

BANDING AND NESTING STUDIES OF THE EASTERN NIGHTHAWK

BY RALPH W. DEXTER

For the past four years the Eastern Nighthawk (*Chordeiles minor minor*) has nested on the roof of McGilvrey Hall or of Rockwell Library on the campus of Kent State University. Observations have been made on nesting procedure and general behavior. Seven fledglings and one female parent have been banded. To date one return has been recorded. While the writer was trapping English Sparrows on the roof of McGilvrey Hall between 1941 and 1946, Nighthawks were never observed. However, a student discovered a nestling Nighthawk on this roof in the week of July 4, 1948. At this time the bird was well feathered and apparently left the roof the evening of July 14. At that time the juvenile was found by night watchmen on the grounds of the campus adjacent to McGilvrey Hall. It was banded with no. 39-311617 and released the following evening at 7:30 p.m. Two hours later a juvenile Nighthawk, very probably the same one, flew over the roof of Kent Hall nearby, accompanied by an adult which gave repeated calls to the young bird. The flight of the juvenile was still unsteady and inaccurate. The writer watched them while he was engaged in trapping Chimney Swifts on the roof of Kent Hall. The young bird narrowly escaped hitting the air shafts of this building as it skimmed over the roof. In the morning of July 17 Mr. Bernhardt Raithel, campus gardener, found this bird sitting on the wall of the promenade between McGilvrey and Kent Halls. The bird took off in flight and settled down in a sand pile nearby. Two days later the writer found it sitting on the roof of Kent Hall at 11 a.m. It was sitting in bright sunshine but when disturbed flew to the shade of a nearby wall where it crouched at the base. At 4 p.m. it was still sitting on the roof but had moved back into bright sunlight. The next day it was again found on the roof at 11 a.m. and at 4 p.m., in bright sunlight both times. On July 21 it was not found, but the following day it was present on the roof at 10:30 a.m. Three days later it was seen there for the last time.

The following year painters working on the roof of McGilvrey Hall discovered a nest of Nighthawks, on June 8, 1949. When visited by the writer the next day the female was sitting on two eggs. Observations on this nest were continued each day for the remainder of the nesting period. On June 12 one egg hatched. The female continued incubating the other egg while the new downy nestling crouched at the edge of her breast. Early that evening she sat on both egg and nestling except for a short time after she had been flushed at 9:15 p.m. The next day the second egg was hatched, and both downy nestlings had been moved back fifteen inches into the shade at the base of the wall. That evening at 9:30 p.m. the nestlings were sitting beside each other in the corner of the roof. Soon one of the parent birds came to them. Upon catching sight of me she veered off, circling the roof several times before landing. Then she came to rest directly in front of me. As I approached, she flew a short distance away from the nestlings, gradually leading me in stages to the far side

of the roof and then flew over the wall. She returned ten minutes later and again settled down directly in front of me as I sat on the edge of the roof and again attempted to lead me away. At first when the nestlings were left alone, they gave a weak cry until one of the parents returned to them. On June 14 they appeared to be nearly twice their size at time of hatching. It was frequently observed that as the female was flushed from the nest she dropped a large, soft scat on the roof. Repeatedly she led me away in short stages as I approached her. Attempts to capture her for banding failed. On June 18 the nestlings had been moved to another corner of the roof fifteen feet away. Until this time only the female had been seen with the nestlings. On this date another Nighthawk, probably her mate, flew overhead while I was present. During the daytime the nestlings were shifted around frequently from one part of the roof to another to keep in the shade of the wall around the roof. Sometimes the female sat on one or both of the nestlings and sometimes sat beside them. This seemed to depend partly on the temperature. The female, after being flushed, either returned to the nestlings or defiantly approached me as I sat nearby. The male, however, seldom landed on the roof in my presence. Usually he circled the building a few times and then left. On one occasion, however, the male did come to the female and the nestlings while I sat nearby, partially obscured by the dusk. Upon discovering my presence he faced me and remained stationary for about ten minutes before flying off to a point several yards away. As I approached, both adults flew ahead of me and attempted to lead me away from the young birds. They took turns circling about and dropping in front of me to lead me farther away.

