

Swainson's name *Dendronessa* is available for the Mandarin Duck which, if considered generically distinct, will be known as *Dendronessa galericulata* (Linnaeus).¹

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NOTES ON THE BIRD LIFE OF NORTH DAKOTA WITH PARTICULAR REFERENCE TO THE SUMMER WATERFOWL.

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ITINERARY.

THE following notes were taken by the writer while engaged in official work for the Biological Survey, United States Department of Agriculture, during the period July 2 to August 1, 1921. The trip was made possible through the cooperation of Dr. John C. Phillips, and had as its objective experimental work to determine satisfactory methods for trapping waterfowl for banding purposes.

I arrived at Napoleon, North Dakota, on July 5, and from that date until July 12 made observations and conducted trapping experiments at lakes in the vicinity. On July 12, I went to the town of Turtle Lake, via Bismarck and Underwood, remaining there two days. Leaving that point, my next field of operations was Devils Lake, reached by way of Minot. After examining some of the smaller lakes in the neighborhood, I selected for further operations what is known as Mission Bay, on the south side of Devils Lake, where I camped from July 20 to 27, when I returned to the town of Devils Lake and concluded my activities at Hankinson on the 30th.

The following list of lakes of the Napoleon, Hankinson, Turtle Lake, and Devils Lake regions will simplify future reference to the lakes and sloughs studied:

¹ Most of the older authorities and even Hartert as late as 1915 give *galericulata* as the type of *Aiz.* Dr. Richmond informs me that these writers probably follow Gray who, in 1841, gave that species as the type, but that Eyton in 1838 had already designated *sponsa* as the type of *Aiz.*

Napoleon Region

Dawson Slough
Goose Lake
Isabel Lake
North Napoleon Lake
Pursian Lake
Round Lake
South Napoleon Lake

Hankinson Region

Carters Slough
Elsie Lake
Figges Slough
Gooleys Slough
Knooch Slough
Mud Lake
Swan Lake

Turtle Lake Region

Blue Lake
Brecken Lake
Crooked Lake
Fresh Lake
Kittleson Lake
Leirbo Lake
Long Lake
Nelson Lake
Pelican Lake
Strawberry Lake
Turtle Lake
Williams Lake
Devils Lake Region
Devils Lake (Mission Bay)
Irvin Lake
Lac aux Mortes
Sweetwater Lake

INTRODUCTION.

In affording breeding grounds for the many species of birds that delight in marsh associations, the northern tier of States of the Mississippi and Missouri River drainages rank second to none in the United States. The great importance of this natural wild-life resource has been strongly attested by the sportsmen, naturalists, and conservationists, who have given ample evidence of their beliefs by opposing (at times through court and congressional action) attempts to drain the lakes and marshes of this region. Previous to the agricultural development of this section, waterfowl abounded there during the summer, Ducks and Geese nesting in the marshes and coulees, and in fall every lake was a vertiable paradise for the sportsmen who were attracted there from all parts of the country by the abundance of game birds. It is therefore obvious that great interest attaches to all conditions that affect these natural reservoirs, whether from natural or human causes.

Previous ornithological work in North Dakota, part by representatives of the Biological Survey, had yielded information that

I naturally used in anticipating my own activities. These data¹ had indicated well-filled lakes and sloughs, populated by large numbers of Ducks and other swamp-loving species. Upon arriving on the ground, however, I learned that the two-year period preceding the summer of 1921 had been marked by a drought of unprecedented severity. Considering the fact that most of the lakes and sloughs are dependent solely upon surface water, the inevitable result of drought conditions will be apparent. A few of the deeper lakes fed by underground springs were, of course, the last to feel the effect of drought, although almost all had been conspicuously lowered, as evidenced by the normal shore lines. The deeper lakes, however, do not have the same ornithological interest held by the more shallow, for it is the latter, together with the sloughs and coulees, that support the marsh vegetation so necessary to the presence of wild fowl. The deep lakes seem generally to have sand or gravel bottoms, and reed or cattail areas, if existing at all, are very small. In the vicinity of Napoleon there are a few lakes of this character, while in the more hilly or rolling country in the region of Turtle Lake there are several of the same type, most of which are undoubtedly of glacial origin.

