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GENERAL NOTES

Nesting Behavior of a Crippled Chimney Swift.—Over three seasons a crippled Chimney Swift (*Chaetura pelagica*) attempted to nest in a colony of swifts which has been under observation since 1944 on the campus of Kent State University at Kent, Ohio. Only once was it successful, and then as a replacement for a bird which disappeared after its nest with three eggs fell from the wall. With two other swifts over the years of 1963-65, it was apparently incompatible. It is not certain whether its failure to complete nesting in three instances was a result of its crippled condition or whether the birds were simply incompatible, a condition which is occasionally found among nesting swifts (Dexter, 1951b; 1961a). Also, nesting has been accomplished by swifts with a similar foot injury. However, its life history is of interest since the behavior pattern was unusual. Normal nesting behavior has been described earlier (Dexter, 1950; 1951a; 1961b). Chimney Swift No. 25-137573, which later proved to be a male, was captured in air shaft I3 on 24 May 1963. The right toes were missing, and it is possible this injury was the result of a previously attached band which had slipped over the toes resulting eventually in their amputation. Such has been known to occur on

rare occasions. This bird was then banded on the left foot and, along with others in the colony, was color-marked each year for identification. That evening this bird was seen alone in the adjoining air shaft I2. The following evening it was back in shaft I3 with another bird, which was later banded as No. 25-137579. These were roosting two inches apart vertically on the east wall. The next night the former was on the west wall while the latter was on the north wall of shaft I1. In the evening of May 28 these two birds were in shaft I1 (air shafts I1, I2, and I3 are adjacent and form a block of shafts which run down through the building from the roof top), but at that time No.-73 was on the north wall and No.-79 was on the south wall. Two nights later No.-73 spent the night in shaft I2 alone while No.-79 spent the night in shaft I1. In the evening of 1 June 1963, No.-73 was alone in shaft I3, while No.-79 spent the night again in shaft I1. The following night No.-73 was once more alone in I2 while No.-79 was alone in I1. During the night of 4 June 1963, however, both were together in shaft I1, where they roosted three inches apart on the west wall. This situation continued much the same until 16 June at which time No.-79 spent the night alone in shaft I1 while No.-73 spent the night alone in shaft I3. A week later this pair began the construction of a nest on the west wall of shaft I1. In the evening of 24 June, No.-79 roosted on the half-made nest while No.-73 roosted immediately below it. This was the last pair to build a nest in the colony on the Kent campus that season, and this date is much later than nest building usually occurs in this locality. Three days later the nest was finally completed, but on 29 June the nest disappeared. That night No.-79 remained in shaft I1 alone while No.-73 spent the night in shaft I3. The next night both were again in shaft I1, but No.-73 was on the east wall while No.-79 was on the south wall. They remained together in this shaft, but apart from each other, until 8 July when No.-79 was again alone in that shaft. This bird remained until 18 July, which was the last date it was observed.

No.-73 was found as a visitor in shaft N9 with the mates of that shaft on 14 July 1963. At that time there were three nestlings on the nest. The following night three additional visitors joined the threesome of the previous night. Included among the four visitors were No.-73 from I1, and No. 24-167750 from H2 where its nest had fallen from the wall; the others were a non-nesting return and an unbanded bird. Three nights later No.-73 was found in shaft L3 with the mates of that shaft, which also had nestlings on the nest, and which had a total of five visitors that night.

After an absence of two months, the writer again found No.-73 roosting in shaft G4 on 21 September 1963 with three other birds. Five nights later No.-73 was again roosting in that shaft where it remained for two nights along with two other birds. This was the last record for No.-73 in 1963.

No.-73 was first discovered in 1964 in air shaft I3 where it was roosting alone during the nights of 29 and 30 April. It was joined by its former mate No.-79 on 3 May 1964 when they roosted together in shaft I1. However, as in the previous year, their behavior was erratic. Some nights they were together and other nights separated. No.-73 spent many nights alone in shaft I3. Often No.-79 remained alone in shaft I1. During some nights, however, they were in reverse locations. Nevertheless, nest building began in shaft I1 on 21 May, and the pair remained together until 23 May when they abandoned the nest, about one-quarter made, and moved into shaft H5, where they were captured with an unbanded swift. The next night they were in shaft H1 together, but following that date, for the most part, they occupied separate air shafts of the H series, sometimes in one, sometimes in another for a period of time.

