

Number	Date Banded	Date Recovered	Locality where Recovered
36986	Sept. 10, 1918	Dec. 22, 1920	Townsend, Va.
4549	Sept. 15, 1920	Dec. 28, 1920	Owensboro, Ky.
4543	Sept. 15, 1920	Jan. 1, 1921	Jamestown, Va.
4570	Sept. 18, 1920	Jan. 13, 1921	Georgetown, S. C.
5103	Nov. 6, 1920	Jan. 15, 1921	St. Andrew, Fla.
4568	Sept. 18, 1920	Jan. 29, 1921	Bull's Island, S. C.
4598	Sept. 25, 1920	Feb. 5, 1921	Meltonsville, Ala.
4637	Sept. 29, 1920	Feb. 20, 1921	Barnwell, S. C.
Marila collaris			
4700	Oct. 29, 1920	Nov. 23, 1920	Back Bay, Va.
37304	Sept. 24, 1920	Jan. 5, 1921	Georgetown County, S. C.
Querquedula discors			
4576	Sept. 24, 1920	Dec. 9, 1920	Port of Spain, Trinidad, B. W. I.

U. S. Biological Survey, Washington, D. C.

BIRD-BANDING AT THOMASVILLE, GEORGIA, IN 1922.

BY L. R. TALBOT.

Plates XV—XVII.

THIS story tells of the bird-banding experiences of a novice. That is, I was a novice when they began on the twelfth of March, although a month later, in view of the number of birds handled, I felt like a veteran. And in that one fact lies the point that I wish to emphasize at the outset: that one does not need to be an expert in bird-banding, or a professional ornithologist, in order to take up this new and fascinating and most important phase of bird-study. Anyone with a minimum of time and a love of birds can by this means add to his own enjoyment and knowledge, and can help the cause of scientific bird-study and protection.

On March 1, 1922, bird-banding was, so far as I was concerned, largely a myth. Before the end of the month it had become, for

a while at least, the very center of my life; all my plans were conditional upon their effect on my work; a walk, a ride, a swim, a dinner engagement, all were timed so as not to interfere with the really important thing in life,—the periodical tour of the traps. I literally banded birds while I ate, as you shall see; and no one with a bit of enthusiasm in his make-up will doubt me when I say that I banded them in my sleep.

I had joined the New England Bird-Banding Association a few weeks before, and in due time had received my permits from Federal and State governments. I had pledged myself to band at least one bird this year; and I wondered whether I should be able to keep that pledge. I was frankly skeptical. I have more than kept it; in fact, I think I might ask to be retired on a pension! But I shall not; the work is too interesting for that. I shall keep it up wherever and whenever it is possible.

A bit of personal narrative is necessary that the reader may understand how a few short weeks had brought about such a change. Mr. S. Prentiss Baldwin, whose work in bird-banding is too well known to require extended comment, was unable to go to his usual trapping station in Thomasville, Georgia, this year. But to him and to others it would have seemed almost a crime if banding operations had been omitted on that plantation where so much has been accomplished. Someone must go down there and carry on. I had the good fortune to be the man. That is the whole story.

