BULLETIN

OF THE

NORTHEASTERN BIRD-BANDING ASSOCIATION

A BIRD RESEARCH LABORATORY[1]

BY S. PRENTISS BALDWIN

PERHAPS it was in 1914 that traps were first set on the farm to reduce if possible the number of House Sparrows, which so occupied our bird boxes, as well as our bird attention, that we could find very few native birds. A wise father had taught us years before to put up boxes for Wrens and Bluebirds. Let us digress here to say that it is a wise child who selects a father who has sufficient interest in nature to take the child out and open his eyes to see the flowers and birds. Forever after, that child finds the woods and fields full of his friends and companions when human associates may fail him.

The traps caught native birds as well as the House Sparrows. We heard about the numbered bands, and, procuring some, we placed them on about ninety native birds that first season. When some of these birds came back the next season, they really were old friends, and they so inspired us with enthusiasm that we set more traps, and from that day to this, now fourteen years, we have banded each season some hundreds of new birds, and we now take from our traps each season more birds of previous years than the total number of birds banded that first year.

For example, this year (1928) we have taken of House Wrens alone forty-three birds banded during previous years, thirty-seven of them adults of previous acquaintance in our neighborhood and six of them young birds hatched and raised in our neighborhood last year. And we have taken this year a hundred or more birds of other species that prove to be old friends banded during previous years. During the first six years, until 1920, bird-banding was discouraging business, not for any lack of birds coming back, but because banding then had not achieved a position in the scientific world and family and friends regarded it only as a foolish way to waste idle time. Our sporting friends thought we were given to a

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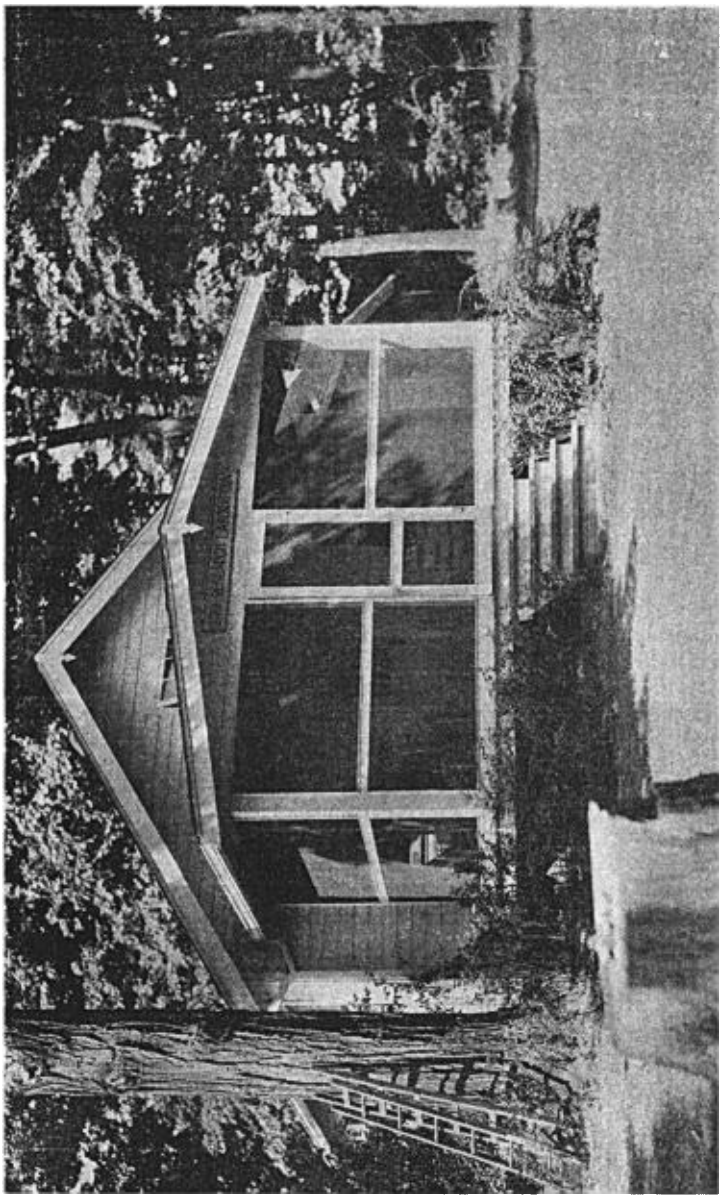
sort of old ladies' game, trapping little birds in the yard, when we might be shooting real game for sport and eating. It takes courage, and patience, and a sort of dogged persistence to follow up your hobby under such conditions.

