THE BIRDS OF SHOAL LAKE, MANITOBA.

By P. A. Taverner.

(Continued from page 164 of The Ottawa Naturalist, Vol. XXXII.)

103. *Black-billed cuckoo, *Coccyzus erythrophthalmus.*

Job reports seeing this species on the western side of the lake on June 27 to 30, 1912. We saw none in 1917 though we heard rumors of cuckoos having nested in the vicinity. In 1918 the Black-bill appeared on June 14, after which Young noted a few birds almost daily to August 1.

104. Belted kingfisher, *Ceryle alcyon.*

Strangely enough, on the borders of such a fine lake we saw no kingfishers in 1917, though Young reports one on May 2, 1918. The Ward brothers say that in previous years there were always a few about, and Seton reports a specimen taken by Miller Christy on May 15, 1887. The only explanation of their present absence seems to be the lack of fish caused by the extreme akalinity of the lake at its present level.

105. *Hairy woodpecker, *Dryobates villosus.*

Rather rare. Only two seen during the spring visit and one in September of 1917. Young noted the species, in 1918, in limited numbers, from June 3 to Sept. 26, taking juveniles but recently from nest, so it doubtless breeds in the vicinity. Five of our specimens are clearly referable to *D. v. leucomelas* though one, Sept. 22, 1917, falls slightly short of *leucomelas* measurements.

106. *Downy woodpecker, *Dryobates pubescens.*

Several seen during the spring of 1917, but none in the autumn. Observed by Young in 1918 in small numbers from May 3 to Sept. 12.

107. *Yellow-bellied sapsucker, *Syphrapicus varius.*

Next to the Flicker the commonest woodpecker. Several nests were found and the species was still present during the fall visit in 1917 and to the end of September, 1918.

108. Red-headed woodpecker, *Melanepres erythrocephalus.*

Though we have no substantiating evidence, the Ward brothers declare that they have seen one or two individuals. There should be but little mistake with such a showy and strongly marked species.

109. *Flicker, *Colaptes auratus.*

Very common and breeding. Still present in 1918 to date of leaving Oct. 2. Young says that through September they were very busy feeding on ant hills.

110. *Nighthawk, *Chordeiles virginianus.*

Very common in 1917. First arrival May 18. One seen on Sept. 17, but none thereafter that year. The specimens taken seem to be *virginianus.* One is nearly light enough to be regarded as *hesperis* but as it can be matched by individuals from New Brunswick and central Ontario, I hesitate to so identify it.

111. *Ruby-throated hummingbird, *Archilochus colubris.*

Quite common throughout the spring visit of 1918 and noted by Young occasionally in 1918 from June 1 to end of August.

112. *Whip-poor-will, *Antrostomus vociferous.*

Heard in 1917 nearly every night during the spring visit and once in the autumn, on Sept. 17. Young only observed it once on June 6 in 1918, but his difficulty in hearing would prevent his noting it very often.

113. *Kingbird, *Tyrannus tyrannus.*

First seen in 1918 on May 18; very common by the 29th. On Sept. 18 a flock of six were seen. Common in 1918 from May 17 to Sept. 10.

114. *Phoebe, *Sayornis phoebe.*

One taken by Young, on Aug. 30, 1918, is our only record.

115. *Crested flycatcher, *Myiarchus crinitus.*

In 1917 only one was seen, June 1. In 1918, Young noted it twice in early June, three times in July, and once in September. The Ward brothers say that in 1916 Frank McGiffon took a set of eggs locally.

116. Olive-sided flycatcher, *Nutallornis borealis.*

In 1917 one reported on June 5 and one taken on the 14th. In 1918 Young noted several on June 4 to 9, and again a single bird on Aug. 17.

117. *Wood pewee, *Myiochanes virens.*

Our only record for this species consists of two specimens taken by Young on June 18 and July 2, 1918. The former is a female and had an egg ready to lay, thus verifying the species as a breeder in the locality.

118. *Yellow-bellied flycatcher, *Empidonax flaviventris.*

One taken on Maple Island above the Narrows on May 30, 1917. As sight records unsupported by the ear are unsatisfactory in regard to the smaller flycatchers, citing the specimens taken by Young in 1918 is probably the better way of reporting his experience. He took specimens of this species on June 4 and Aug. 15.

119. *TRAILL'S FLYCATCHER, *Empidonax trailli.*

First seen on May 9, becoming almost common by the 14th. In 1918 Young took one on June 8. All specimens are referable to the Alder Flycatcher, *E. t. alnorum.*

120. *LEAST FLYCATCHER, *Empidonax minimus.*

In 1917 first seen on May 23. By the 30th they were common in all the bluffs. Young's experience in 1918 seems about similar. He took specimens from May 30 to July 31.

121. *HORNED LARK, *Otocoris alpestris.*

In 1917 very common during the spring visit, but only a few present in the autumn. In 1918, Young found them consistently common throughout his stay from late April to early October. On April 24 he found a large flock (100) in company with Lapland Longspurs. He obtained one specimen from it, a well-marked *O. a. alpestris.* All other birds taken are *O. a. praticola.* It is worth while noting, as a caution against taking assumed breeding dates as evidence of nesting, that only six days after the taking of the above evident migrant *alpestris* nearly fully fledged young of *praticola* were collected. Thus local birds had young out of the nest before more northern nesters had left for their breeding grounds.