In striking contrast with even the lowered condition of these, was the state of the shallow marshy lakes which in normal times have supported large numbers of waterfowl, but which in 1921 were either vast expanses of alkaline mud with small areas of open water, or were entirely evaporated and their bottoms baked hard by the sun. Goose Lake was a striking example of this extreme of evaporation, and I was told that two years before it was one of the best lakes in the vicinity for Ducks. As I saw it, there was absolutely no water and but few places where the mud was even slightly discolored by moisture. Nelson Lake was in a similar condition, my journal containing the entry under date of July 14 that it "will probably be entirely dry within another week or so."

¹ There are many papers treating the avifauna of Minnesota, Wisconsin, and the Dakotas, but for comparative purposes I have given particular attention to the one by Mr. A. C. Bent, "Nesting Habits of the Anatidae in North Dakota," 'The Auk,' vol. 18, pp. 328-336, 1901, and vol. 19, pp. 1-12 and 165-174, 1902. In the annotated list of species observed, frequent reference will be made to this paper and to "Life Histories of North American Wild Fowl," Bull. 126, U. S. National Museum, by the same author.

The lowered level of Devils Lake, the largest body of water in the State, while without doubt greatly aggravated by the drought, was not due entirely to this cause. Originally this lake was about 30 miles long with a shore line of great irregularity. So large was it, that a steamboat of moderate size made regular trips from the town of Devils Lake to points along the shore. During the past ten years, however, this body of water has been steadily drying up, so that now it is a series of three or four lakes more or less connected by narrow channels, and the present shore line is almost or quite a mile from the point where the steamer used to dock.

Like almost all other lakes in the State, Devils Lake has no outlet and practically no inlet, save for periodic streams that drain the rainfall from a watershed extremely limited in extent. As a consequence, it is more or less alkaline, while in some of the little bays recently cut off from the main bodies of the lake the water is so stagnant that it gives off an almost unbearable odor.

I am not acquainted with the reasons for the steady shrinkage of this large lake, but locally much credence is given to the opinion that it is due to the greatly increased agricultural activity in the vicinity, particularly dry-farming. It is explained that by breaking up the prairie sods the rate of evaporation has been materially increased, and that this has a direct effect on the level of the lake, which is the natural reservoir supplying subsurface moisture. This theory appears entirely plausible to me, and it may also be applied to many other of the shallow prairie lakes. It is a fact that the lakes most seriously affected are those in comparatively level regions where farming is naturally more extensively practiced than in the more hilly country of the deep lakes.

Some of the lakes that were not entirely dry had areas of open water separated from the normal shore line by wide flats of a most deceptive and treacherous nature. I was early warned not to risk the "alkali flats," and found that it was unwise to disregard the warning. The intense summer heat (the thermometer registered over 100° F. for several successive days while I was at Napoleon), without a particle of rainfall, had dried the surface of the mud and baked it to a semblance of solid ground. Beneath this crust, however, it was likely to be semi-liquid and, judging from my own experiences, very deep.

That the conditions found in the localities visited were not local was indicated in a telegram which I received at Napoleon from Mr. T. W. Magill, the owner of Island Lake, near Rolette in the north-central part of the State, where I had expected to find one of the largest concentrations of waterfowl. Finding conditions in the southern part of the State so unsatisfactory for my proposed work, I was tempted to abandon my itinerary and move to the more northern lakes, but before doing so concluded to wire Mr. Magill and make inquiries regarding the conditions in that region. His reply—"No wildfowl breeding Island Lake, neighborhood lakes all dry"—was ample evidence that I was confronted by a situation not likely to be bettered by a change of base.

The character of these lakes and sloughs varies widely, from clear, open prairie lakes with scant bordering vegetation and considerable depth, to dense and solid marshes of rushes (*Scirpus validus* and *S. robustus*), cat-tails (*Typha latifolia*), cane (*Phragmites*, sp.), wild rice (*Zizania aquatica*), and other grasses; or shallow ponds with extensive flats of the adhesive alkaline mud. While practically all the lakes are at least slightly alkaline, some are strongly so; in fact, there is evidence to support current reports that in some lakes the density is such as to cause the salts to be so heavily precipitated upon the feathers of waterfowl as to render flight impossible. This phenomenon is said to occur only at temperatures so low that lakes of lesser alkalinity are freezing or already frozen over.

