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THE VERTEBRATES OF THE OTTER LAKE REGION, DORSET, ONTARIO.

By A. H. WRIGHT AND S. E. R. SIMPSON.

(Continued from Vol. XXXIV, page 145).

IV.—THE BIRDS.

By A. H. WRIGHT AND S. E. R. SIMPSON.

The birds of this region have received attention through all the years of this camp's establishment. Each year either at the beginning of camp or in the later portion, bird contests have been held and almost every year of its ten years' existence the camp has had a naturalist among the councillors in residence from June 28 or July 1 to September 1 or 10. This list is based mainly on the records of the two authors for the seasons of 1913 and 1919, and is now put in form to stimulate recording of subsequent finds. We are sure there are forms omitted but some of the naturalists did not keep notes and prefer to leave almost certain observations unrecorded because of memory's tricks. Our list then is almost solely a summer list with several additions in prospect. It numbers 122 species. Comparable notes are those of Messrs. W. E. Saunders¹ and John M. Cooper² on birds observed in Algonquin Park.

Our greatest thanks are due to Mr. J. H. Fleming³ for his courtesies previous to our trip. In many ways the most useful list in the field was his "List of the Birds of the Districts of Parry Sound and Muskoka, Ontario," also his "Birds of Toronto."⁴

The authors have found very helpful Macoun's and Macoun's Cat. of Canadian Birds; the works of C. W. Nash and Thomas McIlwraith; and the subsequent work on "Birds of Eastern Canada, 1919," by P. A. Taverner to whom they owe favors for assistance in 1913. Of assistance were the three lists of "Birds of Ottawa" in this journal (1881, 1891, 1910-11). Subsequent work can well center on fall migration, breeding data, more

records of waterfowl, shore-birds and birds-of-prey. There are twenty or more species yet to be sought in summer or previous records which need verification.

1. *Colymbus auritus* Linn. Horned Grebe.

One reported from Lake of Bays, August 22, 1911, by Mrs. J. M. Haber.

2. *Podilymbus podiceps* (Linn.). Pied-billed Grebe.

Present in summer but scarce in this region. Mr. G. M. O'Connell reports them from Lower Fletcher lake where the residents claim they were more common in earlier days.

3. *Gavia immer* (Brunn.). Loon.

Common on all the lakes and one of the most distinctive birds of the Lake of Bays country. A nest with two eggs found on an island in Otter lake the last week of June, 1919. Later, July 7, two young were seen on Otter lake. In 1913, the newly hatched egg shells were found on an island on Otter lake. Young not infrequently observed throughout the region. Several nests have been found on Otter lake since the camp was established.

4. *Larus argentatus* Pont. Herring Gull.

Common on Lake of Bays; less frequent in the smaller lakes to the northward.

5. *Mergus americanus* Cass. American Merganser.

The most common duck of the lakes of this region. Every lake has a pair or more and one of the most spirited sights is a parent bird with its young. They either swim away or frequently half swim and half fly along the surface to a safe distance. These broods are frequently recorded in the first weeks of July and even later.

6. *Lophodytes cucullatus* (Linn.). Hooded Merganser.

Mr. L. A. Fuertes observed a female with a flock of four to five young.

7. *Anas rubripes* Brewster. Black Duck.

In 1919 common on all the lakes in August and present every season.

(1) Saunders, W. E., Birds of Algonquin Park. The Ottawa Naturalist, Vol. XXIX., Feb., 1916, No. 11, pp. 145-150.

(2) Cooper, J. M., Ottawa Naturalist, XXX., No. 10, Jan., 1917, pp. 125-129.

(3) Auk., Vol. XVIII., pp. 33-45.

(4) Auk., Vol. XXIII., pp. 437-453; XXIV., 71-89. Also "Birds" in "Natural History of the Toronto Region, 1913," pp. 212-237.

8. *Aix sponsa* (Linn.). Wood Duck.
One female was seen at outlet of Otter lake, August 21, 1919, the same locality in which it was reported in 1913. Also reported by G. M. O'Connell, Mrs. A. T. Kerr, and others.
9. *Botaurus lentiginosus* (Montag.) American Bittern. "Plum Gudgeons," "Stake Drivers," "Bill Gudgeons."
Scarce. One seen August 16, 1919 in a marsh at Hardwood lake. One recorded at North Bay in August, 1911, by Mrs. Julia Moesel Haber.
10. *Ardea herodias* Linn. Great Blue Heron.
Common. Capt. Jones, fire ranger reports them as nesting at Crain lake.
11. *Nycticorax nycticorax naevius* (Bodd.). Black-crowned Night Heron.
One in immature plumage recorded on August 27, 1913 at Camp lake.
12. *Gallinago delicata* (Ord.). Wilson's Snipe.
The natives report a few in these lakes in the summer, but we have not seen this species as yet.
13. *Ereunetes pusillus* (Linn.). Semipalmated Sandpiper.
Reported August 16, 1919, in lower Algonquin Park.
14. *Totanus flavipes* (Gmel.). Yellow-legs.
Three were seen August 26, 1913, at Fletcher Lake by G. O. McConnell. One reported from Algonquin Park by C. Huber, August 16, 1919.
15. *Helodromas solitarius* (Wils.). Solitary Sandpiper.
One was seen at a marsh near Otter lake, July 12, 1919. On August 24, two were seen at the same place with young.
16. *Actitis macularia* (Linn.). Spotted Sandpiper.
Common.
17. *Oxyechus vociferus* (Linn.). Killdeer.
One was heard August 2, 1913 near Dorset, also another August, 1919 at Crozier lake. A female with three young were seen August 21, 1911, by Mrs. Haber at North Bay.
18. *Aegialitis semipalmata* (Bonap.). Ring-neck Plover.
One reported at Otter lake, August 19, 1913.
19. *Canachites canadensis* (Linn.). "Spruce Partridge."
Dr. Abram T. Kerr reports a specimen brought to him in camp several years ago. The natives report quite a few. G. M. O'Connell reports that he killed one Spruce Grouse near Otter lake.
20. *Bonasa umbellus togata* (Linn.). Canadian Ruffed Grouse.
Common. Many adults and young recorded about camp every year.
21. *Pedioecetes phasianellus* (Linn.). Sharp-tailed Grouse.
On July 20, 1913, near Hardwood lake we saw what we took to be a sharp-tailed grouse though never familiar with it before in the field. This rather negative note is introduced because of the reported spread of this form into this region.
22. *Circus hudsonius* (Linn.). Marsh Hawk.
Two recorded August 2, 1913 and two during the summer of 1919. At Point Lumini, Mrs. Haber recorded one August 20, 1911.
23. *Accipiter velox* (Wils.). Sharp-shinned Hawk.
One reported August 26, 1919 at Hardwood lake by Mr. G. Wilson.
24. *Accipiter cooperi* (Bonap.). Cooper's Hawk.
Rare. One was observed July 28, 1913 at the camp.
25. *Buteo borealis* (Gmel.). Red-tailed Hawk.
Mrs. J. M. Haber saw it August 24, 1911 at Fox Point. Three seen in 1913 and one in 1919.
26. *Buteo lineatus* (Gmel.). Red-shouldered Hawk.
One reported by Mr. C. Huber, August, 1919, and another at Hollow lake, August 11, 1913.
27. *Buteo platyterus* (Vieill.). Broad-winged Hawk.
Most common of all the hawks in the region. In 1919 it nested at the camp.
28. *Haliaeetus leucocephalus* (Linn.). Bald Eagle.
One recorded July 7, 1913 at Otter lake. In 1919 one immature recorded at Harvey Jr. lake, August 9 and one adult in Algonquin Park, August 15.
29. *Falco sparverius* (Linn.). Sparrow Hawk.
One was seen August 29, 1919 at Huntsville and another August 12, 1913 at Hollow lake.
30. *Pandion haliaetus carolinensis* (Gmel.). Osprey.
In 1913 one was seen (August 4) over the Peat Bog, Otter lake. In 1919 one was reported over Hollow lake, August 12.
31. *Strix varia* Barton. Barred Owl.
Three were recorded in 1913 and one in 1919. Others heard in each year.
32. *Cryptoglaux acadica* (Gmel.). Saw-whet Owl.
Two heard in July, 1913. One seen on August 8, 1919, near the camp.
33. *Bubo virginianus* (Gmel.). Horned Owl.
In a deserted lumber cabin, the dried skin and skeleton of a horned owl was found (July 14, 1919) filled with porcupine quills.
34. *Coccyzus erythrophthalmus* (Wils.). Black-billed Cuckoo.
Common. Frequently heard at night.
35. *Ceryle alcyon* (Linn.). Belted Kingfisher.
Common on all the lakes.

36. *Dryobates villosus* (Linn.). Hairy Woodpecker.

Common.

37. *Dryobates pubescens medianus* (Swains.). Downy Woodpecker.

Much less common than the preceding species. In 1919 apparently more common in August than July.

38. *Picoides arcticus* (Swain.) Arctic Three-toed Woodpecker.

On August 24, 1911, two males were seen at Fox Point (Mrs. J. M. Haber). On August 4, 1913, at camp a female was observed feeding its young and later the species was recorded on August 27. In 1919, (Aug. 16) one was shot on a trip to Algonquin Park. Also recorded by Fuertes, Kilburn, Palmer, O'Connell and others.

39. *Sphyrapicus varius* (Linn.). Yellow-bellied Sapsucker.

Easily the most common woodpecker of the region. Many nests and young recorded.

