

XX. A CONTRIBUTION TO THE ORNITHOLOGY OF THE BAHAMA ISLANDS.

BY W. E. CLYDE TODD AND W. W. WORTHINGTON.

INTRODUCTION.

BY W. E. CLYDE TODD.

In the fall of 1908 the writer suggested to the well-known ornithological collector, Mr. Willis W. Worthington of Shelter Island Heights, New York, the desirability of making a collecting trip to the Bahama Islands. Mr. Worthington at length agreed to such an undertaking, and also to give the Carnegie Museum the refusal of his prospective collections, nearly all of which were in fact eventually acquired. Beginning work on New Providence the last week in December of that year, he visited in succession Great Inagua, Acklin Island, Watlings Island, Andros, and Abaco, thus covering the group fairly well, so far as faunal districts are concerned. Although considerable collections were made in other branches, birds were naturally the primary consideration. As the law now stands in the Bahamas, licenses to collect birds for scientific purposes do not permit the holder to take more than *six* specimens of any one kind—a most embarrassing restriction, which will make it very difficult and expensive to secure fresh material from this region in the future. Through the granting of a license to Mr. Worthington's assistant, however, the limit was increased to twelve specimens, and in only a few instances was this number exceeded, and then only by inadvertence. Despite such an unfortunate drawback, and the exigencies of travel and sundry other inconveniences under which Mr. Worthington labored, he was unusually successful in securing specimens of the rarer and more interesting Bahaman land-birds, among them a remarkable and unexpected new species of warbler from the island of Abaco, and he was able also to add a few additional species to the Bahaman avifauna, besides getting numerous new records for the various islands. As he was entirely dependent upon irregular sailing-vessels for transportation, he was unable to visit any of the colonies of sea-birds on the isolated

cays, and the water-birds in general are with but few exceptions sparsely represented in his collections. Of the endemic land-birds, however, all but five species are included, as well as a fair representation of the winter residents and transient visitants. In all there are five hundred and ninety-one beautifully prepared specimens, which are now the property of the Carnegie Museum, excepting forty-three skins retained by the collector for himself. The entire collection, however, made between December 28, 1908, and May 8, 1909, has been available for the preparation of the present report.

The critical study and comparison of this material, supplemented in many cases by additional specimens from other sources, has thrown new light upon the status and relationships of a number of the Bahaman forms, concerning some of which there seems to have been considerable misapprehension. The conclusions and results set forth herewith, although they may possibly not prove acceptable to such ornithologists as find it incumbent to give nomenclatural recognition to every trifling variation exhibited, have been conscientiously and (it is hoped) consistently worked out, with due regard to scientific standards. In several instances, where the available material was inadequate, no formal changes in the generally accepted nomenclature have actually been made, although doubts have been freely expressed. Some attention has been given to the sequence of plumages in certain of the species, and to other variations.

In a paper of the present scope it would be manifestly superfluous to attempt any comprehensive review of the literature of Bahaman birds, this having already been so well done by Mr. Joseph H. Riley (in Shattuck, *The Bahama Islands*, 1905, 347-350). Mr. Riley has also discussed in outline the zoögeographical position of the Bahamas, adopting Mr. Frank M. Chapman's conclusions originally published in the *American Naturalist*, XXV, 1891, 528-539. Mr. Riley seems to have been the first to claim distinct faunal rank for the southern islands of the group as discriminated from those to the northwest, but aside from this no detailed analysis of the distribution of the Bahaman avifauna seems to have yet been attempted, so that it may be well to consider the question further. Two hundred and two species (including subspecies) of birds have now been recorded from the Bahamas, two of which (*Colinus virginianus floridanus* and *Passer domesticus*) have evidently been introduced by human agency within recent times, leaving an even two hundred species native to

the islands. Of these one-half (more or less) are winter residents, transients during migration, or merely casual or accidental visitants, leaving about one hundred species known or believed to breed. Let us eliminate first the species known or reasonably assumed to be of general distribution throughout the group, designating the endemic forms with an asterisk (in this as in succeeding lists).

<i>Colymbus dominicus dominicus</i>	<i>Anous stolidus stolidus</i>
<i>Podilymbus podiceps</i>	<i>Himantopus mexicanus</i>
<i>Puffinus lherminieri</i>	<i>Catoptrophorus semipalmatus</i>
<i>Phaëthon americanus</i>	<i>semipalmatus</i>
<i>Pelecanus occidentalis</i>	<i>Octhodromus wilsonius wilsonius</i>
<i>Fregata aquila</i>	<i>Hæmatopus palliatus</i>
<i>Ixobrychus exilis</i>	<i>Columba leucocephala</i>
<i>Phænicopterus ruber</i>	<i>Zenaidura macroura (macroura?)</i>
<i>Ardea herodias herodias</i>	<i>Zenaida zenaida</i>
<i>Herodias egretta</i>	<i>Cathartes aura aura</i>
<i>Egretta candidissima candidissima</i>	<i>Buteo borealis (subsp.?)</i>
<i>Dichromanassa rufescens</i>	* <i>Pandion haliaëtus ridgwayi</i>
<i>Hydranassa tricolor ruficollis</i>	<i>Aluco pratincola pratincola</i>
<i>Florida cærulea</i>	* <i>Amazona leucocephala bahamensis</i>
* <i>Butorides virescens bahamensis</i>	<i>Crotophaga ani</i>
<i>Nycticorax nycticorax nævius</i>	<i>Coccyzus americanus americanus</i>
<i>Nyctanassa violacea</i>	<i>Coccyzus minor maynardi</i>
<i>Ajaia ajaja</i>	* <i>Chordeiles virginianus vicinus</i>
<i>Pæcilonetta bahamensis</i>	<i>Tyrannus dominicensis dominicensis</i>
<i>Dendrocygna arborea</i>	* <i>Myiarchus sagræ lucaysiensis</i>
* <i>Rallus crepitans coryi</i>	* <i>Mimus gundlachii gundlachii</i>
<i>Gallinula galeata galeata</i>	<i>Polioptila cærulea cærulea</i>
<i>Fulica americana</i>	<i>Vireosylva calidris barbatula</i>
<i>Larus atricilla</i>	* <i>Vireo crassirostris crassirostris</i>
<i>Gelochelidon nilotica</i>	* <i>Dendroica petechia flaviceps</i>
<i>Sterna maxima</i>	<i>Dendroica discolor</i>
<i>Sterna sandvicensis acuflavida</i>	* <i>Cæreba bahamensis</i>
<i>Sterna dougalli</i>	* <i>Pyrrhulagra violacea violacea</i>
<i>Sterna antillarum</i>	* <i>Tiaris bicolor bicolor</i>
<i>Sterna fuscata</i>	
<i>Sterna anætheta</i>	

It will be observed that the above list of fifty-nine species is composed very largely of water-birds and a few others of more or less general distribution in tropical America. Deducting the above from the list of breeding species leaves forty-one forms whose distribution within the group is more or less restricted, and these again may be divided into two categories. In the first are placed thirty-one forms which are in general confined to the more northern and western islands:

<i>Phalacrocorax auritus floridanus</i>	* <i>Blacicus bahamensis</i>
<i>Geotrygon chrysia</i>	<i>Mimus polyglottos polyglottos</i>
* <i>Chæmepelia passerina bahamensis</i>	* <i>Mimocichla plumbea</i>
* <i>Speotyto cunicularia cavicola</i>	<i>Sitta pusilla</i>
* <i>Saurothera bahamensis bahamensis</i>	* <i>Callichelidon cyaneoviridis</i>
* <i>Saurothera bahamensis andria</i>	* <i>Dendroica flavescens</i>
* <i>Dryobates villosus maynardi</i>	* <i>Dendroica pityophila</i>
* <i>Dryobates villosus piger</i>	* <i>Dendroica vigorsii achrustera</i>
* <i>Centurus nyanus nyanus</i>	<i>Seiurus aurocapillus</i>
* <i>Centurus nyanus blakei</i>	* <i>Geothlypis rostrata rostrata</i>
* <i>Centurus nyanus bahamensis</i>	* <i>Geothlypis rostrata tanneri</i>
* <i>Nesophlox evelynæ</i>	* <i>Geothlypis rostrata coryi</i>
* <i>Riccordia ricordii bracei</i>	* <i>Agelaius phæniceus bryanti</i>
* <i>Riccordia ricordii æneoviridis</i>	* <i>Icterus northropi</i>
* <i>Tolmarchus bahamensis</i>	* <i>Spindalis zena zena</i>
	* <i>Spindalis zena townsendi</i>

Ten species, on the other hand, are more or less restricted to the more southern and eastern islands, as follows:

<i>Sula cyanops</i>	* <i>Speotyto cunicularia bahamensis</i>
<i>Sula leucogastra</i>	* <i>Nesophlox lyrura</i>
<i>Phalacrocorax vigua mexicanus</i>	<i>Tyrannus cubensis</i>
<i>Oxyechus vociferus rubidus</i>	<i>Mimus polyglottos orpheus</i>
<i>Chæmepelia passerina exigua</i>	<i>Margarops fuscatus fuscatus</i>

Of course, no hard and fast line, geographically speaking, can be drawn between the Inaguan Fauna, as it may be called, and the Bahaman Fauna proper, some species of each group having a much more extensive distribution than others, resulting in an overlapping of the two faunas in certain of the intermediate islands. Indeed, three species, *Chæmepelia passerina bahamensis*, *Nesophlox evelynæ*, and *Mimus polyglottos polyglottos*, might be referred to our first list

above (comprising species of general distribution in the islands), were it not for the fact that they do not occur on Great Inagua, where their places are taken by allied forms. The Inaguan Fauna possesses only two forms peculiar to itself, *Speotyto cunicularia bahamensis* and *Nesophlox lyrura*, and is characterized in general more by the *absence* of numerous species found in the northern islands than by the presence of a distinctive element of its own.

It would naturally be supposed that of all the Bahaman group Great Inagua, from its proximity to Cuba, would show the closest correspondence in its avifauna to this neighboring island, but such is very far from being the case. For instance, *Speotyto cunicularia bahamensis*, *Nesophlox lyrura*, *Margarops fuscatus fuscatus*, *Cæreba bahamensis*, and *Pyrrhulagra violacea violacea* do not even have generic representatives in Cuba, and must have reached Great Inagua from some other direction. The Ground Dove of Great Inagua is identical with the form occurring on Mona Island (*Chæmepelia passerina exigua*), not with the Cuban bird. Barring the water-birds on the list, whose distribution is possibly dependent on local causes and therefore of no especial significance in the present case, there is in fact only *one* species characteristic of the Inaguan Fauna, *Tyrannus cubensis*, which is clearly and exclusively of Cuban origin, and this is not a common bird. *Oxyechus vociferus rubidus* and *Mimus polyglottos orpheus*, although occurring in Cuba, are found also in Haiti, whence they may have reached Great Inagua, in common with other Bahaman forms which have evidently entered the islands by the same route.

As a matter of fact, it is the northernmost islands of the group, Great Bahama, Abaco, Andros, etc., whose avifauna most nearly resembles that of Cuba, from which it has obviously been largely derived. It is certainly significant that such a characteristic Cuban form as *Dendroica pityophila* should occur in the Bahamas (so far as known) only on Great Bahama and Abaco, the two islands farthest distant from Cuba. Again, *Centurus nyeanus bahamensis* from Great Bahama more closely resembles its "original stock" form, the Cuban *Centurus superciliaris*, than do either *Centurus nyeanus blakei* of Abaco or *C. n. nyeanus* of Watlings Island, indicating that the influx took place by way of Great Bahama. The distribution of *Geotrygon chrysia*, *Saurothera bahamensis* (and subspecies), *Riccordia riccordii* (and subspecies), *Tolmarchus bahamensis*, *Blacicus bahamensis*, and *Mimocichla plumbea* also presents cases which argue more or less

strongly for the point sought to be emphasized. This is in striking contrast with the case in the southern islands.

Another point to which attention should be called is the occurrence in the Bahamas, and especially in the northern and western islands, of certain forms whose affinities are decidedly with others from Mexico and Central America. *Icterus northropi*, which is very close to *Icterus prothemelas*, is a striking instance of this. In a recent paper the present writer has given reasons for believing that *Geothlypis rostrata* is more closely related to certain Mexican species than to *G. trichas*. *Spindalis zena* finds its nearest ally in *Spindalis benedicti* of Cozumel Island. Some of the Bahaman species whose antecedents are obviously Central American have spread over the group more generally, as for instance *Nesophlox evelynæ* (allied to *N. bryantæ* of Costa Rica), *Vireo crassirostris* (very close to *V. ochraceus*), and *Cæreba bahamensis* (near *C. caboti* of Cozumel Island). All three of these forms, it must be noted, have undergone more or less modification upon entering the easternmost islands of the group, amounting to the differentiation of a distinct species in the case of *Nesophlox*.

To recapitulate:

1. The resident avifauna of the Bahama Islands is not homogeneous, but differs to some extent at the respective extremities of the group.
2. The avifauna of the northwestern islands resembles that of Cuba more closely than does that of the southeastern islands.
3. There is a very considerable Central American element in the Bahaman avifauna, more prominent in the northwestern islands.

From the facts thus far set forth we may deduce certain inferences regarding the derivation of the composite resident avifauna of the islands. The one hundred species composing it may be divided into five categories, as regards their specific antecedents and present distribution.

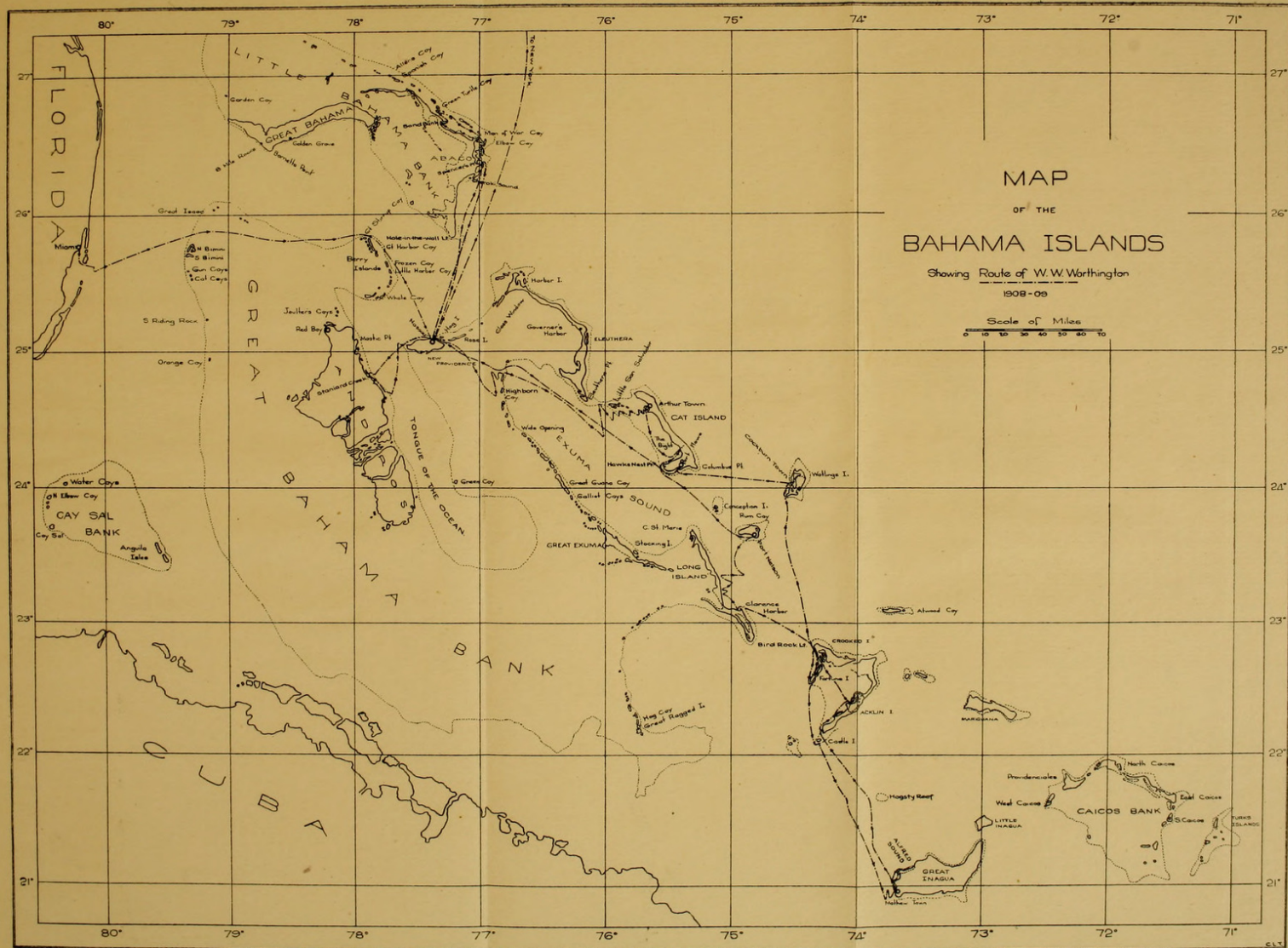
1. Species of more or less general distribution in tropical America, and therefore of no especial value in predicating faunal affinities. Nearly all the water-birds belong to this class.
2. Species identical with, or closely allied to, certain forms found in Haiti, and which have doubtless reached the Bahamas from that source, by way of Great Inagua. Examples of this class are *Margarops fuscatus fuscatus* and *Tiaris bicolor bicolor*. This element is not a very large one, and in some cases has not spread beyond the Inaguan Fauna.

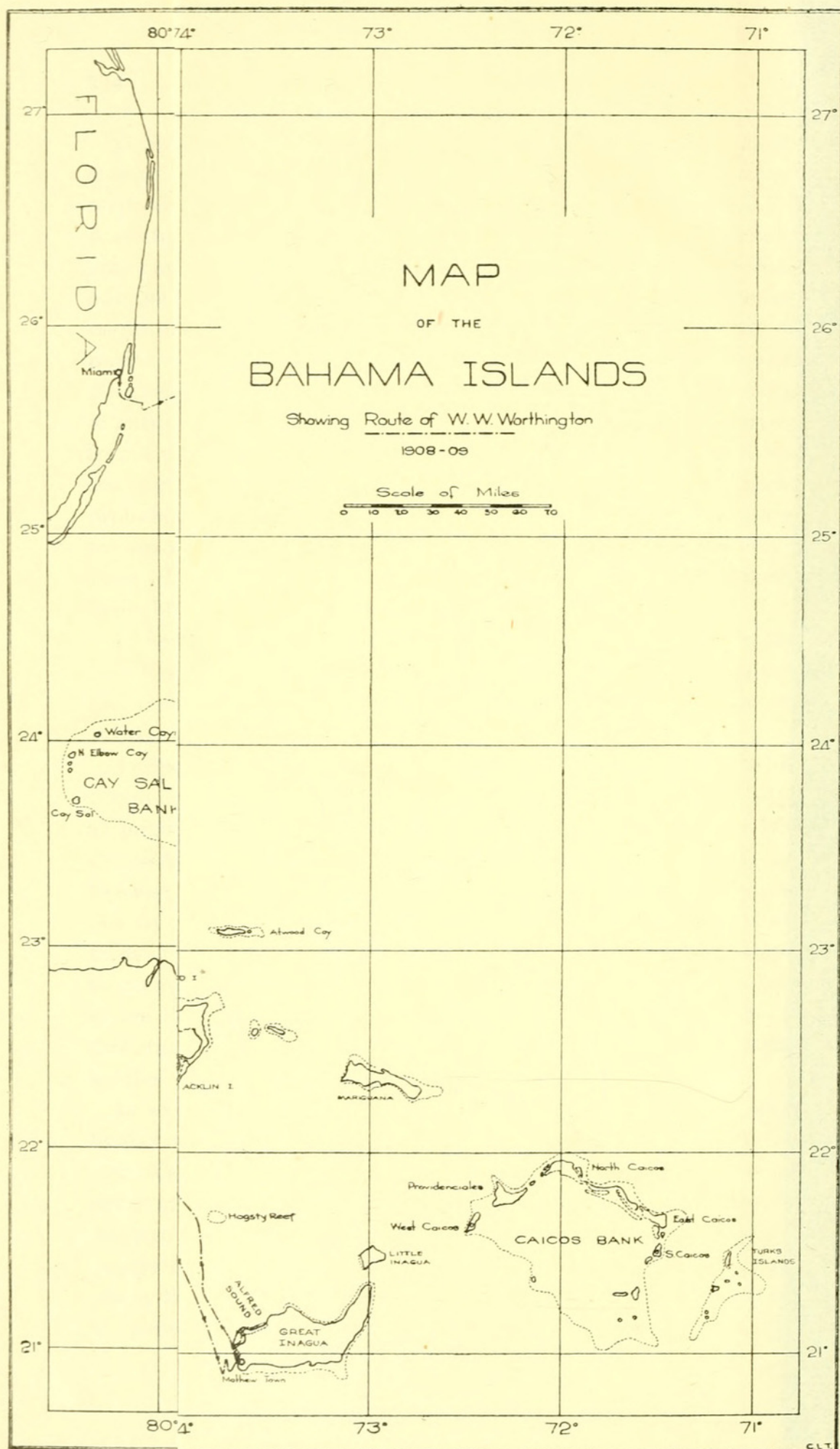
3. Species obviously of Cuban origin, as for instance *Riccordia ricordii*, *Centurus nyeanus*, and *Saurothera bahamensis*, with their respective subspecies. So far as Cuban forms are concerned, it is very doubtful if Great Inagua has to any extent "served as a gateway for many species of West Indian origin which are now distributed throughout the Bahamas," as suggested by Mr. Chapman in his paper above mentioned. Although in the case of forms of such general distribution throughout the islands as *Myiarchus sagræ lucaysiensis*, *Dendroica petechia flaviceps*, etc., there is no clue to the original place of entrance, it seems quite evident that certain other forms have gone from Cuba directly to the northern Bahamas, and thence spread more or less extensively over the group. Under such circumstances the probabilities are strongly in favor of nearly all the species belonging to this class having reached the Bahamas by way of the northernmost islands, rather than by way of Great Inagua, which island was probably about the last to be reached.

