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# THE OTTAWA NATURALIST



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# THE OTTAWA NATURALIST

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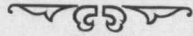
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# THE OTTAWA NATURALIST

VOL. XXXII.

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## THE BIRDS OF SHOAL LAKE, MANITOBA.\*

By P. A. TAVERNER.

Shoal Lake, Manitoba, lies some thirty-five miles a little east of north from the city of Winnipeg and approximately midway between the lower lobes of the two great lakes, Winnipeg and Manitoba. Though brought to the attention of ornithologists at an early date and later repeatedly visited by collectors, very little information has found its way into print regarding the details of its bird life.

Donald Gunn visited the lake in 1867, and his account<sup>1</sup> is extensively quoted by Ernest E. T. Seton (Ernest E. Thompson or Ernest Seton Thompson) in his *Birds of Western Manitoba*.<sup>2</sup> The same notes with additions appear in *The Birds of Manitoba*<sup>3</sup> by the same author and briefly summarized again in the bird part of his *Fauna of Manitoba*<sup>4</sup> in which the nomenclature is brought up to date.

In 1891, Fred Dippie was in the adjoining locality of Raeburn. In 1893 and the following year Edward Arnold<sup>5</sup> and Walter Raine visited the lake itself. The latter casually mentions Shoal Lake in his *Birds Nesting in Canada*<sup>6</sup> but gives no details, and his only published account appears in the *Oologist*.<sup>7</sup> Frank Chapman and E. T. Seton were on the lake in July, 1901. The former has a popular generalized account of his trip in his *Camps and Cruises of an Ornithologist*,<sup>8</sup> and I am indebted to Mr. Seton for a copy of his original field notes which I have quoted freely in the following. By him I am informed that Mr. Miller Christy, of

Broomfield, Essex, England, visited the vicinity in May, 1887, and a collection of birds he made there is now in Seton's museum. June 27 to 29, 1912, Mr. Herbert K. Job and his son visited the south and west end of the lake looking for headquarters at which to obtain water bird's eggs for propagating purposes, but found the locality unsuited to their work. Mr. Job has kindly furnished me with a copy of his notes. I have heard of several other observers having collected about the lake at various times, but reports from them are not available at the present writing. From the context most of these trips have been made to the southern extremity of the lake, or in the case of Gunn, 1857, along the west side as far north as the Narrows.

Prompted by these accounts—and desiring a representative collection of Manitoban material, the Biological Division of the Geological Survey, Canada, made an expedition to Shoal Lake the spring of 1917. The party consisted of Mr. C. H. Young and the writer. We arrived at the C.N.R. station at Erinview, some four miles from the east side and about opposite the middle of the lower section of the lake, on May 16. Here we were fortunate in meeting Mr. Frank Ward, who with his father and brother, lives on the lake shore. He transported us and our baggage to his farmstead and allowed us camping privileges in the immediate vicinity. The Ward brothers proved to be unusually well informed sportsmen naturalists and we are indebted to them for many interesting notes and much valuable assistance during the course of our work. I heartily recommend them to all visiting naturalists.

On the map, Shoal Lake is indicated as being about thirty miles long north and south and ten miles in extreme width at the southern end. It is very irregularly shaped, with a constriction called the Narrows somewhat below the middle, forming practically two lakes divided by wide marshes through which winds a narrow creek-like channel. Both Chapman and Gunn describe the shores as composed of broad marshes with tall reeds in which

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<sup>1</sup>Notes on an Egging Expedition to Shoal Lake, west of Lake Winnipeg, Manitoba. Twenty-second Annual Report, Smithsonian Institution, for 1867, pp. 427-432, by Donald Gunn.

<sup>2</sup>*Birds of Western Manitoba*, by Ernest E. T. Seton, Auk III, 1886, pp. 142-156 and 320-329.

<sup>3</sup>*The Birds of Manitoba*, by Ernest E. Thompson, Proc. U.S. Nat'l. Museum, XIII, 1891, pp. 457-653.

<sup>4</sup>*Fauna of Manitoba*, by Ernest Thompson Seton, as it appeared in *British Association Handbook, Winnipeg, 1909* (reprinted) pp. 3-47, part on birds, pp. 11-47.

<sup>5</sup>A Few Notes from Shoal Lake, Manitoba, *Oologist*, XII, 1895, pp. 22-24, by Edward Arnold.

<sup>6</sup>*Birds Nesting in Northwest Canada*, by Walter Raine, 1892.

<sup>7</sup>A Rough Time Collecting at Shoal Lake, Manitoba, *Oologist*, XII, 1895, pp. 3-6, one plate, by Walter Raine.

<sup>8</sup>*Camps and Cruises of an Ornithologist*, by Frank Chapman, Appleton Co., New York, 1908.

water birds, grebes, ducks, and rails nested in immense numbers, and with stony islets in the lake populated by nesting gulls, tern, pelicans, and cormorants. Today this description, and outline are hardly recognizable. The water has fallen from eight to ten feet from its old level, as indicated by the old shore line still visible and the outline and conditions are greatly changed. The Narrows are now high, dry hay fields and the creek channel is a dry ditch winding its way across two miles of open prairie cutting the lake into two separate bodies of water having no communication with one another. The surrounding marshes have disappeared and in their place are broad reaches white with alkali crystals. The islets, deserted by their original tenants, are of considerable extent and with long sand and stone shoals reaching toward each other or toward the shore. Of the luxuriant growth of reeds nothing remains but the root tops in the mud, prevented probably by increasing salinity from following the water in its retreat from the old shore-line. Of the vast numbers of birds that once treaded the mazes of the marsh practically none remain but the few that are restricted to the borders of the rapidly disappearing pools back from the shores.

A tradition from aboriginal sources asserts that the lake rises and falls regularly with a period of about fifteen years. Mr. Seton informs me that "the waters of Shoal Lake, in common with all in Manitoba, have a fashion of rising and falling in periods of about seven years". However regular this rise and fall may be and what the period is, Shoal Lake was high in 1867 when visited by Gunn, also in 1901 when Chapman and Seton were there. The Wards arrived on its shores about 1889 and Ward, Sr., declared that at that time the lake was low. It is evident from the reports of Arnold and Raine that the water was fairly high in 1894 and the Wards say that it reached its maximum about 1899. It rises faster than it falls we are told. Whether the water will ever come back again to its old level remains for the future to show. Should it do so it will offer a remarkable interesting ecological study in investigating the effects of the change from highly alkaline to practically fresh water upon the contained and surrounding life. Before this change takes place it is most desirable that a comprehensive study should be made of the present biological conditions as a basis of contrast with higher stages of water.

The lake has no important inlet and no outlet. The level is probably governed by the variation in annual rainfall extending over a series of years. The geological strata in which the lake lies is obviously porous and fissured with underground channels, as evidenced by changes in the water of near-by wells, but I have heard nothing of corre-

sponding variations in level of the great lakes on either hand, so the local conditions are probably independent of them.

The surrounding country is prairie, liberally sprinkled with small clumps of bush. These clumps, called "bluffs" throughout the prairie provinces, range from mere spots of one or two low growing bushes to several acres of woodland and are occasionally a mile or more in their longest direction. They are usually very dense and sometimes all but impassable owing to underbrush, felled tops, or burnt trunks criss-crossed on the ground like jack straws. The edges, however, are sharply defined and between them runs the clear prairie, winding in and out, narrowing here to grassy lanes and widening there to green glades or broad meadows of varying extent. All the woodland has suffered severely from fire. Grazing is the principal industry and the practice of burning the dead grass to induce a vigorous growth has not only tended to check the natural spread of the bluffs but has devastated many of them and groups of black skeleton trunks offend the eye more often than is desirable.

Most of the timber composing the bluffs is poplar with willow and other smaller shrubbery about the edges. In the largest bit of woodland in the neighbourhood of our camp is a small stand of bur-oak and on Maple Island, some five miles up the lake—an island no longer—is a little maple (Sp.?) from which sugar used to be made. At the head of the upper lake, we are informed, considerable spruce or evergreen exists, but there is none in the parts visited by us. Poplar is the principal timber and that upon which the residents rely for general uses and for fuel. Viewed by eyes accustomed to eastern woodlands none of the growth is large—a ten-inch trunk is the maximum now seen, though occasional rotting stumps indicate that larger trees were more common before they fell to the axe of the early settlers. Now most of the growth is little more than pole size and rarely exceeds a height of 40 feet.

Here and there, where the level of the land is lower, there have been marshes and the so-called red-root bogs are common and muskeg occurs locally. Now, however, owing to the lowering of the water-line these are mostly dry except in spring and represented by damp areas with a few reed-like water grasses growing about the occasional watery spots which still persist. On my return in September I found that most of these hydrophytic evidences were obliterated and the usual hay grass was growing where in the spring cat tails and reeds had flourished. Occasional ponds had remained through the summer's drought, but few of these promised to last long.

The spring of 1917 was late and as we passed

over the prairie on our arrival our driver pointed to the grass just appearing through the dead mat of last season's growth and remarked that it should be from 8 to 10 inches high. The poplars were just coming into leaf and the few oaks in the big woods behind the camp were still bare and gaunt. Though the day of our arrival was oppressively hot a change came before we had pitched camp and thereafter we had raw, cold weather during most of our stay, with ice forming in the pails of water at night and towards the middle of June we were glad to have our stove in the working tent even throughout the warmth of the day.

The lake is subject to sudden cyclonic squalls and high winds. The former burst suddenly out of clear skies, whirl a cloud of dust and debris high in the air, and subside as quickly as they rise. On one occasion we saw where a boulder of consider-

lake, but evidently are becoming fewer each year. Waders still visited the shores, and birds were fairly numerous. We had no difficulty in obtaining as many specimens as we were able to prepare. Unfortunately in shipping our collections to the Museum one box, containing the majority of our small birds, was lost in transit. Manitoba is the most eastern of the prairie provinces and one of the most important subjects of geographical distribution in Canada is the location of the meeting points of prairie forms with those of the eastern woodlands. As the determination of these fine subspecific points must be based directly upon specimens the loss of them was serious and it was largely to replace them that Mr. Young returned to Shoal Lake the spring of 1918, spending from April 23 to October 2 on the same grounds we had occupied the previous spring.

