

With regard to those of our bandees from which we have never yet heard, who can say how many may yet add their stories to our records? How many of their bands may already be in the possession of persons who need, perhaps, the enlightenment of a "Mark Trail" incident? How many others of these birds may still be a-wing, shorn of their opportunity to add to our knowledge because some captor along the line has removed their band? It is disappointing to report, in closing, that our two most recent recovery records read: "Band was removed—bird released."

No mention has been made in this paper of some 42 of our Evening Grosbeaks which were trapped by E. A. Bergstrom at his station in West Hartford during the same season in which they were banded, or of 82 others which were trapped during that same period by E. A. Carrier at his local station. The proximity of these stations to our own led us to classify these several records essentially as repeats.

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EXPERIENCES IN BANDING BLACKBIRDS IN EASTERN ARKANSAS

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During the past four years the writers have been engaged in a study of the effect of several species of birds upon the rice growing industry of eastern Arkansas. We have endeavored to cover all phases of the activity of red-winged blackbirds, grackles, and cowbirds throughout the year. The major objective of the study has been to determine whether or not there is justification for reduction control or other measures for the reduction or elimination of damage to the rice crop, and if so to develop practical measures.

One of the most important phases of such a study is to determine the effect of migration upon the populations of birds that are involved in the crop damage. If damage is inflicted largely by birds that nest in the rice district control may well be confined to that population. If migrants comprise the bulk of the offenders control must be restricted to the periods when these birds are present. Hence banding and study of the returns and recoveries play an important part.

One of the first steps was to assemble data on individuals of these species banded in Arkansas and killed elsewhere, and those banded elsewhere but killed in Arkansas. In this we were fortunate, since two Arkansans had done extensive banding of bronzed grackles and cowbirds before our work began. S. H. Weakley of Ft. Smith, on the western border of the State, has banded many thousands of bronzed grackles during the past 20 years, and in the midst of the rice area C. M. Owens, now deceased, had banded thousands of cowbirds. Thus we were able to direct our efforts toward banding of these two species at seasons when there was insufficient coverage, and toward banding redwings at all seasons.

Our banding efforts began in the autumn of 1949, and we found redwings difficult to trap in the rice area where food is plentiful at all seasons. Apparently most of the large scale trapping of redwings has

been with some modification of the Australian crow trap. This type of trap was used by Owens in Arkansas, by McIlhenny in Louisiana, and by others who have trapped numbers of redwings. Our traps capture grackles and cowbirds readily, and, under conditions of local food scarcity, redwings as well.

The first traps used in our work were a combination of ground funnel and ladder-top opening in a trap approximately 8' long, 4' wide, and 2' high; these traps were quite effective in capturing birds. Our traps, however, are scattered over a considerable area and it is impossible to visit all traps late in the afternoon. Rats, skunks, opossums, even cats, were able to enter and kill any birds that were left overnight. This we have largely eliminated by adding an automatic holding cage 4 feet square and 6 feet tall at one end of the low trap; the end of the low trap is opened outward into a funnel into the tall cage so that the trapped birds may freely enter the holding cage where perches are provided well above the reach of the smaller carnivores. Traps built on the standard Australian pattern, with perches well above the ground, have also proved effective.

One of the most effective of our traps is built on what might be termed a "chair" pattern. The "back of the chair" is a cage 6 feet high, 6 feet long, and 3 feet wide. At ground level the cage is 6 feet square; the "seat of the chair" is 3 feet from the ground and entrance into the trap is through a ladder-bar type of construction through the "seat." As the birds drop through the bars to reach the feed they have free access to the entire enclosure, and perches in the taller section provide safety from carnivores.

In our great desire to band more redwings we sought other methods of increasing our output. Our attention, therefore, was turned to the huge winter roosts that occur in eastern Arkansas. For two winters past we have studied activity in a huge roost that has existed between December and April some 10 miles north of Stuttgart. The site of the roost is a thicket of approximately 14 acres, largely of red haw and persimmon, with much of the thorny growth low enough to be within arms' reach.

Various individuals have estimated the population of this roost at from 5,000,000 to as high as 20,000,000 birds. Grackles, cowbirds, and redwings comprise the bulk of the population, with some starlings and a few Brewer's and rusty blackbirds. The density of roosting birds is such that tall saplings bend under their weight, and a number of red haws have broken completely down.

