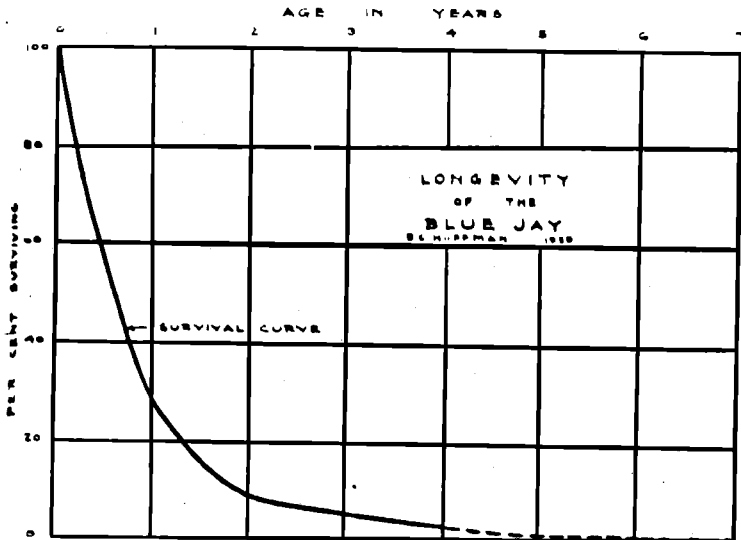


LONGEVITY OF THE BLUE JAY

By E. C. HOFFMAN

BASED largely on data obtained from birds in captivity, the prevailing belief has been that some at least of our common birds reach an age of ten years or more, but information recently obtained from birds marked with metal rings or bands, based on returns, shows that the average life of a common bird, the Purple Finch (*Carpodacus purpureus purpureus*) for instance, is about two years. (See M. J. Magee, *Bulletin Northeastern Bird-Banding Association*, Vol. IV, 1928, pp. 132-136, and Helen Granger Whittle, Vol. V, 1929, p. 38, by C. L. Whittle).

In the case of the Blue Jay (*Cyanocitta cristata cristata*), the following information has been derived from marked birds. Of thirty banded in 1924, one at least survived until 1928, or three per cent approximately. Of sixty-four banded in 1924 and 1925, there were known to be alive three years later in 1927 and 1928, four, or about six per cent. Of one hundred and six birds banded in 1924, 1925, and 1926, there survived two years later in 1926, 1927, and 1928, ten, or about nine per cent. Of one hundred and forty-five banded from 1924 to 1927, in the succeeding year forty, or twenty-eight per cent, survived. These data are indicated graphically in the chart below:



The calculation of longevity will be discussed in a future number of the Bulletin. For an account of the longevity of other forms of life see Pearl, Raymond; *Human Biology*, pp. 372-379. 1924.

From the average age of one and a half years, which the data given above indicate the approximate expectation to be, borrowing a life-insurance term, it is evident that the average Jay lives long enough to mate, to raise a family of perhaps five, to leave the nest, which in this locality is about the first of June; and then, six months later, about the first of December, when the young birds have acquired sufficient experience to take care of themselves, this average Blue Jay is dead or missing. It is perhaps not entirely a coincidence that our average bird disappears from the scene when the food-supply, if limited, is needed for the survival of the coming generation.

However, of considerably more interest to the observer, as compared with our average Blue Jay, is the one bird in eleven of the original nestlings (9 + 2) which survived to mate again the second time. And the interest increases each year as the survivors decrease. When the time for the fourth nesting comes, only about three of an assumed one hundred original birds will remain. This is also the case with Mrs. Whittle's Purple Finches mentioned above, as eleven out of four hundred and one are noted as returning the fourth year, or about three per cent. If the same ratios continue, it is clear that the Jay returning in the seventh year is one bird in a thousand to survive.

These survival ratios may be checked approximately as follows. Assuming one hundred adult birds, or fifty pairs, to start nesting on April 1st, if an average of five nestlings are raised per nest (if a nest is destroyed it is probable the birds will nest again), there will result two hundred and fifty nestlings. Of these two hundred and fifty, about twenty-eight per cent, or about seventy, will remain on April 1st of the next year. Originally the one hundred adult birds numbered about 357 as nestlings. The number remaining of the one hundred adults would be nine per cent of the 357, or 32. Adding this last number to the nestlings who have survived a year results in a total of 102 adult birds to mate and maintain the species the second year. Conversely, it should be possible to obtain some idea of the longevity of any species from the number of young raised yearly.

It seems probable that the number of Blue Jays in a city like Lakewood is maintained or increased by an influx of young birds during the fall. There has been some evidence obtained from marking birds which indicates that birds-of-the-year of certain species scatter in all directions in late summer.

In Lakewood I estimate the Blue Jay population as about one hundred and sixty per square mile, or about one bird to four acres. Lakewood is a built-up city having a population of about seventy thousand in an area of slightly less than six square miles. Consequently the information presented here may not be comparable with that derived from farm territory. I capture my Blue Jays in a wire drop-trap (see cover picture).

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A FOUR MONTHS' CAMPAIGN BANDING PURPLE FINCHES

By FREDERICK A. SAUNDERS

THE 8th of February, 1928, saw us on the way to South Hadley, Massachusetts, to enjoy a sabbatical half-year in a New England village surrounded by good bird country. We thought little of banding, as there were more serious jobs to be accomplished, but suet in the trees brought an immediate response, and when Tree Sparrows appeared in a rough blackberry hedge at the back of our yard, we yielded to temptation and put out a mixture of food. By February 14th the little automatic trap which we took with us caught its first Tree Sparrow, and that same day we saw six bright male Purple Finches (*Carpodacus p. purpureus*) decorating a little tree in the yard. Often later on its seemed as though this tree bore Finches instead of apples. In a month more than one hundred had been banded, largely in a home-made pull-string trap, and by May 14th the score of Finches had reached four hundred. The 88th (and last) Tree Sparrow was taken on April 26th. Pine Siskins were about in small numbers till May 11th. These, besides sixty-eight individuals of eleven other species, gave us plenty of company, an unprecedented chorus of song, and a local reputation.

It was interesting to see how rapidly a new spot might become a successful refuge and banding station. We were especially struck by the speed with which the birds took in the situation. A small flock of Siskins flew over one day, apparently strangers, and one dropped out, almost as though the idea hit him suddenly, and lit with the Finches beside the food. Eight Redpolls made another day memorable by a similarly sudden visit, and one of them acquired the habit -