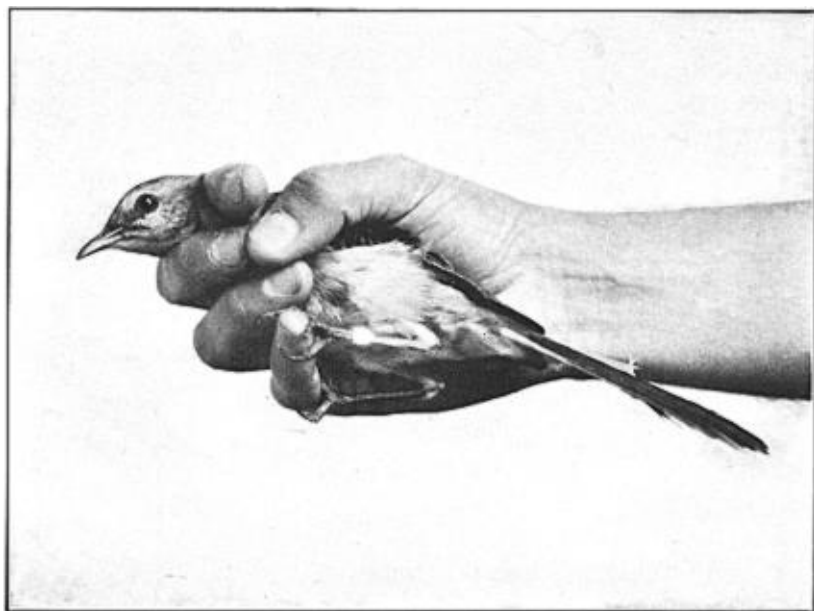
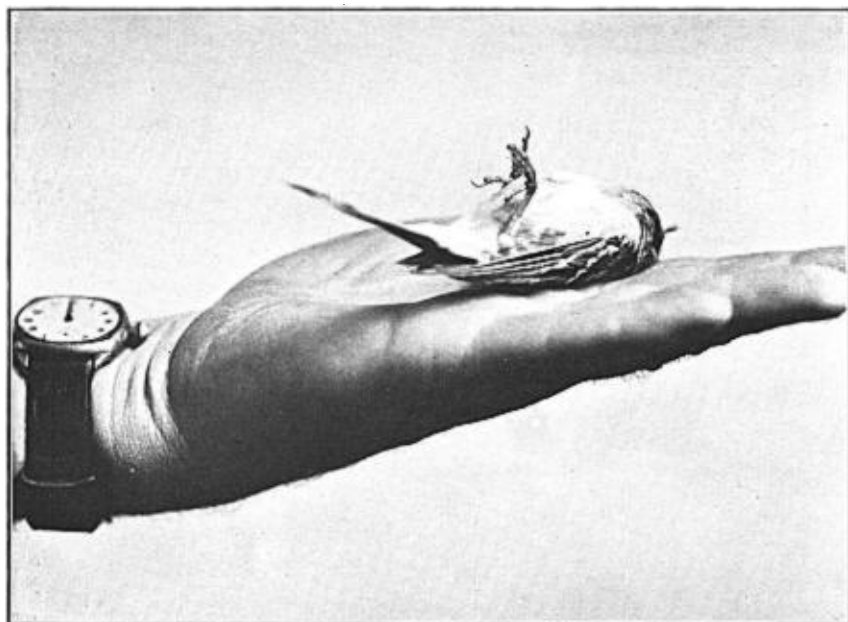
I accepted the invitation with mingled feelings. I had never banded a bird, it is true. Yet with that combination of recklessness and a sort of "the Lord will provide" feeling that animates most of us at times, I went. But I must confess that I had fears and forebodings. I feared that I might injure the birds through careless, inefficient handling. I feared that I might hurt them, or even kill them, by banding them incorrectly. I was afraid I might not be able to band them at all, that I should be helpless when I attempted to hold them, and that they would get away with nothing to show for the experience. I wondered whether I should be able to persuade the birds to go into the "gathering cage"; should I not find it necessary to open the trap and let them

go after all? These fears look ridiculous to me now, but they were genuine at the time.

Even if I should succeed in handling the birds and putting on the bands, should I not frighten them so that they would never again enter my traps, or anyone else's, for that matter? If that were the case, my results would be pretty meagre. The story of my repeats, told further on in this article, will answer this question.

And last, but perhaps most important of my forebodings, I wondered whether any birds would really go into the traps—my traps, once they were in operation. They did go in. There was no doubt about that. The traps were set up and ready for visitors at about 11 o'clock, March 12. An hour and a half later I banded six birds and took one "return," a Chipping Sparrow banded by Mr. Baldwin last year. Before night I banded nine more, making a fair total for a short first day. And they kept going in. My work at Thomasville extended over a period of thirty days. During that time I banded 313 and took 43 returns—birds banded in previous years, while the grand total of birds handled, including "repeats," or those that went back into the traps on the same or succeeding days after the original appearance, was 1804.

As to my fears. Of course I had to learn by experience and acquire a facility in handling birds. I know now that I did not handle them quite so well the first day or so as I did later. But I can honestly say that the extent of injuries due to my inexperience and awkwardness was negligible. Since "confession is good for the soul," I will explain. One Chipping Sparrow left his tail feathers in my hand when I tried to regain my hold after he had struggled and escaped. In spite of directions, I had failed to realize properly that once a bird slipped out of the hand, the operator must not try to catch him again. The incident not only taught me this, but also led me to be more careful in holding a bird in the first place. The Chipping Sparrow bore me no ill-will, however; he came back repeatedly and before I left Thomasville I had the satisfaction of seeing that his new tail feathers were almost full-grown. A Mockingbird lost a part of his tail feathers in much the same way; I felt especially sorry for him, for the tail seems



1. A CHIPPING SPARROW VERY MUCH ALIVE AND QUITE AT HOME IN THIS POSITION.

2. MOCKINGBIRD. NOTE ITS INSTINCT TO PERCH.

such an important part of a Mockingbird! But he, too, came back several times and showed me the new feathers he was growing in place of the ones lost.

Then too, during the first day or two I made several bands too tight. Birds that came back later showed evidences of my mistake. In some cases I was able to adjust the band, but generally it seemed wiser to leave it alone rather than risk breaking the leg. I am convinced that there is far more danger of a band being too tight than of its being too loose. In three cases the tarsus broke and it was necessary to amputate the foot. But, while I do not recommend having one's foot amputated as a cure for all ills, it is a fact that those three Chipping Sparrows gave every indication of being quite as well able to take care of themselves as before, and they obviously suffered no pain.

