

referred to. While the great majority of birds have been trapped, some nestlings or very young fledglings have been banded, the total number in 1928 having been 100. Those species which have been thus banded but never trapped are—Flicker, Whip-poor-will, Phoebe, <sup>10</sup>Least Flycatcher, Bronzed Grackle, Bobolink, Barn Swallow, Tree Swallow, Cedar Wax-wing, and Bluebird.

Groton, Massachusetts.

## PLIERS FOR BIRD BANDING

By FREDERIC H. KENNARD

IT is conceded, I think, by careful bird-banders, that the final adjustment of the band upon the bird's tarsus must be made with pliers of some sort, in order to bring the band into a ring, with its two edges close together, and as evenly as possible; not only to prevent any unnecessary chafing upon the bird's leg, but also to reduce to a minimum the possibility of its getting entangled later, with hairs, string, or grasses, in their nests or elsewhere, as the case may be.

There are a number of cases known of birds having been entangled by carelessly adjusted bands, and there are probably hundreds of such cases of which we never can hear.

I know of one party of bird-banders (friends of mine), who caught and banded several thousand young terns, and discovered later a number of them caught in the beach grass by their carelessly adjusted bands, and doomed, unless providentially discovered, to struggle there until they got loose or died. This was the next day after the banding, and these were the first birds that happened to get caught, and happened to be discovered. How many other birds may later have been caught, and never discovered! The bands on these birds' legs, in the hurry to band as many as possible, had been merely pinched together with the fingers. A little care, and possibly, a little more time spent with pliers, in properly adjusting these bands, would have prevented the trouble, and undoubtedly saved numbers of these terns from an untimely and unnecessary death.

Personally, I have heretofore always used a pair of light 4-inch flat-nosed pliers, with which to make the final adjustments, after first pinching the band almost together with my fingers. This was often a somewhat lengthy process, particu-

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<sup>10</sup> Two adults of this species, however, were secured by the drip trap in May, 1929.

larly if the band had not been opened evenly at first, and sometimes required a number of nips with the pliers in order to bring the two edges of the band together properly.

I have found that an even opening of the band, before placing it on the bird's tarsus is of the greatest importance in its later adjustment, and have used, with great success, a blunted scratch-awl, such as can be bought for a quarter at any first-class hardware store, and which when pushed into it, opens the band easily and evenly, and with edges parallel.

For a long time I had had in mind having some pliers so bored that the jaws, when slowly brought together, would bring the band into a perfect circle, with its edges close together; but it was not until the past winter that I finally got busy and found a machinist who not only would, but could, do the desired work.

Figures No. 1 and 2 show the kind of tool that we finally evolved after considerable experimentation; a pair of light 4-inch flat-nosed box-joint pliers with holes bored to fit exactly Nos. 1 and 1-A bands, when the jaws are closed tight. Figure No. 1 shows the pliers in position, with a No. 1-A band, supposedly about the bird's tarsus, and pinched almost together with the fingers; while figure No. 2 shows the band pinched into a complete circle, and with the edges close together (unfortunately the draughtsman has shown them a trifle apart).

I have been using these pliers now for some weeks, and so have several of my friends, with complete success.

After placing the opened band upon the bird's tarsus, and bringing the edges almost together with the fingers, give one slow, firm pinch with the pliers, and the band simply has to come in to a complete ring, with its edges close together. Care should be used, of course, to have the band in position about the middle of the tarsus, so as properly to clear the joints at either end, or possibly an outsticking rear toe, but no more care than should be used with ordinary pliers.

Once having used these pliers, and become accustomed to them, one is surprised at one's apparent carelessness in the past. Personally I have found that I could improve the adjustment of every repeat or return that I have since trapped at my station.

I spent the night, a few weeks ago, with Laurence B. Fletcher, at his station in Cohasset, Massachusetts, and we found twenty-nine birds in his traps before breakfast. Of these twenty-nine birds, twenty, as I remember it, were repeats or returns. Now Fletcher has always used pliers in finally adjusting bands, and yet we were able to improve the

adjustment of every one of those twenty birds by one simple pinch with my pliers; and he has since told me that he has corrected the adjustment of bands on over one hundred birds since I sent him a set of these pliers.

