## NOTES ON THE NESTING AND FEEDING OF A PAIR OF BLACK-THROATED GREEN WARBLERS.

BY D. K. READING AND S. P. HAYES, JR.

## Plate XII.

ORDINARILY, one thinks of wood warblers as shy and retiring birds, as recluses of the deep forests, far from the habitations of mankind. This is the story of a pair that, unwittingly having nested in a public place, carried on their activities with a rather amazing disregard for the attention of the humans they often seem to avoid.

In June of 1930, on the first Sunday of the camping season at Camp Becket-in-the-Berkshires, about three hundred persons were attending the outdoor service in the Chapel by the lake. In the midst of it, our attention was attracted by the sound of the wheezy lisp that distinguishes the Black-throated Green's song from all others, and then a familiar black and greenish-yellow bird alighted in the tall spruce that backs the rostrum and, without the slightest hesitation or perturbation at the unusual proceedings going on below, flew directly to a spot near the end of a limb and about fifteen feet from the ground. Again and again, as the service continued, those tiny forms darted out from the surrounding mixed woods, and occasionally we heard the weak voices of the nestlings as the parents approached.

That afternoon we returned with ladders, camera, and note book, and for more than an hour watched within a few feet the activities around the nest. One of us stood four feet above the nest, with the Zeiss roll-film camera about two feet from it, and the other stood so that his head was a scant foot under the nest. Still both parents came and fed the four young, which were about a day or two old, and paid no attention to us, although the male was a little dubious at first.

The female was by far the more industrious in feeding as well as in cleaning the nest. While the male brought food about three or four times an hour, and was never seen to remove a pellet from the nest, the female came nine or ten times an hour, usually brought THE AUK, L. PLATE XII.





Black-throated Green Warbler.
Adult and Young.

more than did the male, and almost always took a pellet in her bill as she left. Twice she gobbled up the pellet on the spot, and, from our observations of other species, we assumed that this was the normal method of disposal. Infrequently, both parents came to the nest together, and on some of these occasions the male passed his load to the female to divide. Perhaps the whirr of the movie camera in use at that time caused this unusual procedure.

Observations at less than two feet revealed the tremendous value of these birds as insect destroyers. Spiders, mayflies, green caterpillars (Anisota), ants, small noctuid moths, ichneumon flies, crane flies, and many smaller diptera made up the whole of their menu. While the few spiders and ichneumon flies were harmless or possibly beneficial, many of the other insects were injurious.

On the following Tuesday evening, a violent thunder storm swept the region, and on Wednesday morning, July 2, one nestling was found dead beneath the nest. The three survivors, however, appeared hale and hearty, and now filled their frail nest completely. The nest was not very large and capacious anyway, and, though trimly woven of shredded bark and grasses, its shallowness and evident crowding suggested that perhaps its surviving inmates might have been partly responsible for the demise of one of the brood.

In these last two days, their voices had developed considerably and the insistent cheeping as they greeted their parents could be heard twenty rods away. They always seemed to know when one of the adults was near at hand, but just how they perceived it was never clear. Perhaps they could hear some soft call that escaped our ears. At any rate, we could always tell that the parents were near by the behaviour of the young even when we had heard nothing ourselves.

That Wednesday morning, we brought along our "Filmo 70," and, though we had serious doubts as to the reaction of the birds to its constant whirr, they soon put our fears to rest by feeding the youngsters even when the camera was moved to within a foot of the nest. The male was always a little afraid of the machine, but the female did not mind the limelight in the least.

While at the nest, we noticed an inquisitive Chestnut-sided Warbler in a maple a short distance away. He hung around for several minutes, peering at us, until suddenly the male, ably seconded by his mate, attacked him and drove him off. A male Blackburnian met the same fate a little while later, while peacefully hunting insects in the big spruce and, about an hour after that, a Red-eyed Vireo changed his intended route at the first warning note and promptly withdrew. Curiously enough, a small family of Black-capped Chickadees travelling slowly through the spruce was totally disregarded. One young chickadee, evidently of this year's brood, sat calmly on a branch of the spruce and let us turn the camera on him for five minutes without budging. At the time, we were only about four feet away from him.

Saturday morning, July 5, we found the three fledgelings all well feathered, with small white bars beginning to appear on their wings. One, in particular, was much more robust than the others and, the moment we lifted the twigs that completely hid the nest from above, scrambled over the edge, and set sail for the great open spaces—and a rather bumpy earth. This bold sally must have heartened the others, for they too made violent efforts to escape, chirping loudly all the time.

