

this operation. On October 18, 1947, in the same area, I saw a pair going through this performance, but I was unable to determine what kind of prey they were securing. On November 2, 1947, in Scott County, a group of 20 migrants was seen at 1:00 p. m. "riding the wind" in the manner of the larger hawks. The majority of the birds were only 30 feet from the ground, but several were over 75 feet in the air. All were going through the flycatching maneuver.—JAMES HODGES, 3132 Fair Avenue, Davenport, Iowa.

Starling Catching Insects on the Wing.—With reference to the note by Raymond Cayouette (Auk, 64: 458, 1947) it seems worth pointing out that the habit of hawking insects on the wing with a somewhat swallow-like flight is a quite frequent and regular one of the starling, *Sturnus vulgaris*, in Europe, especially when flying ants are in the air. It is mentioned briefly by the present writer in "The Handbook of British Birds" ". . . when hawking for high-flying insects adopts distinct wheeling and gliding action recalling swallow," and indeed must be familiar to most observers of birds on the British Isles. It would be interesting to know whether it is really as unusual in America as your correspondent's note suggests.—B. W. TUCKER, University Museum, Oxford, England.

Notes on the Breeding Behavior of the Bell's Vireo.—A pair of Bell's Vireos, *Vireo bellii bellii*, was discovered June 10, 1947, constructing a nest on the Robert Allerton Park of the University of Illinois, Piatt County, Illinois. Due to the excellent location and the early stage of nesting, a study of the birds was made, involving 12 hours of detailed observations at the nest.

The nesting territory of this pair of birds comprised 3.1 acres of grassland containing scattered trees and shrubs. The nest itself was situated in a blackberry patch, adjacent to a small intermittent stream, and bordered on the east by a small grove of 40-foot willow trees. The briar patch, some 50 feet in diameter, was located in a relatively undisturbed area of forest-edge. When discovered, the shape of the nest was barely discernible, poorly formed and somewhat lop-sided. The structure was suspended between the stalk and a leaf stem of a leaning briar plant 30 inches from the ground.

Both sexes engaged in nest-building. The female, however, worked faster and more energetically, with only occasional pauses for food. The male followed the female on many of her trips and often paused to sing. However, he brought a considerable share of the material and for short periods the birds alternated regularly in bringing materials and working them into the nest. The male appeared just as adept at handling nest material as the female, even to shaping the bowl by settling low in the structure and turning around and around. During one hour and ten minutes, the female made nine trips to the nest with material and the male six. Three times the male accompanied the female to the nest without material. The nest was completely built in four or possibly five days. Pitelka and Koestner (Wilson Bull., 54: 97-106, 1942) stated, "the females apparently built the nests unaided," and Nice (Condor, 31: 13-20, 1929) said that the male may or may not assist in the nest-building. These observations substantiate the fact that the male helps to a considerable degree in nest construction.

The first egg was laid on the day following the completion of the nest. Egg number two was deposited during the morning of the second day, and steady incubation commenced with the laying of that egg. The clutch of four eggs was completed two days later.

Both sexes participated in incubation. The male appeared more "nervous" at

the nest and flushed much easier than did the female who permitted one to approach to within three or four feet of the nest before leaving. Incubation lasted 14 days from the laying of the second egg. The young were hatched during a two-day interval that elapsed between my visits. During three hours and twenty-six minutes of observation the male was recorded incubating the eggs for one hour and twenty-nine minutes while the female was on the nest for one hour and fifty-five minutes. The average periods of attentiveness were 17.8 minutes for the male and 23.0 minutes for the female. Inattentive periods for each sex were the reverse of the attentive periods, for the eggs were never left exposed, except for a few seconds during exchanges at the nest.

Observations showed that the male shared equally with the female in feeding and brooding the young. Two days after hatching, one of the young disappeared from the nest. During more than two and one-half hours in the middle of the day when the young were three days old, the male made 14 trips to the nest with food while the female made 11. The nestlings were fed, on the average, 9.2 times per hour. Most of the trips were more frequent than this, however, when the birds were actively feeding the young. During this same period, the male brooded the young a total of 25 minutes in four periods on the nest, as compared to the total of 51 minutes for the female in two periods.

The nestlings stayed in the nest for 12 days. On the first day after leaving, they were found about 30 feet from the nest. One had departed to the south, another due west, and the last toward the north. This may have been accidental but may, nevertheless, be better insurance of survival, since there would be less chance of the entire scattered brood becoming victims of a predator. Food was brought to them regularly by the female during an hour of observation. The male was neither seen nor heard during this time.

Five days later the three young birds were about 300 feet from the nest in the directions started but had moved closer together. The young birds had a distinctive call pattern which apparently was useful to the parent bird in locating them.—M. MAX HENSLEY, *Department of Zoology and Physiology, University of Illinois, Urbana, Illinois.*

A Record of the Black and White Warbler in Eastern Washington.—On August 15, 1948, a female Black and White Warbler, *Mniotilta varia*, was collected as it fed alone in willows bordering Paradise Creek, four miles east of Pullman, Washington. The specimen proved to be an adult with postnuptial moult only partially completed, thus giving it the rather worn appearance so characteristic of many of the warblers in late summer. The A. O. U. Check-List (1931) lists this species as accidental in Washington, but a search of the literature has failed to reveal the authority for this statement. The Distributional Check-List of the Birds of the State of Washington, Pacific Northwest Bird and Mammal Society, Northwest Fauna Series, No. 1, February, 1934, fails to mention the record, and there is no record for the state in the distribution files of the Fish and Wildlife Service. In view of this, it would seem that the above specimen represents the first definite record for the occurrence of the species in Washington State.—THOS. D. BURLEIGH, *Fish and Wildlife Service, Moscow, Idaho.*

Reverse Warbler Migration in the Connecticut Valley.—For several years, while watching September hawk-flights at Mt. Tom, in the Massachusetts part of the Connecticut Valley, observers have noticed reverse warbler (family Parulidae) migration which, though small in scale, is of regular occurrence. Singly and in small