtre, beyond Thomazeau, Haiti, on May 23, we observed 25 flamingos feeding in a long line in shallow water. Aviators in the Marine Corps told us that they saw the birds here regularly in passing by air.

## Order ANSERIFORMES

## Family ANATIDAE, Ducks, Geese, and Swans

## DAFILA BAHAMENSIS BAHAMENSIS (Linnaeus)

## BAHAMA PINTAIL

*Anas bahamensis* LINNAEUS, Syst. Nat., ed. 10, vol. 1, 1758, p. 124 (Bahamas).

Four pintails were seen in saline lagoons on Beata Island on May 15.

At Barahona, May 19, we examined one in cold storage that had been killed by George Hamor a month or six weeks previous at a

lagoon beyond Cabral. From all accounts this is one of the common ducks of that area.

*NYROCA AFFINIS* (Eyton)

LESSER SCAUP DUCK

*Fuligula affinis* EYTON, A monograph on the Anatidae or duck tribe, 1838, p. 157 (North America).

At Barahona, Dominican Republic, on May 19, we examined the body of one of these ducks in cold storage that had been killed a month or six weeks previous by George Hamor on a lagoon west of Cabral.

Mr. Hamor reports that ducks abound during the season of northern winter in the various lagoons and marshes of the area in question. In some years the birds begin to congregate there about the end of November but ordinarily the period of their greatest abundance comes in January and February. Several species are found of which a part, perhaps the larger part, are certainly migrants from North America. These include the lesser scaup; birds that Mr. Hamor believes to be pintails; the blue-winged teal; and probably others. The tree-duck, possibly including occasional individuals of a species other than the West Indian tree-duck (*Dendrocygna arborea*), the ruddy duck, and the Bahama pintail are included among species that breed in this region. From the large number of birds that congregate here, it appears that it will be important to investigate the matter, to determine the North American species involved and their relative abundance.

## Order FALCONIFORMES

### Family ACCIPITRIDAE, Hawks and Eagles

*ACCIPITER STRIATUS STRIATUS* Vieillot

HISPANIOLAN SHARP-SHINNED HAWK

*Accipiter striatus* VIEILLOT, Hist. Nat. Ois. Amér. Sept., vol. 1, 1807, p. 42, pl. 14 (Haiti).

This species was encountered only in the general region of La Hotte on the Tiburon Peninsula. On April 11, at Desbarriere, a pair flew high above the most elevated ridges, circling with set wings, or pursuing each other playfully. On April 16, at an elevation of 1,650 meters on Pic de Macaya, we collected a mated pair in heavy rain forest. In habits and actions they were exactly like the North American sharpshin. They rested among leafy branches, betraying their presence by a plaintive note, rapidly repeated, resembling *kew kew kew kew*, and were decoyed readily within gun range by squeaking. At Geffrard, on April 25, a female and two males circled together in the air above the forest.

Discrepancy in size in the two sexes makes it a simple matter to distinguish males and females when the two are seen together.

**BUTEO JAMAICENSIS JAMAICENSIS** (Gmelin)

## WEST INDIAN RED-TAILED HAWK

*Falco jamaicensis* GMELIN, Syst. Nat., vol. 1, pt. 1, 1788, p. 266 (Jamaica).

This hawk was recorded at Kenscoff on March 22, and at Terrier Rouge on March 27. In the La Hotte region it was fairly common, though its abundance was difficult to ascertain because of the heavy forest. In this area it was noted at Donté, April 7; Bois Lacombe, April 10 and 24; and near La Cour Z'Anglais, April 12, 22, and 23. On the slopes of Pic de Macaya it was recorded regularly from April 14 to 21. Individuals were observed on Île à Vache on April 28 and 30; one was seen on Beata Island, Dominican Republic, on May 15; and one near Habanero, Dominican Republic, on May 19.

**BUTEO RIDGWAYI** (Cory)

## RIDGWAY'S HAWK

*Rupornis ridgwayi* CORY, Quart. Journ. Boston Zoöl. Soc., vol. 2, Oct. 1883, p. 46 (Samaná, Dominican Republic).

The first of these hawks was seen on April 25 circling over heavy rain forest near Geffrard, Haiti. On Île à Vache several were observed. On April 28, low, chattering calls brought to attention one that rested on the edge of a partly completed nest in the top of a royal palm 10 meters from the ground. This bird was taken and proved to be a female. Two more were seen circling over low hills during that same forenoon, one was noted on the following day, and two more on April 30. One was observed on Beata Island, Dominican Republic, on May 11. The notes of this species are higher in pitch than those of *Buteo magnirostris* of continental America.

**PANDION HALIAËTUS CAROLINENSIS** (Gmelin)

## OSPREY

*Falco carolinensis* GMELIN, Syst. Nat., vol. 1, pt. 1, 1788, p. 273 (South Carolina).

One osprey was recorded over the harbor at Port-au-Prince, Haiti, on March 22, and another on Île à Vache on April 29. The latter seems to constitute an unusually late record.

## Family FALCONIDAE, Falcons and Caracaras

**FALCO SPARVERIUS DOMINICENSIS** Gmelin

## HISPANIOLAN SPARROW HAWK

*Falco dominicensis* GMELIN, Syst. Nat., vol. 1, pt. 1, 1788, p. 285 (Hispaniola).

Sparrow hawks were observed regularly in the suburbs of Port-au-Prince, and their passage frequently caused some commotion among the palm-chats. They were recorded at Dessalines on March 25,

at Trou on March 26, and at Terrier Rouge on March 27 and 30, where one was observed repeatedly attacking a red-tailed hawk. On April 5, near Aquin, one was seen carrying a lizard nearly a foot long. In the open, settled region about the base of the La Hotte Mountains the sparrow hawk was common, and was recorded at Deron, April 8; from Deron to Bois Lacombe, April 9; at Desbarriere, April 10; and from Desbarriere to La Cour Z'Anglais, April 11. None was found on Pic de Macaya, and the bird does not appear to find haunts to its liking in rain-forest areas. On our return one was seen above the crossing of the Roseaux River below Bois Lacombe on April 23, and another at Geffrard on April 25. On Île à Vache the birds were fairly common, and one was taken on April 29.

Sparrow hawks were recorded further at Las Matas, Dominican Republic, May 6; between San Juan and Barahona, May 7 and 19; and at Barahona, May 19. They were common near Thomazeau, Haiti, May 22, and near L'Arcahaie, May 23. None was observed on Beata Island, though they may occur there locally.

## Order GALLIFORMES

### Family NUMIDIDAE, Guinea-fowl

#### NUMIDA GALEATA Pallas

#### GUINEA HEN

*Numida galeata* PALLAS, Spicilegia zoologica, vol. 1, fasc. 4, 1767, p. 13 (based on domesticated bird).

Guineas were seen near L'Arcahaie, Haiti, on March 25, and at Pont de l'Estère on March 31 two flocks were found feeding in partly open fields among scattered growths of mesquite. When flushed, they flew high over the trees. On May 20, one was observed from the car on Morne à Cabrits, and on May 23 one was seen near L'Arcahaie. At this season they were reported to be nesting.

## Order GRUIFORMES

### Family ARAMIDAE, Limpkins

#### ARAMUS PICTUS ELUCUS Peters

#### LIMPKIN

*Aramus pictus elucus* PETERS, Occ. Pap. Boston Soc. Nat. Hist., vol. 5, Jan. 30, 1925, p. 143 (Sosúa, Dominican Republic).

One limpkin was observed in a flooded area beyond Damien, Haiti, on May 6. At Barahona, George Hamor described one that had been killed recently near by.

## Order CHARADRIIFORMES

## Family CHARADRIIDAE, Plovers, Turnstones, and Surf-birds

## CHARADRIUS SEMIPALMATUS Bonaparte

## SEMPALMATED PLOVER

*Charadrius semipalmatus* BONAPARTE, Journ. Acad. Nat. Sci. Philadelphia, vol. 5, 1825, p. 98 (coast of New Jersey).

A single specimen of this plover was observed on March 26, on the shore of a point of land projecting out into the bay at Terrier Rouge, Haiti, while at Beata Island, Dominican Republic, from May 10 to 15, a few were seen daily on the glistening beds of the salt lagoons. The largest number noted in one day was eight on May 12.

## PAGOLLA WILSONIA RUFINUCHA (Ridgway)

## RUFIOUS-NAPED PLOVER

*AEgialitis Wilsonius* var. *rufinucha* RIDGWAY, Amer. Nat., vol. 8, Feb. 1874, p. 109 (Spanishtown, Jamaica).

The rufous-naped plover was observed only on Beata Island, Dominican Republic, where we found a few on the salines at the north end of the island. They probably were breeding although a rather hasty search failed to disclose a nest. One was collected on May 12.

In actions these plovers are like the parent species of the Atlantic and Gulf coasts of North America, preferring to run rather than to fly unless too closely pressed.

## OXYECHUS VOCIFERUS RUBIDUS Riley

## WEST INDIAN KILLDEER

*Oxyechus vociferus rubidus* RILEY, Proc. Biol. Soc. Washington, vol. 22, Apr. 17, 1909, p. 88 (Santo Domingo=Hispaniola).

Killdeers were seen and heard regularly in the moist lowlands of Haiti and of the Dominican Republic. Several were noted in the region between Cap-Haïtien and Terrier Rouge, March 26 to 30, and as we emerged from the mountains of the Tiburon Peninsula a short distance south of Camp Perrin on April 26 one flew ahead of us. This was the highest elevation at which the species was observed. Several were seen in the vicinity of rain-water pools in the mesquite near San Juan, Dominican Republic, on May 6, and killdeers were fairly common between that point and Azua on May 8 and 19. One was noted near L'Arcahaie, Haiti, on May 23.

## SQUATAROLA SQUATAROLA CYNOSURAE Thayer and Bangs

## AMERICAN BLACK-BELLIED PLOVER

*Squatarola squatarola cynosurae* THAYER and BANGS, Proc. New England Zool. Club, vol. 5, Apr. 9, 1914, p. 23 (Baillie Island, Arctic America).

On May 11, at Ocrik, on the north side of Beata Island, Dominican Republic, two black-bellied plovers were seen in flight over the salt lagoon.

## ARENARIA INTERPRES MORINELLA (Linnaeus)

## RUDDY TURNSTONE

*Tringa morinella* LINNAEUS, Syst. Nat., ed. 12, vol. 1, 1766, p. 249 (coast of southeastern Georgia).

The turnstone was first noted on May 9, when two were seen near La Cienaga, about 15 kilometers south of Barahona, Dominican Republic. They proved to be fairly common around the salt pans and lagoons on Beata Island, May 10 to 15. On the latter date at least a dozen were seen, mostly in pairs.

## Family SCOLOPACIDAE, Woodcock, Snipe, and Sandpipers

## ACTITIS MACULARIA (Linnaeus)

## SPOTTED SANDPIPER

*Tringa macularia* LINNAEUS, Syst. Nat., ed. 12, vol. 1, 1766, p. 249 (Pennsylvania).

We found spotted sandpipers both in the lowlands and in the mountains. Observations were made as follows: Two on April 5 at a small lagoon near Aux Cayes, Haiti; one flushed at the crossing of the Rivière des Roseaux below Bois Lacombe on April 10; several at Île à Vache on April 28 to 30; two along the bank of the Río Yaque del Sur near Boca del Baos, Dominican Republic, on May 8; and one at Barahona on May 9.

## CATOPTROPHORUS SEMIPALMATUS SEMIPALMATUS (Gmelin)

## EASTERN WILLET

*Scolopax semipalmata* GMELIN, Syst. Nat., vol. 1, pt. 2, 1789, p. 659 (New York).

One willet was seen at Barahona, Dominican Republic, on May 9, and we found them common and breeding on Beata Island, May 10 to 15. Three specimens and a set of four eggs were collected on May 12. The birds were observed repeatedly to perch on dead limbs at the tops of small trees, which served them as lookout posts over their nesting territory. The nest found was placed among the stems of a fleshy-leaved chenopodaceous plant growing on an open saline, and was a well-formed cup made of the dead stems of the surrounding plant built up above the level of the ground. It contained four eggs with incubation begun. A male bird was flushed from this nest, and

the other two that were collected in this breeding area were males. The eggs vary in ground color from deep olive-buff to olive-buff and are spotted boldly with more or less irregular spots of fuscous-black, bone brown, and various shades of grayish olive. They measure, in millimeters, 51.8 by 37.8, 53.5 by 38.8, 54 by 38.4, and 54.2 by 39.

TOTANUS FLAVIPES (Gmelin)

LESSER YELLOWLEGS

*Scolopax flavipes* GMELIN, Syst. Nat., vol. 1, pt. 2, 1789, p. 659 (New York).

The lesser yellowlegs was noted on March 26, when about a dozen were seen feeding on a mud flat near the flying field east of Cap-Haïtien, Haiti. One was seen near Aquin on April 5.

PISOBIA MINUTILLA (Vieillot)

LEAST SANDPIPER

*Tringa minutilla* VIEILLOT, Nouv. Dict. Hist. Nat., vol. 34, 1819, p. 466 (Nova Scotia to Antilles).

A single least sandpiper was seen on May 11 along the shore of the salt lagoon back of Ocrik Bay, Beata Island, Dominican Republic.

PISOBIA MELANOTOS (Vieillot)

PECTORAL SANDPIPER

*Tringa melanotos* VIEILLOT, Nouv. Dict. Hist. Nat., vol. 34, 1819, p. 462 (Paraguay).

The pectoral sandpiper was detected once when a single bird was observed on May 10 at Beata Island, Dominican Republic. It was feeding on the mud flat of a salt pan and successfully eluded our efforts to capture it.

PISOBIA FUSCICOLLIS (Vieillot)

WHITE-RUMPED SANDPIPER

*Tringa fuscicollis* VIEILLOT, Nouv. Dist. Hist. Nat., vol. 34, 1819, p. 461 (Paraguay).

On Beata Island, on May 12, one white-rumped sandpiper was observed distinctly. On May 15 one was seen with a flock of semipalmated sandpipers but was wary and would not allow approach for a shot. It was observed in flight several times when its markings were easily evident through binoculars.

The species has not been recorded previously from Hispaniola, but its occurrence there is not unusual, since it has been found in migration in Puerto Rico, Jamaica, and Cuba. Specimens should be taken to support the Dominican record.