122 MAGPIE, *Pica pica.*

The Ward brothers say that the Magpie occasionally occurs about Shoal Lake. They recall one seen in July and two in June, 1904. May 21, 1918, William Ward reported seeing one near camp, and a few days later Frank Ward had exceptional opportunities of watching another at Gimli on the shores of Lake Winnipeg, some forty miles east of us.

123. BLUE JAY, *Cyanocitta cristata.*

In 1917 fairly common in spring but not noted during the autumn visit. In 1918 Young noted the species until Sept. 28.

124. CANADA JAY, *Perisoreus canadensis.*

Said by the Ward brothers to be a winter visitor, coming sometimes as early as September, but less numerous of late years.

125. RAVEN, *Corvus corax.*

Said by the Ward brothers to be fairly common during hard winters.

126. *AMERICAN CROW, *Corvus brachyrhynchos.*

Very abundant. Residents do not complain much of its destructiveness to crops but it is certainly a great nest robber and its effects upon the ducks must be marked and serious. Amongst Young's specimens are two that he concluded from their actions to be mated, but, while the male is large even for *C. b. brachyrhynchos*, the female falls well within the measurements for *C. b. hespris.* Considering other Canadian prairie specimens with these, I do not consider the two races satisfactorily differentiated.

127. *BOBOLINK, *Dolichonyx oryzivorus.*

In 1917 a few were seen on wet meadows in the spring, none in the autumn. In 1918 Young noted them from June 8 to Aug. 22. The residents say that occasionally they do some damage to grain.

128. *COWBIRD, *Molothurus ater.*

Very abundant. Noted by Young in 1918 to Sept. 7.

129. *YELLOW-HEADED BLACKBIRD, *Xanthocephalus xanthocephalus.*

The least common of the resident blackbirds. Occasional small flocks were found foraging here and there on the uplands, cultivated fields and dry marshes. In 1918 still scarcer than during the preceding season. It seems that this bird requires more extensive marshes than the Red-wing. In 1917 we found resident colonies in a few places while the Red-wings occupied every reedy slough. Young reports no breeding birds in 1918. His latest record for the species is Aug. 26. The juveniles in first winter plumage are quite similar to the adults but the white primary coverts are reduced to traces and the crown and hind neck concolorous with the back. In one specimen, a stripped plumage, similar to that of the juvenile Red-wing is just disappearing on the breast where it is being replaced with yellow of rather a deeper orange than that of the adult.

130. *RED-WINGED BLACKBIRD, *Agelanius phoeniceus.*

Very abundant, breeding in every suitable locality.

The A. O. U. Check List recognizes the Red-winged Blackbird of central North America as the Thick-billed Red-wing, *A. p. fortis.* This race Mr. H. C. Oberholser (*Auk* XXIV, 1907, pp. 332-336) further divides into northern and southern forms, calling the Canadian race *A. p. arctolegus*, extending its range east to Isle Royal, Lake Superior, and restricting *fortis* to the United States, south from Nebraska. As the A.O.U. Committee has not as yet recognized *arctolegus*, from the standpoint of the Check List, it can be regarded as a synonym of *fortis.* The diagnosis for *fortis* calls for a larger bird than *phoenicus*, the eastern race, with a comparatively shorter, thicker bill. *Arctolegus* is characterized by its describer as a large *phoeniceus* with slight color differences in the female.

To obtain easily compared factors of shape and size, I have divided the length of the bill by the depth for an index of shape and multiplied them together for an index of size. The former gives the length in units of depth, and the latter a product that whilst more or less arbitrary in itself, when derived from specimens of the same species, should be strictly comparable with each other and representative of relative size, irrespective of the disturbing element of shape.

Comparing Shoal Lake birds with other material, I have made use of the following adult male material: 9 from Mass., southern Ont. and southern Mich.; 7 from Shoal Lake and two from Douglas, Man.; and 7 from Sask., Alta., and Mack. The measurements of these birds together with those similarly derived from Mr. Oberholser's paper above cited, tabulate as follows:

	Index shape.	Index size.	Wing average.	Wing Min. & Max.
9. Eastern Canada	1.9	245.1	121.7	(116.0-128.0)
7. Manitoba	1.96	264.4	124.4	(120.5-128.0)
7. Sask., Alta., Mack	1.8	229.2	127.2	(111.5-132.5)
10. phoeniceus (H.C.O.)	1.8	269.2	118.8	(114.0-122.0)
12. arctolegus (H.C.O.)	1.88	304.8	125.4	(121.5-130.0)
11. fortis (H.C.O.)	1.88	254.04	129.7	(125.0-134.0)

In color, I find Shoal Lake females showing a slightly greater amount of white below, most distinctly on the throat and upper breast, but the distinction is too slight and inconsistent for certain or individual recognition.

It will be seen that the difference in shape of the bills of these various strains is very slight, and in no case marked enough to warrant the title "Thick-billed", in fact Oberholser's *arctolegus* and *fortis* have more slender bills than *phoeniceus*, and the Shoal Lake specimens considerably exceed all others in this direction having minimum and maximum indices of 1.72 and 2.22.

It is also evident that whilst there is a slight increase in size of both bill and wing of this species westward over the prairie provinces, the difference is not so marked in the new material as in Oberholser's measurements: also that individual variation is almost as great as the racial distinction and is one of averages, leaving the bulk of individual specimens subspecifically unrecognizable by character. Such distinctions do not in the view of the writer form criteria sufficient for systematic separation and nomenclature. Irrespective of such judgment on the races concerned it is evident that these Shoal Lake birds are just about intermediate between eastern and west plains birds though personally I do not care to separate them from *phoeniceus*.