On 25 May No.-73 was alone in shaft H2, and its mate was alone in H1. On 27 May, No.-73 spent the night in shaft H4 with swift 28-141733 (which had been banded in shaft H5 four days earlier, when it was taken there with No.-73 and its mate No.-79). At that time, No.-79 was roosting alone in shaft E1 and was unexpectedly found sitting on the nest made by the mates of that shaft (the mates of E1 had been released from the trap that day and did not come back to their partially-made nest until 29 May, after which date they completed the nest but failed to lay eggs). No.-73 roosted alone in shaft H2 on 29 May, and in H4 the following night, and in H3 the next night. During the latter night No.-79 roosted in shaft H2. In the evening of 1 June 1964, No.-73 with its mate No.-79 were reunited in shaft H2 and again roosted side by side on the south wall. The next night, however, No.-73 was again alone in shaft H2, while No.-79 was alone in

shaft H3. Two nights later they occupied the reverse positions, and three nights later they were again roosting side by side in shaft H2, but this time on the north wall. The next night No.-73 was alone in shaft H2, while its mate was alone in shaft H1. In the evening of 12 June, they were back together again in H2, but No.-73 was on the south wall and No.-79 was on the west wall. For several days they were not located, but on 16 and 17 June, No.-73 was alone in H3, where it remained before disappearing again.

On 24 June 1964, No.-79 was back in H3, but No.-73 visited in shaft R2, where the mates of that shaft, after three years of successful nesting there, had lost their nest with three eggs following a heavy rain storm twenty days before. (The hazards of nesting on a vertical wall by Chimney Swifts were described in detail (Dexter, 1952) earlier.) Only the female (24-167738) remained in the evening of 24 June when it was visited by No.-73. A replacement nest was then built by No.-73 and its newly acquired mate in shaft R2. The first mate of the bird which nested twice that season in shaft R2 was also a crippled bird, having lost its toes on the right foot, but it disappeared from the campus colony after the nest with its three eggs fell from the wall. Three eggs were also laid in the replacement nest, with No.-73 being the male parent for the second clutch.

In 1965, No.-79, which had been incompatible with No.-73, did not return, and No. 24-167738, mated with No.-73 in shaft R2 the previous year, did not return either. When No.-73 was taken as a return in 1965, it was found in shaft N9 on 25 May with No. 25-137548, a repeat which earlier had been in shaft M1, and with a new bird banded 28-141749 at that time. (No.-48 had nested in shaft M1 in 1963 and 1964. The former mate of No.-48 returned to nest in M1 in 1965, but with a new mate. No.-48 then moved into shaft N9 with No.-73. It is very possible that No.-73 was the crippled bird which had been seen in various air shafts, especially N9, on the roof of this building up to this date. Swifts with a crippled foot hang on the wall at an angle rather than in a vertical position as birds with both feet do.)

Between one and three birds were observed roosting in shaft N 9 over a period of time, and, on 1 June, No.-73 and No.-48 were retrapped from the shaft. While they remained there for some time, they were often observed roosting on different walls. They failed to build a nest although they remained in the shaft until late September. No.-48 was taken on 25 September from shaft U1 roosting with ten other swifts preparatory to migration. No.-73 was not in that group, however, and neither one has been found since that time.

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Modifications of the Use of the Japanese Mist Nets.—This concerns the current 10 or 12 meters long fowling nets which contain five horizontal parallel shelf-strings and a vertical one at each extremity near the five final loops.

Many people working with these Japanese mist nets in order to catch birds or bats find the same difficulty, i.e., the horizontal parallel shelf-strings break down and the net loses efficacy. These shelf-strings may break down early because of too high a tension due to rain, and more especially because of the captured bats which cut the shelf-strings with their teeth.