

HAZARDOUS NESTING OF THE CHIMNEY SWIFT

BY RALPH W. DEXTER

IN the study of nesting Chimney Swifts, *Chaetura pelagica* L., which occupy the air shafts of three adjacent buildings on the Kent State University campus at Kent, Ohio, observations were made on one bird and its mates which persistently nested in a hazardous situation. In spite of the fact that the nest was placed so near the top of the shaft that it was washed off by heavy rain before nesting was completed, the birds continued to build the nest in the same precarious position for four consecutive years. Each year the same accident was repeated. The life history of the male (No. 42-188516) and its mates just preceding and during those four years will be traced. The method of study and the life history of several other individuals have already been published (Dexter—Audubon Mag., 52:158-161, 1950; Bird-Banding, 21:99-104, 1950; Ohio Journ. Sci., 51:42-46, 1951; Amer. Midl. Nat., 46:227-229, 1951).

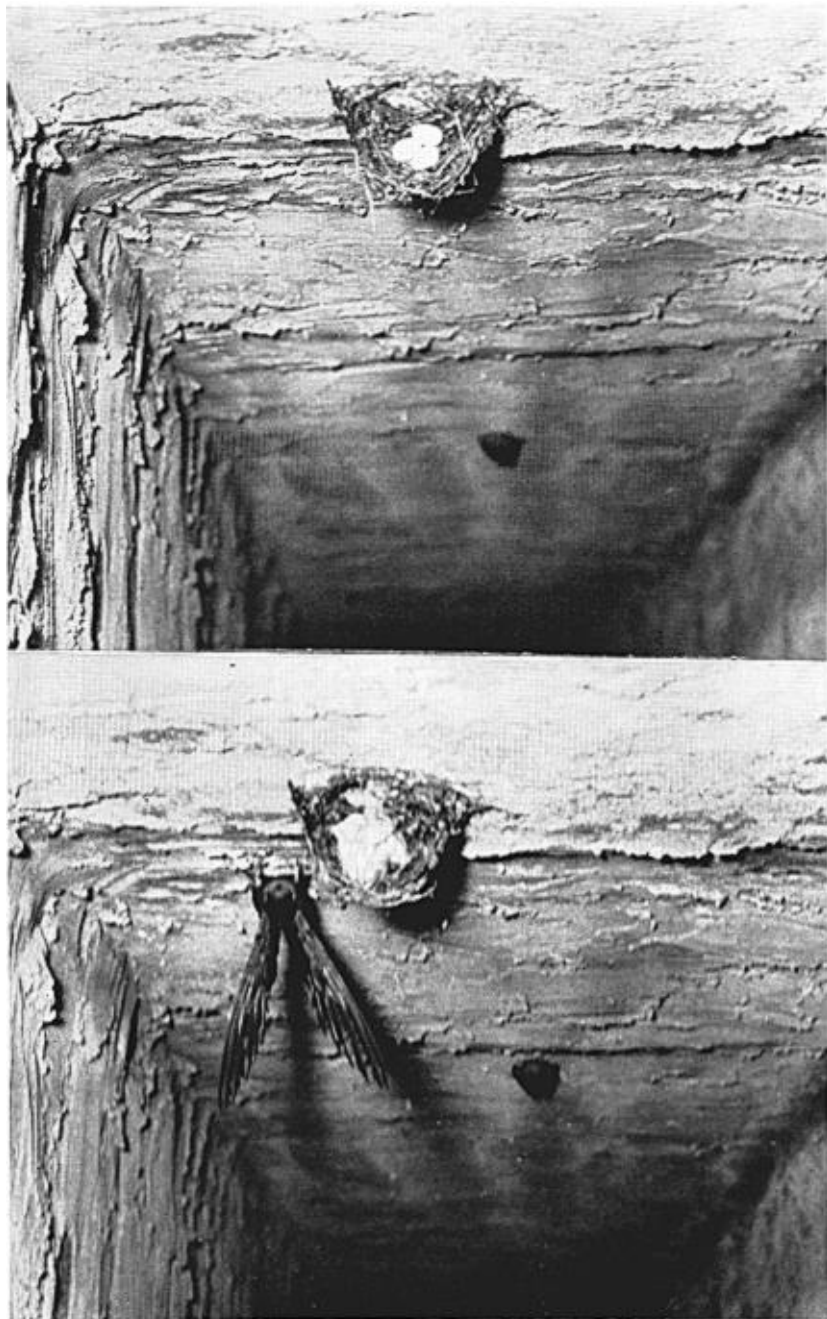
Swift No. 42-188516, which will be referred to as No. 16, was banded on June 5, 1947, in air shaft B1. At that time it was trapped with another bird which was banded No. 42-188515. Although these two roosted side by side each night for nearly three weeks, they failed to construct a nest. In the evening of June 30 only a single individual spent the night in B1. Two nights later there were again two birds roosting there, but on different walls, and they proved to be No. 15 with another swift, No. 42-188524. After that date the swifts abandoned that shaft. No. 16 was not found again during the season. In September after the nesting season; No. 15 was retrapped on two different occasions with a small group of Chimney Swifts in shaft N9.

