

flock of Pectoral Sandpipers and numerous Killdeer, completed the list of water birds observed.

In an ancient, solitary willow, dwarfed of stature, gnarled of trunk, and having the depressed crown seen on timberline spruces—the result of weathering countless prairie gales—a pair of Ferruginous Rough-legs had their nest. Upon our approach both birds, dark male and pale female, appeared on the scene and showed considerable concern as if young birds were being fed. But the flattened, weathered nest was evidence that the young had departed much earlier and on the ground below was an addled egg still intact.

On my next visit, July 10th, 1926, the lake was

entirely dry. Across miles of alkali-encrusted mud could be seen, in strange wavering outlines, the distant shore line dancing in the heat. About a small spring-fed slough, a few hundred yards in circumference, we noted a few Red-winged and Yellow-headed Blackbirds, a gyrating Wilson's Phalarope, and a pair of Marbled Godwits. A pair of Killdeer and their full-grown brood had taken possession of a small pond originating in the overflow from an artesian well on Big Island—a legacy from a defunct Oil Company. These were the only birds seen.

(To be continued)

BIRD NOTES FROM THE CANADIAN LABRADOR, 1928

By P. A. TAVERNER

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REPRESENTING the National Museum of Canada, I spent the summer of 1928, assisted by the late Mr. C. G. Harrold, on the north shore of the Gulf of St. Lawrence from Matamek¹ to Natashquan.² Most of the time, June 2 to July 13 and August 8, was spent at Matamek as guests of Mr. Copley Amory to whom many thanks are due for courtesies and assistance. Various side trips of from a day to a week in length were made from here; to Lac Marchand, about eight miles inland and to points along the coast in the neighbourhood of Point St. Charles that marks the eastern horn of Moisie Bay. July 13 to 27 were spent at Havre St. Pierre³ with a trip July 16 to 22, to Betchewun and St. Genevieve Island about 25 miles beyond, across to Anticosti, coasting from Charleton Point to East Cape and return to Charleton Point and directly back to Havre St. Pierre. July 27 to August 7 we were at Natashquan.

For the purpose of limitation of field, various ornithological writers have arbitrarily taken Seven Islands Bay as the western limit of the Canadian Labrador. It extends eastward to the Strait of Belle Isle where the true Labrador begins. Attention may be called here to the fact that the term "Labrador" has progressively been restricted in its application. Originally including this north

shore of the Gulf of St. Lawrence, it is now only properly applied to the outer or Atlantic coast of the Ungava Peninsula, and is under the administration of Newfoundland and is not in any sense Canadian territory. The old "Labrador" of Audubon's Journal is still called locally and vernacularly "The Labrador" but is properly only the coast of Saguenay County, Quebec, or, more familiarly "The North Shore", "Côte Nord" or "The Canadian Labrador".

All the coast surveyed by us this season is wooded. Though the timber gradually decreases in size eastward, the bare, typically arctic conditions that we traditionally associate with The Labrador do not occur west of Natashquan except on the exposed points and the smaller islets.

Gavia immer, COMMON LOON.—Loons were common all along the coast throughout the summer. We presumed that they bred on the small inland lakes nearby as stated by the residents but could not verify the supposition. None were noted on Lac Marchand as we passed along it, though it seemed an admirably adopted water for their use. A very large proportion of birds seen through the summer on the sea were obviously juvenile and probably many more, that at field-glass range seemed adult, were submature. A specimen taken June 8, in complete soft gray, white throated, plumage of the young, is certainly at least a year old. Another, July 7, not quite in complete mature plumage, cannot be under two years old and still not in breeding condition. It seems from this that the species does not arrive

¹ The site of the original Moisie trading post, at the bottom of Moisie Bay, eight miles east of the mouth of the Moisie River, about twenty miles east of Seven Islands Bay and in longitude about 66° W.

² Due north of the extreme eastern tip of Anticosti Island, longitude about 61° 45' W.

³ Eskimo Point of all but the most recent authors and maps, about half way between Seven Islands and Natashquan.

at full breeding maturity until at least three years old. On our small inland lakes where Loons breed commonly we see none but fully adult birds, except of course the offspring of the current season. Young birds after leaving the breeding lakes in the fall do not return to them until mature some three years later. Our experience on this coast suggests that they spend this time of adolescence at sea or, perhaps, on the very largest lakes.

