

body else. Decking the subspecies in all the glittering panoply of diagnosis, dimension, and distribution makes of it an impressive spectacle, but this does not necessarily make of it a good subspecies.

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## THE BIRDS OF THE RED DEER RIVER, ALBERTA.

BY P. A. TAVERNER.<sup>1</sup>

(Continued from p. 21.)

SINCE the first part of this paper went to press, I am in receipt of a series of notes from F. L. Farley, now of Camrose but formerly of Red Deer. His observations extend from 1892 to 1906 at the former locality and from then to date at the latter. They consist chiefly of lists of spring arrivals but have been supplemented by further details in correspondence. I have also received some comments upon the list as published from J. H. Fleming. The pertinent new information is embodied in the following continuation and the Addenda at the end.

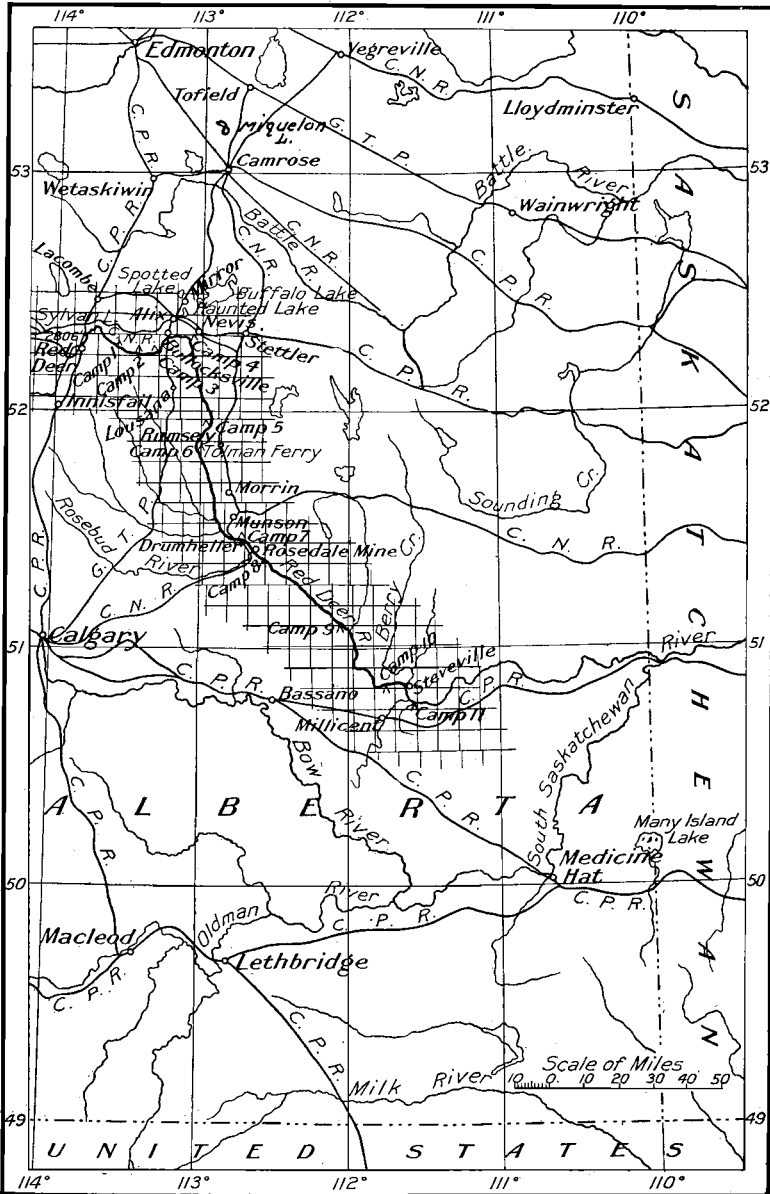
80. **Ceryle alcyon.** BELTED KINGFISHER.—We found the species rather scarce on the river. This is probably accounted for by the cloudiness of the water which hides the fish. One bird was seen near Camp 4 near Nevis and Young recorded two at Camp 11 at Little Sandhill Creek. We have three birds taken by Geo. Sternberg at Morrin, August and September, 1915. Horsbrough records the Kingfisher nesting at Red Deer and Farley notes it occasionally at Camrose.

81. **Dryobates villosus.** HAIRY WOODPECKER.—Not very common anywhere but more seen in the upper parts of the river in the wooded sections than lower down. Singles or pairs seen at camps 1, 4, 6 and 8½. Specimen from Camp 1 also one from Rumsey, September 24, 1915, taken by Geo. Sternberg and another from Buffalo Lake, November 9, 1914, by Horsbrough who reports nest at Sylvan Lake. I ascribe them all by their large size to *leucomelas*. One specimen in Fleming's collection lately examined by me overmeasures any *D. v. leucomelas* I have previously seen, having a wing 140 mm. Our next largest specimen is but 132.

82. **Dryobates pubescens.** DOWNY WOODPECKER.—Not seen by us but both Horsbrough and Farley report it as a common resident and a

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breeder. The former refers the local form to *D. p. nelsoni*, probably on geographical grounds for we have an Edmonton specimen, August 13, 1886, that has been identified by Oberholser as *homorus*. A female, Red Deer, April 19, 1916 in Fleming's collection agrees so closely with larger specimens from New Brunswick and eastern Ontario that I see no grounds for separating it from them and following Oberholser's determination of a Banff bird August 13, 1891, ascribe it to *D. p. medianus*.

83. **Picoides arcticus.** ARCTIC THREE-TOED WOODPECKER.— Under the subspecific designation, *P. a. arcticus*, Bangs lists five specimens, without date (collections of Wm. Brewster, and E. A. and O. Bangs) from Red Deer, Auk, XVII, 1900, -139.

84. **Picoides americanus.** AMERICAN THREE-TOED WOODPECKER.— Mr. Farley reports taking a specimen in winter at Red Deer. He makes no subspecific determination. Geographically *P. a. fasciatus* is the probability.

85.\* **Sphyrapicus varius.** YELLOW-BELLIED SAPSUCKER.— Quite common on the upper parts of the river but as the country grew more arid it became scarcer and none were seen below Camp 5. One specimen, a female with black cap, Camp 1, June 30. Horsbrough records it breeding.

86. **Phlœotomus pileatus.** PILEATED WOODPECKER.— Farley says he knows of a few having been killed at Red Deer in winter.