## EREUNETES PUSILLUS (Linnaeus)

## SEMIPALMATED SANDPIPER

*Tringa pusilla* LINNAEUS, Syst. Nat., ed. 12, vol. 1, 1766, p. 252 (Santo Domingo=Hispaniola).

On a large mud flat near the flying field east of Cap-Haïtien, Haiti, about 100 semipalmated sandpipers were seen on March 26. This species also was common around the shores of the salt lagoons and salt pans on Beata Island, Dominican Republic, May 10 to 15. On the latter date a large flock was evidently in migration as they appeared to have just arrived and were decidedly nervous at our approach. Three were taken on May 12.

## EREUNETES MAURI Cabanis

## WESTERN SANDPIPER

*Ereunetes mauri* CABANIS, Journ. für Orn., 1856, p. 149 (Cuba).

Ordinarily but scant reliance should be placed upon field identifications of the western sandpiper, but occasionally conditions are sufficiently favorable to allow satisfactory diagnosis without the necessity for collection. Such an opportunity was presented on March 26, when we identified several of these birds feeding in company with *E. pusillus* on a mud flat a short distance east of Cap-Haïtien, Haiti.

## CROCETHIA ALBA (Pallas)

## SANDERLING

*Trynga alba* PALLAS, in Vroeg, Cat. Rais., Adumbr., 1764, p. 7 (coast of North Sea).

The sanderling was noted on but one occasion, when a single bird was observed, May 12, at Beata Island, Dominican Republic, in company with three ruddy turnstones.

## Family RECURVIROSTRIDAE, Avocets and Stilts

## HIMANTOPUS MEXICANUS (Müller)

## BLACK-NECKED STILT

*Charadrius mexicanus* MÜLLER, Natursystem, Suppl., 1776, p. 117 (Mexico).

Black-necked stilts were first observed near Cap-Haïtien, Haiti, where on March 26 five or six were feeding along the edge of the mangroves on a mud flat. At Terrier Rouge they were heard calling in the moonlit evenings of March 28 and 29. On April 29, at Île à Vache, the characteristic calls of this bird attracted our attention to an interior marsh where half a dozen individuals were seen. A few were observed on May 23, feeding on overflowed land at Source Matelas.

In the Dominican Republic we noted stilts in the harbor at Barahona on May 9, and small numbers were seen daily around the salt lagoons on Beata Island, May 10 to 15.



## Family OEDICNEMIDAE, Thick-knees

## OEDICNEMUS DOMINICENSIS Cory

## HISPANIOLAN THICK-KNEE

*Oedicnemus dominicensis* CORY, Quart. Journ. Boston Zool. Soc., Oct. 1883, p. 46  
(La Vega, Dominican Republic).

The Hispaniolan thick-knee was actually observed on but one occasion when a pair was found in the mesquite at Pont de l'Estère, Haiti, on March 31. They were ridiculously tame and made no attempt to fly, merely running short distances in a petulant manner as though resentful at being forced to move. One of these was collected and apparently constitutes the first specimen for Haiti, although the bird has been reported previously on a few occasions.<sup>4</sup> The collection of this specimen definitely identified a local name, *coq savanne*, which was immediately used by our native guide in referring to it.

We were informed that the búcaro occurred on Beata Island, Dominican Republic, but it was not seen by us in the portions of the island visited. There are, however, open savannas of rather limited size that may be suited to its needs. Its habit of standing motionless for long periods, coupled with its highly protective coloration, may easily account for its being overlooked in many areas. Its occurrence here is, however, subject to verification.

In a recent letter Dr. R. Ciferri states that the specimen recorded by Moltoni<sup>5</sup> as from San Juan, Dominican Republic, refers to a bird in captivity that was brought to San Juan from Moca, in the north. On its death it was made into a skin and through some misunderstanding San Juan was given as its proper locality. Dr. Ciferri writes that the búcaro is known properly in the south only from the great Sabana de Guerra, or Sabana de Guabatico, where both he and his brother have observed it. In the north he states that it ranges from Bonao to Dajabón along the base of the Cordillera Central in open valleys and savannas. It does not seem to pass beyond the base of the Cordillera Septentrional, being thus restricted to the great valley of the Cibao, extending from Monte Cristi to Sabana la Mar. He comments on the frequent occurrence of the bird in captivity, and of one of its peculiarities in attitude in which it frequently rests with the entire tarsus extended along the ground. The eggs, two to four in number, he says are desposited in slight hollows without nest lining. They are grayish in color, heavily dotted with small markings of brown.

Mr. and Mrs. J. E. Boog-Scott informed us that they were now certain of the occurrence of the *coq savanne* on the open gravel knolls near the experiment station at Hinche, Haiti.

<sup>4</sup> See Wetmore and Swales, The birds of Haiti and the Dominican Republic. U.S.Nat.Mus.Bull. 155, 1931, p. 197.

<sup>5</sup> Atti Soc. Ital. Sci. Nat., vol. 68, 1929, p. 314.

## Family LARIDAE, Gulls and Terns

## LARUS ATRICILLA Linnaeus

## LAUGHING GULL

*Larus atricilla* LINNAEUS, Syst. Nat., ed. 10, vol. 1, 1758, p. 136 (Bahama Islands).

In crossing from Aux Cayes to Île à Vache on April 27, we saw five of these birds in full plumage. Between Barahona and Beata Island these gulls were common at sea, and it was noted that there was a regular flight from the south in early morning. At Beata they were common along the beach, and fished with the brown pelicans. All were in full breeding dress, so that it seems probable that there is a nesting colony somewhere in this area. One gull associated itself closely with fishing pelicans awaiting their dives to drive small fish into shallow water, whereupon it made its own plunge into the school and rarely missed its fish.

## GELOCHELIDON NILOTICA ARANEA (Wilson)

## GULL-BILLED TERN

*Sterna aranea* WILSON, Amer. Orn., vol. 8, 1814, p. 143, pl. 72, fig. 6 (Cape May, New Jersey).

Several gull-billed terns were observed on May 10 as we came in to anchor at Beata Island.

## STERNA DOUGALLII DOUGALLII Montagu

## ROSEATE TERN

*Sterna dougallii* MONTAGU, Suppl. Orn. Dict., 1813, text and plate (not numbered) (Cambrae Islands, Firth of Clyde).

At Beata Island, on May 12, we located a colony of a dozen pairs of roseate terns on a block of limestone a few feet square forming a tiny island in the lagoon back of our camp. The birds may have been present here earlier but were not definitely identified until the day mentioned. They were evidently on their breeding grounds but had not yet laid on our departure on May 15. On that day an adult male was taken. On May 16 these terns were seen in small numbers at sea between Beata and Puerto Caïman; on May 17 others were recorded north as far as Paradis.

## STERNA ANAETHETA RECOGNITA (Mathews)

## AMERICAN BRIDLED TERN

*Melanosterna anaethetus recognita* MATHEWS, The birds of Australia, vol. 2, pt. 4, Nov. 1, 1912, p. 403 (Bahama Islands).

On May 14 we found considerable colonies of bridled terns nesting on three isolated rocks lying 2 or 3 kilometers offshore from the northern coast of Beata Island, Dominican Republic. The birds

seemed to feed entirely at sea, and were not observed along shore. On May 16 and 17, individuals were observed over the open water north to a point opposite Paradis. Four specimens were taken on May 14.

On the rocks near Beata we found numerous eggs and collected a series of 11, all of them fresh. These were found in small potholes in the limestone rock, or under small projecting ledges where they were usually more or less sheltered from above. They were placed on slight accumulations of earth without other pretense to a nest. The parents were tame and flew about or rested near at hand, uttering cawing or croaking calls. Two were captured in rock crevices by hand, and others could easily have been obtained in like manner. One of those taken by this means was a male, indicating possibly that the male shares in the duties of incubation.

The eggs vary in ground color from very light pale olive-buff to a dull ivory-yellow, and are covered with small, somewhat irregular spots of bone brown and army brown, these becoming bluish slate of varying shades where overlaid by a deposit of shell. The spots are quite evenly distributed over most of the surface, though individual specimens vary in the abundance and size of the markings. They measure as follows, in millimeters: 42.8 by 33.1; 44.8 by 31.6; 45.1 by 34; 45.7 by 33.8; 46.1 by 31.7; 46.1 by 33.4; 47.6 by 32.7; 47.7 by 33.3; 47.9 by 34.4; 48 by 34.6; 48.8 by 34.5.

In previous work on West Indian birds, Wetmore has treated this tern under the name *Sterna anaetheta melanopectera* (Swainson) based on *Sterna melanopectera* of Swainson described from West Africa.

Ridgway,<sup>6</sup> and more recently the fourth edition of the A.O.U. Check List of North American Birds, have accepted *recognita* of Mathews as a properly differentiated form. In view of this we follow this latter procedure without having compared birds from the eastern and western sides of the Atlantic.

STERNA FUSCATA FUSCATA Linnaeus

SOOTY TERN

*Sterna fuscata* LINNAEUS, Syst. Nat., ed. 10, vol. 1, 1758, p. 228 (Hispaniola).

Sooty terns were observed a short distance north of Beata Island on May 10, and others were recorded on May 16, when we were in passage north to Puerto Caïman, below Enriquillo.

STERNA ALBIFRONS ANTILLARUM (Lesson)

LEAST TERN

*Sternula antillarum* LESSON, Compl. Oeuvres Buffon, vol. 20, 1847, p. 256 (Guadeloupe Island, West Indies).

<sup>6</sup> U.S.Nat.Mus.Bull. 50, pt. 8, 1919, p. 512.

On Beata Island, Dominican Republic, from May 10 to 15 we found this handsome tern in fair numbers about the saline lagoons and along the coast. On May 12 we located a small breeding colony nesting on the narrow ledges formed by the tops of the earth-filled dikes that divided the lagoons at the salt works into sections. We collected three sets of two eggs each, and found all to be fresh. The eggs were deposited on packed earth, and each set was surrounded by a ring of small molluscan shells. Numerous single eggs were scattered about, but in no case was the ring of shells observed about them, indicating possibly that this treatment was accorded only to complete sets. Three skins were prepared on this day.

The eggs taken vary in ground color from lighter than pale olive-buff to a warm olive-buff, spotted somewhat irregularly over the entire surface with bone brown and natal brown, these becoming various shades of bluish slate where overlaid by calcareous deposits of the shell. In some eggs the spots are fine and in others rather bold and heavy. In one egg the slaty markings predominate. Following are measurements in millimeters of the three sets obtained: 28.5 by 21.9, 28.7 by 22.2; 30.3 by 22.5, 30.8 by 22.5; 32 by 23.2, 32.8 by 23.8.

THALASSEUS MAXIMUS MAXIMUS (Boddaert)

ROYAL TERN

*Sterna maxima* BODDAERT, Table Planches Enl., 1783, p. 58 (Cayenne).

At Terrier Rouge, Haiti, we saw one royal tern near the Fond Blanc plantation house on March 29 and another near the entrance to Fort Liberté Bay on the same day.

This tern was recorded at Barahona on May 9, and as we came out of harbor in our tiny sloop after dark that evening a white spot on a buoy, that we passed within a few meters, in the light of a flashlight became one of these terns asleep. The birds were seen regularly the following day in passage to Beata Island, and at the latter place were seen daily along the beach. An adult male taken on May 11 was in full breeding dress. On our return on May 16 this species was recorded as far as Puerto Caïman below Enriquillo.

It is of interest to report that a royal tern banded as a chick at Egg Bank, Helena Sound, Beaufort County, S.C., on July 18, 1930, by E. Milby Burton was taken subsequently on a beach near Enriquillo, Dominican Republic, on March 13, 1931. An account of this capture published in the newspaper *La Opinion*, of Santo Domingo City, was reported to the Biological Survey in Washington by George H. Hamor, of Barahona. Another banded by Mr. Burton at Cape

Romain, S.C., July 18, 1931, was found dead November 13, 1931, on the Higuamo River, Dominican Republic.

THALASSEUS SANDVICENSIS ACUFLAVIDUS (Cabot)

CABOT'S TERN

*Sterna acuflavida* CABOT, Proc. Boston Soc. Nat. Hist., vol. 2, 1847, p. 257 (Tancah, Yucatan).

Several Cabot's terns were seen on May 10 at sea about 15 kilometers north of Beata Island, Dominican Republic.

ANOÛS STOLIDUS STOLIDUS (Linnaeus)

NODDY TERN

*Sterna stolidus* LINNAEUS, Syst. Nat., ed. 10, vol. 1, 1758, p. 137 (West Indies).

The noddy tern, known to the native fishermen as *bubi*, was common about the off-lying rocks opposite Ocrik on the north coast of Beata Island, Dominican Republic, and on May 10 came flying about our sloop in flocks when we were 15 kilometers north of the island. The birds fed entirely at sea and were not observed again, save through binoculars at a far distance, until May 14 when we visited the isolated rocks mentioned in search of sea birds. Colonies of noddies were found nesting on two of these, and two adult females and 10 sets of one egg each were collected. Two eggs were slightly incubated and the others were fresh. On May 16 noddies were noted at sea north to Puerto Caïman, below Enriquillo.

The eggs were placed on slight piles of vegetation and were scattered at random over the open surface of the rocks, in contrast to the eggs of the bridled terns that nested here also and that were placed more or less under shelter.

In ground color the 10 eggs obtained vary from dull white to very pale cartridge buff. They are spotted with brown ranging from chocolate and warm sepia to bone brown, which is changed to varying shades of bluish slaty gray where the markings are overlaid by calcareous shell material. The markings vary from fine to bold, in one or two eggs being confluent over certain areas so as to present the appearance of blotches. They are most abundant about the large end of the egg, but are scattered in varying amounts elsewhere, some eggs having few markings while in others they are abundant. Measurements, in millimeters, are as follows: 50.5 by 36.2; 51 by 35.7; 51.5 by 36; 51.8 by 34.5; 52.3 by 36.2; 53.1 by 35.2; 53.4 by 36.5; 53.9 by 36.7; 54.1 by 35.2; 56.2 by 35.6.

## Order COLUMBIFORMES

## Family COLUMBIDAE, Doves and Pigeons

## COLUMBA LEUCOCEPHALA Linnaeus

## WHITE-CROWNED PIGEON

*Columba leucocephala* LINNAEUS, Syst. Nat., ed. 10, vol. 1, 1758, p. 164 (Bahama Islands).