Gavia stellata, RED-THROATED LOON.—Red-throated Loons were common on the lower St. Lawrence River during our descent at the end of May, but none were seen at Matamek. Beyond Havre St. Pierre they were more or less common and a pair making daily flights inland over a constant course during our three days detention by storm at Fox Bay, Anticosti Island, suggested that they were nesting within the island. The species does not seem to breed commonly until the barren coast beyond Natashquan is reached.

Fratercula arctica, ATLANTIC PUFFIN.—I have no evidence of Puffins breeding on this coast west of Mingan. None were seen near Matamek. July 22 in the open channel, practically at sea, about half way between Charleton Point and Havre St. Pierre, two Puffins were taken. They have the blackish facial colourings and small bills characteristic of winter plumage. The legs are dull yellow with only a faint suggestion of the brilliant red of the nuptial condition. They are not birds of the year and must therefore be at least a year old. It is evident from these that Puffins require at least two years to come to maturity. We never (?) see this plumage in the vicinity of breeding colonies where even the young of the year disappear immediately on taking to water. They evidently go directly to sea and do not return to coastal waters until adult and ready to breed. Specimens in winter or juvenile plumage are very rare in collections, probably due to these pelagic habits.

Uria troille, COMMON MURRE.—Not seen until we reached the vicinity of the Egg Island Bird Reserve near Betchewun about twenty miles east of Havre St. Pierre. Here a considerable number were noted on the sea and the shore cliffs though none were actually ascertained to be breeding among the many nesting Puffins and Razor-bills. If they were nesting here it is a new development in their history, probably induced by the protection offered by the sanctuary. One moulting bird was taken in the vicinity, an adult without flight feathers, suggesting that this species, like the Razor-bill (which see) may have a flightless mid-summer season.

Alca torda, RAZOR-BILLED AUK.—Not noted breeding west of Egg Island Bird Reserve beyond

Havre St. Pierre. One in full nuptial plumage was taken at Matamek June 7, but it was in reduced physical condition. On our return to Matamek in August, Razor-bills were quite common scattered in small loose groups over the sea in the neighbourhood of Point St. Charles but did not come inshore to the bottom of the bay. August 14 and 20 a number of adults moulting from the black-necked nuptial to the white-throated winter plumage were taken. They had already shed their deciduous bill sheaths, had dropped their flight feathers and were flightless. This species like the Murre and the Puffin deserts the neighbourhood of their nesting rookeries just as soon as the young can take to water and are no longer seen thereabouts. Presumably they go to sea where their numbers are lost in the vast waste and are most difficult to observe or collect. It is evident from these specimens that the species has a flightless midsummer moult like many of the ducks, a fact that hitherto seems to have been overlooked by ornithologists through the difficulty of observing pelagic conditions or of obtaining specimens during the short critical period. At the same time a three-quarters grown juvenile was taken. Though scarcely out of the down, in colour it is a softly-textured immature reproduction of the adult nuptial plumage, with the white streak from the bill to over the eye well developed, showing that this species like its near relative the Dovekie, has a plumage between the natal down and first winter plumage resembling that of the breeding adult.

Rissa tridactyla, KITTIWAKE.—At Gull Bay, just round the eastern finial of Anticosti Island, to the north, was found an enormous nesting colony of Kittiwakes. Most of the north shore of the island is perpendicular, unbroken cliff about two hundred feet high. For two miles along the slight indentation of Gull Bay the face is covered with Kittiwake nests. By counting a section and multiplying it by the length occupied, I estimated the population at from 60,000 to 75,000 nests. Associated with them were a few Gannets and Common Cormorants and a great number of Common Murres.

Larus hyperboreus, GLAUCOUS GULL.—On our way out of the upper gulf we saw several white-winged gulls from the steamer. On the first days of our arrival at Matamek one was seen several times passing along the shore. June 9 one was shot by a fisherman and brought to us. It was a male but so small that until I got it home and compared it with specimens I referred it to *leucopterus*, when its true identity became obvious. It is evident from this specimen that slight distinctions between these two species, even

in the extreme east, where *hyperboreus* is supposed to be of the large race, may be very uncertain.