Why have I told these incidents? Would it not be better psychology to say nothing about them? For I am well aware that most, if not all bird-lovers feel an abhorrence at the thought of injuring a bird in any way. That is exactly my own feeling. And that is why I pass on these experiences, that others may profit by them, may know just where the dangers lie, and may have a more nearly perfect record than I had, perhaps 100 per cent. Do not say: "I shall not band birds if there is the remotest possibility of my injuring even one of them." Say rather: "I will band all I can, using the utmost care, and profiting by others' experience."

It should be remembered that the good results, both in scientific knowledge of ornithology and in actual protection and benefit to the birds themselves, far out-weigh the slight injuries which are possible, but not inevitable. And after all, five out of 1804 is a small proportion. And as already stated, these five were all well and contented when I left them several weeks later.

Did birds ever escape from my hand? Yes, once in a while. If for any reason I was trying to hurry, or if I became careless in holding a bird, he was likely to take advantage of the opportunity to regain his freedom. And, let me repeat, if the bird has once freed himself, the operator must not attempt to grasp him again. Yes, occasionally birds do escape, but only a very small proportion of the total number handled. Let no one worry about that.

How about driving the birds into the gathering cage? Well, that is part of the fun. It is not always easy to persuade people to do a thing of the desirability of which they have not become convinced; and sometimes a bird fails to understand why he is expected to go through a small opening which, apparently, leads nowhere and does not help matters in the least. But it is right here that different species, and even different individuals of the same species, show their "personality," if I may use that term. It is most fascinating to watch their behavior in the traps. And with patience, the operator always succeeds; there is never any occasion to give up in despair.

The birds do not become frightened. Of course they become restless when they stop eating and first discover that they are imprisoned. They wander back and forth seeking an exit, but there is no reason to believe that they really have any fear. Birds that come back every day for two or three weeks, and sometimes four or five times a day, are not badly frightened. Surely we need not worry about Chipping Sparrow No. 22824, who entered the traps six times in a single day, or No. 22735, with a record of forty-three repeats, five in a single day. One Chipping Sparrow, No. 22849, repeated fifty-four times in twenty-two days. And on several occasions I released a bird at one trap only to find him in the next one that I visited, fifteen minutes later. No bird that is frightened will lie flat on his back on the operator's wide-open hand, absolutely free to fly away, but evidently perfectly contented. This was not an occasional performance, but occurred repeatedly. One Chipping Sparrow remained on my hand five minutes and then flew away only because I forced him to. (Plate XV, fig. 1.) One Blue Jay, after lying on his back, perched on my forefinger, then swung himself around like a parrot, and hung there upside down, without my touching him in any way.

As more and more people take up this work, in stations all over the country, an increasing number of "returns" will be reported. Among them I am sure someone will find some of my old friends, such as Field Sparrow No. 22782, Chipping Sparrow No. 22781, (with a record of forty-one repeats), Mockingbird No.

57729, Cardinal No. 57735, or Blue Jay No. 57752, referred to above.

The totals of birds handled in a day fluctuated. The smallest number was ten, on April 7; the largest, one hundred and ninety-two, on March 21. Of course the fluctuation was due, in part, to chance; the birds did not happen to come to the traps in such numbers on some days as on others, or having come there, for some reason did not happen to go inside. But there are two definite explanations for this great difference in the days' totals. First, migration, the very thing that bird-banding is helping us to study. On March 24 I took 120 birds; the next day only 49. On the 24th the usual number of Chipping Sparrows had been flying around; on the 25th, very few were seen, and since they are by far the most largely represented species in my report, their relative abundance or scarcity was directly reflected in the total of birds trapped on any given day.

The second reason for the variation is important. If one puts too much food outside the trap, the birds will find all they want to eat there and leave without going inside at all. After the first few days, when my totals had been satisfactory, on March 17 I took only seventeen birds, in spite of the fact that there were a great many all around. Investigation showed that I had inadvertently sprinkled bait pretty liberally in front of the traps. So at dusk, when I baited them for the next day, I went to the other extreme: I put only a small handful of chick feed and only a very few crumbs outside, and increased the amount just inside the entrance. The next day I had 94 birds, and then 92 (on a day when the traps were not used after 3:30 p. m. on account of showers), 119, 192, 187, and so on. Thereafter on several occasions I was able to trace a drop in the number of birds to a relative increase in the liberality with which I had sprinkled the bait outside. I even tried experiments which tended to bear out my observations, leaving more food in front of one trap than another.

My large number of "repeats" was due mainly to the fact that as a rule I visited the traps frequently, five or six times some days, occasionally even oftener. This is not necessary except when one is likely to take nesting birds; but I had the time and found

it interesting. The more often I handled the birds, the more I learned about their habits, the better I became acquainted with them. And when there were eighteen birds in a single trap together, a thing which happened at least twice, it was high time to let them out and begin over again, even although some of them did go right back.