He arrived just after the ice had broken up on



The shores of Shoal lake in 1917-18: view near camp.  
The shores were of this character everywhere.

able size had been rolled over and over on the mud shores by a particularly vicious twister. The squalls do not last long but they try tent material and pegs. The steadier wind storms are violent and sustained and during our stay several of them tested the texture of our canvas and raised anxiety for our specimens and effects. I would advise all future campers to select sheltered spots for their quarters.

In the fall the writer spent from September 17 to 26 in the same neighbourhood to obtain an idea of the autumnal conditions and to fill some of the gaps of the spring work. It was after the first frosts and while the days were warm and pleasant, the nights verged on freezing.

We were disappointed in not finding any great breeding ground for water birds; a few ducks still remained in spite of the altered conditions of the

lake and the ducks and geese, after being confined to the narrow strip of open water between the shore and the main ice field, had repaired to mid-lake where they could be occasionally seen and even recognized but seldom collected. He found the land slightly if any wetter than it had been the previous fall, and where we had waded thigh-deep in the spring was dry and growing hay. April and May were very dry, the restriction of marshy areas increased apace and heavy rains in July failed to replenish them even temporarily. Consequently, the ducks and water birds that remained in 1917 deserted the vicinity and very few bred in 1918.

Mr. Young worked all the adjoining country in the neighbourhood of the Ward homestead as far as it was possible on foot and made several



auto trips farther afield. The day before he left he reported a heavy frost. In the course of this season's work he obtained personal notes on 183 species, and specimens of 147 of them, which added to the previous year's observations and collections, form a sufficient basis for a fairly complete and representative list of the birds of the locality.

Some few species are herein included upon circumstantial evidence and until confirmatory specimens are secured must be looked upon as hypothetical. However, the evidence upon which they are based is fully given and the reader can form his own judgment as to their value, bearing in mind, however, that no record is absolutely unassailable until specimens are secured and examined by competent authority.

1. WESTERN GREBE, *Aechmophorus occidentalis*.

Though reported by all previous observers as remarkably common we saw none at any visit. The Ward brothers say that they used to breed in such numbers on the marshes that a canoe could scarcely pass between their nests, and Seton reports the species as an abundant breeder and notes that "its shrill metallic cries could be heard from the quill reeds day and night". He further observes "it is the easternmost breeding place of the species. Most birds peter out towards the limit; but here, at the northeastern corner of its limit, this bird has a sort of metropolis". With the lowering of the water this is all past.

2. HOLBOELL'S GREBE, *Colymbus holboelli*.

Reported by Gunn "in fair numbers" and by the Ward brothers as "never very common". Two seen by Young, May 25, 1918, are all we can report.

3. \*HORNED GREBE, *Colymbus auritus*.

Both Arnold and Raine report it nesting in 1894. One only was noted in 1917, on June 4. In 1918, Young found it rather common, noting it almost daily through May and from the end of July to Sept. 2.

4. \*PIED-BILLED GREBE, *Podilymbus podiceps*.

Seton reports it common and evidently breeding. In 1917, we noted but three in September on a small pond, but in 1918 Young observed individuals, mostly singles, April 25 to May 18, and the latter half of August to the middle of September.

5. \*COMMON LOON, *Gavia immer*.

The Ward brothers say that it used to breed though they never found its nest. On both visits we saw single individuals almost daily. They were usually observed flying over and seldom showed any inclination to stop on the lake.

6. IVORY GULL, *Pagophila alba*.

In Mr. Darby's taxidermy establishment in Winnipeg, I examined on May 15, 1917, a mounted specimen of this species which I was informed was taken at Woodlands, Man., on Dec. 27, 1915, a station on the Canadian Northern Railway just south

of Shoal Lake, and hence within the scope of this paper. It is a medium-sized, pure white gull, with face and forehead flecked unevenly with light smoky gray, with remains of terminal tail band, dark spots on tips of primaries, and a few dark flecks on tertiaries, bend of wing, and lesser coverts.

7. HERRING GULL, *Larus argentatus*.

Chapman reports finding a few Herring or California Gulls nesting on Pelican Island and states that they were very troublesome to other birds, destroying numbers of Tern's eggs and even those of the Pelican. Large gulls of the Herring Gull type were seen by us on every visit but were very shy and all we managed to take were Ring-bills. Young tells of a Herring Gull carrying off a Horned Grebe he had shot and was wading out to retrieve, lifting it bodily by the nape of the neck and taking it out to mid-lake where, joined by another, the two proceeded to tear it to pieces. The Ward brothers say the species bred on one of the rocky islands as late as 1916, but as no boats were available were unable to say whether they continue to do so or not.

The specific status of the larger gulls of the province has not been well determined. Specimens of both migrants and breeders are necessary from various localities. The Herring Gull and the California Gull, *Larus californicus*, are so similar as to be differentiated with difficulty. When juvenile, probably careful size comparison between similar ages and sexes is the only guide. When adult, probably the best criteria is the colour of the legs and feet; in *argentatus* these are flesh coloured whilst in *californicus* they are said to be light greenish.

8. \*RING-BILLED GULL, *Larus delawarensis*.

Raine reported the species breeding on the islands in 1894. We saw a few in the spring of 1917, but were not always able to separate them with certainty from the Herring Gull as the ringed bills are only safe criteria when perfectly adult and most of the large gulls seen on the lake showed various traces of juvenility. Young recognized the species with certainty only during the latter part of July, August, and September. Four birds were taken and all are juveniles. They probably do not now nest on the lake.

9. \*FRANKLIN'S GULL, *Larus franklini*.

In 1917, common on our first arrival May 17, but became scarcer towards the latter part of our stay, to June 14. According to Young, it was present on his arrival on the lake on April 24, reached a maximum on May 7, and then gradually became reduced in numbers to June 7. It returned on July 1 and remained until Aug. 27, after which no more were seen. Very large flocks were noted Aug. 8 to 10. Chapman notes it as breeding, but there is no indication that it nests on the lake now that the marshes are gone.

10. \*BONAPARTE'S GULL, *Larus philadelphia*

Not identified by us in 1917 though a flock of birds noted at a distance, Sept. 22, were probably of this species, as Franklin's Gull seems to leave before this date. In 1918, Young saw eleven on May 25, taking specimens in verification. They appeared again in some numbers on Aug. 16 and remained without much diminution up to the date of his leaving, Oct. 2. Though Seton (*Auk*, 1886, p. 147) cites Gunn as the authority for its breeding on Shoal Lake and repeats the statement in subsequent lists, including his Fauna of Manitoba, British Association Handbook, 1909, I cannot but regard it as a mistake, and think that Franklin's Gull has been the basis of these records. The nearest well authenticated records of the breeding of this bird is on the lower Mackenzie. The more or less common occurrence of non-breeding Bonaparte's Gull in summer dates, as far east as the Atlantic coast, has probably been to blame for many confusions of breeding records between these similar birds.

11. CASPIAN TERN, *Sterna caspia*.

On the gravelly islands where the Common Tern used to nest in immense numbers the Ward brothers tell us that there were occasional sets of eggs that were so much larger than the rest as to attract immediate attention. The parents of these seemed to them to be exactly similar to the other tern flying about but considerably larger. Though they regarded them at the time as only monstrosities there can be but little question but that these were Caspian Tern. The numerical ratio these eggs bore to those of the Common Tern was about five to a thousand.

12. \*FORSTER'S TERN, *Sterna forsteri*.

Seton says that while he did not note the species, Miller Christy found it common on May 1, 1887. Arnold and Raine report colonies of hundreds of nests, but it is suggestive that they make no mention of the Common Tern. In 1917, we found Forster's Tern in company with the Common Tern but generally scarce. In 1918, Young observed it from the 8th to the end of May, but much more common during the last week. He has one hypothetical record for two individuals, namely Aug. 21. The Wards say that it was once much more common than now and that it used to nest singly on the musk-rat houses in the marsh and not on the gravelly islets with the Common Tern.

13. \*COMMON TERN, *Sterna hirundo*.

The Ward brothers tell us that when the water was high the Common Tern nested in immense numbers on the gravelly islets. On one such islet of about three acres, they once estimated one thousand nests. In some places the foot could not be put down without treading on eggs. This statement is largely confirmed by Seton. Such descriptions, however, do not represent the species at Shoal Lake

now and there is no indication of any nesting there. The species was occasionally common during our spring visit in 1917. In 1918, Young found them more or less common during the latter half of May and noted a few individuals occasionally through June, July and August and as late as Sept. 16, when a flock of thirty was seen. The Common Tern can be separated from Forster's in life by the grayness of the white below. In Forster's Tern the under parts look a dazzling, pure white in the sun, a character that is obvious when both species are in view together and, after a little experience, of value when they are seen separately.

14. \*BLACK TERN, *Hydrochelidon nigra*.

A common breeding species nesting in the few wet spots remaining back from the lake. None were seen in September of 1917. Young reports heavy migrations Aug. 1 to 21, and the last seen, Sept. 3.

15. DOUBLE-CRESTED CORMORANT, *Phalacrocorax auritus*.

Said by Gunn, Seton, and the Ward brothers to have been a common breeder on the islands, but now, except for occasional stragglers and during migrations, they have deserted the lake. None were seen by us in 1917, but Young reports flocks of five to sixty in late April and early May with straggling singles on May 23 and Aug. 29. All seen were flying over, mostly from east to west, towards Lake Manitoba. Probably the growing alkalinity of the lake has destroyed the fish and forced them to seek other feeding grounds.

16. WHITE PELICAN, *Pelecanus erythrorhynchus*.

Said by the Ward brothers to have been a very common breeder on the islands during high water, and Raine speaks of an "Island white with them" in 1894. Seton tells of seeing a flock of thirty-five and finding a score of deserted nests, "the eggs strewn about, in some cases evidently sucked, I suppose by Herring Gulls". We are told that their eggs used to be regularly gathered by Indians and others. In one case a boat-load were boiled and fed to the hens. At present only a few small flocks appear in the spring, and occasional summer visitors. Young reports thirty on May 6, which were all we saw.

17. \*RED-BREADED MERGANSER, *Mergus serrator*.

Young found one dead on the beach near the Narrows in the spring of 1918. This is our only definite record of the species. Though the Ward brothers do not distinguish between the two big saw-bills, they report them common in spring but do not think they breed locally.

18. \*HOODED MERGANSER, *Laphodytes cucullatus*.