Measurements.—Wing, 435 mm. Exposed culmen, 56. Height of bill at base, 17.7; at gonys, 19. Tarsus, 72. Middle toe and claw, 77.

It will be seen that these measurements fall well within those given for *L. h. barrovianus* as given by Oberholser, (*Auk*, 1918, 472) and had this specimen been taken in the west there would have been no hesitation in regarding it as a demonstration of that race. As it is, it shows that *barrovianus* is so slightly differentiated from *hyperboreus* that it cannot be recognized with certainty by its inherent characters.

The specimen is a juvenile and, while it may not have yet attained its full size, is at least a year old and I cannot think it would ever increase in size sufficiently to alter the above conclusions. It is well here to call attention to the suggestion made by Bernhard Hantzsch, (*Can. Field-Nat.*, XLII, 1928, p. 124) that the great variation in the size of gulls may be caused by spells of bad weather cutting off food supplies at critical stages in the growth of the young. The bird is in the pure white "*hutchinsi*" plumage which I am convinced is acquired by fading from the ashiness of the juvenile colouration, by which process I have seen Glaucous-winged Gulls (*L. glaucescens*) very closely simulating this species. There are numerous new feathers of an incoming plumage on various parts of the body. It is important to note that this plumage succeeding that of the yearling bird is pale ashy brown as if it were going to wear an ashy mottled plumage a second summer. The bill is flesh-coloured with a blackish tip back to and including the gonys.

My conclusion from this specimen and a rather large series of the species in our collection is that *L. h. barrovianus* is a very uncertainly recognizable race, that the white or "*hutchinsi*" plumage is derived from the light ashy juvenile by fading and that the second summer's bird retains a large amount of ashy brown and may not begin to acquire an adult blue mantle until the third summer.

Sterna paradisæa, ARCTIC TERN.—The Common Tern was nesting on numerous islets all along the coast. In these terneries there may have been more or fewer Arctic Terns whose occurrence was not determined. Although all flocks of Tern were carefully studied, the only Arctic Tern positively identified before we reached Natashquan was one taken by the chance, wanton shot of a fisherman from a flock of supposed Common Terns near Matamek, June 7. Birds were scrutinized carefully and a number that seemed

to show longer tails, all-red bills or grayer underparts were shot. Examination in the hand of these specimens usually corroborated the characters seen in life, but until August 5 at Natashquan all were Common Tern. On an island near the latter place we picked out Arctic Terns from a large flock of Commons three times in five. We had no opportunity of contrasting the shorter leg length of the Arctic Tern on the ground, but arrived at the conclusion that on the wing there is no field mark by which individuals of the two species could be certainly distinguished. Numerous Common Tern seemed to have unusually long, flowing tails, the dark tip to the bill may be so small as to appear entirely absent at even relatively close range and the underparts may darken to a confusing degree. Undoubtedly birds in mass where these characters in typical degree are many times repeated may be determined with considerable accuracy but individuals can be made out only with approximate certainty, at least without much greater experience with the species than most of us can have.

Phalacrocorax carbo, COMMON CORMORANT.—The trip to Gull Bay at the northeast end of Anticosti Island was made to investigate a report of these birds nesting there. July 17 we crossed from St. Genevieve Island to within a mile or so of Charleton Point, Anticosti, and then coasted along the shore eastwards to our objective. The coast here is a succession of very bold, broad headlands faced with smooth, perpendicular cliffs from 200 to 400 feet high, divided by wide open bays heading in small stream valleys. There are only two harbours approximately safe for boats along this seventy-five miles. We lay for one night in one of them, Salmon River, and proceeded to Gull Bay the next day, arriving about noon. Owing to the wind blowing up we stayed here only an hour or so and put back to Fox Bay where we were detained by heavy weather for three days. We then retraced our course back to Charleton Point and struck across directly to Havre St. Pierre July 22nd.