I banded birds of seventeen species, as follows: Mourning Dove, Red-bellied Woodpecker, Blue Jay, Florida Blue Jay, White-throated, Chipping, Field, and Song Sparrows, Slate-colored Junco, Towhee, White-eyed Towhee, Cardinal, Myrtle and Palm Warblers, Mockingbird, Brown Thrasher, and Hermit Thrush. The Field Sparrow, Song Sparrow, and Mourning Dove were the first representatives of these species to be banded at this station.

The Mourning Dove (Plate XVII, fig. 1) is especially interesting, for he was taken with an ordinary sparrow trap, although he is really far too large for it. In fact, he was apparently unable to go through the opening from the first compartment to the second, and I was obliged to take him by lifting the trap slightly and reaching into the first compartment, which has no bottom, a rather difficult feat, since it is almost impossible to cover all the space thus left open, and the bird has a good chance to escape.

All of the above birds, with the exception of the woodpecker, may be classed as ground-feeders. Most of them are seed-eaters, but not all; several of them normally look for a quite different sort of food. Most, if not all, prefer the bread to the chick feed, although the latter is necessary to attract them in the first place. The Red-bellied Woodpeckers seemed out of their element eating bread crumbs on the ground, yet one that was banded at ten o'clock was taken in another trap about 100 yards away at 1:30 the same day. It was amusing to watch them walk upside down on the top of the trap, pecking at the wires, and then to see them try to peck my fingers as I attached the band.

A visitor, to whom the work was a novelty, expressed the thought that it must be tiresome to handle the same birds over and over again. I imagine this idea is general among those to whom banding is still mainly a theory. They wonder whether this phase of the work has any real value. The banding of a new bird, or a

return record, has more value, naturally. But the repeat record also is worth while. One never knows when he may record a given bird's last appearance at the station. And when many stations are being operated all over the country, there will be unlimited possibilities for studying migration through a comparison of dates; then even the hour at which the bird was last taken will have a significance.

For instance, Chipping Sparrow No. 22807 was banded March 18. He was taken on March 19, 20 (3 times), 21, 22, 24, 25, 26, 27, 28 (twice), and 30. What became of him after that? Of course he may have been killed by a hawk or a shrike, or he may have died from some other cause. Perhaps he merely desired a change of diet! But it seems far more likely that during the night of the thirtieth he went on toward the north. Well then, how far did he go? Where was he the next day? How long did he stay there? Where did he finally settle down for the summer? What other Chipping Sparrows were with him? That is, did this bird and others banded on March 18, or near that time, continue the migration together?

Chipping Sparrow No. 22759 suggests questions of another sort. Banded March 13, he was taken on March 14, 18 (3 times), 19, 20 (twice), 21, 22, then April 5, 6, 8, and 10. Where was he on the thirteen days between March 22 and April 5? Was it merely a chance that he was not taken during all that time? Or did he leave the vicinity to feed elsewhere? If so, what sort of food attracted him? How far did he range? Many previous records at Thomasville, as well as some of my own, suggest that the birds concerned ranged over a comparatively small area. Mr. Baldwin's White-throated Sparrows, for example, apparently settled down for the winter in the vicinity of trap A. Traps B, C, D, and E were in different parts of the same weed-grown field, while A and AA, though not far away, were across a driveway in a large garden by the house. Now Chipping Sparrow No. 22785, for instance, was taken 36 times, always in one or another of the four traps mentioned, that is, in the same field of some three acres, never in either A or AA. Yet No. 22759 seems to have left that field. He was taken once under a net near A;

and as shown above, he disappeared entirely for thirteen days. Are some Chipping Sparrows more venturesome than others? At about the time when I missed No. 22759, I first noticed that many others were feeding in a similar, but much larger field, about a quarter of a mile away. Supposing someone had been operating one or more traps in that field; should we have found No. 22759 among the birds recorded there? What caused him to return to my traps April 5? And again, if I had been able to continue the work after April 10, how much longer should I have continued to take him? Did he nest in that field on Inwood Plantation? Or did he go on up through the coast states toward New England immediately after April 10? Or perhaps straight up north to Ohio? Will Mr. Baldwin take him at his farm near Cleveland this summer, or shall I find him on Lake Winnepesaukee? Are birds ever influenced to choose a nesting-site by food that they find at traps? Do the bread crumbs that we put out for them ever induce some to nest outside their ordinary range? And so on ad infinitum.

There are endless possibilities for speculation and study based on the statistics of the repeaters. Previous to April 1, 85 of the first 100 small birds banded (those requiring No. 1 bands), had repeated. After that time only 20 of these same 100 continued to visit the traps. Did those 100, roughly speaking, represent a wave of small birds, most of which had gone on by April 1? Perhaps there is no significance in these figures. But to me they suggest possible answers to various questions pertaining to migration. Note that I say they suggest; they do not prove anything, and cannot until many more people are trapping birds, in many localities.

Of the 356 birds handled, (new and "returns"), 245, or nearly 70 per cent, repeated, 171 of them more than once. That does not look as though they were frightened or injured by being trapped! These figures are even more significant when it is realized that the birds did not have equal opportunities for repeating; those banded during the last few days obviously had less chance than those taken during the first week, while the ones taken on the afternoon of April 10 had no opportunity at all.