No. 16 returned to B1 on May 9, 1948, at which time he was alone. After May 17 two birds were roosting there; four days later Nos. 15 and 16 were again trapped together from this shaft. However, they soon separated and were never found together again. No. 15 was found alone in shaft L3 on May 31. The next night it was in the adjoining shaft L2 with swift No. 42-188518, but once more dropped out of sight until after the end of the nesting season when it was for a second year found with a group of swifts in shaft N9. A foot injury to this bird (the band had slipped down over the toes, causing them to coalesce with a loss of the nails) may have interfered with normal nesting. The band was transferred to the opposite leg when the injury was discovered upon her return in 1948. This is the only case of such injury observed in banding more than 500 swifts. Possibly the

hind toe was caught under the band when it was placed on the leg, allowing it to slip over the front toes.

No. 16 remained alone in B1 for three days, and then another bird, No. 42-196907 which had nested or resided in shaft D4 for at least four consecutive years (for three of those years there were always three birds together) joined him on various nights. Sometimes they roosted side by side and sometimes on adjacent walls. On June 6 they began the construction of a nest. Most of the swifts breeding on the campus that season already had their nests made and several had already laid some of the eggs. What appeared to be copulation was observed one evening three days later while these birds were roosting on the nest foundation. Usually a swift's nest is completed within three to six days, but for some reason progress in this nest was suspended for seven days. It was finally completed by June 17. On several occasions one member of the pair was seen at the nest with a twig in its mouth, which was ready to be applied in the construction. This nest was placed only six feet from the top of the shaft. (The range in depth, from top of shaft, for this colony over a period of five years was from 6 to 53 feet. The average distance of 85 nests was 20.8 feet.) The first egg was laid on June 22. Two were found on June 25, and three the following day. Usually one bird incubated the eggs while the other roosted below the nest during the night. Throughout the day one or the other was always warming the eggs. On July 12 a heavy rain storm washed the nest with its three eggs off the wall. Soon the parents scattered into different flocks which form after nesting is completed; although both returned for nesting during the ensuing three years, these two did not mate with each other again.

No. 16 returned to shaft B1 on May 10, 1949. He was observed at that time in copulation with a swift which escaped from the trap and hence was not identified. However, the pair continued to occupy the same shaft and eight days later a retrapping demonstrated that No. 16 was mated to female No. 42-188550. While this bird had been in the colony the preceding year she had not been known to nest on the campus. When first discovered in 1948 she was roosting alone while other swifts were nesting. After breeding was completed she roosted with various small groups of swifts. Upon her return in 1949, however, she immediately became the mate of No. 16, remaining so for two years. As in the previous year, No. 16 and his mate were slow in preparing the nest. On several occasions the two were not side by side while roosting at night, and at least on one occasion one bird spent the night alone in B1. However, on June 8 when most of the Chimney Swifts had already laid several eggs, this pair began to build



(Upper) NEST WITH THREE EGGS IN AIR SHAFT B1 ON THE ROOF OF KENT HALL. INCUBATING PARENT ROOSTED BELOW NEST WHEN DISTURBED. PHOTOGRAPH BY ROBERT VATILLA, 1950. (Lower) NESTLINGS IN SHAFT B1 WITH PARENTS, A FEW DAYS BEFORE NEST FELL FROM WALL. ONE PARENT WAS ON NEST AND ONE BESIDE IT BEFORE THEY WERE DISTURBED. PHOTOGRAPH BY ROBERT VATILLA, 1950.

the nest. Three other pairs also began nest construction about this same time. No. 16 and his mate were very slow in bringing the nest to completion, requiring 16 days in all. The nest was placed close to the same spot (6.6 feet down in the shaft on the north wall) where the previous one had been attached. The first egg was observed on June 29. Two days later the second one appeared and after three more days the third and last egg was observed. The newly-hatched nestlings were seen for the first time on July 22. Two days later their blue pin feathers were beginning to grow. On July 30 just as the feathers had opened out, a heavy rain for the second year loosened the nest and it crashed 28 feet to the bottom of the shaft. Two of the nestlings survived. They were found resting on top of the fallen nest where the parent birds continued to feed and care for them. One night a few days later four juvenile swifts from another family roosted with the parents in this shaft. In a week's time the fallen nestlings began clinging to the wall near the bottom. Gradually they climbed higher up on the wall. On August 11 they had reached to within a few feet of the top. The family now roosted in a compact group at night. After nine days one of the juveniles left the shaft on its first flight. The next day both were gone. That evening three juvenile swifts roosted in B1 with the parents, and were banded the following morning. It is not known, however, whether or not these included either of their own offspring. All of these birds then left and were not seen again during the season. Only the parent birds later returned.

