

RANDOM NOTES ON ALASKA SNOW BUNTINGS¹

By G. DALLAS HANNA

WITH TWO PHOTOGRAPHS

FEW places where human beings reside are as destitute of bird life as the treeless Arctic tundras in midwinter. Consequently, those species which have the bravery to fight the elements there have gained a greater respect from the inhabitants than has any summer transient. Even the native Aleuts, Innuits, and Eskimos with hearts of flint are moved to pity when they look out from their comfortable huts upon a tiny bird which is endeavoring to find a few bits of food in a wind-swept dooryard. I have seen them scatter cracker crumbs under such circumstances, apparently only for humane reasons. Such a display of tenderness to a wild creature is so unusual up there that it always attracted my attention and made me wonder what process of reasoning had been used. For these are people who derive pleasure out of torturing and starving a dog that works for them; I have seen children amuse themselves by saturating the feathers of auklets with coal oil and setting them on fire before releasing them. Thus are the contrasts of temperament displayed.

There are few winter resident birds of the tundra. The snow buntings, ptarmigan, ravens, and Arctic owls are the principal ones, but in some places, there are leucostictes and wrens. Of course, where the timber line is close at hand, other species may appear, but the Alaska tundra extends far beyond the belt of trees.

I think those persons who spend the winter season in that region obtain a more vivid and lasting impression of the few birds about them than they do of the countless multitudes which come in the summer. The winter seems comparable to a stroll with your comrade through a quiet woodland, while the summer is like an automobile ride through a busy city thoroughfare. In the latter case, as in the nesting season in the Arctic, the burden of numbers obscures all individuality. It takes a decided effort to concentrate the attention in summer on a single species or a single individual bird. But in winter, there is often not more than one kind to be seen in a week.

The various kinds of snow buntings, usually known up there by the name of "snow bird" or "snow flake", are among the most beautiful of the few species of winter residents. Their white plumage has just enough tinge of rusty color to give them the appearance of cheeriness and warmth. They are usually seen in small flocks and do not hesitate to search for their food about the hamlets and villages. Some people enjoy feeding them just to keep them close by, and they are sometimes trapped for pets, but otherwise they are rarely molested. In captivity, they usually batter away their lives in a few months against the bars of their cages, the vitality required to withstand a winter there out of doors apparently being too great to be confined in a small enclosure.

As springtime draws near and patches of earth and moss begin to show through the blanket of whiteness, the snow buntings change to a darker plumage, and the males begin to deliver their marvelously beautiful song. This

¹Contribution from the California Academy of Sciences.

song cannot be described here, but if the north land ever develops a poet, his task will not be complete until he has sung the exquisite tune. It continues from early spring until late fall after the second brood of young has flown.

During my ten years' residence in Alaska, it was my good fortune to become personally acquainted with all three of the different kinds of snow buntings which inhabit that territory. The resident bird of the mainland (*Plectrophenax nivalis nivalis*), however, was never found in abundance in the Bristol Bay and lower Kuskokwim River districts. Occasionally in winter, small flocks descended to the lowlands and the villages in search of food; they never remained long, but stories were heard many times of their having come on former occasions in flocks of thousands and remaining for weeks. If they remain in those districts in summer to build their nests and rear their young, they escaped my notice entirely. There are many mountains in the region

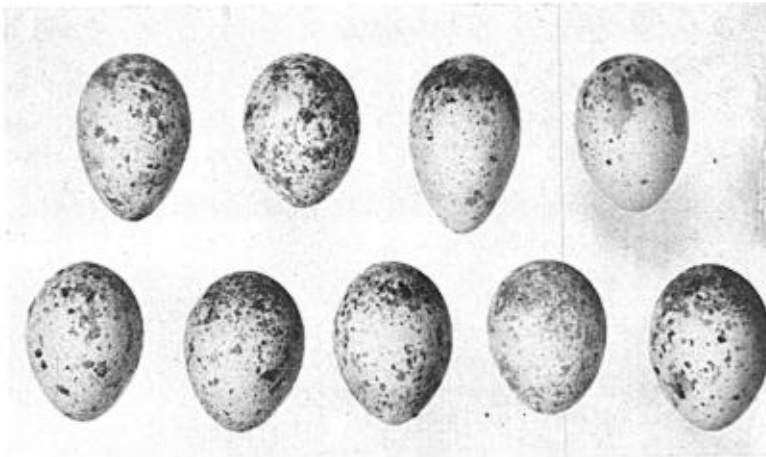


Fig. 22. EGGS OF THE PRIBILOF SNOW BUNTING. ONE SPECIMEN SELECTED FROM EACH OF NINE SETS TO SHOW VARIATION.

