

Woodhouse's Jay. Baird. "Named in honor of Dr. Woodhouse, who first discovered it on October 11, 1851, at San Francisco Mountains, N. Mex."

Worthington's Marsh Wren. Brewst. "Named in honor of the discoverer, Mr. W. W. Worthington, who first found it at Sapelo Island, Ga., November 17, 1887."

Wright's Flycatcher. (Swains.) Baird. "Named in honor of the discoverer, Mr. C. Wright, of the Mexican Boundary Survey, who obtained the specimens at El Paso in Texas."

Xantus's Hummingbird. Lawr. "Named in honor of Mr. Xantus's, who discovered it."

A STUDY OF THE AVIFAUNA OF THE LAKE ERIE ISLANDS.

BY LYNDS JONES.

THE BIRDS OF PELEE ISLAND.

By referring to the first article of this series of papers it will be noted that this, the largest island of the group studied, was visited August 28 to September 1, 1905; for about two hours on July 28, and again from August 18 to 21, 1908; July 16 to September 7, 1910; and finally the evening of August 21 and the morning of August 22, 1911. This list, therefore, takes account only of the summer resident birds and the beginning of the autumn migrations. It cannot be regarded as more than preliminary even for the summer season. The correctness or incorrectness of the reports which the residents of the island made to us of vast migrations of the birds, particularly the water fowl, during the last of September and well into November need corroboration. There seems to be no resident of the island now who is competent to make the necessary observations.

The writer believes that the list as here presented represents the actual conditions of the bird population during the

period of study, for no pains were spared to make the investigation of the bird life thorough and detailed. It seems unlikely that any species could have escaped the dozen pairs of eyes and the continuous study.

Podilymbus podiceps.—Pied-billed Grebe.

Noted only at the swamp on the north-east end of the island, where it seemed to be breeding—1910.

Larus argentatus.—Herring Gull.

Everywhere and always common, even during the July days. Much time was spent by the birds roosting on the sand spit, usually near the southern end of it, and when we approached this favorite resting place the birds flew beyond rifle range and settled upon the water. The majority of the gulls were in the dark or mottled plumage. They had not, of course, nested anywhere in the region. There was no pound fishing being done anywhere about the island, and therefore the gulls did not fish in the vicinity.

Larus philadelphia.—Bonaparte's Gull.

The first, an immature bird, was noted on August 11, and nearly every day thereafter during the period of study in 1910. The largest number seen at any one time was four on August 15, 1910, two of which were in nearly full fall plumage. None were recorded on any other trip to this island.

Sterna caspia.—Caspian Tern.

The only records are three September 1, and one each on September 3 and 6, 1910. These individuals lingered about the point for some time, but finally passed on to the southward in the regular line of migration.

Sterna hirundo.—Common Tern.

Present in large numbers on all visits and at all times. They did not nest on this island, but rested and roosted on the sand spit by the thousand, both night and day. There seemed to be fewer of them at night than during the day. Many were in the first plumage, and there were numerous instances of young being fed by the parents. As far as could be determined the fish used for food were small and slender. As noted, there were extensive nestings on Middle Island, only two miles to the south, and on Big and Little Chicken and North Harbor. On excursions around the island, these terns were seen roosting on every available sandy point. Ten thousand individuals would be a conservative estimate of the numbers hereabouts.

Hydrochelidon nigra surinamensis.—Black Tern.

Present in considerable numbers on all visits, increasingly so during the 1910 studies. Full plumaged birds predominated dur-

ing the July and early August studies, with scattering young plumaged birds, the most of which were still being fed. As the weeks passed the mottled birds increased in numbers until there were almost none in the full summer dress. It was clear that there was no breeding colony on Pelee Island during the summer of 1910, whatever may have been true at any other time. Compared with the preceding species, the numbers were small at the time of the beginning of the 1910 studies, July 16, but by the first of September the two species were about equal in numbers. The birds of this species were somewhat less wary than of the Common, so that the succession of perching birds on the sand spit was Herring Gulls on the extreme point of the spit, then the hosts of Common Terns, and finally, ranging well toward the first vegetation on the broader base of the spit, the particolored Black Terns. Photographs of the birds as they were leaving the spit, taken from the spit itself, show practically no birds but the Black Terns, because they were always in the foreground.

Anas platyrhynchos.—Mallard.

Three were found in the small swamp at the base of Fishing Point on August 6, 1910. Of course there must be great numbers during the migrations.

Anas rubripes.—Black Duck.