4. Species which have reached the northern Bahamas from Mexico and Central America, and have spread more or less extensively to the southeastward, as for example *Icterus northropi*, *Vireo crassirostris*, and *Nesophlox evelynæ*.

5. Species which have apparently been derived from the neighboring Peninsula of Florida. This element, which is not so large as might be anticipated, is illustrated by *Agelaius phæniceus bryanti*, *Dryobates villosus maynardi*, *D. v. piger*, and *Sitta pusilla*, and is likewise more pronounced in the northwestern islands. As pointed out by Mr. Riley, "the fact must not be lost sight of that several birds of extreme southern Florida, where the same conditions are said to prevail as in the Bahamas, have reached there probably by way of the Bahamas and not *vice versa*." In the judgment of the writer this statement should be extended to include a number of additional species which are not confined to southern Florida.

In explanation of the seemingly fortuitous occurrence in the Bahamas of so many species of more or less obvious Cuban and Central American origin, and of the anomalous circumstance that in nearly every case such have apparently entered the islands from the northwestern extremity, spreading thence to the southeastward, it is suggested that the course of the Gulf Stream, which sweeps close by Great Bahama and Andros, may have been a factor in the populating of these islands by strays from more southern regions. The part





that ocean currents play in the distribution of plant and animal life is one that cannot be overlooked, and the facts in the present case strongly suggest such an explanation. Whether a similar study of other forms of life would accord with such a theory as is here proposed, however, is an important question.

Previous writers, in discussing the origin of the Bahaman avifauna, have drawn their conclusions almost entirely from a consideration of the endemic species, attaching no especial significance to the local distribution (within the group) of either these or various other forms of more extensive range. But that a study of such facts as these may furnish a more definite clue to the relationships of the avifauna at large, and to the respective sources of its component elements, is a proposition scarcely to be questioned in view of the circumstances of the present case. There is still much to learn regarding the detailed distribution of certain species, and our knowledge of the avifauna of many islands in the group is as yet incomplete. Whether or not the provisional conclusions herein set forth will require material modifications further field-work alone can decide.

In conclusion it is a pleasure for the writer to acknowledge his indebtedness to the authorities of sundry institutions whose collections of Bahaman birds have been consulted in the preparation of the present report. Thanks are due especially to Messrs. Outram Bangs of the Museum of Comparative Zoölogy, Frank M. Chapman and Waldron DeWitt Miller of the American Museum of Natural History, Charles B. Cory, Wilfred H. Osgood, and Arthur W. Henn of the Field Museum of Natural History, Robert Ridgway, Charles W. Richmond, and Joseph H. Riley of the U. S. National Museum, and Harry C. Oberholser of the Biological Survey, for assistance of this kind and for numerous other courtesies.

NARRATIVE OF THE EXPEDITION.¹

BY W. W. WORTHINGTON.

I left Shelter Island Heights, N. Y., for the purpose of making an ornithological reconnoissance of the Bahama Islands, on November 21, 1908, going by way of Greenport directly to New York City, where I boarded the Clyde Line steamer "Iroquois," bound for Jacksonville, Florida. The voyage was uneventful, save for our being detained for thirty hours off the bar at Jacksonville by a heavy fog, so that we did not reach our destination until November 25. The following

¹Cf. Plate LXXXIV.

day I proceeded to Eau Gallie, on the Indian River, where I was joined by Mr. Clark Irwin, who was to be my assistant on the trip. Here I remained until December 17, doing a little collecting in the neighborhood, going thence to Miami, from which bustling and fast-growing little city schooners ply to the Bahamas at more or less regular intervals. Here we found the staunch schooner "Fearless," a seaworthy-looking vessel of about fifty tons, moored at a wharf in the mouth of the Miami River, and proudly flying the British flag. She was taking in a cargo of lumber, and was due to sail the following Sunday, December 20, so we engaged passage with Captain Kemp at once, and found that there were some twenty-odd other passengers on the list, mainly colored laborers returning from Florida to their homes in the Bahamas. We went on board with our baggage on Sunday morning, and were assigned to berths in the cabin, and were soon acquainted with the crew—all native Bahamans, part white and part colored.

Casting off at nine-thirty in the morning, our voyage to the Bahamas was really begun, but it did not proceed very far, as the "Fearless" was so deeply laden that she caught on the coral rock bottom of the river, and notwithstanding the best efforts of a small tug to pull her off, remained fast until the rising tide floated her at four in the afternoon, when we made another and successful start, and reached Biscayne Bay just at sunset. The wind was light, but did not die out completely until we had reached the lower end of Biscayne Key, where we came to anchor for the night. The next morning we got under way at eight o'clock, with a light head wind, and stood off to the edge of the Gulf Stream and back several times, but the wind still kept ahead, and was so light that the captain did not think it prudent to attempt crossing, as the rapid current would carry us northward far out of our course, so we ran in back of Fowey Rocks Light and anchored for the night. The next morning, December 22, the wind having hauled in our favor, we stood across for the Biminis, sighting land from aloft at three o'clock, while a half-hour later North Bimini Island was in sight from the deck. We passed just north of Moselle Bank, and not far from a large four-masted schooner recently wrecked there. Darkness overtook us while still sailing on our easterly course, and that night a heavy "norther" came down upon us. When we came on deck the next morning we found the "Fearless" close-reefed, and wallowing through heavy seas. Berry Islands were

sighted at six o'clock, and an hour later we passed the lighthouse, where the breakers were throwing the snowy spray high over the rocky bluffs—a pretty sight indeed. Our course was now shaped for Nassau, and the high land on New Providence was sighted from aloft at one o'clock. A little after two o'clock the city was in sight from the deck, and at half past three (December 24) we finally reached our destination.

Interviews were had with Mr. Julian Potter, U. S. Consul, Hon. W. Hart Bennett, Colonial Secretary, and His Excellency Sir William Grey-Wilson, Governor of the Bahama Islands. The authorities treated us very courteously, and promised us every assistance in their power in carrying on our work. Lodgings were then secured for the night, and we presently retired, but not to sleep. It is the custom on Christmas Eve to allow the colored population to "celebrate" without interference. Assembling at dark in companies, arrayed in barbaric masquerade costumes, they parade the streets, exploding firecrackers, blowing horns, and beating drums and tin pans. The din continues the entire night through, rendering sleep impossible. Friday being Christmas, all business was at a standstill, and our baggage was not released until noon on Saturday, on notice from the Colonial Secretary that collecting licenses would be granted. At my request a license was issued to my assistant, allowing us to double the number of specimens in our series. In the meantime, through the kindness of Mr. Charles Lightbourne, we were able to secure for our headquarters a vacant bungalow, situated on the crest of the Blue Hills, about three miles south of Nassau, commanding a view of the city on the north and the sea on the south, and to this we removed our outfit during the afternoon, and got settled and ready to begin work the following Monday. We engaged as a cook a colored "boy," whom Mr. Lightbourne recommended, and who was quite a character in his way.

Our bungalow was situated in the midst of what had once been a large sisal farm, but which through years of neglect had reverted to the original wild and overgrown condition, a thicket of weeds and shrubbery growing close up to the building, affording excellent opportunities for the study of birds right at hand. A short distance farther along the ridge was the dwelling of Mr. Lightbourne's sister, surrounded by an orchard of orange, grape-fruit, wild fig, and numerous other trees, to which place access was given us by the owner. Excursions were made to the "Farms," some six or seven miles to the

southwest of our headquarters, where considerable tracts of corn, cane, sweet potatoes, and other vegetables and fruits were under cultivation, and also to the sea beach to the south, while the region of the Blue Hills was quite thoroughly explored. The word "Blue" is in this case a corruption of "Ballou," the name of a former owner of a large part of this section. The term is applied to a ridge of coral limestone, averaging a hundred feet or less in height, and extending east and west for several miles in the northern part of the island. The surface is extremely rough and sharp, eroded limestone formation protruding everywhere, interspersed with caves, and with "potholes" varying from a few inches to several feet across, often ten or even twenty feet deep, and with perpendicular sides. These potholes are found throughout the hills, and also in the level pine barrens all the way across the island almost to the sandy south shore, and together with the rough surface make traveling very difficult or even dangerous. More than once, while pushing through the dense thicket, I suddenly found myself on the very brink of a yawning hole, hidden by vines and creepers, and into which a fall might easily have resulted in serious injury. In the crevices of the rock is a scanty soil, which supports a surprisingly thick and heavy growth of shrubbery, called "coppet," while the plain to the southward is covered by scattering pines. At intervals through this "pine barren," as it is called, are low thickets, with tangled masses of vines and creepers, and a few maguey plants here and there. In the pine barren were found such birds as the Ani, Bob-white, Bahama Pine Warbler, and some other warblers, woodpeckers, and fly-catchers, while the Bahama Thrush, Nassau Lizard Cuckoo, and Thick-billed Vireo kept to the thickest coppet. On the hills, and thence northward to Nassau, considerable tracts had been cleared and planted to cocoanut palms, oranges, and pineapples, but most of the fields on the hills had been neglected, and had grown up to bush again, except the tract near our quarter before mentioned. A wild fig tree growing here, which was in full fruit during our stay, attracted numerous Black-backed Spindalis, Bahama Bullfinches, Bahama Bananaquits, and several other species, while the low shrubbery and flowering plants along the roadsides were the favorite haunts of the Bahama Grassquit and Bahama Wood-star. A good road is maintained by the government, running direct to the south shore of the island, as well as others running east and west on either side of the Blue Hills, which enabled us to extend our investigations much

farther in those directions than would have been possible otherwise. The south shore, like all sand-beaches in the Bahamas, is composed of disintegrated coral rock and shells, while shallow sand-flats extend for miles off the actual shore-line. Just back of the beach are a few small lagoon-like ponds, with scattered mangroves. This region was remarkably deficient in bird-life, only a few Bahama Red-wings and Bahama Green Herons being seen about the ponds.

Work was carried on from this base until January 21, when passage was taken on the fifty-ton mail schooner "Estrella," under the command of Captain Storr, bound for Great Inagua, the southernmost island of the group, but making numerous detours and stops on the way, to deliver and receive passengers and mails. We got away from the Nassau wharf on Friday morning, January 22, with a hold full of cargo of almost endless variety, and a cabin full of passengers—all colored except ourselves—but, as in the case at Miami, we did not get very far. Before we were fairly out of the harbor, with a strong head wind, and a current running against us like a mill-race, beating down between Hog Island and Potters Cay, the steering gear gave way as we attempted to come about, and instead of making the tack as intended the "Estrella" ran with considerable force on the rocky shore of Potters Cay, where she remained until again floated by a gang of wreckers at nine P.M. on January 23, when she was anchored in the stream for a fresh start. Early the next morning we got under way, beat up around the east end of New Providence, and laid our course southeast by east, with a good stiff trade breeze from the northeast. By noon New Providence had sunk below the horizon, and Highborn Cay was in sight on the port bow. We passed Ship Channel Light at seven P.M., and entered the deep blue waters of Exuma Sound, laying a course for Cat Island. On the morning of January 25 we got a faint glimpse of the south point of Eleuthera Island, looming out of the haze to the northward, but it soon faded from view. A stiff breeze was blowing and the "Estrella" was jumping around in a rough sea, but we found smoother water under the lee of Little San Salvador, and spent the rest of the day beating dead to windward, sunset finding us three or four miles off Bennet's Harbor, Cat Island. We continued on with a light wind and reached Arthur Town, our first stopping-place, at eight P.M. Our journey was resumed after the mails had been put ashore, but the wind died out, and until the next morning we lay becalmed, several miles to the west

of Cat Island, which appeared as a long undulating dark line on our port side. A light breeze just after sunrise wafted us in towards "The Bight," our second port of call, but it presently died out, and the mails were sent ashore in a small boat, the distance being about eight miles. At noon we got a breeze from the northwest and in a little over an hour had dropped anchor off the settlement.

After landing some cargo here, and replenishing our water supply, we started for Rum Cay about five P.M., with a light but fair wind, rounding Hawk's Nest Point three hours later, and were soon in the blue water off soundings. We were aroused on the morning of January 27 by a thud on deck, and upon going up found that a large dolphin had been caught on the trolling line, and we witnessed its wonderful changing colors while dying. We had been becalmed all night, with Cat Island still in view, the sea smooth as glass and clear as crystal. Several more dolphins were hanging about, but they would not bite at a baited hook. The captain succeeded in getting a ten-pounder, however, with an improvised spear. We ate heartily of these animals, with no ill effects, and they proved a very welcome addition to the rather meager bill of fare served on these boats. We got a breeze at last and resumed our voyage, passing Conception Island at two o'clock, and came to anchor at Port Nelson, Rum Cay, at seven-fifteen. After landing mails and cargo we left this port on January 28, timing our departure so as to make Clarence Harbor, Long Island, the following morning, as it cannot be entered except in daylight. No land was in sight, however, the next morning, so we ran west until we sighted Long Island, and spent the entire day beating down to Clarence Harbor against a light head wind, coming to anchor inside the bar just after sunset. I sometimes slept in a stay-sail on the cabin roof, and rousing up at four o'clock on the morning of January 30, I had a fine view of the constellation of the Southern Cross, poised in the heavens above the low hills at the south side of the harbor. Later I made a short visit ashore, where the destruction wrought by the hurricane of the previous October was everywhere evident. The large church on the hill at the back of the town, as well as many houses, were mere piles of ruins, and the people were living in huts and make-shifts. This place, as well as Rum Cay and Watlings Island, were in the direct path of the hurricane, and suffered heavy loss. The most valuable part of the "Estrella's" cargo on this particular trip was certain bags of money, sent by the Government to the various local

magistrates for distribution among the needy, ostensibly as a loan, but I was informed that there was little probability of repayment. Efforts to secure some fresh provisions here met with practically no success.

Our next stop was Bird Rock Light, which was reached at three P.M. the same day (January 30). Mail and cargo were landed in a heavy wind and sea, the small boat being anchored just on the edge of the breakers, and the packages swung to land by means of a long derrick on the shore. The seamanship, strength, and agility exhibited by the boatmen throughout these islands is truly marvelous. Another stop was made at Crooked Island, where we were detained until after dark, and where we secured some delicious oranges from two passengers who come on board. The wind being in the wrong direction for us to land at the usual anchorage in front of the settlement at Fortune Island, we kept on around the south end of the island, and anchored in smooth water at nine P.M., remaining there over Sunday, January 31. We had a welcome addition to our bill of fare in the shape of fresh fish—margate-fish, grunts, hind- and squirrel-fish—which the crew caught with hand-lines during the night. We left Fortune Island about noon on February 1, with fair weather and a stiff northeast breeze, and sighted the high hills on the south end of Acklin Island, and Castle Island Lighthouse at two-thirty, arriving at the latter some two hours later, hauling in a large barracuta on the trolling line. Here the lightkeeper's wife and daughter were put ashore with difficulty, as the wind was blowing half a gale and heavy seas were running, and we then bore away on our course for Great Inagua, on the last, longest, and roughest leg of our outward voyage. With a reefed mainsail, the "Estrella" fairly flew up the hills and down the valleys of the long high seas, and the man at the wheel had a strenuous time to keep her straight on the course. Dawn of February 2 found us only about five miles off the low-lying shores of Great Inagua, and we dropped anchor in the open roadstead in front of Mathewtown (there being no harbor) at eight o'clock.

Upon going ashore we met Mr. Charles Sargent, U. S. Consul, also Mr. F. H. Boucher, who had a turtle- and fish-breeding plant at Alfred Sound, on the north side of the island. As it was said to be a good locality for our purpose, we arranged to move up there with our outfit, which was transferred to Mr. Boucher's small auxiliary sloop "Tortuga," and we got away at eleven o'clock the next day. Rough

seas were encountered off Middle Point, and we got drenched, but made good progress until we rounded Northwest Point, where we found heavy breakers rolling entirely across the mouth of Alfred Sound, making entry impossible, so we put back behind the point and anchored in a sheltered cove. We landed, and walked overland to the Sound, and up the shore about seven miles to Mr. Boucher's place, leaving our baggage to be brought around by the boat as soon as possible. It arrived the following morning, all safe, with the exception of our supply of plaster, which the water had ruined. The "camp" consisted of several well constructed steel-roofed buildings, situated on a sandy ridge separating a series of large lagoons from the sound, along which they extend for several miles, their mouths having been closed with heavy walls of broken coral rock. About these lagoons there was a considerable growth of mangroves, where Bahama Yellow Warblers, Bahama Clapper Rails, Bahama Green Herons, and Yellow-crowned Night Herons found congenial haunts. On the sandy beaches, among the low bushes, where the ground was in places undermined by the holes of gigantic land-crabs, were found Mona Ground Doves and Cape May Warblers, while in the heavier growths Gundlach Mockingbirds and Pearly-eyed Thrashers made their home. Back of the lagoons the mainland is very low and flat for a considerable distance, with a low growth of cactus and shrubbery. On February 5 we made an excursion to "Calefavor Pond," a large salt water lagoon lying about six or seven miles to the southeast of the head of Alfred Sound, with which it is probably connected during the rainy season. Besides ourselves, the party consisted of Mr. Boucher, Mr. Sargent, and two negroes. We proceeded about three miles in two boats, and then in the lighter boat until we could row no farther, when we dragged it a long way through the shallow water, and finally had to carry it, requiring our combined strength, for about half a mile, but we failed to get it into the pond, as miles of dry flats still intervened, so we were obliged to explore the pond by wading. We had come primarily in search of Flamingoes, but, although we saw plenty of signs, only one individual was actually observed. In the center of the pond, which was a half-mile or more across, was a mangrove island, where a small colony of Roseate Spoonbills was nesting, together with some Reddish Egrets and Yellow-crowned Night Herons. On a subsequent visit a number of Man-o'-war-birds were observed, and one secured, while a few Black-bellied and Semipalmated Plover were noted on the edge of the lagoon, lower down.

We remained at Alfred Sound until February 17, when, our supplies getting low, we decided to return to Mathewtown, and getting our outfit on board an 18-foot open boat, started out at eight in the morning, reaching our destination safely shortly after three that afternoon. We made Mathewtown our headquarters until March 2, collecting in the vicinity, and making several excursions to the "Horse Pond," a large wooded fresh water swamp about a mile back of the town, containing the largest growth of trees in the neighborhood, growing in water from one to three feet deep. This was a favorite haunt of the Antillean Tree Duck, Pied-billed and West Indian Grebes, Florida Gallinule, Sora Rail, and some other water-birds, while several species of warblers held forth in the trees. We visited also the salt ponds still farther back of the town, and explored the adjoining country in various directions. The whole southwest corner of the island is a level plain, covered everywhere with a dense coppet or thicket of shrubbery from ten to twenty feet high, except on the "roads" and a few small clearings, the coral rock formation protruding more or less everywhere, and in the bright sunshine producing in the fields, and especially on the roads, an almost intolerable white glare. This coppet was the home of such birds as the Bahama Bananaquit, Blue-gray Gnatcatcher, Thick-billed Vireo, and Maynard Cuckoo, while along the paths and roadsides, and about the clearings, were found the Bahama Grassquit, Antillean and Gundlach Mockingbirds, Mona Ground Dove, and Inagua Wood-star.

