

## Adult Females (cont.)

| Weight | Total Length | Bill | Wing | Wing Span | Tarsus | Tail |
|--------|--------------|------|------|-----------|--------|------|
| 6.9    | 100          | 9    | 53   | 159       | 17     | 40   |
| 6.9    | 100          | 9    | 54   | 167       | 19     | 42   |
| 6.9    | 105          | 9    | 55   | 174       | 19     | 43   |
| 6.4    | 104          | 9    | 54   | 170       | 17     | 42   |
| 6.8    | 99           | 9    | 54   | 166       | 18     | 41   |
| 6.8    | 99           | 9    | 55   | 172       | 18     | 42   |
| 6.6    | 107          | 9    | 55   | 170       | 18     | 42   |
| 6.4    | 100          | 9    | 55   | 170       | 17     | 41   |
| 5.9    | 107          | 9    | 55   | 166       | 17     | 43   |

## Immature Females

|     |     |    |    |     |    |    |
|-----|-----|----|----|-----|----|----|
| 6.2 | 106 | 9  | 53 | 163 | 18 | 40 |
| 6.8 | 107 | 8  | 54 | 167 | 18 | 43 |
| 7.1 | 108 | 9  | 55 | 171 | 17 | 42 |
| 6.5 | 102 | 10 | 55 | 166 | 18 | 42 |
| 6.8 | 103 | 9  | 54 | 169 | 18 | 43 |
| 5.8 | 108 | 9  | 54 | 168 | 18 | 42 |
| 6.7 | 103 | 9  | 53 | 170 | 17 | 42 |
| 6.4 | 100 | 10 | 53 | 165 | 18 | 41 |
| 6.1 | 100 | 9  | 53 | 162 | 18 | 42 |
| 6.3 | 105 | 9  | 53 | 165 | 18 | 42 |
| 5.6 | 105 | 9  | 53 | 165 | 18 | 40 |

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## GENERAL NOTES

**Life History of a Ten-Year-Old Chimney Swift**—Several years ago the writer published a detailed account of the life history of a ten-year-old female Chimney Swift (*Auk*, 73: 276-280, 1956). Since then, another female Chimney Swift has completed ten years of life on the campus of Kent State University, in Kent, Ohio, and its life history is outlined here. The pattern is similar to the previous study, but there are many interesting variations.

This bird, wearing band no. 48-164510, will be referred to throughout this report as —10 for simplicity. This bird was banded as a juvenile in air shaft B1 on the roof of Kent Hall on August 4, 1949. Three other juveniles were banded at the same time and place, all being trapped with the parent birds which had nested in B1. However, these adults were not the parents of the newly banded juveniles, since their own offspring were at that time roosting at the bottom of the shaft where they had been living since their nest had fallen from the wall during a heavy rainstorm on July 31. (The survival of birds from fallen nests has been discussed by the writer in the following references: *Auk*, 69: 289-293. 1952, and 77: 352-354. 1960.)

No. —10 was retrapped as a return on May 18, 1950, from shaft A4 and was taken with another return, no. 48-164517, which will subsequently be designated as —17. These two soon moved into the adjoining shaft A5 where they remained for the nesting season. They started building on June 1. Five days later, they started a second nest foundation a few inches above the first one. After two more days, they constructed a third foundation beside the first one. The birds

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did not always roost on these nest foundations at night, contrary to custom, but frequently were on other walls of the shaft. No significant change was observed in the nest foundations until June 21, when one was found to be about half completed. It was finished June 25, but again the mates often ignored the nest during their evening roost. One egg was laid on June 28, which was considerably later than the average date for the appearance of the first egg. Two more were laid, and all three hatched successfully. However, on August 3 the nest was gone and the nestlings were at the bottom of the shaft where they were being attended by the parents. Two of the nestlings survived.

No. —10 was recaptured as a return on May 1, 1951, from shaft A5 where she was roosting with her mate of the previous year. In the evening of May 12, two other birds roosted with this pair and the following night one bird roosted with them. Soon, however, the mates were left by themselves and they began nest building on May 25. They completed the nest on June 2. The first egg appeared June 5. Two days later the second one appeared, and a third egg was laid on June 9. One of these disappeared on June 23. At this time the mates were captured for a simple experiment in homing. The male (—17) was taken to Canton (30 miles south) and released. The next day no. —10 was taken to Chesterland (30 miles north) and released. Both birds returned promptly to their nest. The two eggs hatched and nestlings with bluish pin feathers were observed on July 1. After nesting was completed, no. —10 roosted in shaft G4 with the mates of G4 and six other swifts. On August 3 no. —10 roosted in shaft E6 with the mates of that shaft and three other swifts. On August 11 no. —10 roosted in shaft U1 with 42 other swifts, and on October 2 no. —10 returned to G4, where she was one of the two remaining swifts on the campus for that year.