I might go on indefinitely, pointing out interesting comparisons, statistics, and problems suggested by the records of repeating birds. But limits of space and time,—and perhaps of the reader's patience,—forbid further discussion along this line. But let no one think for a minute that "handling the same bird over and over again" becomes tiresome or is of no value.

Of the return records, by far the most interesting and most important is that of No. 19247, a Brown Thrasher banded by Mr. Baldwin at trap A, February 27, 1915, and taken again on March 13 of that same year. In 1916 he was taken three times, on March 4, 11, and 17, always in trap A; in 1917 three times, twice in A, March 11 and 13, once in AA, on the other side of the same house, on March 12. In 1918 and 1919 no trapping was done on the plantation, so that we have no way of knowing whether our Thrasher was there or not. But in 1920, he was there, being taken four times, February 16 and 20 and March 8 in AA, and March 11 in A. In 1921, although the traps were in operation, he was not taken, and it seemed reasonable to suppose that his history was completed. In 1920 he was at least six years old, since he was obviously at least one year old when banded; it would not have been unnatural if he had gone the way of all flesh in the meantime.

But this year he visited the traps more frequently than ever before. He was taken first March 28 at A, the same place where he had been feeding year after year. But his first appearance was later this year. Is he a migrant bird, and was he late in reaching the plantation? Or had he been there all the time, as a permanent resident, and was it a mere chance that I did not take him earlier? (Several times I had seen a bird with a band on his leg near the trap, but of course it was impossible to tell whether this was the famous No. 19247.) He had an automobile ride that day, to be photographed twice, held in the hand in the usual way, and suspended by the neck. (See Plate XVI.) In this latter position he was quiet, although ordinarily he was the most restless bird that I handled. I also removed his band, flattened it out, and had a picture taken of it. But alas! the thin metal had been bent once too often, and broke, as shown in the illustration;

a new band was thus necessary, and No. 19247 became No. 57742. To show that he was not discouraged, the Thrasher came back seven more times, March 31 and April 1 at AA, 2 at A, 3 at AA and A, 4 at A, and 8 at AA. This bird is now eight years old. How much longer will he continue to visit the traps at Thomasville?

Another returning Thrasher had to have a new band, No. 55227 became No. 57743. His old band was too small, and had pinched the leg. But note that while the leg was swollen, it was not, apparently, causing the bird any inconvenience or suffering. He was banded at C, March 26, 1921; I took him this year on March 27, at D, only a hundred yards or so away from the original place, and again on April 7 under the net in front of the house in which I was living, some two hundred yards from D.

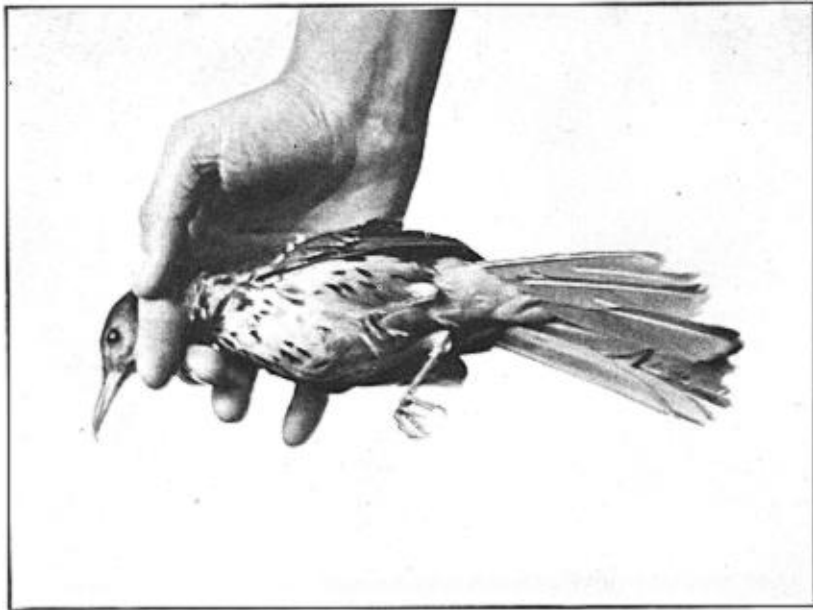
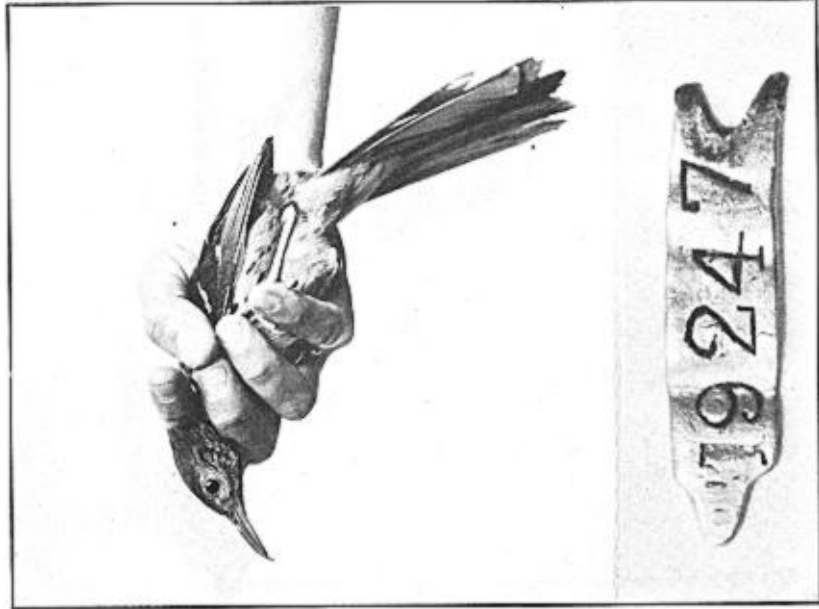
White-throated Sparrows, which have figured prominently in Mr. Baldwin's records for Thomasville, had already become scarce when I began my work there; most of those that evidently spend the winter around the house had started on their journey north. Still I took three White-throats which had been banded in 1921, thus linking up this year's birds with those of every other year for which we have records.