Fortunately we were able to secure passage directly to Acklin Island, and thence to Watlings Island, by special arrangement with Captain Heastie, of the schooner "Whisper," of only nine tons, but a very seaworthy little craft. We were under way at eleven A.M., March 2, with our course laid for Hogsty Reef, but as it was not in sight at sunset, although we knew by the smoother water that we were under its lee, we bore away in the direction of Castle Island Light, which was sighted about midnight, and we ran in under the south end of Acklin Island some four hours later and hove to until daylight. The next morning (March 3) we worked up the west side of Acklin Island, making numerous stops for passengers and freight, and reaching our destination at Gold Rock anchorage late in the afternoon. All our time and efforts during our brief stay on this island were devoted to a strenuous quest for Bahama Parrots, of which an account is given in the notes under that species. The topography is very

similar to that of the other islands, but more cacti of several kinds were noted, and the high coppet in which the parrots breed attains almost the dignity of a forest, many of the trees being large enough to afford nesting cavities.

Leaving Acklin Island on March 8, we stood across to Fortune Island, anchoring off the settlement to leave passengers and mails, but finally got away at one-thirty P.M. on March 9. A heavy wind blew up from the east, so we ran in to the Crooked Island anchorage to wait for better weather for the long run of about seventy miles, through the open ocean, here from twelve hundred to two thousand fathoms deep, which in a heavy wind gets up a nasty sea. We left the anchorage at ten P.M., and as soon as we passed around Bird Rock we encountered strong winds and heavy seas, and although we kept going, we had a very rough and uncomfortable night, the little "Whisper" shipping one large sea, which nearly carried both helmsman and compass overboard, and we had difficulty in holding ourselves in the berths below, not to think of sleeping. At sunrise on March 1 there were mountains of water on all sides, and no land in sight, but Watlings Island was finally sighted at eight-thirty, Sandy Point passed at ten o'clock, and anchor dropped off Cockburn Town at noon. We were welcomed by Mr. C. G. Rigby, the resident magistrate, and given a comfortable room at his house, and our thanks are due him for numerous favors. The surface of this island is broken and hilly, much like that of New Providence, and covered with the same kind of coppet, but there is no pine barren. A large salt water lake takes up the greater part of the middle portion of the island, visited by several species of ducks, and the home of one or more rookeries of Mexican Cormorants. Bordering the lake are large patches of mangrove swamp, affording shelter for Bahama Yellow Warblers, Maryland Yellow-throats, Bahama Green Herons, and Bahama Clapper Rails. There is an outer sand-beach in most places, affording a feeding ground for shore-birds. Large magnolia trees near the landing at Riding Rock, and cabbage palms scattered over the northwestern portion of the island, nearly all show the work of woodpeckers. Maynard Cuckoos and Pearly-eyed Thrashers were found in the dense coppet, West Indian Grebes in the small ponds back of the beach, while Zenaida Doves were common about the cultivated tracts. The Bahama Duck breeds here about the grassy edges of the ponds. There seemed to be a notable scarcity of certain of the smaller birds

here, however. Our explorations extended to the east side of the island, to the monument which marks the first landing-place of Columbus, and to Iguana Cay in the lake, where we secured some iguanas.

On April 5 we sailed on the trading sloop "Mayflower" for Nassau, touching at Port Howe, Cat Island. We reached Nassau on April 8, where we were delayed a full day by inability to secure our mail, it being Good Friday and a holiday. We engaged passage on the sponger "Florence" for Staniard Creek, Andros Island, but a heavy storm came up from the northeast and continued all night, so that all the vessels in the harbor had to haul off from the docks and lay at anchor to prevent damage. Although it was still blowing heavily on Sunday a start was made a little after seven in the morning, and we passed the west end of New Providence three hours later. Land on Andros was sighted shortly before one o'clock, and we came to anchor at Staniard Creek a little after two. This is the name applied to a narrow and shallow lagoon separating a low, narrow, sandy island about two miles long from the mainland of Andros, a few miles south of Saddle-back Cay. This small island is mostly covered with a low growth of bushes on the outer side, while on its inner side, as well as on the mainland opposite, are extensive cocoanut groves, which are the home of the Northrop Oriole. A considerable part of the land near the village is under cultivation. On the mainland beyond the creek is a large muddy flat with low stunted mangroves, and back of that a strip of coppet, which gradually merges into the pine barrens covering the interior of the island.

We remained on Andros just a week, and the following Sunday (April 18) found us aboard the sponging schooner "Champion," bound for Nassau. We were obliged to run down the coast for several miles to pick up the balance of our boat's crew, but finally headed for Nassau about ten o'clock. The wind was light and ahead, however, so that we only made the west end of New Providence that evening, anchoring near Gaulin Cay for the night. Resuming our voyage the next morning, we beat slowly up to Nassau, arriving shortly after one o'clock. Our business there was quickly despatched on this occasion, and we presently found that the schooner "Jemima" was to sail for Abaco the next day, so passage was engaged with Captain Sanders, and for the first time since our arrival in the Bahamas we sailed with a white captain and crew. We left Nassau at four-thirty P.M.

on April 20, with a light breeze, passed Hole-in-the-wall Light at five-thirty the following morning, and Cherokee Sound at two P.M., and anchored for the night at Spencer's Point, opposite Pelican Harbor, shortly after four o'clock. We were advised to go to a place called "Sand Bank," on the mainland of Abaco, opposite Whale Cay, and one of the crew offered to carry us there from Green Turtle Cay, the *Jemima's* destination. An entire day (April 22) was consumed in getting from Spencer's Point to Green Turtle Cay, which we reached a little after seven in the evening, and another day in getting a boat and provisions, transferring our outfit, and making the trip to Sand Bank, which we finally reached at sundown on April 23. We moved into a palmetto shack with plenty of mosquitoes for company, and after a bite of supper crawled under our mosquito bars for some much needed rest, beginning work the following morning. The locality proved to be a good one for our purpose. There was a high ridge next the coast, taken up with an orange and sapodilla orchard, and back of this ridge a strip of thick, high coppet, with an undergrowth of ferns, which extended into the pine barrens beyond. The pine trees here were much larger than any we saw elsewhere on the islands, and afforded congenial haunts for the Bahama Pine Warbler, Cuban Warbler, Yellow-breasted Warbler, and Abaco Hairy Woodpecker. In the tops of the tall dead trees we found the Bahama Swallow nesting, while the Tanner Yellow-throat found a home among the luxuriant growth of ferns beneath. Water-birds of all kinds, however, were conspicuous by their absence.

We remained at Sand Bank until April 30, when we sailed for Spencer's Point in the small schooner "Northeaster," arriving the following day, securing accommodations with a Mr. Sweeting, near the large saw-mill plant of the Bahama Lumber Company, which gave us the advantage of long hand-car rides into the forest on the tramway line. The general aspect of the country at this point is about the same as at Sand Bank, and the avifauna quite similar. Back of the high ridge along the coast, and extending nearly to Sweeting's Village on the southeast side of the island, was the largest coppet we encountered. It was thirty or forty feet high in places, and contained many large trees, but for some reason it was exceedingly poor in bird-life.

Although the captain of the "*Jemima*" had promised to call for us Sunday or Monday, May 10, to take us to Nassau in time for the mail steamer for New York on May 13, he failed us utterly, but for-

tunately the Bahama Lumber Company's large tug "Admiral Dewey" was billed to meet the same steamer, so we engaged passage at once, and started for Nassau about seven o'clock P.M., May 12, in a howling northeaster, the captain stating it was the roughest trip he had ever made. Every available bunk and locker was occupied, and we were obliged to remain up all night, the most of which was passed on the top of the pilot-house, with a firm grip on the railing to keep from being pitched overboard. However, we reached port safely before five the next morning. The gale continued, accompanied by rain squalls, and our business in Nassau was accomplished between showers. The Ward Line steamer "Seguranca" lay in the offing, and at noon passengers and baggage were put aboard, and three hours later we swung around into our course for New York. Our last sight of Nassau was through gusts of rain, driven over a heaving sea by a northeast gale.

The details of the expedition have been given thus to show some of the discomforts and delays bound to be encountered in such a trip in the Bahamas as we undertook to make. These could be avoided only by having one's own conveyance, which would be unduly expensive, as vessels of sufficient size to insure safety would cost ten or fifteen dollars a day. Otherwise one has to take chances of getting from place to place on whatever offers, to live on the roughest kind of fare, and to mess with negroes, which, although often not over-clean, are all fine boatmen, and one is quite likely to reach his destination while in their care. I wish here to express my thanks to all natives of the Bahamas who aided us in our travels, and especially to His Excellency Sir William Grey-Wilson, Governor of the Bahamas, Captain Boddam-Whetham, Hon. W. Hart Bennett, Colonial Secretary, all of Nassau; to Mr. Charles Sargent, Acting U. S. Consul, and Mr. Frank H. Boucher of Great Inagua; to Mr. C. G. Rigby, magistrate at Watlings Island; and to Mr. Charles Lightbourne and Miss Mary Lightbourne of the Blue Hills, near Nassau, for special courtesies.

CRITICAL NOTES.

BY W. E. CLYDE TODD.

The sequence of species in the present paper is the same as in Mr. Joseph H. Riley's "List of Bahaman Birds" (in Shattuck, *The Bahama Islands*, 1905, 358-368), while the nomenclature is based

upon the American Ornithologists' Union Code. Under each species the number of specimens in the collection is specified, with the several localities represented. All measurements are in millimeters.

1. *Colymbus dominicus dominicus* Linnæus.

Five specimens: Great Inagua (Mathewtown); Watlings Island.

Only two adult specimens are included, one from each locality, and both females. They measure as follows: wing, 90 and 92; culmen, 22 and 20. After having critically studied the series upon which *Colymbus dominicus brachypterus* Chapman was based, as well as additional material from Costa Rica and Jamaica, I am strongly inclined to doubt the validity of the subspecies in question. The supposed color-characters fail to hold good; while the difference in size seems too slight and inconstant to alone justify subspecific separation. Averages are as follows:

	Wing.	Culmen.
Two males from Cuba.....	97	25.5
Two females from Cuba.....	94	21
Two females from the Bahamas.....	91	21
Eight males from Texas.....	87.5	22
Five females from Texas.....	84.3	19
Three males from Costa Rica.....	94	25
One female from Costa Rica.....	94	21

There is thus an obvious sexual difference in size, which must be taken into account in making comparisons. Examples from Costa Rica approach typical *dominicus* so closely that if *brachypterus* be deemed worthy of recognition at all it will be necessary to restrict the name to the birds from Texas and Mexico. Compare also, in this connection, the measurements given by Mr. Cory (*Birds Bahama Islands*, 1890, 222) for the Bahaman bird, as well as Messrs. Salvin and Godman's remarks on the same subject (*Biologia Centrali-Americana*, Aves, III, 1904, 443).

Both adults are in full breeding dress, with dark throats, although Mr. Ogilvie-Grant (*Catalogue Birds British Museum*, XXVI, 1898, 521) says that "the black throat *begins* to appear early in May" (*italics mine*). "Iris bright orange yellow, bill black, tip white; tarsi and toes black above, plumbeous below."

Three birds from Watlings Island, March 12, have already attained the juvenal dress, and are fully as large as adults. In these the crown is dusky, with some white mottling, obsoletely indicating median and lateral stripes; the sides of the head, however, are mottled in-

definitely with dusky and white; the throat is white, with an obsolete dusky submalar stripe; the lower parts, except the dusky sides, flanks, and upper breast, are also white, with practically none of the dusky mottling of the adult. "Iris pale brown amber; bill brownish, with lower mandible whitish, except at base."

2. **Podilymbus podiceps** (Linnæus).

Four specimens: Great Inagua (Mathewtown).

The single adult has the throat black, with a few white-tipped and wholly white feathers. The young birds are in natal plumage.

3. **Phalacrocorax vigua mexicanus** (Brandt).

One specimen: Watlings Island.

This individual is completing a moult, which involves the remiges and rectrices, as well as the feathers of the head and neck, the light-colored feathers being replaced by darker. Hence I infer that it is an immature bird moulting into adult plumage, the under parts having already become deep black.

It is surely odd that this bird has not been certainly detected on any of the other islands in the group.

4. **Fregata aquila** Linnæus.

One specimen: Great Inagua (Calefavor Pond, 6 miles east of Alfred Sound).

"Iris dark hazel."

5. **Phœnicopterus ruber** Linnæus.

One specimen: Great Inagua (Mathewtown).

This individual has numerous black feathers along the cubital edge, also dusky ones on the head and neck—doubtless remains of the immature dress.

6. **Dichromanassa rufescens** (Gmelin).

Six specimens: Great Inagua (Calefavor Pond, 6 miles east of Alfred Sound).

Of the four adults, two are in the white phase and two in the blue, one of the latter, however, showing a number of white feathers on the breast and abdomen—a condition somewhat unusual in this species, but not unknown. The two young birds, whose heads are still thickly covered with the natal down, are also in the white phase.

7. **Hydranassa tricolor ruficollis** (Gosse).

Two specimens: Great Inagua (Alfred Sound; Calefavor Pond, 6 miles east).



Only one bird fully adult, the other showing worn and faded rufous-tipped wing-coverts, which characterize the first nuptial plumage.

8. *Butorides virescens bahamensis* (Brewster).

Nine specimens: New Providence (Blue Hills); Great Inagua (Alfred Sound, Mathewtown); Watlings Island.

MEASUREMENTS OF ADULTS.

No.	Sex.	Locality.	Wing.	Tail.	Tarsus.	Culmen.
30606 ¹	♂ vix ad.	Blue Hills, New Providence.....	158	53	45	57
30740 ¹	♂ ad.	Alfred Sound, Great Inagua....	167	59	43	58
30806 ¹	♂ ad.	Alfred Sound, Great Inagua....	165	59	43	60
30859 ¹	♂ vix ad.	Mathewtown, Great Inagua....	169	57	44	61
30929 ¹	♀ ad.	Watlings I.....	163	59	40	58
99428 ²	♂ ad.	Andros	163	58	46	59
99429 ²	♂ vix ad.	Andros	148	52	39	52
99430 ²	♀ ad.	Andros	164	57	49	57
8 adult males from eastern U. S., average.....			179	65	51	61

The difference in size between this form and true *virescens* is evident from the above table, while the color-differences are obvious upon comparison, the Bahaman bird being decidedly paler. Granted that these differences are of subspecific value, the relationship of the present form to the bird of the West Indies and Central America remains to be considered. Mr. Riley has separated the West Indian bird under the name *maculata* of Boddaert (*Smithsonian Miscellaneous Collections*, Quarterly Issue, XLVII, 1904, 278), giving as characters the smaller size, more plumbeous crest, and less pronounced and less tawny edgings to the wing-coverts. Messrs. Thayer and Bangs, however, commenting on this statement (*Bulletin Museum Comparative Zoölogy*, XLVI, 1905, 143), find the color-characters unstable, and are furthermore unable to separate Bahaman birds from those from the other West Indian Islands. They adopt the name *maculata* to cover all specimens from the Bahamas, Greater and Lesser Antilles, Central America, and continental South America, taking size alone as the criterion for separation. But after comparison of considerable material from Central America and Colombia I cannot verify the alleged difference in this respect. Colombian specimens, indeed, average larger if anything, and I should unhesitatingly refer the entire series to true *virescens*. A series of adults selected at random from several of the more northern West Indian islands seems to differ from

¹ Collection Carnegie Museum.

² Collection American Museum Natural History.

United States specimens in being slightly more brownish on the abdomen, while their average size is a trifle less, but these differences seem scarcely worthy of nomenclatural recognition. They are quite distinct from the Bahaman bird, however. The pale color of the latter Messrs. Thayer and Bangs attribute to bleaching in an arid habitat, and they furthermore belittle the value of color-characters in this species. The present series tends to invalidate this objection, since all the specimens are in comparatively fresh plumage; moreover, the young birds differ in the same way. It may be added that every one of the Bahaman birds shows decidedly broader edgings to the wing-coverts than any continental examples seen, although this is well known to be an extremely variable character in this species.

Adult: "iris straw-color; legs pale yellowish."

Young (No. 30804), still showing remains of the natal down adhering to the crown and back feathers: "iris pale straw-color; bill pale yellowish horn, base and culmen blackish; naked skin at base, and feet and legs, pale yellowish green." This individual, from Alfred Sound, Great Inagua, February 15, indicates that the species breeds very early in the season. Another specimen, from Mathewtown, February 24, is marked as having the testes much enlarged, and evidently breeding or about to do so, although it has not yet acquired the adult nuptial plumage, which is indicated merely by a few of the long green dorsal feathers just coming in, and grayish feathers on the abdomen. A bird from New Providence, January 1, is somewhat further advanced.

9. *Nycticorax nycticorax nævius* (Boddaert).

Four specimens: Great Inagua (Calefavor Pond, 6 miles east of Alfred Sound).

All young birds in the streaked plumage, with remains of the natal down still adhering to the crown feathers. The species must nest very early in the season. "Iris yellow; legs pale greenish."

10. *Nyctanassa violacea* (Linnæus).

Two specimens: Great Inagua (Calefavor Pond, 6 miles east of Alfred Sound); Watlings Island.

11. *Ajaia ajaja* (Linnæus).

Five specimens: Great Inagua (Calefavor Pond, 6 miles east of Alfred Sound).

In a chick only a few days old, and covered with pure white down,

the characteristic form of the bill is already manifest. The adults are all in high plumage, with bright crimson lesser wing-coverts and upper and under tail-coverts. Comparison of a series of this species discloses a considerable sexual difference in size, particularly marked in the bill, which in the male is decidedly longer and with a broader tip.

12. **Pœcilonetta bahamensis** (Linnæus).

Three specimens: Watlings Island.

Adult: "iris red; bill plumbeous, olive-tinged above, with basal patch crimson; feet olive."

A young bird (No. 30939, Watlings Island, March 23) is assuming the juvenal dress, and already resembles the adult below. In the downy stage the general color is dull brown, with a white stripe on the flanks and an illy-defined pale superciliary stripe. The throat and cheeks are white also, as in the adult. "Iris light hazel; feet smoky drab; bill-spot brownish."

13. **Colinus virginianus floridanus** (Coues).

Five specimens: New Providence (Blue Hills).

After carefully comparing these specimens with examples from peninsular Florida I find myself unable to appreciate any of the characters pointed out either in the original description of *Colinus "bahamensis"* (Maynard, *Appendix to Catalogue of the Birds of the West Indies*, 1899) or by Mr. Cory (*Auk*, IV, 1887, 225), although I have examined the latter's original material in this connection. Every one of the distinctive features which are urged by these authors occur as well in numerous individuals of the Florida bird. Moreover, the species is said to have been introduced, and the fact that it occurs on New Providence alone of all the islands in the group renders it practically certain that such was actually the case. Under these circumstances I can see no further reason for maintaining the Bahaman bird as a recognizable form, and it should accordingly stand as above.

14. **Rallus crepitans coryi** Maynard.

Nine specimens: Watlings Island; Andros (Staniard Creek).

TABLE OF AVERAGE MEASUREMENTS.

	Wing.	Culmen.	Tarsus.
<i>R. c. crepitans</i> , two males.....	150	61	51
<i>R. c. waynei</i> , three males.....	135	63	51
<i>R. c. coryi</i> , four males.....	149	61	51
<i>R. c. crepitans</i> , five females.....	137	59	45
<i>R. c. waynei</i> , four females.....	135	60	47
<i>R. c. coryi</i> , five females.....	139	56	46
<i>R. c. coryi</i> , type.....	139	53	44

Mr. Worthington's success in securing a series of this rail, which is one of the most difficult of Bahaman birds to collect, renders it possible for the first time to make adequate comparisons to determine its status. In addition to the above specimens, I have studied in this connection the material in the American Museum and the Field Museum. The present form is strikingly different from its nearest mainland representative, *R. c. waynei*, being decidedly paler in general coloration. It is in fact nearer *R. c. crepitans* of the Atlantic coast from Virginia northward, but is obviously paler. The difference in measurements between these forms is inconsequential, although *R. c. waynei* seems to average a trifle smaller than either of the others, with a slightly longer bill. The type specimen of *coryi*, which I have examined, although marked a male, is almost certainly erroneously sexed, so that Mr. Sennett's diagnosis of this as a short-billed form is misleading. Neither has it anything to do with any of the forms of *R. longirostris*, as he seems to intimate (*Auk*, VI, 1889, 163). In making comparisons in this group care must of course be taken to choose specimens in the same condition of plumage, as wear and fading cause great changes. Bahaman individuals taken from April to June are very pale indeed, in some cases being buffy white below.

In all probability all the Bahaman records for *crepitans* refer to the present form, whose previously known range is considerably extended by Mr. Worthington's investigations.

"Iris reddish brown; bill orange brown, culminal ridge and tip blackish, feet pale brownish orange" or "olive gray."

15. ***Porzana carolina*** (Linnæus).