87.\* **Colaptes auratus.** FLICKER.— Common throughout the river as far as we travelled. Of the four birds taken by us and by Geo. Sternberg at Morrin but one is a pure *auratus*, the remaining specimens all having slight to strong traces of *cafer* blood indicated by the color of the large shafts, the graying of the throat or red in the black moustache. Near Camp 1, Young saw what he thought to be a red-shafted Flicker and doubtless birds that are more strongly *cafer* exist in the region, though *auratus* seems to be the predominating influence. Two birds, May 2 and July 17 Red Deer in Fleming's collection are pure *auratus*. Farley says he has seen nothing at either Red Deer or Camrose that he can ascribe to *cafer*. It would seem that the *cafer* influence is farther reaching on the lower than the upper parts of the river. Horsbrough on a guarded suggestion from Fleming refers his specimens to *C. a. borealis*.

88.\* **Chordeiles virginianus.** NIGHTHAWK.— Though rather rare at Camp 1, the Nighthawk became more abundant as we descended the river. None could be collected however, until Camp 11 was reached, where breeding birds were also noted. Our single bird, July 30, is considerably lighter even than several *hesperis* as identified by Dr. Oberholser. I therefore tentatively refer it to *sennetti*. I suspect that this is the form of the arid southern sections, as a Red Deer Bird collected by Sternberg, June 4, 1915, is evidently *virginianus*, as is another from Banff determined by Oberholser.

89. **Archilochus** or **Selasphorus.** HUMMINGBIRD.— Mr. Farley reports having seen one Hummingbird at Red Deer the summer of 1892.

He thought it a Ruby-throat at the time, but this requires confirmation by specimens for confident acceptance.

90.\* **Tyrannus tyrannus.** KINGBIRD.—Rather scarce on the upper parts of the river. At Camp 1, we noted but a single bird, and until Camp 4 but occasional individuals were glimpsed in the distance. Below Camp 4, near Nevis, however, Kingbirds became common. The last one seen was September 7. Two specimens, Camps 4½ and 11.

91.\* **Tyrannus verticalis.** ARKANSAS KINGBIRD.—Only seen at Camp 11 after I left. Young says "Not as common as the Kingbird." Three taken July 31. Not listed by either Horsbrough or Farley. Probably an inhabitant of the more southern sections of the river.

92.\* **Sayornis phoebe.** PHEBE.—Not uncommon as far down the river as Camp 6, Tolman's Ferry, but not noted below. One specimen, Camp 2.

93.\* **Sayornis sayus.** SAY'S PHEBE.—One pair were nesting near the top of a cliff near Camp 2, and seen again the next day while en route. At Camp 6, Tolman's Ferry, Young found it nesting in the adjoining hills and took a specimen. From then on they were seen almost daily and at Camp 11, Little Sandhill Creek, they were quite common. It nests on small ledges on the cliff faces and seems rather more common in the arid than the humid country. Specimens from Camps 6, 8 and 11, the last being September 14. Not mentioned by either Farley or Horsbrough.

94. **Nuttallornis borealis.** OLIVE-SIDED FLYCATCHER.—Farley reports this species at Red Deer, May 22, 1905.

95.\* **Myiochanes richardsoni.** WESTERN WOOD PEWEE.—Wood Pewee-like notes were heard constantly about Camp 1, but the birds were so shy that one was collected with difficulty. The notes were much like those of our eastern Wood Pewee but different enough in quality to be distinctive. They were not noted often thereafter but from August 6 to 25, Young took several at Camp 11, on Little Sandhill Creek.

96.\* **Empidonax trailli.** TRAILL'S FLYCATCHER.—On the uplands about Camp 1, in the thickets adjoining sloughs, this species was recognized a number of times. Thereafter we were seldom in proper country for it. At Camp 11 on the Little Sandhill Creek, Young collected specimens, August 9 and 11, probably early migrants. Both are referable to *E. t. alnorum*. Farley lists it at Red Deer and Camrose.

97.\* **Empidonax minimus.** LEAST FLYCATCHER.—Common all along the river. Specimens taken at Camps 3, 3½, 5 and 11.

98.\* **Otocoris alpestris.** HORNED LARK.—We saw no Horned Larks until Camp 11 on the Little Sandhill Creek was reached, where Young reports that he found them common on the flats of the north side of the river feeding on wild buckwheat. Fourteen specimens were taken between July 26 and September 20. These are all *leucolæma* as recognized by the A. O. U. or *enthemia* according to Oberholser and Ridgway.

99.\* **Pica pica.** MAGPIE.—One of the pleasures of the trip was acquaintanceship with this bird. We heard of occasional Magpies being

seen about Camp 1, but did not meet with them personally until between Camp 5 and 6 when we found a family party of partially fledged birds discussing the world and things in general in the Saskatoon bushes. "Chattering like a Magpie" hardly gives a clear idea of the performances. They keep it up continually in season and out, but the talk is deliberate rather than "chattering." They are never still for a minute and their curiosity is insatiable. Every morning our camp was the center of interest and conversation to a group of these long-tailed clowns, uniting the gravity of judges with the talkativeness of a debating society. At Camp 11 a nearby creek bed cut down some twelve feet below the general level and dry and parched in the sun was the repository of our empty cans and table scraps. Magpies were always in attendance and no sooner had the falling can ceased its noisy rattling and come to rest than a "Pie" was on hand to glean what it might from its depths. They seemed to go in small companies, probably original families though perhaps in some cases more than one brood had joined together and haunted the brush in the wooded river edges or the low dense tangle on hill tops sailing from clump to clump and furtively following one another from cover to cover. Their nests were conspicuous objects in the heavier bush. Great oval masses of sticks four or five feet high and two or three feet through with the nest in the center reached by openings in opposite sides for ingress and egress. The fact that we invariably found them in the neighborhood or not more than a hundred yards or so from nests of Red-tail or Swainson's Hawks may or may not have a meaning; nor is it clear, if it is more than accidental, which — the "Pie" or the hawk — was first to choose the locality. Specimens were obtained at Camps 5½ and 11 while we have others from Rumsey and Morrin collected by Geo. Sternberg.

Farley, Horsbrough and Dr. George of Red Deer, all declare that this species is increasing. Farley writes,— "No one knew this bird ten years ago and for the past few years a month does not pass that some one does not ask about it. I think this about its limit line as I never saw or heard of one farther north than ten miles from Camrose."