40. *Phloeotomus pileatus abieticola* (Bangs.) Pileated Woodpecker. "Wood cock."

Not common. On August 24, and 26, 1911, Mrs. J. M. Haber recorded it at Fox Point. On August 25, 1913, we saw a "cock of the woods" at Fletcher lake and another at camp August 31. On August 31, behind the camp we found a sound maple stump with typical holes of the species. In 1919 three were recorded at Hardwood lake. The natives hold this and the Spruce Grouse the two handsomest birds of the region.

41. *Melanerpes erythrocephalus* (Linn.). Red-headed Woodpecker.

Uncommon. One was heard back of camp July 5, 1913 and one seen August 11, 1913 at the same place. In 1919 two more were recorded in same locality. Mr. G. M. O'Connell also reports one from Dorset.

42. *Colaptes aureus luteus* Bangs. Northern Flicker.

Common.

43. *Antrostomus vociferus* (Wils.). Whip-poor-will.

A few recorded each season. The natives say they are very common in the spring.

44. *Chordeiles virginianus* (Gmel.) Nighthawk.

Common summer resident. Seen every evening on the wing. Nest with two eggs found in a potato patch near the camp July 2, 1919.

45. *Chaetura pelagica* (Linn.). Chimney Swift.

Very common summer resident. Nest with four young found in an old barn at Hollow lake, July 26, 1919.

46. *Archilochus colubris* (Linn.). Ruby-throated Hummingbird.

Common in all parts of the woods. They are

very partial to sapsucker borings and quarrel with this species for possession of such trees.

47. *Tyrannus tyrannus* (Linn.). Kingbird.

Common summer resident.

48. *Myiarchus crinitus* (Linn.). Crested Flycatcher.

Quite common summer resident.

49. *Sayornis phoebe* (Lath.). Phoebe.

Quite common summer resident. Nests each year about the camp.

50. *Nuttallornis borealis* (Swains.) Olive-sided Flycatcher.

Common in all the more open woods and in the swamps. Very quiet in August.

51. *Myiochanes virens* (Linn.) Wood Pewee.

Common.

52. *Empidonax flaviventris* (Baird). Yellow-bellied Flycatcher.

Recorded in 1919 on two occasions, August 10 at Harvey Jr. lake trail and August 13 back of camp. In 1913 two or three records were made.

53. *Empidonax traillii alorum* (Brewst.). Alder Flycatcher.

On July 28, 1919, M. C. Huber found a nest with four young in the crotch of a young tree. Later the junior author saw the young and one parent in the thickets.

54. *Empidonax minimus* (W. M. and S. F. Baird.) Least Flycatcher.

Common summer resident.

55. *Cyanocitta cristata* (Linn.) Blue Jay.

Very common. Large flocks were seen assembling for migration after the middle of August.

56. *Perisoreus canadensis* (Linn.). Canada Jay. "Meat Hawk."

Reported more common in fall and winter. Recorded by L. A. Fuertes. Several seen by Carl Huber in Algonquin Park, August 12-16, 1919.

57. *Corvus corax principalis* Ridgw. Raven.

Rare in summer. More in winter. In the more densely wooded portions. In times past they were abundant. Some of the natives attribute its reduction in numbers in this region to their being killed off by poisoned-bait set for foxes, etc. One recorded at Otter lake, August 31, 1913.

58. *Corvus brachyrhynchos* Brehm. Crow

A few observed at camp and around Dorset in 1919. In 1913 and 1911 a few recorded on Lake of Bays. Considered more common in early spring and very scarce in winter.

59. *Agelaius phoeniceus* (Linn.). Red-winged Blackbird.

Not common. One reported August 7, 1913 at Otter Lake; five females at Peat Bog, August 1, 1919, several at Dorset during summer of 1919 and also in August, 1911 at Point Lumini.

60. *Sturnella magna* (Linn.). Meadowlark.

In 1913 one member of the camp reported a meadowlark near Hardwood lake but the natives say they occur in cultivated fields of the region but not at Dorset. Mr. G. M. O'Connell reports one nest found during his seven years at camp.

61. *Icterus galbula* (Linn.). Baltimore Oriole. Rare. The only definite record we have is at Huntsville, July 1, 1919, but not at camp or surrounding territory as yet.

62. *Euphagus carolinus* (Mull.). Rusty Grackle. On August 26, 1919 a flock of ten seen at Dorset. In 1913 three were observed at Otter Lake, August 9.

63. *Quiscalus quiscula aeneus* Ridgw. Bronzed Grackle.

Common summer resident

64. *Carpodacus purpureus* (Gmel.). Purple Finch.

Common summer resident throughout the region. Its song is one of the most startling of the woods and is heard through July and most of August!

65. *Passer domesticus* (Linn.). House Sparrow. In 1913 several were seen at Dorset where in 1919 they were quite common. One recorded at camp July 4, 1919.

66. *Loxia curvirostra minor* (Brehm.). Am. Crossbill.

Not common resident. Several flocks around Otter lake in August, 1913. Common enough in spring for the residents to note it.

67. *Loxia leucoptera* Gmel. White-winged Crossbill.

One fall (September) a flock were around camp for two or three days. (G. M. O'Connell).

68. *Astragalinus tristis* (Linn.). American Goldfinch.

Common summer resident.

69. *Spinus pinus* (Wils.). Pine Siskin. Several seen at Camp Otter on August 3 and 7 1913.

70. *Pooecetes gramineus* (Gmel.). Vesper Sparrow.

Common in the fields around Dorset and in Lake of Bays region. Nest with three eggs found at Otter Lake, August 3, 1919.

71. *Passerculus sandwichensis savanna* (Wils.). Savannah Sparrow.

Rare. Two heard at Dorset July 6, 1913 and one near Hollow lake, July 28, 1919. Several recorded at Huntsville.

72. *Zonotrichia albicollis* (Gmel.). White throated Sparrow.

Very common species. A nest with four eggs was found July 22, 1913, in a carpet of *Lycopodium undulatum*.

73. *Spizella passerina* (Bech.) Chipping Sparrow.

Common summer resident.

74. *Junco hyemalis* (Linn.). Junco.

Common summer resident. A nest was found August 2, 1919 in a huckleberry and blueberry patch at Rock Point, Otter lake, and young were on the wing July 10, 1913.

75. *Melospiza melodia* (Wils.). Song Sparrow.

Not uncommon summer resident especially in swampy places.

76. *Melospiza georgiana* (Lath.). Swamp Sparrow.

Fairly common around camp, e.g. Gem Lake, the Peat Bog and other marshy places.

77. *Pipilo erythrophthalmus* (Linn.). Towhee.

Reported July 14, 1913, between camp and Dorset. Seen in 1911 near Dorset by G. M. O'Connell.

78. *Zamelodia ludoviciana* (Linn.). Rose-breasted Grosbeak.

Common in all parts of the woods. One of the most striking birds of the region.

79. *Passerina cyanea* (Linn.). Indigo Bunting.

In 1911 it was reported at Point Lumini (Mrs. J. M. Haber). In July, 1913, several were heard and seen about Otter and Hardwood lakes, also at Dorset, and in August, 1919, Mrs. A. T. Kerr reported it.

80. *Piranga erythromelas* Vieill. Scarlet Tanager.

Quite common summer resident. Not as common as the the rose-breasted grosbeak.

81. *Progne subis* (Linn.). Purple Martin.

One recorded July 26, 1931 at Otter lake.

82. *Petrochelidon lunifrons lunifrons* (Say.). Cliff Swallow.

On August 2, 1913, a flock of forty was seen at McEachern landing of Otter lake, others along road to Dorset and also at Dorset. One record for 1919.

83. *Hirundo erythrogaster* Bodd. Barn Swallow.

Nearly as common as the Chimney Swift. Young about to leave nest when camp begins.

84. *Iridoprocne bicolor* (Vieill.). Tree swallow.

Not common.

85. *Riparia riparia* (Linn.) Bank Swallow.

Several recorded both in 1913 and in 1919. A colony is said to inhabit a sand-bank on the Dorset-Hollow lake road.

86. *Bombycilla cedrorum* Vieill. Cedar Waxwing.

Common summer resident. Two nests found in 1919: one with five eggs in a balsam fir in front of camp, and hatched August 18; another at Hardwood lake, eggs hatching August 16.

87. *Vireosylva olivacea* (Linn.). Red-eyed Vireo.

The only common vireo of the region. Several nests of eggs or young found during the summer of 1919.

88. *Vireosylva philadelphia* Cass. Philadelphia Vireo.

On June 29 and July 1, 1913, one was seen near the camp.

89. *Vireosylva gilva* (Vieill.). Warbling Vireo. One recorded July 2, 1919, in American elms at Dorset.

90. *Lanivireo flavifrons* (Vieill.). Yellow-throated Vireo.

Two seen at camp, July 28, 1919.

91. *Lanivireo solitarius* (Wils.). Blue-headed Vireo.

One recorded July 28, 1913, at portage between Skin and Porridge lakes.

92. *Mniotilta varia* (Linn.). Black and White Warbler.

Common resident. In August numbers apparently much increased from migrations. Young recorded on wing July 9, 1913.

93. *Vermivora rubricapilla* (Wils.). Nashville Warbler.

Quite common. Several seen in 1913 and also in 1919.

94. *Compsothlypis americana usneae* Brewst. Northern Parula Warbler.

In 1913, a beautiful male was singing near our tent on June 29. Later saw another on Hardwood road. In 1919 in August two more records were made.

