SOME COMMENTS ON CHIMNEY SWIFT COUNTS

Leif J. Robinson, Wellesley

Eliot Taylor gave me his minute-by-minute counts of Chimney Swifts. For each night, during the half hour before the last swifts were seen, I averaged at two-minute intervals the cumulative percentage of the birds inside the chimney. His counts on September 13th, 19th, and October 2nd were not included, since the influx rate was anomalous and seemed to be influenced by noise or other distractions.

The first graph shows my averages (dots) and the uncertainty (vertical bars) of each value. Until about 18 minutes before the last swifts entered, the influx was uniform, about 0.5 percent of the total population per minute. Then the rate increased rapidly, peaking three to four minutes before the last swifts entered. From one minute before to one minute after this peak rate, about a third of the total entered; from two minutes before to two minutes after, over half did so.

By fitting as well as possible the average curve to the nightly observations, I could determine the time at which half of the birds were inside the chimney. For each date, this time was compared to the time of sunset, calculated for Framingham. I found that half of the birds would be inside from 6 to 22 minutes after sunset, the average being 18 minutes. Interestingly, the swifts' entry did not seem to be affected by the light level overhead, which Mr. Taylor judged by the appearance of photoelectrically triggered streetlights.

Finally, the total number of swifts that entered the chimney each night was plotted (second diagram). Except for September 16th, when an exceptional number of birds was present, the counts rose gradually, peaking in mid-September. Then the numbers decreased, slowly through early October, and then more rapidly until all of the birds were gone.

These counts do not indicate the actual number of migrating Chimney Swifts; they only reflect the day-to-day differences between arrivals and departures. If the average duration of a swift's stay in the chimney were known, a true picture of the 1975 autumn migration could be constructed. Does some reader know how long a transient swift stays at a particular location?