Young reports this species in early May, the middle of June, late July and the last of August. The Wards state that it breeds in the neighbourhood and that young in flapper stage are often

seen in small pools and standing in ditch water along the railroad tracks, and that it is one of the earliest of ducks to mature.

19. \*MALLARD, *Anas platyrhynchos*.

One of the commonest ducks though being rapidly reduced as a breeder by the progressive restriction of suitable marshes.

20. \*BLACK DUCK, *Anas rubripes*.

The Ward brothers seem to know this species and describe it as a rare fall migrant. We are in receipt of a specimen labelled Winnipeg, Man. (W. R. Hine) which we are informed by its donor, Mr. Seton, was taken at Shoal Lake. The date is not recorded.

21. \*GADWELL, *Chaulelasmus streperus*.

Raine found nests in 1894 and Seton noted them on Pelican Island on July 6, 1901. Wards say it is, or was, an uncommon but regular breeder. Specimens were taken on May 15 and 19, 1917, and Young reports a few individuals during May, 1918.

22. BALDPATE, *Mareca americana*.

Raine found nests in 1894 and Chapman in 1901, and the Ward brothers say it is one of the scarcest of the ducks and growing more so. Young reports seeing individuals at the end of April and in the beginning of May, 1918.

23. \*GREEN-WINGED TEAL, *Nettion corolinense*.

A common breeder and still lingering in some numbers, seeming to require less extensive marshes than many other species of duck.

24. \*BLUE-WINGED TEAL, *Querquedula discors*.

A common breeder similar to the green-winged but seen considerably later in the fall.

25. CINNAMON TEAL, *Querquedula cyanoptera*.

Seton (*Auk*, 1886, p. 328) quotes R. H. Hunter as having taken a specimen at Oak Point, on the adjacent Lake Manitoba shore. This is near enough to the locality under discussion for mention though the lack of recent records for the species and apparent absence of specimens render it a little unsatisfactory.

26. SHOVELLER, *Spatula clypeata*.

A common breeder in 1917. Said by the Wards to be the only duck that is showing an increase, and they describe, during the past three years, vast flocks of a thousand or more in eclipse, remaining until the fall plumage is assumed when they depart for the south. However this may have been just previous to 1917, we have seen nothing like it in the last two years. They are present throughout the spring, but Sept. 17-26 may have been too late for such aggregations in 1917. Young was present all the summer of 1918 and only noted occasional birds through April and May, so it is probable that the above increase was only momentary and was

checked by the continued ecological changes in the locality.

27. \*PINTAIL, *Dafila acuta*.

Was a common breeder. Said by the Ward brothers to mature earlier than any other species of duck except the Hooded Merganser. More Pintails were seen during the spring of 1917 than any other kind of duck. In 1918, Young found them very common in early May, gradually reducing in numbers after the middle of the month, scarce in midsummer, which here gives no cover for eclipse conditions. The last noted were fifty on Sept. 16.

28. WOOD DUCK, *Aix sponsa*.

The Ward brothers give circumstantial accounts of the occurrence of two Wood Ducks at different times. One male taken in 1899 or 1900 was identified as such by a Mr. Robt. Holland, who was familiar with them in Ontario, and the other from memory of that specimen. Whilst these records are not unimpeachable, taking into consideration the striking characters of the birds and the qualifications of our informants, I accept them with but slight reservations.

29. REDHEAD, *Marila americana*.

Arnold found nests in 1894 and the Wards say that it used to breed. We saw only occasional specimens during spring and fall.

30. \*CANVAS-BACK, *Marila vallisneria*.

Said by the Wards to have been a common breeder in the past. A female was taken on June 6, 1917, but it proved to be a non-breeder. We have only seen occasional individuals in spring and early summer.

31. \*LESSER SCAUP, *Marila affinis*.

A considerable number of Scaups were noted during both spring and fall. All taken proved to be the Lesser Scaup, though undoubtedly the Greater Scaup also occurs. The Wards know of but one nest being taken, that one being amongst the gulls on an island.

32. \*RING-NECKED DUCK, *Marila collaris*.

Nothing like as common as the Scaups. A few were observed in the spring of 1917 and specimens taken in the following fall. It was not observed by Young in 1918. The Wards know it under the name of "Buck-eye", and say that it occasionally occurs in small flocks but do not know of its breeding.

33. AMERICAN GOLDENEYE, *Clangula clangula*.

A flock of six were seen between May 17 and 23, and a pair hung about until the first week of June in 1917. Young noted one on July 11, 1918. All adult males observed were of this species. We have no record of its breeding.

34. BARROW'S GOLDENEYE, *Clangula islandica*.

Seton (*Auk*, 1886, p. 328), cites R. H. Hunter as authority for the capture of a drake on Shoal



Lake in the spring of 1880. It is a long way from normal range of the species and should be authenticated by specimens for unreserved acceptance. The Wards are unacquainted with the species.

35. BUFFLEHEAD, *Charitonetta albeola*.

Said by the Wards to have been a common migrant, but not known to breed. Seen on May 19, 1917, and a few in late April and early May in 1918.

36. HARLEQUIN DUCK, *Histrionicus histrionicus*.

Frank Ward tells us that in the spring of 1898 he shot three brilliantly coloured little ducks that he was unfamiliar with. At the time he thought they might be Wood Ducks, but upon seeing that species later realized the mistake. He identified them as similar to coloured pictures of the Harlequin Duck in Reed's Bird Guide. Taking everything into consideration I am inclined to accept this record with but few mental reservations.

EIDER, Sp?

The Wards tell of a large duck of unknown species, with greatly swollen bill, having been taken by Mr. Samuel Martin, of Winnipeg, about 1900. Plumage descriptions seem to suggest a female, either Eider or Scoter. If Eiders, ever occur they must be accidental stragglers and except for the above uncertain record they are unknown on the lake.

37. WHITE-WINGED SCOTER, *Oidemia deglandi*.

Seton found nest and eggs on Pelican Island on July 6, 1901. This is the only Scoter known to the Ward brothers, who say that when the lake was fished many were taken in the nets. We saw small flocks almost daily in the spring of 1917, and Young reports occasional individuals throughout the season until Aug. 10.

38. RUDDY DUCK, *Erismatura jamaicensis*.

Reported by Seton, 1886, on the authority Hine to breed at Siscoal Lake. Said by the Wards to have bred very commonly but not often taken. It has practically disappeared from the marsh since the drying of the marshes. Young noted one individual on May 29, 1918.

39. SNOW GOOSE, *Chen hyperboreus*.

Single individuals seen on May 25 and 28, in 1917, a large flock on April 30, a smaller one on May 25, and two individuals on Oct. 2, in 1918. The residents are enthusiastic over the "Wavie" shooting. I take it for granted that all are Lesser Snow Geese, *C. h. hyperboreus*. It is locally called Greater, but apparently in contrast with Ross' Goose, which seems to be as well known as the "Lesser Wavie".

40. BLUE GOOSE, *Chen caerulescens*.

One was seen on May 29, 1917, in company with a Snow Goose and watched for some time in good field-glass range. The slaty black and white head and neck made identification positive. Young

noted a flock of one hundred on April 30, 1917, and a few more individuals on Oct. 1 and 2. The Ward brothers say that in most flocks of Snow Geese a few of this coloration occur, but not many are taken.

41. ROSS' GOOSE, *Chen rossi*.

The Wards differentiated between the Greater and Lesser Snow Geese, but upon questioning it appeared that the latter were little larger than Mallards. There can be little doubt but that this is the species referred to. They are only occasionally seen on the lake, but numbers have been brought into Winnipeg market.

42. WHITE-FRONTED GOOSE, *Anser albifrons*.

May 26, 1917, one pitched on an isolated rock off the shore within sight of camp, from whence we watched it with glasses for a considerable time. The general brown colouration, white frontal patch and pink bill and feet were plainly visible and there can be no doubt as to the identification. The Ward brothers say it is scarce within their experience and know of but six individuals being taken on the lake.

43. \*CANADA GOOSE, *Branta canadensis*.

Besides seeing the species during spring and fall in 1917, Young noted individuals as late as June 4 and as early as Aug. 10 in the following season. Arnold reports finding a nest on an island in 1894 and doubtless the present breeding ground is not far away. Two captive birds seen were evidently *B. c. hutchinsi*. One specimen obtained on April 30, 1918, is *B. c. canadensis*. The Wards and others say that the two large forms of Canada Goose can easily be told apart in life, having different voices and the flocks keeping more or less separate. The living birds of the small form do not make good decoys for the larger. They also upon their own initiative tell of occasional very small Canadas, scarcely larger than Mallards, and with voices like a hard *cack-cack-cack*. They are very scarce and there can be little doubt but that they are stragglers of the Cackling Goose, *B. c. minima*.

44. BRANT, *Branta berniola*.

Reported by Seton (*Auk*, 1886, p. 329), on authority of R. H. Hunter, to have been killed at Shoal Lake. As Geo. Atkinson records in his Rare Birds of Manitoba (*Trans. No. 65, Hist. and Sci. Soc. Man.*, 1904), a specimen in his possession from Oak Lake, killed the spring of 1889, the record is not an isolated one for the province.

45. WHISTLING SWAN, *Olor columbianus*.

The Ward brothers tell us that Swans are still common migrants, especially in the fall and do not seem to be decreasing to any marked degree. We saw none in 1917, but in 1918 Young noted thirty on April 30, and six on May 6.

46. TRUMPETER SWAN, *Olor buccinator*.

The Ward brothers have observed Swans of two different sizes. One shot in 1904 weighed thirty-two pounds and was so large that Frank Ward, a large man, could not close his hand about the neck behind the head. Mr. Ward, Sr., says that swans nested on the lake in 1893-94 and that he watched the old one with cygnets one day for hours. This can only refer to the Trumpeter Swan and is strong circumstantial evidence of its occurrence. Our informants also tell us that the big swans are not as wary as the small ones, do not keep as consistently in the centre of the open lake, and are more easily taken. The voice is also quite different from

that of the smaller species, being either a single "Whoop-Whoop" or a louder, clearer, and less shrill "Coo-coo—" that can be plainly heard for miles. Frank Ward tells of a wounded one uttering a long drawn note of such extreme mournfulness that it moved him deeply, thus substantiating, in a measure, the fabled song of the dying swan. These trumpeters do not come with the large flocks of Whistlers, but usually as individuals accompanied by one or two dark cygnets. Two have been seen as late as the early spring of 1917.