95. *Dendroica aestiva* (Gmel.). Yellow Warbler.

Uncommon. In 1913 recorded at portage railroad of Lake of Bays, at Dorset and one or two at east end of Otter lake. In 1911, August 20, Mrs. J. M. Haber found a male and female and their previous nest at Point Lumini. In 1919, Mr. G. Wilson saw it the last week in August.

96. *Dendroica caerulescens* (Gmel.). Black-throated Blue Warbler.

One of the most common warblers of the region. This like the ruby-throated humming-bird likes the yellow-bellied sapsucker's borings.

97. *Dendroica coronata* (Linn.). Myrtle Warbler.

Fairly common about camp in 1913 and 1919, also recorded at Point Lumini in 1911.

98. *Dendroica magnolia* (Wils.). Magnolia Warbler.

Quite common summer resident. Young on wing recorded July 14, 1913.

99. *Dendroica pennsylvanica* (Linn.). Chestnut-sided Warbler.

Common. Two nests found July 30, 1913 and July 27, 1919 in small bushes not three feet from the ground.

100. *Dendroica castanea* (Wils.). Bay-breasted Warbler.

Several, apparently migrants, reported from August 26, 1919 onwards.

101. *Dendroica fusca* (Mull.). Blackburnian Warbler.

Not uncommon in the latter part of August when both young and adults are seen. Recorded in 1911, 1913, 1919.

102. *Dendroica virens* (Gmel.). Black-throated Green Warbler.

Common summer resident. In the middle of July, 1913 several families of this species were seen on the wing near camp, on Hardwood road. In 1911, Mrs. Haber found it August 24, at Fox Point. In 1919 it was only once recorded August 7, on Hardwood road.

103. *Seiurus aurocapillus* (Linn.). Ovenbird.

Common summer resident.

104. *Seiurus noveboracensis* (Gmel.). Northern Water-thrush.

Recorded July 7, 1913, at Hardwood lake and later July 20, in an alder near camp. In same place in 1919 a pair recorded most of the summer.

105. *Oporornis philadelphia* (Wils.). Mourning Warbler.

In 1913 quite commonly heard from June 28-July 20. Last record for the season was August 9.

106. *Geothlypis trichas* (Linn.). Maryland Yellow-throat.

Common summer resident in every marshy thicket.

107. *Wilsonia canadensis* (Linn.). Canada Warbler.

A common summer resident.

108. *Setophaga ruticilla* (Linn.). American Redstart.

Common summer resident.

109. *Troglodytes aëdon* (Vieill.). House Wren.

Common on road to Dorset. Recorded at Glenmount, portage railroad of Lake of Bays, at Point Lumini.

110. *Nannus hiemalis* (Vieill.). Winter Wren.

Common resident. No bird song do we more associate with the wild north woods than the fine notes of this songster.

111. *Certhia familiaris americana* (Bonap.). Brown Creeper.

Common summer resident.

112. *Sitta carolinensis* (Lath.). White-breasted Nuthatch.

A few recorded each season. Probably more frequent than our records show.

113. *Sitta canadensis* (Linn.). Red-breasted Nuthatch.

Several seen each season during the summer.

114. *Penthestes atricapillus* (Linn.). Chickadee. Common summer resident. Most in evidence in August.

115. *Penthestes hudsonicus* (Forst.). Hudsonian Chickadee.

Mr. L. A. Fuertes once recorded it on Little Trout lake, in the summer of 1912.

116. *Regulus satrapa* (Licht.). Golden-crowned Kinglet.

Occasionally recorded in September by those who remain after camp closes (September 1).

117. *Regulus calendula* (Linn.). Ruby-crowned Kinglet.

Recorded several times in first weeks of September.

118. *Hylocichla mustelina* (Gmel.). Wood Thrush.

Several heard or seen each season. Also recorded by Mrs. J. M. Haber in 1911 at Fox Point and Point Lumini.

119. *Hylocichla fuscescens* (Steph.). Wilson's Thrush.

One heard July 11, 1913 on hill to west of road from camp to Dorset. In 1919 on July 22 another record in a deep ravine to left of above road. Also recorded at Huntsville July 1, 1919.

120. *Hylocichla ustulata swainsoni* (Tschudi). Olive-backed Thrush.

Fairly common in 1913 and 1919.

121. *Hylocichla guttata pallasi* (Cab.). Hermit Thrush.

Fairly common summer resident. Not so commonly heard in July. Apparently more common in August. Also recorded August 24, 1911 at Point Lumini and Fox Point (Mrs. J. M. Haber).

124. *Planesticus migratorius* (Linn.). American Robin.

A few around camp. More about Dorset, Glenmount, Point Lumini, Fox Point, Huntsville and more open and populated areas.

122. *Sialia sialis* (Linn.). Bluebird.

Not common. One or two pairs usually recorded nesting near Dorset. Also a few individuals are usually seen in the meadows south of Hardwood lake.

V.—THE MAMMALS.

By A. H. WRIGHT.

These observations are based mainly on the data secured by the author in 1913 when a few small mammals were trapped in spare moments. Interwoven are the accounts of several trustworthy residents, rangers and guides of the region. In this list are thirty-five species, several less than G. S.

Miller, Jr.¹ found at North Bay, Lake Nipissing, where he systematically trapped for a month. He found a slight eastward extension of western forms to North Bay, e.g. *Putorius longicauda spadix* Bangs, *Tamias quadrivittatus neglectus* J. A. Allen. Other forms like *Napaeozapus insignis* (Woodland Jumping mouse), *Synaptomys fatuus* (Bang's Lemming), *Sorex fumeus* (Smoky Shrew), *Microsorex hoyi* (Hoy's Shrew), *Neosorex albibarbis* (Marsh Shrew) are yet missing from our list but might well be expected with future systematic collecting. Of use to the author were J. H. Fleming's "The Mammals of Toronto, Ontario"² in which are recorded forty-one species and the Manual of Vertebrates by C. W. Nash³ wherein he records fifty-one species. The new records are to be expected in the shrews, bats and mice.

Condylura cristata (Linnaeus). Star-nosed Mole. "Mole."

The residents report "lots of them in damp soil" and these "dark in color." One was taken about August 1, 1913 on Fletcher's lake but not observed by the authors.

Sorex personatus I. Geoffroy. Masked Shrew.

Common. Several were found dead on the road to Dorset by the authors, G. M. O'Connell and others. Trapped them around Peat Bog, under mossy banks with plenty of roots, under mossy-covered stumps near the roads and trails, in a dark underground cellar under bark, under logs among manure and rotting saw-dust between old lumber buildings.

Blarina brevicauda talpoides (Gapper). Mole Shrew.

Common. Like the preceding not uncommon about buildings where cats bring them without eating them. Trapped around the Peat Bog in tamarack and spruce areas under decaying stumps, and under mossy logs; amongst carpets of Lycopodium in less moist woods. Also taken along the trails and roads.

Myotis subulatus (Say). Say's Bat.

One specimen (C.U. 6700) of this species was taken in the summer of 1913. Only infrequently they were recorded feeding over the Peat Bog from 8 p.m. onwards.

Myotis lucifugus (LeConte). Little Brown Bat.

Not yet taken at Camp Otter, but must be here because of Mr. Miller's record⁴ which is "a specimen of this bat (caught) on the platform of the

(1) Miller, G. S., Jr. Notes on the Mammals of Ontario. Proc. Bost. Soc. Nat. Hist., 1897, Vol. 28, No. 1, pp. 1-44.

(2) Faull, J. H. The Natural History of the Toronto Region, Ontario, Canada. Toronto, 1913, pp. 206-211.

(3) Nash, C. W. Vertebrates of Ontario. Toronto, 1908., pp. 83-96.

(4) Miller, G. S. loc. cit., p. 39.

railroad station at Gravenhurst on the evening of August 16. Many others were seen."

Ursus americanus Pallas. Bear.

Some report the "Brown nosed Bear" as not very common. Hardly a season passes but some of the camp encounters the work, tracks or signs of bear. One resident since 1873 said he had seen only one, but that there were quite a few bears in the region. Occasionally some of the parties from camp frighten them from blueberry, huckleberry or blackberry patches, but rarely ever see them.

Canis lycaon Schreber. "Timber Wolf," "Gray Wolf."

Every winter a few packs are reported in this region. At least two killed west of road to Dorset in the winter of 1918-1919. In winter of 1911-1912 a pack of seven were seen on Fletcher lake and a few years before a pack reported east of Otter lake where many deer were more or less snow bound.

Vulpes fulva (Desmarest). Red Fox.

Common. During the summer their signs are frequently found. Many killed with poisoned bait. The red phase predominates in this region though silver grays are reported. Quite a few cross foxes are taken. Some residents doubt local reports of black foxes.

Procyon lotor (Linnaeus). Raccoon.

Not common. Mr. Joseph Allen who had resided at Fletcher lake since 1873 said in 1913 that raccoons were not plentiful. Never knew they were there until five or six years ago." Toward Lake of Bays and southward they report quite a few. They are held to eat berries, fish, nuts, etc.

Martes americana (Turton). Marten. Pine Martin.

A few in the Dorset region. Allen McEachern of Otter lake reports (1913) them "very scarce. Never caught but one. Have seen more signs." Some hold them quite plentiful where timber is heaviest. On Fletcher lake there are quite a few.

Martes pennanti (Erxleben). Fisher.

