

was heard early and late, and where parents carrying food to young were constantly crossing and recrossing the roads. First grown young out of nest June 19.

89. ***Sialia mexicana bairdi***. Two pairs near village nesting in old woodpecker holes in pines; one of them was near Stanley manor, the other west of Elkhorn Lodge in Fall River valley. One of the males had the chin light, the other dark blue.

90. ***Sialia currucoides***. Next to the Robin, probably the most conspicuous and best distributed bird, building not only in treeholes, but also about buildings in the village. One pair fed fully grown young June 15 and began preparing for a second brood June 19, dislodging a pair of Violet-green Swallows from a cozy nook under the gable of a cottage at the Elkhorn. In Mills Park one pair fed young in a hole only four feet from the ground, but usually the nests were in woodpecker holes higher up, some in the same tree with Pygmy Nuthatches or Violet-green Swallows, or all three in the same tree.

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## TWO UNUSUAL FLIGHTS OF CANADA GEESE NOTED IN MASSACHUSETTS DURING THE FALL OF 1910.

BY J. C. PHILLIPS.

IN THE following notes I wish to put on record the occurrence of two autumn flights of Canada Geese in Massachusetts during 1910, both of which seem to me of interest.

In 'The Auk' for July, 1910, I showed that the appearance of geese in any numbers was rare before October 15 to 20, at which time there are apt to be small flights. It is exceedingly hard to find Massachusetts records during the first week in October. It was therefore quite surprising to note a very considerable migration of geese on October 3 and 4, 1910. The facts which follow show that this extremely early movement was much more than an accidental occurrence.

At Wenham Lake October 3 was clear and calm, following a strong northwest wind of the previous day. There were a few Black Ducks moving in the early morning, and a bunch of six Red-

breasted Mergansers was noted. At four P. M., eight geese came into the pond, followed by seven Black Ducks.

October 4 was very warm, with a strong south wind. The weather was muggy, close, and cloudy. At six A. M. sixty geese passed just east of the blind, very low and seemingly tired. Soon after, eight geese lighted just in front of us, and in an hour twelve more joined them. These geese came in and lighted without making a turn. We had no goose decoys in use, but obtained six of them. The rest could hardly be driven from the pond, and a small lot lighted with my live geese in a meadow about half a mile south.

I mention this to show that these geese had every indication of having met very unfavorable conditions for their journey. The warm wave continued through the next day, and the temperature on October 5 reached 85 degrees in Boston, almost a record for October. The strong southwest wind also continued.

I afterwards attempted to learn all that I could concerning the flight, and the following occurrences can be vouched for.

Chebacco Lake, Essex County, October 3, one bunch of geese heard going over.

Accord Pond, South Hingham, October 3 and 4, two bunches (thirteen and sixteen) in the pond.

At Silver Lake, Kingston, on the same dates, bunches of fifteen, twenty-five, and eighteen in the pond, and about fifty flying.

In Robbins Pond, East Bridgewater, fourteen came to the pond.

In Jacobs Pond, Norwell, three flocks, thirteen, thirteen, and twenty-seven, were seen.

A few geese came into Duxbury Bay on the same flight, "possibly fifty."

At Ponkapoag Pond, Canton, one hundred and fifty were noted.

All these occurrences were during the same period as the flight mentioned for Wenham Lake.

Glancing now at the Canadian daily weather charts, we find, in brief, the following state of affairs.

Our geese must have started late on October 2, or early on October 3, as our record of 4 P. M., October 3 indicates. The charts show us a typical cyclonic storm moving northeastward, accompanied by moderate precipitation. On the 2d, at 8 A. M.,

it was over the Gulf of St. Lawrence, and on the 3d it is described as a severe storm in and about Newfoundland. On this date the winds were northwest, and from sixteen to fifty-two miles an hour at Newfoundland points, with heavy precipitation; while by the 4th the winds all along the coast were south, and of considerable strength.

The storm therefore passed north of New England, leaving rather high pressure and high temperature along the coast. Geese starting from eastern Labrador probably had northerly winds and low pressure, with some precipitation; while from southwestern Labrador they would also have had fair winds. In any case, this flight must have rather suddenly encountered adverse winds, with high temperature and pressure. It seems to me most likely that these facts account for the apparent exhaustion of the flocks noted at Wenham. Much more difficult is it to account for the start. If we knew the origin of the Massachusetts coastal flight, we might obtain a clue. One point of great interest, however, is the fact of an exceedingly early spring for 1910. If the date of inland ice departure is a fair criterion — and I think it is — I find for Moosehead Lake, Maine, that this date was 24 days earlier in 1910 than the previous four year average. The following information kindly supplied by the Maine Central R. R. tells the same story. “I am giving you below the dates the ice went out in the spring of 1910, which was an abnormal year, and some three weeks ahead of the usual schedule for that event. Sebago Lake, April 1. Belgrade Lakes, April 6; in 1909, April 26. Green Lake and other fishing waters on our Mount Desert branch, April 6. Grand Lake, April 10; in 1909 the date was May 6. The Rangeleys, April 18.”