In addition to the birds already mentioned the list of return records includes 29 Chipping Sparrows, 1 Blue Jay, 4 Cardinals, 1 Myrtle Warbler, and 3 more Brown Thrashers, making a total of 43.

Thrasher No. 53085 is an interesting bird. He was banded February 19, 1920, at B; at some time previous to that date he had lost a foot; Mr. Baldwin made the following entry: "left leg off at mid-tarsus and well healed in a button." I took him March 22, 1922, at C in the same field as B, and again April 2 at A. His infirmity did not seem to trouble him in the least.

But this Thrasher was not the only bird with a deformity or injury. In fact, abnormal conditions were much more common than I had imagined.

A male Cardinal that I banded, No. 57732, was in much the same condition as the Thrasher. A female White-eyed Towhee, 55256, had no tail feathers, and was a funny-looking creature, literally "as big around as she was long." More than the usual percentage



1. THE FAMOUS BROWN THRASHER BANDED IN 1915 AND HIS BAND.
2. THE SAME BIRD IN A COMFORTABLE POSITION.

of Chipping Sparrows had diseased feet; 71 out of 287 (new and returns), or nearly twenty-five per cent. It is possible that being a beginner I noticed and recorded some very slight indications of disease that Mr. Baldwin, with his several years' experience, would not think worth recording; this would account in part for the great increase; (he has reported about ten per cent in past years). But on the other hand, it is certain that when handling a large number of birds within a short time, I failed to note many slight deformities, especially in the case of repeaters; and often a bird was in worse condition when he came back than when originally banded a week or more before. Hence it is likely that the disease is much more prevalent in some years than in others, as my figures seem to show.

This "toe disease" ranges all the way from a missing claw or two to an advanced stage in which the whole foot is badly swollen and bleeding. With as many birds to handle as I had at Thomasville, it is impossible to make a really satisfactory study of these symptoms; yet I was able to keep watch of some of the most notable cases, and to record changes from time to time. In some birds conditions became worse, and in some there was marked improvement. It should be carefully noted that these injuries are not in any way due to the trapping or banding of the birds. There is no relation whatsoever between them. They are caused by conditions over which man has no control; but for scientific trapping, we should never know anything about these diseases and abnormalities; through trapping and banding we may some time be able to prevent or lessen them.

A few comments must suffice as to the behavior of birds in the traps, in the gathering cage and in the hand, although to the operator this is one of the most fascinating of the many fields of observation opened by this work. Southerners that I met all cautioned me to be on my guard when handling Cardinals; "they are vicious birds," I was told, "and they'll give you a dig every chance they get." So I put on gloves the first two or three times I took these birds. Now they have very large, heavy beaks, and it is true that they will try to bite the operator's hand if possible. But it was difficult, if not impossible, to adjust a band with gloves;

I also discovered that while the Cardinal can take hold good and hard he cannot break the skin, and cannot cause any lasting soreness; in other words, the discomfort is so slight that no one but a mollycoddle need worry over it anyway. And I soon learned to hold the bird in such a way that he could not reach my finger with his beak. But almost invariably, after I freed the bird, he would stop just long enough to give me a "dig" before flying away. One beautiful male nipped me and then flew to the nearest tree and sang to me, as if to say that he regarded it all as a joke. It does not look as if he were frightened.

I found the Cardinal the easiest bird of all to dive into the gathering cage from the trap. In fact, "drive" is hardly the word to use in his case; usually Cardinals went into the cage at once, as soon as the doors were dropped. And there they remained until I could take them out; they did not run back into the trap, as other birds were apt to do. But the instant I started to reach into the cage, whether the bird saw my hand or not, (and usually his back was toward me, so that he could only "sense" the approaching fate), he began to squeal; and he continued to squeal, without any let-up, until freed. One Cardinal squealed so little, only six or seven times, as to cause special comment in the records.

