

TABLE SHOWING PARALLEL GEOGRAPHIC VARIATIONS IN CERTAIN
BIRD RACES OF NORTHERN NORTH AMERICA.

Hudso-Canadian	Barren Ground	Alaskan-Arctic	Alaskan	Northern Rocky Mountains
Size smallest; color light.	Size large; color dark.	Size large; color lightest.	Size larger; color intermediate.	Size largest; color darkest.
Parus hudsonicus	<i>P. h. ungava</i>	<i>P. h. stoneyi</i>	<i>P. h. evura</i>	<i>P. h. columbianus</i>
Picoides americanus	Picoides, subsp?	(Absent)	<i>P. a. alascensis</i>	<i>P. a. dorsalis</i>
Acanthis linaria	<i>A. l. rostrata</i>	<i>A. l. holbællii</i>		(Non-resident)
Lagopus rupestris	<i>L. r. reinhardtii</i>	<i>L. r. nelsoni et athkensis</i>		Lagopus, subsp?
Otocoris alpestris		<i>O. a. leucolæma</i>		<i>O. a. merrilli</i>

OBSERVATIONS ON THE BREEDING HABITS OF
LARUS ATRICILLA IN MASSACHUSETTS.

BY GEORGE H. MACKAY.

IN THE neighborhood of Muskeget and Tuckernuck Islands, Massachusetts, Laughing Gulls were formerly much more numerous than at present, being abundant there, I am informed, in 1850. In 1880 they were scarce, yet I am told a few pairs bred on Muskeget Island during that summer. During the past few years they have again appeared in the vicinity of the above-named islands in increasing numbers, undoubtedly from the protection which has been given them. The summer of 1890 showed a considerable increase in their numbers over former years, but the number resident during the summers of 1891 and 1892 was apparently about the same, and possibly there may not have been quite so many in either of those years as in 1890. The summer of 1893, however, shows an increase over 1890, which was the best for a number of years previous to that date.

On May 14, 1893, two birds were seen. and about a dozen more heard; they were very high up. These were the first arrivals noted this season on Muskeget Island. On May 17 a strong breeze from the south was blowing and about twelve birds were seen flying low down over Muskeget. On May 28 about thirty were noted; they were mixed in and flying with the Wilson Terns (*Sterna hirundo*) and were hovering close to the ground. On June 7, 1893, four nests were discovered near the centre of the island, being the first found this season. One of these contained two eggs, the others being empty. The most of the birds, however, seemed to be collecting on the north side of the island with the evident intention of breeding in that locality.

They usually appear about these islands during the month of May, and depart in October. The first birds were noted in 1892 on May 10 (two pairs) at the north pond, Tuckernuck. In 1893 they were first noted on May 7 near the same place (four pairs).

They prepare their nests about the first of June; these are regularly constructed and are composed of interwoven dried sea grass (*Zostera marina*), grass, and stubs of beach grass (*Ammophila arundinacea*). The inside of the nest is about the size of an ordinary saucer, and it is usually placed at the foot of a bunch of grass, under a bush, or in beach peas (*Lathyrus maritimus*). Often it is well concealed; at other times it is exposed to view and easily seen at a distance of a few feet. I have also seen it placed on top of a bunch of old beach grass stubs surrounded by beach peas, which is a favorite location. This was noticeably the case in 1893, when on June 20 I found eight nests, and one on July 3 with two eggs, in such position that all were within forty yards of each other. They nest in colonies in this locality, and when one nest is discovered it is nearly certain others may be found near by.

In the summer of 1892 these birds nested on Muskeget between the slight headland (one of the old shore lines) and the shore, on the north side of the island and within two hundred and fifty yards of the ocean and about twenty-five yards from a small fresh water pond. The nests were placed on the slope of the headland towards the shore, where there was an abundance of rank grass about two feet and a half high. In 1891 a few pairs built in a salt marsh or meadow on the south side of the island, the nests

being placed on one of the higher sand ridges or hummocks, with which the marsh was interspersed, and which were covered with high grass. A few pairs (three or four) nested very near this same place in June 1893, but the larger number I found to be nesting about fifty yards further inland from the spot where they bred in 1892. This nesting place was in a depression or basin where the beach peas were growing in profusion, and here I found nine nests (all the eggs in which were partially incubated), all of which were composed entirely of beach grass stubs about five or six inches long, interwoven and placed on top of a cluster of dead stubs of the same material the tops of which had disappeared, which raised the nest some five or six inches from the sand. There was little attempt made at concealment, that little being furnished by the higher growth of the beach peas which surrounded them. These two places were the only ones on the island where I discovered their nests, or noticed that they congregated and I much doubt if there are any others in this locality. Of the nine nests discovered each contained three eggs except two which had two only. On June 22, 1893, four or five more nests were discovered by some of my friends not far from where I found mine, all of which contained three eggs each. I was on the island of Muskeget July 3 and 4, 1893, but saw no young. While I am not certain how many eggs constitute a complete set, I am of the opinion that the number is three.

During the summer of 1890 four nests were found on July 10, each of which had five eggs, and in 1891 and 1892 other nests were found which also had five eggs in each, all the other nests discovered in these years having two or three eggs each. It is possible more than one female may have deposited eggs in the same nest. The eggs are nearly if not quite three times as large as those of *Sterna hirundo*, which some of them somewhat resemble, though darker in color, being as large as a pullet's egg. Their ground color is pale olivaceous, with a slight tinge of brown which last in some eggs shows stronger than in others. In some sets this ground color assumes a muddy appearance, while in others it is quite clear. The entire egg is covered over with dark chocolate-colored irregular marks and spots, which in some eggs run one into the other at the larger end, making it the most prominently chocolate-marked portion of the egg.

When walking over Muskeget Island I have noticed that these birds leave the nest when I am a *long* distance away, being probably apprised by the commotion made by the other Terns, as the Wilson's (*Sterna hirundo*), Arctic (*Sterna paradisæa*) and Roseate (*Sterna dougalli*), of my invasion of their precinct, and mounting high in the air circle around, continually giving vent to their peculiar cries. They have two distinct ones, but I do not feel competent to so put letters together that they will convey the sound of either to the reader. One of these is the peculiar note from which this bird probably derives its name of Laughing Gull, it being a weird, wild, maniacal sound, bearing a resemblance to a laugh, which at once impresses one on being heard. I should not call them courageous birds, as far as I have observed them, for I have frequently seen a single *Sterna hirundo* chase and put one to flight, which would endeavor to escape without offering any resistance. I have also seen four or five Laughing Gulls *concertedly* chase and put to flight a single *Sterna hirundo* which offered no resistance to such odds.

While I do not know if it is always the case elsewhere, I have often noticed that these Gulls keep together and fly in pairs, and even if a number are about, this characteristic is noticeable. Should danger be apprehended they will mount high in the air and circle, continually uttering their peculiar cry, which can be heard for a very long distance. I consider them rather shy except when they have young.



ADDITIONAL NOTES ON THE BIRDS OF THE SUWANEE RIVER.

BY ARTHUR T. WAYNE.

THE month of March, 1892, the writer spent at Branford, Florida. Trips were made on both sides of the river, and as far down as where the Santa Fe Creek empties into the Suwanee. This region has already been described by Messrs. Brewster and Chapman, therefore I will not describe it anew. The following