131. *WESTERN MEADOW LARK, *Sternella neglecta.*

Very common during all visits. The song of the Western Meadow Lark is justly noted. It is one of the most wonderful prairie sounds and its constant repetition and infinite variety is characteristic of the west. However, eastern ears may be pardoned for a little disappointment on first hearing it. If they expect to hear a glorified eastern Meadow Lark song they certainly will be disappointed. While it is a beautiful production it is not the song they have been accustomed to associate with the coming of spring. It has many charms of its own, but they are not familiar; in fact hardly a note suggests the well remembered voice of the old eastern friend and until its source is traced, even an experienced ornithologist is apt to wonder as to the identity of the singer. It will, I think, take several seasons' experience with this species to build up a new set of associations and take it to the heart in place of the well beloved eastern harbinger of spring.

132. *BALTIMORE ORIOLE, *Icterus galbula.*

In 1917, arrived on May 23, common on June 2; not seen in the autumn. In 1918, arrived on May 16, the bulk disappeared on July 23, and the last one was seen on Aug. 6.

133. *RUSTY BLACKBIRD, *Euphagus carolinus.*

Not recognized in spring, but one was noted on Sept. 21, 1917; not recorded by Young in 1918.

134. *BREWER'S BLACKBIRD, *Euphagus cyanocephalus.*

Very amundant and nesting in nearly every open bluff. They follow the ploughman about his work gleaning from the newly turned furrow, and associate commonly with the sheep perching upon their backs and scrutinizing the fleece, probably for ticks. On Sept. 25, 1917, three were taken from a flock. Of these one female, seemingly an adult by its completely granulated skull, had the iris reddish-brown just flecked with straw. All other specimens taken had the usual straw-colored iris.

135. *BRONZE GRACKLE, *Quisculus quiscula.*

In 1917 there was a thriving colony of Bronzed Grackles nesting in the willows just behind the Ward house until persevering work with a shot gun removed them, after which many more attractive birds of less questionable character were able to appropriate the premises. The Wards accuse them of doing considerable damage by killing young chicks. While I cannot substantiate this charge I have little doubt as to its truth. None were seen in the autumn of 1917, but Young noted the species as late as Sept. 27, in 1918.

136. *EVENING GROSBEAK, *Hesperiphona vespertina.*

In 1917 we saw two to four individuals, May 20, 24 and 25, and secured several specimens. I noted that the bills of these were as green as those of summer birds from British Columbia and quite different from the yellow mandibles of eastern mid-winter specimens. The difference is probably seasonal rather than subspecific. Unfortunately these are amongst the birds that were lost. In 1918, Young noted three and two Sept. 25 and 30.

137. *PURPLE FINCH, *Carpodacus purpureus.*

None noted during either spring. Two or three were seen on several days in a small growth of hawthorn in September. In 1918, Young noted small numbers from July 11 to Aug. 26, and a single individual on Sept. 25.

138. *GOLDFINCH, *Astragalinus tristis.*

None seen in spring until May 27, 1917, after which they became common and were still numerous in September. Young noted them in 1917 from April 29 to his departure on Oct. 2.

139. *PINE SISKIN, *Spinus pinus.*

In 1918 Young noted 5 on June 5, 2 on the 21st, and one Sept. 24, taking specimens on the first two occasions.

140. *SNOW BUNTING, *Plectrophenax nivalis.*

In 1918, Young found large flocks on his arrival on April 24, and saw them almost daily until May 24. After this, 5 were noted on the 22nd and one on the 28th. Specimens taken on April 21 and May 2 are in high breeding plumage.

141. *LAPLAND LONGSPUR, *Calcarius lapponicus.*

A few seen between May 22 and 25. Very abundant in the autumn, occurring in large flocks in the long grass of the old marshes and on the lake shore. In 1918, Young found large flocks on April 24, but the bulk of the species left after the 30th. One straggler was taken on June 4. In the autumn the flocks of the previous year were absent and he noted but one individual on Sept. 23.

142. *CHESTNUT-COLLARED LONGSPUR, *Calcarius ornatus.*

A single bird secured on June 6, 1917, and a flock of seven noted on the 9th. It was not seen by Young in 1918. Seton has a specimen taken by Miller Christy in May, 1887, but the Ward brothers are not familiar with it, and it is doubtless rather rare in the locality or very local in distribution.

143. *VESPER SPARROW, *Poocaetes gramineus.*

Strangely absent both springs in the vicinity of the lake though from the train one was seen a few miles south of Erinview. In the autumn of both years they were seen about the Ward house in limited numbers between Aug. 23 and Sept. 28. These birds are rather large for the eastern race, and though in rather indeterminate juvenile plumage can probably be referred to the western race *P. g. confinis.*

144. *SAVANNA SPARROW, *Passerculus sandwichensis.*

Very common indeed during all visits. The local breeding birds show the bright yellow eye-brow common to the birds of the prairie provinces, and certainly do not agree with the described characters of *P. s. alaudinus* and at present seem without a name. The autumn birds are slightly darker than *savanna* and are both with and without the yellow loral spot. I suspect that both a resident and a migrant form are represented, but I do not care to refer them to any sub-species generally accepted at present.

