

when removed from the trap, the only instance of such an occurrence in the similar handling of hundreds of specimens. Subsequent dissection disclosed no trace of external or internal injury. The bird was an adult male, at least five and one-half years old.

Thus the Sanctuary's winter population of Tree Sparrows appears to be a relatively stable group, the same individuals returning year after year if survival permits, with losses in the ranks being filled by new individuals. They appear to be distinct from the hordes of spring and fall transients, which as far as banding evidence can disclose, rarely return via a Sanctuary route. The only apparent exception to the separateness of transients from the winter residents is of a bird banded March 29, 1939 and retaken two winters later on January 24, 1941. Otherwise, aside from an occasional February influx from unknown sources, the wintering group arrives in late fall and remains into April, forming a loose association whose individuals (unlike chickadees) apparently stray far and wide, often disappearing for days at a time, but eventually reappearing at the Sanctuary feeders, sometimes all together, more often as small separate segments of a larger wintering group.  
Pleasant Valley Sanctuary, Lenox, Mass.

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## A TRAP FOR BANK SWALLOWS

BY WILLIAM A. MORRIS

BANK Swallows (*Riparia riparia riparia*) afford good opportunities for banding because they nest in colonies which frequently can be reached without much difficulty. However, banding large numbers of them by using hair nets or large traps let down from the edge of the bank is a tedious chore, and most of the birds escape. To overcome these disadvantages I have used individual traps consisting of cellophane bags attached to ends of cardboard tubes. These are placed at the entrance of the nesting holes, preferably just before dawn, before the birds have emerged.

The trap consists of three parts, namely, a cellophane bag, (two-pound size) a piece of thin cardboard about five by seven inches, and a small elastic band. The bags can be obtained at small cost from wholesale grocers. Cardboard of the thickness used for corn flakes boxes works well because it can be rolled into a tube without cracking. It can be obtained at paper box factories in pieces about five feet square for practically nothing and cut into the desired size. The elastic bands should be small, about the size of the thumb nail.

To assemble the trap roll a piece of the cardboard into a tube seven inches long and about two inches in diameter. Insert this into the mouth of the bag about three inches. Now fasten the bag to the tube with an elastic band. If too tight a band is used the opening of the tube may become too constricted for a swallow to pass. On the other hand, if too loose a band is used the bag will

slip off the tube when a bird enters it. Before placing the trap inflate the bag so as to permit an unobstructed entrance to it for the birds.

To operate the trap insert the tube into the mouth of the burrow a few inches. The tendency of the unbound end of the tube to uncurl holds it securely against the walls of the tunnel. If the cellophane bags are to be used more than once a tablespoonful of sawdust, to absorb the excrement, should be put in them. A bag can be used about a half a dozen times before the seams give out.

Although these traps may be used with some success in the daytime, best results are obtained if they are placed during the hours of darkness, when all of the birds are in the burrows. Because moisture weakens the traps, it is best to set them shortly before dawn rather than in the evening. A focussing flashlight is essential, and a short ladder often useful. Before placing a trap the tunnel should be examined to ascertain that birds are in it. Caution must be exercised here, as some of the birds attempt to escape as soon as the light is flashed on them. Quiet is imperative, for the swallows are easily aroused and will leave their burrows in spite of darkness. Once in the air they quickly arouse the rest of the colony by their cries.

The number of birds in a burrow may vary from one to ten. Those which do not emerge immediately do so at daybreak. Traps should be emptied as soon as the birds cease emerging. A few birds refuse to emerge with the rest. Some of these laggards can be aroused by shining a bright light on them, either from a flashlight or by mirrored sunlight. The traps containing several birds should be emptied first because of the danger of injury and suffocation. If a large number of traps have been set, it is wise to start collecting from those which were placed first, as the birds in some of them may have been confined longer than those in the traps set later.

As each trap is emptied it should be disassembled. The cellophane bag requires the greatest care. No attempt should be made to stack or fold the bags until they are dry, for if they are packed damp they will mould and become useless.

The results of one morning's operations with this equipment will indicate its efficiency. On July 1, 1941, ninety-five traps were set. These had been assembled and stored in a cardboard box the previous night. Bands also had been opened in advance. With the aid of three helpers all traps were in place within an hour after reaching the colony, and about a quarter of an hour before dawn. Tunnels were examined and the traps placed by one person on a short ladder with assistants below who passed up the equipment to him. The catch amounted to 189 birds. Banding was completed and the traps disassembled before six o'clock. The time spent at the colony was about three hours.

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