Scattered cottonwoods (*Populus*) or large willows (*Salix*) are frequently found in the vicinity of some of the lakes, while the shores, particularly the southern shore of Devils Lake, are well wooded. The trees rarely exceed 50 feet in height and, in addition to those mentioned, consist principally of oak (*Quercus*), ash (*Fraxinus*), boxelder (*Acer negundo*), and aspen (*Populus tremuloides*). Among the shrubs, wild plum (*Prunus americana*), choke cherry (*P. virginiana*), and June-berry (*Amelanchier alnifolia*) are conspicuous. In places, rose, raspberry, and other shrubs, together with poison ivy, form almost impenetrable thickets, while the more sandy areas that marked the old beach lines are frequently covered with stiff stalks of a sumac (*Rhus*), or the sticky stems of the rosin-weed. Pondweed (*Potamogeton*) is

common in some lakes, and while of unquestioned value as a food for Ducks it was the cause of much trouble to me in my trapping experiments. Large masses would be drifted by the winds against the wire netting, frequently jamming the funnels of the traps, and on one occasion breaking the supporting stakes and submerging the wire, which became hopelessly entangled with the long strands of the plant.

The foregoing details emphasize the great need of carefully conserving the remaining breeding and feeding grounds of our migratory wild fowl, and show that unavoidable causes alone are likely so to affect a part of them that their value to the birds will be either seriously impaired or entirely destroyed.

LIST OF SPECIES OBSERVED.

As my work was concerned entirely with water birds, the notes on other groups are incidental, but for the sake of completeness are included in the following list:

Colymbus nigricollis californicus. EARED GREBE.—First seen on July 13, when eleven were counted on Blue Lake. Two seen on Lac aux Mortes on July 17, and one, three, and one on Devils Lake, July 22, 23, and 25 respectively. No nests found.

Podilymbus podiceps. PIED-BILLED GREBE.—Seen only on one occasion, a lone adult observed on Crooked Lake on July 14.

Larus argentatus. HERRING GULL.—Two birds, in immature plumage, seen over Round Lake on July 5.

Larus delawarensis. RING-BILLED GULL.—Not common but seen regularly in all regions visited. The largest number observed in any one day was 30 at Crooked Lake on July 14.

Larus franklini. FRANKLIN'S GULL.—Abundant; large numbers seen in all areas, but particularly numerous at Turtle and Devils Lakes. At the latter point there was a large rookery at the west end of the lake. Late in the afternoon, usually about 6:00 o'clock, it was a common sight to see hundreds of these birds over the marshes, feeding "Flycatcher fashion," frequently low enough to nearly touch the grass. Grasshoppers appeared to be the food sought at these times, the birds taking them on the wing.

Sterna forsteri. FORSTER'S TERN.—Not common at any point except Lac aux Mortes, where they were apparently breeding. Singles and pairs were noted in the vicinity of other lakes.

Chlidonias nigra surinamensis. BLACK TERN.—Fairly common for this species; observed in all areas. At South Napoleon Lake on July 6,

a pair attacked me viciously, and I spent considerable time searching for their nest. The birds, however, soon lost interest in my activities and joined 10 or 12 companions that were flying about over the open water. I have had similar experiences with these birds in Colorado and have come to the conclusion that some birds attack merely because they resent intrusion to their domain. Specimens showing white body feathers were noted first at Devils Lake on July 21.

Phalacrocorax a. auritus. DOUBLE-CRESTED CORMORANT.—Seen only at Devils Lake and Lac aux Mortes on July 17 and 18; three were observed on both occasions. I was informed that these birds were at one time common on Devils Lake, and that organized hunts had been carried out to destroy them because of their fish-eating habits. It was claimed that attempts to stock the lake with game fishes were failures because of these birds.

Pelecanus erythrorhynchos. WHITE PELICAN.—Seven noted at Turtle Lake on July 13, and eight were seen flying through "the Narrows" at Devils Lake on July 22.

Anas platyrhynchos. MALLARD.—Common. In 1901 Mr. Bent found this a common breeder, although "outnumbered by at least three other species, the Blue-winged Teal, the Pintail, and the Shoveler. My own observations give an entirely different ratio, which may be indicative of the changes that have taken place or of a periodic fluctuation in the relative abundance of different species of somewhat similar habits. On some lakes (notably Devils Lake) the Pintail was a close second to the Mallard, but aside from that species the Mallard outnumbered all others by two to one. Young about three-fourths grown were trapped at South Napoleon Lake on July 9, but females with small downy young were seen as late as July 29. Small ponds and coulees appeared to be favorite resorts for these family parties, as several such groups were seen from the train, the ponds frequently being only a rod or two in length and less than half that breadth. An adult female trapped on July 9 was in such worn plumage that flight was almost impossible.