145. BAIRD'S SPARROW, *Ammodramus bairdii.*

Though reported by Chapman as very common at Shoal Lake and by Seton as common and breeding, the species was carefully searched for both seasons without success. Undoubtedly it has departed from the country with the lowering of the lake level and the disappearance of the broad marshes.

146. *LECONTE'S SPARROW, *Passerberbulus lecontei.*

Scattered individuals were met with both seasons in widely separated localities both in spring and in autumn.

147. *NELSON'S SPARROW, *Passerberbulus nelsoni.*

The western form, the Prairie Sharp-tailed Sparrow, *P. n. nelsoni* was met with in scattered individuals in various parts of the surrounding country as late as September 25. The juvenile plumage is quite different from that of the adult and might well be taken for a different species. All strong ochre, slightly paler below and only broken by restricted fuscous centres of secondaries and wing coverts which become fainter and almost concealed across the back, a double crown stripe and a faint bar back from the eye. The outer web of the first primary is edged with clear cream and the tail is ochraceous-fuscous with dark shaft. One specimen shows adult plumage appearing in the juvenile dress indicating that full plumage is assumed the first winter.

148. *HARRIS'S SPARROW, *Zonotrichia querula.*

Very common on our first arrival in 1917. Most of them left about May 28, though a couple of individuals remained to the end of our stay. Frank Ward reported seeing one carrying nesting material from his chip-yard towards the nearby bluff and suspected that they were nesting in the locality. The same authority tells us that some years ago he found a nest of this species on the ground in the shelter of an old log. On the return visit the same autumn they were common again in their old spring haunts and I was informed that individuals had been noted regularly through the summer. With this possibility of finding breeding birds, Young watched carefully for them during the summer of 1918, but between May 28 and Sept. 14 none were noted. They returned on Sept. 14 and were still present when he left on Oct. 2. The most peculiar thing about these autumn birds was the unusual abundance of adults in comparison to juveniles. Of perhaps fifty birds seen but three or four were juvenile either by plumage or cranial characters. This is unusual enough amongst autumn birds to justify special mention, as usually juveniles greatly outnumber adults.

149. *WHITE-CROWNED SPARROW, *Zonotrichia leucophrys.*

In 1917, single individuals seen on May 15 but

common throughout the autumn stay. In 1918, present in limited numbers from May 6 to May 23 and rather more numerous Sept. 17 to 30. Of those in adult plumage, two males (May 13, 1918 and Sept. 20, 1917) have the white loral line continuous to bill and can therefore be ascribed to *Z. l. gambeli.* The other has it faintly interrupted across the lores and must therefore be regarded as intermediate between *Z. l. leucophrys* and *gambeli.*

150. WHITE-THROATED SPARROW, *Zonotrichia albicollis.*

Common both spring and autumn. In 1918, absent from May 27 to Sept. 8, except four individuals seen on July 24. Great numbers seen Sept. 19-27, but still present when Young departed on Oct. 2.

151. *TREE SPARROW, *Spizella monticola.*

Not noted in 1917. In 1918 observed from April 26 to May 4, and again on Oct. 1 and 2. One specimen, female, April 30, I refer to *S. m. monticola.*

152. *CHIPPING SPARROW, *Spizella passerina.*

Very common in the spring of 1917. To the end of May flocks of a hundred or more were met. In the autumn the species was not certainly identified though the first day of arrival I thought I recognized them amongst the hordes of clay-colored sparrows. In 1918, Young noted a few on May 4 and 8. From the 16th to 27th it was present in flocks of from 50 to 100. The species departed on June 8 and no more were seen except 3 on July 23.

153. *CLAY-COLORED SPARROW, *Spizella pallida.*

Very common in spring and autumn. In 1917, they seemed to leave on Sept. 21, but in 1918, Young noted them to the date of leaving on Oct. 2.

154. *SLATE-COLORED JUNCO, *Junco hyemalis.*

In 1917, but one specimen seen in the spring but fairly common in the autumn. In 1918, Young noted it from April 24 to May 15 and from Sept. 6 to Oct. 2.

155. *SONG SPARROW, *Melospiza melodia.*

Common in spring and autumn of both years. In 1918, present on arrival, April 24, and when leaving, Oct. 2. Specimens taken between May 13 and July 31, probably breeding birds are the slightly lighter form, with more distinct markings, than eastern *M. m. melodia* and I refer them to *M. m. juddi.*

156. *LINCOLN'S SPARROW, *Melospiza lincolni.*

In 1917, single individuals seen and taken on May 19 and June 1. In the autumn seen nearly daily in limited numbers. Noted in limited numbers by Young in 1918 from May 11 to 25 and more commonly from Aug 3 to Oct. 1.

157. *SWAMP SPARROW, *Melospiza georgiana.*

Seen in small numbers in the spring of 1917 and more commonly in the autumn. In 1918, Young noted it from May 4 to 30 and again Aug. 21 to Oct. 2. Strangely enough but one bird was seen in the summer, June 10, which seems to indicate that the species does not breed in the locality.

158. *FOX SPARROW, *Passerella iliaca.*

One specimen taken Sept. 22 is all that was seen in 1917. In 1918, Young noted single individuals on Sept. 16, 24 and 30, and a flock of 30 on the 25th.