In our first attempts at banding in the roost the bander, sack in hand, moved slowly and quietly about through the dark, silhouetting the roosting birds against the sky; birds were caught by hand and placed in a sack, and when sufficient number had been captured the bander proceeded out of the roost and by flashlight banded and liberated his catch. It was found that a 2-man crew could catch and band about 150 birds in two hours in this manner.

Next we tested a net with a 24-inch ring, mounted on a 14-foot bamboo pole. Though fairly effective, this method proved laborious and inconvenient; the net often caught on the thorny growth and the



birds in the net flew free. The use of the net did not increase the output sufficiently to justify its use.

When the roost was visited on bright nights the birds constantly retreated, no matter how carefully we might move. A broken twig or a cough would cause those nearby to depart with a roar of wings. The beam of a flashlight also sent them away by the thousands. The thought persisted, however, that under proper conditions banding with a light might prove effective.

It developed that on a moderately dark night, with a minimum of glow in the sky, the birds would move freely from the flashlight during the period shortly after dark, but later, possibly by 9:30 P.M. to 11:00 P.M., they became less restless and considerable numbers of them could be captured by hand from the roosting branches. On a cloudy night when the roost was pitch black, with no sky glow, we found that we could walk slowly within the roost with flashlight on, catching birds freely from the branches by hand. By substituting a head-lamp for the hand flashlight both hands were left free to handle birds, and with this procedure a 2-man crew banded 300 birds in 90 minutes in the roost.

Two methods of banding were utilized. In one, the birds were placed in a sack and taken out of the roost for banding. In the other, a multi-pocketed jacket held a supply of opened bands, each size in a separate pocket. Then by capturing the bird with one hand, and using the other to handle band and pliers, the operator banded and released the bird without moving. It seems very possible that the use of an acetylene

or other gas headlamp, producing a brighter, whiter beam, might permit even more effective operation. Selectivity is also offered; the bander can pick off grackle, redwing, or cowbird, male or female, at will.

After these experiences early in 1952 we feel that when these birds are found roosting in low brush or small trees we can band whatever number of birds appears adequate for our purposes. Banding in this manner, also, seems to offer a means of studying the spring breakup of the roost. By banding an arbitrary quota of birds once a week from height of occupancy through the breakup recoveries and repeats may occur in sufficient numbers to permit formulating some definite conclusions; at present our knowledge of roost breakup is based on visual observations only.

There has been no opportunity to test this method with other species of passerine birds that occasionally roost in similar manner in the deep south in immense roosts, but it appears that successful banding might be done in those instances as well. The two major conditions controlling its success appear to be, first, the availability of densely roosting birds in low brush where the birds are within arm's reach, and second, the frequency of occurrence of very dark cloudy nights during the winter roost period. Beyond these, the ambition of the bander seems to be the only other governing factor.

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ON THE WEIGHT OF THE CHIMNEY SWIFT

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In 1947 Mr. William Randolph presented a term paper in my ornithology course in which he reviewed a considerable body of information on the Chimney Swift, *Chaetura pelagica*. His extensive paper interested me in this species, and brief perusal of the literature described in his paper soon revealed a point of interest for further consideration. Poole (1938) used a figure of 17.3 gms. for the weight of the Chimney Swift in calculating the wing area per gram. On reading Poole's original paper I noted that his datum was derived from a single specimen. Since he had made several broad interpretations on the basis of his data, and since he used the Chimney Swift as an example in those generalizations, I was led to search for other references to the weight of this species. I soon found that Stewart had previously (1937) given minimum, maximum, and mean weights of 21, 27, and 23.3 grams respectively for 47 specimens examined by him. Roberts (1932) had given a weight range for the species as 0.88-1 oz. (24.9-28.3 grams). It would seem, then, that Poole had not compared the weights obtained in his study with weights obtained by previous investigators. Since almost all of the data which Poole has published is based at the most on 2-5 specimens per species, this would seem to invalidate his conclusions on grounds of inadequate data.

72 Chimney Swifts were weighed and banded in Amherst, Mass., on May 28-29, 1950, by the author. They were trapped from a chimney 4'10" square rising 16' above a flat roof area on one of the Experiment