this form, of which Dr. Merrill has sent me nine specimens from Fort Sherman, is apparently intermediate between *M. f. montana* and *M. f. guttata*. It differs from both, however, in the ground color of its upper parts which are generally of a dark but clear ashy brown very unlike the faded grayish brown of *montana* and with but little of the rich, dull rusty which suffuses the plumage of *guttata*. Of the thirteen specimens of *merrilli* one taken in autumn affords the nearest approach to *guttata*. The spring birds (some of which were collected in April and May) are all essentially similar to the type of *merrilli*.

Dr. Merrill writes me that this Song Sparrow breeds at Fort Sherman where he took four nests and sets of eggs in 1895.

THE TERNS OF MUSKEGET ISLAND, MASSACHUSETTS. PART II.

BY GEORGE H. MACKAY.[1]

REFERRING my readers to 'The Auk' for January, 1895, page 32, I now desire to put before them under the same title, some further data collected during the past summer. It had been my intention to visit Muskeget this year on the same dates as last, that comparisons might be better made of results. Had my purpose been carried out, which it was not, such would not have proved conclusive, for the reason that although the Terns arrived a week earlier than they did in 1894 and 1893, and ten days earlier than in 1892, they apparently did not commence to lay their eggs as early this season as last, for it was not until May 28, 1895, that the first two nests, each containing one egg, were discovered, notwithstanding Mr. Sandsbury had taken daily walks over Muskeget Island proper for this purpose, commencing on May 20. The first eggs noted in 1894 were found on May 21.

[1] Read before the Nuttall Ornithological Club, October 21, 1895.

It was on the evening of May 1, 1895, that the cries of the *first* arrivals of this season's Terns were heard; none were *seen*, however, until the next day, when half a dozen were observed high up in the air over Muskeget proper, the wind being east. On May 3 they were arriving in fair numbers, some three hundred (estimated) being seen; of these, some alighted on the shore of a cove on the northeast side of Muskeget Island proper. The weather was clear and calm, and there was a very heavy dew during the night. On May 6 the wind was northeast and the weather foggy; the Terns were now quite numerous. On May 7 it was calm in the morning, but breezed up in the afternoon with fog. The Terns were continually augmenting in numbers and were now abundant.

As previously stated, the first eggs this season were noted on May 28; on the 29th, 9 nests, each containing 1 egg, were discovered. On June 6 were observed 18 nests, each containing 1 egg; 72 nests each with 2 eggs; and 4 nests with 3 eggs each; but none with either 4 or 5 eggs. On June 8 was observed 16 nests with 1 egg each; 80 nests with 2 eggs each; 26 nests each with 3 eggs; and 2 nests each with 4 eggs; no nest of 5 eggs was seen. On June 9, Mr. Sandsbury walked in a direct line from his house to the north shore of Muskeget Island proper, returning by another line not covered by the first. He noted 263 eggs. On June 23 he repeated the walk, noting 457 eggs. On July 5 he again went over the same ground and noted 34 live, and 27 dead chicks.

I landed on Muskeget shortly before noon on July 7, and soon commenced observations. I have followed my previous plan of giving the results of this visit in the following condensed form: —

	Nests.	*Eggs.*	*Dead Chicks.*	*Live Chicks.*
July 8, '95. Muskeget Island proper.	716	1280	255	18[1]
" 7, '95. South Point, Muskeget Island.	65	127	3	13
" 7, '95. South Point Island.	257	534	13	51
" 7, '95. Gravelly Island.	406	808	1	6
Totals,	1447	2749	272	88

[1] Mr. Sandsbury did not note the live chicks here.

Of the nests on *Muskeget Island proper* 244 contained each 1 egg; 395, each 2 eggs; 62, 3 eggs; 15, 4 eggs: no nest with 5 eggs was observed.

South Point of Muskeget Island.— This is a narrow strip of sand forming the extreme western extension of Muskeget proper. The beach-grass (*Ammophila arundinacea*) grows here luxuriantly, excepting near the shores, and towards the extreme end, which latter is bare of grass, with the exception of a few tufts. The Terns do not place their nests to any great extent among the tall grass, although some do where there are small *open* spaces. The majority of them apparently prefer the thinner grass and the windrows of eel grass (*Zostera marina*), as also the bare sand nearer the shores. We found here 19 nests, each containing 1 egg; 31, each 2 eggs; 14, 3 eggs; 1, 4 eggs; no nest with 5 eggs was observed. I noticed but few chicks or broken egg-shells here.