159. *TOWHEE, *Pipilo erythropthalmus.*

In 1917, fairly common in the spring and still present Sept. 19 and 21. In 1918, Young saw a few individuals with general regularity from May 24 to July 29. A single bird, Aug. 13, and another Sept. 19.

160. *ROSE-BREASTED GROSBEAK, *Zamelodia ludoviciana.*

Fairly common during the spring visit in 1917. In 1918 observed irregularly from May 16 to Aug. 5.

161. *PURPLE MARTIN, *Progne subis.*

A few seen daily in 1917, probably the same ones. A few occupied a box near an adjoining summer cottage and another colony was found nesting according to aboriginal habit in a hollow tree a few miles from camp. In 1918, noted by Young from May 17 to Sept. 20.

162. *CLIFF SWALLOW, *Petrochelidon lunifrons.*

In 1917 a few seen daily with the flocks of Barn Swallows about camp and occasional birds elsewhere. Seton noted twenty-five nests on a barn in 1891. In 1918, noted from May 24 to Sept. 17.

163. *BARN SWALLOW, *Hirundo erythrogaster.*

Small colonies occupy most of the farm building groups in the neighborhood. In the autumn of 1917 this was the only swallow seen. In the chilly mornings a small flock of them would be found warming themselves on the sunny roof of the house where the frost was melting. As soon as the day warmed they disappeared over the meadows and rarely returned until the next morning. The last seen were on Sept. 21. In 1918, they remained common until Sept. 20.

164. *TREE SWALLOW, *Iridoprocne bicolor.*

In 1917, only a few seen each day in spring and none in the autumn. In 1918, they remained common until Aug. 21, but a few were seen thereafter until Sept. 17.

165. *BANK SWALLOW, *Riparia riparia.*

A few observed daily in the spring of 1917. The Ward brothers say that one stage of the lake left numerous steep banks five to six feet high and that swallows nested in these in great numbers. Now

these banks are far removed from the water, cut down by cattle and sheep, and are deserted by the birds. We saw no nesting places in the vicinity. Young noted it in 1918 only in autumn, arriving on Aug. 17, and seen in small numbers irregularly until Sept. 12.

166. *CEDAR WAXWING, *Bombycilla cedrorum.*

In 1917, a flock of a hundred or so seen on May 11 and smaller lots daily thereafter through the spring visit but not noted in the autumn. In 1918, the species was first seen on June 4th and irregularly observed until Sept. 26.

167. *LOGGERHEAD SHRIKE, *Lanius ludovicianus.*

In the spring of 1917 we found two breeding pairs and a single individual. I can find little foundation for Ridgeway's color distinction, "decidedly paler" of the White-rumped Shrike, *L. l. excubitorides.* Prairie birds are very slightly paler than *L. m. migrans* from eastern Ontario. The difference can only be observed by the closest comparison. In the four specimens taken at Shoal Lake the rumps are intermediate between that of eastern birds and *excubitorides* from Alberta. I, therefore, regard them as intermediates between these rather poorly defined races.

168. *RED-EYED VIREO, *Vireosylva olivacea.*

In 1917, not seen until May 30 after which occasional birds were noted. Not seen that autumn. In 1918, Young noted the species continuously, in fair numbers from May 17 to Sept. 16.

169. *PHILADELPHIA VIREO, *Vireosylva philadelphia.*

Not noted by us in 1917, but Seton has a specimen in his collection taken at Shoal Lake by Miller Christy on May 20, 1887; Young collected specimens on the following dates in 1918, May 21 and 24, June 1 and Sept. 24.

170. *WARBLING VIREO, *Vireosylva gilva.*

In 1917, quite common after May 28. In 1918, Young found it constantly present in fair numbers from May 20 to Sept. 26. All specimens are *V. g. gilva.*

171. *SOLITARY VIREO, *Lanivireo solitrius.*

Not noted by us in 1917, but seen by Young in 1918 from May 10 to 20 and Sept. 2 to 16.

172. *BLACK AND WHITE WARBLER, *Minotilta varia.*

In 1917, occasional individuals seen after May 30 in spring and one on Sept. 19. In 1918, Young noted it with fair regularity, but scarcer in July, from May 8 to Sept. 26. It probably breeds.

173. *NASHVILLE WARBLER, *Vermivora rubricapilla.*

Not noted in 1917 but reported by Young in 1918 to be very common in May and September. Noted May 18 to June 20 and Sept. 2 to 26 with occasional individuals through July.

174. *ORANGE-CROWNED WARBLER, *Vermivora celata.*

In 1917, seen the first two days of our spring visit and on Sept. 19. In 1918, Young noted it only from May 17 to 24. In specimens obtained the yellow is slightly lighter than in comparable eastern species, but as this is probably due to the cleaner and better condition and make up of the skins, I regard them as *V. c. celata*, the geographical probability.

175. *TENNESSEE WARBLER, *Vermivora peregrina.*

Not noted in 1917, but reported by Young in 1918 to be very common in May and September. Noted May 18 to June 24 and Sept. 2 to 26 with occasional individuals through July.

176. *CAPE MAY WARBLER, *Dendrioca tigrina.*

Two taken at Maple Island on May 30, 1917, and noted by Young on May 21 to 24, 1918.

177. *YELLOW WARBLER, *Dendroica aestiva.*

In 1917, a few present on our arrival on May 17 but common after June 1. In 1918, common from May 8 to Sept. 16. Compared with the writer's experience with this species in southern Ontario this is a very late stay for the species as in the Lake Erie neighborhood Yellow Warblers are rarely seen after Sept. 1.