The tide turned a bit when in November, 1919, we made our début before the American Ornithologists' Union and presented a long list of birds that had come back to us at the farm near Cleveland, and at Thomasville, Georgia, some of them on several successive years.

Bird-banders are mostly familiar with the story as told by Doctor Nelson in the *National Geographic Magazine* for January, 1928, of the growth of bird-banding after it received the official sanction of the United States Biological Survey, and was adopted and promoted by the Survey. The great appeal of bird-banding to some was the fact that one need not kill the bird. In boyhood we had collected eggs and made bird-skins, and, being perhaps more persistent by nature, it was not given up, when all the other boys outgrew it. The older ornithologists all grew up that way, from collecting birds and eggs, and a few boys carried it to the point of scientific value and became great scientists. We bird-banders have no word of scorn for collecting; it was necessary and resulted in the careful study of species that has covered the world pretty thoroughly. We quite appreciated that along that line we could never equal the greater men, nor even make ourselves heard.

But to handle live birds, and often the same bird over and over again, day after day, and year after year (we had some as many as eight years), did not offend the conscience. Then the new method led, too, to so much accurate record of the life of the individual. It is an old story to you that we found it easy to trap the House Wrens on the nest and keep record of changes of mates, until we had many records that formed themselves into a story of marriage relations. And of course this appealed to the daily newspapers, which recognized the stories as similar to their pages devoted to daily news of human relations.

Another discovery led us quickly and directly to a bird laboratory. During the early years of study of the mating of Wrens we were mindful of the old tradition that you must not touch the nest or eggs of a bird or the bird will desert the nest. In the study of mating it was necessary to trap and band and thus handle the mates, but we carefully avoided the nest at other times and only went to it the two or three times necessary during one complete incubation. We even



BIRD RESEARCH LABORATORY

wrote somewhere that the way to attract birds to the premises was to keep cats away and provide food and water and *stay away from their nests.* It was all wrong, however, for most birds near home seem to become more and more tame and almost enjoy company and attention.

For some years it has been our laboratory rule to visit all nests within our area every day, mark the eggs and take them to the laboratory to weigh them, and to follow the same rule with young birds. Of thousands so handled we need cite only three examples: the one an incubating female Bluebird, whose body weight was being taken several times a day, and the assistant need only go to the box, throw open the cover, and reach in for her, with no attempt on her part to fly away; and another case where an assistant was putting glass thermometers down the throats of young wrens every day, and each time the mother bird came she would wait close by his hand for him to finish, then pop into the box to feed the youngsters. Yes and one other story, for this daily handling is really the whole foundation of laboratory work with live wild birds; that of an assistant taking a movie at four feet distance of a mother wren going in to feed the young, which did not disturb her activity; but when a stranger came within seventy feet of the nest she stopped work and began to scold. We confess that of thousands so handled a few have resented it and left the nest. Twice I believe Cedar Waxwing females have deserted; twice it has occurred with Crested Flycatchers; but it is a rare occurrence.

Dr. Leon Cole had long ago talked about a bird laboratory to study wild birds, and the growing interest in the intimate contact with birds led to the construction of a small building on the farm as an office—we at first called it; and the next year a larger building was necessary, a cottage we should call it, but having three work rooms, and another cottage as a lodge for a married assistant. Assistants? Yes that is running your hobby pretty strongly, to build cottages and undertake to supply the apparatus needed in a laboratory and then engage assistants to help in the work. A word is necessary about these assistants, for they are not mere boys, but trained young naturalists, and they come not for pay, but for love of the work. And it is no eight-hour day of work, for their enthusiasm keeps them at it every waking moment, usually sixteen hours instead of eight; and we catch them up at night to watch the nights of the House Wrens. The employment of assistants began at Thomasville, where a volunteer assistant could handle several thousand birds and

gain much banding experience in six weeks. During the last four seasons there have been two, or this year three, assistants during the nesting-season at Gates Mills, Ohio.