(To be continued.)

The asterisk (\*) denotes that specimens were taken.

### THE ORCHIDS OF HATLEY, STANSTEAD COUNTY, QUEBEC.

By H. MOUSLEY.

In that interesting book, "How to Know the Ferns", Mrs. Theodora Parsons recounts how a friendly rivalry used to exist amongst fern students as to who could claim the greatest number of species for a given area. Possibly if such a rivalry exists amongst students of the orchid family, I might take a prominent place, for I can lay claim to having found seventeen species and one variety of orchids (or just one-quarter of all those known to occur in Eastern North America) within a radius of one mile of my residence, and I am beginning to wonder whether Hatley is not an "El Dorado" for these lovely flowers, the same as Dorset and Pittsford (both in the State of Vermont) are for ferns. On a two hours' walk in the former place thirty-three species and four varieties of ferns have been found, but then it must be remembered that the party finding them had made the study of ferns a speciality, whereas I do not lay any claims to being considered a specialist in orchids or even a botanist. Still from childhood I have always had an innate love of the beautiful, and it has been whilst pursuing my favourite study of ornithology, that I have made a side line, so to speak, of botany, having collected and named some two hundred or more local species of wild flowers, at odd moments when from some cause or another birds were scarce. Possibly I owe my success with the orchids almost entirely to the warblers, for in making a special study of this family of birds, I generally seem to have been most fortunate in securing my rarest finds, the following up of a Cape May Warbler (*Dendroica tigrina*) for instance giving me my first sight of that exquisite little orchid, *Calypso bulbosa*.

Hatley is a pretty little village lying at an elevation of 1,000 feet above the sea level, the country

all round being of an undulating character with plenty of small streams, many of which eventually find their way into Lake Massawippi, a fine sheet of water about nine miles long, lying on the western side of the village. Between this lake and the village there stretches a long belt of low-lying woods composed largely of spruce, fir and cedar, with hemlock, maple, birch, beech, ash and other deciduous trees intermixed. It is in these woods principally to the north-west of the village that most of my records have been made, although there is a famous bog to the north-east, where several species are to be found growing in profusion including *Arethusa bulbosa*.

During most of my eight years' residence here (1911-1918) I have resided about one and a half miles to the south of the village, but in May, 1917, I made a temporary change and occupied a house about a mile or rather more to the north of the village until October, 1918. Previous to making this change I had only observed six species of orchids to the south of the village, so that my change of residence is responsible for an additional twelve, the ground being of a more swampy nature and better suited to the requirements of orchids, although I do not wish it to be understood that a systematic worker could not find any of these twelve additional ones to the south or east of the village, for indeed I myself have already done so during the present year (1918); nevertheless I think the localities indicated will be found to be the most productive, as the following annotated list (taken in the order given in Gray's Manual of Botany, Seventh Edition) clearly shows:

SMALLER YELLOW LADY'S SLIPPER, *Cypripedium parviflorum* Salisbury. My first acquaintance with this fragrant flower was on June 22, 1917, when I

found a little bunch of nine blooms on the outskirts of some woods that had been cut down and had partly grown up again with willows. Although I searched the ground very carefully for a good radius round, I could find no more, and it was not until May 29, of the following year, that I came across three more blooms near a logging road in the centre of a wood three miles to the south of the first locality, which was one and one-half miles to the north-west of the village, whilst the latter place was one and one-half miles to the south-west, both of them being of a very swampy nature. This is a much smaller bloom than the next variety, but what it lacks in size it more than makes up for in richness of colour and perfume.

Var. *pubescens* (Willdenow) Knight. (LARGER YELLOW LADY'S SLIPPER). On June 18, 1917, one of the village pupils brought two of these blooms to school, she having found them in some woods to the east of the village. The following year in the same direction, and on the same date, strange to say, I found several clusters of blooms in an open space in a dry deciduous wood on some hilly ground, and had previously, on June 6, come across a few examples in another wood to the north-west of the village. These latter examples were quite fresh, but those found on June 18 were far gone, although the two of the year previous on the same date were perfectly fresh. I am inclined to think this variety will be found to be much commoner than the species (for I have since heard that it was taken on June 1, near Compton, a village seven miles to the north-east of Hatley); at all events its habitat is more accessible to most people, being in dryer situations than that of *parviflorum*. The blooms although very much larger than the latter are decidedly paler and lack the exquisite perfume of the former.

SHOWY LADY'S SLIPPER, *Cypripedium hirsutum* Miller. For several years, in fact until 1917, I only knew of one locality for this the handsomest of the *Cypripediums* if not of all our native orchids, which was on the borders of a little tamarack swamp rather over a mile to the south of the village, where, however, never more than some half-dozen blooms could be found in any one season. Side by side with *hirsutum* only blooming a little earlier, could be found that charming flower (immortalized by Emerson) *Rhodora* (*Rhododendron Rhodora*), this little swamp being also the only locality known to me for the species up to last year (1918), when I heard of another somewhere near Compton. In 1917, on June 23, I discovered another locality for *hirsutum* in the bog already mentioned to the north-east of the village, but on this date only a few blooms were noted. However, in the first week in July, in this same bog, but somewhat further to the north, I came upon it again, together with *Arethusa*

*bulbosa* and *Habenaria dilatata* literally growing in profusion. It would be impossible to describe my feelings at the time, the blooms of the first named in scores, alone forming a never-to-be-forgotten sight. On June 21 of the following year, I again visited this spot to see how things were progressing, but was horrified to find that a severe frost on the nights of the 18th and 19th had worked terrible havoc, all the plants of *C. hirsutum* being laid flat on the ground in a dead and blackened state and not a bloom could I find, whilst *A. bulbosa* and *H. dilatata* were not much better, although I did succeed in finding two fine blooms of the former in a very sheltered spot, and several of the latter, the date, however, in both cases being somewhat early for these species. In its early stages the foliage of Indian Poke or False Hellebore (*Veratrum viride*) is much like that of *C. hirsutum*, and is no doubt often mistaken for it by the novice. My dates for fresh blooms of *C. hirsutum* (which are fragrant) range from June 14 to July 17.

STEMLESS LADY'S SLIPPER, MOCASSIN FLOWER, *Cypripedium acaule* Aiton. It was not until this year (1918) that I was able to locate this beautiful orchid, although I had heard rumours of its having been found many years ago in a wood to the west of the village, this exact locality being given to me by the finder himself when visiting Hatley on business in July, 1917, too late, unfortunately, for me to do anything that year. In the following May, however, I visited the spot on the 25th, and after an hour's search found some twenty-five blooms or more in a portion of the wood where there were a number of hemlock trees. The day previous I had accidentally come across five blooms (also under hemlock trees) in a little ravine three miles to the north of Ayers Cliff or about ten miles from Hatley. After this I found a few plants in three other localities, two to the north-west of the village, and the other to the south-west. In one of the former I had a red-letter-day find, for I came across two blooms on June 18 in both of which the large lip was snow-white instead of pink. Gray, in his Manual, says lips rarely white. These two blooms were close under the drooping branches of a fir tree on the north side, where it was impossible for the sun to ever reach them, the spot, however, being a very dry one. In every case with the exception of the last named the plants have been found under or in the vicinity of hemlock trees, and in the case of the twenty-five or more, some of these were growing on fallen tree trunks which were in a crumbling state. My dates for fresh blooms range from May 24 to June 18.

SHOWY ORCHIS, *Orchis spectabilis* Linnæus. I first became acquainted with this early blooming orchid on June 1, 1912, when in a wood two miles



to the south-east of the village I found seven blooms, but although I often visited the spot in after years I never found any more, and it was not until June 6, 1918, that I came across it again in a wood a mile to the north-west of the village, one solitary bloom, however, being all that I could find, and it was over. One of the village school children had previously shown me a bloom on June 1 that he had found in a wood not so very far from Compton, and he said there were a few more. From this it looks as though the species is fairly well distributed, but nowhere very plentiful.

*Habenaria bracteata* (Willdenow) Robert Brown. It was only in May of last year (1918) from the 20th to the 27th, that I came across this green orchid (of which I do not know the exact vernacular name) in a wood one mile to the north-east of the village, and then only a few blooms were discovered. However, I do not suppose it is particularly rare, but may be somewhat local seeing that I have not noticed it in previous years. Many of the *Habenarias*, however, are inconspicuous and can be easily overlooked.

*Habenaria hyperborea* (Linnæus) Robert Brown. This is another *Habenaria* of which I have no exact vernacular name, but it is a very common and widely distributed one here, as well as being very variable both as regards its height and size of flowers, etc. My dates for fresh blooms range from May 31 to July 1 at all events, if not much later. It seems to favour cold, wet and boggy woods principally.

NORTHERN WHITE ORCHIS, *Habenaria dilatata* (Pursh) Gray. There is only one bog about a mile to the north-east of the village where I have found this species, but there it grows in profusion as already stated in the account of *C. hirsutum*. My dates for fresh blooms range from June 21 to July 17.

SMALL NORTHERN BOG ORCHIS, *Habenaria obtusata* (Pursh) Richards. This little orchid with its cluster of greenish-white flowers is very common and well distributed, at least in the long range of woods lying to the north-west of the village, where in the cool mossy parts one can hardly avoid crushing it under foot. In 1918, the single leaf was just appearing on May 4, the blooms on June 17, and they lasted until July 11, or perhaps a little later.

SMALL PURPLE FRINGED ORCHIS, *Habenaria pycodes* (Linnæus) Swartz. Probably this is the commonest and most widely distributed of all the orchids to be found here. Damp meadows, swamps and even roadsides are all equally likely places to find this species from about July 19 to well into August.

ARETHUSA, INDIAN PINK, *Arethusa bulbosa* Linnæus. This very lovely magenta pink orchid named after Arethusa, one of the nymphs who attended the goddess Diana, grows in profusion in the quaking bog about a mile to the north-east of the

village as already stated, and this is the only locality I know of where it is to be found. I have noted it in bloom from June 21 to July 17, and also that it seems to prefer the little mossy hummocks in the bog, which keep it out of the water, whereas *H. dilatata* is found in the grass and moss at a lower level and in the very wettest places.