Two specimens: Great Inagua (Mathewtown).

16. ***Gallinula galeata galeata*** (Lichtenstein).

Three specimens: Great Inagua (Mathewtown).

One bird is in first nuptial plumage, the frontal shield being small, and the throat mottled with white.

17. ***Pisobia minutilla*** (Vieillot).

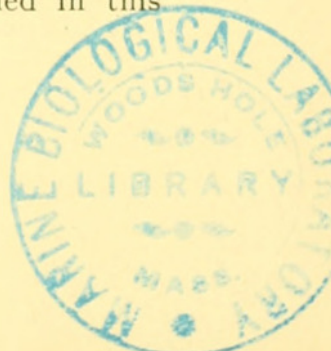
Three specimens: New Providence (south coast); Great Inagua (Alfred Sound).

These are all in full winter dress, with no sign of prenuptial moult.

18. ***Helodromas solitarius solitarius*** (Wilson).

One specimen: Great Inagua (Mathewtown).

This specimen is not matched by any others examined in this



connection. It is evidently not in winter dress, for the crown and breast are distinctly streaked. The spotting above is buffy, however, as in winter, and there is a buffy suffusion on the breast also. The body-plumage appears worn, which ought not to be the case if the bird had just passed through a prenuptial moult.

19. **Squatarola squatarola** (Linnæus).

One specimen: Great Inagua (Alfred Sound).

An adult in full winter plumage, with no sign of prenuptial moult, although the freshness of some of the body-feathers in contrast with the general plumage suggests that they have been recently renewed.

20. **Oxyechus vociferus rubidus** Riley.

One specimen: Great Inagua (Mathewtown).

Compared with four winter specimens from Florida, this bird is noticeably smaller in size, the wing measuring only 150 mm., while in two Florida females it is 162 and 168 mm. respectively. In general coloration the Great Inagua bird is paler, with the rusty edgings of the upper parts more pronounced. It agrees well in these respects, however, with summer specimens from Jamaica and Cuba, and evidently belongs to the form renamed as above by Mr. Riley (*Proceedings Biological Society of Washington*, XXII, 1909, 88). Examination of a considerable series of summer adults from Great Inagua in the collection of the Field Museum abundantly confirms the conclusion just announced. Owing, however, to the peculiar makeup of the skins satisfactory wing-measurements cannot be taken, but the general difference in size between these birds and United States specimens is obvious at a glance. The amount of rusty feather-edging is a more variable character. The form under consideration seems clearly entitled to recognition, although I have been unable to discover any other recent references bearing on its subspecific discrimination. It is of course not surprising to find that this is the form inhabiting Great Inagua, which is so near the West Indies proper, but several skins from Watlings Island (in the Field Museum collection) and at least one from Eleuthera (No. 36511, Rock Sound, November 15, 1891), obviously belonging to the same small race, raise an interesting question regarding its occurrence on the other islands of the group. True *vociferus* is found as a winter resident throughout the range of the present form.

21. **Ægialitis semipalmata** (Bonaparte).

Two specimens: Great Inagua (Alfred Sound).

Both are apparently immature birds, with the plumage rather worn and faded, showing no traces of paler feather-edgings, but as yet no indications of prenuptial moult.

22. *Octhodromus*¹ *wilsonius wilsonius* (Ord).

Three specimens: Watlings Island.

These specimens (all males) exhibit a very decided suffusion of rusty ochre on the nape and sides of the head, so pronounced, indeed, as to have rendered further comparisons desirable in order to ascertain their status. Examination of a considerable series from various United States localities discloses the fact that a certain proportion of the individuals show this coloration, supposed to be characteristic of *O. w. rufinucha* (Ridgway), to a greater or less extent. Indeed, the type of this form, which has been examined in this connection, is no more rufescent than many of the northern specimens, and in my opinion is nothing more than a migrant from the north. No unquestioned resident birds from Jamaica (the type locality of *rufinucha*) have been seen, but Mr. Hellmayr (*Abhandlungen der K. Bayer. Akademie der Wissenschaften*, XXII, 1906, 715) states that birds from Jamaica and Trinidad agree in being readily distinguishable from true *wilsonius*, and a series from the Dutch West Indies in the Field Museum which I have studied bears out this conclusion. The differential characters of the two forms stand out more clearly in the female sex, in which the sides of the head and the pectoral collar are much more rusty in the series in question than in any of the United States examples, but the alleged difference in the color of the lores does not hold good. But whether the name *rufinucha* can properly be applied to this form is open to question, as I have already intimated. The matter is complicated by our lack of precise knowledge regarding the winter range of the two forms (*cf.* Cooke, *Bulletin Biological Survey*, No. 35, 1910, 93, 94). Mr. Hellmayr, in the paper before referred to, insists that the type of *Charadrius crassirostris* Spix belongs to the northern form—a conclusion in my judgment open to grave doubt, if for no other reason than the unlikelihood of *wilsonius* ever migrating so far south in winter as Brazil.

¹ Mr. Gregory M. Mathews, in two recent papers published in the *Novitates Zoologicae*, proposes a large number of changes in generic terms, *Eupoda*, for example, replacing *Octhodromus*. Several other names used in the present paper are also affected, but pending the verification of the proposed changes none of them are formally adopted here.

There is a specimen in the Carnegie Museum (No. 8887) from Buritaca, Colombia, September 18, 1899, which is an exact counterpart of Spix's description and plate, and I suspect is an immature bird of the resident form. In this view of the case, the subspecies of the Wilson Plover breeding in South America and the Antilles would stand as *Octhodromus wilsonius crassirostris* (Spix). All Bahaman skins so far examined belong to true *wilsonius*.

23. ***Arenaria interpres morinella*** (Linnæus).

One specimen: Great Inagua (Alfred Sound).

This individual is still (February 12) in winter dress.

24. ***Columba leucocephala*** Linnæus.

Five specimens: New Providence (Blue Hills); Abaco (Sand Bank).

Two of the New Providence examples have the dull grayish crown said to be characteristic of the immature bird, but in all three skins many of the old and worn brownish feathers have been replaced with fresh bluish slate feathers, especially in the case of the scapulars, wing-coverts, and remiges. It would appear, however, that this moult is not complete, as I can find no evidence of actual replacement going on (that is, growing feathers in sheaths), and the two Abaco birds (both females, however), although taken so much later in the season, show the same condition, some of the feathers being quite fresh while others are obviously worn.

"Iris white; cere and feet crimson."

25. ***Zenaida zenaida*** (Bonaparte).

Twelve specimens: Great Inagua (Alfred Sound); Watlings Island; Abaco (Sand Bank, Spencer's Point).

Considerable individual variation exists in the color-pattern of the middle rectrices, which in some specimens are immaculate brown, while in others they show a well-defined dusky bar, with every intermediate degree between these two extremes of style. One individual is albinous in this part, the two middle rectrices and some of the upper tail-coverts being mottled and clouded with white.

"Feet dark (or pale) crimson; iris dark hazel."

26. ***Chæmepelia passerina bahamensis*** (Maynard).

Six specimens: New Providence (Blue Hills).

Mr. Maynard's name *bahamensis* was based on birds from New Providence (*cf.* Bangs, *Auk*, XVII, 1900, 286), which are obviously smaller and paler than Florida examples—but not so pale as *C. p.*

pallescens, as stated by Mr. Riley (in Shattuck, *The Bahama Islands*, 1905, 352)—while the bill is wholly dark (in the dry skin; unfortunately the colors when fresh are not stated).

27. ***Chæmepelia passerina exigua*** (Riley).

Ten specimens: Great Inagua (Alfred Sound, Mathewtown).

This series differs from the New Providence birds in smaller size and decidedly paler coloration, averaging paler even than *C. p. pallescens*. Upon comparison they prove to be referable to the form from Mona Island, Porto Rico, described by Mr. Riley as *Columbigallina passerina exigua* (*Proceedings United States National Museum*, XXIX, 1905, 171). The discovery that two readily separable but intergrading forms of the Ground Dove inhabit the Bahama Islands is in line with other facts of distribution already known, and will be discussed more fully in another connection.

There is a young bird in juvenal dress from Mathewtown, February 26, indicating that the species breeds very early.

28. ***Falco columbarius columbarius*** Linnæus.

One specimen: New Providence (Blue Hills).

29. ***Amazona leucocephala bahamensis*** (Bryant).

Six specimens: Acklin Island (Pompey Bay).

"Iris grayish yellow; bill white; feet yellow."

The present series, secured by Mr. Worthington after strenuous efforts, taken in connection with the specimens in the American and the Field Museums, has afforded a fair basis for determining the status of this form, whose standing as a subspecies has been considered doubtful. First, as regards relative size, the following table of measurements gives the necessary data:

No.	Sex.	Locality.	Wing.	Tail.	Culmen.	Depth of Bill.
30888 ¹	♀	Pompey Bay, Acklin I.	201	123	29	32
30889 ¹	♂	Pompey Bay, Acklin I.	210	129	32	33
30890 ¹	♂	Pompey Bay, Acklin I.	211	132	30	33
30891 ¹	♀	Pompey Bay, Acklin I.	203	124	28	32
30892 ¹	♀	Pompey Bay, Acklin I.	205	125	29	30
30893 ¹	♂	Pompey Bay, Acklin I.	208	127	—	33
16191 ²	♀	Northeast Point, Great Inagua.	199	125	29	29
16977 ²	♂	Mare Pond, Great Inagua.	200	118	30	30
16979 ²	♂	Mare Pond, Great Inagua.	196	124	29	—

¹ Collection Carnegie Museum.

² Collection Field Museum.

The three Great Inagua birds were collected in June and July, and being somewhat worn they naturally average a little less in length of wing and tail. Following are the measurements of Cuban examples of *Amazona leucocephala leucocephala*:

No.	Sex.	Locality.	Wing.	Tail.	Culmen.	Depth of Bill.
57294 ³	♀	Trinidad, Cuba.....	188	107	25	29
57295 ³	♀	Trinidad, Cuba.....	184	108	24	27
57296 ³	♀	Trinidad, Cuba.....	184	107	26	28
57297 ³	♂	Trinidad, Cuba.....	196	104	26	28.5
4634 ²	♂	———, Cuba.....	187	104	26	29
—— ²	♂	Yateras, Cuba.....	180	99	24	27
—— ²	♀	Yateras, Cuba.....	180	103	24	26

Allowing for an obvious sexual difference in size, the Bahaman birds are thus considerably larger than those from Cuba, with a much heavier bill. In color the respective series differ as follows: in the Bahaman bird the abdominal purplish red patch is more restricted, the white crown-patch extends farther back, and the red area at the base of the outer rectrices is duller and smaller, the color being mostly confined to a strip along the shaft on the inner web. In the Cuban bird this red area is sometimes mixed with yellow. None of the Bahaman examples, however, show any red on the under wing-coverts, and I am at a loss to know what Mr. Cory means by this phrase in his description (*Birds of the West Indies*, 1889, 183), but all show a few pinkish or yellowish feathers bordering the white crown behind. Besides being smaller, females differ from males in having less red on the rectrices, while all the subspecific characters are accentuated, and the red area of the throat seems larger than in Cuban birds. While Great Inagua specimens perhaps have a little more red below than those from Acklin Island, on the whole the Bahaman series is quite uniform, and suffices to demonstrate the validity of *bahamensis* as a subspecies. Were there no such striking color-differences, the larger size alone would be diagnostic. The form described from Grand Cayman by Mr. Cory (*Auk*, III, 1886, 497), under the name *Chrysotis caymanensis*, I find upon examination ought probably to stand as a third subspecies, *Amazona leucocephala caymanensis*.

30. *Crotophaga ani* Linnæus.

Eight specimens: New Providence (Blue Hills); Andros (Staniard Creek); Abaco (Spencer's Point).

"Iris dark hazel."

² Collection Field Museum.

³ Collection American Museum.

Saving only the single Andros specimen, the above birds are all in a curiously mixed plumage, the result perhaps of a partial moult, some of the feathers being old and worn and brown, while adjacent feathers are new and bright, although fully grown. This condition, which may be noticed in other species of this family, affects not only the body-plumage, but the remiges and rectrices and their coverts as well, apparently in no particular order, as is the case in a "regular" moult.

31. *Saurothera bahamensis bahamensis* Bryant.

Six specimens: New Providence (Blue Hills).

"Iris light hazel; skin over eye, and edge of lower eyelid, scarlet vermilion; feet bluish horn."

MEASUREMENTS.

No.	Sex.	Locality.	Wing.	Tail.	Culmen.	Depth of Bill
30573	♀	Blue Hills, New Providence.....	158	242	58	13.5
30642	♂	Blue Hills, New Providence.....	154	242	50	12.5
30643	♂	Blue Hills, New Providence.....	157	254	55	12
30678	♀	Blue Hills, New Providence.....	147	235	51	12
30713	♀	Blue Hills, New Providence.....	159	260	55	14
30714	♀	Blue Hills, New Providence.....	159	263	55	14

It will be noted that the series, taken as a whole, shows considerable individual variation in size, one specimen being as small as the form from Andros. Although all of these birds are in comparatively fresh plumage, none have tails measuring up to those given by Mr. Miller (*Auk*, XI, 1894, 165).

32. *Saurothera bahamensis andria* Miller.

One specimen: Andros (Staniard Creek).

"Iris hazel; skin around eye scarlet vermilion, except white spot directly under eye."

Besides the above specimen, I have examined one skin in the American Museum and three in the Field Museum, the series measuring as follows:

No.	Sex.	Locality.	Wing.	Tail.	Culmen.	Depth of Bill.
30994 ¹	♂	Staniard Creek, Andros.....	150	238	50	13
76561 ²	♂	Andros.....	150	240	50	13
6685 ³	♂	Andros.....	154	262	48	12.5
6686 ³	♀	Andros.....	143	243	49	14
12540 ³	♀	Andros.....	155	255	50	15

¹ Collection Carnegie Museum.

² Collection American Museum.

³ Collection C. B. Cory, in Field Museum.

The characters originally ascribed to this form by Mr. Miller (*Auk*, XI, 1894, 164) seem to apply to these specimens, but I cannot regard them as being of more than subspecific value. As has been pointed out above, some individuals of *S. b. bahamensis* are fully as small, with small bills likewise. The general colors of *S. b. andria*, however, are a shade darker, especially below, while the rufous chestnut of the wings externally is more prominent.

33. ***Coccyzus minor maynardi*** Ridgway.

Twelve specimens: Great Inagua (Mathewtown); Watlings Island; Abaco (Spencer's Point).

"Iris dark hazel; rim of eyelids yellow; rest of bare skin lead-colored; feet light gray."

Some slight variation is exhibited in the depth of the buffy of the under parts, but the series as a whole shows a very constant difference in this respect from a similar series from the Greater Antilles, which Mr. Riley (*Smithsonian Miscellaneous Collections*, Quarterly Issue, XLVII, 1904, 285) calls *Coccyzus minor nesiotes* (Cabanis and Heine). To this statement there is one conspicuous exception; a female from Abaco (No. 31137), which is indistinguishable in size and coloration, so far as I can see, from San Domingo examples, being fully as richly colored beneath. In the large series of this species in the collection of the Field Museum there are several specimens showing a similar richness of color, notably two from Andros (Nos. 12377 and 12379), while examples from the Caicos Islands are also rather deeply colored. Whether such individuals actually represent true *nesiotes*, which is said to straggle northward occasionally to Florida, or are merely abnormally dark-colored examples of the resident Bahaman bird, is an undecided question.

34. ***Dryobates villosus maynardi*** Ridgway.

Ten specimens: New Providence (Blue Hills); Andros (Staniard Creek).

This fine series exhibits the distinctive subspecific characters with remarkable uniformity. All the specimens have a slight brownish wash on the breast, approaching some of the Pacific Coast forms of this species in this respect. The scarlet nuchal crescent of the male is remarkable for its brilliancy and width, showing little tendency to divide medially, as is so markedly the case in *D. v. auduboni*, the nearest mainland form. In almost every specimen there are a few scattered white feathers on the fore part of the crown. A female from New

Providence (No. 30589) has a couple of black spots on one of the outermost rectrices, indicating a variation in the direction of the following form.

35. ***Dryobates villosus piger*** Allen.

One specimen: Abaco (Sand Bank).

The characters claimed for this form are obvious in the case of the present example. It measures as follows: wing 102 mm.; tail 61; exposed culmen, 24.

36. ***Sphyrapicus varius varius*** (Linnæus).

Three specimens: New Providence (Blue Hills); Great Inagua (Mathewtown); Watlings Island.

Three different plumages are represented. The New Providence bird is an immature female, with a sprinkling of red feathers on the crown; the Watlings Island bird (March 27) is an immature female which has nearly completed the first prenuptial moult; while the example from Great Inagua is an adult male in full plumage.

37. ***Centurus nyeanus nyeanus*** Ridgway.

Nine specimens: Watlings Island.

"Iris red brown; bill black; feet pale olive."

The acquisition of this fine series of a bird at one time presumed to be extinct (*cf.* Nye, *Auk*, XVI, 1899, 273), but more recently (1903) detected by Mr. Riley (*cf.* *Auk*, XX, 1903, 434), enables its characters and relationships to be determined with more precision than heretofore. In the first place, in my judgment Mr. Riley has gone too far in reducing the Bahaman forms to subspecies of the Cuban *Centurus superciliaris* (*cf.* *Auk*, XXII, 1905, 355), as I shall endeavor to show further on, and in any event *C. n. nyeanus* would seem the least closely related to the Cuban species of all three forms. Compared with *C. n. blakei*, of which a good series of both sexes is available, its differential characters are more obviously of a subspecific nature. Taking up the males first, we find that the principal differences are as follows: in *nyeanus* the frontal feathers are crimson, scarcely paler than the crown and nape, while in *blakei* this frontlet is very pale, in some examples being merely tinged with crimson. The black postocular spot, which is very small or absent in *nyeanus*, is large and prominent in *blakei*, reaching backward almost even with the hinder margin of the auriculars. In the females the first-named difference also holds good, while the latter one is even more pronounced, the black postocular

spot being confluent behind with a black band on the crown in *blakei*, while in *nyeanus* this black is almost wholly concealed by the brownish white feather-tips. The crimson nuchal crescent is not so broad in the females of *blakei*, while in both sexes of the latter the abdominal red averages less in extent. There is practically no difference in size, nor yet in general color, the differences of such a nature as were indicated in the original description not holding good in the present series. However, the type of *nyeanus*, which I have consulted in this connection, is not only much whiter about the head, but also has a larger black postocular spot than any of the specimens now before me; and is misleading to that extent, the real differentiating characters being those I have specified.

MEASUREMENTS.

No.	Sex.	Locality.	Wing.	Tail.	Culmen.	Tarsus.
30900	♂	Watlings I.....	129	90	34	21
30913	♂	Watlings I.....	125	88	33.5	21
30919	♂	Watlings I.....	125	82	33	20
30934	♂	Watlings I.....	127	88	31	23
30937	♂	Watlings I.....	130	94	33	22
30945	♂	Watlings I.....	130	94	33.5	22
30907	♀	Watlings I.....	129	89	28.5	20
30914	♀	Watlings I.....	125	93	30	20
30926	♀	Watlings I.....	129	91	28	21

38. *Centurus nyeanus blakei* Ridgway.

Eight specimens: Abaco (Sand Bank, Spencer's Point).

"Iris deep brown-red; bill black; feet grayish horn."

MEASUREMENTS.

No.	Sex.	Locality.	Wing.	Tail.	Culmen.	Tarsus.
31051	♂	Sand Bank, Abaco.....	133	85	31	19
31101	♂	Spencer's Point, Abaco.....	130	89	31	20.5
31124	♂	Spencer's Point, Abaco.....	129	89	32	22
31150	♂	Spencer's Point, Abaco.....	127	92	32	20
31066	♀	Sand Bank, Abaco.....	128	87	27	20
31102	♀	Spencer's Point, Abaco.....	129	90	29	22
31125	♀	Spencer's Point, Abaco.....	127	86	28	20
31149	♀	Spencer's Point, Abaco.....	130	89	27	20

In conformity with the previous discussion, this form should stand as above. The present series is quite constant, as is also the type series, which has been studied in this connection.

The Cuban *Centurus superciliaris*, besides being much larger than any of the Bahaman forms, averages much whiter on the wings, sides

of head, and middle rectrices, and seems specifically distinct, if equal weight be attached to characters deemed of specific value in other woodpeckers of this genus. Of the three Bahaman forms, that from Great Bahama, which must be called *C. nyeanus bahamensis* Cory, is oddly enough nearest the Cuban bird in color, although farthest removed therefrom geographically. Thus, it is more decidedly tinged with yellowish green both above and below, and has more red on the abdomen, but this red is pinkish, not vermilion as in the other forms. It resembles *blakei* in having a decided black postocular spot, and *nyeanus* in having a frontlet of deeper red, but differs from both in having a very decided tinge of yellowish green on the back, as above noted. Three specimens in the Field Museum measure as follows:

No.	Sex.	Locality.	Wing.	Tail.	Culmen.	Tarsus.
20345	♀	Great Bahama.....	128	92	28	22
20346	♂	Great Bahama.....	132	92	30	24
20349	♂	Great Bahama.....	124	90	29	22

The distribution of the Bahaman *Centuri* is very curious, as they are apparently absent on certain islands where conditions seem favorable for their existence.