100.\* **Cyanocitta cristata.** BLUE JAY.—Fairly common on the upper parts of the river but not seen below Camp 4, near Nevis. One specimen, Camp 1. Reported nesting by Horsbrough.

101. **Perisoreus canadensis.** CANADA JAY.—Spreadborough's hypothetical record of this species at Red Deer is substantiated by Farley who says he found two nests of the Canada Jay ten miles east of Red Deer, the eggs from which he sent to W. E. Saunders of London, Ont. According to Oberholser's determinations these birds should probably be referred to *P. c. canadensis*.

102. **Corvus corax.** RAVEN.—Farley says,— "The Raven is seen nearly every November at Red Deer. I have never seen them brought in except in early winter."

103.\* **Corvus brachyrhynchos.** AMERICAN CROW.—Only fairly common in the narrow parts of the valley where the river is in closer

proximity to cultivation. Below, where the valley is wide, and more arid conditions prevail, it was but occasionally seen. Young reports, at Camp 11 on the Little Sandhill Creek after the middle of September, that they appeared in large flocks. The farmers about Camp 1 did not regard the crow as dangerous to crops but complained of the number of small chickens they kill and the duck nests they rob. Specimens from Camp 8½ and 11, also Morrin, October, 1916, Geo. Sternberg and Alix, April 24, 1914, Horsbrough. Amongst our prairie province specimens I can find little to substantiate the Western Crow, *hesperis*. The birds of smallest measurement in our collections come from Ottawa and Point Pelee, Ontario; Red Deer, Alberta; and Lillooet, British Columbia, whilst our largest specimens are from Ottawa and Indian Head, Saskatchewan. Even the averages from eastern and western Canadian specimens are too similar for the recognition of any subspecies. I therefore prefer to class these birds with the type form *brachyrhynchos*.

104.\* **Molothrus ater.** COWBIRD.—Rather scarce. We saw but two at Camp 1. Young took a specimen at Camp 11 on the Little Sandhill Creek, August 2. We also have one bird from Morrin, July 1916, taken by Geo. Sternberg. The bird from Camp 11 is a juvenile but extraordinarily heavily striped below, almost as conspicuously so as a juvenile Red-wing. Above, every feather is bordered with sharp buffy edges. The Morrin bird is similar but does not depart from normal in so marked a degree. As these are both juveniles their measurements are not satisfactory for subspecific comparison. Examining our series of western Cowbird specimens I can only see that they average slightly larger than eastern ones. The bills are comparatively a little longer but the concave character shown by Grinnell as characteristic of *artemisiae* is not recognizable even though the sage brush *Artemisia tridentata* with which its range is supposed to coincide extends far north of here to the Peace River Valley. Without further data I can only regard these Red River birds as abnormal *ater*.

105. **Xanthocephalus xanthocephalus.** YELLOW-HEADED BLACKBIRD.—Not seen by us owing probably to the absence of extensive marshes in the localities visited. Geo. Sternberg reports having seen one at Camp 11 before our arrival. Mr. Farley lists it at Red Deer and Camrose.

106.\* **Agelaius phoeniceus.** RED-WINGED BLACKBIRD.—Not very common but occurring in most of the suitable localities visited by us. More common on the prairie level where sloughs are more numerous than in the valley. Specimens from Camp 1 and 4. After comparing these and other prairie specimens with eastern birds I can only say that there is a larger percentage of oversized birds amongst them than in the East. I can see no constant difference in the bills and hence am not justified in referring them to anything but *phoeniceus*. Horsbrough refers his, probably on geographical considerations to *P. a. fortis*.

107.\* **Sturnella neglecta.** WESTERN MEADOW LARK.—We did not find this bird very common in the river valley and not overly numerous

upon the prairie levels when they were visited. Later in the season, Young reports that they were common at Camp 11 in early morning when they came down from the Prairie level to drink at the river. Specimens from Camp 1 and 11, also two Morrin birds, August and July, Geo. Sternberg.

108. **Icterus galbula.** BALTIMORE ORIOLE.—Horsbrough records the nesting of the Baltimore Oriole at Red Deer and Farley pronounces it common. Neither seem to be acquainted with Bullock's. In our collections are specimens of *galbula* from Edmonton and *bullocki* from Medicine Hat where, however, Spreadborough also noted the former. Possibly the division between the two occurs somewhere between the two cities and the Baltimore is the form at Red Deer.

109.\* **Icterus bullocki.** BULLOCK'S ORIOLE.—Only two orioles seen and those two of this species. Taken at Camp 11, Little Sandhill Creek, August 29.

110.\* **Euphagus carolinus.** RUSTY BLACKBIRD.—One specimen, Alix, Alberta, April 22, 1914, by Horsbrough who infers in his annotations that it is only a migrant at Red Deer though Farley reports it as with Brewer's,—“a very common spring and fall migrant and quite plentiful breeding along the streams in the willows.” I was hardly prepared to regard this as a breeder in this locality.

111.\* **Euphagus cyanocephalus.** BREWER'S BLACKBIRD.—Generally distributed throughout the river valley but nowhere exceedingly common. Young noted a large migrant flock at Camp 11, Little Sandhill Creek, the middle of September. Specimens, Camp 1 and 11. Farley reports it breeding along the streams in the willows.

112.\* **Quiscalus quiscula.** CROW BLACKBIRD.—Only a few seen at Camp 1, about Brock's Lake where they were nesting in Flicker holes. One specimen, Camp 1, another Buffalo Lake, August, 1915.—Horsbrough. Regarded as common by all correspondents.

113. **Hesperiphona vespertina.** EVENING GROSBEAK.—Farley says,—“The Evening Grosbeak is not regular in winter. It comes for about a month about every other winter, always feeding on the seeds of the Manitoba Maple.” Red Deer Specimens, May 6, in Fleming's collection.

114. **Pinicola enucleator.** PINE GROSBEAK.—Farley says,—“Pine Grosbeaks are fairly common all winter especially along the rivers in the spruce,—never saw them after May 1.” Horsbrough lists them under *P. e. leucura* on J. H. Fleming's determination based upon a bird with an imperfect bill. I have examined this bird but the subspecific characters are so faintly indicated in our comparative series that I prefer to withhold judgment upon the determination.