The water along this inhospitable coast is shoal and, in safety, we could not follow it very closely except when we cautiously felt our way in to land on the narrow tidal shore line. Mostly we passed at a distance of from a quarter to half a mile, close enough to see the narrow horizontal white-wash lines of the Cormorant rookeries and count the black occupants standing like rows of tall black bottles, but, as field glasses are practically useless on a throbbing, heaving gas boat, were not close enough to observe details. We noted Cormorant rookeries as follows:

Observation Point.....	20 nests
Point between.....	9
Guy Point.....	11
About six stations to Gull	
Bay, averaging 10 nests	
each.....	60
—	
Total.....	100 nests

These nests ranged from about twenty feet up from the water to 200 and were absolutely inaccessible except by means of ropes from the top. They seemed in no wise different from the nests that Double-crested Cormorants would build in similar situations. A few cormorants occupied a ledge at the top of the Gannet and Kittiwake rookery at Gull Bay, but it was uncertain whether they were nesting there or just loafing.

On the way to Gull Bay we hurried along on our course as we were anxious to reach it before the weather changed for the worse and did not examine any of the rookeries closely. Cormorants were seen flying to and from the rookeries and passing the boat but always at a respectful distance, and as glasses were useless from the boat we could only guess at their identity. They looked indistinguishable from Double-crests as a rule, and it was not until the return trip that we definitely established their identity as Common Cormorants. At sea without objects for direct comparison in size and distance, apparent size is a very uncertain criterion. Occasionally we got glimpses of light throat-patches, but never clearly enough to satisfy ourselves that they were not extensions of pale yellow gular pouches on the smaller species. No cormorants have crests or plumaceous ornaments at this season of the year and there was no sign of any white flank spots or "watch pockets" visible on any of them. In specimens collected later, only a few showed a few white filaments of this latter character still unshed.

On our return trip, the weather being momentarily fine and calm, we landed on the narrow talus fore-shore left bare by the tide or came close inshore at three points along the route and collected specimens. All birds so obtained or seen at close range were Common Cormorants and it is assumed that all the Cormorants seen were the same. The young birds on the nests were from a quarter to half-grown in size, but still covered with dense black down. Most of the older birds seen about the rookeries seemed to be adult in plumage but there were far more of them than the number of nests justified. At several rookeries there were small groups of brown, light-breasted juveniles gathered a little to one side of the nest

ledges. These usually left at our first approach and did not return until after our short visits were over.

Visiting a small rookery of Double-crests later at Natashquan we found the proportion of grown birds present to occupied nests about 15 to 1. From general impression this does not seem to be far from the state of affairs shown in these rookeries. Considering that undoubtedly a number of birds are away fishing at any one time this is probably not an excessive proportion between nests and breeding, non-breeding and adolescent birds. This would give an estimate of 1,500 birds as the Common Cormorant population of this strip of coast—by far the largest number of the species that has been reported from this continent of late years. We made inquiries as to whether these series of rookeries extended west as well as east of Charleton Point but the bar of language, the residents being practically all French-Canadians with little or no English, and the uncertainty of identification made them barren of satisfactory information.

The marked reduction in number in this species in the Gulf of St. Lawrence since Audubon's time is remarkable, especially as during the same period in the same locality the Double-crested has held its own. Here are two species of apparently very similar requirements of food, nesting and general ecological conditions living side by side, yet one declines to the vanishing point while the other persists undiminished. The Common Cormorant does seem to demand more inaccessible nesting ledges than does the Double-crest and as far as we know never occupies for nesting purposes low islet or ground colonies as does that species. On the other hand the Double-crest often nests on the same forbidding cliffs as the former and often on adjoining ledges as I have seen near Cape Whittle along this same North Shore. The Common Cormorant seems to go to sea for food rather than to the estuaries and bays as does the Double-crest but this does not seem to suggest any important factor in their reduction. Man can have no direct influence in the selection for though he may harry some rookeries, he would do so indiscriminately as between the species, in fact the more accessible sites of the Double-crest would suffer the most. The general conditions do not seem to have altered much on this coast within historical times and in our present state of knowledge the most likely cause for the general disappearance of this species seems to be disease. We know that closely allied species, or even strains of the same species, show wide variation in their resistance to certain diseases. It is not unlikely that this is a key to the question. Perhaps it

was something introduced by white men, perhaps an obscure parasite or organism brought over from Europe by early fishermen with their bait, to which *carbo* is particularly susceptible and *auritus* is more or less resistant. This is pure speculation of course, but when we note the havoc that white man's diseases have played with native populations the world over, it is not too much to speculate upon the effect that such introductions may have on wild life. In fact the effects of imported diseases upon native biota are looming larger and larger in the minds of naturalists and conservators.