39. **Nesophlox¹ evelynæ** (Bourcier).

Seven specimens: New Providence (Blue Hills); Andros (Staniard Creek); Abaco (Sand Bank).

40. **Nesophlox lyrura** (Gould).

Twelve specimens: Great Inagua (Alfred Sound, Mathewtown).

The series includes two immature males, distinguished by the presence of a few glittering purple feathers on the throat, the plumage otherwise resembling that of the female.

41. **Riccordia ricordii æneoviridis** Palmer and Riley.

Ten specimens: Andros (Staniard Creek); Abaco (Sand Bank, Spencer's Point).

The three birds from Andros are slightly smaller than those from Abaco, and the single male is somewhat more brightly colored. The examination of additional material, placed at my disposal by Mr. Bangs, fails to substantiate the supposed distinction, however. Indeed, the brightest male examined is one from Elbow Cay, Abaco (No. 14973, Bangs Collection), showing some coppery-bronze feather-tipping

¹ Cf. Ridgway, *Proceedings Biological Society of Washington*, XXIII, 1910, 55.

both above and below. Mr. Bangs' birds were all taken in July and August, which may possibly account for their more brilliant coloration. Mr. Riley has kindly compared both series with the type of *R. r. bracei* of New Providence, at present unique. This specimen is a mummy, with the wings and tail being renewed by moult, while "the green of the throat is quite different from Abaco birds; it comes near a silvery chromium green, in some lights inclining to oil green." Altogether it is different from any other Bahaman specimen examined, but that it is anything more than an abnormal specimen of the ordinary Bahaman bird I very much doubt. New Providence has been more thoroughly explored than any other island of the group, and no other examples have come to light. The distinctness of the Bahaman bird from that of Cuba has also been questioned, but not having actually compared them I accept for the present the name *æneoviridis* for the former, while at the same time venturing the prediction that they will prove to be practically identical, as contended by Mr. Bonhote.

42. ***Tyrannus dominicensis dominicensis*** (Gmelin).

Twelve specimens: Watlings Island; Abaco (Spencer's Point).

The fresh condition of the plumage in this series indicates a pre-nuptial moult recently completed, some examples still retaining, however, old and worn tertials, which the moult has apparently passed by.

43. ***Tolmarchus bahamensis*** (Bryant).

Nine specimens: New Providence (Blue Hills); Andros (Staniard Creek).

Although no signs of moult going on are visible in any of this series, some individuals are duller and more worn, with the crown-patch more restricted and duller. These are characters supposed to belong to the females, but it seems possible that they may indicate immaturity instead. The example from Andros, taken three months later, is still more worn and faded.

44. ***Myiarchus sagræ lucaysiensis*** (Bryant).

Thirteen specimens: New Providence (Blue Hills); Great Inagua (Mathewtown); Andros (Staniard Creek); Abaco (Sand Bank).

This is merely a slightly differentiated subspecies of the Cuban *M. sagræ*, averaging grayer above, with less contrast between the crown and back—a feature quite marked in the Cuban bird. There is no appreciable difference in size, however. Regarding the yellowish suffusion of the posterior under parts, there can be no question but

that it is a seasonal feature, characteristic of the fresh plumage, and fading with the advance of the breeding season. Although conspicuous in both the New Providence and Great Inagua birds, it is barely indicated in the specimens from Andros and Abaco, and I find precisely parallel changes in a series of the allied form from Cuba.

45. ***Blacicus bahamensis*** (Bryant).

Twelve specimens: New Providence (Blue Hills); Andros (Staniard Creek); Abaco (Sand Bank).

The examples from Andros and Abaco, being more or less worn and faded, have almost entirely lost the yellowish suffusion of the under parts, so obvious in the fresh-plumaged specimens from New Providence, while the grayish white edgings of the secondaries have also become obsolete. These changes are the same as take place in the last species, as above noted.

While I follow Mr. Ridgway in recognizing *Blacicus*, it is difficult to see any good reason for its separation from *Myiochanes*, judging from the present species alone.

46. ***Mimus polyglottos polyglottos*** (Linnæus).

One specimen: Abaco (Spencer's Point).

In common with Messrs. Cory, Allen, and Ridgway, I find that the Mockingbird of the northern Bahamas, represented by the above specimen, is clearly referable to the continental form. The specimen in question is somewhat worn, but agrees well in color and size with a Florida example in similar condition, especially as regards the tail-pattern. It measures: wing 115 mm.; tail 122; culmen 18.

47. ***Mimus polyglottos orpheus*** Linnæus.

Twelve specimens: Great Inagua (Alfred Sound, Mathewtown).

Compared with *M. p. polyglottos*, the Great Inagua bird, by reason of its decidedly smaller size, whiter under parts, and more extensively white tail, would seem to be sufficiently distinct to stand as a full species, but its distinctness from the other Antillean forms is open to question. After examining the fine series of West Indian Mockingbirds in the Field Museum, as well as considerable additional material in other collections, I am very doubtful as to the propriety of recognizing more than one form. The characters relied on by Mr. Ridgway to separate *orpheus*, *dominicus*, and *elegans* from each other prove upon comparison to be all very subtle and more or less inconstant—the relative proportions, relative amount of white on the wings and tail,

etc., all varying in the series from Great Inagua, Porto Rico, and Haiti to such an extent that I fail to see the desirability of keeping the birds from these islands separate on such flimsy grounds. Inagua birds, however, *average* smaller, with a relatively shorter tail, usually about equal to the wing, and as a rule have slightly less white at the base of the primaries, and while, as before remarked, all these differences are subtle and inconstant, they would seem to entitle the present birds to subspecific rank rather more than do the characters ascribed to those from Haiti, for instance. As in *M. p. polyglottos*, males average more white on the innermost primary and third rectrix than do females. I do not think that much dependence can be placed in the color of the upper parts, as this is greatly influenced by wear and fading.

A specimen in juvenal dress (February 24) resembles the same stage of *M. p. polyglottos*, but is obviously smaller, while the outer rectrices are clouded with dusky at the tip. It is marked "iris gray; gape pale yellowish; bill and feet blackish." In adults the iris is "amber yellow" or "brown amber."

48. ***Mimus gundlachii gundlachii*** Cabanis.

Twenty-one specimens: New Providence (Blue Hills); Great Inagua (Alfred Sound, Mathewtown); Andros (Staniard Creek).

After a careful study of this series of finely prepared and fairly comparable specimens I can find no differences whatsoever that would justify the recognition of a subspecies "*bahamensis*." There is certainly no constant difference in color, and the average difference in size between the Great Inagua and Andros birds is a negligible quantity. A series from both Eleuthera and Great Inagua in the Field Museum vary considerably in color, some being much browner than others. Under such circumstances I can see nothing in the subspecific distinctions sought to be established, at least on the assumption (almost certainly justified) that Great Inagua examples are typical *gundlachii*.

A specimen from Andros, April 14, has badly diseased feet, the tarsi having horny flap-like growths one-half inch wide attached to their posterior face, though the bird was said to be fat and otherwise in good condition.

"Iris amber brown, brownish yellow, or dark amber; feet blackish horn."

49. ***Dumetella carolinensis*** (Linnæus).

Two specimens: New Providence (Blue Hills); Abaco (Sand Bank).

Both examples are in perfectly fresh plumage, even the Abaco specimen, although taken so late in the season as April 28, showing no sign of wear or fading, as do birds taken in the United States at this season.

50. **Margarops fuscatus fuscatus** (Vieillot).

Thirteen specimens: Great Inagua (Alfred Sound); Watlings Island. "Iris pale straw-color; bill and feet light brownish horn."

The white edgings to the tertials, so conspicuous in fresh-plumaged birds, such as those from Great Inagua in the present series, are very evanescent, and are soon lost by wear, having almost disappeared in the specimens from Watlings Island.

51. **Mimocichla plumbea** (Linnæus).

Twelve specimens: New Providence (Blue Hills); Abaco (Sand Bank).

Individuals in first nuptial plumage may be readily distinguished by the worn and brownish primaries, secondaries, and primary-coverts, in contrast with the fresher wing-coverts, tertials, and body-plumage, indicating a prenuptial moult involving these parts. The rectrices are possibly also affected, as they are much fresher in some specimens than in others.

52. **Polioptila cærulea cærulea** (Linnæus).

Fourteen specimens: New Providence (Blue Hills); Great Inagua (Alfred Sound, Mathewtown); Abaco (Sand Bank, Spencer's Point).

After very careful critical study of an ample and comparable series of specimens of most excellent quality, I confess my inability to discriminate the supposed subspecies "*cæsiogaster*." It is quite true that the examples from New Providence and Great Inagua may represent winter migrants from the United States, but this cannot be said of the six specimens from Abaco, one of which is marked as a breeding bird which would have laid within a few days. These Abaco specimens do not differ in any perceptible respect (allowing, of course, for their slightly more worn condition) from the rest of the series, nor from birds from Florida and Pennsylvania, unless it is considered that a wing-measurement averaging two millimeters less is a difference of subspecific value. It is therefore necessary to reduce *P. c. cæsiogaster* to a synonym of *P. c. cærulea*.

The Great Inagua specimens show more or less feather-renewal about the head and throat, which is of course to be considered as a prenuptial moult.

53. *Vireosylva calidris barbatula* (Cabanis).

Twelve specimens: Andros (Staniard Creek); Abaco (Sand Bank, Spencer's Point).

54. *Vireo griseus griseus* (Boddaert).

One specimen: Andros (Staniard Creek), April 14.

The first Bahaman record for this species, although one not unexpected. Whether it represents a resident or a migrant bird, or is merely a straggler, is an open question. The specimen agrees well with examples from Florida referable to this form.

55. *Vireo crassirostris crassirostris* (Bryant).

Twenty-nine specimens: New Providence (Blue Hills); Great Inagua (Alfred Sound, Mathewtown); Andros (Staniard Creek).

"Iris gray; feet and bill dark plumbeous, with base of lower mandible paler."

Lanivireo crassirostris was originally described from New Providence, and the type specimen (now in the collection of the U. S. National Museum) is an individual about midway between the extremes of color exhibited by the series from this island (*cf.* Bangs, *Auk*, XVII, 1900, 289). In 1886 Mr. Cory described a vireo from Grand Cayman under the name *Vireo alleni* (*Auk*, III, 1886, 500), to which species he later (*Catalogue West Indian Birds*, 1892, 153) referred all his bright-colored examples from various islands of the Bahaman group, indicating also that many specimens were intermediate in their characters. Meanwhile, however, Mr. Ridgway had described the bright-colored Bahaman bird as *Vireo crassirostris flavescens* (*Manual North American Birds*, 1887, 476), stating that, "although occurring together with true *V. crassirostris* on several islands, this form occurs exclusively on Rum Cay and Concepcion Island, while only the true *V. crassirostris* is found on Abaco and New Providence." Ignoring for the moment the question of *alleni* versus *flavescens*, let us consider the status of the Bahaman birds. Contrary to Mr. Ridgway's implication, the series of twelve specimens from New Providence in the present collection presents a perfect gradation in intensity of coloration, ranging from the dullest-colored examples to birds absolutely indistinguishable, so far as I can see, from the average of the bright-colored yellow specimens from Great Inagua. The five skins from Andros all represent the extreme or typical development of the gray or dull-colored style, although it would seem that this is in part seasonal, due to some extent at least to wear and fading.

Two other specimens from Andros in the collection of the American Museum are much yellower, although collected in May, while a third, dated April 18, is almost as pale below as *Vireosylva magister*. In the Field Museum collection there are eighteen skins from Andros, more or less badly discolored by preservative, but as nearly as can be determined all "intermediates." The remainder of the Field Museum series may be allocated as follows (employing the nomenclature currently accepted):

Great Bahama: 1 nearly typical *flavescens*, 8 intermediates.

Abaco: 8 *crassirostris*, 2 intermediates, 1 *flavescens* (not quite typical).

Eleuthera: 2 *crassirostris*, 1 intermediate, 30 quite typical *flavescens*.

New Providence: 6 *crassirostris*, 4 intermediate, 1 *flavescens*.

Biminis: 1 *crassirostris*, 1 intermediate, 1 *flavescens*.

Mariguana: 17 *flavescens*, in rough plumage, but mainly typical.

Great Inagua: 24 adult, 13 young *flavescens*, 1 *crassirostris*. This latter specimen (No. 25338), together with a skin (No. 40100) in the American Museum collection taken at the same time and place (North-west Point, June 2, 1879) is much worn and faded, and cannot otherwise be matched.

Caicos: 9 *flavescens*.

A series of young birds from Great Inagua, taken between June 27 and August 4, 1891, in the Field Museum collection, are interesting in that they show the new yellow feathers of the under parts, characteristic of *flavescens*, being directly assumed by postjuvenal moult. The juvenal dress is white below, shaded with yellow on the sides and crissum, the yellow of the sides of the head indicated, but much paler than in the adult, the back more grayish.

The color-differences between typical birds of the two supposed forms are sufficiently evident upon comparison, and considered alone are obviously of subspecific value. As is quite natural also (at least in the case of other than insular forms) intermediate examples occur. So far all is well, but when we come to correlate the distribution of the two forms with definite geographic areas we at once encounter difficulties. For, while in general it would seem that the dull bird reaches its extreme development and predominance in the more western and northern islands of the Bahaman group, and the bright bird similarly in the more southern and eastern islands, we find in the intermediate islands a most puzzling series of intergrades between the two forms, as

well as typical examples of each form occurring well within the area of predominance of the other. The question is complicated by the consideration that we are dealing here, not with a continuous land area of distribution, but with a group of islands, which condition constitutes a visible (though not insuperable) barrier to the extension of the range of a sedentary species such as the present one is believed to be. Thus, while the occurrence of individuals of typical *crassirostris* on Great Inagua in the breeding season could scarcely be accounted for on the assumption that they were migrants from the northern islands, it would be equally difficult to call in a like theory to explain the presence of *flavescens* on New Providence during the winter months. It is customary to account for the exceptional or occasional occurrence of birds outside their generally recognized geographical limits by saying that such individuals are "migrants" or "strays," but I fail to see how such an explanation could well apply in this case. In short, *Vireo crassirostris flavescens* is not, strictly speaking, a *geographical race* or subspecies, since its distribution does not coincide with any definite area as distinguished from that occupied by *V. c. crassirostris*. We might suppose that this is a case of as yet imperfect subspecific segregation through individual variation, the bright-colored birds having become the more completely localized. But that these two supposed forms can be considered as anything more than color-phases of a single species is exceedingly doubtful when we remember that a *precisely parallel variation* obtains in at least two closely allied continental species of this genus, *Vireo ochraceus* and *Vireo carmioli*. It would be interesting to know whether the pale and bright birds breed together and what is the immediate result, or whether their local habitats are different. This is a question for the field naturalist to settle.

I have examined Mr. Cory's series of *Vireo alleni* from Grand Cayman and Cayman Brac, eighteen specimens in all. Many of these are discolored by the preservative used, and all are in wretched plumage with the sole exception of the type, which lacks the tail. After comparing these specimens carefully with Bahaman birds I cannot verify any of the distinctive characters alleged to exist, but until better and comparable material is available I should hesitate to pronounce the two identical, as in such case the area of distribution would be divided by the island of Cuba, which is occupied by another form, *Vireo gundlachii*.

56. **Callichelidon cyaneoviridis** (Bryant).

Twelve specimens: Andros (Staniard Creek); Abaco (Sand Bank).

57. **Mniotilta varia** (Linnæus).

One specimen: New Providence (Blue Hills), January 11.

This example seems to be in perfectly fresh plumage, and is apparently an immature male, with black auriculars and streaked breast, but a pure white throat.

58. **Helmitheros vermivorus** (Gmelin).

Two specimens: New Providence (Blue Hills); Abaco (Sand Bank), April 29.

The Abaco specimen apparently represents the latest spring migration date known from the Bahamas for this warbler.

59. **Compsothlypis americana americana** (Linnæus).

One specimen: Great Inagua (Mathewtown), February 19.

I refer the single specimen obtained to this subspecies with little hesitation, as it agrees best therewith in both color and measurements.

60. **Dendroica tigrina** (Gmelin).

Fourteen specimens: New Providence (Blue Hills); Great Inagua (Alfred Sound, Mathewtown); Watlings Island; Andros (Staniard Creek), April 12, 17.

According to Prof. Cooke (*Bulletin Biological Survey*, No. 18, 1904, 50), this species has not been recorded as *wintering* on New Providence, or elsewhere in the Bahamas north of Rum Cay, so that the present record becomes of interest.

After a careful study of this fine series of beautifully prepared specimens I find nothing to throw any light on the question of the prenuptial moult in either the young or the adult birds. In fact, not a single male specimen shows unmistakable evidence of moult. Two male examples from New Providence, December 29 and January 1, are obviously immature, agreeing closely with September birds from Pennsylvania, after due allowance has been made for the loss of the ashy feather-tips by abrasion, which leaves the under parts brighter yellow and the streaks more distinct. A third specimen (Alfred Sound, Great Inagua, February 4) is similar, except that the crown is becoming more blackish anteriorly and the auriculars more orange brown, although I can detect no evidences of new growth, nor does an examination of an ample series of fall specimens indicate that the blackening of the crown could be due to wear alone. Three males

that I take to be adult (bearing dates of January 14, 15, and February 10 respectively), on the other hand, might easily be transformed into the usual spring plumage by wear and by the replacing of the yellow auriculars with orange brown—a transformation whose completion is illustrated by a bird in high plumage taken on Andros April 12. The same remarks apply to the series of females, except that there is one specimen from Andros, April 17, showing a few new feathers coming in on the chin. A great deal of individual variation is manifest in this species, affecting the general intensity of coloration, extent of white on the rectrices and wing-coverts, etc. There is one female in the present series (Watlings Island, March 26) which is almost as bright as some of the immature males.

61. ***Dendroica petechia flaviceps*** Chapman.

Thirteen specimens: Great Inagua (Alfred Sound, Mathewtown); Watlings Island; Andros (Staniard Creek).

The present series comprises nine males and four females. Of the former there are two specimens, from Alfred Sound and Staniard Creek respectively, which differ from the others in their grayish scapulars and worn rectrices, primaries, and secondaries. The edgings of the two latter are narrower, duller, and more grayish than ordinarily, contrasting conspicuously with those of the bright and fresh tertials. Turning now to the females (all from Alfred Sound) we find a precisely similar variation and an even more accentuated difference, the two most worn specimens being the most grayish above and with the most white beneath. One specimen (No. 30750) is olive grayish above, with irregular patches of fresh brownish yellow feathers; below saffron yellow, the sides more grayish, with patches of brighter yellow; the remiges brownish, narrowly edged with olive grayish like the back, except the tertials and two of the secondaries on one wing, which are edged with bright olive green. The other dull female (No. 30779) is dull yellowish olive green above, the hindneck tinged with grayish; below, from the breast down, extensively whitish; the tertials, some of the secondaries and most of their coverts are fresh and edged with olive green. Although I hesitate to differ from so distinguished an authority as Mr. Ridgway, who moreover has had the advantage of a far greater amount of material for study in this connection, I feel convinced that the specimens above described point to a conclusion opposite to that he has reached respecting the significance of this plumage (*cf. Birds of North and Middle America*,

II, 1902, 516). It is only necessary to assume that the prenuptial moult is more or less incomplete, not involving the tail or wings (except the tertiaries and perhaps a few of the secondaries), and sometimes not all of the wing-coverts and body-plumage, to account for the peculiarities in question. As is often the case, the moult is less extensive in the female birds, but I have examined at least one immature male (No. 21759, Cory Collection, Abaco, March 17, 1891, erroneously sexed as a female) whose appearance would suggest that such a suppression is not confined to that sex.

The wing-formula in this species is more or less obscured in the case of worn specimens, which are difficult to distinguish from *Dendroica æstiva*. Unfortunately I have not been able to make any extended comparisons of the present form with the Cuban bird, and the characters assigned for its separation do not appear to me very trenchant.

62. ***Dendroica cærulescens cærulescens*** (Gmelin).

One specimen: New Providence (Blue Hills).

A male in the plumage of the first winter, with no sign of moult. The amount of black on the back would indicate that it was a bird from the southern Alleghanies, assuming that *cairnsi* is a valid form, which in my opinion is exceedingly doubtful.

