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## MISCELLANEOUS BIRD NOTES FROM MONTANA

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WITH TWO ILLUSTRATIONS

**D**URING the spring of 1921, from May 14 to June 5, the writer was occasionally afield in the vicinity of Great Falls, Montana, and much more extensively so in the Little Belt Mountains, about fifty-five miles southeasterly from that city. Great Falls is situated on the Missouri River where the stream debouches from the Rocky Mountains into a broad, inter-mountain valley, at this point approximately 3300 feet above the sea. The valley bottom is treeless except along water courses, and a considerable portion of it is under cultivation.

The section of the mountains visited lay on and near the head-waters of two or three small torrential streams flowing into Belt Creek near Neihart; in particular, Carpenter Creek, which drains the north slope of "Neihart Baldy", a mountain about 8000 feet high. Barring narrow strips along streams occupied by a small deciduous growth, and occasional "mountain parks", this area is almost completely covered with lodge-pole pines, nearly all ten to twenty years old, in most places replacing an older growth of heavy timber of the same species, largely destroyed by fire.

Much of this mountain country was still covered with snow on May 14, and on June 5 snow was still present as drifts on northerly slopes of peaks and ridges occurring at elevations of over 7000 feet. The region visited during this period has an elevation ranging from 5500 to 7300 feet. My visit was therefore fortunate in the matters of time of year and snow conditions, to witness the gradual coming of the birds that visit these somewhat isolated mountains for nesting purposes or pass through them in migration.

Such notes as follow were made incidentally, in connection with other field work in the region mentioned above, and are given in part to show arrival dates for some species and the breeding distribution of others as affected by elevation. The order given follows the American Ornithologists' Union *Check-List*, third edition.

**Actitis macularia.** Spotted Sandpiper. Two seen near Neihart at a small pond on Belt Creek, May 29, at an elevation of 5700 feet. Here a courtship performance was witnessed. One of the birds, judged to be a male, was seen standing on a long, inclined timber, while another, presumed to be a female, red close by along the shore. The male first walked the length of the timber and then flew to another one, where he depressed and spread his tail, and, without teetering, stalked slowly along its entire length, with head bent low. Quiet-water shores are favored by this species and there are accordingly few that summer along this turbulent stream.

**Ceryle alcyon.** Belted Kingfisher. Just one seen, May 18, on Carpenter Creek near a beaver dam. The species is scarce here in summer on account of lack of suitable fishing grounds.

**Dryobates villosus monticola.** Rocky Mountain Hairy Woodpecker. A pair was encountered at 7200 feet in a stand of dead timber. The race was readily recognized by its unspotted wing coverts and tertials. Birds were courting. I watched one preen its feathers for some five minutes while standing vertically on a tree trunk, and it did a very thorough job, most of the back, tail, wings and under parts being gone over, the throat and head receiving a vigorous scratching in lieu of treatment with the mandibles.

**Phalaenoptilus nuttalli nuttalli.** Poor-will. Two were met with on May 26, in small, thickly-growing pines at an elevation of 6800 feet. No doubt just arrived.

**Tyrannus tyrannus.** Kingbird. First one seen June 5, in Missouri River valley near Great Falls. This species was not found above 3400 feet and was confined to rather open country near wooded streams.

**Cyanocitta stelleri annectens.** Black-headed Jay. Identification was based on the published range of this race. Found on May 14 in small lodge-pole pines at an elevation of 5400 feet, probably nesting. Its squeal, like the Red-tailed Hawk, deceived me completely. As I entered the pinery the jay, presumably a male, flew about very excitedly uttering a variety of reproachful notes and among them was the cry of the Red-tail. I could not help wondering if, as is generally believed, this cry is really an imitation of the hawk's, whether it were not being used in an attempt to drive me away as a presumed enemy in hopes of saving its nest from attack, the jays having learned by experience that some of their enemies, such as the pine squirrel, when about to rob their nests, are occasionally frightened away or captured by this hawk.

**Icterus bullocki.** Bullock Oriole. A mated pair seen June 5 in Great Falls Park, the male in first nuptial plumage. Not present here June 1.

**Carpodacus cassinii.** Cassin Purple Finch. Observed range from 5600 to 7300 feet. Not yet nesting (June 1). Abundant.

**Junco hyemalis mearnsi.** Pink-sided Junco. From May 18 to June 4 found ranging from 5600 to 7300 feet. Not yet nesting. Very plentiful.