At Deron, Haiti, on April 8, several white-crowned pigeons were killed for the table. On Île à Vache from April 28 to 30 these birds were common, being scattered through fields and pastures. On Beata Island, Dominican Republic, from May 11 to 15, this pigeon was abundant through the dry scrubs, being distributed both along the coast and in the interior. The display flight of the male is quite similar to that of the domestic pigeon, during its course the bird flying with the extended wings moving in short strokes above the level of the back. The birds were nesting on Beata.

## COLUMBA SQUAMOSA Bonnaterre

## SCALED PIGEON

*Columba squamosa* BONNATERRE, Tableau Enc. Méth., vol. 1, 1792, p. 234 (Guadeloupe Island, West Indies).

Throughout the forested areas, including the coffee plantations of the western end of the Tiburon Peninsula, this large pigeon is so abundant that it was recorded daily from April 6 to April 25 in the slow journey from Post Avancé to the La Hotte Mountains and return. On Pic de Macaya the birds ranged to the summit of the mountain and were seen daily in flight past our camp at 1,275 meters altitude. In the forests they rested in the upper branches of the trees, where, as usual, they were difficult to see among the leaves until they took flight. At Les Glaces on April 24 these pigeons were very abundant, so that in a short walk late in the afternoon among the low hills behind our camp we saw several hundred. The birds crossed the sky constantly, and dead tree tops on the horizon often had half a dozen resting in them while their cooing calls came from every side. Though there was no hunting here the birds were very wary. Several were recorded near Belladère on May 6.

## COLUMBA INORNATA INORNATA Vigors

## PLAIN PIGEON

*Columba inornata* VIGORS, Zool. Journ., vol. 3, Dec. 1827, p. 466 (near Havana, Cuba).

On May 7 we saw two plain pigeons at a waterhole in the desert area between Azua and Boca del Baos, Dominican Republic.

## ZENAIIDA ZENAIIDA ZENAIIDA (Bonaparte)

## ZENAIIDA DOVE

*Columba zenaida* BONAPARTE, Journ. Acad. Nat. Sci. Philadelphia, vol. 5, June 1825, p. 30 (Florida Keys).

This is one of the commonest doves of Haiti through areas of cultivated fields and arid scrubs, but does not penetrate into the rain forests of the better-watered areas. In the north it was recorded at Dessalines on March 25 and near Trou on March 26. Near Terrier Rouge from March 27 to 30 it was fairly common, and on March 27 at the Morne des Mammelles we flushed one from a nest that contained two fresh eggs. The nest was a broad platform of rather large twigs having a slight central depression for the eggs, placed on a level section of the inclined trunk of a twisted tree of large size, and was located 4 meters from the ground. The two eggs, white with a distinct gloss, measure 28.9 by 23 and 29.3 by 22.5 mm.

One of these doves was seen on Île à Vache on April 30.

On May 6 and 7 we found Zenaida doves common along the highway between Comendador and Azua, Dominican Republic. On Beata Island from May 10 to 15 they were common, this period being apparently the breeding season, as the display flight of the males in which they scaled through the air with set wings in great circles was seen daily. Their cooing song in tone is like that of the mourning dove but is more sonorous and is given in a monotone without the rising and falling cadences of the song of the latter species. On several occasions we saw these doves fly out from Beata Island toward the distant Dominican shore, and when collecting sea birds on isolated rocks north of Beata we observed these doves passing on several occasions, so that they appear to cross constantly between the two islands.

On May 19 and 20 in traveling from Barahona, Dominican Republic, to Port-au-Prince, Haiti, we saw Zenaida doves regularly along the highway. A few were seen near Thomazeau, Haiti, on May 22, and others near L'Arcahaie on May 23.

## ZENAIIDURA MACROURA MACROURA (Linnaeus)

## WEST INDIAN MOURNING DOVE

*Columba macroura* LINNAEUS, Syst. Nat., ed. 10, pt. 1, 1758, p. 164 (Cuba)<sup>7</sup>.

This species, common in cultivated sections and in many arid regions, was seen in the city of Port-au-Prince, Haiti, on March 23, and was recorded at Dessalines on March 25 and at Trou on March 26. At Terrier Rouge they were very common in the sisal fields and in adjacent areas, where they were calling constantly. At the

<sup>7</sup> See Wetmore and Swales. U.S.Nat.Mus. Bull. 155, 1931, p. 171.

Morne des Mammelles on March 30 we found a nest placed on an epiphyte growing on the trunk of a tree  $2\frac{1}{2}$  meters from the ground. The nest was the usual shallow structure of small twigs, and contained two eggs with incubation begun. These are white with a slight gloss and measure 26.2 by 19.7 and 25.7 by 19.4 mm.

On April 28 and 30 we recorded this dove on Île à Vache. In the region from Comendador to Barahona it was seen in some numbers along the highway on May 7 to 9, and again on May 19 and 20. On May 22 we collected five adults in open pasture land and old fields near Thomazeau, and on May 23 recorded this species at L'Arcahaie.

**MELOPELIA ASIATICA ASIATICA (Linnaeus)**

WHITE-WINGED DOVE

*Columba asiatica* LINNAEUS, Syst. Nat., ed. 10, vol. 1, 1758, p. 163 (Jamaica).

The white-winged dove was recorded as follows: Dessalines, Haiti, March 25; Trou, March 26; Terrier Rouge, March 28 and 30; Deron, April 8 (a female taken contained an egg nearly ready to be laid); Post Avancé, April 26; Île à Vache, April 28, one female taken as it flushed from a newly finished nest without eggs, and a young bird shot that was barely grown; Belladère, May 6; San Juan to Barahona, Dominican Republic, May 9 and 19; L'Arcahaie, Haiti, May 23.

Don Eduardo Echevaria said that he saw them occasionally on Beata Island, but we did not record them there.

**COLUMBIGALLINA PASSERINA INSULARIS Ridgway**

CUBAN GROUND-DOVE

*Columbigallina passerina insularis* RIDGWAY, Proc. U.S. Nat. Mus., vol. 10, 1887, p. 574 (Grand Cayman Island).

The widely distributed Cuban ground-dove was recorded at most of the lowland localities visited except that it was not observed during work on the Tiburon Peninsula. On Île à Vache it was fairly common from April 28 to 30, and a few were seen on Beata Island on May 11 and 12, three specimens being taken.

**OREOPELEIA MONTANA (Linnaeus)**

RUDDY QUAIL-DOVE

*Columba montana* LINNAEUS, Syst. Nat., ed. 10, vol. 1, 1758, p. 163 (Jamaica).

The ruddy quail-dove was recorded only on April 7 near Geffrard, Haiti, in heavy rain forest.

**OREOPELEIA CHRYSIA (Bonaparte)**

KEY WEST QUAIL-DOVE

*Geotrygon chrysia* BONAPARTE, Compt. Rend. Acad. Sci. (Paris), vol. 40, 1855, p. 100 (Florida).



On May 9, at La Cienaga, 15 kilometers south of Barahona, Dominican Republic, we flushed one of these quail-doves from a nest and collected it, the bird proving to be a male. The nest was the slight platform of twigs usual in pigeons and was placed 4 meters from the ground near the trunk of a tree which stood in a dense thicket. The nest contained one young bird, and one egg on the point of hatching. The embryo was removed so as to leave the shell intact and was skinned for a specimen. The egg is somewhat deeper than light buff in color, and measures 30.8 by 23.2 mm. The young are entirely covered with long down, pinkish buff on the upper surface and cartridge buff below.

## Order PSITTACIFORMES

### Family PSITTACIDAE, Parrots, Paroquets, and Macaws

#### AMAZONA VENTRALIS (Müller)

##### HISPANIOLAN PARROT

*Psittacus ventralis* MÜLLER, *Natursystem*, Suppl., 1776, p. 79 (Hispaniola).

Two of these parrots were seen near Dessalines, Haiti, on March 25, and others were recorded on Morne des Mammelles at Terrier Rouge, on March 27 and 30.

In riding the trails on the journey from Post Avancé into the La Hotte region we saw parrots daily; they were commonly distributed throughout this area. On Pic de Macaya they ranged to the top of the mountain, and were found in little flocks in the trees, or were noted in flight across the mountain slopes. At sunrise they came off the highest ridges, their heavy, short-winged forms showing in dark silhouettes against the distant sky.

On May 19 half a dozen were seen 50 kilometers east of San Juan, Dominican Republic, and the following day a number were observed east of Las Cahobes, Haiti.

#### ARATINGA CHLOROPTERA CHLOROPTERA (Souancé)

##### HISPANIOLAN PAROQUET

*Psittacara chloroptera* SOUANCÉ, *Rev. Mag. Zool.*, 1856, p. 59 ("Saint-Domingue").

Several paroquets were seen between Trouin and Jacmel, Haiti, on May 5. From Belladère to San Juan, Dominican Republic, they were common on May 7, and on May 20 a flock was recorded near Mirebalais, Haiti.

Careful watch was kept for these birds in travel in the La Hotte mountain area, their absence here being particularly noticeable since Wetmore had found them common on the ridge of La Selle in 1927. Apparently our record of this species between Trouin and Jacmel marks the western point on the Tiburon Peninsula at which it has

been reported, though there has been extensive field work in the region beyond.

## Order CUCULIFORMES

### Family CUCULIDAE, Cuckoos, Roadrunners, and Anis

#### COCCYZUS AMERICANUS AMERICANUS (Linnaeus)

##### YELLOW-BILLED CUCKOO

*Cuculus americanus* LINNAEUS, Syst. Nat., ed. 10, vol. 1, 1758, p. 111 (Carolina).

At La Cienaga, Dominican Republic, 15 kilometers south of Barahona, we saw one of these cuckoos on May 9. On Beata Island several were heard calling on May 13 from the densest growths of scrub, where they were difficult to approach. We finally collected a pair and found the female about to lay. Possibly the species had just arrived here in migration, since none had been recorded previously, and we noted others on the two following days. One was seen near Habanero on May 19, and on May 22 near Thomazeau and May 23 near L'Arcahaie, Haiti, we heard cuckoos calling that we supposed to be this species.

The two taken have the following measurements: Male, wing 134.8, tail 134.5, culmen from base 25.1, tarsus 25 mm; female, wing 141.2, tail 139.3, culmen from base 27.2, tarsus 24.5 mm.

#### COCCYZUS MINOR TERES Peters

##### MANGROVE CUCKOO

*Coccyzus minor teres* PETERS, Proc. New England Zool. Club, vol. 9, June 24, 1927, p. 112 (Sosúa, Dominican Republic).

On Île à Vache, Haiti, two mangrove cuckoos were seen on April 28, and a breeding male was taken. Another was observed on April 30. At Jacmel and at Gressier single birds were recorded on May 5.

#### SAUROTHERA LONGIROSTRIS LONGIROSTRIS (Hermann)

##### HISPANIOLAN LIZARD-CUCKOO

*Cuculus longirostris* HERMANN, Tabula affinitatum animalium, 1783, p. 186 (Hispaniola).

This common species was recorded regularly throughout the course of our work, being seen wherever there was proper cover for it. In the La Hotte region it was fairly common, ranging to 1,700 meters but not being observed beyond that point, though rain-forest conditions above were suitable for it and it may be found at the higher altitudes with more prolonged observation. Three specimens were taken here, two females and a male. The former are decidedly darker brown on the throat and darker gray on the crown than any others seen from elsewhere in Hispaniola, but in the male the throat is lighter. At

first glance it appeared that a mountain race might be indicated, but further study is required to substantiate this.

**CROTOPHAGA ANI** Linnaeus

ANI

*Crotophaga ani* LINNAEUS, Syst. Nat., ed. 10, vol. 1, 1758, p. 105 (Jamaica).

The ani was observed throughout the lowland areas that we visited, and was common at many points. At Terrier Rouge on March 28 we saw a family of five young barely able to fly, and collected one. These birds were warier than the adults and tried always to keep behind a screen of leaves. Their calls were higher pitched than those of older birds.

Anis were found in clearings in the lower elevations of the La Hotte region, but did not penetrate into the rain forests of the mountains, though we observed them in a small, open valley at Donté on April 7, and noted them also along the high ridges near Desbarriere. On Île à Vache anis were so common that flocks of them walked about in the grass in scattered companies, or gathered in gossiping groups in the shaded branches of mango trees. Half a dozen frequently rested together picking at the feathers on one another's heads. At Barahona, after a rain, anis rested in the limbs of a dead tree, their wings and tail held widely spread in the sun to allow them to dry, presenting a most grotesque appearance.

Order STRIGIFORMES

Family TYTONIDAE, Barn Owls

**TYTO GLAUCOPS** (Kaup)

HISPANIOLAN BARN OWL

*Strix glaucops* KAUP, Jardine's Contr. Orn., 1852, p. 118 (Dominican Republic).

A female shot from a tree in heavy woodland at La Cienaga, 15 kilometers south of Barahona on May 9, was our only record for this bird.

Family STRIGIDAE, Typical Owls

**SPEOTYTO CUNICULARIA TROGLODYTES** Wetmore and Swales

HISPANIOLAN BURROWING OWL

*Speotyto cunicularia troglodytes* WETMORE and SWALES, U.S. Nat. Mus. Bull. 155, Mar. 7, 1931, p. 239 (Haiti).

In Haiti the burrowing owl was seen near St. Marc on March 25 and 31, and at Source Matelas on May 23. Between Las Cahobes and Barahona, Dominican Republic, this species was fairly common on May 6 and 19. On May 12 we found two in a rough, stony area

near the sea on the northern coast of Beata Island, and collected a male. There was no soil here, but abundant holes in the limestone surface rock furnished these birds suitable shelters. The one taken does not differ from specimens from the main island.

ASIO DOMINGENSIS DOMINGENSIS (Müller)

HISPANIOLAN SHORT-EARED OWL

*Strix domingensis* P. L. S. MÜLLER, Vollst. Naturs. Suppl. Reg.-Band, 1776, p. 70 (Hispaniola).

Dr. R. Ciferri, under date of August 31, 1931, writes that this species is common in the Sabana San Thomé, and says that he has kept it in captivity, an individual living thus for more than a year. It builds its nest, composed of dry grasses, on the ground, and lays three white eggs, though ordinarily it rears only two young. The eggs are spherical in form.

ASIO STYGIUS NOCTIPETENS Riley

HISPANIOLAN STYGIAN OWL

*Asio noctipetens* RILEY, Smithsonian Misc. Coll., vol. 66, no. 15, Dec. 1, 1916, p. 1 (Constanza, Dominican Republic).

