

Regarding eye-rings in my *nesting* Robins, the following five descriptions of this character in adult nesting birds, taken from my record cards, are offered, the dates denoting the time of year the observations were made:

June 15	Adult	Line above and below eye not very heavy and of gray color, not white.
June 29	Adult	Dull gray eye-ring, not very heavy.
June 29	Adult	Dull gray eye-ring, fairly heavy.
July 1	Adult	Almost no eye-ring and that dull gray.
July 5	Adult	Not much eye-ring and that dull grayish-white.

I do not find any young Robins with a really white eye-ring. We get some with whitish eye-ring (whitish gray to dull gray), usually more or less tinged with reddish buff. However, the great majority have more or less of an eye-ring of reddish buff, which is as near as I can come to naming the color of the light markings on head and breast of the young. Dr. Dwight, in his paper on "The Sequence of Plumages and Moults" under Robin, Page 313, states in describing the juvenal plumage, "Obscure superciliary line ochraceous buff, orbital ring paler."

Ridgway, in "Birds of North and Middle America," Part IV, p. 98, after describing the white mark on the posterior half of the upper eyelid of the Robin and the "blunt crescent" on the lower eyelid, remarks, in describing the young, "Heads as in adults, but *** the white orbital markings less sharply defined, sometimes buffy."

Saulte Ste. Marie, Michigan, September 22, 1927.

ENGLISH SPARROW CONTROL

BY E. C. HOFFMAN

THE accompanying chart represents the average movement of adult and young English Sparrows for twelve months into territory adjacent to my trapping and banding station which is maintained sparrowless, as far as this species is concerned, by continuous trapping. The Sparrows are trapped early each morning or as soon as possible thereafter depending on weather conditions. The chart shows results of three years of trapping, including 182 adult male, 187 adult female, and 1189 immature birds. Screech Owls and Sparrow Hawks assist in reducing the numbers of House Sparrows, while Crows from the County Park at Rocky River, two miles west, take many nestlings in the spring.

My banding station is situated in Lakewood, Ohio, a city having a population of fifty-nine thousand and having mostly detached houses. Lakewood adjoins Cleveland on the west. The station is about fifty feet from the water's edge on the south shore of Lake Erie.

The Sparrow population is reduced to zero in February and March, not more than four or five stragglers arriving during each of these months. Beginning in April and continuing through May a movement of adult Sparrows into this vacant territory commences. These birds are trapped on arrival. In July and August flocks of immature House Sparrows numbering a hundred or more move irregularly along the lake-shore.

Observations of these flocks indicate that the House Sparrow is adapting its diet to the change brought about by the almost complete elimination of horse-drawn traffic in cities, as at this period they feed on the gnats and mayflies which come from the lake in such numbers as to be mistaken at times for clouds of smoke over buildings. That the Sparrows are forced to this diet, however, is shown by their preference for grain at the station. That it is probable that the movement of the Sparrow flocks along the lake-shore is due to the appearance of the mayflies is indicated by the fact that a day-by-day count of these insects per square foot of vertical surface forms a curve when platted and averaged over a period of years similar to the curve of total Sparrows trapped. The peak of the curve for mayflies, however, is several weeks previous to that for Sparrows. The coming of the mayflies causes an increase in the numbers of large spiders, which are later diligently sought out by the Sparrows in places where the native birds will not venture.

A second movement of adult birds, composed partly of birds of the year and partly of older birds, occurs in October and November.

The south shore of Lake Erie at this point is a migration route eastward in the spring for the larger birds such as Crows, as shown by my observations, and also for the Cedar Point region, as pointed out by Lynds Jones, (See *Wilson Bulletin* for March, 1910, Old Series, Vol. XXII, p. 31), while for the Common Tern the movement is westward in the spring. Frederick C. Lincoln states that returns of this species to date indicate an eastward movement in the fall (See *Bul. North-eastern Bird-Banding Association*, Vol. III, No. 2, p. 26). The smaller birds, however, including White-throated and

White-crowned Sparrows, Juncos, and Kinglets, which might be expected to follow the shore-line, fly directly across the lake.

Sparrows are caught in drop traps made of four to eight mesh hardware cloth with the margins folded over four inches to form the sides of the trap. Scratch feed is placed in the traps the night before.

As one of nature's most successful types of birds, this species, to the writer at least, is one of the most interesting. Part of its success in occupying new territory may be due to the roving instinct of the flocks of immature birds. The flocking instinct, no doubt means the survival of more of the young birds than otherwise would be the case, since their collective sense of sight and hearing compensates in part for their inexperience. The trapping of the immature birds, however, is most effective of immediate results on account of this flocking instinct.

Trapping of this wary and most intelligent of the Sparrows, a species ordinarily trap-shy, is best done in the winter time after a period of snow-covered ground. Winter trapping will eliminate some of the birds which at other seasons will not approach the station. I regard the trapping of the young birds in July and August as most important in controlling their numbers, since a single surviving pair represents a possible fifteen or twenty descendants during the coming year.

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TREE SWALLOW HABITS AND BEHAVIOR AT BREWER, MAINE

BY HELEN J. ROBINSON

Two adult Tree Swallows (*Iridoprocne bicolor*) and four young were banded at this station last year, but not one of the six which came to my station April 17 and 18, 1927, wore a band. Except for being unbanded they appeared so much like last year's group, also of six individuals¹, that I should have thought them the same birds.

At the time of their arrival this year, two Bluebirds had been here a month, and they had already four inches of nesting-material in Box 1, which is within fifty feet of Boxes 2 and 3. All three boxes were jealously guarded by these Bluebirds,

¹ See my account of the activities of these birds in the *Bulletin* of this Association for April 1927—"Experiences with Nesting Chipping Sparrows and Tree Swallows," pp. 42-44.