New England birds are known to have nested early in 1910, and the migratory waterfowl probably did also. In this connection, it is interesting to note that Canada Geese bred by me at Wenham in 1910 were flying the last week of July — an early date, though I can give no actual comparative ones.

The second flight that I wish to speak of was a delayed and much concentrated migration which began on November 28, after a long interval during which almost no geese were seen at Massachusetts points. In fact, it was the regular mid-November flight delayed about two weeks.

At Oldham Pond, South Hanover, on November 28, there was a northeast rainstorm lasting all day. Geese appeared at 8 A. M. Two bunches came into the pond; and four bunches, comprising about 225 birds, passed over. On November 29, 78 geese lighted in Oldham Pond, and thirty were seen flying. On November 30, 110 geese came to the pond, and 33 were noted flying; while on December 1 and 2 nearly 1000 geese were seen from the stand, and a few came to the pond.

At Clark's Island, Duxbury Bay, Dr. Rockwell Coffin tells me of the same remarkable flight. About 10 o'clock on the morning of November 28, geese appeared in great numbers. In three hours a rough count showed that 6000 geese had passed outside the bar; but none came into the bay until evening. For the next seventeen days geese were seen every day at this point. Other points noted great flights; at Accord Pond 1000 were seen on December 28, but, as most places do not keep records, they need not concern us. The above data are sufficient to show that there was a very large and suddenly developed migration.

Now, as to the meteorological facts in connection with this flight, the charts of November 26, 27, and 28 all show stormy conditions off the Atlantic coast, moving slowly eastward, and accompanied by strong northerly winds. There was considerable precipitation, especially in Newfoundland; and much of it must have been snow. The wind reached 48 miles an hour at Port au Basques on November 27, while on the same day the precipitation at Sable Island was over  $1\frac{1}{2}$  inches. Strong northerly to northeasterly coastal winds continued through November 28 and 29, while the temperature remained seasonable. Migrating geese might well have started during northwesterly winds, and later on encountered the storm area, and then followed the coast with a north or northeast wind. As noted in my first paper, these conditions do not seem to be especially unfavorable for migration, as witness the fact that only a small percentage of flocks stopped during the first of this flight.

The conditions which suddenly set in motion such great numbers of birds are all a mystery. Like many of these flights, the greatest volume seems to arrive with the front of the migratory wave; and the first flocks are less inclined to stop than those that follow later on.

I also made an attempt to find out just where the great flight seen off Duxbury bar crossed Cape Cod. Dr. Coffin is sure that none of the flocks which he saw on November 28 were Brant, as from his vantage point he had been watching Brant for weeks, and was armed besides with powerful glasses.

Some enquiries were made for me at various points east of Plymouth, from Manomet to West Barnstable, but at no place was more than about 1000 geese noted in any one day. West Barnstable pond gunners reported more geese than for many years, and large numbers were seen at Manomet Point and Great South Pond, Plymouth. The same story was obtained as to an unusual flight during the last of November and early December at Great Herring Pond, Plymouth, Mashpee Lake, Mashpee, and Mystic Lake, Barnstable. Hence it seems certain that more geese crossed east of Buzzard's Bay than is usually the case. It also appears that the great Plymouth flight of November 28 must have dispersed somewhat as it reached land, because no other points, as far as I have been able to learn, witnessed such a concentrated migration.



## A STUDY OF THE NESTING OF THE CEDAR WAXWING.

BY ARETAS A. SAUNDERS.

PROBABLY all our accounts of the life history of the Cedar Waxwing (*Bombycilla cedrorum*) mention the flocking habits of this species. Most of them also include the statement that during the nesting season this habit ceases and the birds separate in pairs. In my own experience, however, the flocking habit often continues throughout the nesting season, the nests being placed, if not in actual colonies, at least in close proximity to each other, and the nesting birds often congregating in small flocks. One of my earliest bird-nesting memories is that of finding a number of Waxwing nests in the same apple orchard. In August, 1906, however, I found the best illustration of this habit I have seen, when I dis-