

times associated with fear-producing situations, such as aggressive encounters or when the birds were being held in the hand, as every bander has experienced with various species of birds. Considering my close approach to the Bobwhite covey, it seems reasonable to assume that these birds were in a fear-producing situation.—Paul A. Stewart, U. S. Department of Agriculture, Agricultural Research Service, Entomology Research Division, Oxford, North Carolina.

Pigeon Guillemot Banding Returns.—In July 1965, I banded two mated pairs of Pigeon Guillemots (*Cepphus columba*) on South Farallon Island, about 30 miles west of San Francisco, California. Each bird was color-ringed on one leg and banded with an aluminum government band on the opposite leg. Both pairs were feeding young at the time they were banded. The birds were trapped at the entrances to the rocky crevices in which they were nesting; the trapping method is described elsewhere (Tenaza, *Bird-Banding*, 37: 207-208 July 1966). When I revisited South Farallon from 18 to 25 June 1966, I found that each of the banded birds was paired with its mate of the previous year, and that each pair was occupying the exact crevice it had utilized for nesting in 1965. Both pairs were again feeding young. Field work was sponsored by a NSF Institutional Grant administered by San Francisco State College to Professor Robert I. Bowman.—Richard R. Tenaza, Department of Biology, San Francisco State College, San Francisco, California 94132.

Observations on a Robin nest: nest translocation and nestling mortality.—This paper reports the successful translocation of a partially constructed nest of a Robin (*Turdus migratorius*), and the subsequent mortality of the nestlings of this nest. On 25 April 1964, a pair of Robins were observed constructing a nest atop a wooden post which abutted the east-facing, exterior brick wall of my house in Champaign, Illinois. The top of the post was 16.0 dm above ground level. In the afternoon of the following day, 26 April, the post was removed, and the nest, which was in the stage of being lined with mud, was moved by me from the post to the nearest window ledge. The new position of the nest was 10.7 dm to the right and 1.5 dm below the original nest site (Fig. 1). In spite of my continued presence in the vicinity of the nest, the female Robin resumed her activities of "mudding" the nest at the new site within 15 min after I had moved the nest. By 30 April 1964, the construction of the nest had been completed, as evidenced by the presence of a lining of grass in the nest bowl.

Neither the male nor female Robin was observed in the vicinity of the nest on 1 May. On 2 May, the female arrived at the nest shortly before 1200 hr (CST) and had laid her first egg by 1300 hr, after which she departed for the remainder of the day. The second egg was laid between 1200 and 1300 hr on 3 May, after which she sporadically attended the nest until nightfall. The female arrived at the nest shortly before 0900 hr on 4 May and had deposited the third egg by 0930 hr; she attended the nest irregularly throughout the day but was not observed on the nest after the onset of darkness (nest checked at 2200 and 2400 hr). The fourth, and final, egg was laid between 1000 and 1230 hr on 5 May, after which nest attendance was irregular during the remaining daylight hours; the female remained on the nest throughout the night.

By 1400 hr, 16 May, 3 of the 4 eggs had hatched; the remaining egg (presumably the last egg laid) hatched between 1600 and 1830 hr on 16 May. Thus, all eggs had hatched within a maximum period of $11\frac{1}{2}$ days from the time of the laying of the last egg.

The last-hatched nestling died on 18 May. Two other nestlings died on 19 May. The last surviving nestling was in poor physical condition on 19 May, but was brooded by the female through the night. However, this nestling died between 0800 and 0900 hr on 20 May and was removed from the nest by the female prior to 1100 hr.

Two points stemming from these observations seem worthy of comment. The translocation of nests (with eggs or young) of many species of birds has been accomplished many times for photographic, experimental, or conservation purposes. Among Robins, nests with eggs (S. H. Cross, Mrs. *Passenger Pigeon*, 11: 60, 1949) and with young (F. H. Herrick. *The Home Life of Wild Birds*. G. P. Putnam's Sons, Publisher. N. Y., 1901) have been successfully moved to new sites by man. The successful translocation of the nest reported in this note demonstrates that

FIGURE 1. Translocated Robin nest, with attending female. The original nest site, which was atop a post, is indicated by the rectangle outlined with chalk. Photo by Wilmer D. Zehr, Illinois Natural History Survey Photographer.



the external stimulus provided by the sight of the partly constructed nest was of sufficient magnitude to maintain the behavioral drive of nest-building in this female Robin.

The death of the nestling Robins was likely due to heat prostration and dehydration. The nest, in its position on the window ledge, was exposed to full sun until about 1130 hr each day. Maximum temperatures, as recorded by a maximum-minimum thermometer placed at the nest site, revealed that the nest, with nestlings, was exposed to temperatures of at least 41° C, 42° C, and 46° C for periods of no less than 1 hr on 16 May (day of hatching), 17 May, and 18 May, respectively. Maximum daily air temperatures recorded in the shade were 30° C, 30° C, and 33° C on 16, 17, and 18 May, respectively; sky conditions were generally clear on these dates. S. P. Baldwin and S. C. Kendeigh (Physiology of the temperature of birds. *Sci. Publ. Cleveland Mus. Nat. Hist.* Contrib. No. 21, Vol. 3: 1-196, 1932) reported that the fatal effect of high body temperatures, on unfeathered nestlings, was almost instantaneous. Their data (p. 121) showed that two young House Wrens (*Troglodytes aedon aedon*), 1 and 4 days of age, died within 15 min when exposed to the full heat of the sun, which was measured at 42.8-43.3° C; a young, but feathered, House Wren, 14 days of age, survived the same set of circumstances for 1 1/2 hr, after which the experiments were terminated. Life of the nestling Robins was undoubtedly prolonged by the brooding actions of the female, which, in part, combatted constant exposure of the nestlings to the full sun. The ultimate death of nestlings, due to exposure to intense heat from both direct and reflected sun rays, in this nest, and in a similarly exposed (but not translocated) Robin nest near Sibley, Illinois, in May, 1959, indicates the inability of some female Robins to perceive such vulnerability at the time of nest site selection.—Ronald F. Labisky, Section of Wildlife Research, Illinois Natural History Survey, Urbana.