South Point Island.— This breeding ground is more elevated than any of the neighboring sands, and presents the best of conditions for the wants of these birds. The beach-grass grows scantily over its surface, and good sites for nests, with an outlook, are available everywhere. When I visited it on July 7 I found a great many of the eggs hatched. Its occupants are the same as last season, Roseates and Wilson's. This island being separated by only a narrow strait of water from South Point, Muskeget Island, the birds are practically the same at both places. Of the nests found, 30 contained each 1 egg; 179 each 2 eggs; 46 each 3 eggs; 2, 4 eggs; no nest with 5 eggs was discovered.

Gravelly Island.— Of all the breeding grounds in these waters, none attract and hold me pleasure bound equal to this little spot of about two acres, on which is concentrated the greatest amount of bird life, for its area, on the coast, its occupants being mostly the beautiful Roseate Tern (*Sterna dougalli*). Being situated at some little distance from the other islands, it is slightly more secluded and but little visited. Its central and highest part is covered with tall beach-grass. In the middle of the island is an unoccupied house, within fourteen inches of one of the corner posts of which, in a little hollow in the bare sand, there rested two eggs of a Roseate Tern; a little further away, say fifteen feet, was

still another nest and eggs. Disturbing the birds on our landing, we were immediately surrounded by a throng, all vigorously protesting against our entry. Mr. Sandsbury and I found here 68 nests which contained 1 egg each; 280 nests with 2 eggs each; 52 with 3 eggs each; and 6 with 4 each; no nest with 5 eggs was observed. It causes me some solicitude to think that if in any season the above house is occupied, not a bird will nest on this island, there being only sufficient room for one occupant. I am, however, of the belief that if such should be the case, the birds will locate on the other islands, if they can find undisturbed occupation.

On July 29, 1895, I again visited Muskeget Island and took a survey of all the breeding grounds. As will be perceived by the following result, incubation was drawing to a close, most of the young birds now being able to fly. At times when disturbed on Muskeget Island proper they would rise in such numbers as to remind me of a snow storm. The result of this, my second trip, is tabulated as follows: —

	Nests.	*Eggs.*	*Dead Chicks.*	*Live Chicks.*
July 30, '95. Muskeget Island proper.	166	260	45	12
" 30, '95. South Point, Muskeget Island.	33	53	3	45
" 30, '95. South Point Island.	75	120	26	63
" 29, '95. Gravelly Island.	61	93	14	26
Totals,	335	526	88	146

Of the above nests on *Muskeget Island proper*, 80 contained each 1 egg; 77, 2 eggs; 9, 3 eggs; no nest of 4 or 5 eggs was observed.

On *South Point, Muskeget Island*, 13 nests contained each 1 egg; 19, 2 eggs; 1, 3 eggs; no nest of 4 or 5 eggs was observed. On *South Point Island*, 33 nests contained each 1 egg; 39, 2 eggs; 2, 3 eggs; 1, 4 eggs; no nest with 5 eggs was observed. On *Gravelly Island*, 36 nests contained each 1 egg; 20 nests, 2 eggs; 3 nests, 3 eggs; and 2, 4 eggs. No nest of 5 eggs was observed anywhere during the entire season, nor was there anything unusual or peculiar in the appearance of any of the eggs

observed this summer, with the exception perhaps of two nests, each containing two eggs; in each case one egg was normal, while the other was of about half the usual size. On July 30, and again on August 16, about half a dozen chicks in the down, just out of the shell, were observed on South Point Island.

No correct conclusions can be based on the number of *live* chicks noted, on account of the impossibility of making even an approximate estimate of their real number. I take pleasure, however, in stating that never since I have known anything about them, have these Terns increased to such an extent as they did from last season to this. I regret my inability to give even estimates, *there being too many of them* for that. The present year has also been a most favorable one, as will be evidenced by the arrivals next spring.