115.\* **Carpodacus purpureus.** PURPLE FINCH.—Not seen on the upper river at all and at Camp 11, Little Sandhill Creek, only after I left. Young reports that beginning August 18, he noted one to five daily to September 7. He observes that they were feeding on the seeds of the black birch. One specimen, Camp 11, August 18. Listed by Farley as

common at Red Deer though Horsbrough gives only individual records.

116.\* **Loxia curvirostra.** AMERICAN CROSSBILL.—One specimen taken at Camp 11, Little Sandhill Creek, July 21. It is a juvenile with clear skull but with the red beginning to replace the yellow plumage. About the face and throat is a powder deposit similar to that on a Jasper Park bird that was feeding upon woolly aphides suggesting that this bird was subsisting upon a similar diet. Farley regards it as common all winter, and I infer regular, but "never noted after May."

117. **Leucosticte tephrocotis.** ROSY FINCH.—Farley says,— "I have seen the Leucosticte in November around the coal mines in the Red Deer valley where you go under the C. P. R. bridge. They were the tamest birds I ever saw and I suppose had just blown down from the tops of the mountains." He later informed me that he sent a specimen to W. E. Saunders, London, Ont., who pronounced it Gray-crowned *L. t. tephrocotis*.

118. **Acanthis linaria.** REDPOLL.—Both Horsbrough and Farley report Redpolls in winter. The former identifies them as *A. l. linaria* and the latter says he "cannot say that he has been sure of more than one kind," he thinks, "the smaller one."

119.\* **Astragalinus tristis.** AMERICAN GOLDFINCH.—Seen in limited numbers all along the river. At Camp 11, Little Sandhill Creek, Young reports large flocks feeding on the seeds of the wild sunflower *Helianthis petiolaris* in early September. One specimen from Camp 1 and four from Camp 11. All these birds are of a slightly deeper and richer yellow than eastern ones. The difference, however, is very little and only appreciable when numbers are massed together. I do not think that individual specimens can be recognized. In size there are more large birds in the western series, but the extremes in size, east and west, exhibit little, if any, difference. Under such circumstances I cannot see that it is worth while recognizing the Pale Goldfinch, *pallidus* in these specimens. Horsbrough refers his specimen to "*A. t. tristis*. Pale Goldfinch" (sic). With this conflict between scientific and vernacular terminology, it is left to surmise which he intends.

120.\* **Spinus pinus.** PINE SISKIN.—A small flock seen at Camp 3. One at Camp 11, Little Sandhill Creek, August 15 and 22. Specimens, Camp 3 and 11. Given as winter visitor by both Horsbrough and Farley.

121.\* **Calcarius lapponicus.** LAPLAND LONGSPUR.—Seen at Camp 11, Little Sandhill Creek, between September 10 and 15. Specimens, September, 13 and 15. Farley gives many April dates for both Red Deer and Camrose.

122.\* **Calcarius ornatus.** CHESTNUT-COLLARED LONGSPUR.—One seen, July 26 at Camp 11, Little Sandhill Creek, becoming fairly common September 10 to 13 then no more until the 20th when two were noted. Specimens Camp 11, July 26 and September 13. Farley reports them very common in May and in autumn but does not remember them in summer.



123.\* **Poocetes gramineus.** VESPER SPARROW.— Rare along the river valley but common whenever we visited the upper levels. Young reports it common up on the prairie and along the creek beds at Camp 11, Little Sandhill Creek. Nine specimens from Camps 1, 6, 8 and 11. They are obviously referable to *P. g. confinis*.

124.\* **Passerculus sandwichensis.** SAVANNAH SPARROW.— Quite common in the more cultivated sections but scarce or absent over much of the river valley. At Camp 11, Little Sandhill Creek, very scarce at first, only two seen in August, but began to be numerous late in September. 13 specimens, Camps 1 and 11. Two types of coloration are exhibited in these specimens. Those from Camp 1 are all yellow eyebrowed birds, while amongst those from Camp 11 occur yellow and white eyebrows. Until a detailed study is made of Canadian Savannah Sparrows I do not care to make subspecific determination. *P. s. alaudinus* is the generally accepted form in Canada west of Ontario.

125.\* **Passerherbulus lecontei.** LECONTE'S SPARROW.— But one recognized near Camp 1, in a dry slough. Young found occasional scattered individuals at Camp 11, Little Sandhill Creek, two of which were in marshes on the upper levels, the remainder being in the desert lowlands. It is evident from the specimens obtained that the species has a distinct juvenile plumage composed of soft golden stripings quite different from the first winter plumage which is similar to that of the adult spring coloration. Specimens from Camp 1 and 11. Farley knows the species and does not regard it as rare.

126. **Passerherbulus nelsoni.** NELSON'S SHARP-TAIL.— Farley reports shooting this species for identification and finding it quite common in the open country around large flat sloughs.

127.\* **Chondestes grammacus.** LARK SPARROW.— Fairly common at Camp 11, Little Sandhill Creek, not seen elsewhere or after August 17. Specimens from Camp 11. I am not prepared with eastern specimens to differentiate between the two races *grammacus* and *strigatus*. Neither Farley nor Horsbrough mentions this species at Red Deer and it probably does not occur there regularly.

128.\* **Zonotrichia leucophrys.** WHITE-CROWNED SPARROW.— Not noted until September 3, Camp 11 on the Little Sandhill Creek. Young reports them quite common then along the river feeding on dogwood seeds and Buffalo berries. Four specimens Camp 11, September 3 to 12. Only one of these is in high plumage. It is obviously *Z. l. gambeli* and all are inferentially included under the same subspecies. Listed as a common migrant by Farley.

129.\* **Zonotrichia albicollis.** WHITE-THROATED SPARROW.— Quite common and evidently breeding on the upper part of the river, but not noted below Camp 4 near Nevis, until they put in an appearance at Camp 11, on the Little Sandhill Creek, August 22, when Young met limited numbers with fair regularity. Specimens from Camp 1 and 11.

130. **Spizella monticola.** TREE SPARROW.— Listed as a common

migrant by Farley at Red Deer and Camrose. Horsbrough records spring birds under title of *S. m. ochracea*.