which have never been explored and my travels took me to the higher portions of only a very few. Thus, while it is entirely possible that the birds may nest in the coast country between the Alaska Peninsula and the mouth of the Kuskokwim, I have not heard of an authentic record. Many other species, such as eagles, ravens, and magpies, are not regularly found in the same district, although it seems admirably suited to their needs.

The snow buntings do nest on the higher portions of some of the Aleutian Islands, such as Unalaska, where, in May, I have found them building enthusiastically among the rugged spurs of Pyramid Mountain, back of the harbor. In fall and winter, they resort to the lowlands and are often seen and captured in the villages.

On the islands of Bering Sea, the birds have become modified; on the Pribilof or Fur-seal Islands, we find the subspecies, Pribilof Snow Bunting (*Plectrophenax nivalis townsendi*), while on St. Matthew, 200 miles farther north, is found McKay Snow Bunting (*Plectrophenax hyperboreus*). Just why this subspecies and species should have evolved, when their island homes are so close to the residence of the parent species, is difficult to understand. Else-

where, *P. nivalis nivalis* is found entirely around the northern hemisphere and there is undoubted flying back and forth between the islands and the mainland of Bering Sea. *P. nivalis nivalis* has been taken on the Pribilof Islands¹, and *P. hyperboreus* has likewise been taken there² as well as on the mainland of Alaska³, where it was first discovered by the intrepid McKay. It hardly seems possible that such wide-ranging birds should develop so diversely in so short a distance.

On the fur-seal islands of St. Paul and St. George, the Pribilof Snow Buntings form a conspicuous part of the bird life throughout the year. In winter, they may be seen about the dooryards almost daily, gathering the food which has been placed out intentionally or unintentionally for them. With little fear and a congenial chirp always ready for the human observer, they have gained the love of the inhabitants as no other species has done. But not nearly all of the summer birds remain through the winter on the islands. Where they go cannot be stated positively; but that they go some place, we may be certain.

These migrants return to the islands in April and May, as the snows are fast leaving the highland tundras where they go immediately to join their companions that have had the courage to brave the Arctic winter. Long days of nest building, feeding young, and joyous song keep them busy from May until the fall moult begins in September. A site for a nest is almost invariably chosen beneath a flat slab of lava rock in country which is excessively rough. A dark recess is chosen which will allow the bird to pass easily in or out, but is yet so small that the possibility of a blue fox getting to the nest is very remote. This is the only animal against which precaution must be taken; there are no other enemies; but of foxes, there are very large numbers. (As many as a thousand skins of these animals have been taken on one small island in a single winter, 1920-21.) The top of the nest is built flush with the surface of the cavity beneath the rock. It is started with coarse grasses and, as construction progresses, successively finer grades of this material are used. Finally, the inside lining of white feathers is put in place. Oftentimes, some soft reindeer hair is added to the feather lining.

Four to six eggs are laid in May or early June. The female attends methodically to the incubation, while the male keeps her entertained through the almost perpetual daylight with a most charming, musical song, which must be heard to be fully appreciated.

The eggs are not white, as one might expect from the coloration of the parent birds, but the average set has a ground color "light mineral gray" or "pearl gray"; sometimes it becomes "deep bluish glaucous"; again, it may be so covered with spots as to be almost unrecognizable. The deepest spots in the shell substance are very faint and in color "pallid vinaceous drab"; as a rule, these are not very abundant and may be present or entirely concealed in the same set; they often give the egg a vinaceous tinge when viewed at some distance; most of them are not more than two millimeters across, but large blotches are not infrequent. The next to the deepest spots are light brown and they are usually applied in large blotches, massed over the larger end of the egg. This bold coloring is succeeded by spots which are usually small and

¹Evermann, Auk, 30, no. 1, p. 18 (January, 1913).

²Hanna, Auk, 37, no. 2, p. 254 (April, 1920).