**Melospiza lincolni lincolni.** Lincoln Sparrow. One male arrived May 26. Sang for hours from a group of small aspens at an elevation of 6000 feet. Appeared to have selected his nesting area.

**Calamospiza melanocorys.** Lark Bunting. This species arrived in the Missouri valley between Great Falls and the village of Belt on May 17, in large flocks composed of both sexes in nuptial plumage. The birds generally remained in flocks at least up to the first of June.

On May 31 as I left the train at Gerber, which is merely a junction point in the Missouri valley (elevation 3376 feet) at 4 P. M., during a slight drizzle, I was welcomed by (to me) an unusual bird chorus, a veritable carnival of song. Western Robins, Red-winged Blackbirds (presumably *Agelaius phoeniceus fortis*), and Western Meadowlarks sang from telegraph poles, the fence posts were capped by singing western Vesper Sparrows and Song Sparrows, while all about the station in every direction, first here and then there, often in a dozen places at once, Lark Buntings shot into the air, usually from the ground, as though propelled from guns, pouring out the most direct and passionate song, perhaps, sung by any bird in the United States. This song is far from simple and its opening alto notes give it a noticeable richness. Within one hundred feet of the station on this occasion there were at least a hundred singing males, and with them there were, no doubt, a similar number of silent and inconspicuous females feeding on the ground. If the females were impressed by the singing, or were even aware of it, their behavior did not indicate it.

In one weedy field I counted twenty singing males. They sing while resting on the ground, on weeds, or on fence posts, but commonly the song begins as a bird leaves the ground, moving directly upward at an angle of about 90° to a height of ten to thirty feet and occasionally higher. The descent is slower, usually indirect and more gradual, the song culminating as the bird again comes to rest on the ground or on a fence post. The flight song appears not to differ from the perch song except in the matter of speed, the former being given more rapidly. Very frequently these flights, which are doubtless courtship performances, are accompanied by unusual wing motions. Sometimes the wings are set at the apex of the flight and are often upturned over the back in an acute V, after the habit of McCown Longspurs, with which the Lark Buntings are often associated during such exhibitions, the wings being slowly lowered as they glide or float to the ground. At other times, in place of setting the wings, the birds fly downward, the wing strokes not being perfectly synchronized, giving the birds a rocking motion. This alternation of wing strokes, which is only practised during flight singing, is often at a maximum, namely, when one wing is at the top of its describing arc and the other is at the bottom of its arc. J. A. Allen (in Coues, Birds of the Northwest, p. 164) has apparently called attention to a phase of this phenomenon, describing it as a "peculiar flapping of the wings," and Dr. Townsend (Auk, vol. 29, 1912, p. 286) points out that the Chimney Swift regularly flies in this manner, and that some very young birds (nestlings), crows and grackles being examples, swim by alternate wing strokes if placed in water. The explanation is given that this method of propulsion is primitive, and, according to evolutionary law, is still exhibited by very young birds of many species.

F. H. Allen (Auk, vol. 36, 1919, pp. 528-536) has advanced the theory that the ecstatic mating song is an elaborated older song, one which has been evolved from the perch song. Nevertheless flight songs often contain even more primitive sounds, such as call notes, and it is interesting to note that alternate wing motion in birds, which is a survival of the alternate leg motion of their reptilian ancestors, is still occasionally practiced by Lark Buntings during their flight singing.

The Lark Bunting's song, in common with that of most birds, has been

variously described, but not all such differences in descriptions are due to the personal equation, for birds have an exasperating way of singing unusual songs to the confusion of the bird student. J. A. Allen (Bull. Mus. Comp. Zool., vol. 3, 1871-76, p. 137) says of this species: "Its notes are so similar to those of the Chat (*Icteria v. virens*) as to be scarcely distinguishable from them." I did not observe this similarity, my note book reading: "Their song begins with rich, low, whistled notes followed by trills and other whistled notes, higher-pitched than the opening ones, very similar to certain portions of a Canary's song, alternating with other notes suggesting the bubbling song of the Long-billed Marsh Wren and ending as the bird alights, with a fine trill of an exceedingly high pitch."

As I have stated, this species arrived in flocks on May 17 and the birds were still in flocks on June 1, but by June 5 the dispersal to their nesting areas had taken place. Allen (*loc. cit.*, p. 137) noted that they appeared to nest in colonies about Fort Hays, Kansas. Around Great Falls this tendency was marked, five or six pairs nesting so near together that the males often sang from a series of fence posts at the same time.