In regard to certain "*dropped eggs*" described in my former article, I would say that during my first visit I found ten, eight of which I called Roseates, and two Wilson's; all were fresh. On my second visit I found thirty. One of these was dropped by a Wilson's Tern close beside me, being the direct result of the excitement caused by my presence. It struck a small stick and was broken. Mr. Sandsbury this summer also saw a Tern drop an egg in mid air.

It would seem as if the Terns in this locality were not adverse to drinking fresh water, for the two small ponds on Muskeget Island proper are *constantly* frequented by numbers, who take up the water invariably while on the wing.

From September 1 to 7 the Terns seemed to leave the middle of Muskeget Island proper, and roosted on the outside beaches at the west and south side of the island. From the 15th to the 22d they were observed to collect in large flocks, when they would mount in a spiral way, circling high up, and then descend again, indicating that they were getting themselves in training to start on their southern migration. The weather was fine, with southerly winds. On the 26th and 27th of September the wind was easterly with gentle breezes. Several very large flocks rose up in the air until lost to sight, being headed in a southwest direction when last seen. These Terns must migrate at an immense altitude, for they go up out of sight when they depart in

the autumn, and seem to drop from the clouds when they appear in the spring. By September 30 there were comparatively few Terns remaining, these being around the rips at the openings. On October 2 Mr. Sandsbury wrote me there were no Terns in sight from his house on Muskeget Island proper. I saw a few single Terns resting on the water, and flying about, as I passed through the Sound on October 3.

Since my former article I have made some further attempts to solve the problem of the cause of certain differences between what I have called the *reddish* legged and *flesh-colored* legged chicks of *Sterna hirundo* (see Auk, Vol. XII, p. 44). I found these chicks in evidence again this summer in about the same proportion as last season, say one-third red-legged birds and two-thirds with flesh-colored legs. As far as my observations go the differences between them appear to be fairly constant up to the period of their being able to fly, which is as far as I have been able to observe them. Hoping to obtain some further evidence, I kept a number of each kind in separate coops on Muskeget. None of them, however, lived over ten days, and most of them died inside of a week. They were fed on lobsters and clams. I then took a small series of selected chicks, had them sexed, made up into skins, and forwarded to Washington for Mr. Robert Ridgway's inspection, together with some other Terns' skins. He pronounced them *S. hirundo*, as did Mr. William Brewster later. This point being thus settled I would say that there are here apparently *two* kinds of chicks which differ in actions and in appearance. The red-legged are brighter, more active, and neater looking. Those with flesh-colored legs are lethargic and more stupid. Their bills are stouter and larger, and all in all they are a coarser looking bird, and I think a good many of them are hatched earlier than the red-legged birds. Under such conditions, is it not possible that there may be two varieties of *S. hirundo*, with differences which may be constant during youth, but which become undistinguishable in the adult birds?

The downy young of the Roseate (*S. dougalli*) may be distinguished by their upper parts being gray, white, and black, intermixed in longitudinal streaks; under parts whitish; bill pinkish flesh color, with black tip; legs and feet black. As they advance

in age, and by the time they are about to fly, the bill becomes wholly black, and the legs a more intense black. The general effect of the upper parts while in the down is a muddy brownish black; when older, the first color of the scapulars is black with light ash brown border, and when about to fly, a slight roseate hue is noticeable, in certain lights, on the breast.

It is interesting to see how defined and prominent certain characteristics of this beautiful bird are evinced in the chicks, in contrast with those of Wilson's Tern. The former has the 'blooded' strain, resenting in a vigorous, I might almost say fierce, manner, any unceremonious treatment, actively struggling and biting in order to effect release when captured. They are graceful and stylish looking even before they are able to fly much. Wilson's Tern, on the other hand, scarcely shows any of these marks of character (the nearest approach being developed in the red-legged chicks above described), being stupid and lethargic, and but slightly aggressive up to the age of flying.

Among the series of Terns taken this summer was one Arctic (*S. paradisæa*), a bird just commencing to fly, and which was sent to Washington with the others. It is now in Mr. William Brewster's collection. It may be described as follows: Entire under surface *white*, with the exception of a very faint *vinaceous* wash over lower sides of neck and a few *grayish* tipped downy feathers on tibiæ and about anal region. General color of back and wings clear *gray* with upper outside edges and tips of primaries and outer tail feathers *slate gray*, the feathers of the back narrowly and faintly edged first with *clove brown* and outside of this with *pinkish buff;* inner edges of primaries and nearly the whole of secondaries as well as feathers of the tail pure white. Feathers of the forehead white; those of the crown mixed black and white, becoming entirely black upon the occiput and sides of head, including region about the eye. The black of the head is separated from the pure gray of the back and wings by a broad band of white faintly washed with gray. The whole bird is sparingly covered with long downy hair-like feathers protruding beyond the others, so light and fluffy as to wave about at the slightest breath. Tip of bill black; rest of bill and feet pale reddish.