63. ***Dendroica coronata*** (Linnæus).

One specimen: Watlings Island, March 13, a female in worn first winter dress.

64. ***Dendroica dominica dominica*** (Linnæus).

Two specimens: New Providence (Blue Hills).

These two examples (both females) measure as follows: wing, 59 and 62 mm.; tail, 44 and 47.5; exposed culmen, 12 and 13. Eight females from the United States average: wing, 64; tail, 48; exposed culmen, 14. Besides being slightly smaller, they are paler, and have less black on the forehead than any individuals in a large series before me from Florida, South Carolina, and Georgia. Thinking that they might represent an undescribed local form, I secured the loan of the Bahaman and West Indian series of this species in the Field Museum for comparison. But after a very careful study of this material I am unable to verify this supposition. It is true that there are a few individuals whose measurements are slightly below the average and whose colors are more or less pale, but in most cases such are obviously immature birds, and I am not disposed to give these characters any

other significance. On the other hand, there are a number of specimens, all taken from November to January inclusive, which are slightly larger than the average, as well as more richly colored, the yellow of the throat sometimes taking on an orange hue, approaching that of the Blackburnian Warbler. These are unquestionably adult birds in fresh feather. Wear and fading affect the plumage in this species very markedly.

Mr. Riley writes me that he based his listing of this species as a resident in the Bahamas on the smaller size of the "resident" birds. But, so far as I know, there is no record of its occurrence there in the summer before July, and it is known to move southward from the United States as early as this (*cf.* Cooke, *Bulletin Biological Survey*, No. 18, 1904, 84). Until specimens actually taken while breeding are forthcoming it would seem very unsafe to set it down otherwise than as a winter visitor to the islands.

65. ***Dendroica flavescens*** Todd.

Four specimens: Abaco (Sand Bank, Spencer's Point).

One individual has been renewing some of the rectrices, perhaps lost by accident.

There is little to add to the original account of this species (*Proceedings Biological Society of Washington*, XXII, 1909, 171). The type is now No. 31144 of the Carnegie Museum collection. It is certainly odd that such a distinct and peculiar form should have developed on Abaco alone of all the group, and it would be interesting to know how the conditions obtaining in its local habitat differ from those in some of the other islands, Andros for example. Indeed, I anticipate its discovery on Great Bahama, if not also on Andros. Its characters would suggest that it had been derived from individuals of *Dendroica dominica dominica* which may have remained behind to breed.

66. ***Dendroica pityophila*** Gundlach.

Thirteen specimens: Abaco (Sand Bank).

This species is apparently so rare in collections that Mr. Ridgway did not have a single Bahaman specimen before him for description when writing his *Birds of North and Middle America*. Cuban examples are also few in number, but those which I have examined and compared with the present fine series fail to show any differences which cannot be accounted for by the effects of wear. Moreover, after a critical comparison of the type series (seven skins) of Mr. Cory's

"*bahamensis*" in the Field Museum collection with the Cuban birds, I fail entirely to appreciate any of the characters ascribed to the former. All his specimens are worn and faded, and unless skins in absolutely fresh plumage show decided differences the name "*bahamensis*" must necessarily be relegated to synonymy, despite the gap in the distribution of the species.

The female differs from the male in being duller, with the black streaks on the sides of the breast much less distinct, in some specimens barely indicated.

67. *Dendroica vigorsii achrustera* Bangs.

Twenty-five specimens: New Providence (Blue Hills); Andros (Staniard Creek); Abaco (Sand Bank, Spencer's Point).

In addition to the above, I have studied the series of Bahaman Pine Warblers in several other collections, as indicated by small index-figures in the following table of measurements.

Even after due allowance has been made for different degrees of wear, it will be observed that the series from Abaco averages about the same as those from the other islands, except as regards the bill, which is slightly larger. The type of *Dendroica vigorsii abacoensis* Ridgway (No. 108479 of the above table) proves to be an exceptionally brightly colored bird, though a few New Providence individuals in comparable plumage are fully as bright. Upon comparing the series from Abaco with an equal one from New Providence I can find no constant differences in color, but only in the size of the bill. As I do not consider that the latter difference in itself justifies subspecific separation, I judge it better not to formally recognize "*abacoensis*." Specimens from Andros and Great Bahama are likewise indistinguishable, while three examples from San Domingo, although badly worn, seem no different from Bahaman birds in the same state of plumage, except for their slightly smaller bills.

The color-differences between this form and *D. v. vigorsii* are obvious and constant when specimens of the same age, sex, and condition of plumage are compared. Mr. Bangs had only females in *first* nuptial dress before him when he wrote his description, as shown by an inspection of his series. Adult females are much brighter, nearly as bright in fact as adult males, the resemblance being much closer than in the case of the continental form. Moreover, the males vary in precisely the same way, being much duller in color in first winter and first nuptial plumages than in fully adult dress. There is thus a curious

No.	Sex.	Locality.	Date.	Wing.	Tail	Culmen
74627 ¹	♂	(New Providence?)		69	53.5	12
108680 ¹	♂	New Providence.	Apr. 19, 1886.	69	55	12
3351 ⁹	♂	Nassau, N. P.	Mar. 6, 1897.	65	53.5	12
76600 ³	♂	Nassau, N. P.	May 20, 1902.	67.5	56	12
76601 ³	♂	Nassau, N. P.	May 21, 1902.	67	53	12
30569 ⁴	♂	Blue Hills, N. P.	Dec. 28, 1908.	69	57	12
30613 ⁴	♂	Blue Hills, N. P.	Jan. 2, 1909.	69	56	11.5
30627 ⁴	♂	Blue Hills, N. P.	Jan. 4, 1909.	70	57	12
30636 ⁴	♂	Blue Hills, N. P.	Jan. 6, 1909.	69	56	12
30722 ⁴	♂	Blue Hills, N. P.	Jan. 19, 1909.	69	56	11.5
26004 ⁵	♂	Nassau, N. P.	Jan. 23, 1879.	68	58	11
26005 ⁵	♀	Nassau, N. P.	Jan. 21, 1879.	62	52	12
30614 ⁴	♀	Blue Hills, N. P.	Jan. 2, 1909.	65	52	12
30615 ⁴	♀	Blue Hills, N. P.	Jan. 2, 1909.	67	55	11.5
30662 ⁴	♀	Blue Hills, N. P.	Jan. 9, 1909.	67	57	12
31022 ⁴	♀	Staniard Creek, Andros	Apr. 17, 1909.	63	54	11
31023 ⁴	♀	Staniard Creek, Andros	Apr. 17, 1909.	65	51	11
31043 ⁴	♂	Sand Bank, Abaco	Apr. 26, 1909.	69	56	13
31057 ⁴	♂	Sand Bank, Abaco	Apr. 27, 1909.	69	56	13.5
31070 ⁴	♂	Sand Bank, Abaco	Apr. 28, 1909.	66	53	13
31145 ⁴	♂	Spencer's Point, Abaco	May 7, 1909.	67	55	12.5
31154 ⁴	♂	Spencer's Point, Abaco	May 8, 1909.	67	53	13
31157 ⁴	♂	Spencer's Point, Abaco	May 8, 1909.	70	59	13
108479 ¹	♂	Abaco.	Apr. —, 1886.	70	57	13.5
31044 ⁴	♀	Sand Bank, Abaco	Apr. 26, 1909.	68	58	12.5
31056 ⁴	♀	Sand Bank, Abaco	Apr. 27, 1909.	67	54	12.5
31156 ⁴	♀	Spencer's Point, Abaco	May 8, 1909.	68	53	13
25993 ⁵	♂	Great Bahama.	June 29, 1891.	65	53	12
25994 ⁵	♂	Great Bahama.	June 29, 1891.	65	53	12
25995 ⁵	♀	Great Bahama.	June 29, 1891.	66	59	12
14979 ²	♂	Great Bahama.	July 18, —.	67	54	13
25999 ⁵	♂	La Vega, San Domingo	July 12, 1883.	68	53	11
25996 ⁵	♀	La Vega, San Domingo	July 10, 1883.	63	51	11
26006 ⁵	♀	La Vega, San Domingo	July 12, 1883.	63	48	11

discrepancy in this respect between the Bahaman and the continental form, in which the immature males are practically indistinguishable from the adults so far as color-characters are concerned. What is the significance of this fact?

¹ Collection U. S. National Museum.

² Collection E. A. and O. Bangs.

³ Collection American Museum.

⁴ Collection Carnegie Museum.

⁵ Collection Field Museum.

68. **Dendroica palmarum palmarum** (Gmelin).

Four specimens: New Providence (Blue Hills); Great Inagua (Alfred Sound, Mathewtown).

The two Great Inagua specimens (February 16 and 24) both show slight traces of prenuptial moult on the crown.

69. **Dendroica discolor** (Vieillot).

Five specimens: New Providence (Blue Hills); Great Inagua (Mathewtown); Watlings Island.

So far as I can discover only one of these individuals shows any trace of moult in progress; this is an immature female taken January 16, while a male dated January 4 seems to be in perfect plumage. Upon comparison none of these specimens show the characters ascribed to resident Bahaman birds by Mr. Ridgway (*Birds of North and Middle America*, II, 1902, 608, footnote).

70. **Seiurus aurocapillus** (Linnæus).

One specimen: New Providence (Blue Hills).

71. **Seiurus noveboracensis notabilis** Ridgway.

Four specimens: New Providence (Blue Hills); Great Inagua (Mathewtown); Watlings Island.

Although Mr. Ridgway places all but one of the Bahaman references under true *noveboracensis*, the present examples prove upon comparison referable to *notabilis*.

72. **Geothlypis trichas trichas** (Linnæus).

Seventeen specimens: New Providence (Blue Hills); Watlings Island; Andros (Staniard Creek); Abaco (Sand Bank).

Three immature males from New Providence (January 6, 9, and 12) show the beginning of the prenuptial moult, as also does a young female from Andros (April 14). A male from Andros, which seems to be adult, shows decided feather-renewal taking place on the throat and sides of the head, while another from Abaco taken a little later (April 26) has a few new feathers coming in on the chin. This is scarcely to be deemed conclusive evidence of a regular prenuptial moult in the adult, however.

Considerable exception has been taken in some quarters to the action of the American Ornithologists' Union Nomenclature Committee in refusing recognition to a subspecies "*brachidactyla*." A study of the series of Yellow-throats in the Carnegie Museum has failed to enable me to discriminate this supposed form, whose alleged characters seem to me very subtle indeed. The measurements of the

Bahaman series, it may be added, are a little larger than the average, owing to the generally fresher condition of their plumage.

73. ***Geothlypis rostrata rostrata*** Bryant.

Four specimens: New Providence (Blue Hills); Andros (Staniard Creek).

As the present writer has already (*Auk*, XXVIII, 1911, 237-253) critically discussed the case of the large Bahaman *Geothlypis*, it will be necessary only to allude briefly to the conclusions reached. It seems very certain that there is only one form on any particular island, age and season being responsible for the differences which have led to the description of so many forms. In the present series only one specimen is comparable with the type of *rostrata*, which is an immature bird; the others are adults ("*maynardi*"). The Andros specimen agrees with other examples from that island which I have examined in being somewhat smaller and otherwise slightly different from the average New Providence bird, but the differences do not seem of sufficient importance in my judgment to justify the recognition of a subspecies "*exigua*."

74. ***Geothlypis rostrata tanneri*** Ridgway.

Eight specimens: Abaco (Spencer's Point, Sand Bank).

Two of these are birds in immature (first nuptial) dress, representing the supposed form "*incompta*." They are markedly worn and dull, in contrast to the adults taken at the same time.

75. ***Setophaga ruticilla*** (Linnæus).

One specimen: New Providence (Blue Hills), January 14.

This is an unquestionable winter record, and apparently the most northern one as yet reported, although the species is common as a transient throughout the Bahamas.

76. ***Cœreba bahamensis*** (Reichenbach).

Fifteen specimens: New Providence (Blue Hills); Great Inagua (Mathewtown); Andros (Staniard Creek); Abaco (Spencer's Point).

A study of this series (all but four of which are adult males) confirms Mr. Cory's statement (*Auk*, VIII, 1891, 297) that Great Inagua examples have larger bills than those from the more northern Bahamas. Actual measurements in this case show an average of 17 mm. for the bill of the Great Inagua birds, and 14.6 mm. for that of the others. Moreover, the collector has taken pains to note that the bare skin of the gape in the former is "whitish, not red, as in New Providence

birds." I have examined also the large series of this species in the collection of the Field Museum, which confirms in general the above observations. Specimens from the Caicos Islands constantly have longer bills than the average, while those from Great Bahama Island, at the other extremity of the group, seem to have bills shorter even than New Providence birds. I am unable to discover any other constant differences, however, that would justify formal subdivision of the species, particularly as the vast majority of Bahaman specimens could not be assigned to either form.

An individual in full juvenal dress was taken at Spencer's Point, Abaco, on May 5.

77. ***Agelaius phoeniceus bryanti*** Ridgway.

Eleven specimens: New Providence (Blue Hills); Andros (Staniard Creek); Abaco (Sand Bank, Spencer's Point).

The seven adult males included in this series have the following average measurements: wing, 116 mm.; tail, 87; culmen, 24.5. Four adult males from peninsular Florida average: wing, 116; tail, 92; culmen, 24. Neither comparison nor actual measurement discloses any appreciable average difference in the size and shape of the bill between these two series, and I fail to see how the males of *floridanus* and *bryanti* can be distinguished from each other. In the case of the females, however, the differences are sufficiently evident, and may be accepted as being of subspecific value. Bahaman females are much whiter below than those from Florida, and seldom show traces of the pinkish suffusion on the throat which is often so conspicuous a feature in the latter. This statement is based mainly on a study of the large series of this subspecies in the collection of the Field Museum, there being only two females in the present lot. Two males from Abaco are in first nuptial plumage.

78. ***Icterus northropi*** Allen.

Thirteen specimens: Andros (Staniard Creek); Abaco (Sand Bank). "Iris hazel" (adult male).

Dividing this series into four sets, according to sex and age, there are three adult males, four adult females, three immature males, three immature females—the immature birds being of course in first nuptial plumage. Two of the adult females are indistinguishable (except as regards the under tail-coverts, mentioned below) from the adult males, being fully as bright so far as I can see, while the other two

are slightly duller and more worn. In the adult males the longer under tail-coverts are distinctly spotted with black, in the two brighter females they are indistinctly clouded with dusky, while in the rest of the series these feathers are immaculate.

Turning now to the young birds, it is evident that their peculiar mottled plumage, so well illustrated in the plate of this species (*Auk*, VIII, 1891, pl. I), is the result of a limited prenuptial moult, affecting the body-plumage to a greater or less extent, and frequently also some of the wing-coverts, remiges, and rectrices, as shown by the series before me. This moult averages more extensive in males than in females, the former showing more of the new black feathers above and on the throat and breast, although this replacement varies considerably in different individuals, no two of which are alike in this respect.

I note that the single specimen from Abaco (No. 31035, immature male, April 24) is somewhat more deeply colored (more saffron yellow below and less grayish above) than the rest of the series. This bears out Mr. Cory's remark (*Auk*, VIII, 1891, 350), presumably based on adult birds, but an examination of the single adult male from Abaco now in the Field Museum collection fails to confirm this statement.

The nearest relative of this species seems to be *Icterus prosthemelas* (Strickland) of Central America, but it will be noted that in first nuptial plumage the two species are quite unlike, due to the difference in the extent of the prenuptial moult. *Icterus northropi* is unfortunately as yet unknown in juvenal dress, and it would certainly be interesting to learn how it compares with its allies at this more primitive stage.

79. ***Spindalis zena zena*** (Linnæus).

Twelve specimens: New Providence (Blue Hills).

Individual variation affects the amount of chestnut tinge on the breast, of black on the tips of the outer rectrices, and of dark shading or streaking on the sides and flanks. One of the above specimens approaches the phase of plumage called *Spindalis zena* "*stejnegeri*" in this latter respect.

80. ***Spindalis zena townsendi*** Ridgway.

Ten specimens: Abaco (Sand Bank).

"Iris dark hazel."

Although taken several months later in the season than the New

Providence birds, which, if anything, would tend to obscure the characters of the present form through the wearing off of the olive feather-edgings of the back, only one of the present series of seven males approaches typical *zena* in this respect, so that the Abaco subspecies seems well entitled to recognition. I fail, however, to find any differences whatever between the females of the two forms.

81. *Passerina cyanea* (Linnæus).

Great Inagua (Mathewtown, February 19); Andros (Staniard Creek, April 15); Abaco (Spencer's Point, May 8).

All three localities are new records, and the date at which the Great Inagua specimen was taken would suggest that the species was a winter resident there. At any rate, it is certainly more than "occasional in the Bahamas in migration" (*A. O. U. Check-List*, ed. 3, 1910, 285). The Andros specimen is a young male which, although taken at a date when the species has already reached the Middle States on its northward migration, has only about half completed the prenuptial moult.

82. *Pyrhulagra violacea violacea* (Linnæus).

Fifteen specimens: New Providence (Blue Hills); Great Inagua (Alfred Sound, Mathewtown); Andros (Staniard Creek); Abaco (Spencer's Point).

Two adult males from Great Inagua are somewhat smaller than the rest of the series, verging thus toward *P. v. affinis* (Baird) from the neighboring island of Haiti, but I can see no color-differences. Abaco birds are not distinguishable in any way from New Providence examples. The small specimen from Abaco referred to by Mr. Bonhote (*Ibis*, 1903, 289), which he has courteously forwarded to me for examination, is, it is true, rather smaller than the average, the bill especially, but is matched very closely by some of the series before me, so that the fact would seem to have no special significance.

A female in first winter dress (30639, Blue Hills, January 6) differs from a male in the same stage (30570, Blue Hills, December 28), not only in its smaller size, but in being decidedly more olivaceous, less grayish, especially below, and in the paleness and restriction of the rufous areas. The young male seems to have recently acquired fresh rectrices (except the middle pair) and outer primaries, judging from their darker color and unworn condition. In the character and extent of the moult this species thus resembles *Passerina cyanea*.



83. **Tiaris bicolor bicolor** (Linnæus).

Thirteen specimens: New Providence (Blue Hills); Great Inagua (Alfred Sound, Mathewtown); Watlings Island; Andros (Staniard Creek); Abaco (Spencer's Point).

I judge that the individuals with most black below are the older birds, the lighter-colored ones being most probably in first winter or first nuptial dress, as the case may be.

84. **Passerculus sandwichensis savanna** (Wilson).

Two specimens: New Providence (Blue Hills); Andros (Staniard Creek), April 13.

FIELD NOTES.

BY W. W. WORTHINGTON.

In the following list such of the locality records as are new for the several species are designated by an asterisk.

1. **Colymbus dominicus dominicus** Linnæus. WEST INDIAN GREBE.

*Great Inagua, *Acklin Island, Watlings Island.

A female taken at Mathewtown February 23 was apparently brooding, as shown by a large denuded patch on the abdomen, and ruptured capsules in the ovary. Fully grown young were taken on Watlings Island March 12.

2. **Podilymbus podiceps** (Linnæus). PIED-BILLED GREBE.

*Great Inagua.

Common at Horse Pond, a large wooded swamp near Mathewtown, where downy young were taken February 20 and 22.

3. **Puffinus lherminieri** Lesson. ANTILLEAN SHEARWATER.

North end Exuma Sound (January 25, April 8), *Long Island (15 miles east, January 29), off *Castle Island (February 1), off *Great Inagua (March 2), south of *Watlings Island (March 10).

This species was noted only at sea during trips from island to island, as above.

4. **Phaëthon americanus** Ogilvie-Grant. YELLOW-BILLED TROPIC-BIRD.

Abaco.

A few were seen sailing high in the air off Cherokee Sound, April 21.

5. **Sula leucogastra** (Boddaert). BOOBY.

Noted only at sea in Exuma Sound and between *Long Island and Fortune Island, also south of *Castle Island (February 1).

6. *Phalacrocorax vigua mexicanus* (Brandt). MEXICAN CORMORANT.
Watlings Island, (? Cat Island).

Common at the lake on Watlings Island, where there was an abandoned rookery, which we visited on March 16. The nests were built in the fringe of mangrove on the east side of the lake near the lighthouse, and were made of sticks, and covered with excrement. As they were as a rule at an elevation of but six or ten feet they were readily examined, and many were found to contain dead young, about half-grown, in various stages of decomposition. No reason could be assigned for this mortality.

7. *Pelecanus occidentalis* Linnæus. BROWN PELICAN.
*Great Inagua, Andros.

Apparently not common. A single individual landed on the beach near the lighthouse at Mathewtown, February 25, but I was unable to get within gunshot.