In view of the little that is known of this species it is of interest to note that Dr. R. Ciferri, under date of August 31, 1931, writes that he has kept one in captivity for a period of 6 months. He has found it rarer in occurrence than the short-eared owl, and states that in the Dominican Republic it ranges in regions of plentiful rainfall.

## Order CAPRIMULGIFORMES

### Family CAPRIMULGIDAE, Goatsuckers

ANTROSTOMUS CUBANENSIS EKMANI Lönnberg

HISPANIOLAN GOATSUCKER

*Antrostomus ekmani* LÖNNBERG, Ark. för Zool., vol. 20B, no. 6, Mar. 18, 1929, p. 1, fig. 1 (Jérémie, Haiti).

At the Morne des Mammelles, near Terrier Rouge, Haiti, on March 30 we found one of these birds lying dead beside a native hut, where it had been thrown aside after having been killed by a stick. In spite of the fact that it had been run over by an automobile and had lain for nearly a day in the hot sun, it made a presentable skin. It is the fourth specimen of this interesting bird at present known.

Though it was not possible to determine the sex of this specimen by dissection, because of its condition, it is obvious from its plumage that it is a male. The light tips of the outer tail feathers are much more extensive than in the female obtained by Dr. W. L. Abbott at Mao, Dominican Republic (U.S.N.M. No. 279260); they are white,

with only a little buff at the tips, and a wash on the under surface, instead of being entirely deep buff; and the bird is blacker with less mottling above. Curiously enough, it is the first specimen of the male sex known, as Lönnberg's type in Stockholm, the specimen at Tring, and the one in the United States National Museum are all females. Also the bird illustrated by Rabié<sup>8</sup> is a female, as indicated by the extent of the light tips on the outer rectrices and their deep-buff coloration.

The skin from Terrier Rouge has the following measurements: Wing 174, tail 144, culmen from base 16, tarsus 17.5 mm.

CHORDEILES MINOR VICINUS Riley

BAHAMAN NIGHTHAWK

*Chordeiles virginianus vicinus* RILEY, Auk, 1903, p. 432 (Long Island, Bahamas).

Near Las Matas, Dominican Republic, on the evening of May 6, we observed one individual. On May 19, 10 kilometers east of San Juan, following a drenching rain several were coursing over the mesquite scrub with their characteristic notes. A male taken is referable to the present race.

Order MICROPODIFORMES

Family MICROPODIDAE, Swifts

NEPHOECETES NIGER NIGER (Gmelin)

ANTILLEAN BLACK SWIFT

*Hirundo nigra* GMELIN, Syst. Nat., vol. 1, pt. 2, 1789, p. 1025 (Hispaniola).

The following records pertain to black swifts seen flying in pairs, trios, or small parties high in the air: Port-au-Prince, Haiti, March 23; Geffrard, April 7; Desbarriere, April 11; Pic de Macaya, April 15, 17, and 21; Les Glaces, April 24; Post Avancé, April 25; Belladère, May 6; Las Cahobes and Morne à Cabrits, May 20; San Juan, Dominican Republic, May 7 and 19.

STREPTOPROCNE ZONARIS PALLIDIFRONS (Hartert)

ANTILLEAN CLOUD SWIFT

*Chaetura zonaris pallidifrons* HARTERT, Ibis, 1896, p. 368 (Ferry River, St. Catherine, Jamaica).

On a high ridge above Donté, Haiti, a male cloud swift in breeding condition was collected on April 7, and a companion was seen. Others were observed at Bois Lacombe on April 9 and 23, and near our camp on Pic de Macaya on April 13 and 17.

<sup>8</sup> Wetmore, Auk, vol. 47, 1930, pl. 47.

## TACHORNIS PHOENICOBIA PHOENICOBIA Gosse

## PALM SWIFT

*Tachornis phoenicobia* Gosse, Birds of Jamaica, 1847, p. 58 (Jamaica).

This tiny swift was observed at many localities in the lower altitudes visited, being conspicuous where it occurred because of its rapid coursing across the sky. It was first noted over the trees near the Hotel Splendide in Port-au-Prince on March 22 and 23; and was recorded regularly there until our departure at the end of May. Two were observed near our stopping place at Deron on April 8 and 9, one was recorded at Bois Lacombe on April 23, one at Les Glaces on April 24, and one at Camp Perrin on April 26. On Île à Vache a few were noted and one was taken on April 28. Inland from Jacmel, near the highway, on May 5 we found fully 60 of these birds circling with low, wheezy calls about the drooping fronds of an isolated royal palm. The birds were obviously nesting there in a colony, and six that we collected were in breeding condition. On May 7, in traveling by automobile from San Juan to Azua, Dominican Republic, we recorded a few, and on May 8 and 18 found them common at Barahona. On May 9 a number were noted at La Cienaga 15 kilometers south of Barahona, where they circled in little openings along a dry wash. Two were taken. On Beata Island on May 12 we saw one coursing over an open saline, and were greatly amused when a mango hummingbird, almost as large as the swift, darted up and pursued it for some distance with the swift circling in confusion to escape. On May 19 we observed a number in the desert area north of Habanero and wondered if they chose some other nesting site here, since there were no palms.

## Family TROCHILIDAE, Hummingbirds

## MELLISUGA MINIMA VIELLOTI (Shaw)

## HISPANIOLAN VERVAIN HUMMINGBIRD

*Trochilus Vielloti* SHAW, Gen Zool., vol. 8, pt. 1, 1812, p. 347 (Hispaniola).

On the Morne des Mammelles, at Terrier Rouge, Haiti, we found a few of these hummingbirds on March 27, 28, and 30, and collected one on March 28. One was recorded at Deron on April 8, and one was seen at 1,250 meters elevation near our camp on Pic de Macaya on April 18. Another was recorded at Amiel below the high ridge at Desbarriere on April 23. On Île à Vache one was observed on April 29, and a female was taken on April 30. On the latter date a boy at our camp caught a young bird just from the nest.

## RICCORDIA SWAINSONII (Lesson)

## HISPANIOLAN EMERALD HUMMINGBIRD

*Ornismya swainsonii* LESSON, Hist. Nat. Ois.-mouches, 1829, p. 197, pl. 70 (Hispaniola).

In the areas visited, this hummingbird was recorded only in the La Hotte region, where it was common. As we entered this section at Geffrard on April 7, this hummer appeared in the rain forest, and was recorded as far as Les Glaces, and was seen also on our return on April 24. At Desbarriere one was seen on April 11, and that same day a male was taken at La Cour Z'Anglais at an elevation of only 550 meters. Others were seen at the latter locality on April 23. On Pic de Macaya we found this hummer common from April 14 to 20, and it was the only species of its family in the rain forest where it ranged in the summit of the mountain. In feeding at flowers these hummers sometimes hovered poised before the blossoms and again perched on near-by twigs while probing for food. A nest found at 1,650 meters elevation was placed 2 meters above a trail on a small twig projecting beneath an inclined tree trunk where it was protected from rain. The female was near this nest but as yet it was empty.

Two females taken on Pic de Macaya have a much deeper wash of brown on the under surface than others that we have seen.

ANTHRACOTHORAX DOMINICUS (Linnaeus)

HISPANIOLAN MANGO HUMMINGBIRD

*Trochilus dominicus* LINNAEUS, Syst. Nat., ed. 12, vol. 1, 1766, p. 191 (Hispaniola).

This species is the commonest hummingbird of the region, being rather universally distributed except in the dense growths of the rain forests, which it does not penetrate. At Terrier Rouge from March 26 to 30 it was noted feeding at flowers of yucca, and it was found also in the low, arid, open forest of the Morne des Mammelles. We noted that on occasion the flight was bounding, with the wings at times held stiffly spread while the bird sailed with motionless pinions for a short distance. These hummers frequently probed flowers while at rest on some perch. In the La Hotte region they were fairly common, ranging on the Pic de Macaya to the edge of the rain forest at our camp. On April 10 near Desbarriere a female darted repeatedly at us, indicating that there was a nest near by, but we could not find it. This species was seen at Camp Perrin on April 25.

On Île à Vache these hummers were fairly common from April 28 to 30, one being taken on April 29. On the day previous a female was seen at a newly finished nest 10 meters from the ground in a wild almond tree back of the beach. Near Jacmel this hummer was observed on May 5, and in crossing from Belladère, Haiti, to Barahona, Dominican Republic, on May 6 and 7, we found it fairly common.

On Beata Island this species was fairly common from May 11 to 15, and several specimens were taken. These do not differ from skins from the main island opposite, which was to be expected, as the distance of separation is not great, and hummers should cross the strait readily. One was seen pursuing a palm swift as already noted.

A nest found on May 13 was placed on a horizontal limb in a shrub 2 meters from the ground at the edge of brush bordering a saline. The nest is composed of cottony plant fibers forming a deep cup, covered externally with thin flakes of bark bound on with spiders' web. It measures approximately 40 mm in diameter by 32 mm high, and rests on a flat crotch where it has firm support. The two white eggs were heavily incubated, so that only one is available for measurement, its dimensions being 14.5 by 9.5 mm.

Other hummers of this species were seen at Habanero, Dominican Republic, May 19; at Las Cahobes, Haiti, May 20; and near L'Arcahaie, May 23.

## Order TROGONIFORMES

### Family TROGONIDAE, Trogons

#### TEMNOTROGON ROSEIGASTER (Vieillot)

#### HISPANIOLAN TROGON

*Trogon roseigaster* VIEILLOT, Nouv. Dict. d'Hist. Nat., vol. 8, 1817, p. 314 (Hispaniola).

In the La Hotte region the trogon was one of the common forest birds recorded daily in our travels through this area. On April 6, as our pack train started up the winding trail beyond Post Avancé, the calls of the trogon came to us from the forested slopes above us, and as we left the region by the same trail on our way out on April 25, and as we came down into the coffee plantations toward Camp Perrin, the same notes faded out in the distance behind. A female taken at Donté on April 7 was nearly ready to lay. On the Pic de Macaya, trogons were common, ranging to the summit of the mountain, being especially numerous among the great pines of the higher altitudes. Two males taken there were not in breeding condition so that the nesting period seems to vary locally. At our camp their curious calls came to us all through the day as one of the regular bird songs of the forest, and the trogons themselves came daily in trees about our tent.

## Order CORACIIFORMES

### Family ALCEDINIDAE, Kingfishers

#### MEGACERYLE ALCYON ALCYON (Linnaeus)

#### BELTED KINGFISHER

*Alcedo alcyon* LINNAEUS, Syst. Nat., ed. 10, vol. 1, 1758, p. 115 (North America).

On March 25 we noted a kingfisher on the Limbé River, near Limbé, Haiti, and the following day observed one at the border of a lagoon near Cap-Haïtien. One was seen on April 12 at the inland locality of La Cour Z'Anglais on the Anglais River at an elevation of 600 meters



above the sea. On Beata Island from May 10 to 12 one fished daily in the little bay in front of our quarters at Ocrik. We were amused on one occasion to see the bird, intent on its meal, dive at a school of fish at the same time as a pelican, only to veer off in sudden alarm as in his descent he nearly struck his large competitor. The date of May 12 is the latest recorded in spring in this area for this species, and as the bird then disappeared we assumed that it had moved northward in its migration.

### Family TODIDAE, Todies

#### TODUS SUBULATUS Gray

#### HISPANIOLAN TODY

*Todus subulatus* GRAY, Gen. Birds, vol. 1, Apr. 1847, pl. 22 (Hispaniola).

This widely distributed species was observed in most of the lowland localities visited on the main island. A breeding male tody was taken at Trou, Haiti, on the north plain on March 26. In the region of Terrier Rouge it was common from March 27 to 30, and at that time was nesting. We were interested to note its distribution in small numbers along steep-banked drainage ditches running through the sisal fields as an indication of adaptation to a change in environment brought about by cultivation.

In entering the La Hotte region we found this species as far as Camp Perrin on April 6, and on our return on April 26 observed it again near that point and from there on down to the coast at Aux Cayes. As we were crossing from Port-au-Prince, Haiti, to Barahona, Dominican Republic, on May 6 and 7, it was distributed along our road, and on May 19 on our return we collected two in the desert area north of Habanero. These are quite light on the breast, the difference being due apparently to wear in the plumage.

#### TODUS ANGSTIROSTRIS Lafresnaye

#### NARROW-BILLED TODY

*Todus angustirostris* LAFRESNAYE, Rev. et Mag. Zool., Oct. 1851, p. 478 (Dominican Republic).

As we entered the heavily watered La Hotte region this tody appeared above Post Avancé, and was recorded throughout our work in the mountain section, where it entirely replaced the other species. There was no mingling of the two in the interior so far as we observed, as the present species was found even to the low altitude of La Cour Z'Anglais at 600 meters elevation. On the Pic de Macaya the narrow-billed tody was one of the common forest birds, ranging to the summit of the mountain. Its rattling notes were heard regularly, but many times we were not able to locate the tiny birds in the dense growths of vegetation. While the narrow-billed tody, like its cousin, captures insects regularly on the wing, it also hops about among the

leaves and small branches, seeming more active in this way than its relative. Both sexes utter the chattering call. Several specimens taken are in excellent plumage.

## Order PICIFORMES

### Family PICIDAE, Woodpeckers

#### CHRYSERPES STRIATUS (Müller)

#### HISPANIOLAN WOODPECKER

*Picus striatus* P. L. S. MÜLLER, Vollst. Naturs., Suppl. Reg.-Band, 1776, p. 91 (Hispaniola).

The woodpecker is one of the widely distributed and common native birds that we observed in all the regions visited on the main island, but that was not found on Île à Vache or on Beata. At Terrier Rouge, from March 27 to 30, these birds were surprisingly abundant around the Morne des Mammelles, and we were astonished to find a dozen pairs going in and out of nesting holes in a single dead tree trunk standing in an open space, the holes being 3 to 10 meters from the ground and in some cases less than a meter apart. There was no question that the woodpeckers were colonizing, as the trunk was a veritable apartment house with the birds clambering actively over its surface and flying back and forth to the near-by woodland.

In the La Hotte region in April these woodpeckers were abundant, being found both in native forest and in the coffee plantations. On Pic de Macaya they ranged to the summit of the mountain, and were found in the plantations about its base wherever there were trees. The woodpecker was one of the few species of birds that were found in any abundance on the higher ridges, and its laughing calls were heard regularly in traversing the rain forest.

