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A HOOP-NET TRAP FOR PASSERINE BIRDS

By KENNETH H. LARSEN

A program to investigate the relationship of the house finch (*Carpodacus mexicanus*) to soft fruit damage has necessitated capturing large numbers of the species for banding and other studies. It was learned that they were easily trapped in the modified Australian crow traps similar to the one described by Aldous (1936) if a 1¼″ entry slot was used in a plywood entry-ladder. These panel-type traps are used at our permanent trapping locations, but they are cumbersome and difficult to move to new trapping sites.

As a result, portable traps of a new design, based on the same concept of a depressed entry ladder, were constructed and have been used during the past 3 years at this station. The main features of the trap are the ease with which it can be erected and dismantled, its light weight, and its compactness when collapsed, requiring much less space for either storing or transporting.

Components used in its construction are:

1. Two pieces of standard length (20′) rigid (a trade term) polyethylene plastic pipe, 1″ I.D. and 160 p.s.i. or greater rating, and two 6″ pieces of 1″ O.D. aluminum or steel pipe.
2. A 6′ x 20′ piece of 3/4″-mesh nylon netting, preferably hung on the square—not cut on the bias—and a circular piece 80″ in diameter.
3. A 6′ long heavy-duty zipper and heavy nylon thread.
4. Three 22′ lengths of # 9 galvanized wire, two 100′ coils of galvanized stovepipe wire, and some nylon seine twine.
5. Four 10′ lengths of thin-walled electrical conduit and four 1½″ semicircular pegboard hooks.
6. A 14″ x 60″ piece of ¼″ exterior plywood.
7. Four pieces of ½″ concrete reinforcing rod approximately 3′ long.

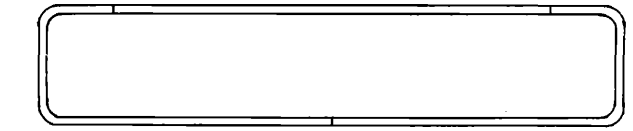
Three inches of the 1″ O.D. metal pipe is inserted into one end of a section of the plastic pipe and a hoop is formed by bringing the other end of the plastic pipe around and slipping it over the protruding 3″ of metal pipe. No gluing or other fastening of the plastic is necessary once the ends are thus butted together. Two hoops formed in this way serve as the top and bottom frames of the trap.

The 6′ x 20′ piece of nylon netting forms the trap wall. To withstand wear and prolong the life of the trap as well as to prevent the entanglement of any birds, a heavy netting should be used. A 3/4″ square mesh no 147 knotless nylon net (64 sq. ft. of netting per lb.), dyed black to retard deterioration by ultraviolet rays from the sun, has proven quite satisfactory. A piece of # 9 wire is woven through each 20′ edge of the netting, which is then attached to the frame by binding the # 9 wire to the hoops with the stovepipe wire. To form the top of the trap, the remaining length of # 9 wire is woven through the edge of the circular piece of netting, which is then fastened to the top hoop in the same way.

Four pieces of metal conduit (figure 1C), cut to 6½′ lengths, serve as the uprights to hold down the bottom hoop and support the top one. A 1¼″ in diameter half-circle hook (to fit over and hold down the bottom hoop) made from ¼″ steel rod is welded to one end of each upright and eight 3/16″ holes spaced 1″ O.C. (to accommodate the extra-large semi-circular pegboard hooks which fit under and support the top hoop) are drilled on the same side of the upright beginning ½″ from the opposite end.

To erect the trap, lay it on the ground, top hoop up, locate the four pieces of reinforcing rod around the outside of the hoops equidistant from each other, and drive them halfway into the ground. Set the uprights over these stakes and position the bottom hooks over the bottom hoop. Then raise the top hoop to rest in the adjustable pegboard hooks at the top of the uprights.