Seen only during the 1910 studies. There were four in the Fishing Point swamp on August 5, and two on each of the three succeeding days. The other records are August 17, one; 24 and 25, two; 28, four; September 3, one; and 6, four. As noted elsewhere, a few individuals of this species were usually found in the vicinity of the Chicken islands. These individuals may have wandered over to Pelee. When they were startled they invariably flew toward the Chicken islands.

Mareca americana.—Baldpate.

A small flock was noted flying westward across the point on August 5, 1910, none others noted at any time.

Querquedula discors.—Blue-winged Teal.

A pair with young was noted in the swamp of Fishing Point for a few days early in August, 1910. The nesting must have been at this swamp.

Aix sponsa.—Wood Duck.

There were three individuals in the swamp during the first week in August, 1910. Whether they had nested there could not be determined.

Botaurus lentiginosus.—Bittern.

Beginning on August 5, 1910, when a thorough study of the Fishing Point swamp was made, one or two of these birds were

seen nearly every day. It seemed likely that there had been at least one nesting here, but that could not be determined certainly. *Ixobrychus exilis*.—Least Bittern.

There were three at the Fishing Point swamp all summer, 1910. No nest was found there, but other evidence of breeding seemed conclusive.

Ardca herodias herodias.—Great Blue Heron.

From one to four were seen perched on the sand of the point each morning, and were occasionally seen elsewhere or flying about. If there had been a nesting on the island we did not find evidence of it.

Florida carulea.—Little Blue Heron.

On August 27, 1910, a lone individual was discovered perched on a dead tree in the midst of the swamp. It was approached closely enough to make clear the bluish tips of the wings, and the greenish legs, but the man with the gun missed it. To those who must have the specimen in order to fully establish the record it must remain a hypothetical occurrence, but to those who saw the bird there seems no reasonable doubt. The attempt to kill the bird seemed to be enough to frighten it away, for it was not seen again.

Butorides virescens virescens.—Green Heron.

Two were occasionally seen about the edge of the swamp, or flying about over the water or the island, 1910. A nest, probably of this species, was found in the trees bordering the swamp on the north.

Rallus elegans.—King Rail.

Several could be seen feeding along the margin of the marsh at any time of day, if one approached cautiously. A number of nests which must have been built by this species were found in the swamp. The birds were so wary that the least disturbance sent them skurrying into the dense vegetation bordering the water of the swamp.

Rallus virginianus.—Virginia Rail.

Nests belonging to this and the next species were numerous in the swamp, and numbers of the birds were seen feeding or were heard calling on every visit to the swamp. This little thirty acre swamp seemed to be a nesting mecca for these birds.

Porzana carolina.—Sora.

There seemed to be more individuals of this species than of the last, but the less wary disposition of this species might easily account for the apparent difference. One of our pleasant 1910 pastimes was to wade into the swamp and half a dozen of us surround a small bushy island upon which there were known to be several of the small rails. The birds would cling to it with a

tenacity truly remarkable, and that made their escape seem impossible. But they more frequently did make their escape between the feet of some tormentor than any other way. They seemed to be unwilling to trust themselves to flight and complete exposure. One stood about as much chance of catching a bird as of catching a field mouse or a tiger beetle, in the dense vegetation.

Gallinula galeata.—Florida Gallinule.

So numerous in this little Fishing Point swamp that it seemed to be full of them. The young birds outnumbered the old ones five to one. There were some young less than half grown. Nests were everywhere in the more central parts of the swamp where vegetation made it possible to locate them. One would hardly dare venture a guess of the numbers of this species in this swamp, but on one occasion we actually counted over fifty.

Fulica americana.—Coot.

Six individuals were seen on the swamp on the north-eastern point of the island on August 29, 1910. The conditions there were more favorable for their nesting than at the Fishing Point swamp.

Philohela minor.—Woodcock.

The largest number recorded at any one time was 5 on August 14, 1910, but one or more could be found at any time by beating through the woods and brush in the vicinity of the swamp, especially in the depressions between the ridges. Nestings must have occurred here.

Gallinago delicata.—Wilson's Snipe.

One was flushed from the Fishing Point swamp on August 7, and likely the same individual on the 8th. On the Ohio shore this would be a remarkably early date for this species.

Macrorhamphus griseus griseus.—Dowitcher.

There were three records, all for 1910, and all for the sand spit. The first one was on August 10, one bird which was secured, two on August 24, and one on September 3. These individuals were not particularly shy.

Tringa canutus.—Knot.

Two lingered on the point, September 5, 1910, until one of them was secured. The birds were in the fall plumage.

Pisobia maculata.—Pectoral Sandpiper.

A group of seven feeding in the swamp on August 24, 1910, were the first seen. There were three on the 27th, one on the 28th and 29th, about two hundred on September 2, and twenty on the 3d. All were in the heavier mottled plumage. They were feeding at the western end of the swamp, where the water had dried away and the mud lay exposed.