The parents returned together to shaft B1 on May 8, 1950. (Two days earlier a pair had been seen in this shaft for the first time that spring, but the pair was not trapped at that time.) This pair, for the second consecutive year (third time for the male) showed signs of hesitation in mating. Again they were slow in completing the nest, and placed it in the same precarious position. This year the nest was begun on May 27 and completed 13 days later. Egg laying began after June 12. Three eggs were laid by June 18. Two hatched on July 7 (Plate 7). The third never hatched. Ten days after the two hatched, and just as they had feathered out, a rain storm for the third time soaked the nest away from the wall. The next day the two nestlings were found clinging to the bottom of the shaft while one of the adults was near by. The nestlings remained hanging on the wall side by side for a week, during which time the parents continued to feed and care for them as they had done the previous year for another brood. As the young birds gained strength they gradually made their way to the top of the shaft. One night a visitor, No. 48-164546, spent the evening roosting with the family. By August 5 the juveniles had learned

to fly and were not seen again. The parents continued to roost in B1 from time to time, but did not remain together constantly. No. 16, for example, was found roosting in the evening of September 23 in shaft G4 with one of the birds (42-196941) that nested there and the swift that had visited in B1 earlier (48-164546). On September 20, however, No. 16 and his mate returned to their nesting shaft.

Upon their return in 1951, these birds were no longer mates. The female went to shaft M7 and joined the male (42-188540) which had nested there during the two previous years. Neither of his former mates returned. No. 16 returned for the fourth season to shaft B1 on May 7, 1951. At that time he was with the visitor of the past year (48-164546) and an unbanded bird. Five days later Nos. 16 and 46 were hosts to 66 migrating Chimney Swifts, which roosted with them in B1 for the night. None had previously been banded and none remained in the campus colony. A few nights later the occupants of B1 left to roost in shaft C3, but apparently returned to B1 for two more nights before these two birds separated. On May 28 the female was found alone in shaft G3. Five nights later she roosted alone in B1. Very soon, however, she joined a male, 42-188526, in shaft Q2 on the roof of the adjoining building where they nested for that season, constructing their nest 53.2 feet down from the top. This male had nested or resided in this shaft for the previous four years. No. 16 then joined female No. 42-196904 in shaft E6 where they nested 8.1 feet down from the top. The new mate of No. 16 had previously nested there for five years and in shaft A1 in 1944 and 1945. (The life history of No. 4 during the first six years of this study has already been published (Dexter, *Bird-Banding*, 21:99-104, 1950). This bird died, apparently from natural causes, on August 6, 1951). This was the first time, however, that she had nested as near the top of the shaft as No. 16 always has. But this time, nesting was successful in this precarious position, although by a narrow margin, for soon after the nestlings left the nest it fell from the wall as in past years.

SUMMARY

A male Chimney Swift nested for four consecutive years in air shafts of Kent Hall on the campus of Kent State University so near the top that the nest was washed off the wall by rain before nesting was completed in each of three years, and just at the end of nesting the fourth year.

1. In 1947 swift No. 16 failed to nest, even though he roosted nightly with female No. 42-188515 for nearly three weeks in shaft B1.

2. In 1948 No. 16 mated with female No. 42-196907, nesting somewhat later than the other breeding birds in the colony, and with a week's delay during nest construction. The nest was placed only six feet from the top of the shaft in B1. On July 12 a heavy rain washed the nest with its three eggs off the wall. The parent birds then separated.

3. In 1949 No. 16 mated with female No. 42-188550 in B1. Again there was delay in nest construction and it was placed only 6.6 feet down in the shaft. A week after three nestlings had hatched the nest was washed away during a rainstorm. Two nestlings survived and were cared for at the bottom of the shaft.

4. In 1950 the same parents returned to the same shaft, were slow in nest building, and placed it in the same precarious position. Ten days after two eggs hatched the nest was washed from the wall for the third time. The nestlings survived the crash and were attended at the bottom of the shaft.

5. In 1951 No. 16 went into shaft E6 and mated with No. 42-196904. Their nest was placed 8.1 feet from the top and remained on the wall just long enough for nesting to be completed before it, too, was washed away.

Kent State University, Kent, Ohio, September 18, 1951.

BIRDS FROM POPOCATÉPETL AND IXTACCÍHUATL, MEXICO.

BY RAYMOND A. PAYNTER, JR.

DURING a recent expedition in Mexico, a short collecting trip was made to the mountains of Popocatépetl and Ixtaccíhuatl on the border of the states of Mexico and Puebla. A period from October 31 through November 5, 1950, at altitudes of over 3,000 meters, yielded a collection containing 29 species. Except for a few forms that were observed but not collected and, without doubt, some rarer species that were not seen, the collection probably very nearly represents the total number of forms found above 3,000 meters at that season and year. However, the fall and winter of 1950-51 were unusually cold, with the snow-line considerably lower than in most years, and more species probably would be found in a milder year during the same period.

Although many records from Popocatépetl and Ixtaccíhuatl appear in 'Biologia Centrali-Americana' and various taxonomic papers, there appears to be no published study concerned solely with the distribution of the avifauna on these two mountains.