We have found it best to sew the zipper in after the trap is erected and so that the pull will be at the bottom when the zipper is closed,



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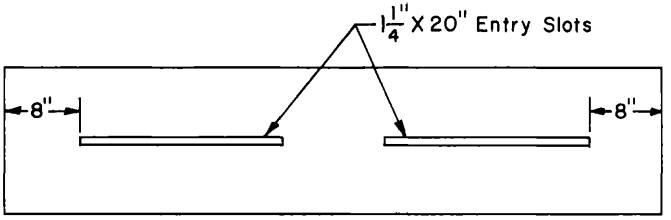

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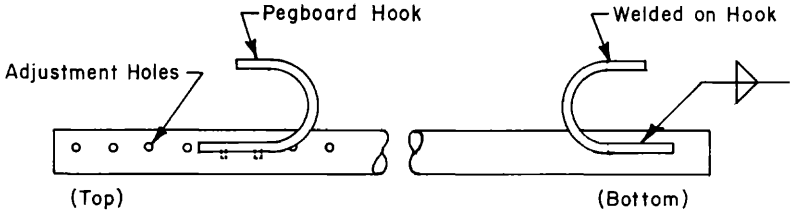

C

Figure 1A. 10″ x 52″ entry ladder frame (conduit).

Figure 1B. 14″ x 60″ entry ladder (1/4″ exterior plywood).

Figure 1C. Adjustable metal uprights.

thus preventing it from working open when the trap is in operation.

A frame for the plywood entry-ladder is made from three of the remaining 42″ pieces of conduit. Two of the pieces are bent into a modified "L" shape; the long ends of these are butted together and the third section of conduit is used as a spacer between the short ends (see figure 1A). Three crimp fittings are used to fasten the butted ends together. This frame is then centered in the top of the

Figure 2. Hoop-net trap shown fully erected.

erected trap so that it lies horizontally as well as at a right angle to the doorway, and is whipped to the netting of the top with nylon seine twine. The section of netting within the frame is then cut out.

To form the entry-ladder, slots are cut in the 14″ x 60″ piece of plywood as in figure 1B. It is then fastened to the underside of the conduit frame with pipe clamps or other suitable means, so that it is beneath the conduit when the trap is erected. Thus the frame serves

as a retainer for bait placed on top of the ladder when the trap is initially put into operation (no such baiting is necessary once decoys have been obtained), and there are no "toeholds" close to the entry slot on the inside of the trap which might help trapped birds escape.

Perches, such as wooden dowels or #9 wire for example, are inserted through the netting parallel to and slightly above the entry-ladder. Baited with a suitable food and provided with water, the trap can be left unattended for some time. Of course, as with any bird capturing device, its proper use would depend on a variety of factors including location, climate, potential harassment probability by predators (including humans), etc. Cats hunting trapped birds and rodents in search of exposed bait have been our biggest problems in the use of these traps. However, we have found their interference was greatly minimized by encircling the trap with a 2′ x 21′ piece of hardware cloth or poultry netting wired to the base of the uprights.

By placing the traps at locations where feeding house finches were concentrated, by limiting the entry slot to 1¼″ in width, and by using only house finch decoys as well as perhaps a preferred seed type bait, our catch was nearly limited to house finches with only an occasional other small species being caught. However, by proper location, use of a choice bait, variation of the entry ladder width, etc., it is quite conceivable that the trap would work for other gregarious species as well.

The trap is entered through the zippered doorway for servicing. We have had as many as 15 in operation at one time, servicing them three times a week. Bird mortality has been minimal, except when predators have gotten in, as long as ample food and water was available. We have removed as many as 62 house finches from a trap at one time and have captured approximately 10,000 during the three summers they have been used. The flexible netting reduces the incidence of abrasions, particularly at the base of the upper bill, often seen in birds retained in wire enclosures.

SUMMARY

Construction details are presented for a hoop-net trap based on the concept of a lowered entrance. Main advantages of the walk-in trap are light weight, ease of erection and compactness for storage and transportation. It has been used primarily for capturing thousands of house finches (*Carpodacus mexicanus*).

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