The species was noted regularly along the road on our journey from Port-au-Prince to Barahona, Dominican Republic, and was seen in fair numbers in the desert sections.

Curiously enough, Wetmore during two extended periods of observation (in 1927 and 1931) did not hear this woodpecker drum as is customary among its many relatives, though during the present excursion especial attention was paid to this matter. Apparently it may not have this habit.

#### NESOCTITES MICROMEGAS (Sundevall)

#### HISPANIOLAN PICULET

*Picumnus micromegas* SUNDEVALL, Conspectus avium picinarum, 1866, p. 95 (Hispaniola).

On March 28 we had a glimpse of two piculets in the low scrub covering the Morne des Mammelles near Terrier Rouge, and on March 30 a male was taken by S. W. Parish.

## Order PASSERIFORMES

## Family TYRANNIDAE, Tyrant Flycatchers

## TYRANNUS DOMINICENSIS DOMINICENSIS (Gmelin)

## GRAY KINGBIRD

*Lanius dominicensis* GMELIN, Syst. Nat., 1788, vol. 1, pt. 1, p. 302 (Hispaniola).

The gray kingbird is found commonly both in Haiti and the Dominican Republic at the lower elevations, chiefly in the cultivated areas. In the La Hotte Mountains on the Tiburon Peninsula it became noticeably scarcer after we left Poste Avancé on April 6. A few were observed along the trail near Bois Lacombe, on April 9. One was heard in the vicinity of our camp on Pic de Macaya, at 1,275 meters, on April 16, and another was seen at Bois Pin Lacadonis on April 24, but it is comparatively rare in this forested section.

On Île à Vache, April 27 to 30, the gray kingbird was recorded as one of the commonest birds.

A few were seen and one was collected on Beata Island, Dominican Republic, May 10 to 15.

During the latter part of May, kingbirds were generally seen in pairs, indicating that mating was in progress.

## TOLMARCHUS GABBII (Lawrence)

## HISPANIOLAN PETCHARY

*Pitangus Gabbii* LAWRENCE, Ann. Lyc. Nat. Hist. New York, vol. 11, 1876, p. 288 (Hato Viejo, Mao River, Province of Santiago, Dominican Republic).

The petchary was recorded first at Terrier Rouge, Haiti, where one was seen in a recently cut over area on March 27. At Deron, on April 8, several were noted and two collected. The sexual organs were active, and breeding was further confirmed by observations of other individuals that were carrying nesting material.

On April 9, when we were a short distance from Deron, we noted two feeding around a native beehive, but it was not determined whether they were catching workers or drones. In this same region an interesting albinistic female was collected on April 24. The crown patch was normal but the balance of the plumage was a mixture of white and light brown. This species was noted up to the upper limits of the coffee plantations, although only one was recorded at our camp on Pic de Macaya at 1,275 meters, a bird seen on April 17.

In the Dominican Republic the species was detected on May 9, near Barahona, and on May 19, when a single specimen was observed as we emerged from the desert onto the main highway, 15 kilometers northeast of Azua.

## MYIARCHUS DOMINICENSIS (Bryant)

## HISPANIOLAN FLYCATCHER

*Tyrannula stolidus* (var. *dominicensis*) BRYANT, Proc. Boston Soc. Nat. Hist., vol. 11, May 1867, p. 90 (Port-au-Prince, Haiti).

This flycatcher was observed commonly in the lowlands of both countries. In Haiti it was recorded as follows: Dessalines, March 25; Trou, March 26, one collected and others seen; Terrier Rouge, March 27, common on Morne des Mammelles, one taken; Aux Cayes, April 6 and 26; Île à Vache, April 27 to 30, common, several taken; Thomazeau, May 22, common in the Cul-de-Sac plain; and L'Arcahaie, May 23, one taken and others seen or heard. None were observed in the La Hotte region.

In the Dominican Republic this flycatcher was particularly numerous in the desert region between Azua and Boca del Baos, May 19. One was taken at La Cienaga south of Barahona, May 9, and another on Beata Island, May 11. This last was the only one noted on Beata although the habitat would seem to be suited to its needs.

## BLACICUS HISPANIOLENSIS HISPANIOLENSIS (Bryant)

## HISPANIOLAN WOOD PEWEE

*Tyrannula caribaea* (var. *hispaniolensis*) BRYANT, Proc. Boston Soc. Nat. Hist., vol. 11, May 1867, p. 91 (Port-au-Prince, Haiti).

At Terrier Rouge, Haiti, from March 27 to 30, this species was fairly common, particularly around the base of Morne des Mammelles, where three specimens were taken. It was recorded at Geffard, on April 7, and at our camp on Pic de Macaya, from April 12 to 21, one or two were seen every day, the birds ranging through the forest to the top of the mountain. In the clearings near camp they perched in low bushes, while in the great pines of the higher altitudes they frequently rested on the highest of dead limbs, at times beyond gunshot.

On April 23, while at Amiel, below Desbarriere, we observed one that was extraordinarily fearless as it repeatedly captured insects within 3 or 4 feet of us. One was taken on May 19 about 4 miles north of Habanero, Dominican Republic, and a few others were seen along the road between that point and San Juan. The species is thus one that can accommodate its life to arid or humid regions at need.

## ELAENEA ALBICAPILLA (Vieillot)

## HISPANIOLAN ELAENIA

*Muscicapa albicapilla* VIEILLOT, Hist. Nat. Ois. Amér. Sept., vol. 1, 1807, p. 66, pl. 37 ("Saint-Domingue" = Hispaniola.)

We found the elaenia only in the La Hotte Mountains of western Haiti. It was first obtained on April 17 on Pic de Macaya at an altitude of about 1,700 meters. On April 30 two more were obtained a few hundred feet lower, and still others were seen or heard. All

these specimens were taken from the larger forest shrubs beneath pines, where the birds worked actively about, uttering their twittering calls and trilling songs. There was much about them and their habitat to suggest the alder flycatcher.

On April 23 on an open ridge at Amiel, below Desbarriere, while we were waiting for two straggling porters to catch up with the main outfit, a pair of *clae-nias* suddenly appeared in a low tree within a few feet of us. Hurriedly dismounting we were able to obtain them both. The altitude at this point was about 1,000 meters.

Comparison of the birds from the La Hotte region with specimens from other points in the island reveals no characters of difference.

### Family HIRUNDINIDAE, Swallows

#### LAMPROCHELIDON SCLATERI (Cory)

##### SCLATER'S SWALLOW

*Hirundo sclateri* CORY, Auk, 1884, p. 2 (La Vega, Dominican Republic).

At Kenskoff, Haiti, on March 22, we observed half a dozen of these swallows circling about the eaves of a small building, where they seemed to be nesting in crevices under the roof tiles. Elsewhere we found the species only in the mountains of La Hotte. At Geffrard on April 7 a pair came about the native hut where we had spent the night, seeming to have a nest in the roof thatch. On April 9, at Bois Lacombe, 15 or 20 individuals were found circling over an open slope. One taken there was a female about to breed. Near Desbarriere a few were observed on April 10 and 11. On the Pic de Macaya this swallow was common, ranging from the open cultivated valleys at the base to the forested summit of the mountain. On the higher slopes they were found around the great pines that towered far above the surrounding rain forest, and often when working through the dimly lighted, dripping verdure of the dense growth we heard the soft voices of these swallows as the birds coursed over the tops of the trees above us. At this season they were nesting. We collected a series of eight, all in full plumage.

#### HIRUNDO ERYTHROGASTER Boddaert

##### BARN SWALLOW

*Hirundo erythrogaster* BODDAERT, Table Planches Enl., 1783, p. 45 (Cayenne).

Single barn swallows, migrant from North America, were seen on Île à Vache, Haiti, April 28 and 29. On Beata Island, Dominican Republic, four were observed on May 11, and two in company on May 12, 14, and 15, the last date being that of our departure. These constitute the latest dates of occurrence known for this region.

## PETROCHELIDON FULVA FULVA (Vieillot)

## HISPANIOLAN CLIFF SWALLOW

*Hirundo fulva* VIEILLOT, Hist. Nat. Ois. Amér. Sept., vol. 1, 1807, p. 62, pl. 32 (Hispaniola).

Near Cap-Haïtien, Haiti, on March 26, we saw a dozen flying about a culvert, not more than half a meter high, in which they were obviously searching for a nesting site. At Terrier Rouge a few were observed over the sisal fields on March 27, and on March 30 we found a number about an old French ruin standing in the open. On Île à Vache on April 28 we recorded a dozen circling over cliffs above the sea and collected two. A few were seen the day following. Several were observed near Barahona, Dominican Republic, on May 7.

## PROGNE DOMINICENSIS (Gmelin)

## CARIBBEAN MARTIN

*Hirundo dominicensis* GMELIN, Syst Nat., vol. 1, pt. 2, 1789, p. 1025 (Hispaniola).

In view of our extensive travel the scarcity of the martin is worthy of comment, as we recorded them only at Aux Cayes on April 26 and 27 and on Île à Vache on April 28.

## Family CORVIDAE, Jays, Magpies, and Crows

## CORVUS LEUCOGNAPHALUS Daudin

## WHITE-NECKED CROW

*Corvus leucognaphalus* DAUDIN, Traité d'Ornithologie, vol. 2, 1800, p. 231 (Porto Rico).

Between Port-au-Prince and Cap-Haïtien, Haiti, on March 25, we saw these crows regularly along the auto road, and on March 31 recorded several at Pont de l'Estère. On May 6 and 7 we found them distributed in small numbers from Las Cahobes, Haiti, to near Azua, Dominican Republic. We observed them again at Las Cahobes on May 20, and near Source Matelas on May 23. This is one of the species that will become rarer with increased cultivation of the land.

## CORVUS PALMARUM PALMARUM Württemberg

## PALM CROW

*Corvus palmarum* WÜRTEMBERG, Erst. Reis. Nördl. Amer., 1835, p. 68 (Cibao Mountains, Dominican Republic).

The palm crow was found near Dessalines, Haiti, on March 25, and along the highway between Las Cahobes and San Juan on May 6 it was fairly common. On May 20, while we were collecting small birds in the open country east of Las Cahobes, several of these crows came about scolding us raucously, telling in no uncertain terms what they thought of us and our activities. A few were seen near Thomazeau on May 22, and near Source Matelas on May 23.

## Family MIMIDAE, Mockingbirds and Thrashers

## MIMUS POLYGLOTTOS DOMINICUS (Linnaeus)

## HISPANIOLAN MOCKINGBIRD

*Turdus dominicus* LINNAEUS, Syst. Nat., ed. 12, vol. 1, 1766, p. 295 (Hispaniola).

The mocker was recorded universally during our travels and work in the lowlands, and was one of the species regularly observed along the highways. At Trou, Haiti, on March 26, one was observed feeding a fully grown young bird. At Terrier Rouge this species was common from March 27 to 30. On April 6 the mocker was found from Aux Cayes to Camp Perrin, and on April 26 was observed in the same area. None were seen in the La Hotte area, though it is probable that with increased clearing for cultivation the mockingbird will gradually extend into the lowlands of this area. On Île à Vache, from April 28 to 30, the mocker was the most conspicuous, if not indeed the most abundant, passerine bird. Two males and one female were collected there. At Jacmel we found this bird common on May 5.

Through the desert region between Azua and Barahona, Dominican Republic, the mocker was the most abundant bird, and it was observed commonly in the open country about Barahona itself. It seemed to us that birds in the desert region showed more white in the wing and tail than those observed elsewhere, but four that we collected near Habanero on May 19 do not differ appreciably from birds from more humid sections. At Thomazeau, Haiti, on May 22 we observed one mocker with the entire tail pure white. On May 23 we found these birds abundant near L'Arcahaie.

Though mockers were singing constantly, it was only occasionally that we heard one imitating the songs of other birds. At Terrier Rouge we observed one that imitated the songs of the Jamaican vireo, flat-billed vireo, and Hispaniolan thrush. On Île à Vache mockers gave the song of the Jamaican vireo regularly, and near Barahona we heard one gifted individual that included the notes of the gray kingbird, tody, vireo, and woodpecker in its repertoire.

## DUMETELLA CAROLINENSIS (Linnaeus)

## CATBIRD

*Muscicapa carolinensis* LINNAEUS, Syst. Nat., ed. 12, vol. 1, 1766, p. 328 (Virginia or Carolina).

Near Terrier Rouge on May 28 a catbird was seen distinctly at close range by Lincoln and by S. W. Parish. This is the second record for Hispaniola, one having been taken by Dr. W. L. Abbott on Tortue Island on February 5, 1917.<sup>9</sup>

<sup>9</sup> See Wetmore and Swales, U.S.Nat.Mus.Bull. 155, 1931, p. 333.

## MARGAROPS FUSCATUS FUSCATUS (Vieillot)

## PEARLY-EYED THRASHER

*Turdus fuscatus* VIEILLOT, Hist. Nat. Ois. Amér. Sept., vol. 2, 1807, p. 1, pl. 57 bis (Hispaniola: Puerto Rico).

This bird was found in fair numbers in the dry scrubs of Beata Island, where four were taken on May 11, 13, and 15. The broken song, not heard by Wetmore for 20 years, was clear in memory as it came on our first excursion into the thorny thickets, and its identity was verified by the first specimen that came to hand. The birds were secretive and were approached with some difficulty as they rested under cover in the tops of the low trees.

This record establishes the present form as one properly included in the list of Hispaniolan birds, as previously it has been known only from an uncertain statement by Vieillot, who in 1807 said that he found it in Haiti, and from a living specimen purchased by Beebe in a collection of live birds secured for the New York Zoological Society in Haiti. The suggestion of Wetmore and Swales<sup>10</sup> that the species might occur on some of the smaller islets has now been verified. Possibly the living bird purchased by Beebe in Port-au-Prince came from Beata, since Haitian fishermen until recently visited the island in their fishing expeditions.

The specimens obtained are of the typical race.

## Family TURDIDAE, Thrushes, Bluebirds, and Solitaires

## MIMOCICHLA ARDOSIACEA ARDOSIACEA (Vieillot)

## HISPANIOLAN THRUSH

*Turdus ardosiaceus* VIEILLOT, Tableau Enc. Méth., vol. 2, 1823, p. 646 (Hispaniola).