³Osgood, N. Am. Fauna, no. 24, p. 74 (1904).

scattered and of a "wood brown" shade. These may be succeeded by a few small round black spots and, occasionally, a black blotch or pencil line. The eggs of a single set are usually very uniform in coloration, but in a series of sets, there is great variation. The photograph shown herewith (fig. 22) was taken on a color sensitive plate to show this point, as well as possible, in black and white. It also shows the great variation in size and shape among the eggs of several individuals.

| MEASUREMENTS IN MILLIMETERS OF EGGS OF PRIBILOF SNOW BUNTINGS ¹ | | | | | | | |
|--|------------|------------|------|------|------|------|---------|
| Number or set mark | | | | | | | Average |
| 1/6 | Length | 23.7 | 24.0 | 24.2 | 22.6 | 24.0 | 23.70 |
| | Width | 16.5 | 16.6 | 16.9 | 17.0 | 16.8 | 16.72 |
| a 1/6 | Length | 22.6 | 22.8 | 22.5 | 22.1 | 22.7 | 23.0 |
| | Width | 16.6 | 16.9 | 17.0 | 17.3 | 17.0 | 17.0 |
| 5/29 | Length | 22.0 | 22.3 | 21.9 | 23.0 | 22.3 | 22.3 |
| | Width | 17.0 | 17.4 | 17.0 | 16.8 | 17.3 | 17.1 |
| 5/27 | Length | 25.3 | 24.5 | 25.1 | 25.4 | 24.7 | 25.1 |
| | Width | 16.4 | 16.2 | 16.4 | 16.4 | 16.4 | 16.36 |
| 6/4 | Length | 25.5 | 26.6 | 25.0 | 25.5 | 25.4 | 25.6 |
| | Width | 17.7 | 17.8 | 17.7 | 17.7 | 17.6 | 17.7 |
| 1941 | CAS Length | 22.4 | 22.7 | 22.9 | 22.1 | | 23.0 |
| | Width | 16.5 | 16.5 | 16.6 | 16.2 | | 16.45 |
| 1940 | CAS Length | 23.6 | 23.7 | 23.4 | 23.9 | 23.2 | 23.1 |
| | Width | 17.3 | 17.0 | 17.3 | 17.5 | 17.5 | 17.1 |
| 1930 | CAS Length | 23.1 | 23.2 | 23.3 | 23.7 | 23.7 | 23.4 |
| | Width | 17.8 | 17.6 | 17.3 | 17.5 | 17.5 | 17.54 |
| 1731 | CAS Length | 23.6 | 23.0 | 22.8 | 22.0 | 23.3 | 22.94 |
| | Width | 17.5 | 17.5 | 17.2 | 17.1 | 17.5 | 17.36 |
| Greatest length | |26.6 | | | | | |
| Least length | |22.0 | | | | | |
| Greatest width | |17.8 | | | | | |
| Least width | |16.2 | | | | | |
| Average length, 46 eggs | |23.56 | | | | | |
| Average width, 46 eggs | |17.09 | | | | | |

The young birds hatch just at the time when the insects on the Pribilofs are coming out in large numbers. There are no mosquitoes, but of flies and beetles there are a great many, on the larvae of which the fledglings thrive and grow at an astonishing rate. By the fourth of July, many of the young have flown and are able to take care of themselves without assistance. The parents start over again and repeat the nesting operations, rearing a second brood before the early frosts drive the insects into the ground.

The young birds in first plumage are gray and spotted, very unlike the adults with their black and white and rusty. Moreover, the young birds flock together in fall, sometimes by hundreds, and it is believed to be these that migrate from the islands while their parents remain behind.

The land birds of these islands must be subjected to some very great mortality each year. Otherwise, it would seem that the rearing of two broods each summer would simply overpopulate the available land. One pair of leu-

¹I am under deep obligations to Professor Harold Heath of Stanford University for the privilege of presenting herewith measurements and photographs of eggs of the Pribilof Snow Bunting in his collection.

costictes, longspurs, snow buntings, or wrens will produce as many as twelve offspring in a single season. Yet murrelets or auklets, each pair bringing forth but one a year, number millions on the very same islands.