Pisobia bairdi.—Baird's Sandpiper.

These birds gave us a good deal of anxiety for the first few days after their first appearance, but the capture of several and the remains of others which some bird of prey, probably a Sharp-shinned Hawk, regularly left, furnished certain means of identification until the characteristic markings were learned. The first seen was a flock of twelve on August 24, 1910, and from that date until September 7, the date on which we left the island, from two to a dozen were found on the beach usually somewhere on the sand spit. After the first few days they were not at all wary, but permitted one to approach them within a few feet. Some bird of prey took daily toll from their numbers, sometimes as many as six individuals being represented by the remains. The marauder rarely ate more than the breast muscles, leaving a good part of the plumage intact. The killing was always done either at night or so early in the morning that we were unable to witness it.

Pisobia minutilla.—Least Sandpiper.

The first company of six of these birds were recorded on August 5 and 6, 1910. The next was a company of ten on the 11th, one of twelve on the 12th, and then nearly every day from one to ten until the 27th, which was the last record. This species was nearly always associated with the Semipalmated, and it soon became easy to distinguish between them. These birds were rather more wary than the last species, but they fed in much the same places and manner. Their call notes were different and their manner of flight also different.

Pelidna alpina sakhalina.—Red-backed Sandpiper.

There were only three records, all in 1910. The first was of three birds on August 15, one on the 16th, and one on the 21st. These were on the sand spit feeding with the other shore birds. All in the post nuptial plumage.

Ereunetes pusillus.—Semipalmated Sandpiper.

The first noted in 1910 were two feeding in the Fishing Point swamp on July 24th, then a company of twenty-five at the same place on August 8th, and thereafter during our stay there were numbers either in the swamp or on the beach, more frequently on the sand spit than elsewhere. They mixed with the other shore birds, and were only slightly more wary than were the Baird's Sandpipers. One with a broken leg remained around for several days. These birds suffered only slightly from birds of prey.

Calidris leucophæa.—Sanderling.

The first noted were on the 24th of July, 1910, the next four on August 2, six on the 5th, three on the 11th, two on the 25th, nineteen on the 29th, sixteen on the 3d of September, and four on the

5th. They were pretty definitely confined to the region of the sand spit, and usually kept somewhat apart from all other birds. They were feeding upon insects which had been cast up by the waves, including mayflies. They were rather more wary than is their habit on the Ohio shore.

Limosa hemastica.—Hudsonian Godwit.

Seven were seen under the most favorable circumstances, both on the sand spit and flying about, on August 24, 1910.

Totanus melanoleucus.—Greater Yellow-legs.

There was one feeding in the swamp on July 24th, 1910, and another in the same place on August 5th. Either we were not in the line of flight southward, or else we were not late enough for the regular southward migration of this sandpiper.

Helodromas solitarius solitarius.—Solitary Sandpiper.

There was one feeding in the swamp on July 24th, 1910, another on August 2, six on August 6th, four on the 11th, and thereafter until the 5th of September there was one or more there or on the beach nearly every day. As usual, these birds kept by themselves, unless a Yellow-legs or some of the smaller sandpipers happened to wander in to feed in the swamp.

Totanus flavipes.—Yellow-legs.

There was one feeding in the swamp on July 24th, 1910, two on August 2, and nearly every day thereafter from one to five, except on the 27th, when there were thirteen found either there or on the beach. The only regular association was with the Solitary, and that probably only incidentally during the feeding time.

Actitis macularia.—Spotted Sandpiper.

By far the commonest beach-haunting bird, except only the gulls and terns, and always present both on the beach and among the bushes. On August 30 it was noted as only tolerably common, on the 31st only seven were found, and on September 1, 2, 3, 5 and 6 only four, six, three, two and two respectively, none being seen on the 4th and 7th. It does not seem likely that this marked the disappearance of this species from the island, since the Ohio shore records run well into October. There were young birds not yet able to fly as late as the middle of August. These birds fed a good deal along the water's edge, but they could always be flushed from the edge of the bushes also. The young birds were much concealed in the bushes.

Squatarola squatarola.—Black-bellied Plover.

In 1910 there were two with black underparts on the sand spit on August 24, one there on September 1st, and five there on September 6th, two of which did not have the underparts black. They were very wary, not permitting approach within shot gun range, but they did not fly away from the point when flushed.

Oxyechus vociferus.—Killdeer.

Common on all visits to the island, and present there during the entire stay in 1910, of course nesting. There were always some on any stretch of beach, and we also found them on the higher parts of the island inland as well as along the ditches.