There are a few in the Dorset region. Fishers are not plentiful about Otter lake. There are more from Hollow lake to and into Algonquin Park. In Fletcher lake region there are far more martens than fishers, and the latter are hard to secure. Arthur Allen, son of Joseph Allen of Fletcher lake took one fisher in the winter of 1911-1912 and another in winter of 1912-1913.

Mustela cicognanii Bonaparte. Bonaparte's Weasel.

Common. This is included by the author on the report of several residents who describe two weasels one quite small and another as large as a small mink. Both are reported great mousers. Some encourage them about the premise for mousing, and

maintain they do no damage. One resident said he always had at least one family around his barn and every winter they turned white as do the larger ones also.

Mustela noveboracensis (Emmons) New York Weasel.

Fairly common. I have the head of this species. It was brought in by a cat.

Mustela vison Schreber. Mink.

Common at Otter lake. Have been very plentiful from Dorset to the Park but have been hunted so much they are becoming very shy. They will attempt to capture anything. One day, near camp a mink tried to catch a bathing cedar waxwing.

Mephitis mephitis (Schreber). Skunk.

Common. One or two have been taken at camp.

Lutra canadensis (Schreber). Otter.

There are quite a few throughout this region. In the winter of 1908-1909 two were taken at Otter lake, one 42 inches and another 47 inches in length. Rarely they are seen in winter at the outlet of Otter lake.

Lynx canadensis Kerr. Lynx. "Bobcat." "Lynk."

"There are a few lynx here, these very shy and more of them toward Timagimi country." Another resident speaks of them as "not extra common" and says that "some are caught every year."

Lynx ruffus (Güldenstaedt). "Wild Cat." Bay Lynx.

These are "very scarce, odd." Another reports that he "has seen only one in several years." A wild cat was reported to have been taken in the winter of 1910-1911 at Hollow lake. As yet I can find no certain evidence that both species are present or that the residents really know the two species apart.

Peromyscus maniculatus gracilis (LeConte). Canadian White-footed Mouse.

Common. This is the common mouse of the lumber camps, houses, barns, etc. Trapped most of our specimens under logs. It is generally distributed through the woods.

Eutamias gapperi (Vigors). Red-backed Mouse.

Abundant. Trapped them under and between mossy logs, stumps, in holes at bases of live trees, amongst Lycopodium carpets and occasionally in old abandoned lumber camp buildings. Were particularly plentiful among hemlocks, arbor vitae, and other conifers, yellow birches, etc.

Microtus pennsylvanicus (Ord.). Meadow Mouse. Meadow Vole.

Presumably common in the open fields but very few were taken at Otter lake. Usually found them in the fields around old lumber camps, beneath boards and logs.

Ondatra zibet'ica (Linnaeus). Muskrat.

The residents hold them plentiful but in mid-summer they are not so frequently seen. Each summer a few are observed at Otter lake.

Epimys norvegicus (Erxleben). House Rat.

They are reported to be present in the lower country at Bracebridge. All residents agree they have not seen them about Otter lake or northward and in the years of camp none have been taken around it.

Mus musculus Linnaeus. House Mouse.

We have no records of it at camp nor in its vicinity. Some residents in the Fletcher lake region did not know of them. A few people about Dorset assert they occasionally occur there.

Zapus hudsonius (Zimmermann). "Kangaroo Mouse."

The jumping mouse is not often taken about the camp. On June 30, 1913, we captured two alive in large pits. Most of the residents either do not know them or hold them not very plentiful. Just as in more cultivated regions some of the residents note their particular abundance in hayfields at cutting time.

Erethizon dorsatum (Linnaeus). Porcupine.

Very common. According to some a great nuisance in lumber camps and rangers cabins. They gnaw the tables, leather seats, chairs, wagon seats, belting, etc., yet we believe them persecuted unduly and would hate to see them lost to the north woods.

Marmota monax canadensis (Erxleben). Wood chuck.

Common everywhere. Some of the fire rangers eat the half grown ground hogs. They were about the camp where one semi-tame one near our tent was fed raspberries, bread, and leaves of the basswood, wintergreen, sorrel, and raspberries.

Tamias striatus lysteri Richardson. Chipmunk.

Common about camp, along road to Dorset, in lumber camps, on rocky cliffs, about sphagnum bogs, and in almost any habitat not aquatic.

Sciurus hudsonicus (Erxleben). Red Squirrel.

Common. A great nuisance around lumber camp supplies. One ranger tried to frighten them away with a stuffed porcupine, but it didn't work. Occasionally a wild red squirrel will leap for a person. On road to Dorset one of the authors heard a chase in the thicket beside the road and was surprised to have a red squirrel run for him and leap at his knee. This form is held by all the residents as responsible for the scarcity of black squirrels.

Sciurus carolinensis leucotis (Gapper). Black Squirrel.

Scarce. Once more common in this region around Lake of Bays and southward. Some report it too cold for them while others maintain the species has lost its hold in its struggles with the red squirrels. None of the residents have seen the gray phase. The last black squirrel taken near Otter lake was in October, 1909.

Sciuropterus sabrinus (Shaw). Northern Flying Squirrel.

Reported not uncommon in old stubs. We did not see any alive or skins. On September, 1913, I found the tail of one near a residence and on inquiry the owner said the cats frequently catch them and leave only the tails around the house. The tail vertebrae of the tail I picked up measured 24 mm. or in accord with the measurement for *S. s. macrotis*.

Castor canadensis (Kuhl.). Beaver.

Quite common. The tracks, dams, signs and work of beavers are not infrequent in the outlet of Otter lake, along Ten Mile creek, at Hardwood lake, and throughout the region. One of the most interesting experiences of the camp is to spend a night beside a dam of a beaver colony.

Lepus americanus virginianus (Harlan). Southern Varying Hare.

Very common throughout this region. About the beginning of camp (July 1) the young half grown hares are common about the camp quarters. In one garbage hole 4 feet deep we caught them early in the season (July 2, 1913). Others smaller were caught occasionally by hand. When the last of the councillors leave camp September 15 or earlier these hares have no perceptible change in pelage. Later in late October and early November they get the new white coat. There are no cottontails at Dorset, Otter lake or northward.

Odocoileus americanus (Erxleben). Virginia Deer.

Common.

Alces americanus Jardine. Moose.

Not common. The first year Professor C. V. P. Young began his camp he saw one and every year some one of the camp reports tracks or signs of moose. A resident of Fletcher lake for 40 years said he had shot three or four during that period and that there were a few stray moose in the region. Another reports "odd Moose here and there between the head of Hollow lake and Algonquin Park. All agree there are no caribou (*Rangifer caribou*.)

FURTHER NOTES ON THE ORCHIDS OF HATLEY, STANSTEAD
COUNTY, QUEBEC, 1920.

By H. MOUSLEY.

Writing to me last year a correspondent spoke of having had an "orgy" of orchids, and I think the same remark might apply equally well to my experience here at Hatley during the present season, as not content with observing some thirty species or rather more in their native haunts, I have grown most of them successfully indoors, thereby enabling me to more thoroughly examine their wonderful contrivances for the perpetuation of their species by means of cross fertilization. In passing it may be remembered that it took the scientific world just over one hundred and seventy-five years before this interesting problem of cross fertilization was fully understood or known. It was Nehemias Grew who first announced to the world in 1682 that it was necessary for the pollen of a flower to reach the stigma in order to insure the fruit. After this announcement came a period of over fifty years of discussion and scepticism amongst the leading lights of the botanical world, until Linnaeus in 1735 reaffirmed the fact and proved beyond further doubt that Grew was right. But this was only part of the secret, and it took another fifty years or more, or until 1787, before Christian Conrad Sprengel a German botanist and school-master essayed to explain how certain plants whose particular construction prevented their pollen from reaching the stigma in the usual way were fertilized. He announced the startling fact that they were fertilized by means of insects, but here again like his predecessors he had seen but half the secret, and it remained for Charles Darwin in 1857-58 to read the riddle aright.

Sprengel started out to prove that insects fertilized a flower by brushing the pollen from the anthers by various hairy parts of their bodies, and in their motions conveyed it to the stigma. Difficulties, however, soon confronted him, in the shape of certain plants whose pollen and stigma matured at different periods, and therefore could not be fertilized in the manner he had declared, and thus unknowingly, within an ace of the goal, his theory broke down, and it took a further period of seventy years of controversy and investigation, before Darwin was able to show, that cross fertilization by insects, and not insect fertilization alone, was the fundamental plan involved in floral construction.