Near Terrier Rouge, Haiti, this robinlike thrush was found in small numbers in the scrub covering the Morne des Mammelles. Throughout the La Hotte region it was common, being observed from April 6 to 26, appearing at Camp Perrin and continuing throughout our travels in this region until we came down once more toward Aux Cayes. It was particularly common through the coffee plantations of the area between Deron and Bois Lacombe, and on the slopes of Macaya above La Cour Z'Anglais, being in fact the most abundant bird of these areas. On the Pic de Macaya it was common, ranging from groves in the cultivated areas near the base to the forests clothing the summit of the peak. The broken songs of this thrush awakened us each morning at daybreak, and in work in the forests its loud calls came instantly at any disturbance, though the birds themselves were shy and usually kept under cover. At times, however, they flew up

<sup>10</sup> *Ibid.*, p. 334.



to perch near at hand with a flirt of wings and tail, but at any movement disappeared instantly into the nearest cover. In the high forest they were found in growths of bracken that formed dense cover over the ground. The natives here called them *cuet cuet* in imitation of their call notes. Four were taken in this region.

These birds were seen in small numbers between San Juan and Azua, Dominican Republic, on May 7 and 19, and near L'Arcahaie, Haiti, on May 23.

MYADESTES GENIBARBIS MONTANUS CORY

HISPANIOLAN SOLITAIRE

*Myadestes montanus* CORY, Bull. Nuttall Orn. Club, 1881, p. 130 (near Fort Jacques, above Pétionville, Haiti).

In the rain forest covering the Pic de Macaya we found the solitaire to be one of the common birds, ranging to the summit of the mountain. Males were in full song from April 13 to 20, and their clear notes came to us constantly through the day, constituting one of the most wonderful bird songs that we have heard. The bird is always a skilled musician, certain of his powers, uttering his flutelike notes with a clear precision that is as pleasing as the beautiful tones that they carry to the ear. There is some variation in sound and expression, but all possess an unmistakable imprint and are identified as those of a solitaire without hesitation. We never tired of the constant repetition of this marvelous song from the hidden avian choir, and it constitutes one of our most vivid memories in connection with the dark, rain-drenched forests of this difficult mountain peak.

In a series of ten that we collected, all in breeding condition, there is only one female, males seemingly being much more curious and aggressive.

Family DULIDAE, Palm-chats

DULUS DOMINICUS DOMINICUS (Linnaeus)

PALM-CHAT

*Tanagra dominica* LINNAEUS, Syst. Nat., ed. 12, vol. 1, 1766, p. 316 (Hispaniola).

In the suburban gardens of Port-au-Prince, Haiti, the palm-chat was as common in March and April of 1931 as Wetmore had found it in 1927. At Terrier Rouge we observed a few in the low forest of the Morne des Mammelles, where a breeding male was taken on March 27. We found them at Aux Cayes on April 6, and on April 8 and 9 observed colonies near Deron. On April 23 we saw one nest in a tall deciduous tree on the ridge near Amiel, below Desbarriere, and saw others the following day near Les Glaces. From Trouin to Jacmel on May 5 the birds were found in some numbers, and near Belladère on

May 6 they were very common. They were found near San Juan, Dominican Republic, on May 7 and 19; near Las Cahobes, Haiti, one was taken and many seen on May 20; and we found them at Thomazeau on May 22, and at L'Arcahaie on May 23.

Family VIREONIDAE, Vireos

VIREO OLIVACEUS OLIVACEUS (Linnaeus)

JAMAICAN VIREO

*Muscicapa olivacea* LINNAEUS, Syst. Nat., ed. 12, vol. 1, 1766, p. 327 (Jamaica).

This vireo is one of the most widely distributed woodland birds of the region here considered. In the north of Haiti we found it at Dessalines, March 25; near Trou, March 26; and near Terrier Rouge, March 27 to 30. Birds collected were near breeding season. In the La Hotte region these vireos were common, and after leaving Aux Cayes we noted them regularly all along the mountain trails, though on the Pic de Macaya they were restricted to the lower slopes and did not enter the dense rain forest, not being found on this mountain above 1,300 meters altitude. At La Cour Z'Anglais they were especially common, and we were awakened at dawn on April 23 by a loud chorus of song from these birds on the adjacent mountain slopes. On Île à Vache this vireo was common from April 28 to 30, and near Jaemel we found it on May 5. It was noted regularly from the highway in crossing from Port-au-Prince to near Azua, Dominican Republic, on May 6 and 7, and on May 9, 10, and 18 it was found near Barahona. A few were noted on Beata Island. It was recorded near L'Arcahaie, Haiti, on May 23.

LAWRENCIA NANA (L<sup>1</sup> wre nce)

FLAT-BILLED VIREO

*Empidonax nanus* LAWRENCE, Ibis, 1875, p. 386 (Dominican Republic).

On the low elevation of the Morne des Mammelles, near Terrier Rouge, Haiti, on March 27, attention was attracted by a trilling song that Wetmore had heard at Sánchez in 1927, and, on following it up, in a few minutes he had in hand a specimen of the rare flat-billed vireo, which verified the supposition of 4 years earlier that the song in question must be that of this species. We found the bird fairly common in the semiarid forest there, and in all we obtained nine specimens, taken on March 27 and 30. They ranged in low, dense forest where they moved about slowly, seldom far from the ground and occasionally on it, hopping or fluttering from perch to perch, in appearance and habit strongly suggestive of Bell's vireo. After each move they rested quietly, turning the head slowly about to

examine near-by leaves critically, and then continuing to another location. As they are small and inconspicuously colored they are thus difficult to see in the dense growths that they inhabit, and it was only by following up their songs, and standing quietly for several minutes to watch, that we could locate them. Their flight was undulating.

The song has a distinct resemblance to the trill of a pine warbler. One that was observed near at hand for several minutes sang with wings drooped, occasionally throwing the tail above the level of the back. Their call note resembled the syllable *zhree* uttered in a very low tone, a distinctly vireonine call. Specimens taken were in breeding condition.

From present information it appears that this species inhabits low forests growing over limestone hills.

Both sexes have pale, straw-yellow eyes.

One of the specimens taken, collected by S. W. Parish, is a juvenile female in molt in first fall plumage, a few light brownish-olive feathers remaining on the crown and hind neck to indicate the color of the juvenal dress. Wetmore<sup>11</sup> has remarked that there seemed to be two color phases in this species, one in which the under surface is yellow and one in which it is white. From examination of this young bird it develops that the supposed white phase is in reality the first fall plumage, as the young bird has the feathers of the under surface largely white. The type specimen taken years ago by Gabb in the Dominican Republic is white below and is therefore an immature bird in first fall dress. The remaining skins in our series from Terrier Rouge are all strongly suffused with yellow below.

## Family COEREBIDAE, Honey-creepers

### COEREBIA BANANIVORA BANANIVORA (Gmelin)

#### HISPANIOLAN HONEY-CREEPER

*Motacilla bananivora* GMELIN, Syst. Nat., vol. 1, pt. 2, 1789, p. 951 (Hispaniola).

Near Trou, Haiti, we found this bird on March 26, and at Terrier Rouge encountered it on March 27 and 28. In the La Hotte region in April it was common in forested areas, and was one of the few small birds that ranged in the wet forests of the Pic de Macaya to the summit of the mountain. On Île à Vache it was very common from April 28 to 30, and it seemed to us that the song was louder and more emphatic than that of the honey-creepers we had seen during the previous week around La Hotte. Specimens taken, however, in good series, do not seem to differ from those from the main island. One young bird, fully grown but in juvenile dress, was

<sup>11</sup> U.S.Nat.Mus.Bull. 155, 1931, p. 358.

collected here, and we saw several adults that were nest building. On April 30 we collected one fresh egg from a nest in a bush only two thirds of a meter from the ground. The nest was the usual ball-shaped structure with the entrance beneath. The egg is dull white, marked with finely stippled spots of natal brown that merge to form a band around the egg slightly above its center. This egg measures 17.7 by 12.2 mm.

Near La Cienaga, 15 kilometers south of Barahona, the honey-creeper was common May 9, and from May 11 to 15 we found it in numbers on Beata Island and collected a series. Several were found in the desert area north of Habanero on May 19.

### Family COMPSOTHTYPIDAE, Wood Warblers

#### MNIOTILTA VARIA (Linnaeus)

#### BLACK AND WHITE WARBLER

*Motacilla varia* LINNAEUS, Syst. Nat., ed. 12, vol. 1, 1766, p. 333 (Hispaniola).

The black and white warbler was observed on two occasions. On March 25, while near Dessalines, Haiti, we saw at least one and probably two individuals, and on March 28, at Terrier Rouge, noted several along a dry wash.

#### COMPSOTHTYPIIS AMERICANA PUSILLA (Wilson)

#### NORTHERN PARULA WARBLER

*Sylvia pusilla* WILSON, Amer. Orn., vol. 4, 1811, p. 71, pl. 23, fig. 3 (eastern Pennsylvania).

On April 4, at Port-au-Prince, Haiti, a single parula warbler was observed in a large flamboyant tree in the yard at our hotel. It was in company with several other warblers, chiefly *Dendroica discolor*.

#### DENDROICA PETECHIA ALBICOLLIS (Gmelin)

#### HISPANIOLAN GOLDEN WARBLER

*Motacilla albicollis* GMELIN, Syst. Nat., vol. 1, pt. 2, 1789, p. 983 ("S. Dominici" = Hispaniola).

The golden warbler was recorded on Île à Vache, Haiti, where on April 29 we had brief glimpses of two or three birds in a small mangrove swamp at the head of one of the bays. A pair was located on May 23 in mangroves near L'Arcahaie, but attempt to obtain a specimen was unsuccessful.

On May 8 and 18, at Barahona, Dominican Republic, several were seen on a small mangrove island near the sugar factory. In every case the birds proved extremely elusive and difficult to locate. Their characteristic song is given chiefly early in the morning and to a lesser extent late in the afternoon.

## DENDROICA TIGRINA (Gmelin)

## CAPE MAY WARBLER

*Motacilla tigrina* GMELIN, Syst. Nat., vol. 1, pt. 2, 1789, p. 985 (Canada).

The Cape May warbler was common as usual at suitable localities in Haiti. On March 27 one was taken at Terrier Rouge by S. W. Parish, and on the following day we found them common and collected two in a dry arroyo through the mesquite. They were next observed on April 10, on the crest of the ridge (altitude 1,100 meters) at Desbarriere, where 30 or 40 were noted and two collected. One was seen on April 12 at La Cour Z'Anglais.

Our greatest surprise, however, was to find these warblers plentiful and in full song on Île à Vache from April 27 to 30, where we collected several specimens. They were particularly numerous in the wild almond trees that fringed the beach at Feret Bay. It was a matter for repeated comment that on this little Caribbean island we heard the song of this North American species many times each day, while in years of observation in the vicinity of Washington, D.C., we had heard it only on two or three occasions, and then in weak and lisping form quite different from the finished song of the Île à Vache birds. The music of these handsome warblers heard constantly at our camp was in fact one of the features of our work on this island. The night of April 27 offered perfect conditions for migration, and on the following morning there was a noticeable reduction in numbers among these birds.

W. B. Alexander has brought to Wetmore's attention a record for this species overlooked in previous work. This is found in Edwards's, Gleanings of Natural History, vol. 5, 1758, pl. 257, where a Cape May warbler is shown in color from a specimen "taken Novem<sup>r</sup> 1<sup>st</sup> on the Coast of Hispaniola, about ten Leagues from Land by Tho<sup>s</sup> Stack M. S. & F. R. S. in a Voyage from London to Jamaica."

## DENDROICA CAERULESCENS CAERULESCENS (Gmelin)

## BLACK-THROATED BLUE WARBLER

*Motacilla caerulescens* GMELIN, Syst. Nat., vol. 1, pt. 2, 1789, p. 960 ("S. Dominici"=Hispaniola).

Black-throated blue warblers were noted regularly in Haiti from March 30 to May 6. A fine male was seen on March 30 on Morne des Mammelles, near Terrier Rouge; on April 9 one was observed near the crest of the pine ridge known as Bois Pin Lacadonis a short distance east of Bois Lacombe; three or four of both sexes were seen on April 12 at La Cour Z'Anglais; from April 14 to 20 they were noted almost daily on the slopes of Pic de Macaya from 900 meters up at least as high as 2,100 meters and probably ranged across the summit of the mountain; a few were seen at Bois Lacombe on April 24 and a few near

Camp Perrin on April 26; while the last individual, a male, was noted May 6, on the slopes of Morne à Cabrits.

Curiously, most of those seen in the La Hotte region were females. On April 20 we recorded the fact that while several females were observed that day, we had not detected a male at any point on Pic de Macaya.

**DENDROICA DOMINICA DOMINICA (Linnaeus)**

YELLOW-THROATED WARBLER

*Motacilla dominica* Linnaeus, Syst. Nat., ed. 12, vol. 1, 1766, p. 334 (Hispaniola).

On March 23, in Port-au-Prince, Haiti, a small flock of warblers was observed in the trees about the Hotel Splendide, among them at least one yellow-throated warbler, which was singing, and it is probable that there were others present. One was seen in Port-au-Prince on April 4. Individuals also were seen or heard near Dessalines on March 25, and on Île à Vache on April 29.

**DENDROICA PALMARUM PALMARUM (Gmelin)**

PALM WARBLER

*Motacilla palmarum* Gmelin, Syst. Nat., vol. 1, pt. 2, 1789, p. 951 ("S. Dominici" = Republic of Haiti).

The palm warbler was detected at Trou, Haiti, on March 26, and at Terrier Rouge, where two were seen on March 28.

**DENDROICA DISCOLOR DISCOLOR (Vieillot)**

NORTHERN PRAIRIE WARBLER

*Sylvia discolor* VIEILLOT, Hist. Nat. Ois. Amér. Sept., vol. 2, 1807 (1809?), p. 37, pl. 98 (Eastern United States or Greater Antilles).

In Port-au-Prince, Haiti, March 23 and 24, prairie warblers were fairly common, and their characteristic, ventriloquial song was heard frequently. They were still present there on April 4.

One was collected at Trou on March 26, and we found them plentiful in the mesquite at Terrier Rouge on March 28. At that point they were evidently gathering for migration, and the specimens taken were excessively fat. They were heard singing there also. Part of those examined were undergoing a molt of the feathers of the throat.

**DENDROICA STRIATA (J. R. Forster)**

BLACK-POLL WARBLER

*Muscicapa striata* J. R. FORSTER, Phil. Trans., vol. 62, 1772, pp. 406, 428 (Fort Severn, west coast of Hudson Bay).