No. —10 was taken as a return on April 20, 1952, from shaft M7 with the male which had nested in that shaft the previous year. Nine days later, no. —10 was found back in shaft A5 where she had nested over the past two years. On that date she was alone, but the next night she and two others roosted together in shaft E1. One of the birds was banded at that time, but the third one escaped from the trap. On May 2 a flock of 37 swifts roosted in this shaft, including the former mate of no. —10, but she was not among this flock. However, on May 7 she and her former mate (no. —17) were back together again in shaft A5. They began nest building May 29, and the next day constructed a second foundation beside the first as they had done the previous year. That night each bird roosted on one of the foundations. This situation continued for several nights. They completed one foundation and laid the first egg on June 8. A heavy rain on June 14 destroyed the nest and two eggs. The mates deserted the shaft and were probably the birds which were seen in the adjoining shaft A4 following this date. On September 25 the A5 mates were found roosting in shaft G4.

On May 1, 1953, no. —10 was recaptured as a return from G4 with the male which formerly nested in G4 (42-188588). These two became mates in this shaft. They began nest building on May 23. The first egg did not appear until June 10. They laid a total of four. The mates were recaptured and three juveniles were banded on August 27.

The same pair was recaptured from G4 on May 11, 1954. On occasional evenings a visiting bird roosted with them for the evening. Nest building began May 28, and from that time on, a visitor remained with them until June 8. At that time the visitor obtained a mate of his own and entered shaft L3 for nesting. The first egg in G4 was found June 3, and two more were subsequently laid. On June 18, the former visitor returned after an unsuccessful attempt at nesting in shaft L3.

When swifts were first trapped (April 26) from shaft G4 in 1955, the former mate of no. —10 was taken with the female which formerly nested in shaft M7. Three days later, however, this female was back in M7 with her former mate of that shaft. A bird which then joined the male in shaft G4 was probably no. —10. This shaft was not trapped again until June 4, and at that time no. —10 was present with her mate of the past two years. The nest had been started on May 20, and two eggs were present at the time of trapping. The nest and eggs were accidentally destroyed during the trapping process. The mates continued to roost in this shaft during the night, however, and during the evening of June 8, a visitor remained with them for one night. On June 16 the pair started a second nest on

TABLE I  
Summary of Life History of Female Chimney Swift 48-164510  
at Kent, Ohio, 1949-1959 (Banded Aug. 4, 1949, in Air Shaft B1)

|  | Year      |                |                |           |           |         |                         |           |        |           |
|--|-----------|----------------|----------------|-----------|-----------|---------|-------------------------|-----------|--------|-----------|
|  | 1950      | 1951           | 1952           | 1953      | 1954      | 1955    | 1956                    | 1957      | 1958   | 1959      |
| Date of first capture each year            | May 18    | May 1          | Apr. 20        | May 1     | May 11    | June 3  | May 17                  | June 3    | May 27 | May 16    |
| Shaft used for nesting                     | A5        | A5             | A5             | G4        | G4        | G4      | G4                      | G4        | G4     | G4        |
| Shafts used for roosting                   | A4<br>G4  | G4<br>E6<br>U1 | M7<br>E1<br>G4 | —         | —         | —       | —                       | —         | —      | —         |
| Mate                                       | 48-164517 | Same           | Same           | 42-188588 | Same      | Same    | 48-164517<br>(Reunited) | Same      | Same   | 48-166266 |
| Number nesting together                    | 2         | 2              | 2              | 2         | 3         | 2       | 2                       | 3         | 2      | 2         |
| Regular visitor during nesting             | —         | —              | —              | —         | 21-128602 | —       | —                       | 21-194781 | —      | —         |
| Date nest building began                   | June 1    | May 25         | May 29         | May 23    | May 28    | May 20  | June 5                  | May 25    | June 4 | May 24    |
| Wall used for nesting                      | N         | N              | N              | W         | W         | W       | W                       | W         | W      | W         |
| Distance nest placed from top<br>(in feet) | 9.4       | 10.3           | 10.3           | 13.3      | 13.5      | 13.5    | 13.6                    | 13.5      | 13.0   | 13.5      |
| Date first egg laid                        | June 28   | June 5         | June 9         | June 10   | June 3    | May 31? | ?                       | June 3    | ?      | ?         |
| Number of eggs laid                        | 3         | 2              | 2              | 4         | 3         | 3       | ?                       | 4         | ?      | ?         |
|  |           |                | destroyed      |           |           |         |                         |           |        |           |
| Number of juveniles produced               | 3         | 2              | 0              | 3         | 3         | 3       | 1                       | 2         | ?      | 4         |
| Occasional visitors during nesting         | —         | —              | —              | —         | —         | 2       | —                       | —         | —      | 24-167735 |