Moris bassana, GANNET.—Among the other birds reported to nest at Gull Bay, Anticosti Island, was the Gannet. Gannets have been previously reported here by various authorities, a resumé of which has been recorded (by Lewis, *Can. Field-Nat.*, XXXVIII, 1924, p. 46). Table Head and Sand Point have been given as sites of gannetries. Both of these are points along the coast we travelled but saw no evidence of Gannets breeding on them and it was not until we reached Gull Bay that any nesting birds were seen. At Gull Bay we found about 500 nests scattered among those of the Kittiwake. The known rookeries of this species in the New World now are—Bonaventure Island, off Percé near the tip of the Gaspé Peninsula; Bird Rock off the Magdalen Islands, in the middle of the Gulf of St. Lawrence; St. Mary's Point, southern Newfoundland and this Gull Bay, Anticosti Island. There are a few other rookeries known to have been deserted within historical times, notably Perroquet Island near Mingan, opposite the east end of Anticosti, and a couple of sites in the Bay of Fundy.

The first part of our stay at Matamek was notable for the lack of "bait"—small fishes like lance, capelin and squid—food of commercial species. Consequently large fish-eating sea birds were not very numerous. An occasional Gannet was seen winging by and a few gulls of the locally nesting population. July 13, as we approached Mingan on the steamer, Gannets became very numerous and in places the sea was speckled with their white forms that took to wing in long, straggling lines when the ship approached too closely. When we returned to Matamek, August 8, conditions were quite different. Though the capelin season had passed, lance were in and the season for squid was on. Large flocks of Gannets were a common sight passing up or down coast or gathered together in solid bunches diving like innumerable plummets into a patch of sea boiling white with agitated life. Most of these birds were plainly adult and almost certainly many were breeding. The nearest nesting colonies to

here are those of Bonaventure Island and Gull Bay, the former 150 and the latter 210 miles distant in a straight line. It is evident that the species regularly forages at very considerable distances from its nesting stations.

Limnodromus griseus, DOWITCHER.—The species has been recorded as far east on the Gulf as Godbout (Merriam, 1882) and on the southern part of the Outer Labrador, but never definitely reported from the North Shore. July 20 at Fox Bay, Anticosti, Harrold saw two in full red-breasted plumage at close range, and another at Natashquan on the 30th. Circumstances prevented collection in both cases but Harrold's demonstrated familiarity with the waders is such that I cannot question his sight record of this species.

Arquatella maritima, PURPLE SANDPIPER.—June 5, on the rocky shores of a small islet near Point St. Charles eight Purple Sandpipers were observed and five taken. This is a very late date for the species in this latitude.

Totanus melanoleucus, GREATER YELLOW-LEGS.—From the actions of a bird occasionally seen in the summer flying in circles high over head and calling loudly as if in mating ritual at Matamek, we suspected that it was breeding nearby but failed to find further evidence of it. They became increasingly common after July 15.

Totanus flavipes, LESSER YELLOW-LEGS.—A very rare bird on the coast. Harrold recognized one at Natashquan August 4th, and four at Matamek the 21st.

Vanellus vanellus, LAPWING.—The National Museum of Canada has received through Harrison F. Lewis a specimen of Lapwing taken at St. Augustine, near the Strait of Belle Isle, longitude about 58° 54' W. by Mr. Thomas Kennedy, a resident, about December 15, 1927. This constitutes the first record for the Canadian Labrador and is another record for the great transatlantic flight from Europe of 1926-27 reported at length by H. F. Witherby in *British Birds* (1928, pp. 6-13) and *Bird-Lore* (XXX, 1928, pp. 248-52).

Chætura pelagica, CHIMNEY SWIFT.—The first day of our arrival at Matamek, June 2, a single Chimney Swift was beating up and down over the beach in company with a flock of Tree Swallows. It was not seen again. This seems the first record for the species on the main land east of Point des Monts though Lewis (1924) has reported it from Anticosti.

Empidonax minimus, LEAST FLYCATCHER.—Singles noted June 3, 13 and 21 and August 19 and one taken June 13. This seems to be the first record for the species on the Canadian Labrador.

