

BIRD BEHAVIOR AS A RESULT OF EMERGENCE OF
SEVENTEEN YEAR LOCUSTS

BY WILLIAM JOHNSTON HOWARD

On May 31, 1936, the writer visited the Crown Hill Cemetery, Indianapolis, Indiana, to witness the emergence and behavior of periodical cicadas, or seventeen year locusts (*Magicicada septendecim*). The locusts were not only in great abundance, but their numbers caused an unusual concentration of insect-eating birds within the cemetery grounds.

The cemetery is a tract of between five and six hundred acres of gently rolling land, surrounded upon all sides by the City of Indianapolis. Although the cemetery is not a new one, some of the stones being dated 1862, slightly more than half of the grounds are yet utilized as burial lots. There are numerous large hardwood shade trees, and fair-sized plots of trees and dense undergrowth. The largest of the numerous wooded parts would probably not exceed eight or ten acres in size. From all appearances, the cemetery, with its specimen trees, woodlands, and open fields, makes an ideal place for a variety of song birds. The superintendent informed the writer that for several years past there had been a covey of Bob-whites on the area, until an old field had been converted into lawn.

Not only were the locusts audible as one drove into the grounds, but they were visible at a number of different places. Many of the tree trunks had numerous pupa-skins upon them, and at the bases of these trees the skins were lying in great numbers. Some of the old rough-surfaced tombstones had skins and live locusts upon them. In the areas of concentration it was difficult, not to locate the insects, but to prevent having numbers of them light upon the clothing. It was of interest to note that the distribution of the locusts was not uniform over the whole area; some parts were practically devoid of them, while in others they were very numerous.

An interesting feature of the appearance of the brood was the presence of numbers of insect-eating birds, which had no doubt been attracted by a large supply of easily procurable food. It was noted that the largest numbers of birds were to be found adjacent to good, shrubby cover.

No attempt was made to list all species of birds found feeding upon the locusts, the purpose being to observe the behavior of the birds most in evidence. Birds noted actually feeding upon the locusts, in order of their abundance in open places, were English Sparrow

(*Passer domesticus domesticus*), Eastern Robin (*Turdus migratorius migratorius*), Starling (*Sturnis vulgaris vulgaris*), Bronzed Grackle (*Quiscalus quiscula aeneus*), Eastern Cowbird (*Molothrus ater ater*), and Red-headed Woodpecker (*Melanerpes erythrocephalus*). Other insect-eaters were seen, but were not observed to eat any locusts.

The English Sparrows were by far the most numerous and were the species which might be said to have been in much larger numbers than would have ordinarily been found in such a location. Although there were multitudes of dead and dying insects upon trees and the ground, the sparrows were very active in pursuing flying locusts. As many as three sparrows were seen to chase a single insect, and the squabble and fight characteristic of this bird usually ensued when one of the birds caught an insect. In several instances adult sparrows were seen feeding parts of locusts to their young.

The number of Robins appeared to be but little more than would ordinarily have been found within such a favorable location. While many of them were seen to feed upon locusts, a few were observed pulling earthworms from the sod, in a land of plenty.

Fewer Starlings were observed than might have been expected, as a large summer population is usually present in Indianapolis.

Although Bronzed Grackles are usually not seen in other parts of the city at this time of year, they were frequently seen in the cemetery. Their method of feeding seemed more deliberate than that of the sparrows; they did not chase the insects, but rather daintily ate those easily caught.

Three Cowbirds were observed, gleaning the lawns and leisurely eating a locust now and then.

Two Red-headed Woodpeckers were observed in the act of consuming parts of locusts.

Although four Northern Flickers (*Colaptes auratus luteus*) were seen, none of them appeared interested in feeding upon the abundant supply of material, but fed in their usual manner by picking insects from the sod.

From the observations made, it appeared to the writer that English Sparrows were attracted in large numbers to an easily available supply of food and acted in a "clean-up" capacity to a greater extent than any of the other birds seen. Although present in lesser numbers than the English Sparrows, Robins and Bronzed Grackles seemed to be the other species which were attracted by the insects.

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