On June 25 the nestlings had developed their juvenile plumage to the point where they had the same color and general appearance as the adults, although the wings were not yet fully developed. They were probably about three-fourths grown. They were banded with numbers 39-311618 and 39-311619. When disturbed, they ran along the edge of the wall, holding their wings vertically over the back and occasionally opened their mouths widely and hissed. Frequently they defecated when picked up and held in the hand. At night time only one parent, probably the female, stayed with the young birds. Only on rare occasions were both parents found on the roof either day or night. When both were found together, the male usually left at once, circling the roof and zooming close by in a series of power dives. On June 26 both nestlings had been moved to the far north end of the roof, which may have been caused by the activity of the painters on the south side of the roof where the eggs had been laid. At times of rain the nestlings sat on the sloping margin of tarpaper at the base of the wall to avoid the wet roof. After June 29 the fledglings no longer remained close together but were often scattered at different points. On that date they were observed to fly for the first time. They made short trial flights over stretches of the roof. The following day an adult and both juveniles were observed in flight. In the morning, afternoon, and evening of July 1 none of the Nighthawks could be found on the roof. At 9 o'clock in the evening one of them circled over McGilvrey Hall, and an hour later two of them

flew over the roof of Kent Hall at close range. The following evening one landed on the roof of Kent Hall near me while I was setting traps for Chimney Swifts nesting in the air shafts of that building. None could be found on the roof of McGilvrey Hall that evening. At dusk of the next day two Nighthawks, very possibly the banded juveniles, were observed flying at low elevation over the campus near McGilvrey Hall. One of them settled on the ground several times in the same area where the juvenile had been found the previous year. Attempts to capture it did not succeed even though it settled to the ground on several occasions. During this observation an adult Nighthawk was heard overhead with its repeated buzzing call. On July 5 one of the painters found a banded Nighthawk lying dead near McGilvrey Hall. Unfortunately the bird was not saved nor the number recorded. The specimen could not be found by the time the writer learned of its discovery. On July 10 a student reported finding a Nighthawk on the ground near McGilvrey Hall, and the next day another student found a banded Nighthawk resting on the ground under a shrub at 10:30 a.m. beside this building. When he approached, the bird flew several feet away and dropped to the ground again. He was unable to capture it but observed the band on its leg. Apparently this was the surviving juvenile. The young birds seem to require some time for practice before they become adept at flight. After that date Nighthawks were not found again on the campus that summer. Similar observations have been reported by Sutton and Spencer (1949) on nesting of this species on a roof in Ann Arbor, Michigan.

Nighthawks were first observed on the campus in 1950 just after dark on May 15. On each subsequent evening they were heard flying over the campus. On May 24 two were seen by William Clapp of the Maintenance Department mating on the south end of the McGilvrey Hall roof at the same place where nesting had taken place the previous two years. On the morning of June 4 one egg and the incubating female were observed on the roof. The egg had been laid in the northwest corner of the building. At 9 p.m. the second egg was first observed, and both parents were flying low over the building. Upon my approach they attempted to lead me away from the eggs. On June 7 the female was captured with the aid of an insect net while sitting on the eggs and was banded with no. 42-232611. She dropped a large scat in the net while in captivity. During the daytime the female was usually found sitting on the eggs. In the early evening near dusk the eggs were frequently found unguarded. The eggs were occasionally moved a slight distance which may have resulted from the parent birds rolling them over as they developed. The female apparently did most of her feeding in the early evening; the male was never known to guard the eggs while she was away. On June 22 the first nestling covered with gray and tan down feathers was observed. The following day the second nestling was found. Two days later the nestlings had been moved several yards away to the shade of a penthouse wall. They were subsequently moved from place to place on the roof, usually keeping within a shaded section of the wall or penthouse. On June 28 the nestlings were about twice their original size and were beginning to leave the side of the parent. Juvenile

