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NESTING HABITS OF LECONTE'S SPARROW.

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Plate III.

This weird, mouse-like creature I met in the Red River Valley of Kittson County, Minnesota, on May 27, 1896. Two specimens were taken in a timothy field redeemed from marshy meadow, and swarming at the time with Red-winged Blackbirds, Soras, Western Savanna Sparrows, Wilson's Phalaropes, and Bobolinks, along with the water fowl and other larger birds. I had previously met Leconte's Sparrow, several times, on the prairies of Eastern Kansas. It proved to be abundant during 1896 in the Red River Valley, the season being a wet one. It was especially common along the stretches of willow-dotted meadow prairie, this sort of habitat proving to be its favorite one. Not, however, until the summer of 1897 did I become really familiar with the ways of this most elusive bird. This proved to be the season of its apparent greatest abundance, of late, and most of my time afield was spent in the study of Leconte's Sparrow.

Subsequent seasons have shown that constant and very critical attention must be paid to the habits of this bird if one would become familiar with its summer life. One might, for example, search its familiar haunts day after day during the daytime, at the beginning of the period of its arrival in the North, without detecting the



Fig. 1. NEST OF LECONTE'S SPARROW, SHOWING LOCATION,



Fig. 2. NEST OF LECONTE'S SPARROW, SHOWING STRUCTURE.

slightest evidence of its presence. One must learn just what sort of 'cover' is favored by the bird or he will fail to flush it even with minutest search, as the bird, save during the early and the late hours of the day, even in the height of its courtship, is conspicuously silent. I may state, in illustration of this fact, that I have searched a whole day, on favorable ground, without meeting the bird; while at dusk after starting home, I counted fifteen distinct recurrences of its note along the wayside in going two miles through the meadows.

The date of its springtime arrival, as noted for the past four years, will show how elusive this sparrow is, these dates being April 28, May 12, April 25, and June 2. Probably about the 20th of April, in average seasons, will find A. lecontei at the International Boundary Line. By the 12th of May it has grown common, if it is to become common; and it practically leaves northern Minnesota by the 10th of October, though a few stragglers may be found somewhat later.

Most of its time is spent in the dense dead grass, though it feeds, in the morning and at sunset, where the living grass is scanty. At rare intervals during the day, in breeding time, the male may be seen peering above the grass-tops, as he clings to some slender willow stem, trilling his thin, wiry, yet intensely penetrating and not unmusical r-r-t'-sz-z-z-t; with which laconic, cicada-like note he also greets the rising sun and the closing day. I have detected but two other notes: the sharp and exceedingly shrill tsip which is ceaselessly iterated, at short intervals when an intruder is near the nest, and the love-note which the male bird trills as he balances himself on tremulous wings a dozen feet or so above the ground, impetuously reeling out a dry, creaky ellrec-ellrec-ellrec-ellrec. This note must be rarely indulged in, as I recall having heard it but twice.

Leconte's Sparrow nests where dead grass is thickest. All along the Red River are still wide stretches of prairie, the low-land sections of which abound in lower spots with luxuriant growths of heavier grass and vetch. It is in such places that Leconte's Sparrow breeds. This bird is exceedingly local. Every such bit of meadow as I have described will have its pair of birds; and an expert can repeatedly flush the male, and at times the female.

from this patch at almost any time of day. Few observers can be aware of how persistent is this sparrow in its well-known skulking Repeatedly when driving through these meadow spots, in search for nests, I have caught a glimpse of a Leconte fairly under my buggy wheels; and on dismounting and making a careful search with my hands, have caught perhaps a second sight of the fearless bird only four or five feet away without flushing it. I have never found any indication that this incessant skulking has any exclusive connection with the nesting season. It is this habit which makes the bird so difficult to secure. If one should discover a Leconte's Sparrow perching, as above described, and see him instantly dive into the grass, one must run with all speed to the spot if he wishes to see the bird again. Its flight when flushed is, in the main, short, fitful, and undulating, having characteristics of its own, yet somewhat resembling the flight of the Short-billed Marsh Wren, of whose society Leconte's Sparrow seems to be fairly fond.

There seems a wide range as to the date when nest-building begins, as will appear from the following list of nests found.

- 1. June 5, three eggs, one of Cow-bird; incubation advanced.
- 2. May 30, five eggs; incubation none.
- 3. May 31, four eggs; incubation begun.
- 4. May 31, five eggs; incubation none.
- 5. June 3, three eggs, and one of Cowbird; incubation, trace.
- 6. June 3, five eggs; incubation, trace.
- 7. May 29-June 5, five eggs; incubation four days.
- 8. June 5, one egg, one of Cowbird; soon deserted.
- 9. June 5, five eggs; incubation nearly completed.
- 10. June 9, four young, just hatched; one egg hatching.
- 11. July 6, two dead eggs, one half-grown Cowbird.
- 12. June 5, nest recently deserted; shells of fresh eggs.
- 13. June 5, one egg, fresh; nest deserted.
- 14. June 5, a nest of the previous year, found while investigating a pair of birds that surely had a nest within a few feet. Female apparently sitting.

I should add, regarding nest 5, that the nest was left for photographing on June 3, and that when the nest was taken, July 9, it contained a Cowbird's egg. This, and a previous finding connected with a Towhee's nest, containing three eggs by the

same Cowbird, a fourth being subsequently added after all the eggs had been removed, reflects upon the intelligence of that arrant parasite, which is nowhere more numerous than in the Red River Valley. Three nests of the above, it will be noted, contained eggs of the Cowbird. From this it is fairly clear that the Cowbird must, in many cases at least, find nests for the deposition of her own eggs by persistent searching, backed by a highly developed instinct.