8. *Fregata aquila* Linnæus. MAN-O'-WAR-BIRD.

*Ship Channel Cay (January 24), Cat Island (Long Rock, January 25, The Bight, January 26, off Port Howe, April 7), Great Inagua, *Acklin Island, Watlings Island, Abaco.

Usually observed sailing high in the air, but on one occasion a number were seen doing the "dipping act" at Calefavor Pond, Great Inagua, where a single specimen was secured February 11.

9. *Phœnicopterus ruber* Linnæus. AMERICAN FLAMINGO.
Great Inagua, Abaco.

On February 5 a trip was made to Calefavor Pond, some six or seven miles to the southeast of Mr. Boucher's camp at the head of Alfred Sound, in search of Flamingoes, the locality being a noted feeding-ground. The birds were said to frequent two large bunches of mangrove in the center of the pond, but although tracks were seen, and some feathers picked up, only a single Flamingo was observed, circling high overhead, his brilliant plumage flashing in the bright sunlight. That the birds had recently been using this series of flats and shallows as a feeding-ground, however, was amply attested by their numerous "feeding-rings"—circular marks about the size of a wagon-wheel, formed by the birds, while in search of their favorite food (a small snail), standing in one place in the shallow water and stirring up the bottom in a circle as far as they can reach. These rings show very plainly after the water has dried up, and the dry flats and shallows

for miles around were completely covered with them. We were told that Flamingoes were found dead in hundreds after the hurricane of October, 1908. The only specimen secured was taken February 20, near Mathewtown. At Abaco the negroes were offering for sale wings and other parts of the plumage of recently killed Flamingoes, while we were informed that they are found on Acklin Island also.

10. ***Ardea herodias herodias*** Linnæus. GREAT BLUE HERON.

New Providence, Great Inagua, *Acklin Island, *Watlings Island, *Abaco.

Not common, and exceedingly wary, as they are shot for food at every opportunity. Mr. Boucher informed us that they are very destructive to the young green and hawk-billed turtles in his turtle-rearing lagoons, devouring them as soon as hatched.

11. ***Dichromanassa rufescens*** (Gmelin). REDDISH EGRET.

*Great Inagua, *Watlings Island.

Rather common at Calefavor Pond, Great Inagua, where a colony was breeding in a small clump of mangroves, the nests containing good-sized young at the time of our visit (February 5). While both phases were represented, white birds predominated. I am of the opinion that many of the Bahaman records of the American Egret really apply to the present species in the white phase. The species was once recorded on Watlings Island, March 16.

12. ***Hydranassa tricolor ruficollis*** (Gosse). LOUISIANA HERON.

*Great Inagua, Watlings Island.

Noted at Calefavor Pond, February 5, Alfred Sound February 11, and on Watlings Island March 11. On February 17, while en route from Alfred Sound to Mathewtown, a Louisiana Heron came in past us from the open sea, acting as if much fatigued, but finally making the shore, a mile distant. As the nearest land in the direction from which it came is Acklin Island, it had apparently made the flight of seventy-five miles.

13. ***Florida cærulea*** (Linnæus). LITTLE BLUE HERON.

*Watlings Island, Andros.

Not common, and, together with the last species, everywhere hunted for food by the inhabitants.

14. ***Butorides virescens bahamensis*** (Brewster). BAHAMA GREEN HERON.

New Providence, Great Inagua, Watlings Island, Andros, Abaco.

Quite common throughout the islands, frequenting the edges of shallow lagoons and the adjoining mangrove thickets.

15. *Nycticorax nycticorax nævius* (Boddaert). BLACK-CROWNED NIGHT HERON.

*Great Inagua.

Young birds in the streaked plumage were taken at Calefavor Pond on February 5 and 8, where this species was associated with the following.

16. *Nyctanassa violacea* (Linnæus). YELLOW-CROWNED NIGHT HERON.

Great Inagua, *Acklin Island, Watlings Island, Andros, Abaco.

Common throughout the Bahamas, according to our experience. A young bird was secured at Calefavor Pond on February 5, where this species was quite numerous, while an adult was shot on Watlings Island March 19.

17. *Plegadis autumnalis* (Linnæus). GLOSSY IBIS.

A single individual of this species was seen at Calefavor Pond, *Great Inagua.

18. *Ajaia ajaja* (Linnæus). ROSEATE SPOONBILL.

Great Inagua.

A small colony of perhaps a half-dozen pairs were nesting in the mangroves at Calefavor Pond. The nests were built of sticks, about ten or twelve feet above the water, and at the time of our visit (February 8) contained either young or eggs in an advanced state of incubation.

19. *Erismatura jamaicensis* (Gmelin). RUDDY DUCK.

*Watlings Island.

One was seen on the lake March 15.

20. *Marila marila* (Linnæus). GREATER SCAUP DUCK.

Watlings Island.

A few were noted on the lake March 15.

21. *Pœcilonetta bahamensis* (Linnæus). BAHAMA DUCK.

Great Inagua, *Acklin Island, *Watlings Island.

This duck was noted only in small ponds in out-of-the-way places, being a bird of very retiring habits, and hunted persistently for food. Two adults and one young bird were shot on Watlings Island, March 12 and 23.

22. ***Dendrocygna arborea*** (Linnæus). ANTILLEAN TREE DUCK.
Great Inagua, *Watlings Island.

Not uncommon, but exceedingly shy and retiring, as it is so persistently hunted for food. A deserted nest was found February 20 at Horse Pond, near Mathewtown. It was built between the roots of an upturned tree in the middle of the swamp, where the water was about two and one-half feet deep, and composed of a few sticks and dry leaves, with some traces of the original downy lining. It contained four addled eggs, white in color, but much soiled, two of which showed signs of incubation. Their shells were exceedingly hard and tough. Glimpses of an old Tree Duck were had, but it was too shy to permit approach within gunshot.

23. ***Colinus virginianus floridanus*** (Coues). FLORIDA BOB-WHITE.
New Providence.

Not uncommon in the pine barrens back of the Blue Hills, but much oftener heard than seen. The nature of the ground makes it very difficult to secure them, even with dogs, as rapid walking is out of the question, except along the roads. The specimens which were made up as skins were brought to us alive by Mr. Charles Lightbourne.

24. ***Rallus crepitans coryi*** (Maynard). BAHAMA CLAPPER RAIL.
*Great Inagua, *Watlings Island, Andros, Abaco.

This is a common species throughout the Bahamas, wherever mangrove swamps adapted to its needs occur. Here the birds may be heard calling every day, but it is seldom that a glimpse is had of them, so closely do they keep themselves concealed in the dense and tangled growth. Although numerous on Great Inagua, all our efforts to secure specimens there proved fruitless, and not until we reached Watlings Island were we successful. Here we found one small lagoon, bordered by a thick but low growth of mangrove shoots, where, as shown by their tracks, they evidently came out to feed. We built blinds, and spent many hours in waiting, but were rewarded by securing a series of seven specimens. Two more were taken later at other localities, but merely by chance. In the oviduct of a female shot March 22 there was an egg ready for deposit. Its ground-color was light clay, rather sparingly spotted and speckled with dull reddish brown and obscure lilac shell-markings, the ground-color exactly matching some eggs of the Wayne Clapper Rail from Florida. It measured 1.72 by 1.19 in.

25. *Porzana carolina* (Linnæus). SORA RAIL.

*Great Inagua, *Watlings Island.

Not uncommon as a winter visitor in certain suitable situations. Two were secured near Mathewtown February 19.

26. *Gallinula galeata galeata* (Lichtenstein). FLORIDA GALLINULE, Great Inagua, *Watlings Island.

Rather common at Horse Pond, near Mathewtown, where a set of seven eggs, in an advanced stage of incubation, was taken on February 22. The nest was composed of dried pond-grasses and weeds, and was built in a cluster of young shoots in the top of a stump, a foot or more above the water, and at some distance from the shore. Such a situation, like that of the Tree Duck previously mentioned, was evidently more from necessity than from choice.

27. *Fulica americana* Gmelin. AMERICAN COOT.

*Great Inagua.

A few were seen at Horse Pond, near Mathewtown, but they were very shy indeed.

28. *Larus atricilla* Linnæus. LAUGHING GULL.

*Cat Island (The Bight, January 26, Port Howe, April 6), Watlings Island, Abaco (Spencer's Point, May 3).

At a house on Watlings Island there was a tame bird of this species, which had been reared from a nestling. It was said to eat bread and table scraps readily, and walked around as unconcerned as the chickens with which it associated.

29. *Sterna maxima* Boddaert. ROYAL TERN.

New Providence, *Fortune Island, Great Inagua, *Acklin Island, *Cat Island, Abaco.

Rather sparingly distributed throughout the islands in the winter.

30. *Sterna fuscata* Linnæus. SOOTY TERN.

Abaco and at sea.

Large flocks of Sooty Terns were seen far from land in "Tongue of Ocean" on our voyage from Nassau to Andros on April 11.

31. *Himantopus mexicanus* (Müller). BLACK-NECKED STILT.

Watlings Island, Andros.

A small flock visited Staniard Creek, Andros, about the middle of April.

32. *Gallinago delicata* (Ord). WILSON SNIPE.

New Providence, *Great Inagua, *Watlings Island.

Found sparingly at certain suitable localities.

33. **Macrorhamphus griseus griseus** (Gmelin). RED-BREASTED
SNIPE.

*Great Inagua.

A single individual was noted at Alfred Sound February 10.

34. **Pisobia minutilla** (Vieillot). LEAST SANDPIPER.

New Providence, Great Inagua, *Acklin Island, *Watlings Island, Abaco.

Sparingly distributed as a winter resident, and usually found associated with other species of shore-birds.

35. **Pelidna alpina sakhalina** (Vieillot). RED-BACKED SANDPIPER.

*Great Inagua.

A flock of this species was seen February 3, during the course of a sail from Mathewtown to Alfred Sound.

36. **Ereunetes pusillus** (Linnæus). SEMIPALMATED SANDPIPER.

Great Inagua, *Andros.

A flock of this species was observed February 3 near Middle Point, Great Inagua, and a single bird was noted at Staniard Creek, Andros, April 12.

37. **Calidris leucophæa** (Pallas). SANDERLING.

*Fortune Island, *Watlings Island.

A party of three passed close by the mail schooner as we lay at anchor off the south end of Fortune Island February 1, and another party of four, in company with an equal number of Turnstones, were seen close to the Columbus Monument on Watlings Island, March 15.

38. **Totanus melanoleucus** (Gmelin). GREATER YELLOW-LEGS.

*Watlings Island, Andros.

Not common. Two were flushed from a mangrove lagoon on Watlings Island, March 23, and a single individual was noted on Andros, April 12.

39. **Totanus flavipes** (Gmelin). YELLOW-LEGS.

Watlings Island.

This species was noted in a mangrove lagoon on March 22 and 23, on the latter date in company with the Greater Yellow-legs.

40. **Helodromas solitarius solitarius** (Wilson). SOLITARY SAND-
PIPER.

*Great Inagua.

The Solitary Sandpiper was seen on several occasions at Horse Pond, Inagua, where a single bird was taken February 22.

41. **Actitis macularia** (Linnæus). SPOTTED SANDPIPER.

New Providence, *Great Inagua, *Abaco.

Not common. The last was noted at Sand Bank, Abaco, April 28.

42. **Squatarola squatarola** (Linnæus). BLACK-BELLIED PLOVER.

New Providence, *Great Inagua, *Acklin Island, *Watlings Island, *Abaco.

Quite evenly distributed as a winter resident throughout the islands, but not common. As a rule it was found in small parties on the ocean beach.

43. **Oxyechus vociferus vociferus** (Linnæus). KILLDEER.

New Providence, *Cat Island (January 26), *Rum Cay (January 28), *Long Island (Clarence Town, January 30), Acklin Island, Watlings Island.

A common and generally distributed winter resident throughout the Bahamas.

44. **Oxyechus vociferus rubidus** Riley. WEST INDIAN KILLDEER.
Great Inagua.

Quite common near Mathewtown, where a single individual was secured February 23.

45. **Ægialitis semipalmata** (Bonaparte). SEMIPALMATED PLOVER.
Great Inagua, *Watlings Island, Abaco.

A winter resident, but not common. The latest record was from Sand Bank, Abaco, April 28.

46. **Octhodromus wilsonius wilsonius** (Ord). WILSON PLOVER.

*Watlings Island, Andros.

A party of three individuals was seen on the ocean beach at the north end of Watlings Island March 26, all of which were secured. Two were noted here previously, on March 14.

47. **Arenaria interpres morinella** (Linnæus). TURNSTONE.

New Providence (January 17), Great Inagua (Mathewtown, February 12 and 25), Watlings Island (March 15).

Not common, the above being the only records.

[— **Hæmatopus palliatus** (Temminck). AMERICAN OYSTER-CATCHER.

*Watlings Island.

Although the birds themselves were not actually seen, tracks which were unmistakably made by this species were observed March 27 on the ocean beach, plainly moulded in the sand, and obviously made since the previous high tide.

—. ***Jacana spinosa*** (Linnæus). MEXICAN JACANA.

According to Mr. D. J. Sweeting (one of Mr. Cory's old collectors), a Mexican Jacana was killed near *Mathewtown a few years ago. Mr. Sweeting saw and tried to purchase the specimen, but the prize was secured instead by the captain of some vessel, by whom it was carried off.]

48. ***Columba leucocephala*** Linnæus. WHITE-CROWNED PIGEON.

New Providence, *Acklin Island, Abaco.

Only scattering individuals were seen during our stay, and I was informed that it was their habit to spread all over the various islands except during the breeding season, when they congregate in immense nesting colonies on the smaller and more isolated outer cays. Two females taken at Sand Bank, Abaco, April 24 and 27, showed no enlargement of the ovaries.

49. ***Zenaida zenaida*** (Bonaparte). ZENAIDA DOVE.

Great Inagua, *Acklin Island, Watlings Island, Andros, Abaco.

The Zenaida Dove is rather common and generally distributed, but is exceedingly shy, being hunted and trapped so persistently for food. It is, indeed, excellent eating. On Watlings Island we saw the birds caught in the common "cob-house" figure-four traps, and on several occasions they were brought in and offered for sale.

50. ***Chæmepelia passerina bahamensis*** (Maynard). BAHAMA GROUND DOVE.

New Providence, Cat Island (The Bight, January 26, Port Howe, April 6), Watlings Island, Andros, Abaco.

Abundant throughout the islands, frequenting fields and open places in general, roadsides and edges of woods or coppet. On account of its small size it is little persecuted, and in consequence is tame and unsuspicious.

51. ***Chæmepelia passerina exigua*** (Riley). MONA GROUND DOVE.

*Great Inagua.

Abundant on Great Inagua, where a series of ten specimens was secured. The same remarks apply to this form as to the last.

52. **Cathartes aura aura** (Linnæus). TURKEY BUZZARD.

Andros, Abaco.

Only a very few seen.

[This reference is placed provisionally under true *aura*, pending the examination of Bahaman specimens.—W. E. C. T.]

53. **Pandion haliaëtus ridgwayi** Maynard. BAHAMA OSPREY.

*Cat Island (The Bight, January 26), Great Inagua, Acklin Island, *Fortune Island (March 9), *Abaco.

Mr. Boucher informed me that this species, as well as the Great Blue Heron, was very destructive to the young green and hawk-billed turtles on Great Inagua, and that accordingly it was shot at every opportunity. On April 26, at Sand Bank, Abaco, an Osprey was seen flying over whose head appeared to contain dark markings, similar to the northern form.

[Mr. Riley writes me that since his "List of Bahama Birds" was published he has seen the type of *Pandion ridgwayi* Maynard, and that it is apparently a good form.—W. E. C. T.]

54. **Falco peregrinus anatum** Bonaparte. DUCK HAWK.

Watlings Island.

On one occasion a Duck Hawk was seen pursuing a duck in the lake.

55. **Falco columbarius columbarius** Linnæus. PIGEON HAWK.

New Providence, Watlings Island, Andros.

Not common. One taken on New Providence January 7 had just been in pursuit of a flock of Bob-whites.

56. **Falco sparverius sparverius** Linnæus. AMERICAN SPARROW-HAWK.

New Providence, *Great Inagua, *Acklin Island, *Andros.

Not common.

[The subspecific identification is doubtful.—W. E. C. T.]

57. **Accipiter velox** (Wilson). SHARP-SHINNED HAWK.

*Great Inagua (Mathewtown, February 22), *Acklin Island.

58. **Amazona leucocephala bahamensis** (Bryant). BAHAMA PARROT.
Great Inagua, Acklin Island.

Although we did not ourselves meet with parrots on Great Inagua they are nevertheless common there, especially in the northeast portion of the island. We saw caged birds which had been taken there, and talked with certain parties who had seen parrots in a wild state the day before the conversation. The birds do much damage

in the cornfields, tearing away the husks and often eating as much as half of the ear. Concerning our experience with parrots on Acklin Island I can do no better than quote from my note-book, under date of March 4. "We turned out at daybreak, and after breakfast joined the guide whom we had engaged the night before, and started into the parrot country, back from 'Gold Rock' settlement. We saw corn destroyed by parrots about five miles south of Spring Point, but no birds were heard or seen. We met a resident of Pompey Bay, however, who had seen a flock the previous evening, so we dismissed our first guide and proceeded with the new one, going still farther south over very rough country until about two o'clock, when we reached the point where they were seen the previous evening. It is their habit to remain quiet through the heat of the day, coming out of cover to feed in the morning and evening, when their noisy chattering is sure to betray their presence, so we sat down to await their appearance. We had rested perhaps an hour thus, when some parrots were heard in the distance. Slipping up on them, we finally caught sight of one bird, which was shot, while two others we had not seen, but which were feeding in the same 'synagogue bush,' only about ten feet from the ground, flew off, one of them badly wounded, but it did not fall in sight, and was not found. Again we sat down, and in about fifteen or twenty minutes another bird was heard, approached within range, and secured. Although we remained in the vicinity until nearly sunset, shifting our station from time to time, no others were heard or seen, so we started for Pompey Bay, where we intended to pass the night. We had gone scarcely a mile on our way when two parrots flushed wildly with a loud chattering, but although we followed them for some distance they would not permit us to approach within one hundred yards. As night was close at hand we retraced our way to the 'road' and resumed our journey to Pompey Bay, where we arrived after dark in a somewhat fagged-out condition.

"March 5. We were up at daylight, and after a hasty breakfast, and having engaged our guide to try to get some more parrots for us, we started on the return journey, finally arriving at our headquarters at ten o'clock, with blistered feet, and otherwise exhausted." That evening our guide sent us two parrots which he had shot for us, and as we were leaving the island just at sunset on March 8, the last skiff to come off to the schooner brought us two more which our first guide

had succeeded in getting. We were told that had we landed at Pompey Bay and hunted from that point southward our chances for obtaining a larger number would have been much better, with much less of the hard traveling, of which one who has never been across country in the Bahamas cannot realize what even a few miles means.

59. **Crotophaga ani** Linnæus. ANI.

New Providence, *Acklin Island, Watlings Island, Andros, Abaco.
Not uncommon, and generally distributed.

60. **Saurothera bahamensis bahamensis** Bryant. NASSAU LIZARD CUCKOO.

New Providence.

Not uncommon in the high coppet or thicket, but, for so large a bird, very difficult to obtain, or even observe. Uttering its call only at quite long intervals, and with every facility for keeping well concealed, it is much more numerous than would at first be supposed. We were fortunate in securing six specimens, none of them very far from our bungalow in the Blue Hills.

61. **Saurothera bahamensis andria** Miller. ANDROS LIZARD CUCKOO. Andros.

Much less common than the New Providence bird, and its call more seldom uttered. Only one was taken, in dense thicket back of Staniard Creek. Others were heard, but it proved impossible to get within sight.

62. **Coccyzus minor maynardi** Ridgway. MAYNARD CUCKOO. Great Inagua, *Acklin Island, Watlings Island, *Abaco.

Our first specimen was taken February 19, in thick, low coppet just outside of Mathewtown. It was not uncommon on Watlings Island, and five specimens were taken at Spencer's Point, Abaco, early in May. Inhabiting as it does the thickest coppet, it would seldom be found were it not for its betraying notes.

63. **Ceryle alcyon** (Linnæus). BELTED KINGFISHER.

*Great Inagua, *Acklin Island, *Watlings Island.

Not common.

64. **Dryobates villosus maynardi** Ridgway. BAHAMA HAIRY WOOD-PECKER.

New Providence.

Not uncommon on this island, but not found outside of the pine barrens so far as our observations went.

65. *Dryobates villosus piger* Allen. ABACO HAIRY WOODPECKER.
Abaco.

A single female was taken April 26, in the pine barren at Sand Bank.

66. *Sphyrapicus varius varius* (Linnæus). YELLOW-BELLIED WOODPECKER.