The species nested rather locally all over this section of the Missouri valley, up to, but not in, the wooded foothills of the Rockies (elevation approximately 3600 feet). They are birds of the open prairie, selecting nesting sites in weedy tracts, under thick cover of tumble weed (*Cycloloma atriplicifolium*) accumulated by the wind against some obstruction, usually a wire fence, or even under a single plant of this species over-turned on the prairie. Nest-building begins during the last days of May, and a completed nest was found on June 1 which contained three eggs on June 4. This nest was built entirely of grass and, as is customary, was placed on the ground with its rim flush with the surface, the inside diameter being two and one-quarter inches, and the depth the same.

The appearance of Lark Buntings in great abundance about Great Falls in the spring of 1921 was heralded by people generally thereabouts as a harbinger of good crops, for the birds are stated to have been very infrequent in this section of the state for years during seasons of bad crops. They are locally called "Bobolinks".

**Vireosylva gilva swainsoni.** Western Warbling Vireo. First met with June 3 at Armington, along the foothills of the Little Belt Mountains, elevation 3500 feet.

**Vermivora celata celata.** Orange-crowned Warbler. This warbler does not appear to have received much attention at the hands of ornithologists, particularly in the matter of its song. It was my good fortune to find two of this race, both males, on their nesting grounds about the time of their arrival, namely, May 17. The region selected by them was a wooded, triangular ridge, lying between two mountain streams, sloping easterly (thus being early freed from snow), at an elevation of 5600 feet. Small willows and aspens, ten to twenty feet high, covered the ridge and grew for several hundred feet in every direction along the mountain slope, and about the blossoms of the former the warblers were searching for their insect food.

Each bird had apparently selected his "general nesting site", or nesting area, and these were about 500 feet apart. Both birds sang at short intervals for the five hours they were under observation; one confined its singing and

feeding to a small tract not over forty feet across, and appeared not to visit or be visited by a mate. An effort was made to learn if the birds were in fact mated or that nesting had already begun, but no evidence of either was found. I believe that they were fresh from their winter quarters, that they had selected the general site for their nests and were awaiting the arrival of the females, after the manner of Red-winged Blackbirds and other species. This race arrives on the average at Columbia Falls, Montana, May 5, and at Aweme, Manitoba, May 7.

The birds commonly procured their food from two to ten feet from the ground. They were not excessively active; in fact, for warblers, they were

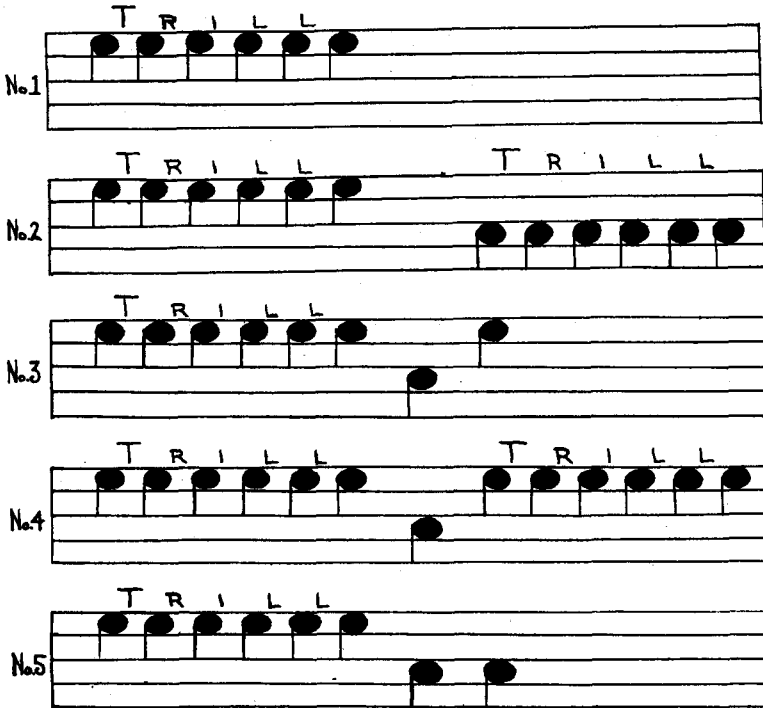


Fig. 29. SONG-FORMS OF THE ORANGE-CROWNED AND LUTESCENT WARB-  
LERS. NUMBERS 1-4, ORANGE-CROWN; NUMBER 5, LUTESCENT WARB-  
LER. THE LAST TWO NOTES OF NUMBER 5 ARE GIVEN WITH AN APPRE-  
CIABLE INTERVAL BETWEEN.