To return, however, it will no doubt be remembered that it has always been my ambition to place Hatley in the very first rank as an ornithological, entomological and botanical El Dorado, and I now think in so far as regards the latter, there is no place

in Eastern North America, with the exception of one, that can show such a list of the family Orchidaceae as Hatley. In my last paper on the subject "The Canadian Field-Naturalist," Vol. XXXIV, 1920, No. 3, pp. 44-47, I pointed out that so far as I was aware my only rival was Fairlee in the State of Vermont, with a list of thirty-three species and varieties, against mine of thirty, thus leaving me three behind, which I was determined to try and make up this year by covering further new ground. In this I have been successful, Hatley thus tying with Fairlee for first honours, i.e. unless Dr. Denslow has discovered any fresh species also. My additions are the Small Round-leaved Orchid, *Orchis rotundifolia*, Hooker's Orchid, *Habenaria Hookeri*, and the Rose Pogonia, *Pogonia ophioglossoides*, the adding of the first and last named, however, necessitating my going outside the four square miles radius, both of them having been found at a distance of fifteen miles from my house. As an offset against this I have discovered many new stations for most of the other species, all of which I think with the possible exception of *Calypso bulbosa* could now be found within a radius of three square miles. Even as recently as September 9 I found two new stations for *Habenaria macrophylla* within fifteen minutes walk of my house. Three of the plants had flowered and were in fruit, their respective heights being 59, 52 and 50 cm., whilst their withered spurs with bends even then measured 3.5 cm. in length and over, with leaves from 12.20 to 19.75 cm. in width. Thoreau in his "The Maine Woods," p. 297, speaks of a large plant he specially measured on July 27, 1857, as being 61 cm. in height, with leaves 24.25 cm. long and 22.80 cm. wide, which by its size was possibly referable to this species and not *orbiculata*. As already indicated it has indeed been an exceptionally interesting season, for not only have the three new species mentioned been added to the list given in my last paper, but much further valuable information has been gained with regard to the distribution of most of the other species. The lovely little *Calypso* (of which I was fortunate in finding one plant with white petals and sepals, and another with cream coloured ditto) as usual was the first to appear, being in full bloom on May 25, followed quickly by the Smaller Yellow Lady's Slipper, *Cypripedium parviflorum*, on May 30, and the Showy Orchis, *Orchis spectabilis*, on June 3. The last named has never been an abundant species, and only two or

three plants have ever been found together, although scattered over a wide area, but this year a new station was discovered on the eastern shore of Lake Massawippi, where clusters of from ten to twenty plants were found in full bloom, thus making a most charming picture. The other much rarer member of this family the Small Round-leaved Orchis, *Orchis rotundifolia*, and one of the three new species discovered this season will be dealt with hereafter in an annotated list as before. The opinion expressed in my first paper "The Ottawa Naturalist," Vol. XXXII, 1919, No. 8, p. 145, regarding the Large Yellow Lady's Slipper, *C. parviflorum* var. *pubescens*, has not matured, and I can now safely say that over the ground I have ranged, it is by far the rarest of the two Yellow Lady's Slippers. Two new stations were discovered for the Showy Lady's Slipper, *C. hirsutum*, and on its old ground it was just as abundant as last year, but only one plant was seen having three blooms. Perhaps one of the pleasantest thrills experienced, was the finding on June 26 of a new station near Barnston for the Pink Lady's Slipper or Moccasin Flower, *C. aculea*, where the species was in great profusion, and amongst the lovely pink blooms were innumerable snowy white ones forming a delicious contrast.

Of the *Habenarias* one new station was found for the Northern White Orchis, *H. dilatata*, where the plants were exceptionally fine, but no examples of the var. *media* were met with, although a special search was made for them. Three plants only of the Large Round-leaved Orchis, *Habenaria orbiculata*, were found in bloom, the height of these respectively being 38, 33, and 25.50 cm., much below those of *macrophylla* already given, whilst the length of the spurs did not exceed 2.50 cm. Of the two species *orbiculata* seems to be the rarer, although only five plants of *macrophylla* were actually found in bloom, still the number of flowerless ones of the latter, greatly exceeded those of the former. *H. Hookeri* one of the new species will be dealt with hereafter in the same manner as *O. rotundifolia*. The most interesting member of the family, however, was *x H. Andrewsii*, which was discovered here last year, and of which I have had the good fortune to find several more examples this season, but these it is hoped to make the subject of a separate paper later on. The ground on which I found my Large Purple Fringed Orchis, *Habenaria fimbriata*, last year, has since been trampled out of all recognition by a herd of young stock, and not a single plant could be found, but I located a few elsewhere. With regard to this species and *H. psycodes* much uncertainty appears to exist regarding the precise point where the one leaves off, and the other begins. In this connection I have seen plants with lips 1.8 cm. in width, whose height and size of leaves,

however, would hardly come up to some people's idea of *fimbriata*. The Grass Pink, *Calopogon pulchellus*, of which only four examples were found last year, was I am glad to say much more in evidence this season, the little station producing twenty-two plants which were still in bloom when I visited it on August 1. I had previously, however, on July 10, found a much larger station for it near Beebe, some fifteen miles away. It was at this station that I also came across the Rose Pogonia, *Pogonia ophioglossoides*, growing in company with *Calopogon*, but as this forms one of the three new species, it will be dealt with hereafter in the same manner as the others. In the Magdalen Islands *Calopogon* grows as thickly as grass so Bro. Marie Victorin tells me, but only attains a height of five inches!, an instance no doubt of habitat and environment similar to that of *Spiranthes Romanzoffiana* to be mentioned later on.

Arethusa or the Indian Pink, *Arethusa bulbosa*, may be said to have been one of the surprises of the season, two new stations having been found for it, in one of which it was in the utmost profusion, one almost white bloom appearing very conspicuous amongst the rest.

The Wide-leaved Ladies' Tresses, *Spiranthes lucida*, still holds its own as the rarest member of this family in these parts, in fact it is the rarest orchid here, only the one specimen mentioned in my first paper having so far been found, and out of the 33 species enumerated it is the only one I have failed to find again this season. In point of numbers the Slender Ladies' Tresses, *S. gracilis*, ran it very fine last season, for only three plants of that species could be found but this year I am glad to say some half-dozen more were located on the same ground. As illustrating the difference that environment can make in the growth of a species, a colony of the Hooded Ladies' Tresses, *Spiranthes Romanzoffiana*, growing on very dry ground could only attain an average height of 8 cm., as against 29 cm., the average of that of another colony growing on very wet ground. Of the Rattlesnake Plantains it is just possible that four plants I came across in fruit on September 3 may eventually turn out to be *Menzies Rattlesnake Plantain*, *Epipactis decipiens*. Certainly their spikes seemed more one-sided and denser than is usual with *tesselata*, and the locality was a new one, but outward appearances are often deceptive, and I think for this reason it will be best to leave the matter in abeyance for the present, and wait until next year, when it is hoped the plants may still be in existence, and will flower again. The Lesser Rattlesnake Plantain, *E. repens* var. *ophioides*, and *E. tessellata* were scarcer I thought than usual. In "Rhodora," Vol. XIX, 1917, p. 38, there is a short note by Mr. H.

W. Child, entitled "Some Traits of *Epipactis* in Vermont," in which the author draws attention to the fact, that in Vermont when examined in living specimens, the sepals both lateral and dorsal of *E. pubescens* as it comes into flower, are definitely tinged in the centre with a green colour, those of *E. tessellata* with a rose colour, whilst those of *E. repens* var. *ophioides* are pure white. As regards the two last named I can fully bear out Mr. Child's findings in Vermont, for the same thing occurs here at Hatley, and in the case of *tessellata*, so much so, that many of the racemes might be described as rose pink. Those of *repens* var. *ophioides* on the other hand I have never found to be anything but pure white. Of the Coral Roots the Early one, *Coralorrhiza trifida*, was everywhere, but the Large one, *C. maculata*, is far more restricted. The only station I discovered for it last year produced very few examples this season owing to the ground being covered with spruce trees which had been cut down for pulpwood, and although another station was found near my house, it contained only two plants, and none could be found on the ground at the roadside to the northeast of the village shown to me late in August of last year. Although the Green Adder's Mouth, *Microstylis unifolia*, has been described to me as a weed in New Brunswick, I can hardly say the same of it at Hatley, nevertheless my experience this year warrants the statement that it is a very generally distributed plant growing almost everywhere, but usually only in comparatively small numbers. Its cousin the White Adder's Mouth, *M. monophyllos*, still holds its own as a rarity, for although two more stations have been located, making a total in all of four, three of them can only boast of holding some two or three plants each, whilst on the remaining or fourth one, it would probably be hard to find more than a dozen or so. Loesel's Twayblade, *Liparis Loeselii*, I find is quite generally distributed, especially wherever wet places occur on the sides, or at the foot of hills, and here several new stations for it have been found.

And now I must say a few words regarding the great Brulé Bog, near Waterville, of which mention was made in my last paper, and to which a trip in company with my friend, Mr. Ludlow Griscom was contemplated this season. This trip eventually came off on June 23, with results anything but what we had expected. No new orchids were discovered, and had it not been for some interesting species of *Carex*, the trip might almost be said to have been a blank. The cause of this disappointment seems entirely due to a fact we had overlooked in the fall of last year, i.e. the digging of some deep drains, which are no doubt sapping the life out of this bog, in fact it can no longer be considered a bog in the true sense, for on the day we visited it, the fact of get-

ting one's boots thoroughly wet seemed somewhat remote. All one did was to walk on a springy bed of dry sphagnum and low shrubs, which was tiring in the extreme. In the woods surrounding the bog, however, damper conditions prevailed, and here the following orchids were found during our two visits, viz.: *Cypripedium acaule*, *Habenaria hyperborea*, *H. obtusata*, *Spiranthes Romanzoffiana*, *Epipactis repens* var. *ophioides*, *Listera cordata* and *Corallorrhiza trifida*.