WIDE-LEAFED LADIES' TRESSES, *Spiranthes lucida* (H. H. Eaton) Ames. If numbers count for anything then this rather insignificant little orchid with its yellowish lip is my rarest find, for I have only located one solitary example so far, on July 20, 1918, on a moist bank in the vicinity of the famous bog to the north-east of the village.

NODDING LADIES' TRESSES, *Spiranthes cernua* (Linnæus) Richard. In striking contrast to the above this species can be found almost anywhere not only in very wet situations, but also in comparatively, if not entirely dry ones. The perfume from a number of spikes is very noticeable and pleasant. My dates for fresh blooms extend from August 17 up to as late as October 17.

*Spiranthes Romanzoffiana* Chamisso. I have no specific vernacular name for this species of Ladies' Tresses, but its scientific one is high sounding enough for anything. It is well distributed, but not quite so abundant as *S. cernua*, appearing somewhat earlier however, my earliest date this year (1918) being July 24.

LESSER RATTLESNAKE PLANTAIN, *Epipactis repens* var. *ophioides* (Fernald) A. A. Eaton. The rosette of snake-like marked leaves forming the base of this orchid is certainly its most striking feature, and not the somewhat inconspicuous spike of greenish-white flowers. I have found it in some half a dozen localities in the woods to the north-west and south-west of the village, but never in any of those on the eastern side, with one exception, and that was several miles from Hatley, on the wooded slopes of Barnston Pinnacle. Although I first found it in 1915 by means of its leaves, it was not until August 1, 1918, that I came across it in bloom.

*Listera convallarioides* (Swartz) Torrey. I have no specific vernacular name for this Twayblade, which, however, is a common enough species, at least in the woods to the north-west of the village, growing side by side with *H. obtusata*. I first found it in bloom on June 27 of the present year (1918) and it lasted until about July 11 or perhaps a little later.

CORAL ROOT, *Corallorrhiza trifida* Chatelain. This is one of those inconspicuous little plants which if you are an orchid enthusiast it is advisable not to show to your friends for fear of some very sarcastic remarks. I only found it in one wood to the north-east, and in two others to the north-west of the village this year (1918), between May 20 and

June 15, but never more than two or three blooms at a time.

CALYPSO, *Calypso bulbosa* (Linnæus) Oakes. Never shall I forget the day when I first discovered this exquisite and very local little orchid rightly named after an immortal. It was on the morning of May 15, 1918, whilst following up an equally rare warbler, the Cape May (*Dendroica tigrina*) to the edge of a deep cedar swamp, that I had not previously explored, and which curiosity now prompted me to enter, that I came upon two blooms on the moss-covered stump of a fallen tree. Needless to say I spent a long time searching in a wide radius round this spot, but I only succeeded in finding five more blooms. This success, however, was sufficient to make me ignore the birds for the rest of that day and the one following, in an endeavour to define the extent of the area and the abundance or otherwise of the plant. I only succeeded, however, in locating three more blooms (thus making a total of ten in all) and each of these three were by themselves, one at a distance of perhaps three-quarters of a mile, another at about one-quarter of a mile, and the last

only a few hundred yards from the original spot. These three localities with the original one were all within the long belt of woods lying to the north-west of the village.

It seems strange that in *The Canadian Naturalist*, Gosse, 1840, a book of much local interest (as it gives a general account of the Flora and Fauna of the district in those times) the word *Orchis* occurs only once, and that on page 299, where the author (who lived at Compton, a village some seven miles to the north-east of Hatley) on September 10, 1838, or thereabouts, says: "I found an *Orchis*, consisting of two very large oval leaves, deeply plaited, but it had no flower". Considering that Gosse spent three years at Compton it would appear as if orchids must have been very scarce here in those days, or surely he could hardly have failed to notice some of the more showy ones. Probably the one he found was *C. acaule*.

In conclusion, I hope this preliminary list may be the means of inducing others to try and add to it, as I feel sure the possibilities of the place have only been touched upon so far.

## BIRD LIFE IN THE ALBERTA WILDS.

BY J. DEWEY SOPER.

When visiting western Alberta during the months of October, November and December, in 1913, I had an opportunity of studying, each day, many species of winter birds which were then new to me. The birds of that region, I believe, have had few admirers at that date. In briefly sketching these I am denied perhaps the satisfaction of viewing the list as a complete exposition of the winter birds of the region, but it seems, except in special instances, that a great deal of our interesting contributions in this direction is necessarily fragmentary, through lack of adequate opportunity.

We camped the entire period in the valley of the Hay river, some thirty or thirty-five miles north of the entrance to the Yellowhead Pass. This country is reached by pack-horse from either Hinton or Dyke. The Grande Prairie trail intersects this region, and running roughly parallel to the first majestic ranges of the Rockies, affords splendid opportunities for viewing their grandeur. All of those exceptionally fine mountains, Broule Roche, Roche a Perdrix, and Roche Mutte, may be seen from this trail.

The country is rugged, with a mixed forest of pine, spruce, poplar, and birch. Much of it has been burnt over by forest fires. The entire region is interspersed with numberless small lakes.

Large game and fur-bearers were not plentiful in

the exact country we visited, due to persistent hunting by the Crees which inhabit it.

The list may prove interesting, following as it does, at an advanced season of the year, Riley's bird list for practically the same region, also Taverner's recent addendum to the same.

(1) During the early part of October, the WESTERN GREBE (*Aechmophorus occidentalis*) was tolerably common about the small lakes adjacent to the Hay river valley. They occurred with greater frequency, it seemed to me, on the lakes that had no visible outlet. These perhaps possess more food peculiar to their wants. Sometimes they were solitary, but more often were observed in pairs. As the days went by and the nights became colder they became fewer in number and the last individuals observed before the freeze-up was on October 28th.

Later while travelling over the ice during the first week in November, I found two of these birds frozen down on the surface, both in a frail and starved condition. It would be interesting to know the exact circumstances which prevented these birds from migrating earlier. Both individuals were found on the same lake and only about a mile distant from the open waters of the Hay river.

(2) THE HUDSONIAN SPRUCE GROUSE (*Cathartes canadensis*) was a very common bird in the big woods and usually seen in flocks. When first

encountered the flaring red margin to the eye and the comparative darkness of the species, especially the male, impresses one greatly. Next, if the observer has formerly pitted his cunning against the Ruffed Grouse of the east he will be very agreeably surprised at the utter confidence the bird exhibits when closely approached. With perfect nonchalance he remains perched close overhead, blandly surveying the newcomer stretching his neck to full extent, and moving his head in different directions, fearing, I suppose, to miss anything of interest. In fact many birds are so foolishly confident that Indians and others call them "fool-hens" from the display of this excessive tameness.

I was told that the Indians killed many with simply a stick, or snared them from the tree, catching them by means of a small wire noose on the end of a pole, manipulated by the hunter. I tried this myself and was so nearly successful that I was satisfied it could be accomplished.

These birds afford excellent eating and are largely taken in the wilderness for the benefit of the traveller. The flesh of this species is darker and the heart larger than that of the Ruffed Grouse. Their crops, as winter approaches, are found to contain an increasing proportion of pine needles, for instance the crops in specimens taken in December were found to be entirely filled with these needles.

(3) What I have already written of the Spruce Grouse is largely applicable to the GRAY RUFFED GROUSE (*Bonasa umbellus umbelloides*) of this region. They, too, are a comparatively fearless bird but not to such an extent as the former species. They are quite numerous and occur in about equal ratio with the Spruce Grouse; if there is any difference I believe it would be in favor of *umbelloides*.

(4) Numerous small flocks of the SHARP-TAILED GROUSE (*Pedioecetes phasianellus campestris*?) were observed during October upon the bald open crests of the lesser hills, where conditions more nearly approached those of the prairie. Unfortunately I failed to collect any specimens, so am unable to state whether these were the northern variety *phasianellus*, or what is more probable, the prairie form *campestris* which is common at Edmonton, two hundred miles east. Spreadborough, in 1898, according to Macoun's Catalogue of Canadian Birds, failed to observe the species farther than 25 miles west of Edmonton. The extension of the range of this species, during the intervening fifteen years, can I believe, be attributed to the extensive settlement of the country during that time.

The birds were extremely wild and took to wing at the first sign of approach, emitting their familiar *cack, cack, cack* like the grouse of the prairie but unlike them, did not fly to near-by tree tops, preferring rather to fly away until lost to view.

(5) GOSHAWKS (*Accipiter atricapillus*), were not uncommon throughout the region. The complete isolation and ruggedness of the country, with abundance of small game, suited their rapacious natures to a nicety. I collected both adult and young birds; one of the latter shot on October 30th, measured 22 inches in length, with a wing expanse of 3 feet 5 inches. The immature birds are dark brownish over the back instead of the bluish gray of the adult.

(6) GOLDEN EAGLE (*Aquila chrysaetus*), were frequently observed. One fine specimen which accidentally found its way into one of our fox traps, afforded us a lively and interesting time before we finally liberated him. Measurements of the bird were: length three feet, expanse seven feet one inch. The region is well suited to these large birds of prey.

(7) HORNED OWL (*Bubo virginianus subarcticus*) were evidently permanent residents as I frequently heard them hooting on fine nights during my entire stay. They prey largely on that scourge of the wilderness the Varying Hare.

(8) THE HAWK OWL (*Surnia ulula caparoch*) was the first bird noted on our way to the Hay river. The first individual and the first one I had ever seen was perched upon a slivered stump about fifteen feet from the ground. At first sight I thought I had a hawk under observation due to the trimness of the bird and the long tail, but the big face presently turned towards us soon convinced me of my error. I was much amused at the habits of this little owl, as he sat so upright there in open day, as our outfit shambled down the trail almost below him, and except for a casual turn of the head, exhibited but little interest in the party. They were tolerably common throughout the region traversed. Their food consists largely of the smaller mammalia as their action about low beaver meadows would indicate. One day I flushed a Hawk Owl from the ground and found that he was feeding on a full grown hare. If, as I suppose, the bird killed this animal itself, the action was certainly a creditable one for a bird of this size.

(9) One individual only of the PILEATED WOODPECKER (*Ceophloeus pileatus abieticola*) was observed and it was collected. They are very shy and retiring.