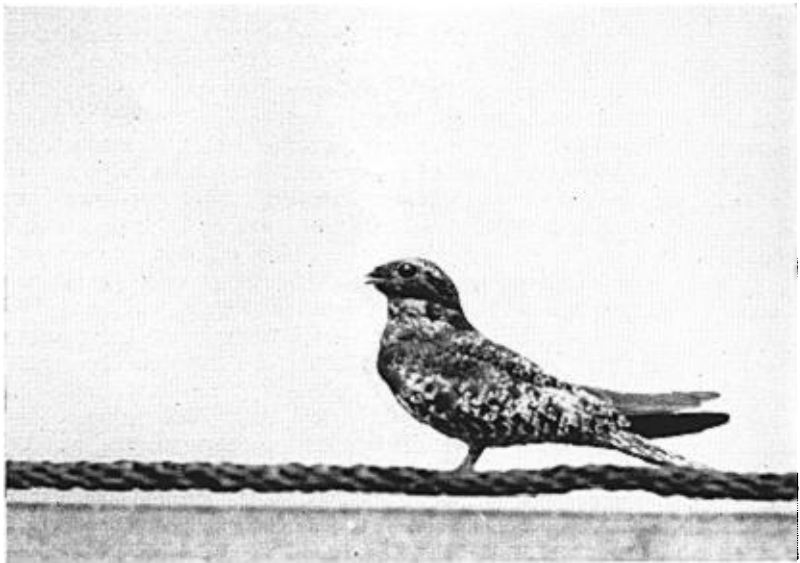


Fig. 1. Banded Nighthawk stands, which it seldom does, on wall of roof snapping its jaws while guarding juvenile birds below. Photo by Robert Vatilla.

plumage began to appear at this time. At 8:30 p.m. on June 30 the juveniles were found by themselves huddled together and making a soft whining sound. They were banded with numbers 42-232610 and 42-232614. Only the female was observed to incubate the eggs and brood the young birds. The male visited the family only at twilight and in the early evening. He seldom came to rest on the roof and was much more wary and difficult to approach than the female. She hesitated to leave the eggs or nestlings and usually did so only at the last moment before she might have been touched by the hand. She always returned promptly and attempted to entice away the intruder. If he did not follow her, she turned to face the intruder and defiantly beat her wings against the roof and hissed with wide-open mouth. A clicking sound was also made by snapping the jaws.

On July 5, shortly after the female was flushed from the roof by Robert Vatilla while taking pictures of the birds, some students found a Nighthawk flopping over the ground on the concrete walk beside the building. Presumably this was the female parent. It escaped before it could be captured. This behavior is difficult to explain unless it is interpreted as a form of feigning injury. Why it should perform this act on the ground and so far removed from the nestlings cannot be answered. Two hours later the female was back again on the roof with the nestlings beside her.

By July 7 the juveniles were often running about the roof, especially when disturbed. While running they usually held their wings vertically and their mouths wide open. When the mother brought food to them at twilight and early dusk they ran to meet her as she sailed

across the roof. She fed them in turn by poking food into their throats, each one struggling to be fed next.

On July 15 the larger nestling took flight from the roof for the first time. The following day both juveniles and the female parent were gone. One bird, probably the female parent, circled overhead in the middle morning. The smaller nestling, no. 10, returned to the roof on July 17. It apparently was not in good health, as it was sluggish and did not attempt to fly. The bird was easily picked up and examined on several occasions. This continued for several days, and on July 21 this bird was found dead. Dissection proved that some sort of a digestive disorder was involved. The stomach was distended with a great mass of undigested insects. Altogether there were 46 moths (the greatest bulk of the contents); 66 leaf hoppers; 2 lady-bird beetles; 2 flies; 1 click beetle, and 1 firefly. Apparently the bird was unable to digest its food. The contents of this stomach gives some indication of the economic value of the Nighthawk in reducing insect populations. The other birds did not return to the roof for the balance of the season. The last Nighthawk observed on the campus was seen at twilight on September 10.