Fortunately for our dejected spirits, I had heard of another famous bog and swamp situated near Beebe, a village some fifteen miles to the southwest of Hatley as the crow flies, and thither we resolved to go on the following day, as I already possessed a pressed specimen of the Rose *Pogonia*, *Pogonia ophioglossoides*, which had come from there, and this alone was an inducement to me to visit the place, as the species was new to my list. Rising early the next morning (June 24), we made a start by car in anything but propitious weather. However, this gradually improved, and shortly after passing Burrough's Falls, we were cheered by the sight of a Bartramian Sandpiper, *Bartramia longicauda*, standing prominently on a large stone in the centre of a field adjoining the road. This bird I had not seen for seven years and I remarked to my friend that it must be a good omen, and so it proved to be as will be seen hereafter. Fortunately I was acquainted with the owner of the land on which the swamp was situated, and after calling on him and obtaining all particulars as to its exact location, we were able to enter it at the most convenient place, and without loss of time. Almost at once it became evident that this time we had indeed struck a veritable El Dorado, and neither of us I think are likely to soon forget that pleasant damp swamp, with the treacherous little bog at the end of it. The ground was covered with a growth of cedar, spruce and tamarack, with nice open spaces scattered about and everywhere was the wet cool sphagnum moss, amongst which no less than ten different orchids were found at this date, and later in July another was added to the list. Now as already stated the primary object of the visit was to take *Pogonia ophioglossoides* but this could nowhere be found, and I came to the conclusion that we were too early for it which seemed to be borne out when later in the day two solitary plants of *Calopogon pulchellus* were found in bud only, this species usually appearing about the same time and in the company of *Pogonia*. Now late in the afternoon we had wandered down to the small bog at the southwest end of the swamp, and it was whilst returning from there that we decided to work another piece of ground hitherto unexplored before finally leaving for home. Hardly had we commenced a systematic

search, before Mr. Griscom who was slightly in advance, quite casually called my attention, by saying, look at this small orchid. Now this seeming sang froid on the part of my friend, was nothing more or less than a well-feigned piece of acting, for there before me was a specimen of that little gem the Small Round-leaved Orchid, *Orchis rotundifolia*, which neither of us had seen before in nature, and the sight of which had elated him quite as much as it did me. Of course the usual congratulations ensued, and as the Bartramian Sandpiper had been the beginning, so this rare little orchid was the ending of a perfect day. Of the other species found the following is a list, viz.: *Cypripedium parviflorum*, *C. hirsutum*, *C. acaule*, *Habenaria hyperborea*, *H. obtusata*, *Calopogon pulchellus*, *Arethusa bulbosa*, *Listera cordata*, *Corallorrhiza trifida*, and later on in July *Pogonia ophioglossoides*. Although many of them were nearly over or on the wane at Hatley at this date, here in this delightful cool swamp lying at an elevation of about 700 feet or rather more above sea level, they were in the pink of condition. The first named as well as *Arethusa* were in the utmost profusion the perfume from them being delicious, and it is unlikely we shall ever see the sight equalled again, unless it is in this same swamp. The Showy Lady's Slipper, *C. hirsutum*, was not out at this date, but I have been told that it used to be very plentiful at one time, but vandalism of the worst kind has much depleted its ranks. However, it still seemed to be in fair numbers on July 10, the date of my second visit. Other flowers that could hardly escape attention, as they were all over the place, were, Buckbean, *Menyanthes trifoliata*, and False Solomon's Seal, *Smilacina stellata*, and that curious little insectivorous plant the Round-leaved Sundew, *Drosera rotundifolia*, was found in a few places whilst gathering specimens of *Carex tenuiflora*, a somewhat uncommon sedge. What this swamp with the higher woods immediately surrounding it will eventually produce none can say. The latter we were entirely unable to explore, and work has yet to be done during May, early June, late July, August and September, before any adequate opinion can be formed. Under the cedars where I found *Listera cordata* seemed a likely enough place for *Calypto bulbosa*, and who knows but what *Cypripedium arietinum* might not be there also. The higher woods should produce some more of the *Habenarias*, perhaps *Hookeri* and *orbiculata*, but there, further speculating must not be indulged in, time alone will show. The birds were not entirely forgotten, the Northern Parula Warbler, *Compothlypis americana usnea*, and the Golden-crowned Kinglet, *Regulus satrapa satrapa*, being noted, both of which were evidently breeding, as well as the Brown Creeper, *Certhia*

familiaris americana, and the Olive-sided Flycatcher, *Nuttallornis borealis*.

Amongst all this galaxy of beauty and profusion, a vein of regret was struck, when I came to realize that my conquests were fast drawing to a close, and that ere long it would be well nigh impossible to add another new species to my list. Certainly there is still a possibility of finding any of the following, viz.: *Cypripedium arietinum*, *Habenaria dilatata* var. *media*, *H. clavellata*, *H. blephariglottis*, *H. lacera*, *Serapias helleborine*, *Epipactis decipiens* and *Listera auriculata*, a total of eight only, but out of these *C. arietinum* and *Serapias helleborine* are very rare indeed, and are hardly likely to fall to my lot. Still there is plenty of ground to cover yet, and one never knows what a turn in the road may mean, perhaps some overlooked little wood, swamp, or bog, where hidden away lies some rarity, and herein lies the charm of orchid hunting.

In conclusion the following is an annotated list of the three new species found this season, viz:

Small Round-leaved Orchid, *Orchis rotundifolia*, Banks. This rare little orchid which was once aptly described to me by a lady friend as a beautiful little spike of tiny opal flowers, was first discovered on June 24 near Beebe, a village lying to the south east of Hatley, and distant about fifteen miles as the crow flies. The colony was a very small one, consisting of some half dozen plants only, but when visited again on July 10, three or four more (one in perfect bloom even at this late date) were found in the immediate neighbourhood of the others. With more time at one's disposal to enable a thorough systematic search to be made (the area of the swamp being considerable) it is hoped to find it in greater abundance another year. The location was an old and somewhat grown up logging road, in the centre of which, and at the sides, the plants were growing.

Hooker's Orchid, *Habenaria Hookeri* Torr. The home of this orchid lies on the eastern shore of Lake Massawippi, between the railway station of that name, and Perkin's Point. There I found several small colonies of it in bloom from as early as May 30 to as late as June 25, when it was beginning to get over. It is a fallacy to suppose (as many of the books would have us believe) that the leaves of this orchid in contra distinction to those of *H. orbiculata* are always raised above the ground, and for this reason the plants when not in flower can be distinguished from the latter. There is really no absolute means of distinguishing *Hookeri*, *orbiculata*, or *macrophylla* from one another when in leaf only, as I have found all three of them at one time or another, with leaves raised above, and also lying flat on the ground. Even when the scape is partly developed one may be deceived, but *Hookeri* is

usually ebracteate, and so can be distinguished with tolerable certainty from the other two, on whose scapes there are always bracts.

Rose Pogonia, *Pogonia ophioglossoides* (L.) Ker. This delicately coloured orchid although known to have been found in the large swamp near Beebe as already mentioned, was not in bloom when we visited it on June 24, but I was fortunate to secure it on my second visit on July 10, although even then it could hardly be said to be fully out, although its

companion *Calopogon pulchellus* apparently was. Both these species were found principally on the outskirts of the little bog at the far end of the swamp where the Small Cranberry, *Vaccinium Oxyccocos*, grew in profusion. Of *Pogonia*, only about a dozen or more plants were in bloom, whilst of *Calopogon*, there were probably about three times as many, so the station apparently is not a large one for either species.

FURTHER NOTES ON THE RHOPALOCERA OR BUTTERFLIES OF HATLEY, STANSTEAD COUNTY, QUEBEC, 1920.

BY H. MOUSLEY.

After a storm there usually comes a calm, and so after a year of plenty there usually follows one of scarcity, at least I have generally found it so with the butterflies, and this year has certainly proved no exception to the rule.

Reverting for a moment to my previous paper in "THE CANADIAN FIELD-NATURALIST," Vol. XXXIV, 1920, No. 1, pp. 7-10, it will be found that the species there recorded for Hatley numbered forty-five. To this total can now be added another three, the Mountain Silver-spot (*Argynnis atlantis*), the Brown Elfin (*Incisalia augustus*), and the Coral Hairstreak (*Strymon titus*) which latter I find has been taken by Mr. George A. Moore at North Hatley. See "A Preliminary List of the Insects of the Province of Quebec," A. F. Winn, 1912, p. 15.

At first sight this result may appear a very poor one, but in reality it is about as much as can now be expected in any one season, the time having arrived (the same as with the orchids) when it is going to be a matter of much difficulty to add to one's laurels, the final goal having been about reached in both cases. As regards the Mountain Silver-spot it could without doubt have been added to my list long ago had not other interests taken up all my time, and prevented me from paying more attention to the genus *Argynnis*, a difficult one, and of which *atlantis* is a member. It occurred in some numbers near Mount Orford about eighteen miles to the northwest of Hatley during the present season (1920) so Mr. Winn tells me, and to whom I am indebted for specimens, which enabled me to see that a few examples I had placed on one side as doubtful *aphrodite* were in reality *atlantis*. The little Brown Elfin I first came across on June 8, when visiting the great Brulé Bog near Waterville, some thousand acres in extent, and judging from its worn condition on that

date, it must have been on the wing for about a fortnight. The next time it was met with was on June 20, when visiting another small bog (for the first time) two miles to the north of the village, and then again four days later it was found in a large swamp near Beebe, a village some fifteen miles to the southwest of Hatley, so that this little Hairstreak seems fairly well distributed wherever bogs are in evidence, its larvae feeding on sheep laurel and blueberry, which are usually found in such places. In the first named locality it was in great profusion principally on the edges of the woods bordering the bog, but in the other two it was not nearly so plentiful, probably owing to the much later date and its being nearly over.