131.\* **Spizella passerina.** CHIPPING SPARROW.—Unexpectedly absent from the upper parts of the river. Young reported one at Camp 4 but it was not until we reached Camp 11 on the Little Sandhill Creek that we met them again. Here they were quite common and remained so until the first week in September. Four specimens from Camp 11, July 20, 27 and 28. I refer them to *S. p. arizonæ*.

132.\* **Spizella pallida.** CLAY-COLORED SPARROW.—Common everywhere along the river,—the only generally common sparrow. Specimens from Camps 1, 5 and 11.

133.\* **Junco hyemalis.** SLATE-COLORED JUNCO.—Fairly common and breeding as far down the river as Camp 4, near Nevis. Below, they became less numerous and none were seen below Camp 6 at Tolman's Ferry, until the migrants came in September 17. Specimens from Camps 1 and 11. These birds show no tendency towards either pink sides or red backs and can only be referred to *J. h. hyemalis*.

134.\* **Melospiza melodia.** SONG SPARROW.—Common throughout the entire trip. 15 specimens from Camps 1, 2, 3, 4, 5, 6, 8 and 11; also one July 20, Morrin,—Geo. Sternberg. Though much more worn and hardly comparable with other material on hand, these specimens are just what would be expected from much abraded *juddi*. Specimens from Camps 5, 8 and 11 and Morrin are considerably darker than the others, reversing the expectation that light not dark birds would be found in the more arid sections. Horsbrough lists his specimens as *M. m. melodia*. It is not evident whether he has considered *juddi* or not.

135.\* **Melospiza lincolni.** LINCOLN'S SPARROW.—Not seen until August 25 at Camp 11 on the Little Sandhill Creek. They gradually grew more common until September 5 when they became very numerous in open woods and low lands and especially so on the prairie level. One specimen from Camp 11. Though not mentioned by Horsbrough, Farley regards Lincoln's Sparrow as a not uncommon breeder at both Red Deer and Camrose, saying,—“It appears to be regularly distributed but not thickly. I can always depend on hearing at least one every few miles in scrubby country and have watched a pair all through the summer in the same brush so am sure they breed.”

136. **Melospiza georgiana.** SWAMP SPARROW.—Reported by Farley from Red Deer as not common.

137.\* **Passerella iliaca.** FOX SPARROW.—Reported by W. E. Saunders at Red Deer in June 1906, in ‘Catalogue Canadian Birds,’—J. and J. M. Macoun, 1909, not seen by us. Farley says,—“The Fox Sparrow is a regular breeder in localities. Have known several places where they breed regularly,—as many as a dozen pairs on a mile square. In such places their song is the commonest of any bird.” These are probably *P. i. iliaca*.

138.\* **Pipilo maculatus.** SPOTTED TOWHEE.—Towhees were not

observed until we reached Camp 5, Ross's Ranch, where they suddenly became quite common, thus putting in an appearance with the first decidedly arid conditions. They remained common the rest of the trip. The spotted Towhee has a varied vocal repertoire. While many of its notes are strongly reminiscent of the Chewink, none are exactly similar and it has many peculiar to itself. The familiar Che-week was not heard but the "ya-rec-ee-e" song was quite recognizable with slight but obvious variation. Six specimens from Camps 5, 6, 8 and 11. Naturally all are referable to *P. m. arcticus*. Towhees are not mentioned by either Horsbrough or Farley. Probably this is another species whose limit is south of Red Deer.

139.\* **Zamelodia ludoviciana.** ROSE-BREADED GROSBEAK.— One seen and taken at Camp 1 but not noted again until August 19 and 20 at Camp 11 on the Little Sandhill Creek when singles were observed. Juveniles and females seem to differ from those of the Black-headed Grosbeak only in the absence of traces of lemon yellow on the under parts. The Camp 1 specimen is peculiar in having a large bright red throat patch in addition to the usual breast spot. I have seen indications or suggestion of this in other specimens but in none others examined has it been entire and pronounced. Specimens from Camps 1 and 11. Reported nesting at Red Deer by Horsbrough.

140.\* **Zamelodia melanocephala.** BLACK-HEADED GROSBEAK.— Only seen at Camp 11 during August where Young reports it as being not uncommon. Specimens from Camp 11, August 11. Not mentioned by any Red Deer correspondent, probably of more southern distribution.

141.\* **Piranga ludoviciana.** WESTERN Tanager.— Only a few seen by Young at Camp 11, on the Little Sandhill Creek the last of August and first of September. Specimens August 21 and 25. Dippie reports skins and eggs from Red Deer and Horsbrough records nests at the same place.

142. **Progne subis.** PURPLE MARTIN.— Horsbrough records occasional birds between Mirror and Buffalo Lake and nests in rotten stumps near Sylvan Lake but says they are not common. Specimen in Fleming collection.

143.\* **Petrochelidon lunifrons.** CLIFF SWALLOW.— Very abundant along the whole river, nesting in large colonies under the overhangs of cliff ledges. In places the cliff face is covered solidly over many square yards with nests. Not all of these colonies are occupied, and I presume that they are used but a single season and that the colony seeks new location yearly until the old nests gradually weather away and make room for new ones. It was interesting to note that though many colonies seemed to be built in exposed situations, when rain came, all we observed remained dry while the surrounding cliff face was soaked with wet that would have instantly dissolved the frail clay structures. There is obviously more method in their choice of site than is evident on a casual survey. As it was, we noted many colonies that seemed to have been in situ for

several years, illustrating the discrimination of their judgment. In one such colony I found old swallow nests doing new service for House Wrens that had filled them with sticks and were rearing families within them. Rather unexpectedly we found many occupied nests in the immediate vicinity of Duck Hawk and Prairie Falcon eyries. See *antea* plate opp. p. 11. We often found them plastered right up to and on the very ledges so occupied and the swallows coming and going without the slightest hesitation in the presence of the Falcons. So often did we observe this, that it suggested that such vicinities were matters of choice rather than the accident of indifference. Specimens from Camp 2 and 11, none seen after August 11.

144. **Hirundo erythrogastra.** BARN SWALLOW.—Not noted on the upper parts of the river but a few were seen at Camp 6, Tolman's Ferry. At Camp 11, Little Sandhill Creek, Young observed a few each day until September 25. Reported from Red Deer by both Horsbrough and Farley but apparently not common.

145. **Iridoprocne bicolor.** TREE SWALLOW.—But two individuals noted at Camp 1, July 1 and 2. Farley seems to regard it as common and Horsbrough records nests at Buffalo and Haunted Lakes.