New Providence, Great Inagua, *Watlings Island.

A winter resident, but not common. The borings, so prominent in the trees about the landing at Cockburn Town, Watlings Island, which at first we supposed had been made by the following species, we now attribute to the present one.

67. *Centurus nyeanus nyeanus* Ridgway. NYE WOODPECKER.
Watlings Island.

Our main purpose in visiting Watlings Island was to secure if possible a few specimens of this rare or "apparently extinct" woodpecker. A fine series of nine skins was obtained, six males and three females, and as our explorations covered only about one-third of the island there are undoubtedly plenty of them left for propagation. Indeed, we were told by some of the natives that they were plentiful on a certain part of the island that we did not visit, but such statements are, of course, not to be depended upon. There is no doubt, however, but that the birds are sparingly distributed throughout the entire wooded portion of the island. They keep in or near the very thickest coppet or shrubbery, carrying on their search for food leisurely in the larger of the low trees and the scattering palmettoes. The contents of such of their stomachs as were examined consisted mainly of tree-boring grubs and ants. Their note is a peculiar tree-toad-like croak, similar to that of the Red-bellied Woodpecker. Our first specimen was taken March 12, in thick coppet back of Victoria Hill settlement in the northwest part of the island, and later on others were taken in the same general region, as well as elsewhere. On one occasion a male bird was detected directly overhead in thick coppet in bottom-land. Upon backing off in order to shoot the bird kept following, as if impelled by curiosity, and it was with some difficulty that the proper shooting distance was attained. Other individuals met with were similarly fearless. The females taken showed little or no signs of breeding.

68. *Centurus nyeanus blakei* Ridgway. ABACO WOODPECKER.
Abaco.

A series of eight specimens were secured, two at Sand Bank and six at Spencer's Point. The first specimen was taken April 26, feeding in a sapodilla tree in a fruit-orchard, near the water-front. At Spencer's Point their chief attraction seemed to be the telegraph poles along the railroad line into the timber, and it is likely that they mistook the significance of the humming of the wires. They were apparently mated, as in each instance a pair were observed together.

69. *Chordeiles virginianus vicinus* Riley. BAHAMA NIGHTHAWK.
Andros, Abaco.

A single bird seen high in the air at Staniard Creek April 15, and another at Spencer's Point May 5, were the only ones noted.

70. *Nesophlox evelynæ* (Bourcier). BAHAMA WOOD-STAR.

New Providence, Acklin Island, Watlings Island, Cat Island (Port Howe, April 6), Andros, Abaco.

Common throughout the northern islands, but strange to say not detected at Spencer's Point. A nest of this species found on Green Turtle Cay, April 23, was saddled on a horizontal branch of a wild fig tree in a dooryard of the village, twelve feet from the ground. It was partly supported on one side by a smaller branch, and was composed of white cotton-fiber, the outside covered with small pieces of dry plant-bark and bits of dead leaves. It measured one and three-fourths inches wide by one and one-half inches high, with a cavity three-fourths of an inch wide and deep. It contained two pure white eggs, far advanced in incubation. The female was seen on the nest.

71. *Nesophlox lyrura* (Gould). INAGUA WOOD-STAR.
Great Inagua.

Abundant, and noted at every locality we visited. In the vicinity of Mathewtown it was partial to the blossoms of a species of agave, and was quite tame and fearless. Mr. Mortimer, with whom we lodged, brought us one he had killed with a switch.

72. *Riccordia ricordii æneoviridis* Palmer and Riley. ABACO
HUMMINGBIRD.

Andros, Abaco.

A few were seen and three were taken at Staniard Creek, Andros. It was more common on Abaco, although by no means numerous. Some tall sisal plants in full bloom were a special attraction for this species at Sand Bank on the latter island.



73. **Tyrannus dominicensis dominicensis** (Gmelin). GRAY KING-BIRD.

Watlings Island, Andros, Abaco.

One of the few conspicuous land-birds of the Bahamas, always perching on some prominent dead branch and carrying on business strictly in the open. It is a summer resident only, and the first was seen March 27 on Watlings Island. It was noted at Staniard Creek, Andros, April 12, and had become common on Abaco by the first week in May.

74. **Tolmarchus bahamensis** (Bryant). BAHAMA PETCHARY.

New Providence, Andros.

Quite common in the pine barrens back of the Blue Hills, but not noted elsewhere except at Staniard Creek, Andros, where, however, it is not numerous. It is very tame and unsuspicious, sitting sedately on some dead branch or stub, and sallying forth at intervals to snap up a passing insect. This and the next species are called "Tom-fool" by the colored inhabitants.

75. **Myiarchus sagræ lucaysiensis** (Bryant). BAHAMA CRESTED FLYCATCHER.

New Providence, Great Inagua, Acklin Island, Andros, Abaco.

Moderately common and of general distribution throughout the Bahamas. It prefers the cooler shade of the more secluded thickets, and is seldom seen in the open.

76. **Blacius bahamensis** (Bryant). BAHAMA WOOD PEWEE.

New Providence, Andros, Abaco.

Not uncommon, frequenting thickets and edges of pine barrens.

77. **Mimus polyglottos polyglottos** (Linnæus). MOCKINGBIRD.

*Long Island, Andros, Abaco.

The Mockingbird was common at Clarence Town, Long Island, January 30. A single pair were seen at Staniard Creek, Andros, but they were so very shy that they could not be approached within gunshot, despite the most cautious stalking. A few were seen on Green Turtle Cay, April 23, and we managed to secure a single specimen at Spencer's Point on May 3.

78. **Mimus polyglottos orpheus** (Linnæus). ANTILLEAN MOCKING-BIRD.

Great Inagua.

Abundant, especially in the vicinity of Mathewtown, where they

must breed very early, as fully grown young in the spotted plumage were taken on February 24.

79. *Mimus gundlachii gundlachii* Cabanis. GUNDLACH MOCKING-BIRD.

New Providence, Great Inagua, *Acklin Island, Watlings Island, Cat Island (Port Howe, April 6), Andros.

Quite common, but shy and retiring in its habits, keeping itself well concealed in the thick coppet, except when singing, when it mounts to some more elevated perch, whence it darts quickly back to cover at the least alarm.

80. *Dumetella carolinensis* (Linnæus). CATBIRD.

New Providence, Great Inagua, Watlings Island, Andros, Abaco.

Nowhere very common, but apparently of general distribution as a winter resident, and tame and familiar as in its summer haunts.

81. *Margarops fuscatus fuscatus* (Vieillot). PEARLY-EYED THRASHER. Rum Cay, Great Inagua, Watlings Island.

The first individual was seen at Rum Cay, January 28, unconcernedly seeking food in a yard in the village of Port Nelson. It was very common on both Great Inagua and Watlings Island, but in habits was rather shy and retiring, keeping out of sight in low coppet and the edges of mangrove swamps. A little "squeaking," however, would usually bring the bird out for a glance at the intruder, two or three being often in sight at once. Much of their time is spent on the ground, scratching about among the dry leaves in search of food, after the manner of the Towhee. The species is called "Paw-paw bird," "Thrasher," or "Jack" by the natives.

82. *Mimocichla plumbea* (Linnæus). BAHAMA THRUSH.

New Providence, Abaco.

This handsome species is much more common than it is conspicuous. Keeping as it does in the deepest portions of the shadiest thickets, and flitting silently out of sight at the least intrusion, it is very difficult indeed to observe. We discovered that the birds were in the habit of coming out into the open more frequently at dusk, when most birds were retiring for the night, feeding along the paths and edges of clearings.

83. *Polioptila cærulea cærulea* (Linnæus). BLUE-GRAY GNAT-CATCHER.

New Providence, Great Inagua, *Acklin Island, Andros, Abaco.

Common throughout the Bahamas, seeming to prefer the pine barrens in the northern islands, but equally at home in the more open coppet on Inagua and Watlings Island. A nest was built within thirty feet of our palmetto shack at Sand Bank, Abaco, during the last week in April. It was placed in the upright fork of a mango tree, eighteen feet from the ground, surrounded by smaller branches, but little supported by them. Cotton, dry leaves, and strips of plant-fiber were the materials used in its composition, the lining being pale dun-colored plant-down. There was but slight attempt at outside decoration—merely a few bits of dead leaves and lichens stuck on, in striking contrast to the usual elaborately finished structure of this species in the Eastern States. It measured as follows: diameter, outside, two and three-eighths inches, inside, one and one-half inches; depth, outside, two inches, inside, one and one-eighth inches. It was finished ready for the eggs, and then for some unknown reason abandoned.

84. *Vireosylva calidris barbatula* (Cabanis). BLACK-WHISKERED VIREO.

Andros, Abaco.

A summer resident, first noted April 13 at Staniard Creek, Andros. A few were found at Sand Bank the latter part of April, and it was common at Spencer's Point by May. In habits it is very similar to the Red-eyed Vireo.

85. *Vireo griseus griseus* (Boddaert). WHITE-EYED VIREO.

A male bird of this species was taken at Staniard Creek, *Andros, on April 14, this being the first record for the Bahamas.

86. *Vireo crassirostris crassirostris* (Bryant). THICK-BILLED VIREO.

New Providence, Great Inagua, *Acklin Island, *Watlings Island, Andros, Abaco.

Very common and generally distributed throughout the various islands. It occurs as an inhabitant of almost every thicket, where it may be observed in leisurely pursuit of food, and uttering its song at regular intervals throughout the day.

87. *Progne subis subis* (Linnæus). PURPLE MARTIN.

Miss Lightbourne of the *Blue Hills showed us an adult male mounted bird of this species, which she had captured alive in her villa during the winter of 1899-1900. The bird came into a vacant room to roost for several nights, and she contrived to catch him and put him in a cage, but he died during the first night of captivity, and she had him

mounted by a local taxidermist. She informed me that he was apparently perfectly well and in good condition when captured. This is the first Bahaman record for this species.

88. *Hirundo erythrogastra* Boddaert. BARN SWALLOW.

*Abaco.

Four individuals noted at Spencer's Point May 4, bound northward, were the only ones seen.

89. *Callichelidon cyaneoviridis* (Bryant). BAHAMA SWALLOW.

New Providence, *Great Inagua, Andros, Abaco.

A few were seen on the south shore of New Providence and near Nassau in January. With the exception of a single bird observed at Alfred Sound, Great Inagua, February 3, it was not again recorded until our return to Nassau on April 10. Our first specimens were secured at Staniard Creek, Andros, April 14, on which occasion the birds appeared in numbers towards evening after a shower, circling around the settlement near the houses, and exhibiting no shyness whatever. Our experience on Abaco a little later on was much the same. The birds would seem to lay up during the heat of the day, coming out at sunset and in cloudy weather to feed, appearing in dozens at certain favorable places, and remaining in evidence until dusk. On one occasion (April 24) one was seen to gather a mouthful of seaweed and fly out of sight directly inland, towards the pine barren. Two days later, following up this clue, we discovered their breeding haunts. The nests were built in cavities (after the manner of the Tree Swallow), in very tall dead pines, fifty or more feet from the ground, and were utterly inaccessible, as the trees were unsafe to climb. The birds were seen leaving and in the vicinity of the holes. At Spencer's Point Bahama Swallows frequented the log boom of the Bahama Lumber Company, feeding around the wharf and log piles daily, and so tame that on one occasion I was able to knock two of them down with a stick a few feet long.

90. *Riparia riparia* (Linnæus). BANK SWALLOW.

*Abaco.

On May 10, while at the lumber dock at Spencer's Point, just before leaving for Nassau, I saw two swallows which flew differently from the Bahama species, and waiting until they came closer I found that they were Bank Swallows. The grayish brown back, dark breast-band, short square tail, and quick jerky flight were unmistakable. This is the first Bahaman record for the species.

91. **Mniotilta varia** (Linnæus). BLACK-AND-WHITE WARBLER.

New Providence, *Great Inagua, Watlings Island, Andros, Abaco.

Not uncommon as a winter resident throughout the islands. It was noted at Spencer's Point, Abaco, as late as May 6.

92. **Helmitheros vermivorus** (Gmelin). WORM-EATING WARBLER.

New Providence, Great Inagua, *Abaco.

A winter resident, but not common. The latest record was for Sand Bank, Abaco, April 29.

93. **Compsothlypis americana americana** (Linnæus). PARULA WARBLER.

Great Inagua, Andros.

Not common.

94. **Dendroica tigrina** (Gmelin). CAPE MAY WARBLER.

New Providence, Great Inagua, *Acklin Island, Watlings Island, Andros, Abaco.

The Cape May Warbler is a winter resident, and according to our experience is one of the most common warblers at that season. It was noted on Abaco as late as the first week in May.

95. **Dendroica petechia flaviceps** Chapman. BAHAMA YELLOW WARBLER.

Great Inagua, Watlings Island, Andros, Abaco.

This species is common throughout the Bahamas wherever there are suitable tracts of mangrove, which are its chosen haunts, and far from which it seldom wanders.

96. **Dendroica cærulescens cærulescens** (Gmelin). BLACK-THROATED BLUE WARBLER.

New Providence, Watlings Island, Andros.

A not uncommon winter resident.

97. **Dendroica coronata** (Linnæus). YELLOW-RUMPED WARBLER.

New Providence, Great Inagua, *Acklin Island, *Watlings Island, Andros.

Common throughout the winter months. The bulk leaves by the last of March.

98. **Dendroica striata** (Forster). BLACK-POLL WARBLER.

*Abaco.

Only one record, referring to a single transient individual seen at Spencer's Point May 4.

99. ***Dendroica dominica dominica*** (Linnaeus). YELLOW-THROATED WARBLER.

New Providence, Great Inagua, Watlings Island.

Not uncommon in the pine barrens back of the Blue Hills in January, but seldom noted elsewhere.

100. ***Dendroica flavescens*** Todd. YELLOW-BREASTED WARBLER. Abaco.

Four examples of this fine new species were taken, three at Sand Bank the last week in April, and one at Spencer's Point on May 7, two of each sex. They were found near the edge of the pine barrens, feeding well up in the pines, and in their movements and song resembled the Yellow-throated Warbler very closely. The species doubtless occurs throughout the two Abacos, at least as far as the pine barrens extend. The sexual organs showed no signs of activity.

101. ***Dendroica pityophila*** Gundlach. CUBAN WARBLER. Abaco.

Common in the pine barrens at Sand Bank, and noted at Spencer's Point also, but less common. Like the last species, they keep well up in the pines, associating with the Bahama Pine Warblers, and it is doubtful if they ever leave such situations.

102. ***Dendroica vigorsii achrustera*** Bangs. BAHAMA PINE WARBLER. New Providence, Andros, Abaco.

Common wherever there are pine barrens, and doubtless not going beyond their extent. They seldom come near the ground to feed, confining themselves to the upper branches much more closely than the bird of the Eastern States.

103. ***Dendroica palmarum palmarum*** (Gmelin). PALM WARBLER.

New Providence, Cat Island (The Bight, January 26), Great Inagua, *Acklin Island, Fortune Island (March 9), Watlings Island, Andros.

A common and generally distributed winter resident.

104. ***Dendroica discolor*** (Vieillot). PRAIRIE WARBLER.

New Providence, Great Inagua, Watlings Island, Andros.

A not uncommon species in many places.

105. ***Seiurus aurocapillus*** (Linnaeus). OVEN-BIRD.

New Providence, Great Inagua, *Acklin Island, Watlings Island, Andros, Abaco.

Common throughout the islands, where it is called "Walk-easy" by the natives. It was observed as late as May 3 at Spencer's Point, Abaco, where it doubtless breeds.

106. *Seiurus noveboracensis notabilis* Ridgway. GRINNELL WATER THRUSH.

New Providence, Great Inagua, Watlings Island.

Not uncommon as a winter resident.

107. *Geothlypis trichas trichas* (Linnæus). MARYLAND YELLOW-THROAT.

New Providence, Watlings Island, Andros, Abaco.

Common in the northern islands in winter, remaining as late as April 27 on Abaco. It was numerous on Watlings Island March 19.

108. *Geothlypis rostrata rostrata* Bryant. BRYANT YELLOW-THROAT.

New Providence, Andros.

Although special search was made for this species, only four specimens (all males) were secured, three on New Providence and one on Andros. Two of these were shot on the edge of the pine barrens, just south of the Blue Hills, and another in high coppet. From their persistence in keeping in the very thickest covert, which is here so dense that one can scarcely force his way through, and into which one can see but a very few feet, it is very difficult to catch even a glimpse of them. The only note which was ever heard was a short chirp, in no way distinctive. On one occasion a pair were seen together, but the female readily eluded capture.

109. *Geothlypis rostrata tanneri* Ridgway. TANNER YELLOW-THROAT.

Abaco.

More common in proportion than the New Providence bird, eight specimens being secured, all males. They are shy and retiring, keeping in the shady nooks of the thickest shrubbery and ferns, rarely venturing into plain sight, so that nearly all of those taken were secured by snapshots, as they flitted through the shadowy depths of the thickets. A female once came and worked through the thick growth around the base of an orange tree, within a few feet of our palmetto shack at Sand Bank.

110. *Setophaga ruticilla* (Linnæus). AMERICAN REDSTART.

New Providence, Great Inagua, Andros, *Abaco.

The Redstart is not common in the Bahamas, according to our experience. It was found in open growth and pine barrens. The last was seen at Sand Bank, Abaco, April 26.

111. *Cœreba bahamensis* (Reichenbach). BAHAMA BANANAQUIT.

New Providence, Cat Island (The Bight, January 26, Port Howe, April 6), Great Inagua, *Acklin Island, Watlings Island, Andros, Abaco.

Abundant throughout the various islands, being partial to cocoanut groves, open woodland, and the vicinity of dwellings. On one occasion at the Blue Hills I had an opportunity of watching one of these birds at close range, as it was feeding on some bits of grape-fruit pulp which had been dropped over the veranda railing. It was satisfying its appetite by *licking* the shreds with its tongue, darting this member out and in with a very rapid motion, reminding one of a snake.

112. *Agelaius phœniceus bryanti* Ridgway. BAHAMA RED-WING.

New Providence, Andros, Abaco.

Common in suitable localities in the northern islands, about the edges of lagoons, ponds, and mangrove swamps.

113. *Icterus northropi* Allen. NORTHROP ORIOLE.

Andros, Abaco.

At Staniard Creek, Andros, where there are large cocoanut groves, we found the Northrop Oriole quite common, and readily secured a dozen specimens during our brief stay, all within a radius of two miles. I predict that the species will be detected on this island wherever cocoanut groves occur. Passing almost all their time as they do in the tops of the cocoanut palms, feeding among the thick leaves, blossoms, and clusters of nuts, and being more than a little inclined to play at the game of "hide-and-seek"—with the chances all in their favor—one might spend a considerable time in a grove where they are common, and yet scarcely ever see one. An occasional note, however, betrays their presence. One of their notes sounds like a hoarse "*chi-chot, chi-chot*," with accent on the first syllable, while others remind one of some of those of the Baltimore Oriole. They sing and breed in the immature plumage. At Sand Bank, Abaco, where there are no cocoanut palms, we nevertheless found them not uncommon in tall coppet, and very tame. On one occasion a young male allowed me to pass my gun-barrels within a foot of him.

114. *Spindalis zena zena* (Linnæus). BLACK-BACKED SPINDALIS.

New Providence, Cat Island (Port Howe, April 6), Andros.

One of the most abundant and conspicuous of the characteristic land-birds of the northern Bahamas. They came in large numbers

to feed in the wild fig trees near our headquarters at the Blue Hills, and were very tame, feeding fearlessly within a few feet of us.

115. *Spindalis zena townsendi* Ridgway. ABACO SPINDALIS.

Abaco.

Common at Sand Bank, inhabiting coppet, and noted at Spencer's Point also.

116. *Passerina cyanea* (Linnæus). INDIGO BUNTING.

*Great Inagua, *Andros, *Abaco.

Not common. It was noted at Spencer's Point, Abaco, as late as May 8.

117. *Pyrrhulagra violacea violacea* (Linnæus). BAHAMA BULL-FINCH.

New Providence, Great Inagua, Andros, Abaco.

Common in coppet and thick woodland, often coming to the wild fig trees to feed.

118. *Tiaris bicolor bicolor* (Linnæus). BAHAMA GRASSQUIT.

New Providence, Great Inagua, Acklin Island, Watlings Island, Andros, Abaco.

Abundant in fields and thickets, and along the highways.

119. *Passerculus sandwichensis savanna* (Wilson). SAVANNAH SPARROW.

New Providence, Andros.

Not common; noted in fields and pine barrens. It was taken on Andros as late as April 13.

120. *Passer domesticus domesticus* (Linnæus). EUROPEAN HOUSE SPARROW.

New Providence.

A few were noted in the town of Nassau.



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