One question is always asked when we tell of this from the lecture platform. Last year you studied the House Wren; what bird will you study this year? To that we reply that we have studied the House Wren now eight years and we find more and more questions to answer, until we have plans for work for our laboratory for ten years more on the House Wren.

The field of work covers two areas. One area of ten acres about the laboratory is reserved for intensive laboratory work, and here it is that Mr. Kendeigh has now for three seasons studied the body temperature of birds. Mr. Kendeigh makes it his affair to know all the nests on this ten acres, whether of Wrens or of other species, to mark the territory of each male House Wren as he comes and establishes his right to possession, to identify and band each bird and the mates and the young, so that for years since that first marriage-relations story we have records of changes in mating. It is here that we have tried out the machines which make observations for us day and night though we may be asleep, the recording potentiometer, described in *The Auk* for April, 1927. We will not repeat the detail, but just say that a tiny thread-like wire in the nest lying across the eggs is connected by cable across the orchard to the machine in the laboratory. Through that machine passes about four feet per day of paper ruled for time and temperature. A pen marks the slightest change of temperature on the paper. As a change occurs, every move of the bird is recorded. It tells at egg-laying time not only the moment each egg is laid but also every visit the bird makes to look about the nest and see if everything is all right. It tells of the increasing number and length of visits during succeeding days, and during incubation it not only tells each time the female leaves the nest and how long she stays off but records the fact if she only turns around and sits down again.

The other recording instrument we called the "Wrenograph," but we hear that we must give it a more scientific name. Like the potentiometer the Wrenograph has a roll of paper ruled for time and about four feet of it to each day, but this does not record temperature. Instead of the thread-like wire or thermocouple, the Wrenograph operates with a double perch that makes electric contact so that the pen moves to the right when the outer perch is touched, and is drawn to the left when the inner perch is touched. This marks on the paper each trip the bird makes into or out of the box, and

equally well it records if a bird touches only one perch and if it lights upon the outer and leaves it without going into the box. With these machines one may see what is going on at different nests without the assistant leaving the office, and often they warn of any unusual happening at any point.

For taking body temperatures the laboratory is well stocked with glass clinical thermometers of special make adapted to work with birds, but it was found that a much more accurate and convenient instrument for reading body temperature was an electric potentiometer and thermocouple. But the story is becoming too long, so I will just refer you to the temperature study by Mr. Kendeigh in the *American Naturalist* for May, 1928, and leave other forms of apparatus for future description.

Another side of the work is what we call "out-field." That means one or more members of the staff go about in what we call the official car, the rear seat loaded with Wren boxes and traps, to visit the neighboring estates for two miles or so about. The neighbors like it and become much interested, and allow us all sorts of liberty with their bird-houses, knowing that we will not harm their birds. This out-field work is for the study of distribution of the Wrens, a wider study of matings, the return of adults or of young birds from year to year, and their movement in the neighborhood. In fact many new questions arise in the study of so large a number of one species.

The extent of this work may be realized when we state that there are some 300 boxes out; that we had this season some 168 attempted broods, 115 successful broods, nearly 900 eggs laid, and 514 nestlings banded. During 1927 there were banded 158 adult Wrens, and in 1928, 37 of these birds, or 24 per cent, returned. Of the young Wrens banded in 1927 there were 428, and only six of them were taken this season, or less than 1¾ per cent. That is one of the problems. What becomes of all the young birds that so very few return to the same region; and it was partly in hope of finding some clue on this question that we organized the out-field work.

This is a hasty view of fourteen years' growth but it shows how crazy a bird-bander may become, and it certainly is the grandest form of sport, with lasting benefits that increase with the years.