178. *MYRTLE WARBLER, *Dendroica coronata.*

In 1917, the commonest Warbler on both visits. In spring it disappeared about June 1, after which but occasional individuals were seen.

179. *MAGNOLIA WARBLER, *Dendroica magnolia.*

In 1917, rather scarce in spring. In 1918, on the contrary, Young found it quite common from May 16 to the 27th and in the late autumn from Sept. 2 to 28.

180. *CHESTNUT-SIDED WARBLER, *Dendroica pensylvanica.*

Individuals seen June 4 and 5 and on Sept. 17. Not seen by Young in 1918.

181. *BAY-BREASTED WARBLER, *Dendroica castanea.*

In 1917, only seen on June 2 and 6. In 1918, only noted on Sept. 6 to 12.

182. *BLACK-POLLED WARBLER, *Dendroica striata.*

In 1917, first seen on May 30. Quite common on June 2, and but occasional individuals thereafter. One seen on Sept. 17.

183. *BLACKBURNIAN WARBLER, *Dendroica fusca.*

One taken by Young on May 16, 1918, is our only record.

184. *BLACK-THROATED GREEN WARBLER, *Dendroica virens.*

Individuals seen by Young on May 24 and Sept. 4, a specimen being taken on the latter date. He also reports the remains of another impaled by shrikes without giving date.

185. *PALM WARBLER, *Dendroica palmarum.*

In 1917, present in limited numbers on our arrival but none seen after May 25. Several seen between Sept. 19 and 22. In 1918, noted by Young from May 8 to 30 and Sept. 6 to Oct. 2, the date of departure.

186. *OVENBIRD, *Seiurus aurocapillus.*

In 1917, a few single individuals were heard and seen in the deeper woods from May 29 on. Before leaving they become slightly more common. In 1918, noted by Young from May 21 to June 3, one individual in July, and then again from Sept. 2 to 14. This is a retiring species and oftener recognized by ear than sight. Its absence through June, July and August is probably more apparent than real.

187. *NORTHERN WATER THRUSH, *Seiurus noveboracensis.*

In 1917, two water thrushes were seen, perhaps an original pair, May 18 and June 2, in the dry willow grown creek bed by the Ward house. On Sept. 19 another was noted in the same locality. In 1918, the species was noted with daily regularity from May 10 to 25 and Sept. 4 to 26, with a single individual on Aug. 22. The specimens are in a very mixed lot of plumages, and one a male, Sept. 12, is nearly as white below as a Louisiana Water Thrush, *S. motacilla;* two other specimens are nearer the eastern one *S. n. noveboracensis* than *S. n. notabilis.* Three others while yellower below and blacker above and characteristic *notabilis* are quite comparable with some New Brunswick birds. I find that Grinnell's Water Thrush rests upon very inconstant characters.

188. *CONNECTICUT WARBLER, *Oporornis agilis.*

On June 4, 1917, one bird was seen under excellent conditions for determination, when shot it fell far away in heavy brush and could not be found. One juvenile was taken by Young on Sept. 16.

189. *MOURNING WARBLER, *Oporornis philadelphia.*

Several times in the spring of 1917 I thought I heard this bird in a slashing in the oak patch in the big bluff behind the camp. It kept so close to a limited locality that I have no doubt that it was nesting nearby. It was absolutely identified June 14 when secured. In 1918, the species was noted by Young from May 30 to June 8 and one was taken Sept. 7. Specimens of this species in fall plumage are rather scarce in collections as it usually drifts through very inconspicuously early in the autumn.

190. *MARYLAND YELLOWTHROAT, *Geothlypis trichas.*

Quite common after June 2. In the autumn individuals were seen Sept. 21 and 22. The species obtained are referable to *G. t. occidentalis,* the Western Yellow Throat. The backs are faintly lighter than eastern and intermediate between them and individuals from Indian Head and Edmonton, but the white foreheads are decidedly more extensive than in eastern species.

191. *WILSON'S WARBLER, *Wilsonia pusilla.*

Only seen in 1918 on May 18. In 1918, Young observed the species on May 16, 18 and 24.

192. *CANADIAN WARBLER, *Wilsonia canadensis.*

One taken on June 6, 1917, and noted by Young on May 24 and June 4.

193. *REDSTART, *Setophaga ruticilla.*

Not seen in 1917 until May 29, but common thereafter. In 1918, Young observed it from May 18 to June 8 and from Aug. 26 to Sept. 27. He did not note it through the summer.

194. *AMERICAN PIPIT, *Anthus rubescens.*

In 1918 fairly common during the early days of our spring visit along the lake shore, but none seen after May 30. Abundant in the fall occurring in large flocks, scattered bunches and individuals on all bare ground. In 1918, noted by Young on May 13 and 27 and Sept. 14 to date of departure Oct. 2.