As regards both the nest and the eggs, there are marked points of difference between Leconte's Sparrow and any of its congeners. The normal nest is unique among the nests of Minnesota-breeding sparrows. It would seem to be built, in the main, as follows: where dead and fallen grass is thickest, the bird interweaves dead grasses among the standing stems, thus forming a rude nest. Within this is placed the nest proper; this is an exquisitely neat, well-rounded and deeply-cupped structure, composed uniformly of the very finest grasses. In all but two of the nests noted above, there was a more or less thick covering of fallen dead grass; all the nests except these two were in the lowland. The average nest is placed with the base about eight inches above the ground. One of the lowland nests noted barely touched the ground, however, while the two upland nests were half sunk into the earth, being thus, in situation and surroundings, somewhat like nests of the Western Savanna Sparrow, though somewhat smaller and relatively deeper.

The eggs are usually distinct from those of any other of our northern sparrows. While abnormal eggs are shaped and colored like certain blue-grounded and umber-clouded eggs of the Song Sparrow, the normal eggs of A. lecontei are much more rounded than any eggs allied to them, having, in the main, a ground color strikingly resembling that of a certain type of the eggs of the Yellow-headed Blackbird, being of a mottled bluish-gray tint with few distinct spots. They have, also, the same tendency to dark streaks and hair-lines about the apex that characterize the eggs of that species. There is a marked uniformity in the dimensions of eggs of the same set. In one set the dimensions are $.73 \times .53$; in another, $.69 \times .53$. Others are, $.77 \times .54$, and $.68 \times .55$. One set shows marked differences in size, namely $.65-.71 \times .52-.57$.

The average of 27 specimens is $.715 \times .542$. My tables show a marked uniformity in the shorter, and an equally marked divergence in the longer, diameters.

In coloration, the eggs of the same set show a marked uniformity. This is the more striking since the range of coloration is very great. Set I is most beautiful, its three eggs being so overclouded with a marbling of rich dark brown that the ground color is quite obscured; while set 2, taken the following year, has the ground-color of a clear, pale blue, with exquisite gray-brown stipplings and hair-lines about a very narrow area at the apex.

In brief, normal nests of Leconte's Sparrow are located in dense fallen grass, well concealed, with the bottom about eight inches above the ground; the deep-cupped and remarkably neat nest will generally have a few of the standing stems interwoven with the outer nest material; the eggs are well rounded, as a rule with clear markings, tending to cluster at the apex. Add to these facts the further one that, to one who is familiar with this bird in the hand, there should be no great difficulty in recognizing A. lecontei instantly as it is flushed, identification being not so difficult as we have been led to suppose.

To the fourteen nests here catalogued should be added, probably, a fifteenth. It was located, like the other upland nests noted, near the margin between the meadow and the upland. It was but scantily hidden, and its (small) eggs were, in shape and color, like blue-tinted eggs of the Song Sparrow. The parent was exceptionally wild. Failing to establish identity clearly by flushing, I set a trap which was sprung by the bird. My final attempt to shoot the parent resulted in her flushing at long range and escaping my shot, only to desert the nest. This nest, however, in structure and in size, is undoubtedly referable to this species, as the bird was too small for a Savanna Sparrow. This would give only one fifth of the nests found as upland nests; that sort of location proving thus to be exceptional.

The conditions of the finding of nest r were so novel, yet so characteristic, that one may be pardoned for adding the story here. While crossing, in my buggy, an area of about an acre of prairie that was densely carpeted with heavy grass, laid smoothly down by the snow of the previous winter, my sight was arrested by a

sparrow, flying heavily, with a sort of hovering manner, two hundred feet away. Moving slowly and deviously, as if in search, it soon alighted and ran tortuously on foot for a hundred feet and suddenly disappeared into the dead grass. Driving as close as I dared, to flush the bird, I suddenly caught sight of her sitting on the grass, just back of my rear buggy wheel, and only five feet from me. Thus she sat for fully five seconds. A mat of grass at least two inches thick lay over the nest. There was no visible opening. The wheel had passed within two inches of the eggs.

For the benefit of those who have never seen the young of this sparrow, just from the nest, it may be added, that they have a ground color appreciably paler than that of the parents and of an olive-yellow tinge; while the young-of-the-year, in October, are still paler with a most exquisite hoary bloom over the entire plumage. This bloom fades within a few hours after death.

As regards distribution and relative abundance, a few words may be added. Wherever I have traversed in the region of the Red River Valley, previous to the present season, any haunts favorable to Leconte's Sparrow, I have always found it more or less uniformly distributed. On the contrary, during the season of 1900, which was most exceptionally dry, no birds were seen or heard until June 2; 1 and the only birds found during the entire summer were restricted to some six pairs, all found on an area covering hardly more than a square mile. And the dry weather had, apparently, affected not only the abundance of the bird, but its breeding conditions. Having come to regard this sparrow as an exclusively meadow-and-prairie bird, I was astonished, in October of 1900, to find it in a meadow, among the spruce swamps at Hibbing, a hundred miles northwest of Duluth. Two birds were flushed three times, and perhaps three birds were seen; all within a very narrow area. I am confident that these birds were only migrants. But little that is authentic and circumstantial has as yet been recorded concerning the summer life of Leconte's Sparrow. It now remains for field observers in Minnesota, the Dakotas, Manitoba and Assiniboia to define for us, accurately, the range of this bird's summer home.

¹ Baird's Sparrow, usually abundant in the Red River Valley, was this season entirely absent.