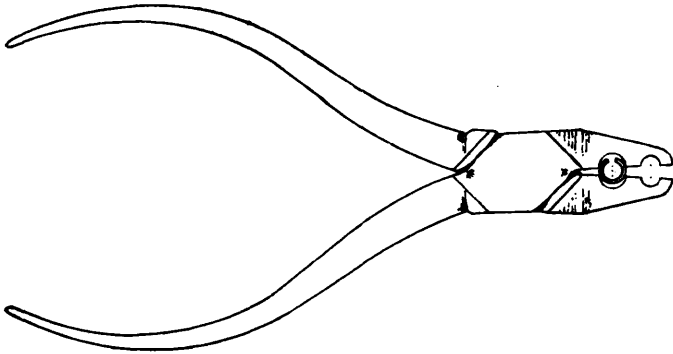


FIGURE 1

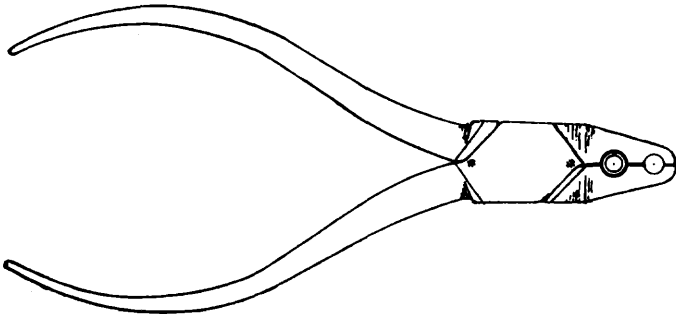


FIGURE 2

**BIRD BANDER'S PLIERS**

We have, so far, made only two sizes of pliers,  $4\frac{1}{2}$ -inch for Nos. 1 and 1-A bands; and 5-inch for No. 2 and No. 3 bands, though, of course, larger pliers may be bored later for the banding of ducks, geese, or other large birds.

The machinist who has done the actual work in preparing these pliers, has found considerable difficulty in having the bore exactly in the middle between the two jaws; for if by chance the bore is a trifle deeper in one jaw than in the other, it becomes a trifle more than a half circle, and the band when pinched together may stick in that side. This difficulty, if it

arises, may be easily overcome, however, by the judicious use of a fine file on the edges of the offending bore.

These pliers have, at present, to be made to order, and may be procured from A. J. Wilkinson & Co., hardware merchants, at 184 Washington Street, Boston, Massachusetts, and if there should be a sufficient demand for them, should cost not over \$2.00 per pair.

Newton Centre, Massachusetts.

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## STUDIES OF A BARN SWALLOW COLONY

By HELEN J. ROBINSON

I AM sending in the results of two and a half seasons' study of my Barn Swallow colony at Brewer, Maine. The report is incomplete in many ways, due partly to the fact that no adult birds were banded until 1928.

This work was undertaken to ascertain (1) the degree of sociability possessed by this species at nesting time, as measured by the number and nearness of the contemporaneously occupied nests; (2) the causes of the concentration of the nests observed (see figure); (3) the make-up of the colony each season in terms of the young and mature birds of the previous year; and (4) the extent to which old nests are used.

To aid in visualizing the surroundings of the colony and to give the relative location of and the distance between nests, I have had a plan made of the barn roof timbers which shows, also, the length and width of the building drawn to scale. The distance between the rafters is three and one half feet. The nests are as they were at the close of the summer of 1928, and the legend below the plan tells which were occupied at that time, and which during the previous season. Some of the nests built and occupied in 1927 crumbled, were destroyed by the hay-fork, or were purposely destroyed because of occupation by House Sparrows, or because of a precarious location on the hay-fork pulley. These nests are not included in the drawing. It would appear from the drawing that only thirteen pairs of birds occupied nests in 1927. As a matter of fact, my notes, taken separately for each nest, record twenty-two nests and sixteen pairs of birds. In 1927 one pair was killed, evidently by a weasel, for the birds were found dead on the top beam, untouched except for throat wounds.

It is interesting to note that in 1927 every nest but one on