The few drakes seen early in the month were in full nuptial plumage; by July 20 "piebald" birds were observed and by the 29th the drakes had disappeared entirely, indicating that the moult was at its height at that time.

Chaulelasmus streperus. GADWALL.—Mr. Bent reported that the Gadwall "is not one of the commonest Ducks though we found it fairly abundant in the vicinity of the larger lakes." In the southern part of the State my observations indicated that it was not uncommon during this season, and females with young were seen at Pursian Lake and Dawson Slough. At Devils Lake these birds were rare, although I saw a few at Lac aux Mortes to the north. Ten, seen at Clear Lake, on July 11, were the largest number observed at any one lake.

Mareca americana. BALDPATE.—Decidedly rare; observed on only

two different dates—a lone female at South Napoleon Lake on July 6; two males in a small roadside pond and a female with four half-grown young at Dawson Slough on July 7. At Devils Lake I made a special search for this species but did not positively identify it at any point. In 1901 Mr. Bent found it “breeding abundantly” in this State, no less than 12 nests being found in half an hour on June 15.

Nettion carolinense. GREEN-WINGED TEAL.—Although Mr. Bent reported this Duck as “probably the rarest of the Anatidae breeding in North Dakota,” I had opportunity to observe it on several occasions. Three or four adults were the largest number seen in any one day, and frequently these were male birds. To quote more fully from my notes, “July 7, one female with 9 young surprised while I was working at Dawson Slough; also two males seen together; July 11, two (a pair) seen at Clear Lake; July 18, a few noted at Lac aux Mortes, one male in nuptial plumage; July 23, three females or nearly grown young (probably the latter) seen on Mission Bay at Devils Lake. They did not fly, but took rapidly to the water at my near approach; July 25, one seen on a small coulee near the west end of Devils Lake.”

Querquedula discors. BLUE-WINGED TEAL.—Not uncommon in the southern part of the State, but not seen at all at Devils Lake nor at any other lake in that vicinity. According to Mr. Bent, this was one of the most abundant Ducks on 1901. On July 10, I observed a flock of six that might possibly have been young although it would indicate an early nesting. Among them was, however, a male in full plumage.

Spatula clypeata. SHOVELER.—Rare in the southern, more common in the northern part of the State. No females with broods seen. Males in nuptial plumage still in evidence as late as July 23. (Devils Lake.)

Dafila acuta tzitzihoo. PINTAIL.—As previously stated, the abundance of the Pintail was exceeded only by that of the Mallard and, as stated by Mr. Bent (loc. cit., p. 5), they are among the earliest breeders. Early in the month, in the southern part of the State I saw almost no males, but encountered several females with young. Some of the latter were about half grown by July 10. In the vicinity of Lac aux Mortes and Devils Lake they were even more numerous; four fully fledged young were noted on July 23. On July 25, a flock of about 40 Pintails was observed that was being led by a male in what appeared to be almost complete nuptial plumage. At the lakes near Hankinson this as well as other species was apparently rare; none were seen.

Marila americana. REDHEAD.—Although I worked systematically in several extensive marshes that from former experiences should have been ideal nesting grounds for Redheads, this species was not seen until I arrived at Lac aux Mortes on July 18, when a male and two females were observed. During the week following several were seen on Mission Bay, Devils Lake. No young were seen.

Marila valisineria. CANVASBACK.—In 1901 (loc. cit., p. 10) Mr. Bent

found Canvasbacks breeding in fair numbers in Steele County. My own experience with the species in North Dakota was confined to a single observation, made on July 11, when three adults were seen close to the shore of Clear Lake. That this fine bird has been forced to seek other breeding grounds is also evidenced by Mr. Bent's later statement (Bull. 126, 1923, p. 191) that they have now "largely, if not wholly, disappeared from that region."

Marila affinis. LESSER SCAUP.—Easily the most numerous of the Fuligulinae but hardly common anywhere. A few were seen on some of the deeper lakes in the vicinity of Napoleon and Turtle Lake, but, as Mr. Bent suggests, their center of abundance in North Dakota is in the Devils Lake region. Most of those seen were males, indicating that the females were still incubating, but on a few occasions small flocks were observed that were composed wholly of either adult females or fully fledged young. I did not see any birds that I was willing to refer to *M. marila*, nor did I see any Ring-necked Ducks.