The Nighthawks returned once more to the campus on May 16, 1951, after wintering in Central or South America. Each evening after that date one or more was seen or heard flying over the campus buzzing and zooming in their characteristic manner of flight. Periodic examination of the slag-covered, flat roofs of several buildings clustered about McGilvrey Hall failed to disclose the nesting site of these birds. Finally on June 21 the female parent with two nestlings about one-third grown was discovered in the southeast corner of the roof of Rockwell Library 350 yards north of McGilvrey Hall. The two nestlings were banded with nos. 42-232618 and 42-232619. The female could not at first be captured, and each day she became more wary. On June 25 both parents were observed on the roof at dusk. One of the nestlings was tied inside a single cell automatic trap in an effort to capture the female. This did not succeed, as she failed to enter the trap, but the following day she was captured with an insect net while brooding the other nestling. She proved to be the same female parent, no. 42-232611, which had nested on McGilvrey Hall the previous year and may possibly have been the parent of the first juvenile discovered in 1948 and the nestlings which were found on McGilvrey Hall the following year as well.

SUMMARY

1. A juvenile Nighthawk was captured and banded with no. 39-311617 on July 15, 1948, on the campus of Kent State University. For 10 days it remained on the roof of Kent Hall adjacent to McGilvrey Hall where it was hatched or on the ground close-by while developing skill in flight.
2. A nest of two eggs was discovered on the roof of McGilvrey Hall on June 8, 1949. One egg hatched June 12; the other hatched the following day. The female did all of the incubating and brooding. The male visited the family briefly at dusk. The

- juveniles were banded with nos. 39-311618 and 39-311619. They flew from the roof on June 30. One perished soon afterwards.
3. Nighthawks returned on May 15, 1950. Mating was observed May 24 on the roof of McGilvrey Hall. One egg was found on the morning of June 4; the second one at 9 p.m. that evening. The female was captured and banded with no. 42-232611. The first egg hatched June 22 followed by the second one the next day. The female kept the nestlings in shade as much as possible and brooded them most of the time. They were banded with nos. 42-232610 and 42-232614. On July 15 one juvenile left the roof for the first time. The next day all of the birds were gone. No. 42-232610 soon returned to the roof and died July 21 from a digestive disorder.
 4. The Nighthawks returned again on May 16, 1951. The same female parent, 42-232611, with two nestlings which were banded with nos. 42-232618 and 42-232619 were found on the roof of Rockwell Library on June 21.

LITERATURE CITED

Sutton, George Miksch and Haven H. Spencer. 1949. Observations at a Nighthawk's Nest. *Bird-Banding* 20(3): 141-149.

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GENERAL NOTE

Depigmentation of a Robin.—For several years a Robin, *Turdus migratorius* Linnaeus, with head largely white has been observed in the vicinity of our banding station. In April, 1951, it became apparent that there were two individuals with somewhat similar plumage, one of which was already banded. Not until June 7, 1951, was it possible to trap this bird, number 48-219681, which proved to have been banded at the same location on April 14, 1949, at which time it had been recorded as an adult male with nothing at all remarkable about its plumage. When retaken, most of the head feathers were white with the exception of some around the eye, but the throat and nape were clear white; there was a small white spot in the center of the breast; the undertailcoverts and the lowest part of the belly were white; and there was a sizeable white area on the primaries.

Dr. C. H. Blake has kindly given me his comments on this case. Most of the white plumages of birds are of genetic origin, such as true albinism. While at least six kinds of genetic whiteness are known in birds, this Robin does not appear to represent any genetic cause unless perhaps an age depigmentation, but if so, no similar effect seems to be known for domestic birds. It appears more likely that in this case the depigmentation was physiological in origin, involving a relatively limited area; if so, it appears to be one of the first authenticated instances, though the possibility has been recognized for many years.—Frank P. Frazier, 424 Highland Ave., Upper Montclair, N. J.

RECENT LITERATURE

BANDING

1. Trapping and Marking of Adult Nesting Doves. Wendell G. Swank. 1952. *Journal of Wildlife Management*, 16(1): 87-90. The construction and operation of an efficient trap are described and illustrated. Only 12 out of 106 attempts to trap Western Mourning Doves, *Zenaidura macroura marginella*, were unsuccessful. Birds were marked across the wings and tail in white and yellow with Testors Model Airplane Dope.—Helmut K. Buechner.