

had been pulled apart and its presence obliterated.—R. D. HARRIS, 178 Douglas Park Road, St. James, Winnipeg, Canada.

Notes on Tree Swallows and Bluebirds.—When I moved to my present house, late in the summer of 1926, a pair of Bluebirds were carrying food to a brood of young in a hole in a telephone pole at the side of the road. The following spring, a pair supposed to be the same birds, returned early in March and soon were examining the same nest site.

I had planned the erection of a number of nesting-boxes as well as the planting of trees and shrubs. But it was too early to begin planting and I had not put up any boxes as I felt they would not be attractive to the birds until partly screened by shrubbery. However, I now put up nest-box No. 1 and the Bluebirds flew across to it and at once took possession and before the end of April the female was incubating a set of eggs.

Then, one day, a pair of Tree Swallows arrived and decided they wanted that particular box. I hurriedly put up boxes No. 2 and No. 3 but the Swallows paid no attention to these new nests and after a day of constant bullying the Bluebirds surrendered their nest and eggs and retired to box No. 2. The Swallows remodelled the Bluebird's nest, incidentally disposing of the eggs in some way, and the Bluebirds started another nest in box No. 2. For awhile peace and quiet reigned and both pairs of birds had young a few days old when a second pair of Swallows put in an appearance. Once more there was fighting of a rather general nature among all three pairs of birds, but soon the Swallows in box No. 1 managed in some way to make good their title and the scene of battle centered about box No. 2. For two or three days this second pair of Swallows constantly harassed the Bluebirds, so that it was difficult for them to bring any food to their young, and at the end of this time they abandoned their nest and left the garden and vicinity.

The next move on the part of this second pair of Swallows was a distinct surprise to me. They lost all interest in nest No. 2, after driving the Bluebirds away, but took possession of box No. 3 where they spent most of their time perched on the roof. They did not attempt to nest but stayed about the garden until the young Swallows in nest No. 1 flew, late in June, when all left and were not seen again that year. About July first the Bluebirds reappeared and raised a late brood in box No. 2.

The following year the position of box No. 3 was changed, bringing it closer to box No. 1, and three new boxes were put up. Box No. 4 was in a tree rather close to the house; box No. 5 was fastened to the garage; and box No. 6, which was made with an entrance large enough for a Starling, was placed farthest away from the house. Quite early Starlings were seen about boxes No. 4 and No. 5 but they could not get in and after a few days left. The Bluebirds built early in box No. 4 but when the nest was finished, and before any eggs were laid, changed their minds and began building in box No. 2 where they raised a brood successfully.

The Tree Swallows arrived at the usual time and for awhile there was

upward of a dozen about the various boxes. There was much quarrelling by spells and some of the birds were extremely vicious. Repeatedly I saw two birds clinch and fall to the ground, and after one became quiet, apparently exhausted, the victor would maintain his hold and pull and tweak. At such times I have approached as close as six feet to the birds struggling on the ground.

Finally the birds became settled for the summer and there were then five Swallows in the garden. *Three* Swallows took possession of box No. 1 and raised a brood and at all times there were three birds in attendance at this nest. As the nest was higher than my head, it was difficult to see the backs of the birds clearly enough to be certain of the sex, but I am reasonably sure they were two females and one male. What the relationship of these birds was to each other and to the young I could not determine, but all three brought food to the nest constantly. In the summer of 1930, also, three birds occupied nest No. 1 but all the other Swallow families have been normal.

The other pair of Swallows selected box No. 6 with the large entrance-hole. A pair of Starlings had already carried in a little nesting material, apparently dry grass, but the Swallows promptly threw this out. Their method of getting rid of the Starlings was interesting. While either of the Swallows was away from the nest the other was on guard, perched on the roof of the box. When the Starling appeared she was either attacked and driven away, or the Swallow immediately entered the box and sat looking out of the hole, effectively blocking the entrance. For several days I did not see the nest left unguarded for a moment and the Starlings soon went elsewhere.

Succeeding years have been a repetition of the same incidents. To me it has been an interesting experience to watch these unsuspected traits in two species that I had supposed I was thoroughly familiar with. The Swallow's aggressiveness was unexpected but the meekness of the Bluebirds in submitting to it was even more surprising.—F. SEYMOUR HERSEY, *Easton, Massachusetts.*

Purple Martins Gathering Leaves.—In watching the Martin colony in my garden I have often seen the birds gather fresh leaves from adjacent tree tops and take them into their nest compartments. They alight on outermost twigs and seem to worry off individual leaves with some trouble and awkwardness and do not take them in passing flight as might be expected. At other times I have seen them carry leaves from the nest and drop them in the immediate vicinity. On a number of occasions I have marked the fluttering fall of the leaf to the ground and examined it. In every case, while still green, it was dry to brittleness. When cleaning out the nest compartments at the end of the season a few brown leaf fragments are found in them but not a sufficient amount to account for the number carried in during the season of activity and I assume that practically all the fresh leaves so taken into the nest are removed when they lose their