148. **Riparia riparia.** BANK SWALLOW.—Seen constantly all the way down the river and at Camp 11, Little Sandhill Creek, until the end of July after which none were noted. They nest in the many banks lining the river. As these are constantly caving in and sliding into the river, great numbers of birds and nests must be annually destroyed. They show less foresight in the choice of nesting sites than do the Cliff Swallows. Horsbrough records only a single nest and Farley refers to but a few. It probably keeps close to the river banks where it is not seen by the general observer.

147. **Bombycilla garrula.** BOHEMIAN WAXWING.—Horsbrough records this species as — "During the summer this species was common throughout the Alix district." He records nests on the authority of Dr. George of Red Deer and Mr. Cook of Buffalo Lake. These observers seem perfectly familiar with the Cedar bird so this rather unexpected record can not be altogether disregarded on the grounds of confusion between similar appearing species.

148.\* **Bombycilla cedrorum.** CEDAR WAXWING.—Fairly common throughout the river. Specimens, Camp 11, July 20 and August 14.

149. **Lanius borealis.** NORTHERN SHRIKE.—Farley notes the Northern Shrike at Camrose in November and December.

150.\* **Lanius ludovicianus.** LOGGERHEAD SHRIKE.—Only seen at Camp 11 where one or perhaps two families were reared and I took a female with accompanying young and later Young took a single adult female. Specimens, July 21 and 28. Only one of these is subspecifically determinable, it has the extensive white rump typical of *L. l. excubitorides*. Farley gives spring dates for the species at both Red Deer and Camrose.

151.\* **Vireosylva olivacea.** RED-EYED VIREO.—Seen fairly con-

stantly all the way down the river but less common below than above where the banks are more wooded. At Camp 11, Young did not meet it until August 20 nor after September 1; and never in any numbers. Specimens from Camps 1, 8 and 11.

152.\* **Vireosylva philadelphia.** PHILADELPHIA VIREO.—Taken at Camps 1 and 3 but not recognized again. At Camp 11, Young saw a few small vireos but no Philadelphias were recognized. At Camp 1, a male and female were taken June 30 and July 3. The abdomens of both showed indications of incubations and doubtless it was an original pair of breeding birds. Horsbrough records a nest at Sylvan Lake he supposes to be of this species.

153.\* **Vireosylva gilva.** WARBLING VIREO.—Small Vireos were not common anywhere on the river. The only ones positively identified by capture proved to be Philadelphias until August 16 when Young took a Warbling at Camp 11 on the Little Sandhill Creek. Occasional specimens were seen that he took to be the same species until September 5. I refer this specimen to *V. g. gilva*.

154.\* **Lanivireo solitarius.** SOLITARY VIREO.—One seen and collected at Camp 11, Little Sandhill Creek, and six were noted the same place, September 1.

155.\* **Mniotilta varia.** BLACK AND WHITE WARBLER.—Only seen at Camp 11, Little Sandhill Creek, between August 13 and September 1. Two specimens taken.

156.\* **Vermivora celata.** ORANGE-CROWNED WARBLER.—One adult male taken at Camp 2. Its song was slightly reminiscent of a wren and I suspect it was nesting nearby. Occasional birds were seen and taken at Camp 11, Little Sandhill Creek, between August 25 and September 17. This specimen is colored light enough for *V. c. orestera*, its size is small for any race but *V. c. lutescens*, under which confiction of characters I prefer to leave its subspecific identity open, together with the four Camp 11 juveniles that accompany it.

157.\* **Vermivora peregrina.** TENNESSEE WARBLER.—Seen at Camp 1, where I suspected it was nesting but received no corroborative evidence other than season and its uneasy actions. Seen for a few days after the middle of August at Camp 11 on the Little Sandhill Creek. Specimens from Camp 1 and 11, August 13, 15 and 21. From Farley's notes this appears to be quite a common species at both Red Deer and Camrose,—at least in spring.

158.\* **Dendroica aestiva.** YELLOW WARBLER.—Not abundant but a few seen at nearly every camp. Not common at Camp 11, Little Sandhill Creek, except from August 9 to September 8 after which they decreased, disappearing altogether September 17. Specimens, Camp 2, 5, 7½, 8 and 11.

159.\* **Dendroica coronata.** MYRTLE WARBLER.—One seen at Camp 2 was the only one observed until August 23 after which they gradually increased in numbers during Young's stay. Specimens from Camp

11, August 23 and September 8 and 18. The first one is in striped juvenile plumage and was probably raised nearby.

160.\* **Dendroica magnolia.** MAGNOLIA WARBLER.—Two seen and taken, September 1, at Camp 11, Little Sandhill Creek.

161.\* **Dendroica striata.** BLACK-POLLED WARBLER.—Only seen at Camp 11, Little Sandhill Creek, August 28 and September 1. Two specimens, the latter date.

162.\* **Dendroica virens.** BLACK-THROATED GREEN WARBLER.—But one seen and collected at Camp 11, Little Sandhill Creek, August 17.

163. **Dendroica palmarum.** PALM WARBLER.—Two birds seen by Young at Camp 11, Little Sandhill Creek, September 1.

164.\* **Seiurus aurocapillus.** OVENBIRD.—Heard nearly every day about Camp 1, but none noted again until Young secured two at Camp 11, Little Sandhill Creek, August 27 and September 1.

165.\* **Seiurus noveboracensis.** NORTHERN WATER-THRUSH.—One or two seen nearly every day the last week in August at Camp 11, Little Sandhill Creek, specimens, August 20 and 21. These are referable to *S. n. notabilis*.

166.\* **Oporoënis philadelphia.** MOURNING WARBLER.—At Camp 1, where warblers were scarce, this was the species most often met with. A mated pair were taken just below Camp 4 near Nevis. In all these birds the abdomen was bare and thickened so they were undoubtedly breeding. Young took another at Camp 11, Little Sandhill Creek, August 17. The male of the Camp 4 pair, is typical *philadelphia* but the female has the eyelid spots as pronounced as in many female Macgillivray's Warblers. It is evident that females of the two species may be difficult of separation. This specimen unaccompanied by its mate would almost unhesitatingly be referred to *O. tolmiei*. The Camp 11 specimen is also interesting. By skull structure it is a juvenile but is very different in coloration from any other specimen in our collection. It is Empire Yellow below warming to Primuline Yellow,<sup>1</sup> instead of Lemon Chrome changing to Sulphur Yellow on neck and throat as is shown by comparable August and September material from Point Pelee, Ontario. However, fall specimens of this species are scarce in collections and I have no fall juveniles of *tolmiei* for comparison and include it under *philadelphia* on the strength of accompanying specimens.