The black-poll warbler was detected only on Île à Vache, Haiti, where several were seen and heard singing April 27 and 28 in the wild almonds under which our camp was pitched.

## SEIURUS AUROCAPILLUS AUROCAPILLUS (Linnaeus)

## OVENBIRD

*Motacilla aurocapillus* LINNAEUS, Syst. Nat., ed. 12, vol. 1, 1766, p. 334 (at sea about 30 miles from Hispaniola).

The ovenbird was recorded in Haiti on the following occasions: At least one and probably two were seen at Terrier Rouge on March 28; one was taken on April 16 in the rain forest on Pic de Macaya at an altitude of about 1,500 meters; on April 24, while we were eating breakfast at Bois Lacombe, one sang its well-known "teacher" song close by our camp; and on April 30 one was observed on a wooded hillside on Île à Vache.

## SEIURUS NOVEBORACENSIS NOTABILIS Ridgway

## GRINNELL'S WATER-THRUSH

*Seiurus naevius notabilis* RIDGWAY, Proc. U.S. Nat. Mus., vol. 3, 1880, p. 12 (shores of Como Lake, Carbon County, Wyoming).

Though no water-thrushes were seen during our work, in view of the little known of this race for Hispaniola it is pertinent to record here certain observations. In June 1930, through the kindness of Lord Rothschild, Wetmore examined the series of water-thrushes from the Dominican Republic in the collection of the Tring Museum, and among them identified two as of the race *notabilis*; viz, a male taken by A. H. Verrill at Samaná, Dominican Republic, on February 6, 1907, and a female obtained by E. Kaempfer in the Yuna Swamps (probably near the mouth of the Río Yuna opposite Sánchez) on October 22, 1922.

## MICROLIGEIA PALUSTRIS VASTA Wetmore and Lincoln

## BEATA GROUND WARBLER

*Microligeia palustris vasta* WETMORE and LINCOLN, Proc. Biol. Soc. Washington, vol. 44, Oct. 17, 1931, p. 121 (Beata Island, Dominican Republic).

The discovery of a ground warbler of this type in the dry scrubs of Beata Island was entirely unexpected, as the typical form, *Microligeia palustris palustris*, is found principally in the rain forests of the mountains of Hispaniola, where it inhabits thickets and dark ravines, and is observed with some difficulty. The Beata form was noted only in the dense scrub of the interior of the island and was not observed in the more open growth near the coast. It was common and in fact was one of the first small birds that we observed. As we walked slowly along a narrow trail early on the morning of May 11, alert for creatures of any kind that might be strange to us, a small greenish bird with a gray head came hopping through the twigs of a tree and singing a low song. A moment later it was in hand and was recognized instantly as a form new to science. These warblers proved to be

common, so that during the few days of our stay we obtained a small series. They had considerable curiosity and came out on open limbs to peer about when interested. Their movements were slow and leisurely, and they were usually found in pairs, being evidently near the breeding season. The song resembled *wee wee wee* given in a low tone, and their calls, also low, were querulous and complaining.

On our return from Beata we were astonished to obtain two specimens in the desert area north of the Río Yaque del Sur, beyond Habanero, which brought to attention an early record of one skin collected by Dr. W. L. Abbott at Trujín, on the coast south of Enriquillo, on February 11, 1922. These three skins are distinctly of the paler coloration that characterizes the bird of Beata, and appear to be within the range of color variation for that race. They are identified at this time as *vasta* with the suggestion that further specimens be obtained for comparison when practicable, as with extensive material the main island skins might prove separable. It may be noted that the skin from Trujín, listed by Wetmore<sup>12</sup> in earlier studies with a series of the typical race, is an immature individual with the greenish wash on the fore portion of the body usual in birds in this stage, so that because of this masking of the paler markings its differences were entirely overlooked in previous examination.

In the collections of the American Museum of Natural History there is a series of six adult birds of this species collected by R. H. Beck at Santo Domingo City, September 28 and October 5, 6, 7, 9, and 16, 1917, that are somewhat brighter green on the back than adult specimens from the interior mountains, and are also slightly lighter gray on the head. They thus show a slight approach to the paler coloration characteristic of *M. p. vasta* but are nearer to true *palustris*. Two immature skins from the same locality agree with the adults in this slight difference.

*Microligea palustris vasta* differs from typical *M. p. palustris* in being decidedly paler, both above and below, and in having the under surface with the white of the breast and abdomen more extensive, and the sides and flanks distinctly lighter. The gray of the crown and hindneck is paler and the green of the back, rump, and wing is lighter. *M. p. vasta* is slightly smaller. Following is the description of the type specimen of *vasta*:

Type, U.S.N.M. No. 327859, male adult, collected on Beata Island, Dominican Republic, May 13, 1931, by A. Wetmore and F. C. Lincoln (orig. no. 8741). Crown, hindneck, and upper back storm gray; auricular region smoke gray; a white spot on upper and lower eyelids, and a slight mixture of white in lores producing a faintly indicated streak or line; back, rump, wing coverts, and exposed edges of secondaries and inner primaries between mignonette green and Krönberg's green, primaries otherwise dusky, the outer ones edged with olive-

<sup>12</sup> Wetmore and Swales, U.S.Nat.Mus.Bull. 155, 1931, p. 395.



gray; exposed webs of rectrices Krönberg's green, hidden portions duller; sides and flanks pale smoke gray, merging into pale olive-gray across upper chest, with throat, lower chest, abdomen, and under tail-coverts whitish; bill dusky mixed with whitish on center of lower mandible; tarsus blackish slate (from dried skin).

Measurements of our series are as follows:

Males (7 specimens): Wing 60.3–66.4 (63.1), tail 51.5–65 (59.6), culmen from base 13.9–15.3 (14.5), tarsus 19.5–21.4 (20.6) mm.

Females (10 specimens): Wing 56.1–67.8 (60.7), tail 58–64.5 (61), culmen from base 14–15.4 (14.4), tarsus 19.3–21.5 (20.3) mm.

Type, adult male: Wing 66.4, tail 63.5, culmen from base 14, tarsus 21 mm.

**MICROLIGEA MONTANA** Chapman

**CHAPMAN'S GROUND WARBLER**

*Microligea montana* CHAPMAN, Bull. Amer. Mus. Nat. Hist., vol. 37, May 14, 1917, p. 330 (Loma Tina, Provincia de Azua, Dominican Republic).

In the rain forests of the Pic de Macaya this warbler was fairly common from April 14 to 20, and a series of six was taken. The birds were most numerous from 1,300 to 1,800 meters, and were found usually in pairs feeding through the branches of low trees.

**GEOTHLYPIS TRICHAS BRACHIDACTYLA** (Swainson)

**NORTHERN YELLOWTHROAT**

*Trichas brachidactylus* SWAINSON, Animals in menageries, 1838, p. 295 (northern provinces of United States).

At Terrier Rouge, Haiti, on March 28, we saw a number of yellowthroats and collected two which belong to the present race. They were found again in the La Hotte region, but as none were collected allocation of records under the present race is on basis of probability. On April 7, between Geffrard and Deron, they were very common wherever there were openings in the forest, being found especially on the cultivated slopes above Les Glaees. On April 8 a few were seen at Deron, on April 9 we found them on the ridge of Bois Pin Lacadonis, on April 10 and 24 at Bois Lacombe, and on April 12 at La Cour Z'Anglais. On the Pic de Macaya they were found in numbers from April 13 to 21 in weed patches in the plantations below the rain forests, as well as over the summit of the peak in the great expanses of bracken that grew beneath the pines. On Île à Vache several were recorded on April 28 and 29.

**SETOPHAGA RUTICILLA** (Linnaeus)

**REDSTART**

*Motacilla ruticilla* LINNAEUS, Syst. Nat., ed. 10, vol. 1, 1758, p. 186 (Virginia).

The redstart was first observed at Terrier Rouge on March 28. In the La Hotte region, where it was fairly common, we found it at

Donté, April 7; Deron, April 8 (adult male taken); Bois Pin Lacadonis, April 9; Desbarriere, April 10; La Cour Z'Anglais, April 12; Pic de Macaya, April 16, 18, and 19 (female taken); and Bois Lacombe, April 24. On Macaya they were not observed above 1,500 meters elevation. On Île à Vache we observed two on April 29 and one on April 30. Near Belladère we recorded an adult male on May 6.

A representation of this species is found in Edwards's Gleanings of Natural History, vol. 5, 1758, pl. 257, taken from a specimen secured by Thomas Stack on November 1, 1751, about 10 leagues from the coast of Hispaniola.

### Family PLOCEIDAE, Weaver Finches

#### TEXTOR CUCULLATUS CUCULLATUS (Müller)

#### BLACK AND YELLOW MANTLED WEAVERBIRD

*Oriolus cucullatus* P. L. S. MÜLLER, Vollst. Natursyst., Suppl., 1776, p. 87 (Senegal).

Our investigations have given some additional data on the distribution of this introduced species. On March 31 we saw several near Pont de l'Estère, Haiti, and collected one. On May 5 we observed a nesting colony near a house 2 kilometers north of Trouin. Near Thomazeau on May 22 we found two colonies, one in an enclosed yard above a native house and the other in a tree top at the border of a road not far from the Étang Saumâtre. One young bird about a week old that fell from a nest and a series of adults were taken. Flocks were noted feeding through the open pastures. Between Port-au-Prince and L'Arcahaie on May 23, several nesting colonies were observed, and little flocks of the birds were found scattered through the dry scrub growth along the highway. The adult males are particularly striking in appearance, their brilliant colors showing especially to advantage when the birds are on the wing.

These weavers seemed appreciably more abundant than they were 4 years previously.

### Family ICTERIDAE, Blackbirds and Troupials

#### AGELAIUS HUMERALIS (Vigors)

#### TAWNY-SHOULDERED BLACKBIRD

*Leistes humeralis* VIGORS, Zool. Journ., vol. 3, Nov. 1827, p. 442 (near Havana, Cuba).

These blackbirds were detected only once, on March 31, at Pont de l'Estère, Haiti, when an adult female was collected and another seen. This locality is on the plains a short distance north of the Artibonite, and is the region in which the species was first discovered.

The two seen were in low mesquite trees in a dry pasture several hundred yards from the Estère River. Attention was attracted to them by a redwinglike call, and it was noted that they jerked the tail and flitted the wings in a fashion characteristic of this genus.

ICTERUS DOMINICENSIS (Linnaeus)

HISPANIOLAN ORIOLE

*Oriolus dominicensis* LINNAEUS, Syst. Nat., ed. 12, vol. 1, 1766, p. 163 ("Dominica"—Hispaniola).

The Hispaniolan oriole was recorded rather generally in the regions that we traversed, although it was not seen in the higher altitudes of the La Hotte region, on Île à Vache, nor on Beata Island. We observed a few on March 25 near Limbé and Plaisance, Haiti. At Terrier Rouge, Haiti, March 27 to 30, several were seen on the slopes of Morne des Mammelles, and along a dry arroyo through the mesquite. A specimen was taken there on March 28. The oriole was noted further at Deron, April 24; at Las Cahobes, May 20; at Thomazeau, May 22 (specimen); and at L'Arcahaie, May 23. On May 7, and again on May 19, we observed several in the arid section between San Juan and Barahona, Dominican Republic. A specimen was taken on May 9 at La Cienaga, about 15 kilometers south of Barahona. The birds were observed there in pairs and were seen on several occasions flying for considerable distances with quickly undulating flight above the trees. A female in first-year plumage, with black only on the throat and occasional scattered feathers on the lower surface, taken on May 22, was laying.

The late Dr. Charles W. Richmond has called attention to *Pendulinus viridis* Vieillot,<sup>13</sup> described from "Saint-Domingue", which applies in the synonymy of *Icterus dominicensis* (Linnaeus), the species here under consideration. This was overlooked in the account by Wetmore and Swales in their work on the Birds of Haiti and the Dominican Republic.

HOLOQUISCALUS NIGER NIGER (Boddaert)

HISPANIOLAN GRACKLE

*Oriolus niger* BODDAERT, Table Planches Enl., 1783, p. 31 (Hispaniola).

In the vicinity of the delightful residence of R. L. Pettigrew, at Terrier Rouge, Haiti, we found this bird fairly common from March 27 to 30. Several usually could be seen about the lawns and gardens in much the same manner as purple or bronzed grackles. They also were noted near Dessalines, Limbé, and Cap-Haïtien on March 25. On our trip into the mountains of the Tiburon Peninsula they were recorded at Deron, April 8; between Deron and Bois Pin Lacadonis,

<sup>13</sup> Nouv. Dict. Hist. Nat., vol. 5, 1816, p. 321.

April 9; at La Cour Z'Anglais, April 12 and 23; and at Les Glaces, April 24. At the last point we camped for the night on a grassy bench above the river, and had numbers of grackles around us throughout our stay. It was always something of a surprise to find them in heavy tree growth above the coffee plantations. The species was very common on Île à Vache, April 27 to 30, and a few were seen near L'Arcahaie, May 23.

Grackles were observed regularly along our road from Port-au-Prince, Haiti, to Barahona, Dominican Republic, on May 6 and 7, and on the return trip on May 19 and 20. They were common at Barahona on May 9, and a few were found in the scrub near the coast on Beata Island, May 10 to 15. A few specimens obtained at this point are in worn dress and have lost much of the gloss on the dorsal surface that is so prominent in birds in fresh plumage.

### Family THRAUPIDAE, Tanagers

#### SPINDALIS DOMINICENSIS (Bryant)

#### HISPANIOLAN SPINDALIS

*Tanagra dominicensis* BRYANT, Proc. Boston Soc. Nat. Hist., vol. 11, May 1867 p. 92 (Hispaniola).

This tanager was among the most conspicuous of the smaller birds of the La Hotte region during our work there in April. We observed it first after leaving Geffrard on April 7, and on our return on April 26 recorded it in small numbers as far as the region between Post Avancé and Camp Perrin. At our camp on Pic de Macaya this was the most abundant bird, ranging from an altitude of 900 meters over the slopes of the mountain to the summit. In the native plantations it was found among growths of low bushes and weeds, and it was continually in evidence in the shrubbery and bush growths about our camp. In the forest the spindalis ranged through the upper branches of the deciduous trees and was the most active member of the forest avifauna, so that any small bird in the tree tops that was not clearly seen was almost certain on investigation to be this species. The period of our work was the beginning of the breeding season, and we heard these birds giving low, sibilant songs in addition to their low calls. They were seen feeding on pokeberries.