Returning to the subject of the general scarcity of butterflies, the only species that could compare in point of numbers with former years were the two large Fritillaries, *Argynnis cybele* and *A. aphrodite*, and these literally swarmed again, in fact, I have never known a season in which they did not. Several of the small skippers were in goodly numbers as well as the Spring Azure, more examples of the form *lucia* being seen than previously. The Arctic skipper, *Carterocephalus palaemon*, was located again in small numbers, not only at Hatley, but also in the large swamp near Beebe already referred to. The Black Swallow-tail, *Papilio polyxenes*, regained its normal position, but the Monarch, *Danaus archippus*, again failed to put in an appearance, although ten examples of its counterpart the Viceroy, *Basilarchia archippus*, were seen at various times between June 12 and August 28, quite an unprecedented number. The little Wanderer, *Feniseca tarquinius*, kept up its apparent record for rareness, only one example being seen on June 14. Of the genus *Pogonia* which was so plentiful last year, very few ex

amples were seen, in fact, not one of the handsomest the Violet Tip, *Polygonia interrogationis*, and of the Green Comma, *P. faunus*, recorded by Gosse in 1835-38 it still remains unchecked, although I see it has been taken at East Bolton eighteen miles to the west of Hatley see ("A Preliminary List of the Insects of the Province of Quebec," A. F. Winn, 1912, p. 13.)

Of the smaller Fritillaries, *Nycteis* was better represented and seems more generally distributed than I had hitherto imagined. Harris' Checkerspot, *Melitaea harrisi*, on the other hand appears to have entirely died out from the one meadow where I used to find it, as repeated visits again this season failed to reveal its presence. The Pearly Eye, *Enodia portlandia*, as in the days of Gosse kept up its reputation for rareness, as I only saw four examples of it during the month of July. The two Hair-streaks, the Acadian, *Strymon acadica*, and Striped, *Strymon liparops*, were found in their usual

haunts on the roadside, but since then all the shrubs have been cut down and burnt, so that next year may witness a great scarcity, if not total extermination of these two species. Hunter's butterfly, *Vanessa virginiensis*, which during the past two years has been unusually plentiful has not been seen at all during the present season, and the same remark applies almost equally well to the Painted Lady, *Vanessa cardui*, although I did see one fresh example on October 7. Of the American Tortoiseshell, *Aglais milberti*, only a few examples have been noted, although at one time a season never went by without its larvae being found on a bed of nettles near my house, but of late years none have been seen.

In conclusion as last year went down to posterity in these parts at all events as a record entomological one, so will this one equally do so, but not for abundance, and it is a matter of congratulation to think that I had other researches in hand which kept my time fully occupied.

OBITUARY

CHARLES GORDON HEWITT

Science has lost several able men during the last few years and the Ottawa Field-Naturalists' Club has been deprived of more than one leader of international reputation. Such were the two Macouns and Lawrence M. Lambe and now to these is added C. Gordon Hewitt, late Dominion Entomologist and Consulting Zoologist.

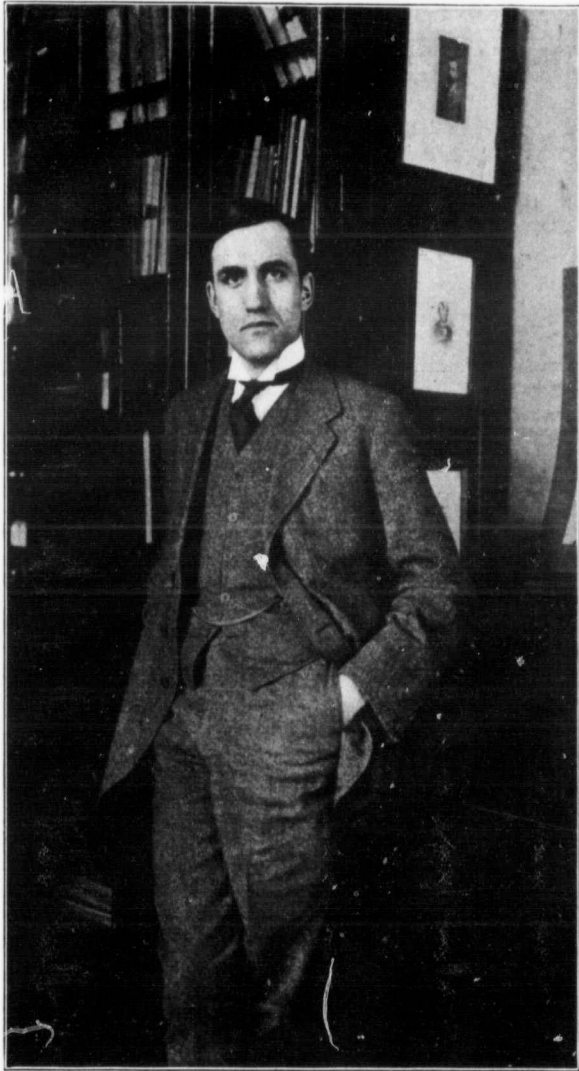
Dr. Hewitt was born and educated in England and before coming to Canada had taught zoology in the University of Manchester. Accepting the position of Dominion Entomologist soon after the death of Dr. James Fletcher, he came to Canada in the fall of 1909 to take over the new work. His task, at that time, was by no means an easy one as his predecessor had set a very high standard and had, moreover, been highly esteemed by all who knew him. To follow successfully in such footsteps required unusual ability which the new chief was soon found to possess. Fletcher had been hampered by holding the dual position of Entomologist and Botanist, through lack of assistants and inadequate quarters. Under the new arrangements the departments were separated and slightly more space became available.

Dr. Hewitt proved to possess marked executive ability with which he combined a diplomacy that awakened friendly envy among his colleagues of other departments. Within a few years the Divi-

sion of Entomology had been developed into a separate branch of the Department of Agriculture with a network of field laboratories extending from the Atlantic to the Pacific. Thus at the time of Dr. Hewitt's death some ten years after he took office, the Entomological Branch contained no less than 63 members, four divisions and maintained twelve field laboratories, with trained officers in charge whose business was to study local insect problems. In addition an efficient quarantine had been inaugurated against the importation of foreign pests. Such is a brief summary of the advancement achieved under Dr. Hewitt's direction.

In addition to Entomology, Dr. Hewitt took a keen interest in kindred sciences, more particularly ornithology, a practical demonstration of which may be recalled in the important Migratory Bird Treaty between the United States and Canada in which Dr. Hewitt, as Consulting Zoologist took a leading part for the Canadian Government. He also entered enthusiastically into the question of establishing bird sanctuaries and did much to create an interest in the erection of bird nesting boxes in the vicinity of Ottawa.

Towards the last he had turned his attention to studying means for the control of predatory mammals and at the time of his death had accumulated a mass of evidence to favor a scheme for suppressing such pests.



Charles Henry

Dr. Hewitt was the recipient of many honors from scientific societies; he was a past president of the American Association of Economic Entomologists, of the Entomological Society of Ontario and the Ottawa Field-Naturalists' Club; a Fellow and Treasurer of the Royal Society of Canada, etc., etc. The gold medal of the Royal Society for the Protection of Birds was presented to Dr. Hewitt in March, 1918, in recognition of his services in furthering the Migratory Bird Treaty between the United States and Canada. He wrote more than a hundred papers on scientific subjects, the best known being his book on the House-fly. A book on Wild Life in Canada is in course of publication at the present time.

Dr. Hewitt was married to Elizabeth Borden, daughter of late Surgeon General Sir Frederick

Borden, of Canning, Nova Scotia, in whom he found a ready helpmate and an inspiration for the work he had so much at heart.

His untimely death, on February 29th, 1920, at the age of 35, closed a career of marked achievement and one of great future promise. The loss to the Entomological Branch is one that only those in close touch with the work can estimate, but the foundation for future progress has been well laid so that those who follow can confidently build upon the structure so ably begun.

NORMAN CRIDDLE.

A more detailed obituary notice prepared by Arthur Gibson and J. M. Swaine, was published in the May, 1920, issue of the Canadian Entomologist, together with a list of the writings of the late Dr. Hewitt, compiled by C. B. Hutchings.

JOHN MACOUN MEMORIAL.

At the request of naturalists generally throughout Canada, the Ottawa Field-Naturalists' Club has decided to receive subscriptions for a permanent memorial in honour of the late Prof. John Macoun, Naturalist of the Geological Survey of Canada, who died at Sidney, B.C., on July 18, 1920.

The wide field of natural history work to which John Macoun devoted his life is well known, not only throughout Canada but in other countries as well. He specialized particularly in botany and was the founder of the Canadian National herbarium. Other sciences, however, specially zoology, were also greatly enriched by him; he will always be remembered as a great pioneer in Canadian natural history.

Many friends of the late John Macoun, particu-

larly in Toronto and Ottawa have thought that the memorial should take the form of a painted portrait to be hung in the Victoria Memorial Museum. Such a memorial has now been decided upon and a painting will be made by Mr. Franklin Brownell of Ottawa, the well-known portrait painter. Expenses in connection therewith will be about \$700.

Subscriptions to this fund should be forwarded to Mr. Arthur Gibson, Dominion Entomologist, Ottawa.

Should the list be oversubscribed arrangements may be made whereby those subscribing above a certain sum, which now cannot be defined, will receive a reproduction of the painting. A list of those who subscribe will be published in the Canadian Field-Naturalist.

A.G.

REVIEWS.

THE AUK FOR 1920, VOL. XXXVII.

During the year 1920 the following titles of interest to Canadian ornithologists, either for authorship or subject matter, have appeared:—

NO. I. JANUARY.