167.\* **Geothlypis trichas.** MARYLAND YELLOW-THROAT.—Sparingly distributed but seen practically throughout the trip and becoming a little more common as we descended. The last week in August they were fairly common at Camp 11 on the Little Sandhill Creek but thinned out after the first of September. Specimens from Camps 4½, 8 and 11. In harmony with the findings of the A. O. U.C. committee as indicated in the 'Check-list,' I am inclined to refer our Canadian prairie Yellow-throats to *occidentalis* rather than to *trichas*, of *brachidactyla*, as some of them have been designated by Oberholser. In fact I find them easily distinguishable from

<sup>1</sup> Ridgway's Color Standards and Nomenclature. 1912.

birds of eastern Canada and almost if not quite inseparable from *B. C.* specimens determined as *arizela* by the same authority. For the present, I prefer to regard these birds as *G. t. occidentalis*.

168.\* **Wilsonia pusilla.** WILSON WARBLER.—Not seen until August 21 at Camp 11 on the Little Sandhill Creek after which one or two were seen every other day until September 18. Specimens, August 21 to September 18. These were well marked *W. p. pileolata*. Some are rather small for this form but the colors are distinctive.

169. **Wilsonia canadensis.** CANADIAN WARBLER.—Reported by Young at Camp 1, but not noted again.

170.\* **Setophaga ruticilla.** REDSTART.—Only seen at Camp 11 on the Little Sandhill Creek between August 26 and September 6. Specimen, Camp 11, August 27.

171.\* **Anthus rubescens.** AMERICAN PIPIT.—Pipits appeared in large flocks on the prairie level near Camp 11, Little Sandhill Creek, September 12, but were not noted after the 17th.

172.\* **Anthus spraguei.** SPRAGUE'S PIPIT.—Only seen once by Young at Camp 11, Little Sandhill Creek, September 13. He says it hid in the holes made by the feet of horses and cattle, allowed close approach, flushing like a grouse. Specimen Camp 11, September 13. From Farley's notes it evidently occurs at Red Deer but is more common in the vicinity of Camrose.

173.\* **Dumetella carolinensis.** CATBIRD.—Fairly common along the whole river. At Camp 11, Little Sandhill Creek, they fed upon Buffalo berries. None were noted after September 7. Specimens, Camp 2 and 11.

174.\* **Toxostoma rufum.** BROWN THRASHER.—Only seen occasionally at Camp 11 on the Little Sandhill Creek. None observed after September 1. Specimen, Camp 11, August 6.

175.\* **Salpinctes obsoletus.** ROCK WREN.—Not seen until we reached Camp 11, on the Little Sandhill Creek. There they appeared fairly common, the greatest numbers being observed about the first of August, when fifteen were noted. The last was observed September 5. Specimens July 20 to 31.

176.\* **Troglodytes aëdon.** HOUSE WREN.—Fairly common everywhere but very shy. I do not think the song of the western birds is such a spontaneous bubbling over as is the case of our eastern ones. It is thinner and more restrained. At Camp 2 we found it occupying old Cliff Swallow nests. Common at Camp 11, Little Sandhill Creek until after the first of September when it gradually became less numerous. Specimens 6, from Camps 1, 8, 11 all *T. a. parkmani*.

177. **Telmatodytes palustris.** LONG-BILLED MARSH WREN.—Farley lists it in May and June at Red Deer and Horsbrough reports numerous nests around Buffalo Lake.

178. **Sitta canadensis.** RED-BREADED NUTHATCH.—About Camp 1, we several times heard Nuthatch voices but were unable to trace them to their origin and we cannot be certain of the species. Young took one at Camp 11 on the Little Sandhill Creek, August 21, feeding on woolly

aphides on the cottonwoods. Neither Farley or Horsbrough report this species in the breeding season though Fleming has Red Deer specimens taken June 10.

179.\* ***Penthestes atricapillus***. BLACK-CAPPED CHICKADEE.—Chickadees were fairly common all along the river. In most cases they seemed to be cruising about in family groups not yet separated. Five specimens all juvenile, from Camps 1, 3, 8 and all have the extreme white feather margins and long tails of *P. a. septentrionalis*.

180. ***Penthestes hudsonicus***. HUDSONIAN CHICKADEE.—Under *P. hudsonicus*, Horsbrough lists this species as a common resident and reports a nest. I have no further records for the vicinity.

181.\* ***Regulus calendula***. RUBY-CROWNED KINGLET.—Occasional birds seen at Camp 11 on the Little Sandhill Creek from the end of August to the end of Young's stay becoming more common latterly. Specimen, Camp 11, August 29.

182.\* ***Hylocichla fuscescens***. WILSON'S THRUSH.—Fairly common as far down the river as Camp 9 below Rosedale Mines. Most of the records are based upon their notes as all thrushes were exceedingly shy. Two specimens, Camp 7½. These are rather more richly colored than other birds from about Edmonton, less olive and more nearly like eastern specimens. I am doubtful as to the exact subspecific status of these specimens but refer them to *H. s. salicicola* with reservations.

183.\* ***Hylocichla ustulata***. OLIVE-BACKED THRUSH.—Thrushes though common enough were very difficult to identify as they were very shy and only fleeting glimpses were caught of them as they slunk away through the brush. One Olive-back was taken at Camp 11, Little Sandhill Creek, September 17. Horsbrough reports nests at Sylvan Lake.

184.\* ***Hylocichla guttata***. HERMIT THRUSH.—For the above reasons I only care to specifically pronounce upon the one bird taken at Camp 11, Little Sandhill Creek, September 22.

185.\* ***Planesticus migratorius***. AMERICAN ROBIN.—Common all along the river. At Camp 11, Little Sandhill Creek, Young says they fed extensively upon Buffalo berries. Specimens, Camp 11, September 7 to 21. Horsbrough refers his birds to the western form *P. m. propinquus*, a rather questionable decision.