In our series of 16 specimens there are two males taken on April 18 and 20 that are molting from a dull immature plumage, resembling that of the female, into bright adult dress.

Wetmore and Swales<sup>14</sup> listed this species under the name *Spindalis multicolor* (Vieillot),<sup>15</sup> having overlooked the fact that Bangs and

<sup>14</sup> U.S.Nat.Mus.Bull. 155, 1931, p. 414.

<sup>15</sup> *Tanagra multicolor* Vieillot, Tableau Enc. Méth., vol. 2, 1823, p. 775 ("Florides, les îles Bahama et de Saint-Domingue").

Penard<sup>16</sup> were correct in indicating that Vieillot's name applies to the *spindalis* of the Bahamas. On checking over Vieillot's account, it is found that his description is that of the Bahaman bird, since it is indicated throughout that the species described has a black back, *Spindalis zena* of the Bahamas being the only species of the genus with this marking. The form of Hispaniola must therefore be known as *Spindalis dominicensis* (Bryant).

PHAENICOPHILUS POLIOCEPHALUS POLIOCEPHALUS (Bonaparte)

GRAY-CROWNED PALM Tanager

*Dulus poliocephalus* BONAPARTE, Rev. Mag. Zool., 1851, p. 178 (Haiti).

On April 11 we observed two of these birds in thickets near the river at La Cour Z'Anglais, and from April 13 to 20 recorded them as fairly common on the slopes of the Pic de Macaya, where they ranged from the forest border above our camp to the summit of the mountain. They were found in the upper tree branches, where they worked actively about in search of food. Four specimens were secured. Others were seen at Bois Lacombe on April 24, and on April 25 and 26 we found them along the trail between Les Glaces and Post Avancé.

PHAENICOPHILUS POLIOCEPHALUS TETRAOPES Wetmore and Lincoln

ÎLE À VACHE PALM Tanager

*Phaenicophilus poliocephalus tetraopes* WETMORE and LINCOLN, Auk, vol. 49 1932, p. 36 (Île à Vache, Haiti).

In the study of the palm tanagers obtained on Île à Vache by the Parish Expedition of 1930,<sup>17</sup> it appeared that these birds were somewhat different from those of the adjacent Tiburon Peninsula, but with only one adult and two immature birds at hand the characters that mark this race were not clearly evident. With this in mind we made definite effort to collect specimens, and between April 28 and 30 we secured seven adult birds. These are sufficient to demonstrate that the bird of Île à Vache differs from *P. p. poliocephalus* in having the gray of the upper surface, crown, and hind-neck lighter, the dorsal surface lighter green, and the abdomen more whitish. The bill is slightly longer. Curiously enough the paler coloration of this new race is in the direction of *P. p. coryi* of Gonave Island, but as this is on the opposite side of the Tiburon Peninsula there can be no definite connection between the two. One bird in the Abbott collections from Grande Cayemite Island shows some approach to *P. p. tetraopes* in lighter coloration, but it can have no direct connection since this locality likewise is on the north side of the Tiburon Peninsula, opposite Gonave.

<sup>16</sup> Bull. Mus. Comp. Zool., vol. 67, June 1925, p. 207.

<sup>17</sup> Proc. U.S. Nat. Mus., vol. 81, art. 2, July 22, 1932, p. 39.

Following is a description of the type specimen:

Type, U.S.N.M. No. 327924, male adult, in slightly worn plumage, collected on Île à Vache, Haiti, April 28, 1931, by A. Wetmore and F. C. Lincoln (orig. no. 8637). Anterior portion of crown, lores, and sides of head black, with white spots on each side of forehead, and on both upper and lower eyelids; posterior portion of crown and hind-neck neutral gray; back and scapulars warbler green; rump and upper tail-coverts similar with the feathers tipped lightly with pyrite yellow; wing feathers dusky brown, with exposed portions warbler green, edged externally with pyrite yellow; wing coverts warbler green, edged with pyrite yellow; chin white with this color extending back as a broad malar stripe on each side of the throat; under surface neutral gray washed with whitish on the abdomen and median under tail-coverts; bend of wing pyrite yellow; under wing-coverts light mouse gray, with the feathers edged with whitish. Bill black, becoming slate color at the base of the lower mandible; tarsus and toes blackish slate (from dried skin).

The series available has the following measurements:

Males (four specimens): Wing 82.2–90.5 (85.9), tail 69.5–72.8, (70.8), culmen from base 20–20.8 (20.2), tarsus 22.3–23.7 (23) mm.

Females (four specimens): Wing 81.4–83.7 (82.5), tail 67.5–69.5 (68.7), culmen from base 19.5–21.2 (20.3), tarsus 21–22.8 (21.9) mm.

Type, male: Wing 85.9, tail 72.8, culmen from base 20, tarsus 23.6 mm.

The four-eyes, as this bird is called locally, was found in thickets feeding through the branches or near the ground indifferently. While sprightly in actions, at times it appeared rather indolent, moving slowly with frequent pauses.

**PHAENICOPHILUS PALMARUM PALMARUM (Linnaeus)**

HISPANIOLAN PALM TANAGER

*Turdus palmarum* LINNAEUS, Syst. Nat., ed. 12, vol. 1, 1766, p. 295 (Hispaniola).

This palm tanager was seen at Dessalines on March 25, and at Trou the following day a breeding female was taken. Near Terrier Rouge, from March 27 to 30, they were common in areas grown with thickets, and two more specimens were collected. They have considerable curiosity and often come near to peer at an intruder or to scold at some snake or other animal that worries them. We saw one near Miragoane on April 5.

On May 6 we recorded one at Las Matas, and between San Juan and Azua on May 7 saw several. Between Barahona and San Juan on May 19 we recorded a number and took one north of Habanero. On May 23 near L'Archaie we found them fairly common and collected one young bird in juvenal plumage.

## TANAGRA MUSICA (Gmelin)

## HISPANIOLAN EUPHONIA

*Pipra musica* GMELIN, Syst. Nat., vol. 1, pt. 2, 1789, p. 1004 (Hispaniola).

We recorded this handsome little tanager only in the forests of the La Hotte region, where its presence was oftener indicated by its whistled calls than by sight of the bird itself. It was first recorded near Donté on April 7. Near Deron on April 8 and 9 it was fairly common, and it was found between that point and Desbarriere on April 9 and 10. On the slopes of the Pic de Macaya it was recorded from an elevation of 900 meters to the summit of the mountain, and a mated pair was taken here on April 18. We found it near Les Glaces on April 24, and the following day recorded it from the trail as far as Post Avancé.

## CALYPTOPHILUS TERTIUS TERTIUS Wetmore

## LA HOTTE CHAT-TANAGER

*Calyptophilus tertius* WETMORE, Smithsonian Misc. Coll., vol. 81, no. 13, May 15, 1929, p. 2 (higher slopes of La Hotte, Haiti).

On April 12, Wetmore had a view of one of these chat-tanagers on the slopes of Pic de Macaya at an elevation of 1,000 meters, between La Cour Z'Anglais and our camp above Caye Godet. The bird was in a steep-sided gulch near the border of forest. We searched for others carefully in the area that we covered near our camp but were not successful in finding them.

Family FRINGILLIDAE, Grosbeaks, Sparrows, Finches, and Buntings

## TIARIS OLIVACEA OLIVACEA (Linnaeus)

## YELLOW-FACED GRASSQUIT

*Emberiza olivacea* LINNAEUS, Syst. Nat., ed. 12, vol. 1, 1766, p. 309 (Hispaniola).

This grassquit is one of the common lowland birds of Hispaniola, found abundantly through the cultivated fields but not occurring in regions of forest. Between Ennery and Plaisance many were seen on March 25 feeding in patches of grass along the road, and the following day we observed it at Trou. At Post Avancé we found it on April 6, and recorded it also at Bois Lacombe, April 11; La Cour Z'Anglais, April 12 and 22; and Les Glaces, April 24. Many were observed between Camp Perrin and Aux Cayes on April 26. On Île à Vache on April 29 we collected two adult males and found a nearly finished nest in the side of a clump of grass half a meter above the ground.

On May 5 many were observed between Port-au-Prince and Jacmel, the birds being especially common where the highway led through canefields. On May 6 and 7, and again on May 19 and 20, they were seen regularly along the road between Port-au-Prince and Barahona. They were common near L'Arcahaie on May 23.

**TIARIS BICOLOR MARCHII** (Baird)

MARCH'S GRASSQUIT

*Phonipara Marchii* BAIRD, Proc. Acad. Nat. Sci. Philadelphia, 1863, p. 297 (Jamaica).

Near Terrier Rouge, Haiti, these birds were common through the dry scrubs and four were collected on March 27 and 28. We saw them at Donté on April 7, and collected one and observed others at La Cour Z'Anglais on April 12. One was recorded on Île à Vache on April 29. On May 20 we observed these birds in fair numbers along the highway between San Juan, Dominican Republic, and Port-au-Prince, Haiti.

**LOXIGILLA VIOLACEA AFFINIS** (Ridgway)

HISPANIOLAN BULLFINCH

*Pyhrrulagra affinis* " (Baird) " RIDGWAY, Auk, 1898, p. 322 (Port-au-Prince, Haiti).

In northern Haiti we first encountered the bullfinch on March 26 near Trou, where we observed half a dozen and collected a breeding male. Near Terrier Rouge these birds were common from March 27 to 30, being noted especially in the scrub on the Morne des Mammelles. Here we collected five specimens. In the humid La Hotte region the bullfinch was even more abundant, being observed between Geffrard and Donté, April 7; at Bois Lacombe, April 10; and between Desbarriere and La Cour Z'Anglais, April 12. On the Pic de Macaya this was one of the common birds from April 14 to 22, ranging through the rain forest to the summit of the mountain. On our way out we found it at Bois Lacombe on April 23 and Les Glaces on April 24, and later on May 6, observed it along the highway between Belladère and San Juan, Dominican Republic.

The period of our work in the La Hotte area was seemingly the breeding season for this form, as its pleasant, whistled song, in tone and utterance suggestive of the cardinal of the Southern United States, was heard regularly and was in fact the earliest bird voice of the morning that frequently aroused us at daybreak when we were camped in the forest, or in native huts surrounded by shrubbery. The song was continued for an hour or more in early morning and was heard occasionally during the day, being especially attractive in an area where comparatively few birds were pleasing songsters.



## LOXIGILLA VIOLACEA PARISHI Wetmore

## PARISH'S BULLFINCH

*Loxigilla violacea parishii* WETMORE, Proc. Biol. Soc. Washington, vol. 44, Feb. 21, 1931, p. 27 (Île à Vache, Haiti).

During our work on Île à Vache we collected five specimens of this bullfinch on April 28 and 30, including three males and two birds in immature dress. These exhibit the average difference in smaller size that distinguish this race from *L. v. affinis* of adjacent Haiti. The three males have the following measurements: Wing, 69, 72, 74.5; tail, 64.7, 64.8, 64.8; culmen from base, 14.5, 14.7, 15.3; tarsus, 20.3, 20.5, 22.1 mm. The largest of these is equal to the smallest specimens of *L. v. affinis*, but the average of that race is distinctly larger, and no bird seen from the main island is equivalent to the smaller skins from Île à Vache. With its circumscribed insular range *parishi* may be maintained as distinct.

During our work on Beata Island, from May 11 to 15, we found bullfinches common, and collected a series of seven birds, including four males, one female, and two immature individuals. On examination it is found that these have the small average size of *parishi* and are identified as of that race. Though this may at first sight seem hardly probable, it will be recalled that both Île à Vache and Beata lie on the south coast of Hispaniola and in reality are not far apart. It may be considered that on these two islands there is maintained a small race that formerly was more widely distributed. The two immature birds from Beata are molting into adult dress and have only a part of the immature plumage remaining, this part being distinctly lighter in color than juvenile dress in other specimens examined, including those from Île à Vache. In view of the arid conditions that hold on Beata Island, with intense sunlight, it seems probable that this paler coloration is due to fading, and it is thus interpreted. Following are measurements of the four males from Beata: Wing, 71.6, 72.2, 73.1, 74.6; tail, 57.5, 60, 61, 62.4; culmen from base, 14.5, 14.7, 14.8, 14.9; tarsus, 20.1, 20.7, 20.8, 21.7 mm. Here again there is approach to the smallest dimension found in *L. v. affinis*, but the average and the smaller specimens from Beata are similar to those from Île à Vache.

On Île à Vache these birds were fairly common in thickets and low woodland, seeking heavy cover and ordinarily remaining under concealment. On Beata they were more numerous and, though they remained under shelter, were called out where they could be observed without difficulty. We commented frequently during our work there that though this was the breeding season the only songs that we heard from these birds were low and sibilant, quite different from the clear, whistled efforts of their main-island neighbors. It is possible, of course, that the usual song was given at dawn as our camp was on

the shore, a little distance from the usual haunt of the bullfinches, but if this were true it is curious that we did not detect it, since we were out at daybreak daily and even when at camp were within hearing distance of the scrubs inhabited by these finches.

On May 15 we found a nest placed in a thorn bush a little more than a meter from the ground. The nest was relatively large, was deeply cupped, and was constructed of grass and weed stems that were arched up to form a dome over the top so that the interior was completely shaded. It contained four fresh eggs, with the ground color decidedly lighter than pale glaucous-green, spotted finely with warm sepia, the spots being more or less confluent at the larger pole of the egg and there forming a wreath. The eggs measure 22.4 by 14.7, 22.4 by 15, 23 by 14.3, and 23.4 by 15 mm.

Another nest that had just been completed was located in a bush a little more than half a meter above the ground and was of similar construction, with the top partly covered.

**AMMODRAMUS SAVANNARUM INTRICATUS Hartert**

**DOMINICAN GRASSHOPPER SPARROW**

*mmodramus savannarum intricatus* Hartert, Bull. Brit. Orn. Club, vol. 19, Apr. 29, 1907, p. 73 (El Valle, Dominican Republic).

Our first view of the grasshopper sparrow came on May 20, when we saw one or two by the highway a short distance west of San Juan, Dominican Republic. Later that same day, in a rolling prairie region east of Las Cahobes, Haiti, we located two small colonies and collected four birds in fine adult plumage. They were distributed through areas of grass growing on hill slopes and flew out to alight in guava bushes near the ground or to drop back again into the grass.