195. *SPRAGUE'S PIPIT, *Anthus spraguei.*

Between June 5 and 9, 1917, I was much puzzled by an oft repeated and haunting bird song that could be barely heard and which I was unable to locate or recognize. It was a fine silvery gradually descending Ree-ree-ree-a-ree-a-ree-a-aree-aree of about eight notes, and an octave in range. It had a peculiar ringing jingle like the Veery but more sustained and regular. After innumerable futile attempts at discovering the singer at last I found it high over head flying about in circles for minutes at a time. It beat its wings vigorously against the slight breeze, making altitude rather than headway, and then the song came down. After the first two or three syllables reached the ground the wings fixed and the bird would sail in a downward spiral through the remainder of the song. This was repeated time and time again. It took considerable patience to watch the little vocalist until it came down to earth by an almost straight dive. Though nearly out of sight in the air the speed with which it dropped and the distance away at which it alighted indicated that it was originally up no more than a hundred yards or so while singing. Thereafter we could hear this song nearly the whole of every fine day, but this was the only bird of the species that we met. In 1918, Young reports the species occasionally throughout the summer from June 21 to Sept. 7.

196. *CATBIRD, *Dumatella carolinensis.*

Common, found in nearly every bluff. In 1918, Young noted it almost daily from May 20 to Sept. 11.

197. *BROWN THRASHER, *Toxostoma rufum.*

Fairly common. At least two pairs lived within hearing of our camp in 1917 and we met with half a dozen more on our spring rambles. In 1918, Young noted it constantly from May 16 to Aug. 24 with a couple of late individuals on Sept. 12 and 17.

198. *HOUSE WREN, *Troglodytes aedon.*

Very abundant and heard singing everywhere. They do not seem as inclined to build about the farm buildings as the species does in the east. There were innumerable possible nesting places about the farmstead that few eastern wrens could resist yet none of them were occupied. A few individuals were still present during the autumn visit. In 1918, Young noted it continuously and regularly from May 10 to Sept. 30. Specimens are distinctly *T. a. parkmani.*

199. *WINTER WREN, *Nannus hiemalis hiemalis.*

Not seen in 1917, but in 1918 Young observed single individuals from May 20 to 23,. and on Sept. 16.

200. *SHORT-BILLED MARSH WREN, *Cistothorus stellaris.*

Not uncommon in certain localities. While usually inhabitating damp marshes some were found in dry grass or even in brushy edges in typical House Wren ground. None were certainly recognized in the fall of 1917 though Young lists it occasionally from June 1 to Sept. 25.

201. *LONG-BILLED MARSH WREN, *Telmatodytes palustris.*

Hardly commoner than the Short-bill and not so widely distributed. This species requires wetter and more extensive swamps than that species and the drying up of the marshes would more severely limit its habitat. A Marsh Wren glimpsed on the shore of a small pond on Sept. 19, 1917, was supposed to be of this species. Owing to their more restricted habitat the Long-billed Marsh Wren was, in 1918, even scarcer than the previous year. Young only records occasional individuals May 7 and June 10. Specimens show the light back, and brown rather than black head of *T. p. iliacus.*

202. *BROWN CREEPER, *Certhia familiaris.*

Young took two specimens of the Brown Creeper on Sept. 23 and 26, 1918.

203. *RED-BREASTED NUTHATCH, *Sitta canadensis.*

One individual seen by Young on Sept. 24, 1918.

204. *BLACK-CAPPED CHICKADEE, *Penthestes atricapillus.*

Only seen in 1917 on May 20 and Sept. 26. Of the former one female was taken with an egg in oviduct ready for deposition. Scattered individuals noted by Young throughout the summer of 1918. Specimens taken have constantly longer tails than any but extreme eastern specimens and hence are referred to *P. a. septentrionalis.*

205. *RUBY-CROWNED KINGLET, *Regulus calendula.*

In 1917, single individuals seen May 20 and June 1. In September a few were seen nearly every day. In 1918, noted by Young daily from May 7 to 24 and Sept. 9 to 30.

206. *WILSON'S THRUSH, *Hylocichla fuscescens.*

Common. Its golden chain song could be heard every evening from our camp. In 1918, Young recorded it nearly every day from May 9 to Sept. 28. All specimens show the slightly olive back of the Willow Thrush, *H. f. salicicola.*

207. *ALICE'S THRUSH, *Hylocichla aliciae.*

Thrushes of this genus were fairly common during migrations, but the bush was generally so dense and the birds so shy that collection gave the only certain separation between Alice's and Olive-backed Thrushes. I was fairly certain that we had specimens of both in the spring collection of 1917, but they all were lost in transit. One specimen taken by Young on Sept. 19 belongs to this species.

208. *OLIVE-BACKED THRUSH, *Hylocichla ustulata.*

In 1918, Young noted thrushes under this heading from May 15 to June 1 and Sept. 6 to 20. All his specimens except one mentioned under previous heading are of this species which is probably the more common. We have specimens of the following dates: juvenile and adult males Sept. 18, 1917, Sept. 6 and 9, 1918; and juvenile females Sept. 9, 1918. These four are slighlty but consistently more olivaceous (or grayer) above and rather more heavily spotted on breast than comparable eastern *H. u. swainsoni* differing from them almost as much as the Willow Thrush, *H. f. salicicola* differs from the Veery, *H. f. fuscescens.* I find these same distinctive characters in an autumn specimen from as far west as Jasper Park but not in spring and summer birds from intermediate points. These specimens agree closely with the description and range of *H. u. almae* Oberholser, and if every perceptible difference is regarded worthy of a separate name this form probably has claim to reinstatement in the Check List.