Glaucionetta clangula americana. GOLDEN-EYE.—An adult male in full plumage was observed on one occasion only on Clear Lake in the Napoleon district on July 11. It was associated with a few Mallards and Pintails, among which its characteristic pattern marked it conspicuously.

Erismatura jamaicensis. RUDDY DUCK.—About a dozen individuals were seen, half of which were included in a flock seen on July 25 at Devils Lake, and were unquestionably a pair with their young. All others noted were solitary birds.

Branta c. canadensis. CANADA GOOSE.—Three birds were seen on Lac aux Mortes on July 18. They were so far out on the lake that they could be discerned only with the aid of field glasses.

Botaurus lentiginosus. BITTERN.—One was seen from the train near Braddock on July 12, and two others were noted on July 29 in the vicinity of Hankinson.

Ardea h. herodias. GREAT BLUE HERON.—Seen only in the Hankinson region, where eight were observed at Carters Slough on July 29.

Nycticorax n. naevius. BLACK-CROWNED NIGHT HERON.—Not common. Seen near Napoleon and at Devils Lake. About half of those noted were immature.

Porzana carolina. SORA.—Two were heard in Dawson Slough on July 7.

Fulica americana. COOT.—The only waterfowl that could be called plentiful. A few were found on almost every lake and slough, while the larger lakes supported large numbers. Young of all sizes were seen as early as July 5. The general unsatisfactory condition of the breeding areas appeared to have very little effect on the abundance of this species.

Steganopus tricolor. WILSON'S PHALAROPE.—Fairly common in all sections that were visited. Almost no females were seen, but a "reception committee" of males was frequently in attendance while I was examin-

ing some lake or slough. Two young, practically full grown, were seen at Clear Lake on July 11.

Recurvirostra americana. AVOCET.—A few seen at almost every lake in the vicinity of Napoleon and Turtle Lake. At Devils Lake, however, they were scarce. On July 7, while in the neighborhood of Pursian Lake, a pair were encountered near a road that led across open prairie country. Their actions indicated a nest close by and when I stopped the car one bird alighted in the road not 10 feet in front, while the other, screaming and flying around me in small circles, made repeated dives toward the car, "zooming" off after each attack. Some of the lakes were so shallow that these long-legged birds were able to wade entirely across.

Himantopus mexicanus. BLACK-NECKED STILT.—Observed only on one occasion; a solitary bird seen at Gooleys Slough with a small flock of *Totanus flavipes*, on July 29.

Micropalama himantopus. STILT SANDPIPER.—Seen once, a single bird on the drying mud flats of Nelsons Lake, on July 14.

Pisobia sp.? SANDPIPER.—Small Sandpipers (probably *P. minutilla*) were observed in large flocks on several occasions. On July 25, my notes state that they were very abundant on the mud flats at the west end of Devils Lake, and on the 29th "several hundred" were seen on Carters and Gooleys Sloughs, near Hankinson. Time was not taken to ascertain the identity of these birds, but on the occasion last mentioned I recorded my belief that both *Pisobia* and *Ereunetes* were represented, which, if correct, meant *E. pusillus* and possibly *E. mauri* in addition to *P. minutilla*,

Limosa fedoa. MARBLED GODWIT.—A single bird seen near Napoleon on July 7 and four at Blue Lake on the 13th.

Totanus flavipes. YELLOW-LEGS.—Common at most of the lakes visited until July 25, at which time I was camped on the shore of Mission Bay, Devils Lake. After that date only a few were noted each day.

Catoptrophorus semipalmatus inornatus. WESTERN WILLET.—Fairly common in all regions visited. Noted as solitary birds, pairs, and flocks of three to eight. I observed no evidence of their breeding, although they were noisy, as is usual with this species.

Bartramia longicauda. UPLAND PLOVER.—It was a pleasure to meet and to hear again these old friends of the Colorado prairies. They were not numerous, although on July 10 I saw 8 or 10 in the Turtle Lake region. When flushed, they would be almost certain to alight on a fence post if such a vantage point was in their "territory." Not seen at all in the vicinity of Devils Lake or Hankinson.

Actitis macularia. SPOTTED SANDPIPER.—Rather rare. The first one seen was at Crooked Lake, on July 14. On the 24th one was observed near my trap at Devils Lake, and the following day a pair with three grown young were in the same neighborhood.