(10) The only other woodpecker noted was the NORTHERN HAIRY WOODPECKER (*Dryobates villosus leucomelus*). It was common in all heavy timber. The three-toed species should no doubt have been observed here, but none were seen although at Edmonton they occur occasionally. Richardson\* states, "The Hairy Woodpecker exists as far north as 63°." It remains all the year in the Northwest

\*Macoun's Catalogue of Canadian Birds.



Territories, and is the commonest species up to the 56th parallel, north of which it yields in frequency to the three-toed species." This very well confirms the scarcity of the three-toed varieties and the abundance of the Hairy Woodpecker in this instance, but should scarcely account for the entire absence of the former when they occur at Edmonton in practically the same parallel, namely 53° 35' north.

(11) CANADA JAYS (*Perisoreus canadensis*) were everywhere common, as I suppose they are in most northern woods. No sooner is camp made for a short time, than suddenly they appear to make friends, with plaintive mewings, or harsh *ca-ca-ca's*, and other peculiar notes. They are very inquisitive and social birds and afford real interesting study in their ways and habits.

I have spent many exhilarating moments watching these insatiable elfs, greedily stowing away food, gulping and choking and still trying with greater efforts to extend their capacity. What is impossible for them to eat at the time is very cunningly carried away and secreted in niches of nearby trees. They have no aversion to very questionable eatables, as a note from my journal of December 2nd indicates, and illustrates nicely this voracious tendency:

"Whisky-jacks carried away my last cake of Lifebuoy soap to-day, but fortunately I found it some distance away beneath the spruces, where they had conveyed it for greater secrecy. To my amusement they had eaten a generous sized hole from the centre. It would be interesting to know how they feel."

I subsequently learned that the soap and its influences detained my little friends from making their usual appearances for three consecutive days, but at the end of which time, after fearing the worst, they ambled in again as hale as ever.

This disposition of *canadensis* leads many woodsmen to indulge in harmless trickery upon the luckless birds and become convulsed with laughter at the ludicrous pranks they play: for instance, on the end of a string with mealy tid-bit attached.

(12) RAVENS (*Corvus corax principalis*) were observed only on two occasions, both during the month of October.

(13) PINE GROSBEAKS (*Pinicola enucleator leucura*) or *Pemontana*? (14) REDPOLLS (*Acanthis linaria*), and (15) SISKINS (*Spinus pinus*) were very common; the two former becoming much more so after November 10th.

(16) I saw only one flock of WHITE-WINGED CROSSBILLS (*Loxia leucoptera*) which were feeding on a low spruce near the Hay river on November 5th.

(17) Near the same place on the afternoon of October 25th, I came upon a solitary individual of

the GRAY-CROWNED LEUCOSTICTE (*Leucosticte fephricitis*); it was the only one observed on the trip.

(18) A single TREE SPARROW (*Spizella monticola ochracea*) in company with a number of (19) JUNCOS (*Junco hyemalis* or *Junco oregonus shufeldti*) was noted on October 29th. They frequented low shrubbery, skirting a small brook that emptied into the Hay river.

(20) THE AMERICAN DIPPER (*Cinclus mexicanus unicolor*) was always to be seen along the open ripples. When a "Chinook" blew for a time from passes to the west, and flooded the ice and extended the open places it suited the little ouzel all the better. It always is a matter of interest to watch the little fellows diving deep into the cold spray of the stream and come up bobbing serenely, with a mouth full of green lichen or algae. They then convey it to the margin of the ice and select from it what suits them best. Their feeding places are marked on the ice by long narrow lines of green lichen grass, and little bits of gravel and silt.

What pleases me is the solemn air of importance they frequently possess, paddling around on the stream, head erect, bobbing over the ripples like a miniature duck and all the while in their comical erratic behaviour, twisting and turning suddenly this way and that as suits their fancy.

They frequently resort to the tree-tops when disturbed, displaying a surprising range of adaptability, when it is remembered that they are, comparatively, expert in the water and very active on land. They are truly very interesting little birds.

(21) In the darkest and loneliest coniferous forests of the greater foothills, I discovered the only place frequented by the RED-BREADED NUTHATCH (*Sitta canadensis*). Here they occurred in great numbers, the gloomy spruces seeming alive with them in certain places, and their thin nasal *ya-na*, *ya-na* murmured incessantly down the stillness of the forest. The mystery of the great conifers draped in clinging moss, with the calls of winter birds, casts quite an enchanting spell upon the otherwise breathless silence.

(22) BLACK-CAPPED (*Penthestes atricapillus superciliaris*) and (23) HUDSONIAN CHICKADEES (*P. hudsonicus hudsonicus*) occurred in about equal numbers, and the occasion lent itself very agreeably to an extended acquaintance with *hudsonicus*, of which until this time I had seen but one living example. At Edmonton, comparatively but such a short distance east, I never saw them. Their notes are much coarser than those of the Red-cap or Long-tailed varieties and serve to quite accurately identify them at a distance.

## THE BEHAVIOUR OF THE RED SQUIRREL.—II.

BY A. B. KLUGH, M.A., DEPARTMENT OF ANIMAL BIOLOGY,  
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The Red Squirrel, of whose behaviour I gave an account in the April number of *THE OTTAWA NATURALIST*, is still under observation, and I have been able to obtain some additional data concerning it. It is no tamer than it was last year and this fact allows us to regard its activities as typical of the species in the wild state.

A fact which has come out very clearly in the course of my prolonged observation of this squirrel is that it possesses an individuality of appearance. Its characteristic appearance is something practically impossible to define, but is none the less easily recognizable. It is a matter of "expression", as I find that I can be sure that it is *Adjidomo*, which is Ojibwa for Red Squirrel and the name by which I refer to this individual, only if I get a look at his face. When I look at the face of either of two other Red Squirrels which live in the vicinity I know at once that they are not *Adjidomo*. The other two squirrels I cannot tell apart, though it is probable, if not certain, that they too have a characteristic appearance which would be revealed by close and frequent observation.

### FOOD.

One rather interesting point in connection with the food-habits of the Red Squirrel became apparent during the summer. I had always regarded bark as being a food material which was only made use of by the squirrel as a last resort—a "starvation diet" to be used only when other more attractive foods were not available. But during the summer and fall, though the squirrel was well supplied with various articles of diet, such as nuts, bread, meat, etc., he continually made meals of the bark of the hard maple. He chiseled off the gray outer layer and ate the greenish and white inner layers. The maple bore no seeds this year, and what natural food resource the squirrel could have used this winter is hard to see. The only one I know of is the horse chestnut, and during the fall he stored a good many of these.

### STORAGE.

A few more points in connection with the storage of food have been observed. One fact which stands out quite clearly is that when an object is being placed in position for temporary storage it must rest against something, as well as on something. The object is usually placed in a fork of the tree, as mentioned in my previous article, but any angle, such as that formed by the top rail of the verandah and a post, will serve, and even a splinter projecting

from the surface of a board will satisfy his idea of stability. It appears as if the main idea underlying the operation is to keep the object from rolling.

The squirrel often has some difficulty in deciding upon a suitable location in which to deposit an object and frequently carries a piece of food round from place to place, trying several locations before finally depositing it. Further than this, it is not always satisfied with the place it has selected and returns, hauls out the object and deposits it in another place. This may be done almost immediately after it has been first placed in position or after the elapse of half an hour or so. If it takes a large piece of food from its location and eats a portion the remainder is almost invariably deposited in a new place.

During the summer, at a time when I was not supplying any nuts, he went to his main store under the shed, brought out nuts stored in the spring, carried them up the tree and ate them.

At the end of November, when a little snow had fallen, he buried food in it. The layer of snow was not deep enough to enable him to use his usual method of shoving the object into the snow with his muzzle and scraping snow on it from right and left with his paws, so he turned his paws over so that the palms were upward and shovelled snow on the object in this manner.

### OWNERSHIP OF STORES.

*Adjidomo* has apparently lost the chief menace to the food which he stores in the forks of the tree, as the other squirrel which used to raid these stores has disappeared. I have not seen it since May. But there are still several other "pests" which pilfer his stores and have to be chased away. A pair of White-breasted Nuthatches frequently visit the tree and in trying to eat the pieces of food lodged in the forks usually manage to knock most of them out. A Downy Woodpecker and a Hairy Woodpecker also play the same game. The House Sparrows are also a constant source of annoyance to him, and he chases them with great dash and wonderful agility. Time and time again I have seen him spring almost on top of one of them, and it often looks as if he could have seized the bird if he had so desired. When chasing the sparrows he bounces about among the branches for all the world like a rubber ball, and one day when pursuing one of them on the verandah I saw him make what I regard as the most remarkable spring I have witnessed—a leap of five feet with a rise of three feet. It is to be noted that

all a squirrel's long leaps are taken from a higher to a lower elevation, and I have observed that Adjidomo will not attempt a long leap except under these conditions.

#### RESTING.

During the hottest weather of the summer he rested more than at other times of the year. He selected a shady place on a large limb and stretched himself out at full length.

#### SUNNING.

Last winter I was somewhat puzzled by the squirrel's fondness for a perch which did not strike me as particularly comfortable—on a large nail in the trunk of the tree to which a clothes-line is attached. This perch was not used during the summer, but with the return of colder weather he again frequents it, and it is now plain that he takes up his position there because he is then sheltered and gets the full afternoon sun.

In connection with the squirrel's use of this perch a little episode occurred for which I can offer no explanation, but which caused us some annoyance. One day when the line held its full quota of clothes the squirrel cut it through at the point where it was attached to the nail, with somewhat disastrous consequences to the "wash". Subsequently he again cut the line down when it was empty, but since then he has left it intact.

#### LISTENING.

I have noticed that the squirrel has two attitudes which are assumed in intent listening. If it is on "all fours" it folds one front paw, nearly always the right, and places it against its breast. If it is sitting up it folds both front paws and brings them together against its breast. In both cases the head is elevated and is often turned from side to side.

#### PLAYING.

This squirrel is at least three years old, how much older I do not know, but it frequently plays. When the first snow-fall came it plunged about in it, dashed through the deep piles on the large limbs and evidently enjoyed itself thoroughly. It frequently goes through a remarkable performance which we must classify as a game, since it certainly serves no useful purpose. At the top of the trunk of the maple at the point from which the main limbs are given off there is a trough-shaped, vertical cavity, some eighteen inches long with a pocket-shaped bottom. The squirrel gets in this cavity, turns over and over in a series of somersaults, sliding down the trough on his back at each backward turn. He sometimes seizes his tail and rolls about in the pocket holding on to it.

