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4th. That in case of fright, especially if the bird is wounded, the use of both wings and feet is the rule.

5th. That young birds habitually use both wings and feet. 98 Pinckney St., Boston, Mass.

SOME NESTINGS OF THE CRESTED FLYCATCHER.

BY JOHN A. GILLESPIE.

Plate VI.

It was my privilege during the present year to study intimately the nesting of the Crested Flycatcher (Myiarchus crinitus) and as my birds nested at a height of only four feet three inches from the ground, whereas most authorities give six to twenty feet as the usual nesting height, it seems worth while to place my observations on record, especially as the birds displayed a confidence in mankind both in selecting a nesting site and in their subsequent actions which seems unusual. This nest was located in a piece of hollow fence post about four and one half inches in diameter and twenty inches in depth-which I had nailed to the side of the house and which projected out at right angles there-The purpose of the post was to serve as a food shelter from. and retreat for winter birds, and the possibility of its being utilized for a nest had never entered my mind. The construction of the nest took about ten days. Fine grasses and weed stalks were chiefly used. A piece of waxed paper was temporarily placed at the entrance to the nest by the Flycatchers, but was dispensed with five days later, when a piece of snakeskin some ten inches in length was substituted. This snakeskin was not in evidence when the nest cavity was examined subsequent to the leaving of the fledglings. As no trace of it could be found outside the cavity, the nest proper was examined and minute particles were found therein. As the weather was unusually hot at this time, the snakeskin no doubt became very dry and brittle, and was broke into smaller and smaller pieces, due to the resulting friction as the female came and departed. The sexes could be distinguished with ease as the male carried his crest erect while the female did

not, as can be seen from the photographs. The bringing of materials and nest building were practically all done by the female, and four days after its completion the full complement of five eggs had been laid. Thirteen days later four eggs hatched and the following day five young Flycatchers were calling for food, which consisted of large flies, dragon flies, large and small, but invariably those with wholly transparent wings, small butterflies and moths, species undetermined, caterpillars, grasshoppers and katydids; white mulberries, and small winged insects—species undetermined.

These observations were made from a window not five feet from the nest, shielded by a curtain through which it was easy to see and not be seen. The feedings commenced at 4.30 A. M. and the latest feeding observed occurred at 7.12 P. M. Both female and male brought food in the proportion, I should say, of two to one. The excreta were removed by both adults, and once the female was seen to snatch up a portion before it touched the cavity floor in typical flycatcher style. Fifteen days after hatching, all five fledglings left the nest, flying for the first time in a direct and unwavering manner. It is interesting to compare this flight, of a species soon to be dependent on its wings for food, with that of the Robin or Catbird, largely ground feeding birds, whose initial flights are usually uncertain and of limited distances. The initial flight of one fledgling Crested Flycatcher was at least seventyfive feet. Small bushes and young trees were in his direct path, but he elected to land in a tall red maple, about thirty feet above the ground.

One fledgling left the nest early in the morning and consequently only four were banded. The following night a severe thunder storm occurred, and if this instance can be taken as a criterion, the fledgling mortality among birds, from this particular cause, is nil, for all five could be accounted for, in the woods nearby, the day following the storm.

On July 4, they declared their liberty! And at the present writing, three weeks later, a pair of them, now apparently fully grown, paid us a brief visit, proudly displaying their shining bands.

After recording my observations as above I learned that Mr. H. Walker Hand of Cape May, N. J., a fellow member of the

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- 1. FEMALE CRESTED FLYCATCHER AT NEST.
- 2. MALE BIRD. NOTE DIFFERENCE IN CREST.
- 3. YOUNG CRESTED FLYCATCHERS, REMOVED FROM NEST.

Delaware Valley Ornithological Club, had been studying a nesting pair of Crested Flycatchers and his observations, made entirely independently, corroborate mine in a most interesting manner, while he has added some other facts of importance. He has kindly allowed me to include in this paper a summary of his experiences.

Last spring he erected a small box $4 \times 4 \times 10$ ins. with a round hole for entrance, hoping to attract a pair of House Wrens, but to his astonishment a pair of Crested Flycatchers took possession about the middle of June and began to build, the late date indicating a second nesting or a case where the first nest had been destroyed. The female seemed to carry all of the nesting material, and constructed the nest, although the male accompanied her to and from the box with great regularity. The sexes could easily be distinguished, by the fact that the crest of the male was always elevated, while that of the female lay flat, just as I had observed in my pair.

The eggs hatched on July 3 and one young bird was seen to leave the box on July 28, flying directly from the hole to a tree some distance away with perfect confidence and with none of the short flights of the usual fledgling. It called, too, in exactly the same pitch as the parent. How many young were raised he is not sure. During incubation the male fed the female and would lean in at the hole, but about dusk he invariably left the neighborhood of the nest, going elsewhere to roost. After the young hatched the female also seemed to leave for the night. Both birds fed the young, the female often entering the box and remaining for some minutes, and standing in the entrance hole, looking about in all directions. The male, however, departed at once. When he fed the young he lit on the edge of the hole and, leaning over inside, brought the upper surface of his tail up flat against the outside of the box. The birds caught many small moths and butterflies as well as other insects, and an inspection of the nest after the young had left showed the hard shell of the abdomens of five cicadas.

Further inspection disclosed the presence of ventral scutes and other fragments of a snakeskin which had been broken up evidently by the activities of the young. The nest consisted mainly of pieces of dry grass and a quantity of cowhair and formed a dense mat two or three inches thick covering the bottom of the box.

This nest box was located eight feet up on a telephone pole close to a garden fence where members of the family passed frequently. Mr. Hand was there most frequently and the birds seemed to show especial confidence in him, going to the nest within a few feet of his head, though they showed practically no alarm at the presence of anyone in the garden.

Mr. Hand also tells me of a nest that he watched some years ago which was built in an old wooden pump, propped against a house, the birds going in and out through the hole where the handle operated.

Glenolden, Pa.

THE KIRTLAND'S WARBLER IN ITS SUMMER HOME.

BY N. F. LEOPOLD, JR.

Plates VII-VIII.

DUBING the spring of 1922, it was my privilege to work under Mr. Norman A. Wood of the University of Michigan Museum, the discoverer of the breeding range of Kirtland's Warbler, and at his suggestion I determined to make a trip to the region where he had discovered the type nest and egg of the species. Consequently on June 24, 1922, in company with Mr. James D. Watson of Chicago, I started in my automobile bound for Luzerne, Oscoda County, Michigan.

The first night was spent at Pentwater, Michigan, at a distance of about 280 miles from Chicago, and at noon of June 25, we arrived at Traverse City. From this point it was necessary to strike due east across the state over well-nigh impassable roads, and as a result we were compelled to spend the night at Grayling, still at some distance from our destination, but at least in the same character of country in which we expected to search for our bird. Needless to say we were constantly on the lookout for unfamiliar songs and birds, but although we traversed many suitable stretches

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