

Due to signal propagation characteristics, even slight movements of radio-tagged birds (such as shifting position on a perch) resulted in audible signal variations. Approximately 500 hours were spent noting these signal variations during periods from sunset to sunrise. During the fall of 1968 an additional 350 hours of thrush activity were recorded by connecting the receiver output to a strip-chart recorder.

Data were obtained for Hermit Thrush (*Hylocichla guttata*), Swainson's Thrush (*H. ustulata*), Gray-cheeked Thrush (*H. minima*), and Veery (*H. fuscescens*). The frequency and temporal pattern of movements were similar for all the above species.

Typically, diurnal activity began about 20 minutes before sunrise, ceased about 20 minutes before sunset, and consisted of intermittent movement interspersed with 5 to 15 minute periods of no movement (Fig. 1).

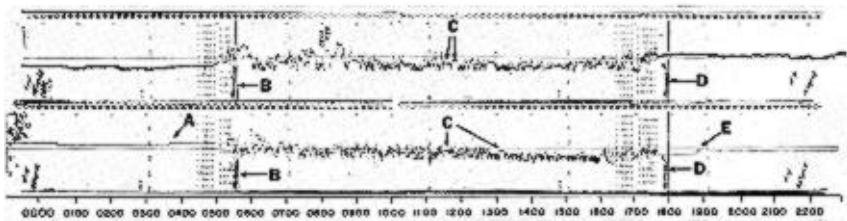


FIG. 1. Strip-chart activity record of an adult Gray-cheeked Thrush on 16 September and 20 September 1968. Times shown are Central Standard. The fuzziness and irregularity of the record before sunrise and after sunset of 16 September was due to fluctuating power line noise. A: A single nocturnal perch movement. B: Sunrise. C: Diurnal periods of no movement. D: Sunset. E: A nocturnal flight lasting about 20 seconds.

Typical nocturnal activity consisted of little or no movement. On 30 per cent of the approximately 220 bird-nights, no movement whatsoever was noted (one radio-tagged bird observed for one night is one bird-night). One to four movements lasting less than a few seconds each were noted on 65 per cent of the bird-nights. Flights lasting less than one minute were observed on 11 occasions (about 5 per cent of the bird-nights).

During the study the initiation of 25 migratory flights was observed. Thrushes began migratory flights after evenings of no movement, a few movements, and after short flights. However, six of 11 short flights were not followed by migratory flights. So far, no *zugunruhe* nor any other activity pattern, diurnal or nocturnal, has been found to regularly precede migratory flight. There was nothing in the bird's behavior, even in the last seconds before take-off, to indicate that a migratory flight was about to take place.

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**First specimens of Chestnut-collared Longspur and Little Gull from Connecticut.**—A Chestnut-collared Longspur (*Calcarius ornatus*) was collected on 29 August 1968 at Lordship Beach, Stratford, Fairfield County, Connecticut. The bird was associated with a resident family of Horned Larks (*Eremophila alpestris*). Although the gonads were destroyed, the specimen was identified as an adult female by comparison of plumage with a large series of longspurs at the American Museum of Natural History.

This specimen represents the first Chestnut-collared Longspur taken in Connecticut and the ninth from northeastern North America. All of these were collected close to salt water and the majority (7 of 9) were obtained in the period from 2 June through 14 September. A possible corresponding phenomenon with eastern land birds appearing accidentally on the west coast during the summer has been illustrated by Tenaza (Condor, 69:579-585, 1967) in California.

At the same locality in Stratford, a Little Gull (*Larus minutus*) was collected on 20 June 1969. The bird was an immature female in heavy molt. Immature Little Gulls were observed in coastal Massachusetts during the summers of 1944 and 1953 (Griscom and Snyder, The birds of Massachusetts, 1955). The collected bird represents the first specimen of *Larus minutus* from Connecticut and now, along with the longspur, is in the University of Connecticut Museum.—WALTER BULMER, *Environmental and Systematic Biology, Life Science Building, U. of Connecticut, Storrs, Connecticut, 20 July 1969.*

**Circle-soaring by migrating nighthawks.**—Common Nighthawks (*Chordeiles minor*) rarely soar in circles in an updraft in the manner of Broad-winged Hawks (*Buteo platypterus*). Ellarson (*Passenger Pigeon* 30:115, 1968) presents an account of a flock of approximately 15 migrating nighthawks soaring in circles and notes that there appears to be no other published account of the phenomenon. I have no recollection of observing circle-soaring by nighthawks in some 15 years of watching fall migration at the Cedar Grove Ornithological Station on the western shore of Lake Michigan. I did observe tens of thousands of migrating nighthawks at this locality with as many as 18,000 seen in one day (31 August 1958).

I have observed circle-soaring by nighthawks on three occasions: (1) About 10 individuals near Fitchburg, Wisconsin, in late August or early September, (2) about 15 individuals in Lexington, Ohio, on 8 September 1966, and (3) A concentration of at least several thousand individuals in Columbus, Ohio, on 3 September 1968. The massed movement of nighthawks was first noted at approximately the time of sunset. Hundreds of individuals were seen moving southwest at an altitude of less than 100 feet over the campus of Ohio State University. Other individuals were noted at greater heights, apparently moving randomly. A large, circling flock of perhaps 300 birds was then noted to the east, over the city of Columbus. The massed, low altitude movement largely ceased, and although nighthawks were to be found at low and other altitudes it was difficult to discern any predominant direction of movement. The birds formed into large circling flocks on several occasions during the observation period of approximately one half-hour. There was at least one flock of circle-soaring nighthawks in the air during all of this time. The minimum number of circle-soaring birds exceeded 200 at any time during the half-hour. At one time there were three flocks in view, one containing between 500 and 800 birds. At least one flock rose to the limits of unassisted vision and its pattern of dissolution or movement could not be determined in the failing light. Although a number of nighthawks were observed perched as darkness fell, there were relatively few nighthawks in the area the next morning. This suggests that many of the high-soaring birds left the area at dusk or during the night.

Further observation during late August and early September at suitable observation points away from leading lines may reveal this to be a not uncommon mode of migration for the nighthawk.—HELMUT C. MUELLER, *The University of North Carolina, Chapel Hill, North Carolina 27514, 11 April 1969.*