fairly moderate in their movements. The song of one Orange-crown was studied carefully at short range. This bird had a single song subject to four variations, each including at least one trill. Each trill was on a single note, but one variation had two trills about four tones apart, and another had two trills on the same note separated by a lower note. The pitch was near that of the Nashville's song, that is, at about the upper limit of the piano. For this type of song the trills were not given with excessive speed, but the number of notes in each could not be counted with certainty. All the notes appeared to have the same length, the whole having such an exceedingly simple arrange-ment that I am attempting to represent the four variations below, indicating,

however, only their *form* (fig. 29, nos. 1, 2, 3, and 4). The musical staff and notes are used as a matter of convenience and not with the intent of giving the songs in musical notation. If these song-forms prove to be the common ones of the Orange-crown, my hope is that they may assist in identifying the bird in the field, perhaps better, at least with average bird students, unacquainted with music, than by representations of the songs at the hands of a skilled musician.

**Vermivora celata lutescens.** Lutescent Warbler. On the same date that the Orange-crowns were found, and farther up the mountain, about a half a mile away, there was a single bird of this race singing from, and feeding in, thick chaparral near the ground. During the half hour he was under observation he sang but one song which closely resembled the Orange-crown's opening trill (see fig. 29, no. 5), but closing with two lower and slower notes suggesting *sweet-sweet*.

This race is not known to nest as far east as the Rockies and hence was probably migrating; but an isolated singing male at this season suggests that the bird was on its nesting grounds. Some nesting dates elsewhere are: Alameda County, California, April 5; and Tacoma, Washington, May 3-28.

The bird was strikingly colored, of very yellow plumage having an olive cast, and it appeared to be specifically distinct from *celata*. As I examined the bird at short range through a field glass it seemed to me that the two races were nesting here side by side without intergradation.

**Dendroica auduboni.** Audubon Warbler. First appeared at 5600 feet, May 19. Ranges to 7100 feet. Here a mountain species, confining its summer range to the medium-sized lodge-pole pines.

**Regulus calendula calendula.** Ruby-crowned Kinglet. Occasional at elevations of 6400-6600 feet in large conifers along mountain streams. They were heard singing every day, but the song of the eastern bird was in no instance given in full, only its opening notes. The terminal three to four times repeated closing notes, often anglicised as "Look-a-me, look-a-me" etc., in no case were sung. A. A. Saunders (Auk, vol. 36, 1919, pp. 525-528) has written at length on the geographical variation shown in this kinglet's common song, and I am glad to add my testimony to the same effect. Saunders says that the Ruby-crown sings this abbreviated song wherever heard throughout the western half of Montana, an area including the Little Belt Mountains. Bird students who are afield in the Cordilleras, particularly easterners, should map the range of this most interesting and unusual kinglet, which appears to occupy many thousand square miles of territory, and, while not known to differ subspecifically from the eastern bird, yet possesses a less complex song. As the eastern Ruby-crown's song appears to be an elaboration of that sung by the Montana birds, it may be fairly argued on evolutionary grounds that they (and the Pacific Coast races too if their song is indistinguishable from that of the eastern birds) have descended from the Montana birds. Those taking the opposite view will see in the less complex song of the Montana birds evidence of devolution rather than evolution.

**Myadestes townsendi.** Townsend Solitaire. On May 15 my attention was attracted to the Scitaires by hearing them sing as they were migrating north-erly over the mountains as single birds and in pairs. They commonly flew well above the mountains so that identification was made by their songs. A day

or two after this, at an elevation of 7000 feet, a single bird was seen at a little camp belonging to a prospector, consisting of a tent pitched amid scattered pines, with snow all about excepting where the sun had locally exposed the forest floor. A number of men with a pair of horses were working here, felling trees and dragging logs, when the Solitaire alighted close to us on the ground, flying from a perch on the top of a tall pine, where he had been singing. I was able to approach within fifteen feet of the bird when he flew, ascending above the pines in little curved flights first to the left and then to the right as if confused, or uncertain where he wished to go. Later, this peculiarity was found to be much elaborated as an accompaniment to the flight singing of the species, used both in ascending and descending. A number of times on this date a Solitaire could be heard singing high in the air and well above us up the mountain, and sometimes it could be seen coming down the steep slope just over the trees with great velocity, alighting suddenly on a tree top, when he would again burst into song. On May 24 I witnessed the beginning of a song-flight, no doubt a courtship performance, of which the precipi-