Numenius americanus. LONG-BILLED CURLEW.—Seen on two occasions only—a single bird at South Napoleon Lake on July 5, and two observed near Crooked Lake on the 14th.

Oxyechus vociferus. KILLDEER.—In the Napoleon and Turtle Lake regions Killdeers were plentiful, being found at every lake. At Devils Lake they were uncommon and in the vicinity of Hankinson were not seen at all.

Charadrius semipalmatus. SEMIPALMATED PLOVER.—Not seen by me, but while visiting the State Biological Station at Devils Lake on July 19 I met Mr. Norman A. Wood, who had secured on that day a fully fledged young bird of this species, which I was able to examine.

Podasocys montanus. MOUNTAIN PLOVER.—Seen once, near Carters Slough, on July 29. This bird certainly had a nest or young in the vicinity, as it was exceptionally fearless and repeatedly allowed me to approach within 10 feet before making a short flight.

Tympanuchus americanus. PRAIRIE CHICKEN.—Common in the Napoleon and Turtle Lake regions. The successive dry seasons had benefited this species, and several hens with large broods of chicks were noted. Such birds were foolishly tame, although the young, about the size of Quail, were able to fly strongly.

Pedioecetes phasianellus campestris. PRAIRIE SHARP-TAILED GROUSE.—Not seen until I reached Turtle Lake, but in that vicinity they were almost as common as the Prairie Chickens. In the neighborhood of Devils Lake they appeared to replace the Chickens entirely as the ecological conditions were more to their liking. They were usually flushed from growths of sumac or rosin-weed (*Silphium laciniatum*). Three specimens, an adult and two half-grown young, were taken that had been feeding on grasshoppers, June berries (*Amelanchier*), and the pitchy buds and flowers of the rosin-weed.¹

Zenaidura macroura carolinensis. MOURNING DOVE.—Plentiful except in the vicinity of Devils Lake, where only a few were seen.

Circus hudsonius. MARSH HAWK.—Raptors were seen in the vicinity of Napoleon, Turtle Lake, and Devils Lake; they were not common in any region visited, but Marsh Hawks outnumbered all others. On July 6, I found a nest with four nearly fledged young in the practically dry marsh at the north end of South Napoleon Lake. The female bird maintained a persistent offensive against my presence, at times diving to within ten or fifteen yards of my head. On the 11th I saw one carrying a Ground Squirrel (*Citellus*).

Buteo borealis calurus. WESTERN RED-TAIL.—A fine adult seen July 24 near Devils Lake and two in the same area on the following day.

Buteo borealis krideri. KRIDER'S HAWK.—The finest specimen of this race that I have ever observed was noted near Napoleon on July 11. It was perched on a fence post near the road and allowed the machine to approach within 20 or 30 feet before taking flight.

Buteo swainsoni. SWAINSON'S HAWK.—On July 25, I examined the

¹ Lincoln, Frederick C. "A Note on the Food Habits of the Sharp-tailed Grouse (*Pedioecetes p. campestris*)", Proc. Biol. Soc. of Washington, vol. 36, p. 200, 1923.

remains of a specimen of this Hawk that had been wantonly killed by a hunter and left where it fell beside a fence row.

Cerchneis s. sparverius. SPARROW HAWK.—Noted twice near Devils Lake and once near Hankinson.

Asio flammeus. SHORT-EARED OWL.—A few seen. On July 15, while en route between Underwood and Minot, an adult and four nearly grown young were flushed by the train from between the rails where they had apparently been enjoying a sun bath. An adult, observed near Lac aux Mortes on the 18th, when flushed a second time flew high and was still in the air, circling at a considerable altitude, when I left the vicinity several minutes later.

Speotyto cunicularia hypogaea. BURROWING OWL.—Several were seen in the Napoleon region. Always solitary; no sign of the colony group which is a character of the "dog-towns" of the west. Also seen near Turtle Lake on July 14.

Dryobates pubescens medianus. DOWNY WOODPECKER.—Noted on one occasion only; a single bird observed near my camp at Devils Lake on July 26.

Colaptes auratus luteus. NORTHERN FLICKER.—Common among the oaks and box elders that mark the old shore line of Devils Lake.