I wish to say a few words before closing regarding the condition of the colony of Laughing Gulls (*Larus atricilla*), which are domiciled on Muskeget Island proper. A more highly gratifying state is difficult to imagine. The increase of last season is unmistakable. On June 9, 1895, Mr. Sandsbury found 10 nests, 4 of which contained 1 egg each; 5, 2 eggs each; and 1, 3 eggs. On June 18, he found 4 nests, each containing 1 egg; 3 nests with 2 eggs; 7 nests with 3 eggs each. On June 23 he again walked over the ground and noted 3 nests of 1 egg each; 3 nests of 2 eggs each; and 9 nests of 3 eggs each. No nests containing 4 or 5 eggs each have been observed during the entire season. On July 5 he again walked over the same ground, noting 4 nests of 1 egg each; 3 nests of 2 eggs; 2 nests of 3 eggs each. He also noted 18 young chicks in the down. The greater part of the nests above noted were marked with sticks during his walks, so that they might not be counted a second time.

On July 8 I went all over this breeding ground, which is located this year where it was last season; its area has, however, increased very materially. It now embraced a strip nearly one quarter of a mile long and one hundred to one hundred and fifty yards wide, commencing at the North pond and extending in a westerly direction. I noticed a great many broken egg-shells, from which the chicks had been hatched, but I failed to find any of them in the grass. I judged these Gulls were feeling the utmost security, for their nests this season have all been placed in plain view on the top of a bunch of beach-grass stubs, of which materials the nests were constructed. I saw only one 'alley' nest this year. Besides a number of abandoned nests from which the eggs had been hatched, I noted 17 nests containing 37 eggs, most of which had, however, been previously noted by Mr. Sandsbury. Two of these nests contained each 1 egg; 6, 2 eggs each; 2 each 1 egg and 1 chick in the down; 7 nests contained 3 eggs each. As nearly as I could judge, all these eggs were near the point of hatching, a large portion of them being chipped.

On July 30, during my second trip to Muskeget, I again went carefully over all this breeding ground. Nearly all the eggs had been hatched, but I did not see a single *young* bird in the air. After considerable search Mr. Sandsbury and I found one nest

with 1 egg and 2 chicks in the down, and close by a fresh soft-shelled crab recently dropped by one of the parents; another nest contained 1 chipped egg, and a broken egg-shell; and still another 2 eggs. We discovered only 1 chick, which was about the size of a pigeon and looked very much like one, except for the length of its legs. This bird was mature enough to fly but made no attempt to do so, being very tame, eating from the hand the same afternoon. I have not seen a dead chick this season.

As a description of this large chick may prove of interest to some readers I give it, as follows: Feathers of the back slate gray edged at the tip with drab gray; top of head and sides mouse gray; exposed edges of wing-coverts and covered edges of feathers on back plumbeous; inner webs of the tail feathers and primaries black; throat light gray; breast and sides gray; bill, legs, and feet chocolate color.

It was apparent to me from the many abandoned nests and broken egg-shells — more than I have ever before seen — that this season has been a most favorable one for these Gulls. I noticed the old birds contentedly sitting about on all the bare spots of sand that were available on their breeding grounds, where they could watch and care for their young which were hidden in the beach-grass.

THIRTEENTH CONGRESS OF THE AMERICAN ORNITHOLOGISTS' UNION.

THE THIRTEENTH CONGRESS of the American Ornithologists' Union convened in Washington, D. C., Monday evening, November 11, 1895. The business meeting was held at the residence of Dr. C. Hart Merriam. The public sessions, lasting three days, were held in the Lecture Hall of the U. S. National Museum, commencing Tuesday, November 12.

BUSINESS SESSION.— The meeting was called to order by the President, Dr. Elliott Coues. Eighteen Active Members were