the original site. The parents laid three eggs and raised the juveniles successfully. During the evening of July 27, two visitors roosted with this family. At this time, the nestlings were still on the nest. The next night there were three visitors. In the evening of August 6, eleven swifts spent the night in G4. These included the G4 parents, the H1 parents, the M7 female, two non-nesting birds (one of which had been a visitor in E1), an unbanded adult, and the three juveniles raised in G4. When this shaft was trapped again on September 25, no. —10 was still present, but her mate was not. With her at that time were the males from H1 and L1, and a nesting bird which had been the visitor in G4 in 1954.

When no. —10 was first recaptured in 1956, she was taken from shaft G4 with no. —17, her mate of 1950-52, and a visitor that had roosted in shaft G4 during 1955. The visitor soon left, however, and no. —10 and no. —17 were reunited as mates. They began nest building on June 5.

When no. —10 was first trapped in 1957, on June 3, she and her former mate already had a nest completed which contained one egg. With the mates was a visitor of the preceding fall season, which may possibly have been one of their own offspring. The three remained together through the nesting season. All three were x-rayed in an effort to determine if eggs could be detected in the oviduct, as a prospective means of sex determination. Results, however, were inconclusive, and the method did not seem to show promise. No. —10 laid an egg while in captivity on June 5. Subsequently she laid three others in the nest following her release. However, she successfully raised only two juveniles from these eggs. On September 21 the G4 mate and their visitor were seen roosting in their home shaft for the last time that season.

In 1958, a pair of birds took up residence in shaft G4, beginning on May 4. Later they were joined by another one that remained with them. On May 27, these three were trapped and found to be no. —10, no. —17 (her mate of the past two years), and an unbanded bird which was banded at that time. This visitor, however, soon left and nos. —10 and —17 continued to nest for another year in shaft G4. Nest building began June 4, but no details are available for that year since the writer was absent during the nesting season. The mates were last seen that year on October 4.

In 1959, two birds were found in shaft G4 beginning with May 2. One of these was recognized as a bird (48-166266) which had been trapped in shaft D1 on April 24, and in the meantime had roosted in shafts H1 and G3, before going to G4. His partner was determined to be no. —10, when the two were trapped on May 16. These two became mates for the season and started nesting on May 24. Four eggs were produced. In the evening of June 8, a visitor spent the night with them, but did not remain. However, this bird again spent the night with the G4 pair on June 20. The mates were last seen together in the evening of October 9. On October 12, no. —10 was alone in shaft G4, and that was the last record made for this bird. Details of her life history are reviewed in table 1.—Ralph W. Dexter, Dept. of Biology, Kent State University, Kent, Ohio.

**Mist Netting in Hamilton County, Ohio.**—On August 29, 1960, a small concentration of warblers and other migrants—flycatchers, vireos, etc.—was found in a wooded area in a southern section of Wyoming, Hamilton Co., Ohio. No other migrants of these families had been seen up to this date, and none were reported outside this 12-15 acre tract until September 10 in another part of the county. This area had a heavy infestation of "inch" worms and tent caterpillars. For a further description of the tract see *Audubon Field Notes* 11: 453, 1957; 12: 453-454, 1958; 13: 471-472, 1959.

On August 31, 300 feet of mist netting, from 7-10 feet in width and set 2-4 feet above the ground, were strung along a ridge running through a second growth woodland. The nets covered 2,460 square feet. The nets were manned on 1, 3, 4, and 6 of September, also. A total of 35 man-hours was spent by the writer on the project, and the hours varied within the limits of 4:00 A.M. to 7:30 P.M., EST.

**Summary of banding:** Forty-three warblers and vireos were trapped and banded; there were 39 retraps involving 26 individuals. The species banded were: Blackburnian Warbler, 22; Black-and-white Warbler, 6; Chestnut-sided Warbler, 5; Magnolia Warbler, 3; Red-eyed Vireo, 2; Bay-breasted Warbler, 2; one each of