White-throated Sparrows frequently tried to bite; and for a small bird, the White-throat is quite a scrapper. But of course he is too small to hurt one. The Thrashers are well named. They invariably thrashed around the trap, and usually after going into the cage they thrashed out again so quickly that I wondered how in the world they could turn around with such lightning-like speed. But once in the hand, the Thrasher was easy to handle and as gentle as the proverbial lamb.

Strange as it may seem, the Blue Jay impressed me as about the gentlest bird of all. When one stopped in the middle of a house trap, looked straight up into my face, and said, "yarrup," I was quite ready to forgive him all his sins. All the Jays that I took were very easy to handle. Only once did one nip me. To be sure, their claws did sometimes hurt a little as the birds closed them around my finger in perching there, but we can hardly blame them

for that; no doubt their claws were meant to be sharp. The Jays even submitted without protest to the various measurements that were necessary to determine whether they were Blue Jays or Florida Blue Jays.

Of the Chipping Sparrows, very few struggled or were at all restless. Some squealed, some were perfectly quiet. Nearly all seemed to want to "cuddle." Some went readily into the gathering cage, more went only after considerable urging, while in a few cases it was impossible to drive the bird at all, and it was necessary to put my hand cautiously into the trap and take him out. I am bound to say that my experience with Chipping Sparrows has not increased my respect for their intelligence! No. 22735 never learned, with all his forty-five visits, to go through the door when it was open in front of him; he always wandered back and forth, not realizing that there could be more than one side to the compartment, until I am afraid that sometimes my language was not very polite! Of course I talked to the bird; that goes without saying. But then, I do not believe he cared!

My reference to the two kinds of Blue Jays illustrates one group of questions that may be answered through trapping. It happened that I banded four of each kind; but that does not prove that the two are represented in equal numbers at Thomasville or in Georgia at this season. But this is only one of a number of similar problems that bird-banding may be able to solve. Are all the Chickadees in that region Carolina Chickadees, or do the Black-capped Chickadees, the species so common in the north, ever venture so far south? Are there Downy Woodpeckers, as well as Southern Downy, and Hairy, as well as Southern Hairy Woodpeckers present in the winter?

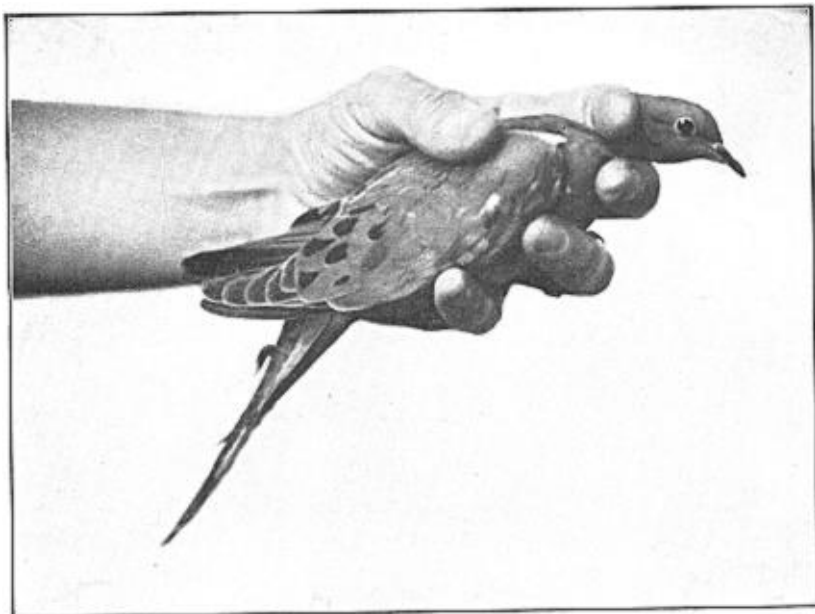
How shall we answer these questions to a certainty? How shall we trap birds of quite different habits, with which little or nothing has yet been done,—Warblers, Vireos, Flycatchers, Kinglets, Nuthatches? There is need both of traps suitable for these and other kinds of birds, and of bait that will tempt them. For as already pointed out, the work described in this article has been mostly with seed-eaters; both experience and common-sense tell us that we can hardly expect to take in the same way many of the little insectivorous birds that flit about the tree-tops.

Perhaps it will be well to describe briefly the equipment used and the locations of the traps, although it has been assumed throughout that the reader is already familiar with articles published previously by Mr. Baldwin, and with directions for trapping distributed by the U. S. Biological Survey.

For bait, I used the best quality of chick feed and bread crumbs. I found slightly stale bread easier to crumble, and quite as acceptable to the birds as fresh bread; the latter is apt to become soggy or "doughy."