186.\* ***Sialia currucoides***. MOUNTAIN BLUEBIRD.—Some Bluebirds glimpsed in the outskirts of the city of Red Deer and whilst driving from the river to Nevis, Camp 4, we attributed to this species. Several times below Camp 4 we noted individuals amongst the eroded cliffs and hills but could not get close enough to identify them satisfactorily. It was not until we reached Camp 11, on the Little Sandhill Creek that the species was certainly recognized. Here we found them common, feeding upon Saskatoon berries, and later according to Young on Buffalo berries. They remained common up to the time he left and he noted a flock of one hundred birds, September 8. Seven specimens Little Sandhill Creek, July 20 to September 8. Both Farley and Horsbrough report it common at Red Deer.



## ADDENDA.

We have received in addition to the specimens already cited the following, collected by Dr. R. M. Anderson, Western Grebe, *Aechmophorus occidentalis*, Dried Meat Lake, near Camrose, September 20, 1918. Horned Grebe, *Colymbus auritus*; Greater and Lesser Yellow-legs, *Totanus melanoleucus* and *T. flavipes*; Ruffed Grouse, *Bonasa umbellus* from Miquelon Lake, near Camrose, September 29, 1918.

The following species and notes should be added to the previous list: 187.\* **Larus philadelphia.** BONAPARTE'S GULL.—Farley reports this species May 1, 1900 at Red Deer and May 13 and 16, 1917 at Camrose. Anderson took a specimen, September 29, 1918 at Miquelon Lake.

(12). **Phalacrocorax auritus.** DOUBLE-CRESTED CORMORANT.—Farley reports that for many years this species bred on Miquelon Lake some 24 miles southeast of Edmonton where Anderson found evidence in September, 1918 of the current year's nesting in the form of nests said to be Cormorant's.

(13). **Pelecanus erythrorhynchos.** WHITE PELICAN.—Said by Farley to have nested in numbers at Miquelon Lake until of late years and it is not known as yet where they have removed to. At the height of their nesting from 300 to 500 nests were to be seen on an island of not three acres extent.

(25). **Clangula clangula.** GOLDENEYE.—Farley reports that for the past eight years Goldeneyes have nested in a blind brick chimney on the R. B. Price house in Camrose, about five feet down. The young clamber up the flue to the top, tumble off and roll down the roof to the ground where they are gathered up and conveyed to the water by human friends, where the mother invariably awaits to receive them. Every spring ducks visit many chimneys in town as if prospecting for nesting sites. My informant queries, "Would these be the young that have remembered a similar nesting home?" The facts suggest the affirmative.

(29). **Chen hyperboreus.** SNOW GOOSE.—Fleming informs me that he has examined the head of one of Horsbrough specimens, probably one of those he cites, and declares it to be the Lesser, *C. h. hyperboreus*.

(35). **Ardea herodias.** GREAT BLUE HERON.—Anderson on an island in Miquelon Lake, September, 1918 found nests of this species together with those of Cormorants on the ground. The specific identity was supplied by Mr. Farley and other good report.

(36). **Grus mexicana.** SANDHILL CRANE.—Farley reports finding a crane nest on Spotted Lake near Buffalo Lake in May 1895. Dr. George of Red Deer also informs me that he took crane eggs on a small pond near Innisfail May 24, 1896. Undoubtedly these were *G. mexicana*.

188. **Grus americana.** WHOOPING CRANE.—Dr. George of Red Deer informs me that he has not seen Whooping Cranes near Red Deer for some years, inferring their former presence but stating that he never found them breeding.

189. **Coturnicops noveboracensis.** YELLOW RAIL.—Mr. Farley says,—“I know of a swamp at Red Deer where a pair nested several years. Their note is just like two stones knocked together quickly. There is also a pair in a swamp just off our farm (Camrose) where I can depend upon hearing them every June.”

(42). **Macrorhamphus griseus.** DOWITCHER.—In the previously published part of the list, *antea*, p. 12, under this species heading I made an unfortunate slip of the pen when I said that Horsbrough ascribes this “probably incorrectly to the western race, *M. g. scolopaceus*.” It should have read “the eastern race, *M. g. griseus*, which makes my implied criticism more intelligible. Fleming sends me measurements of a Buffalo Lake bird, August 1915, which he refers to *griseus* though he says the color characters tend towards *scolopaceus*. I infer from his remarks that this is an adult and not a juvenile bird.

190.\* **Pisobia bairdi.** BAIRD'S SANDPIPER.—We have a specimen taken by Anderson, Many Island Lake, September 18, 1918.

191. **Pelidna alpina.** RED-BACKED SANDPIPER.—Mr. Farley reports “Black-heart Plover” May 11, 1899 at Red Deer. This is an old South Ontario name for this species.

(47). **Bartramia longicauda.** UPLAND PLOVER.—Farley notes that this species is rapidly disappearing from this section, a condition he called attention to in the *Ottawa Naturalist* XXVII, 1913, p. 63. He now lays the blame upon the boys who find it a too easy object of sport through the summer.

(50). **Nunenius longicauda.** LONG-BILLED CURLEW.—Farley substantiates the hypothetical identity of this species reported by Horsbrough and Sternberg, recording it from both Red Deer and Camrose.

(51). **Squatarola squatarola.** BLACK-BELLIED PLOVER.—**Charadrius dominicus.** GOLDEN PLOVER.—J. H. Fleming writes me that he has the specimens that Horsbrough records as Golden Plover and that they prove to be Black-bellies. Thus the Golden should be replaced by the Black-bellied in the authenticated list.

192. **Buteo platypterus.** BROAD-WINGED HAWK.—Fleming informs me he has a specimen, Little Hay Lake, (near Camrose) September 2, 1918.

**Falco rusticolus.** GYRFALCON.—J. H. Fleming tells me he has the specimen reported under this head by Horsbrough which he regards as *rusticolus*.

193. **Aquila chrysaetos.** GOLDEN EAGLE.—Farley reports,—“seen nearly every November at Red Deer.

(78). **Bubo virginianus.** GREAT HORNED OWL.—Sonema, 5th line second paragraph should be “Lousana.”

194. **Nyctea nyctea.** SNOWY OWL.—Farley remarks in letter of November 18, 1918, from Camrose,—“A friend saw a Snowy Owl yesterday,” thus giving evidence for the inclusion of this species of undoubted occurrence.