#### EXPRESSION OF EMOTIONS.

The emotions of the squirrel are expressed mainly by attitudes, more rarely by the voice. Surprise, fear, curiosity, anger, contentment, all have their

characteristic attitudes. The attitude of surprise is either one in which the animal draws itself back on its haunches and allows both forepaws to hang from the sides, or else picks up first one fore-paw and then the other. In fear the body is flattened, head dropped, tail straight out. Anger is shown by the stamping of the hind feet, and jerking of the tail, sometimes by the stamping of the front feet as well. In curiosity the neck is stretched out to a surprising length. In the attitude of contentment the animal is usually sitting up with the tail flat along the back and the tip over the ears. These emotions are well-defined but as to whether joy finds expression in behaviour I have not yet definitely determined, though I have noticed a certain high bounding which it exhibits only when it has discovered a supply of food.

The voice seems only to be used in anger and pain. The scolding chatter is familiar to everyone, but I have observed that Adjidomo has chattering notes of different quality which he employs apparently in different degrees of anger. A cat excites his most intense wrath, and when he sees one anywhere near the base of the maple he breaks out into a very loud, sharp chatter of such a quality that I can now tell at once the cause of his indignation. It takes him some considerable time to get over a fit of cat scolding, and it is interesting to notice the order in which the different vocal elements which compose the compound chatter die out. The note which persists the longest is the little nasal "Tscherk", and these gradually grow fainter and further apart until his equanimity is restored. The chattering is always accompanied by stamping of the hind feet, which action sometimes is so violent as to become a veritable dance. It might perhaps be claimed that the chatter denoted only excitement and not anger, but this is disproved by the fact that he can get very excited without chattering and that upon three occasions when he has had cause for anger but not for excitement he has chattered. One of these episodes I will mention as typical. I had put two very hard buns out for him. He had some difficulty in getting a firm grip on one of the buns with his teeth because of its hardness and large size, but finally made off with it. He ran up the branch from which he jumps to the roof of the next house, gathered himself together and sprang across. But in mid-air the bun slipped and fell to the ground. The slipping of the bun upset his leap, but he managed to alight safely, though far from gracefully. He then looked over the edge of the roof after the bun, "registered surprise", (as they would say in the movies), and then chattered and stamped. He soon returned for the other bun, again had a struggle to grip it, carried it up the branch as before, and jumped—with the same result, the bun slipping from



his teeth in mid-air. After this second failure he was thoroughly angry, and chattered and stamped for a long time.

I had never heard Adjidomo give vent to a cry of pain, but one day he caught the other squirrel which had been stealing his stores, and apparently bit him so severely that he uttered several high-pitched squeals.

I have never heard Adjidomo use the long, rolling, "Chir-r-r-r-r-r-r-r" call. This is apparently an inter-communication call and thus is not used by an isolated individual.

#### MOODS.

Having this squirrel under observation day after day it has become quite apparent to me that he is subject to moods. On some days he is far more nervous and "jumpy" than on others, and the probability is that on these days he has received a bad fright, I say "probably", because I have not yet been able to establish the connection between this condition and its cause. Certainly on days on which he has been made angry he is more irritable than at other times.

#### BEHAVIOUR UNDER UNUSUAL CIRCUMSTANCES.

In judging the mentality of any animal one of the best tests we can apply is the manner in which it behaves under unusual circumstances. Instinct will look after all ordinary activities, but instinct fails when confronted with new conditions. The ability to meet new conditions successfully implies intelligence.

During the summer the portions of the limbs of the maple which hung over the roof of the next house were cut off, including the end of the limb along which the squirrel travelled on his way to the roof. Soon after this had been done Adjidomo

appeared, ran along his old route towards the roof, arrived at the cut end of the limb, paused a moment and ran down the limb and up the next one which projected in the direction of the roof. This limb had also had its end cut off, so he again descended and then tried each limb which lay towards the roof in turn until he found one from which he could spring to the roof. He then continued to use this path for some three or four weeks, and in fact still uses it for his return journey, but he has found that by going a short distance up a nearly vertical branch, which projects from the limb he used in the first place, he can make the roof. Just when he discovered this I cannot say as he was using this route when I returned after a month's absence.

One day the squirrel found a long piece of crisp rind. He tried to carry it off, but finding it too heavy and awkward to handle, he put his front feet on it, and pulling with his teeth broke it in two.

On another occasion I placed a nut with a thread attached to it on the verandah and fastened the other end of the thread. Adjidomo soon came along, seized the nut and started to run off with it, but was stopped with a jerk by the thread. He turned round and tugged for some fifteen seconds, then bit through the thread and carried off the nut.

#### MEMORY.

When we returned home, after an absence of six weeks, the squirrel, as soon as he caught sight of us through the window, immediately darted over to his old feeding place. Nothing had been placed there during our absence, and the incident is interesting as showing a perfect memory for six weeks, and also as showing that he associated our presence with the probability of a supply of food.



## CONCERNING SOME INDIAN PLACE-NAMES IN CANADA.

BY ARMON BURWASH, ARNPRIOR, ONT.

In dealing with Indian place-names we are confronted by two main difficulties. The first is that the Indian languages never having been written ones—that is, written by the people themselves, whose common tongue they were—several forms of the same word are often found to have been in use in the same district, and all conveying precisely the same signification. As an instance of this we have Gitchi, Kitchi and Mitchi or Missi, all of them denoting bigness in any one of its different forms.

The second difficulty is that these languages contain a large number of root-words, which, while denoting a fact, idea, or condition, can hardly be said to have what we understand as a distinct meaning. Take for example *saga* or *saki*. It denotes a "bursting out" or "breaking forth" but had been conventionalized to some extent and was frequently used as meaning "the mouth of a river", even where the element of force was completely lacking. And *Ibi* or *Ipi* denoting moisture. We find it in *Sibi*, river, *Tipisi*, moistened—*Nipi* or *Nibi*, water, and many other similar words. We have also the same sound in *Ipinean*, but there it has nothing to do with moisture, as in that word it denotes payment.

*Canada*. The most important of all Indian place-names to us is *Canada*. It signifies a village or settlement. It is an Iroquois word and by them is used in that sense to this day. But there is a mystery about it, and it consists in its being an Iroquois word.

Their home, as far as we have any reliable evidence was in central and western New York, while all east of them dwelt tribes belonging to the Algonquin linguistic stock. It therefore seems evident that the Iroquois must at some time have forced their way down to the Gulf of St. Lawrence, and there coming into contact with the whites, have given this country the name by which we know it. Their stay in the east, however, must have been but brief, for the nomenclature of that region bears very few traces of their presence there.

At the time we are considering—and so it is yet—the great majority of the Indians inhabiting what was originally known as *Canada* was of Algonquin affinity, and so it almost seems as if there were an element of unfairness in naming this country *Canada* instead of *Odana*, its Algonquin equivalent.

*Quebec*. *Quebec* took its name from the Indian word *Kibec* denoting "closed off" or more literally "shut up". This alludes to the appearance of the St. Lawrence, which at that point, whether approached from up or down river, appears to be

closed off, owing to the position of the Island of Orleans and Cape Diamond.

*Ontario*. I have never been able to find any definite proof as to the derivation of the word *Ontario*, but have little doubt that it was derived from an Onondaga word *Gontare*, signifying "the Lake".

Lakes were not as common in the Iroquois territory as in that of their northern neighbours, but even if they had been the size of *Ontario* would justify its being called "the Lake".

That *Ontario* is an Iroquois word is almost proven by the "R" in it. In a copy of "A grammar of the Cree language" written by Joseph Howse, F.R.G.S., I find this: "In the northern dialects (including the Cree and Chippeway) the rabid R is never found."

On the other hand *Baraga* who on pages 3 and 4 makes an almost similar statement, afterwards on page 301 modifies it by a note to the effect that there were some Crees who could pronounce *ra-re-ri-ro*, and quotes the names *Rimouski* (the dog's home) and *Restigouche* (the small tree) as proofs. In my copy of *Baraga*, however, I find a note by the late Mr. Lindsay Russell, whose it once was, stating that the R in this case is probably a foreign corruption. And my personal experience, limited though it be, has taught me that while there may be some Crees who can sound the letter R, a great many of them certainly cannot.

It seems an irony of fate that the Crees, known to themselves as the *Nehethowuk*, should come down to us in history bearing a name that they themselves cannot pronounce, and probably bestowed upon them by their hereditary foes the Iroquois.

But be all this as it may, one has only to glance at a map of *Canada* and the states adjoining it on the south, to realize that practically only in territory once occupied by the Iroquois and their Huron cousins are found Place-names in which the R occurs.

For these reasons I think it is a fair assumption that *Ontario* is an Iroquois word and means "the Lake".

*Manitoba*. *Baraga* gives this as derived from "*Manitowaba*"—The Straight of the Spirit". No doubt he is correct in this, but no one of our English-speaking Indians or rivermen would ever have used just these English words, few if any of them would have known what the word straight in this sense meant, for to them a straight was always a narrows.

To the Indian any cause that was beyond his comprehension was "Medicine", and he attributed it to the presence or action of a spirit. At the narrows

on Lake Manitoba during certain storms a peculiar roar was heard, caused by the unusual conformation of the shores upon which the waves beat. Though the Indian's hearing was phenomenally acute, he had no knowledge of the principles of sound, and so in his customary way decided that this uncommon noise was due to the presence of a spirit.

As regards the first part of this name it is worthy of remark that the Indian's conception of a spirit was much wider, or perhaps I should say deeper than ours, for it ran all the way from "Kitchi Manitou" the Almighty, the Great Spirit, down to "Manitous" the little spirits, which was the name that he applied to the insects that fluttered and hummed and buzzed around him on a warm summer day.

*Saskatchewan*. *Kissiskahahchewun*, "There are rapids". This is the name given to the great river of the country wherein they lived by the western Crees. They called themselves *Kissiskahchewun-ethinuk*.

That there should be considerable difference between the dialect spoken by them and that spoken by their cousins on the Ottawa is but natural. The difference in their surroundings and mode of life would account for it.

The plain Crees were men of the open spaces. They were free to travel in any direction desired, either by land or water. The buffalo was their great staple. On its flesh they fed; of its skin they made their clothing and their ledges, and under its robes they slept.