I had four Government sparrow traps, all in a weed-grown field; three of them were at intervals of a hundred yards in a straight line from south to north, the fourth at about the same distance from this line, across the field to the east, and beside an old well overgrown with honeysuckle vines, an admirable place for birds. In addition, I used two-house traps, similar to the one described in Circular 170 of the Biological Survey, only mine were two feet high instead of five. My experience with these led me to believe that the door which is left ajar to permit the birds to enter should be wide enough to admit the operator as well; for with a trap as large as this it is sometimes desirable to go in, as a bird that has gone into the box frequently comes back into the trap before the operator can get around to close the door and take the bird. Naturally, with a trap two feet high, it would be necessary to go in on hands and knees; but in this work one should expect to wear clothes that cannot be damaged by such a trifle. Possibly, however, some arrangement can be devised with a door swinging into the trap and up, that will obviate this necessity. Any door sliding up and down in a groove should be provided with a peg, to prevent it from slipping and injuring the birds.

Finally, I had two net frames, and while these did not take many birds, they did furnish considerable fun; for it was with one of these that I trapped while I ate, as previously stated. When the weather permitted, and it usually did, I took my meals on the front piazza. Now about thirty feet in front of this piazza was one of the net frames, a square frame with a net over the top and a small swing door through which to drive the birds into the



1. MOURNING DOVE. THE FIRST ONE BANDED AT THOMASVILLE.
2. BIRDS ALMOST ALWAYS LOOK ONE STRAIGHT IN THE EYE.

box; a short stick held one side up away from the ground, while a string attached to the stick permitted the operator to let down the frame when he observed a bird safely feeding under the net. Of course this arrangement has its limitations. In order to capture a bird, the operator must be on the spot at the psychological moment. But that was precisely the situation; with the string leading to my dining-table on the piazza, the psychological moment sometimes coincided with the gastronomical moment; and then a slight tug, and I put down fork or spoon and attended to the captive bird. On one such occasion I "netted" eight Chipping Sparrows at one fell swoop!

In conclusion, let me give a summary in tabular form, of the results of my work at Thomasville this year. In thirty days I banded a total of 313 individual birds, as follows:

258 Chipping Sparrows	2 Field Sparrows
12 Cardinals	2 Towhees
7 White-throated Sparrows	2 Red-bellied Woodpeckers
5 Juncos	1 Mourning Dove
5 White-eyed Towhees	1 Hermit Thrush
4 Blue Jays	1 Myrtle Warbler
4 Florida Blue Jays	1 Palm Warbler
4 Brown Thrashers	1 Song Sparrow

I took forty-three birds previously banded, ("returns"), as follows:

29 Chipping Sparrows	3 White-throated Sparrows
5 Brown Thrashers	1 Blue Jay
4 Cardinals	1 Myrtle Warbler

These 356 birds repeated in the aggregate 1448 times, making a grand total of 1804 birds handled.

The possibilities of this work are limitless. It is by far the most fascinating sort of bird-study imaginable. The contributions it can make to the scientific knowledge of birds are of inestimable value. The work is within the reach of all, or at least of all who have a suitable location for a trap; it involves but little expense, and requires no great experience and little ornithological knowledge.

The results will increase in geometrical progression as the number of bird-banders increases. And we may confidently expect that more and more people will actively take up the work as its possibilities become better understood.

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BIRD NOTES FROM NORTH GREENLAND.

BY LANGDON GIBSON.

UNAVOIDABLE circumstances have until now prevented the putting in shape of my notes, on birds, observed during the first Peary Expedition of 1891-92, of which I was the ornithologist. The fact is, immediately upon my return from Greenland, I married, and, putting aside all thoughts of exploration, became associated with the General Electric Company, of Boston, afterwards moving to Schenectady, N. Y. The company at this time was growing with leaps and bounds, and what little time I had at my disposal was spent in outdoor sports; and now after thirty years, having been sent south for my health, with strict injunctions to give no thought to business, what greater pleasure could come to me, living, as I am, in a little shack on a Florida Key, than to bring out my Arctic Journal, and review my bird notes¹ for publication in 'The Auk'?

On the sixth of June, 1891, we sailed from the foot of Baltic St., Brooklyn, N. Y., bound for North Greenland on the Barkentine-rigged Steam Sealer, "Kite." As we steamed through Long Island Sound, enthusiasm ran high in anticipation of the adventures which were to be ours during the ensuing year; and after the usual vicissitudes attending ice navigation, early in August, we established

¹ A report on this collection by Witmer Stone will be found in the Proceedings of the Academy of Natural Sciences of Philadelphia for 1895 pp. 502-505. Dr. Stone withheld this report for some time in the hope that I would be able to get my field notes in shape to accompany it, but was finally forced to publish it alone. A report on the collection made by Dr. Wm. E. Hughes, ornithologist of the West Greenland Expedition, which accompanied the Peary party to their headquarters in 1891, was published by Dr. Stone in the Proceedings of the Academy for 1892, pp. 145-152. Both of the collections are in the Academy Museum.