Chordeiles virginianus sennetti. SENNETT'S NIGHTHAWK.—Observed commonly until July 20, when they became scarce. A few observed subsequent to that date, most of which were moving southward, generally at high altitudes.

Chaetura pelagica. CHIMNEY SWIFT.—A few seen at Minot, July 16, and at the town of Devils Lake on the 17th.

Tyrannus tyrannus. KINGBIRD.—Common in all sections. A nest with four half-grown young was found near Napoleon on July 6. It was in a cuplike cavity in the top of a fence post close to the railroad. On July 20 I watched a Kingbird attack a Hawk and saw it alight on the back of the larger bird, to be carried 40 to 50 yards before again taking flight.

Tyrannus verticalis. ARKANSAS KINGBIRD.—In some localities (notably near Devils Lake) this species was almost as common as *T. tyrannus*. Always found around buildings or trees, while *tyrannus* was frequently noted along fences on the open prairie.

Empidonax t. tralli. TRAILL'S FLYCATCHER.—In the neighborhood of my camp at Devils Lake this species was not uncommon.

Otocoris alpestris praticola. PRAIRIE HORNED LARK.—Fairly common in the Napoleon and Turtle Lake regions but much less so around Devils Lake and Hankinson. No specimens were taken and in referring the *Otocoris* seen to this race, I do so on geographic grounds only.

Corvus b. brachyrhynchos. CROW.—Observed only in the vicinity of Devils Lake and from the train while near Minot. In the neighborhood of my camp at Mission Bay I found Crows surprisingly bold and audacious, deliberately following me and cawing while within easy range. One killed while thus engaged proved to be a young bird fully fledged.

Dolichonyx oryzivorus. BOBOLINK.—Common locally over much of the territory visited. There was a small colony nesting near North Napoleon Lake in a rank growth of milkweed (*Asclepias*), and while watching them on July 10 I observed a curious performance. On several occasions the males would flock together as at a prearranged signal, fly rapidly from the field in close formation for a considerable distance, and then scatter like the fragments of a bursting shell, each bird turning about and returning in a leisurely fashion to his own part of the cover. The females were no doubt incubating, as I was able to flush only two or three.

Molothrus a. ater. COWBIRD.—Common both along the roads on the open prairies and in the vicinity of the marshes, especially those that are more or less meadowlike.

Xanthocephalus xanthocephalus. YELLOW-HEADED BLACKBIRD.—Common in practically every marsh visited.

Agelaius p. fortis. THICK-BILLED REDWING.—Plentiful everywhere. When I arrived at Napoleon on July 5 the young birds were already flying, and small flocks were gathering together.

Sturnella neglecta. WESTERN MEADOWLARK.—Plentiful. One of the most numerous land birds. Large numbers of half-grown young were seen. They had almost ceased to sing by the last of the month.

Icterus galbula. BALTIMORE ORIOLE.—Noted only at Devils Lake where it was common. Two broods of young were seen on July 17, in one instance being fed by a highly colored male.

Euphagus cyanocephalus. BREWER'S BLACKBIRD.—Common. A flock of 15 or 20 individuals was seen in a newly plowed field near Fargo on July 28, most of the others noted were single birds or pairs.

Quiscalus quiscula aeneus. BRONZED GRACKLE.—A few birds were seen at Devils Lake on July 25 and others in the town of Hankinson, on the 29th.

Astragalinus t. tristis. GOLDFINCH.—Plentiful around Mission Bay at Devils Lake. A few were seen near Hankinson.

Calcarius ornatus. CHESTNUT-COLLARED LONGSPUR.—Without question the most abundant land bird in the prairie regions. Males were still singing and in full nuptial plumage on July 10, although more than half of the birds that were seen in the course of a day were full-grown young.

Poocetes gramineus confinis. WESTERN VESPER SPARROW.—Common; mostly seen, as is usual, along the fences and roads.

Passerculus sandwichensis nevadensis. NEVADA SAVANNAH SPARROW.—I was anxious to gain experience with *Ammodramus bairdi* on its breeding grounds, as I had only collected it while on migration, and accordingly made several special searches with this end in view, all of which were unsuccessful. I did, however, on July 10, discover a breeding colony of this race near Napoleon and obtained several specimens. The ground was not marshy although grown up in high grass. The males were in song and were extremely solicitous of the females. The actions of these birds

did not strongly remind me of *P. s. alaudinus*, with which I am most familiar. They were not nearly so ready to drop into the grass and hide. Wing shooting was, however, necessary in order to procure specimens.