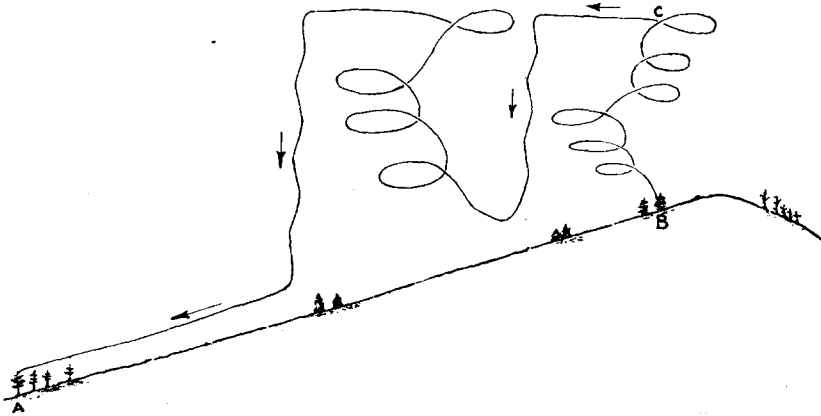


Fig. 30. DIAGRAM OF SONG-FLIGHT OF THE TOWNSEND SOLITAIRE. A-B, 1420 FEET; B-C, 500 FEET. ELEVATION OF RIDGE (B), 7300 FEET.

tate descent over the tree tops just described is the termination, although at that time the birds appeared to have mated.

I was standing on a nearly treeless ridge, at an elevation of 7300 feet, when a Solitaire which was singing close by on a stunted pine, flew upward in two series of irregular spirals. The first series was made by circling to the left, and the second series by circling to the right, as shown diagrammatically in figure 30. By this method the bird mounted to a height of perhaps 500 feet, singing at intervals. Then he started off as though to leave the vicinity, when, suddenly and with astonishing velocity, he plunged downward, apparently with set wings, in a succession of steeply-pitched zigzags, almost to the ground, and then turned abruptly upward again in a second series of spirals of the same character, which ended in another zigzag drop of at least 700 feet when he disappeared down the slope.

A little time afterwards the bird reappeared and joined a second one in a group of fire-killed pines standing in deep snow accumulated on the lee slope of the ridge. The pair sat on a dead tree and occasionally dropped to the snow to pick up insects which had become chilled by coming in contact with the cold

surface, acting like a pair of bluebirds. This same afternoon I witnessed again this extraordinary song-flight, which varied only a little from the previous performance. The spirals as before were very irregular in apparent diameter and the angle of the ascent was inconstant. A flight exhibition lasted about two minutes. In the diagram (fig. 30) the symmetry of the spirals is much exaggerated, the actual course of the bird being unknown in detail, but the zigzag lines are not far from accurate. The bird began its song-flight from near the crest of a ridge and ended it with a zigzag drop of 700 feet and a rush down the mountain to a point a quarter of a mile from its place of beginning, only to again burst into song as it alighted on the top of a pine.

On the 20th I ran across a pair of the birds in small, rather open timber, where it was warm and sunny and where the ground was free from snow. The birds did not sing, but were busy searching for food. As before, their bluebird-like method of finding insects was in evidence, and these were pounced upon, whether discerned on the ground or on the sides of tree trunks, or were secured by hovering over some promising spot where one had been discovered. Only one call was heard, a whistled *ick* similar to that made by the Rose-breasted Grosbeak.

