

Three Tree Swallows Feed a Family of Nestlings.—Tree Swallow B84071(♂), a return-3, has nested for four consecutive years in the same box at my home in Worcester, Massachusetts. He was mated to F62139 in 1932. On June 15th their four young were banded, F62177, F62178, F62179, and F62180. On this date both adults and an additional adult Tree Swallow, F62176, were taken in the same nesting-box. They were watched for several days, and all three adults brought food to the young. Mr. Forbush says, "Occasionally three birds, usually two males and one female, engage in preparing a nest, incubating the eggs and feeding the young," but this is the first instance of this sort of thing among my Tree Swallows.—MRS. KENNETH B. WETHERBEE.

Notes on Barn Swallows.—Last summer I banded 137 juvenile Barn Swallows in a loft in my barn. About August 1st, when the first brood was well able to fly, I found from ten to twenty birds every morning, usually between 9 and 11 o'clock, resting on a rope under the loft. It was possible to drive many of these into the loft and band them, and I was surprised to find that there was a different lot of birds in the barn each day for there were very few repeats. It seems evident from this experience that young Barn Swallows move about the country before they actually start migrating, and that they have a habit of congregating in any convenient barn early in the morning. It is entirely likely that some of these birds may have been reared in my barn, for I did not band any of the first brood as nestlings, but there were not over ten nests in the barn, so that all I caught could not have been raised there. In any case, supposing this was the home barn for some of the birds, they showed by rarely repeating that the tendency to wander is probably their regular, and not their exceptional, behavior.—EDWARD M. DAVIS, Shirley, Massachusetts.

RECENT LITERATURE

Physiology of the Temperature of Birds.—by S. Prentiss Baldwin and S. Charles Kendeigh. Scientific Publications of the Cleveland Museum of Natural History. Vol. III, pp. I-X; 1-196; Frontispiece; pls. I-V; figs. 1-41. Issued, October 15, 1932. Cleveland, Ohio. This book presents the results of the careful studies on the temperature of birds which have been done at the Baldwin Bird Research Laboratory, Gates Mills, Ohio.

Most of the observations were made on the House Wren (*Troglodytes aëdon aëdon*), yet a considerable amount of data obtained on other species is included. The principal method used for measuring the temperatures was by means of thermocouples attached to a recording potentiometer.

The average "standard temperature" for the male House Wren was found to be 104.4° F. (40.2° C.) and that of the female 105.5° F. (40.6° C.). There was a daily variation in the body temperature of eight species of female passeriform birds on the nest incubating varying from 103.4° F. (39.7° C.) to 108.7° F. (42.6° C.). Muscular activity, emotional excitement, and food caused a rise in body temperature, while during inactivity, as for example sitting on eggs, there was a fall. The highest normal record for a bird held in the hand was 113.5° F. (45.3° C.) for a female Robin.

The upper range for the lethal temperature of adult House Wrens averaged 116.3° F. (46.8° C.) and 115.9° F. (46.6° C.) for nestlings. The lower lethal temperature for adults was 71° F. (21.7° C.) and for nestlings 47° F. (8.3° C.).

The nestling Wren is a cold-blooded animal, its temperature varying with the surrounding atmosphere until its heat-regulating mechanism begins to function at about nine days of age. The greatest variation in the temperature of a nestling was a drop from 107° F. to 88° F. in 16 minutes.

House Wren embryos were found to be able to withstand temperature fluctuations from 32.0° F. (0° C.) to 114.0° F. (45.6° C.). The temperature of Wrens' eggs was found to fluctuate between 98.5° F. (37.0° C.) during brooding to 93.1° F. (34.0° C.) when the bird was off the nest.

This monograph is well illustrated with photographs and curves, and it contains a vast amount of useful information for other workers in this field.—L. B. NICE.

Banding in Switzerland. The report¹ for 1930 of 'the *Vogelwarte* at Sempach is full of interest. Forty-seven coöperators banded 8639 birds, J. Bussmann heading the list with over nine hundred birds to his credit. There are several records as to age: 4 years since banding, Tree Sparrow (*Passer montanus*), and Blue Titmouse (*Parus caeruleus*); 5 years, Chaffinch (*Fringilla caelebs*); 7 years, Yellowhammer (*Emberiza citrinella*); and 7 and 8 years, Alpine Swifts (*Apus melba melba*), the last birds banded in the nest and returning to breed in their birthplace. This was also true with Starlings (*Sturnus vulgaris*) and Black-headed Gulls (*Larus ridibundus*), a juvenile of the latter banded in 1927 being found dead in the same colony in 1930. Great Tits (*Parus major*) banded as nestlings are found to breed in near-by boxes, while a female of this species nested three years in the same box.

Great Tits are predominantly stationary, but one banded as a juvenile in 1927 was taken forty miles west on October 30, 1930, while another, banded as an adult May 12, 1929, was found December 1, 1930, two hundred miles south. The same situation holds true with the Blue Titmouse, only one recovery having been made at a distance, viz. a juvenile banded May, 1930, and taken two hundred and fifty miles southwest October 22, 1930. A wintering Black-headed Gull banded December 15, 1925, was found eighteen miles south on January 18, 1930, while another banded in July in 1930 in Petrograd was taken November 17, 1930, in Switzerland. The long journey to the north undertaken by young Starlings is shown by the record of a bird banded as a juvenile May 12, 1930, and recovered one hundred and seventy miles north June 25, 1930, while another banded as a juvenile May 14, 1928, was taken one hundred and eighty miles northeast October 19, 1930.—M. M. N.

Aquila, 36-37. 1929 and 1930.—A very interesting report of banding results from Hungary is given by Jakob Schenk: a symbol shows whether a bird was banded as a nestling or adult, while the direction and distance of the place of recovery from that of banding are given. With the Swallow (*Hirundo rustica rustica*) there have been nearly five hundred cases of return to home in both old and young, with only two exceptions in the breeding season. Lapwings (*Vanellus vanellus*) have been taken 2, 3, 4, 5, and 7 years after banding. A Black-tailed Godwit (*Limosa limosa*), an adult banded on the nest in 1913, was killed in Algeria, March 11, 1929, one thousand miles southwest.

Koloman Warga reports on the weights of male Quail (*Coturnix coturnix*) captured from May 8th to July 12th, 1930 in Hungary; these varied from

¹A. Schifferli. Bericht der Schweizerischen Vogelwarte Sempach. (1930). Der Ornithologische Beobachter. February, 1932, Vol. 29, pp. 66-84.

52 to 112 grams, the author explaining the great fluctuations by the fact that it was the courting season. One bird caught June 27th weighed 86 grams; on July 4th he was found ten miles southwest and weighed 72 grams.

Titus Csörgey tells of "the gradual dying-out of the migratory instinct in the Blackbird" (*Turdus merula*) "which in the last forty years has changed into a resident, even the young passing the winter with us" (p. 229). Apple orchards have been saved from insect pests by the installation of nest-boxes for Titmice, although constant warfare has to be waged against both House Sparrows (*Passer domesticus*) and Tree Sparrows (*Passer montanus*) in the matter of these same boxes.

A remarkable record of all-day feeding is given by Hans Salmen in the case of the Redstart (*Phaenicurus phaenicurus*) (pp. 127-128): the female did all the feeding, bringing 419 meals to her six young the day they were thirteen days old, an average of once every two minutes, nineteen seconds. (The author does not mention why the male did not assist.) The rate increased till noon, 46 meals being given from 12 to 1, but decreased during the heat of afternoon and a thunderstorm.—M. M. N.