209. *HERMIT THRUSH, *Hylocichla guttata.*

Quite common during the spring of 1917. The last specifically recognized was on June 2. In the autumn one was taken on Sept. 19. In 1918, Young noted the Hermit Thrush from May 13 to 24 and Sept. 3 to 30. These are of course eastern Hermit Thrush, *H. g. pallasii.*

210. *AMERICAN ROBIN, *Planesticus migratorius.*

Common on all visits, in 1918, at date of departure, Oct. 2.

211. *BLUEBIRD, *Sialia sialis.*

Though not known by the Ward brothers as a

bird of the locality, we took a pair in 1917 on May 28, and later some six individuals were seen at various times in the neighborhood. In 1918, Young saw 2 and 7 birds on June 24 and 25. On Oct. 2 as he was leaving there was a migrational wave of the species and he lists 50 for that day. This suggests that far from Shoal Lake being the most northern extremity of the species range here there is a habitat beyond that is occupied by them in considerable numbers. The species is apparently spreading into this country.

ADDENDA.

Since the publication of the earlier parts of this paper the following published data on the birds of the locality have been called to my attention in Recent Bird Records for Manitoba by E. T. Seton, *Auk*, XXV, 1908, pp. 450-454.

20. *(antea)* BLACK DUCK, *Anas rubripes.*

Mr. Seton here reports another Shoal Lake specimen of this species in his collection taken by Geo. H. Meacham in 1901 who reports "two or more were shot at Shoal Lake in 1899".

28. *(antea)* WOOD DUCK, *Aix sponsa.*

Seton says: "G. H. Meacham reports it rare at Shoal Lake, but one or two are seen there each year".

212 LEAST BITTERN, *Ixobrychus exilis.*

Seton says: "Frank M. Chapman saw one at Shoal Lake, June, 1901".

BRIEF REPORT OF THE OTTAWA FIELD-NATURALISTS' CLUB FOR THE YEAR ENDING MARCH 18, 1919.

The fortieth year of the existence of The Ottawa Field-Naturalists' Club has been the most successful in the recent history of the society. The club activities are directed toward popularizing and diffusing knowledge of the natural sciences, and have been carried on in three chief ways: a course of lectures, two series of field excursions, and the publication of THE OTTAWA NATURALIST.

The club membership now numbers 540. Twenty-one members serving overseas have been carried gratis.

The lecture programme consisted of seven scheduled lectures and a special lecture on wild geese by Mr. "Jack" Miner, of Kingsville, Ontario. The lectures are planned to create a more intelligent interest in Canadian natural history, and to give a better understanding of the value of scientific work.

The field excursions were well patronized, especially the spring series at which the attendance averaged 38. Weather conditions reduced the attendance at the fall series. The spring series consisted of five outings and the autumn series of three outings. Scientific men attended the excursions to direct interest and answer questions.

THE OTTAWA NATURALIST, the official organ of the Club has been enlarged in dimensions and improved in material qualities and by the introduction of a cover design, more illustrations and more articles of Dominion-wide interest.

At the request of several natural history societies of the Dominion, a plan of affiliation has been arranged, the magazine of The Ottawa Field-Naturalists' Club to be the medium of publication.

The officers and committees for the year 1919 are as follows:

President, M. Y. Williams; Vice-Presidents, L. D. Burling, P. A. Taverner; Secretary, Clyde L. Patch; Treasurer, F. W. Waugh; Editor, Arthur Gibson.

Additional members of Council: Hoyes Lloyd; W. T. Macoun, G. A. Millar, R. M. Anderson, J. M. Macoun, Miss M. E. Cowan, Miss Crampe, C. B. Hutchings, C. M. Sternberg, H. I. Smith, H. McGillivray, H. B. Sifton.

STANDING COMMITTEES OF COUNCIL.

Publications—Clyde L. Patch, A. Gibson, P. A. Taverner, L. D. Burling, H. B. Sifton.

Excursions—F. W. Waugh, H. B. Sifton, C. M. Sternberg, G. A. Millar, Miss M. E. Cowan, C. L. Patch, H. McGillivray, C. B. Hutchings, Miss Crampe.

Lectures—J. M. Macoun, P. A.Taverner, L. D. Burling, W. T. Macoun, G. A. Millar, R. M. Anderson.

Trust Funds—W. T. Macoun, C. Gordon Hewitt, H. M. Ami.

Auditors—J. Ballantyne, E. C. Wight.

LEADERS AT EXCURSIONS.

Archaeology—Harlan I. Smith, F. W. Waugh, W. J. Wintemberg, Dr. C. M. Barbeau, Dr. E. Sapir.

Botany—G. A. Millar, W. T. Macoun, J. M. Macoun, Mrs. A. F. Brown, Dr. M. O. Malte, J. R. Dymond, E. C. Wight, H. B. Sifton, Miss M. E. Cowan.

Entomology—C. B. Hutchings, Arthur Gibson, Dr. C. G. Hewitt, J. M. Swaine, F. W. L. Sladen, Miss Crampe.

Geology—Dr. E. M. Kindle, Dr. W. Y. Williams, H. McGillivray, L. D. Burling, E. Poitevin, Dr. M. E. Wilson.

Ornithology—P. A. Taverner, C. L. Patch, Dr. M. Y. Williams, A. G. Kingston, Hoyes Lloyd.

Zoology—Dr. R. M. Anderson, A. Halkett, E. E. Lemieux, E. A. LeSueur, C. H. Young, C. E. Johnson.

Photography—W. S. Hutton.