In Memoriam: William Brewster, born July 5, 1851, died July 11, 1919. By Henry Witherbee Henshaw, 2 plates, pp. 1-23.

William Brewster—An Appreciation. By John George Gehring, pp. 24-28.

Wm. Brewster, the Dean of American ornithology was probably better known personally to the past than to the present generation of Canadian

naturalists. He largely influenced Canadian ornithology through Vennor, Chamberlain, Boardman, McIlwraith, &c., even to the present generation of those fortunate enough to know him. The rest of us know his writings and the affection with which he was generally regarded through which he still lives. Funds for a Brewster Memorial have been raised by subscriptions from both sides of the line. This is to take the form of a gold medal to be awarded semi-annually for outstanding work on birds of the Western Hemisphere. It is in keeping that the medal has been designed by Brewster's life-long friend, Daniel C. French, the sculptor.

The Status of the Subspecific Races of *Branta canadensis*, by J. D. Figgins, pp. 94-102.

This paper was suggested by H. Swarth's monograph on the subject (Cont. from Mus. Vert. Zool. Univ. of Cal.) It is proposed that *hutchinsi* and *occidentalis* be dropped as recognized sub-specific races of the Canada Goose and be regarded as hybrids between *canadensis* and *minima*, the latter being raised to full specific status. Remarks on this proposal will be found farther along in these reviews.

The Thirty-seventh Stated Meeting of the American Ornithologists' Union. By T. S. Palmer, pp. 110-125.

This was held Nov. 10-13, 1919, at the American Museum of Natural History, New York. Canada was well represented by three Fellows, one Member and two Associates. 247 Associates were elected, 14 of them from Canada.

In General Notes, p. 145, Jonathan Dwight under the heading, Nomenclatural Casuistry, takes exception to H. C. Oberholser's (Can. Field Nat., XXXIII, pp. 48-50) founding the name of his new race of Red-headed Woodpecker on an acknowledged *lapsus calami*. The use of the specific term *erythroptalmus* instead of *erythrocephalus* in the original citation upon which Mr. Oberholser bases his name is plainly an error missed by the proof-reader. It is absurd to regard it as a serious nomenclatural fact. Such pedantic adherence to the letter of the law of priority should be discouraged.

Under Recent Literature,—

The Birds of Eastern Canada, by P. A. Taverner, is reviewed, pp. 147-149. As much commendation as the work is entitled to is given. Amongst the minor criticisms made by W. S. is but one on which the present writer would like some light. Mr. S. objects to the author's use of the term "type form, race or subspecies" as applied to the first described group of a given species. It would be gratifying to know how better to express the idea. Whilst first described races have no taxonomic superiority over those discovered later they have nomenclatural priority and as such are often to be referred to. It is unfortunate that the word "type" and "typical" have been given restricted and specialized meanings in zoology. The development of scientific concepts has twisted them from their obvious meaning and deprived us of very valuable words in their ordinary sense.

The Status of *Larus hyperboreus barrovianus*, by H. C. Oberholser. Proc. Biol. Soc. Wash., Vol. 32, pp. 173-174, reviewed p. 166.

It may be remembered that this author lately advocated the revival of the Point Barrow Gull as a

recognizable subspecies of the Glaucous Gull and that Dr. Dwight in a paper referred to in the previous volume of this journal advanced strong evidence to the contrary. This paper continues the argument. It resolves itself into the old question of what is a subspecies and upon how fine distinctions it can be founded. The writer has examined a considerable number of these north-western birds and recognizes that they do average smaller, though with so much individual variation and so many exceptions that few birds can be recognized with certainty without a knowledge of their geographical origin. It is a matter of opinion whether such races are worthy of nomenclatural recognition.

Under Notes and News,—

P. 186 is a brief report on the size and scope of the bird collections of the Victoria Memorial Museum, Ottawa.

P. 187 is a note on the progress of the Reports of the Canadian Arctic Expedition, 1913-18. As far as birds are concerned only a part on bird parasites (*Mallophaga*) and a few scattered identifications of invertebrate forms in bird stomachs have appeared, but Dr. R. M. Anderson expects to get the reports on Birds and Mammals out as soon as the pressure of his duties as editor of the whole series permits.

P. 188 informs us that the Museum of Vertebrate Zoology of the University of California has received from Miss Annie Alexander an endowment of \$200,000 for its maintenance. This institution has done in the past, and will do in the future, much valuable work within our borders in the course of its survey of west coast conditions. It is a matter of satisfaction on both sides of the line that the future usefulness of this able institution is assured.

NO. 2. APRIL.

Additions to the Avifauna of the Pribilof Islands, Alaska, including Four Species New to North America, by G. Dallas Hanna, pp. 248-254. Mr. Hanna's residence upon these lonely oceanic islands has given him unusual opportunities for studying their bird life. Close to the dividing line between America and Asia, where the New and the Old Worlds come most nearly into contact, he has collected and observed many Old World stragglers and probably has added more species to our Check List than any other living man. The greatest importance of these technical additions to our avifauna lies in the possibility of their occurrence south along the continental coast and in suggesting species to be looked for there.

The Subspecies of *Branta canadensis* by H. S. Swarth, pp. 268-272. In this paper the perplexing subject of the Canada Goose and its races comes

up again. Mr. Swarth takes exception to Mr. Figin's article, mentioned previously in these reviews, both in treatment and substance. He does not agree to the proposal for regarding *hutchinsi* and *occidentalis* as hybrids between two species, *B. canadensis* and *B. minima*, and, basing his study on fuller breeding data, seems to have the best of the argument. With Mr. Swarth we agree that there is a north-west coast form with well-marked color characteristics. Whether *occidentalis* can be applied to it is not perfectly clear. Unfortunately, as Mr. Swarth states, the type specimen on which that name is founded is one of those puzzling nondescript, perhaps abnormal, birds that are not easy to fit into present recognized divisions. This is a good example of the founding of supposed new races on too few specimens, and the danger of setting up freaks or intermediates as types. In spite of all this discussion the relationships of the various forms of the Canada Goose can hardly be said to be settled, nor is it likely that they will be until we can establish the essential characters of the various geographical breeding groups. We will then have definite standards for the comparison of the heterogeneous flocks that are met with in migration. In the meantime, species and subspecies derived from mixed migrants are as likely to be arbitrary groupings of characters as racial divisions.

Plumages of Gulls in Relation to Age as Illustrated by the Herring Gull (*Larus argentatus*) and Other Species. By Jonathan Dwight, 5 plates, pp. 262-268.

If the geese of the genus *Branta* are in confusion still worse is the state of the gulls of the genus *Larus*. This paper traces out the age sequence of the gulls, taking the Herring Gull as an example, and details the successive plumage characters from birth to maturity, with plates of wing and tail details of each stage. Dr. Dwight concludes that it is not until the fourth winter plumage that all traces of juvenility are lost, making a four year plumage cycle. He closes his paper with lists of all American gulls in two, three and four year plumage cycle groups. This is a most valuable paper, and one that prepares for the foundation of a proper understanding of these puzzling birds.

Fifth Annual List of Proposed Changes in the A.O.U. Check-list of North American Birds. By Harry C. Oberholser, pp. 274-285.

Perhaps it is well for Mr. Oberholser's reputation with the general public to state that these are compilations of suggestions by all authors, and that he is not quite the iconoclast that the title might suggest. The list is a staggering threat against our stable (?) scientific nomenclature. There are about a hundred proposed changes and

twenty rejections and eliminations. We cannot expect that finality can ever be reached in any scientific subject, philological or zoological, but our greatest comfort in inspecting this one year's record of changes is that it is only proposed and not an accepted fact.

Under General Notes,—

Dr. J. C. Phillips, pp. 289-291, describes Habits of the Two Black Ducks, and records differences in the winter distribution and habits of the two much debated subspecies of Black Duck, *rubripes* and *tristis*, that go far to substantiate the validity of the distinction we make between them.

Geo. H. Stuart, p. 292, records the breeding of the Greater Yellow-legs in the vicinity of Grand Lake, Newfoundland, June 20, 1919.

W. E. Saunders, pp. 304-306, gives us Additional Notes on the Birds of Red Deer, Alberta. This constitutes an addenda to the writer's Birds of the Red Deer River, Alta. (*Auk*, 1919). It gives observations on 31 species, and adds seven to the list of that section.

Under Recent Literature is noted a paper On the Protection of Birds in the Province of Quebec, by F. Gaguin, *Revue Française d'Ornithologie*, XII, Dec., 1919.

In Notes and News, p. 346, appears the notice of the death of the late J. M. Macoun, whose obituary appeared in a previous number of this journal.

Pp. 348-352 contain an interesting survey of the location and distribution of complete sets of the *Auk*. As this journal is the most important bird publication in the New World but little work in the field can be accomplished without reference to its files. It is therefore somewhat alarming to note that, so far, only about 150 complete sets have been located in public or private libraries. As those in private hands are steadily being absorbed by institutions where they remain, and there is a constant loss through fire and accident, the question is naturally raised as to what the future student, not situated near any of a certain limited number of institutions, will do for this important literature. It is worth noting both for information and as a warning that but eight complete sets exist in Canada. Two are to be found in each of the following cities, Montreal, Ottawa and Toronto, and one each in London and Quebec. It will be noted that there is not a single complete file west of southern Ontario. Unless this is corrected whilst the opportunity for correction exists it will place future ornithologists in western Canada at a great disadvantage.

P. A. TAVERNER

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