he reported a chick banded in Culebra that was recovered the following year in the Tortugas. J. Taylor and S. Furniss (in litt.) found terns in the Culebra colony originally banded on Saba Cay. These reports of exchange of Sooty Terns between colonies give some indication of the distance individuals of this species may range to breed. The reports also raise the question of numbers and sizes of the species' breeding concentrations in the Caribbean and the amount of exchange between colonies.

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LITERATURE CITED

DINSMORE, J. J. 1972. Sooty Tern behavior. Bull. Fl. State Mus. Biol. Sci. 16:129–179.

FURNISS, S. 1983. Status of the seabirds of the Culebra archipelago, Puerto Rico. Colonial Waterbirds 6:121–125.

HALEWYN, R. VAN, AND R. L. NORTON. 1984. The status and conservation of seabirds of the Caribbean. Pp. 234–269, *in* J. Croxall, P. G. H. Evans, and R. W. Schreiber, eds. Status of the world's seabirds. ICBP Tech. Report No. 2.

HARRINGTON, B. A. 1974. Colony visitation behavior and breeding ages of Sooty Terns (*Sterna fuscata*). Bird-Banding 45:115–144.

NORTON, R. L. 1984. Cayenne × Sandwich Terns nesting in Virgin Islands, Greater Antilles. J. Field Ornithol. 55:243–246.

SCHAFFNER, F. C., R. L. NORTON, AND J. TAYLOR. 1986. Range extension of Cayenne Terns on the Puerto Rico Bank. Wilson Bull. 98:317–318.

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Seasonal Changes in the Hour of Oviposition by Red-winged Blackbirds in Southwestern Ontario.—The time at which birds lay their eggs has not been intensively studied, especially for North American passerines. Skutch (1954, 1976) made observations on laying times of approximately 40 tropical species by visiting nests at intervals beginning shortly before the "expected laying time." He found that by continuous nest watches he could bracket the period during which laying occurred and that in many cases species laid shortly after sunrise. Schifferli (1979) lists 43 European passerine species known to lay just after sunrise. Nolan (1978) recorded laying times of Prairie Warblers (*Dendroica discolor*) in relation to sunrise and found no significant correlation.

To determine the hour of day when Red-winged Blackbirds (*Agelaius phoeniceus*) lay their eggs, I watched female blackbirds in May and June 1984 at their nests along the banks of the Thames River in London, Ontario. I located, mapped, and observed nests daily to determine the onset of egg laying. After the first egg of a clutch was laid, it was marked with a waterproof marker and a blind was set up close enough to allow observation of the nest with a spotting scope. On the day when a female was expected to lay the second egg (blackbirds lay one egg a day until a clutch is complete), I approached the nest shortly before sunrise and checked for the presence of another egg. In no instance had the female already laid the next egg, but twice she had roosted on the nest. Only those times that the female was not on the nest upon my arrival are included in the analysis. Females observed were on different male territories to maximize the likelihood that different individuals were studied.

I observed the nest from the blind, recording the time the female arrived and her behavior on the nest. When she left, the new egg was marked. All observations were made on clear mornings with times recorded in E.S.T. Sunrise data were obtained from the London Free Press Weather Service. Linear regression was used for analysis of the relationship between time of arrival and sunrise.

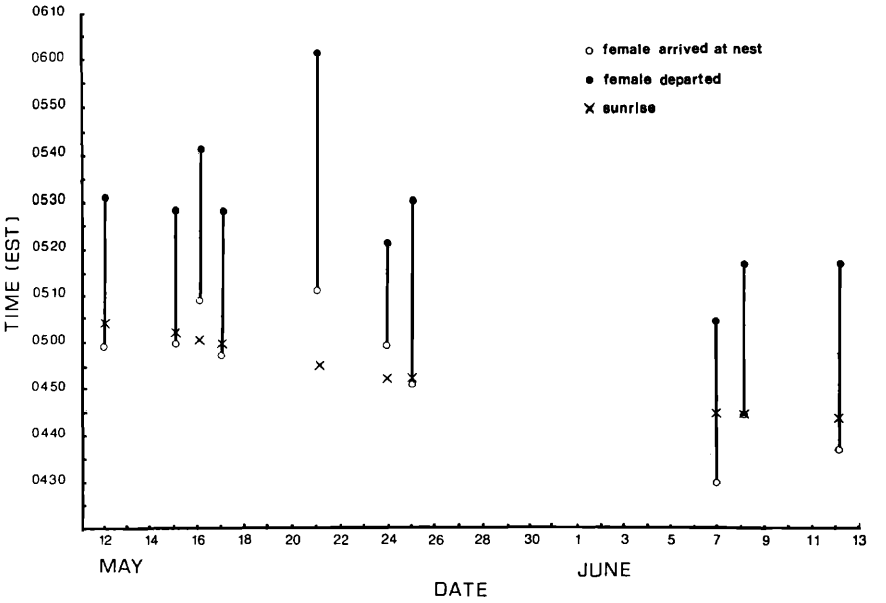

FIGURE 1. The periods during which egg laying occurred at 10 Red-winged Blackbird nests.

Ten laying periods were recorded for ten females between 12 May and 12 June 1984 (Fig. 1). The mean time of arrival of the female at the nest was 0455 ± 13 min. The earliest arrival was at 0437 and the latest was 0512. All laying occurred between 0437 and 0601. On average, females remained on the nest for 29 min when laying (range 20–40 min).

Females arrived earlier as the nesting season progressed. As sunrise occurred earlier with increasing date, the laying period also became earlier. The regression showed a significant positive relationship between the time of arrival of the female and sunrise ($r = 0.69$, $P < 0.05$). A t-test indicated the slope coefficient was not significantly different from 1.0 ($t = 1.09$, df = 8, $P > 0.05$) (Sokal and Rohlf 1981:473). This indicates that females laid at a constant time in relation to sunrise regardless of what time sunrise occurred.

Therefore, my data show that Red-winged Blackbirds lay early in the morning, usually shortly after sunrise.

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LITERATURE CITED

NOLAN, V., JR. 1978. The ecology and behavior of the Prairie Warbler *Dendroica discolor*. Ornith. Monogr. No. 26.

SCHIFFERLI, L. 1979. Warum legen Singvögel ihre Eier am fruhen morgen? Ornithologische Beobachter 76:33–36.

SKUTCH, A. F. 1954. On the hour of laying and hatching of bird's eggs. Ibis 94:49–61.

———. 1976. Parent birds and their young. Univ. of Texas Press, London.

SOKAL, R. R., AND F. J. ROHLF. 1981. Biometry. W. F. Freeman and Co., New York.

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