Ægialitis semipalmated.—Semipalmated Plover.

The first noted were two on August 5th, eight on the 8th, and thereafter a few were seen on the beach nearly every day in 1910, except from August 17th to 27, when there were none. It was also found on each of the other August trips to the island. These little shore birds kept much apart from the other birds, more often one in a place than in companies or flocks. They fed over the sand generally.

Ægialitis meloda.—Piping Plover.

A company of twelve was feeding on the east beach all day August 12, 1910, and a single bird was seen there on the 22d. If they had nested on the point during the summer of 1910 it must have been before the first party arrived there. Their early departure from Pelee Island accords with their habit on the Ohio shore.

Arenaria interpres morinella.—Ruddy Turnstone.

The first were noted on July 24th, and from then to the end of our stay in 1910, there were always a few somewhere on the beach. The largest number noted on any one day was thirty on September 5, and twenty-six on the following day. There were nineteen on August 16. In my experience these strikingly colored shore birds may be expected on the shores of Lake Erie or the islands at any time after the first week in July. They were noted on every late summer trip to the islands. They usually occur two together, but sometimes bunch up, especially at times of heavy migration, in the fall, more often in the larger groups in the spring. They stay close to the edge of the water when there is any reason for them to feel suspicious, but at other times may feed even to the edge of the line of vegetation on the beach. Late summer and early autumn groups usually contain some highly colored birds with those of duller plumage.

Zenaidura macroura carolinensis.—Mourning Dove.

A common nesting bird, especially in the cedars. It was found on each trip to the island, and in 1910 it was often seen on the sandy point. As the season advanced there was a tendency for the birds to group themselves into companies of ten or a dozen individuals, and to feed together along the water's edge or in the margin of the bushes. None were seen to cross southward, even in the strong southward movements. Inland these birds acted much as on the Ohio side.

Circus hudsonius.—Marsh Hawk.

During the greater part of the 1910 study time there were one or two of these hawks to be seen flying leisurely around at almost any time, but beginning on August 27, when thirteen were seen migrating, there was a decided increase and nearly every day evidences of a southward movement. It is altogether likely that there was at least one breeding pair on the island during this summer, but there must certainly have been an influx from the northward of many individuals as the weather turned colder in the last week of August and the first of September. The only evidence we had that this hawk might sometimes prey upon the young terns was the war-like attitude of the terns when one of them appeared in their vicinity. This attitude might have been a general one toward any hawk-like bird, however.

Accipiter velox.—Sharp-shinned Hawk.

A single individual of this species was seen on August 6th, and from one to three each day thereafter, except August 27, when there were six, and September 2, when there were twenty-two, evidently migrating. It is altogether likely that the depredations made upon the shore birds, in particular Baird's Sandpiper, were by this hawk. We were never able to catch one in the act, but on numerous occasions one was seen to leave the vicinity of freshly killed birds. One or two individuals could be started out of the cedars in the morning and in the evening.

Astur atricapillus atricapillus.—Goshawk.

An individual visited the Finishing Point swamp on August 24, 1910. We were clearly too early to witness any decided migration. Residents of the island mentioned flights of hawks which they were sure were of this species.

Buteo borealis borealis.—Red-tailed Hawk.

Two were found in the vicinity of large woods inland, but none ever made a visit to the vicinity of the point. These two birds acted like nesting birds.

Buteo lineatus lineatus.—Red-shouldered Hawk.

Individuals were occasionally seen flying high over the woods in the vicinity of the swamp near camp.

Haliaeetus leucocephalus leucocephalus.—Bald Eagle.

Two nests were found, one about a mile north of South Bay, and one in the vicinity of Saw Mill Point. As near as we could estimate there were probably eight individuals on the island. Occasionally one or two would pay a visit to the point, but they always kept well up in the air. The residents of the island shot them with impunity, yet the big birds seemed to be able to maintain their numbers from year to year.

Falco sparverius sparverius.—Sparrow Hawk.

Contrary to our expectations, we did not find this little hawk at all common at any time. The largest number seen at any time was four on September 5, 1910. It seemed to prefer the cedars, and could occasionally be flushed from there. One sometimes ventured down to near the end of the sand spit, but soon returned and disappeared in the cedars.

Pandion haliaetus carolinensis.—Osprey.

One was flying over Saw Mill Point August 8, 1910, another in the vicinity of camp August 22, and another flying over the sand spit September 5, 1910. There was no evidence of a nest anywhere on the island.

Asio flammeus.—Short-eared Owl.

A single bird visited the cedars in the vicinity of camp on August 11, 12, 23 and 27. Each time it was started from the ground or near it from one of the depressions between the ridges.

