

BLUEBIRD BANDING AT CHESLEY, ONTARIO

BY HOWARD H. KRUG

AT various times for several years I had attempted to attract Bluebirds (*Sialia s. sialis*) into nesting boxes in and around Chesley, Ontario, but had met with little success. The birds took readily to the boxes, made according to the specifications given in Bulletin No. 609 of the United States Department of Agriculture, especially when placed on fence posts outside the town away from the interference of English Sparrows, but I was somewhat discouraged with the project since the boxes were invariably torn down, shortly after being put up, by parties whose identity I could not learn. I next attempted putting the boxes higher up in trees in an open space or on a dead stub but still where they were partly hidden from below. In these places they remained longer but I had very few Bluebirds attracted to them. T. E. Musselman (*Bird-Banding*, 6, 1935: 117-125) gives the details of his Bluebird banding in the neighborhood of Quincy, Illinois. Encouraged by his splendid results from placing the boxes on fence posts in plain view along country roads, I decided to try out a similar method in Chesley in 1936.

The floor space of the boxes as recommended in the United States Department of Agriculture Bulletin is larger than necessary and I adopted the size used by Mr. Musselman, viz., $3\frac{1}{4}$ " by $3\frac{1}{4}$ ". This makes the box less conspicuous when placed on the fence post and it is less likely to be broken down by cattle rubbing against it. I obtained the best results in placing the boxes near the tops of the fence posts where the removable lids are not knocked off so easily. While the birds did not seem to object to the boxes made of new lumber, those made of old or darkened boards were much less noticeable and consequently much less subject to human interference.

In 1936 I had 24 boxes included in the project and the results were so encouraging that the following year I increased the number to 52, most of which were again used in 1938 and 1939. Practically all of them were in use each year by either Bluebirds, Tree Swallows, or House Wrens, many being occupied for both the first and second nestings. These boxes were spread along about forty miles of country roads, being placed usually on the posts of wire fences and practically always over one-eighth of a mile away from farm buildings to try to keep away from English Sparrows and cats.

A brief summary of the activities of the Bluebirds in these boxes is given in the accompanying table. By "successful nests" is meant only those nests in which at least one nestling matured to leave the box. The four succeeding lower columns naturally contain data only from these nests. Where the number of boxes during the second nesting period varies somewhat from that in the first period, this

has resulted from having insufficient records of these other boxes to include them in the summary although there was sufficient evidence to show that there were additional successful Bluebird nests in these other boxes.

The desertion of so many nests, both before any eggs were laid and before any nestlings were hatched, was unfortunate but I do not believe this represented a very great loss in Bluebird survival for the years concerned. These desertions were mostly all sufficiently early in the season that the birds would still have time to raise two broods elsewhere.

The difference between the number of eggs in the successful nests and the number of nestlings represents not only the infertile eggs but also the disappearance of occasional eggs due to unknown reasons. It is also interesting to note that in these successful nests the nestlings had only a very low mortality before they ventured out of the boxes. This is even more pronounced during the second than during the first nesting period. The difference may be due to the smaller number of eggs and nestlings per nest during the second period.

While the results in 1936 and 1937 were what might be termed normal, in 1938 we had unseasonable weather which adversely affected the results. About the third week in April a very warm spell started most of the birds nesting one or two weeks earlier than usual. During a cool spell which followed, quite a number of these birds deserted their nests. Then toward the end of May we had several cool wet days again and whole broods of dead nestlings were found in several boxes. The failure of these nests, I feel, was due not so much to exposure as to the inability of the parent birds to obtain a sufficient quantity of food for these almost full-grown nestlings. The adults which deserted their nests so early in the season started nesting again when the weather became more favorable, which resulted in very irregular nesting periods. In 1939 the results were a little disappointing with a smaller number of Bluebird nests and a greater number of desertions in the early stages of nesting than in the previous years. This was likely due to the later nesting season and the resulting greater competition for the nesting boxes between Bluebirds and Tree Swallows. English Sparrows also caused a little more trouble in 1939 whereas House Wrens were less troublesome in filling the boxes with their dummy nests.