On the other hand the Ojibwa and eastern Crees, while their living was more varied, had to work harder for it. Fish formed a large part of it. The canoe was indispensable to them as the only roads they had were the trails over the portages. Hedged in by interminable forests and impenetrable swamps they were forced to keep close to the streams and lakes.

In one word they summed all this up—Nopiming—"In the woods". For Nopiming when resolved into its root-words denotes "back from the shore". And so it was, for when off the waters they were of necessity in the woods.

*Ottawa*. This name is generally connected with that of the Ottawa Indians. There is a connection but it is only an indirect one. There is no reliable evidence that the Ottawa Indians ever lived on the Ottawa river. In fact such evidence as can be found is to the contrary, even though the largest county on its banks is named after Pontiac, their great war chief.

Their country was on the north of the Georgian Bay and Lake Huron. Their name meant "The Traders", "adowe" being a root-word denoting trade, and was occasioned by the fact that it was

by and through them that a system of barter was carried on between the natives north and west of Lake Huron and those east of it. They were a numerous people and their trade a very desirable one. It is true they claimed sovereign rights over the Ottawa river, but it seems to have been only an empty boast.

There are some maps of old date, upon which this river is named the Ottawa, but it was not then so called by the Indians or whites who lived upon its shores or frequented its waters. By the former it was spoken of, as it is yet in its upper reaches, as *Kitchi sibi*, and by the latter as the Grand river, a literal translation of the Indian name.

In the days of the voyageurs, owing to dread of the Iroquois who were masters of the upper St. Lawrence, the great trading route between Montreal and the lakes was by way of what we now call the Ottawa and the French rivers, and it is probable that the former, from being originally spoken of as the river of the Ottawas, at last came to be known as the Ottawa river.

*Quyon*. I have been informed on reliable authority that this river took its name from a game which the squaws were accustomed to play on the flats at its mouth.

This game was of the nature of lacrosse. It was played with pointed poles by aid of which the players threw from one to another two round pebbles sewn up in a loose deerskin pouch. The Indians looked upon it with contempt, as only fit for women, and in derision called it *Okweawnwi*. In time the French voyageurs replaced this with a word of their own of a somewhat similar sound and meaning, but in doing so lost the flavour of Rabelaisian humour which the original word contained.

*Mississippi*. This name as applied to the river running into the Ottawa four miles below Arnprior is evidently a mistake. The Indians called the Ottawa *Kitchi sibi*. Now *Mississippi* and *Kitchi sibi* are only different forms of the same word, meaning the big river, and it is manifest that no one would name a comparatively small river and a much greater one into which it ran both "the Big river".

My sister, when searching the Archives in Ottawa for something having no bearing whatever on this question, came across an early Government return in which this river was referred to as the *Mississquoi*.

From this it appears as if its original name was *Mississquoi*, "the river of the big woman", and that white men in time changed it into the, to them, better known name *Mississippi*.

Of course there is always the possibility that it may have been called *Mississippi* by the natives on its upper waters, but the names by which we know the great majority of Canadian rivers have been derived from some peculiarity of condition



which existed at or near their confluence with the greater rivers, and naturally so, for it was by that route in almost every case that they were first reached.

*Madawaska*. Baraga gives this as derived from *Matawashka*, meaning the river with hay or rushes at its mouth.

This is certainly not correct as regards the *Madawaska* which is a tributary of the Ottawa. At

its mouth the banks are comparatively high and rocky and the water between them deep. At no time within historic period can there ever have been any growth of rushes there.

Its derivation is undoubtedly from "Meta or Mata", denoting the forking of a river, and "Auska" the sound of rippling current.

Thus *Mata Auska* means "the river with a rippling current at its mouth".

#### BOOK NOTICES AND REVIEWS

IN DEFENCE OF THE CROW.—(A letter in the *Manitoba Free Press*) by Norman Criddle, Treesbank, Man., Nov. 23, 1918. Republished in *The Canadian Forestry Journal*, XIII, Dec., 1918.

This letter is in answer to a denunciation of the crow in a previous issue of the *Free Press*, evidently calling attention to its egg-stealing proclivities in relation to game. Mr. Criddle quite properly calls attention to the fact that the crow for generations lived side by side with other wild life but without evident serious effect upon it until man came in and assisted in turning the scale. He therefore largely acquits the crow with being a serious factor in the disappearance of the wild game which he blames upon over-shooting and disregard of present laws which he regards to be sufficient if enforced to restock our preserves. He incidentally makes complaint of the automobile which certainly is the most serious new destructive agency wild life has had to face since the passing of the flint-lock gun. He calls attention to Bulletin 621, of the U.S. Biological Survey, "The Crow and its Relation to Man" (Supt. Public Documents, Washington, 15 cents), and its findings as to the value of the crow as an insect destroyer supplementing it with figures of his own stomach examinations.

The crow is economically one of our most perplexing species, its good and evil traits are inextricably intermingled. It certainly does a great amount of harm, but as certainly it also does a large amount of good. It is almost impossible to find out just where we stand in relation to it. The fact that it has cleared the grubs from his neighbour's field does not satisfy him who sees an entire planting of corn destroyed and the number of game bird nests destroyed by the culprit staggers its sincerest apologist. The relation of the crow to agriculture is, however, largely an academic question. The crow is with us to stay and though active war has been waged against it for several generations it increases

or remains stationary according to local conditions irrespective of the efforts of man. The general farmer and the sportsman are too convinced of the undesirability of the crow to be readily moved from their belief. As the question does not seem to be serious, the crow being in no danger of extinction, in spite of diatribe against it, it seems the part of wisdom to direct our attention to less questionable subjects where the need is more pressing and our influence promises to be more effective.

P. A. T.

PROCEEDINGS OF THE ENTOMOLOGICAL SOCIETY OF BRITISH COLUMBIA.—This society has recently published Numbers 8 and 10, Systematic Series, both of which are of interest not only to students of insect life within the province, but also to entomologists throughout North America. In Number 8 (30 pages), E. H. Blackmore discusses the species of the genus *Pero* which occur in British Columbia, and in addition gives "Further additions to the list of British Columbia Geometridæ; R. C. Treherne tells of the occurrence of *Glutops singularis* in B. C., and Mr. G. O. Day has a paper in "Larva Rearing." In Number 10 (31 pages), W. Downes presents "Notes on the Lepidoptera of the Northern Okanagan; J. W. Cockle discusses larval hibernation and the movement of *Boreus* in snow; E. H. Blackmore, "Notes on Geometridæ new to B. C. (2 plates), and Dr. A. E. Cameron, "Fossil Insects," with special reference to those of the Tertiary lake deposits of the Similkameen valley, B.C. In addition, Mr. Treherne publishes an obituary notice of Tom Wilson who possessed a wide knowledge of natural history, particularly of the province of British Columbia, and whose sad death in a disastrous fire at Coquihalla Hotel, Hope, B.C., on March 16, 1917, was a distinct loss to field-naturalists generally.

A. G.

## PROPOSED CHANGES IN THE CONSTITUTION OF THE OTTAWA FIELD-NATURALISTS' CLUB

At a meeting of the Council of the Ottawa Field-Naturalists' Club held on January 15, notices of motion to amend the Club Constitution as follows were given:

### ARTICLE III. Membership

(2) Members. Anyone interested in Natural History may upon application, be elected by Council, or by the committee of Council resident in Ottawa and charged with that responsibility, as a member of the club. Payment of the annual fee shall be a necessary condition of the continuance of membership.

(b) Fellows. There shall be elected, from among the Canadian workers in anthropology, botany, entomology, geology, paleontology, ornithology, and zoology, ten charter fellows. To this number shall be added yearly, in the manner outlined below, not less than one nor more than three fellows.

The method of election for the charter fellows shall be as follows. The council, at the first meeting subsequent to the annual meeting on March 18, 1919, shall draw up a list of the fifty members of the club who seem most competent to perform the duties required. To each of these, as well as to each professor, associate professor, and assistant professor of the sciences mentioned in the Provincial Universities of Canada, and in the Universities of McGill, Toronto, Queen's, and Laval (Montreal), shall be sent a request that he draw up a list of the 25 Canadian workers in the sciences mentioned ranking them from 1 to 25 in the order of eminence. These lists shall be enclosed in a sealed blank envelope, and forwarded in a larger endorsed cover to the Secretary. They shall be counted and evaluated by a committee appointed by the Council and announcements of the result shall be made as soon as possible in the Ottawa Naturalist, suitable notification being forwarded to each fellow elect. Subsequent elec-

tion shall be conducted similarly, except that the number of candidates ranked by each elector shall be 15 instead of twenty-five, and the election shall take place sufficiently prior to the annual meeting in order that the result may be announced at that time.

The law of averages is such that a group of 75 or more lists prepared in the way suggested will enable the club to know that the men selected deserve the honor which will come to them with election as fellows of the club.

### ARTICLE V. Officers.

Last word, first paragraph, leave out "Librarian".

### ARTICLE VI. The Council

Middle of second line, change "eight" to nine.

### ARTICLE VIII. Meetings

Change paragraph "a" to read, (a) The Annual Meeting of the Club shall be held on the first Tuesday in December.

### ARTICLE X. Elections

Second paragraph, second last line, leave out "Librarian".

### ARTICLE XVII. Duties of the Secretary

Third last line, change "The Ottawa Naturalist" to such other name as shall hereafter be agreed upon in Art. XX.

### ARTICLE XX. The Ottawa Naturalist

In first and third last line and heading of article substitute for "Ottawa Naturalist" such other name as may be agreed upon at the next Annual Meeting.

These motions will be introduced and voted on at the Annual Meeting, March 18, 1919.

Members of the club are invited to suggest names which they consider would be suitable for the publication in place of "The Ottawa Naturalist." The proposed change of name was intimated in a previous issue.

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The Membership Committee of the Ottawa Field-Naturalists' Club is making a special effort to increase the subscription list of The Ottawa Naturalist. Every member of the Club is urged to assist in this campaign by showing this number to a possible subscriber and endeavoring to have the attached blank filled in and forwarded to the Treasurer.

F. W. WAUGH, Treasurer, O.F.N.C.,

Geological Survey, Victoria Memorial Museum, Ottawa.

I enclose herewith One Dollar, subscription to The Ottawa Naturalist for one year.

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