Ammodramus savannarum bimaculatus. WESTERN GRASSHOPPER SPARROW.—Not uncommon and I am sure that they were nesting in the weed patches, particularly along the railroads. One specimen secured.

Spizella pallida. CLAY-COLORED SPARROW.—Common in the vicinity of Devils Lake, showing a special preference for the areas covered with sumac.

Spiza americana. DICKCISSEL.—Two seen near Napoleon on July 6.

Calamospiza melanocorys. LARK BUNTING.—There was a small colony close to the town of Napoleon, but they were not noted in any other area in that vicinity. They were, however, fairly common near Turtle Lake on July 13.

Progne s. subis. PURPLE MARTIN.—About a dozen were noted in the town of Devils Lake on July 17, and a few were observed flying over Mission Bay on the 27th.

Petrochelidon l. lunifrons. CLIFF SWALLOW.—A few were seen around a farmhouse near Clear Lake on July 11.

Hirundo erythrogastra. BARN SWALLOW.—Not common, but regularly distributed over those portions of the State that were visited.

Riparia riparia. BANK SWALLOW.—In the vicinity of Napoleon a small colony was utilizing the banks (which were not more than three feet high) of a railroad cut. The young were leaving the nests on July 10. Other colonies were seen in other regions, but on July 29, while near Hankinson, I was treated to the sight of a flock that I estimated at 3,000 individuals, mostly young. The dusty road was being employed by the birds for the purpose of a dust bath, and at times for a distance of 25 or 30 yards it was literally a mass of wriggling Swallows. When flushed from the road they alighted so thickly on a telephone wire that it resembled a great string of beads, and for distances of several yards no wire was visible. The bulk of the flock finally took wing and circled steadily upward in a confused and orderless mass until they had gained three or four hundred yards of altitude. They were still circling when I left the vicinity.

Bombycilla cedrorum. CEDAR WAXWING.—Several were observed at Devils Lake on July 22 and 27, and five near Hankinson on the 29th.

Lanius ludovicianus excubitorides. WHITE-RUMPED SHRIKE.—Six specimens that were seen near Lac aux Mortes on July 18 were, in all probability, a family party. A single bird was seen near Devils Lake on July 27.

Dendroica a. aestiva. YELLOW WARBLER.—Plentiful in the neighborhood of Devils Lake. This was the only Warbler that was seen.

Dumetella carolinensis. CATBIRD.—Common in the thickets around Devils Lake.

Toxostoma rufum. BROWN THRASHER.—Not common. A few seen near Turtle Lake and a few others at Devils Lake.

Troglodytes aëdon parkmani. WESTERN HOUSE WREN.—Seen only around Devils Lake and not commonly there.

Telmatodytes palustris iliacus. PRAIRIE MARSH WREN.—Plentiful in the marsh at South Napoleon Lake. At least 50 or 60 nests were found, none of which appeared to be "dummies." Heard singing in the tules at Lac aux Mortes.

Planesticus migratorius propinquus. WESTERN ROBIN.—Not common at any point that I visited. Almost all that were seen were in the towns.

Biological Survey, Washington, D. C.

SOME SUMMER BIRDS OF LAKE OWEN, BAYFIELD COUNTY, WISCONSIN.

BY A. W. SCHORGER.

LAKE OWEN is a narrow and irregular body of water with a maximum length of six and one-fourth miles. It is about 25 miles from Lake Superior into which it drains. The shores are in general high and thickly covered with young timber to the water's edge. The country is hilly, gravel and sand having a large part in the composition of the soil. Sphagnum bogs representing lakes, extinct or approaching extinction, are common. This region was once covered by a coniferous forest of white pine, red pine and hemlock; as usual following lumbering a heavy growth of aspen, white birch, and maple has resulted except where fires have been of frequent occurrence. Along the roads there are numerous small farms.

The data given below were obtained during two brief periods, July 3-10, 1920 and June 9-20, 1923. The failure to find such common species as the Yellow Warbler, Field Sparrow, and Savannah Sparrow was unexpected. Dr. H. H. T. Jackson wrote me under date of September 13, 1921, that he had found the Olive-sided Flycatcher (*Nuttallornis borealis*) quite plentiful two years before at Lake Namekagon, which is about ten miles to the east but I was unable to find this species at Lake Owen.