Various observers who have written about this species have differed greatly, both as to the character of its song and its seasons of singing. Lack of agreement in describing bird songs is to be expected, as a rule, but the published accounts of the Solitaire's song periods seemingly stamp the species as very abnormal in this respect. The following references are believed to be representative of the many published descriptions:

F. S. Hanford (*Condor*, vol. 19, 1917, p. 14) has apparently been most fortunate in hearing the bird at its best and he thus describes its song: ". . . The feathers of his breast and throat rose with a song that softly echoed the beautiful voices of the brook, the gurgling eddies, the silver tinkle of tiny cascades, and the deep medley of miniature falls. Infinitely fine and sweet was this rendering of mountain music. At times the song of the bird rose above . . . the water in rippling cadences not shrill, but in an infinite number of runs and modulated trills, dying away again and again to low plaintive whispering notes suggestive of tender memories." This song was heard in early spring. Fuertes (*Bird-Lore*, vol. 16, 1914, p. 2) says their song is a "blithe Grosbeak warble, frequently given in lark-like flight." W. L. Dawson (*Condor*, vol. 21, 1919, p. 14) describes it, as sung from a perch, as "broken and fragmentary, and is rendered in a matter-of-fact, passionless way." Williams (*Auk*, vol. 7, 1890, p. 98) records the song as "loud, varied, and Thrush-like, and is uttered as they mount rapidly upward in short zigzag flights to a height far above the pines." Knowlton and Ridgway (*Birds of the World*, p. 672) say its song is a blend of the songs of the Purple Finch, the Wood Thrush and the Winter Wren, this description, however, apparently being taken from Coues' *Birds of the Northwest*, and Coues in turn quotes it from a letter written to him by Trippe.

The writer heard these birds sing nearly every day for two weeks, but in the face of such varving descriptions as given above, he hesitates to add still another to the list. Recognizing, however, that a descriptive account of a complex song will convey little transferable knowledge, I will give my impressions for what they are worth. The perch and flight song of the Solitaire is



distinctly a warble which daily reminded me of the simple song of the Cassin Purple Finch (*Carpodacus cassinii*), a bird heard here at the same time. The flight song is uttered with great rapidity, with a musical range of less than an octave and, in common with many flight songs, the notes are more or less jumbled. Its duration, by repetition, is of unusual length. The perch song is similar, less ecstatic and slower. As the use of the word "warble" is likely to convey a different idea to different people, it may be well to state what I mean by its use, namely, a rapidly-uttered, often repeated succession of notes very slightly accented, and of narrow musical range. In the case of the Warbling Vireo (*Vireo gilvus gilvus*) the different notes and their range may easily be made out, but the Solitaire's flight warble does not permit of any such analysis.

It is perhaps in the matter of the bird's season of singing that writers are mostly at variance. Hanford (*loc. cit.*, p. 13) says: "So rare a singer is the Solitaire that during my mountain rambles, extending over a period of thirteen years, I have heard the song on only five occasions." Gertken (*Auk*, vol. 33, 1916, p. 327) found it singing in Minnesota in December. Trippe, quoted by Coues (*Birds of the Northwest*, pp. 95, 96), says: "In summer and fall its voice is rarely heard; but as winter comes on, and the woods are well-nigh deserted by all save a few Titmice and Nuthatches, it begins to utter occasionally a single bell-like note. . . . Toward the middle and latter part of winter, . . . the Fly-catching Thrush delights to sing;" and farther, "Toward spring, as soon as the other birds begin to sing, it becomes silent." Beckham (*Auk*, vol. 2, 1885, p. 140) also found them entirely silent in Colorado from April 22 to June 1, singing the latter week in September. Coues (*Birds of the Colorado Valley*, p. 47) writes that J. K. Lord heard some twenty Solitaires in song in November at a time when the cold was intense, and Drew (*Bull. Nuttall Orn. Club*, vol. 6, 1881, p. 86) found them singing in Colorado in October.

The Solitaire is thus reported, by the combined testimony of several observers, to be in song, at least at intervals, from September to February inclusive, and by two observers to be silent during the customary singing season. Others, however, including the writer, find the species quite normal in the matter of having the usual spring singing period. It is difficult to account for the reports that this species does not sing during the courting and nesting seasons.

***Hylocichla fuscescens salicicola*.** Willow Thrush. Two birds seen in Great Falls Park, June 1, no doubt recently arrived.

***Hylocichla guttata auduboni*.** Audubon Hermit Thrush. Earliest seen on May 22 in the pineries at 6500 feet elevation. Those familiar with the eastern race will not fail to note the less rufous tail of *auduboni*. They were first heard to sing on June 4 on a steep mountain side. Here their song is heard under the most favorable conditions. I have a feeling of pity for any one who has no ears to hear this master of song: for any one who does not stop and reverently lift his hat as he listens to this anthem singer of the mountains.

*Cambridge, Massachusetts, March 2, 1922.*