Otus asio.—Screech Owl.

Found on each visit, which included at least one night. It was present all summer, 1910, and could be heard quavering any night. It was difficult to find among the dense cedar growths, but we did succeed in finding individuals occasionally. It is likely that this owl is well distributed over the island in the woods.

Bubo virginianus virginianus.—Great Horned Owl.

One was discovered in the dense woods north of the point, and west of the swamp on August 25, 1910. There were plenty of suitable nesting places for this big owl.

Coccyzus americanus americanus.—Yellow-billed Cuckoo.

Common in the vicinity of the swamp during the entire study in 1910. Nests were not found in any numbers, but the birds were giving their characteristic calls all day long. One nest was discovered about fifty feet from the ground on the limb of an elm, near the swamp. Individuals occasionally wandered well toward the point among the cedars, but they clearly preferred the deciduous trees near the swamp.

Coccyzus erythrophthalmus.—Black-billed Cuckoo.

Noted less than twenty times during the 1910 study. The difference in the calls of the two cuckoos had been questioned, so particular attention was given to this study. In every instance where the bird could be both seen and heard the phrased call of this species was given, which distinguishes it from the preceding. No nests were found, but there was clear evidence that these cuckoos do nest on Pelee Island in limited numbers. There was no migratory movement of either of the cuckoos detected. One would suppose that their migrations would begin with the first chilly weather, but such did not appear to be the case.

Ceryle alcyon alcyon.—Belted Kingfisher.

Present during the whole summer study, 1910. One could always be found either in the swamp or on the beach near it. Individuals were seen at different points when we circumnavigated the island. Undoubtedly a nesting bird.

Dryobates villosus villosus.—Hairy Woodpecker.

Only one or two individuals were found, and they in the woods west of the Fishing Point swamp in the deciduous trees.

Dryobates pubescens medianus.—Downy Woodpecker.

Not any more numerous than the last species; and found in the same situations and in the button bushes bordering the swamp vegetation.

Of course these two woodpeckers must nest on the island, but we were not prepared for so few numbers. They were much less confiding than in regions where they are represented by greater numbers.

Melanerpes erythrocephalus.—Red-headed Woodpecker.

Like the last two species, this one was represented by few individuals which were clearly nesting. These few individuals were found in the open woods north of the swamp. Occasionally one wandered down into the cedar belt. Beginning on August 25th and continuing the remainder of our stay, in 1910, the Red-heads became common, and were clearly migrating, some of them during the day. This influx was sudden, following a chilly night. There seemed to be none in the brown-headed state.

Centurus carolinus.—Red-bellied Woodpecker.

One individual was found in the woods north of the swamp on August 23d. It was high up in the tallest trees.

Colaptes auratus luteus.—Northern Flicker.

Common on all visits and during the entire 1910 study. Nesting places were numerous wherever there were trees on the island. There was no definite migration noted. Birds would sometimes fly toward the south end of the sand spit, but none were seen to continue their flight in that direction. They fed in the tops of the cedars, and seemed to be eating the berries, and when the wild grapes began to turn they could be found among the grape vines, evidently feeding on the fruit.

Antrostomus vociferus vociferus.—Whip-poor-will.

The only ones found were on August 22 and 27, 1910, in the thick woods with underbrush south of the swamp.

Chordeiles virginianus virginianus.—Nighthawk.

The first one was seen July 30, 1910, and the next, three, at Saw Mill Point, August 8th. Single individuals were seen nearly every day until August 19, when there was an evident migration,

which continued nearly every day to the culmination on September 3, when 250 were counted in migration. During the evenings from August 19 until September 3, numbers could be seen flying over Mosquito Bay, sometimes swinging down even to Fishing Point and over the sand spit. The first migration followed the first chilly weather.

Chatura pelagica.—Chimney Swift.

Common on every visit to the island, and during the entire 1910 study. Migrations began on August 12th and continued every day to the end of our stay. There was never any marked increase in numbers, but a steady southward movement.

Archilochus colubris.—Ruby-throated Hummingbird.

Only occasionally seen among the marsh vegetation until August 23, after which there were decidedly more during our stay in 1910. At this time, as well as on the former visits to this island, these birds were found feeding about the jewel weed, where they were the most numerous, and where they were continually, on bright days, playing antics. Single individuals migrated just over the surface of the water, either passing directly down the sand spit toward Middle Island, or squaring away for Middle Bass. They seemed to prefer a head wind of some strength, or a quartering head wind which rolled up considerable waves. In migrating they flew just over the water and dipped down between the waves. I did see one bird strike out toward Middle Bass island high in the air, and did not see him settle down any.