As to the number of snow buntings on these islands, it must be admitted that estimates cannot be of great accuracy. Nevertheless, figures possess a value as showing the belief of the observer on a certain date and often possess a historical significance in case of diminution or increase of the species later. Considerable thought has been given in the field to the actual number of birds of this species living on the Pribilofs. In the spring of 1920, there did not appear to me to be more than 100 pairs on St. Paul Island and about the same on St. George. Of course, in the fall this number is greatly increased by the young birds which have hatched during the summer. With an opportunity



Fig. 23. NEST AND EGGS OF THE MCKAY SNOW BUNTING. PHOTOGRAPH TAKEN BY BREAKING AWAY PORTION OF THE HOLLOW DRIFT LOG IN WHICH THE NEST WAS LOCATED.

to look for fluctuations in numbers during seven successive seasons, no great difference was noted, such as was the case with the wrens³ or the leucostictes⁴.

It was my good fortune to spend a few days in early July, 1916, on the St. Matthew Island Bird Reservation—the only known breeding ground of the beautiful McKay Snow Bunting. Here, the males greeted me with their songs from the time I landed on Cape Upright until I left Cape Gloria of Russia and Hall Island. They were very common throughout the length of the island, much more so than the Pribilof Snow Bunting on the fur-seal islands. And, unlike the last, which resorts to the highlands to nest, the hyperborean species was most common on the lowlands, especially in the driftwood piles above

³Heath, Condor, 22, 1920, pp. 49-55.

⁴Hanna, Condor, 24, 1922, p. 89.

high-tide mark. When this fact was fully appreciated, a search for nests was soon rewarded with success. Much to my surprise, all that were found were in the dark recesses of hollow logs which had drifted there from the mainland of Alaska or Siberia. (There are no trees on the islands in Bering Sea.) Through a strange coincidence, the holes occupied were sometimes those which had once been excavated by woodpeckers when the driftwood stood in some forest.

Back in the hollows, the nests were set flush with the loose decayed wood. Also, they were constructed in a similar manner and of the same sort of materials as the Pribilof Snow Bunting's nests, except that reindeer hairs were omitted because of the absence of these animals from St. Matthew. The walls of one nest measured about one inch thick and the inside cavity was two inches deep by two and a half inches wide. Feathers of Arctic owls and sea gulls were noted in the nest lining. Most of the nests found contained young birds or well incubated eggs.

The coloration of the eggs was very similar to that of the eggs of the Pribilof Snow Bunting, except that the brown blotches were applied with more boldness. In one set, these blotches were arranged in an indistinct zone about the larger end. The eggs of this set, measured in millimeters by Mr. Joseph Mailliard, March 4, 1922, are as follows: 22.3×17.2 ; 22.5×17.3 ; 21.9×17.2 ; 22.0×17.3 .

San Francisco, December 21, 1922.

FROM FIELD AND STUDY

Fish Crow in Texas.—Attention has been directed to the distribution of the Fish Crow (*Corvus ossifragus*) through correspondence with Mr. H. E. Wheeler of Conway, Arkansas, who recently published (Wilson Bulletin, December, 1922, p. 239) an item regarding the occurrence of the bird in Arkansas. So far as our observations go the bird does not occur in any part of Oklahoma. Mr. Wheeler states in his article that the bird is common in Texas but neglects to name localities. Ridgway (Birds N. and M. Amer., III, p. 274) is probably the most recent authority on the distribution of the bird. He does not give any part of Texas in its range, but says the bird occurs along the Gulf coast as far west as Louisiana.

M. L. Alexander in "Wild Life Resources of Louisiana", 1921, states that the Fish Crow replaces the Common Crow along the coast of that state, and although not specifically saying so, implies by this that he means the entire coast—as far as the Texas line.

The peculiar ecological conditions which typify this region and in which the Fish Crow finds things to its liking extend westward into Texas, and the bird should confidently be expected to occur there. Published statements to that effect have been lacking, however, so we take pleasure in giving one locality in that state where the bird is certainly a resident.

Mr. Pemberton spent most of February and March of 1922, and Mr. Kirn all of the time between December, 1921, and November, 1922, at Orange, Texas, and in the country to the west thereof. During all of this time Fish Crows were observed and while no specimens or eggs were taken, old nests were examined which undoubtedly belonged to this species. The birds struck both of us at once as being different from the crows of Kansas and Oklahoma. In size they were smaller; their flight more undulating than direct; their individual antics more playful; they were far easier to approach and observe; and most diagnostic of all, their voices were entirely different from that of the Common Crow. Their normal call is a hoarse, soft croak-like *caa*,