

GENERAL NOTES

Starling Movements at a Given Station.—For their bearing on the complicated migrational and distributional movements of the Starling (*Sturnus vulgaris*) being studied, I have compiled and analyzed fragmentary data on banded Starlings at my banding station (Garden City, New York), where the species nests and is about equally plentiful at other seasons. The tentative conclusions drawn are presented here, as much in the hope that they may be corroborated by other observers as for their own interest.

(1) There is a sharp seasonal falling-off in the proportion of resident (banded) birds present, probably between September and October.

This conclusion is based on observation, not on trapped birds, and the date is uncertain as I lack observations for July and August, but in the few such for June and September the proportion is still high. The recovery of an individual banded as an adult in May and killed a scant half-mile away in August, may give some indication of what midsummer movement there is.

(2) There is a return of banded birds from November to April.

This return seems to be irregular, if not erratic, from year to year, but adding together fragmentary observations for six years (1931-1936), and incidentally so obtaining figures large enough to be reasonably reliable, gives the proportion of birds observed carrying bands as 6 per cent in October, 10 per cent in November, 18 per cent in December, 46 per cent in January, 47 per cent in February, 52 per cent in March, 70 per cent in April, 65½ per cent in May; also 66¾ per cent in June, 62½ per cent in September, but figures for these last two months negligible on account of the fewness of observations.

I have returns or repeats of only fourteen individual birds recorded in more than one month, and records of these birds are all in the months from March to June, and November to December, nine of the fourteen recorded in both these spring and fall periods [April, May, June, and December (1), April and December (2), April and November (1), May and December (3), May and November (1), June, November, and December (1)] and two of them banded in November and December were definitely nesting when taken later in May and June. I take this as evidence that birds return to breeding grounds the preceding fall as well as in spring.

Three returns of birds banded in December and a repeat of one banded in March were found dead in April and May; and a young bird banded in the nest in May was reported found dead in March (recovery) four or five miles away. Starlings are great fighters, especially in the nesting period, presumably not infrequently fight to the death, and I am inclined to refer the demise of the birds referred to to this cause. On December 27, 1936, after two or three days of unseasonably mild weather, two starlings were observed in fierce, tenacious combat at the banding station. Both were banded birds, and as only twice previously had a single bird with a band been observed in November or December that year, and no new birds had been banded, the presumption is that their struggle was correlated with one or both at this date having recently arrived here on "breeding" territory.

(3) Birds banded as young return as do those banded as adults, in smaller number and there seems to be a tendency for them to supplement the proportion of the latter group where this is low.

The observations given above on the increasing proportion of banded birds observed from October to April includes both groups, but as definitely young birds have been banded on the left, others customarily on the right leg, the two groups may be differentiated. In the combined observations (1931 to 1936) previously cited, left-banded birds appear as 3 per cent of the total in December, rise to 11 per cent in January and 21 per cent in February. Meanwhile right-banded birds have dropped from 35 per cent in January to 26 per cent in February, but increase again to 49 per cent in March and 65 per cent in April, in which two months left-banded birds fall off to 3 per cent and 5 per cent, but rise to 15½ per cent in May as the right-banded birds drop to 50 per cent. It does

not take a great deal of imagination to surmise from these figures that younger birds are crowded out by older in March and April but return again in May.

A bird of the year trapped and banded in June was retaken in December, April, and May.

(4) Very likely, resident birds, having returned, mix little with the late fall flocks.

On December 14, 1930, seven birds from such a flock entered the trap at one time, and were banded. None of these was ever retaken; whereas three out of eleven scattered birds trapped in November and December of that year were also taken at other times, as were six out of twelve taken in those months in 1931.

(5) It is possible that at times many previously resident birds emigrate permanently.

In April, 1931, 67 per cent (by observation) of the Starlings noticed carried bands; in April, 1932, 77 per cent; in April, 1933, 95 per cent; in April, 1934, only 16 per cent. The winter of 1933-34 was of unprecedented severity, and presumably a factor in this change; but no dead banded birds were reported that winter, though there was one such in late April, 1934.—JOHN T. NICHOLS. American Museum of National History, New York.

Behavior of Young Herring Gulls.—Although my summers, or a portion thereof, have been spent for many years on an island several miles off the Massachusetts coast I have never until the present year had an opportunity to study the Herring Gull, so common along the Atlantic coast, at close range. In recent years, however, the islands adjacent to my summer home at Baker's Island have been the breeding ground of a steadily increasing bird population, being literally covered with nests of Herring Gulls, (*Larus argentatus smithsonianus*).

Out of curiosity, I visited the North and South Gooseberry Islands, distant about one-half mile from Baker's Island, on June 13, 1936, and found them both alive with young gulls, both hatched and hatching, while in some of the nests the usual three eggs were still intact. Curious to see how this species would thrive in captivity, I took two young birds out of a nest, which, with another of somewhat larger size from another nest, I carried back with me to Baker's. At first I was somewhat in doubt as to whether or not they would take food, except as fed by the parent birds, but I soon discovered that they would eat from the hand or from a dish. After a few days of confinement I allowed them the freedom of the place. At night they took shelter in a box provided for them, but as they grew older they sought shelter under the bushes or under the house.

Contrary to the general belief that gulls are natural scavengers and will eat anything, we found that our birds developed distinct likes and dislikes in the matter of food, raw meat and raw fish being the favorite dishes, with baked beans running a close third.

In a recent paper, now unfortunately not at hand, it was stated that parent gulls are able to locate their young after the latter are five days old wherever they may be,¹ and this assertion was apparently substantiated when about three weeks after adopting the young birds three old birds appeared one morning, apparently the parents, and those visits were continued, several times daily, for a period of some three or four weeks, though the old birds made no attempt to feed the young. The old birds would fly over the cottage and around the nearby pond, calling noisily for some time before finally departing. This seeming attempt to entice the young birds away from their human associates persisted even after the young birds made us a visit after they had rejoined the colony at the South Gooseberry Island. The parents would accompany them and seemed to be endeavoring to prevent their lighting at our cottage. They would even peck at the young after they had alighted, and by that means try to start them

¹ I have been awaiting a copy of above reference (article on Herring Gulls), but as it has failed to arrive, I am unable to furnish the title.