Molothrus ater, COWBIRD.—A single female was noted gleaning from the sand in front of the

house at Matamek June 26. Two days later a pair were seen in the same place and August 12 one was taken near by. This appears to be the first record for the species on the Canadian Labrador, though it has been recorded at Point des Monts (Comeau, 1904) and on Anticosti (Lewis, 1924).

Quiscalus quiscula, BRONZED GRACKLE.—This species has evidently been extending northward in this direction of late years. We noted one at Havre St. Pierre, half a dozen at Fox Bay, Anticosti, and several at Natashquan where one was taken.

Petrochelidon lunifrons, CLIFF SWALLOW.—The Cliff Swallow has only been reported once east of Point des Monts (Johann Beetz Bay, about 45 miles east of Havre St. Pierre, Townsend, 1917). A single bird was observed flying with the small resident flock of Tree Swallows over the beach at Matamek, June 21. It has been reported from Anticosti Island (Verrill, see Townsend and Allen, 1907) but Lewis (1924) informs us that the colony mentioned at Cape Eagle no longer exists.

Vireosylva philadelphica, PHILADELPHIA VIREO.—Quite common about Matamek and a number of specimens taken. The nearest previous record seems to be Tadousac (Dwight, 1897) and Gaspé, across the Gulf (Townsend, 1923).

Vermivora celata, ORANGE-CROWNED WARBLER.—One juvenile taken at Matamek August 11. The nearest previous record for the species is Montreal, except for a specimen in the collection of the National Museum of Canada taken on shipboard off Point des Monts October 2, 1923, by J. D. Soper. This is one of the rarest warblers in Eastern Canada. Nowhere east of Manitoba does it seem to be more than a rare or casual

migrant. With the small amount of work that has been done on land birds in this extreme eastern locality the taking of two specimens is of extreme interest.

Dendroica castanea, BAY-BREASTED WARBLER.—One taken at Matamek June 11. The only other previous record east of Point des Monts is a single individual at Piashte Bay (Johann Beetz Bay, Lewis, 1922).

Wilsonia canadensis, CANADIAN WARBLER.—The status of this species on the North Shore east of Point des Monts is based on very generalized statements, though Lewis (1924) records reports from Anticosti Island. One specimen was taken at Matamek June 12.

Certhia familiaris, BROWN CREEPER.—The species has been noted by Lewis (1926, 1927, 1928) at Seven Islands, Natashquan and Anticosti. It was seen almost daily at Lac Marchand where it favoured us with a delightful little warbling song a number of times. One was taken at Matamek June 29.

Penthestes hudsonicus, BROWN-HEADED CHICKADEE.—A special effort was made to obtain specimens of this species for the purpose of evaluating the form *P. h. nigricans* described from this coast by Townsend (*Auk*, 1926, p. 74). In consequence a series of fourteen specimens with representatives from practically every point visited, including Fox Bay, Anticosti, was collected. A comparison of these with specimens from Ontario and northern New Brunswick convinces me that the proposed subspecies is founded upon young birds of the year that are consistently darker and sootier than the adults, and should not be recognized as a distinct subspecies.

THE GREAT HORNED OWL IN MANITOBA¹

University of Oklahoma, Norman, Okla.

By RALPH D. BIRD

“**M**Y AMPLE opportunities for observing these interesting birds in captivity as well as in a state of freedom, and indeed all that I have seen of them—their untamable ferocity, which is daily more apparent; their magnificent bearing; their objection to carrion, and strictly carnivorous tastes—would make me rank these winged tigers amongst the most pronounced and savage of the birds of

prey.” So Mr. C. W. Nash closes his interesting note on these owls,² and after a study of them and their food habits about Birtle, Manitoba, the writer feels that he can fully reiterate Mr. Nash’s statement.

In March, 1928, the Great Horned Owl (*Bubo virginianus*) was found to be present in rather unusual abundance in the vicinity of Birtle and quite probably throughout the poplar savanna,

¹Contribution from the Zoological Laboratories of the University of Illinois No. 339.

²Seton, E. T., 1890, The Birds of Manitoba. Proc. U.S. Nat. Museum, Vol. XIII, No. 841, pp. 545.



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