After several ineffectual attempts to keep the three youngsters at home, it suddenly occurred to us that, already being so tame, the parents might be induced to feed the young while we held them. It would be far easier to photograph them in such a position, so we gathered them together and sat down to test our plan.

Neither of the parents had been much in evidence that morning. Even the female had been coming at half-hour intervals only, and we anticipated a long wait, though our hands were full every minute. What with the fledgelings all objecting strenuously, with mosquitoes and punkies swarming around us, and with one of us holding the Filmo and the Zeiss ready for simultaneous action, we awaited impatiently the parents' reaction to the novel situation.

Finally the female arrived. Obviously puzzled, she first went directly to the empty nest. Then, finding that deserted, she at last answered the insistent cheeping below by darting down, alighting boldly on the hands that enclosed her progeny, and feeding them there. After that feeding, they accepted their new position with more complaisance and made it possible for us to

make many movies and stills at close range. Though the male could not be persuaded to duplicate his mate's feat, she came constantly and without hesitation.

Before we left, we succeeded, after a good deal of maneuvering, in replacing all the fledgelings in the nest. That afternoon we found one some fifty yards away in a large pine, and, one succumbing that night to another thunder storm, the last left the nest July 7.

Accompanying this are our original notes and two of the many snaps we secured during that pleasant week. The movies to which we have added 500 ft. of Hermit Thrushes, Juncos and Blackthroated Blue Warblers feeding their young now repose at the camp where they were originally taken, but we shall be more than pleased to show them or send them to any reader of these lines who would like to see the birds more as we saw them. Perhaps he will then experience something of what we felt as we came to know that family. There he will find the most fundamental vindication of his hobby.

Our original notes on feeding at the nest during the afternoon of June 29 and morning of June 30.

- June 29, 4:20 P. M. Female came directly to the nest in spite of camera and observers, fed one young, took part of food back, fed second young—fat body of some insect—took pellet, and left.
- 4:35 P. M. Male. Not so tame. Reconnoitred somewhat and then jabbed a large mayfly down one youngster's throat, though he had to shove it three times to make it go down.
- 4:46 P. M. Female brought large black ichneumon fly.
- 4:54 P. M. Female and male at nest together, though female there first. She brought green mayfly, and he two noctuid moths.
- 5:17 P. M. Female brought robber fly and Mayfly, both to one young. Took pellet.
- 5:20 P. M. Male brought green Anisota caterpillar and small Diptera (Muscids?) and left hurriedly.
- 5:23 P. M. Female brought mayfly, took a pellet, gobbled it down, and searched, presumably for another, but left without it as the camera clicked.
- 5:30 P. M. Female brought Mayfly and robber fly to one young, took pellet, and left.
- 5:40 P. M. Both together brought Mayflies and Diptera.
- June 30, 8:50 A. M. Both arrived, though only the female brought anything, another Mayfly.

8:57 A. M. Male appeared with green Anisota caterpillar and two unidentified insects. After two minutes of reconnoitering, he fed at 8:59 A. M.

9:08 A. M. Female brought several small insects.

9:10 A. M. Female brought tso of the same ichneumons (?). She showed no hesitation whatsoever in coming to the nest.

9:12 A. M. Male brought four of the same insects.

9:13 A. M. Male brought a Mayfly.

9:14 A. M. Female brought a spider.

9:30 A. M. Female brought Mayfly and something else.

9:39 A. M. Female came with bill full of unidentified insects. She spent some time cleaning bottom of the nest.

9:40 A. M. Male brought a green caterpillar and two small insects.

9:53 A. M. Female arrived with unidentified insects, took pellet.

9:58 A. M. Female flew to nest for a moment but did not feed.

10:02 A. M. Male fed. Female heard singing nearby.

10:04 A. M. Male came with a spider.

10:08 A. M. Female arrived quite damp, brought three Mayflies and a smaller insect.

10:20 A. M. Female brought bill full of small unidentified insects.

10:29 A. M. Female arrived with a lot of small insects.

10:32 A. M. Female brought the same kind of insects. Left quickly.

10:33 A. M. Male brought a small spider and several small insects.

1269 Yale Station,

New Haven, Conn.