One of the most conclusive results of this study shows that there is a distinct scarcity of nesting places for cavity-nesting species in an agricultural community such as the vicinity of Chesley, Ontario. Many of the hollow fence posts formerly used by Bluebirds and Tree Swallows have been replaced by steel posts. Many others have been taken over by Starlings during the past decade since their arrival in this part of the country and as a result the smaller

birds, arriving later in the Spring, find it difficult to locate suitable nesting sites. This was proved by the quick acceptance of these newly-built boxes by both the Bluebirds and the Tree Swallows and their rivalry for the same. In most cases the Bluebirds were in possession of the boxes before the Swallows but, if a pair of the latter were insistent on having a box, they usually were successful in driving the Bluebirds away. Starlings also attempted to use the boxes but the diameter of the hole ($1\frac{1}{2}$ "") prevented them from entering.

TABLE I
BLUEBIRD NESTING ACTIVITIES

Nesting Period	1936		1937		1938		1939	
	1st	2nd	1st	2nd	1st	2nd	1st	2nd
	May 1 to June 15	June 10 to Aug. 6	Apr. 25 to June 18	June 6 to Aug. 10	Apr. 18 to June 25	June 10 to Aug. 10	May 10 to June 25	June 20 to Aug. 5
Number of boxes.....	24	24	52	51	52	48	45	42
Occupied by Bluebirds....	16	14	46	25	43	25	30	17
Nests deserted before eggs laid.....	0	1	8	3	4	1	7	2
Nests deserted before any nestlings hatched.....	0	2	11	7	12	8	8	3
Nests deserted with young nestlings.....	0	0	3	1	9	1	0	0
Successful nests.....	16	11	24	14	18	15	15	12
Eggs.....	77	51	117	53	84	67	73	50
Nestlings.....	72	39	109	44	75	56	64	43
Nestlings leaving nests.....	68	37	108	44	69	54	52	41
Juvenile birds banded.....	53	30	81	14	35	20	46	30
Adult birds banded.....	4	3	20	2	20	8	11	1

Banding returns to date have been rather disappointing but, with more birds banded each year, hopes are held for better results in the future. Only five returns of Bluebirds banded in previous years have been obtained. Three of these were adult females recovered a year after banding from the same boxes at which they were originally captured. Another adult female, 34-167002, was banded from a nest in a hollow fence post on May 27, 1935, and was recaptured in one of my boxes about one and one quarter miles distant on May 11, 1937. Only one bird banded as a nestling, 34-167042, has been recovered. It was banded on June 3, 1936 and was recaptured from the same box as an adult female on May 9, 1937, and from another box about one-half a mile distant on May 9, 1938. In several instances females, banded during the first nesting period, have been recaptured from the same box during the second nesting period but usually they were found occupying different sites for this period.

Up to the present only one male bird has been found brooding a nest of eggs. In this case the female was sitting on the wire fence near the box and I got quite a surprise to find the male on the nest. At another box I found the female dead on a brood of five nestlings;

the male was near by with a bill full of food. I removed the dead bird and found on my next visit that the young had been raised successfully, probably by the male parent that was left. It appears that the male, while not as active as the female, helps its mate to a considerable extent in raising the young.

During 1938 I found a very persistent female trying to hatch an infertile egg. This bird was captured from a box with one egg on May 28 and on each of three subsequent visits there was still only one egg. Twice, on June 14 and July 14, a female was flushed from the nest and the other time, June 27, the bird was absent but the egg was warm. While I did not capture the bird on any of these later visits, I feel certain from its behavior that it was the same one because it was very timid, flying as soon as I approached the box.

Parasitism from a maggot which is probably *Protocalliphora* is quite common in the nests of the Bluebirds and Tree Swallows which have been studied, but from the observations during the past four summers, the mortality is almost negligible. It may have been a contributory factor during the unseasonal weather at the end of May, 1938 and during the first nesting period of 1939 when quite a number of dead nestlings were found in nests which were otherwise successful.

Like Mr. Musselman in his experiments, I can say that the farmers on whose fences I nailed the boxes were very agreeable to having them on their properties. I have not yet found anyone who finds fault with the Bluebird and everyone seems to be anxious to have more of them around. Bluebirds are already quite noticeably more common along these roads and the sight of them, along with the boxes, has made many of our rural residents more bird-conscious which has made the experiment not only very interesting but definitely valuable in spite of the comparatively few banding returns.

Chesley, Ontario.