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# Two Methods for Capturing Tree-Nesting Birds at Nests

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During a four-year study (1980-1983) of the breeding behavior of Blue Jays (*Cyanocitta cristata*) in central Minnesota (Hilton and Vesall, 1980), jays were captured and color banded throughout the year to allow observation of marked pairs during nesting seasons. One of the most frustrating aspects of the study came when, after intensive trapping and banding during the winter, one or both members of a breeding pair remained unbanded. Breeding female jays seldom visited feeding stations during incubation and brooding periods, so two methods were devised to capture them and any unbanded breeding males within the nesting area. One method was used during late incubating or early brooding periods, and the other was used on or shortly before the expected fledging date.

## I. "Double-Halo" Trap

The first capture method was a passive "double-halo" trap placed directly on the nest when the female was absent. It consisted of a single 38" (96.5cm) piece of stiff metal wire (thick black coat hanger wire proved to be ideal in length and consistency) that was first bent into a "dog-bone" shape (Fig. 1). The halo at each end of the apparatus had a diameter of about 5" (12.5cm), about 1" (2.5cm) greater than that of the average Blue Jay nest cup. The connecting wire between the halos was about 6" (15cm) long. When the halos were formed into the appropriate shape, the ends of the halo wires were wrapped around the connecting rod to fit each halo's diameter.

A right angle bend was formed at the junction of the connecting wire and each halo; this made two halos parallel and allowed the connecting rod to be used for vertical support of the top halo (Fig. 2). Clear nylon two-pound (4-5kg) test monofilament fishing line was tied into nooses similar to those used on Bal-chatri and other noose traps (Bird Banding Manual, 1984). The support strings were tied loosely around the circumference of the top halo to allow exact positioning of each noose after the trap was placed on the nest; nooses were NOT glued to the top halo. Elliptical nooses about 3" long by 2" wide (7.5cm by 5cm) whose circumferences overlapped slightly proved to be the most successful.

When the trap was deployed, the bottom halo was firmly planted on the rim of the nest, taking care that nestlings and twigs did not tangle in the nooses. A piece of heavier 17-pound (7-8kg) test monofilament tied to a metal washer (Fig. 2) anchored the bottom halo to a branch supporting the nest and prevented the female from flying away with the trap itself.

The trap was most effective on windless, overcast days; even then, recycled monofilament that has lost some of its sheen helped diminish visibility of the nooses. A "double-halo" trap can be modified for nearly any small or medium-sized species of bird with a cup-shaped nest, including ground nesters. Halo diameter, length of vertical support, and size of nooses should vary with the size of the adult bird. It is not advisable to deploy this trap until a few days after incubation has started; in many species, the longer the female has incubated, the less likely she is to desert. The "double-halo" should NOT be used when older nestlings are active enough to be entangled by the noose.

Unlike the Bal-chatri noose trap which snares the feet or toes of birds, the double-halo trap is designed to catch a bird by its neck as it arrives or leaves a nest. Thus it is **CRITICAL** that field workers remain near this trap after deployment so the adult bird neither strangles in the nooses nor damages the eggs or nestlings after ensnarement.

**NOTE:** On three occasions when I was examining nests prior to fledge day, I was attacked by one or both parent jays before I could get the "double-halo" trap into position on the nest. In all these cases, I caught one adult by placing the trap on top of my head as the jays dive-bombed me. These successes suggest that a hand-held, single wire hoop with nooses dangling to the inside might be used when a nest is protected by known "attack" birds.

## II. Taped Alarm Calls

The "double-halo" trap was effective about 70% of the time. Apparently only female jays incubate and brood in the Minnesota study population, as only females were snared with this nest trap. To capture the remaining females and

unbanded males, a more conventional mist net setup was employed.

A 4-shelf, 10m net with 60mm mesh was erected temporarily within sight of an active nest; portable concrete blocks supported the net poles. To decoy parent birds into the net, I first recorded in the field a fledgling alarm call, then I played back four-minute segments on a portable tape recorder concealed by ground vegetation directly beneath the center of the net. About 80% of the time, one or both parents from the proximal nest flew toward the net a few seconds after playback began, and often one or both adults became ensnared. As the playback continued, other species (particularly woodpeckers, chickadees, nuthatches, orioles, and blackbirds)--as well as jays from nearby nests--entered the area and occasionally flew into the net.

When the same tape was used a second time at a given nest, the response of the parent(s) was typically less animated; seldom did a parent come near the recorder or hit the nets on a repeat playback on the same day or even on successive days. Taped fledgling alarm calls never worked as a decoy during incubation, but success increased as predicted fledging dates approached.

All Blue Jay nestlings were weighed and color banded on or about the eleventh day after hatch. (Blue Jays fledge at about 18 days.) After marking and processing the first chick from a given nest, I sometimes placed it in a shallow bucket on the ground beneath a mist net while I banded its siblings. If I then placed the tape recorder beside the bucket and played back the fledgling alarm call while working some distance away, parent jays were especially likely to be netted. This implies that adult jays might have been responding to the sight of a young bird as well as to the sound. It may be that a dummy fledgling could be used in place of a live nestling to visually stimulate the defense attacks of parent jays.

I also had limited success playing back a recording of a particularly vocal adult female jay. This tape, when played near a nest with an incubating female, occasionally decoyed the male from the nest into the nets. This tape was even more likely to attract birds of other species.

Caution should be exercised in the use of recordings in the vicinity of nests. In the case of a species that is likely to desert, a recording of a conspecific in distress may result in abandonment. Setting nets and playing tapes near a nest also may attract the attention of predators, as may the banding of nestlings.

#### Acknowledgements

I would like to thank Dr. James Howitz and Dr. David Vesall for their assistance in testing the success of these capture methods; Jean Vesall for her considerable cooperation and input during the Blue Jay project; Dr. Keith Bildstein and Albert E. Conway for their suggestions about the manuscript; and Dr. Harrison B. Tordoff of the Bell Museum of

Natural History for his guidance. This research was made possible in part by financial support and encouragement from Susan Hilton and by grants from the Non-game Program of the Minnesota Department of Natural Resources, the Frank M. Chapman Memorial Fund of the American Museum of Natural History, and three sources at the University of Minnesota: the Dayton Natural History Fund, the Wilkie Fellowship in Animal Behavior, and the Cedar Creek Natural History Area Fund.

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Figure 1.

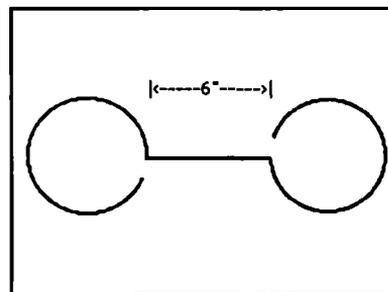


Figure 1. Diagram of a 38" (96.5 cm) coathanger wire after the initial bend into a "dogbone" shape.

Figure 2.

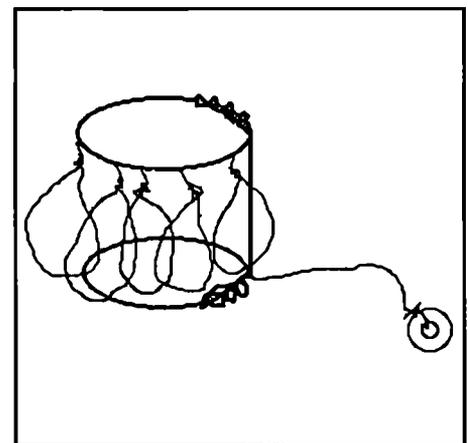


Figure 2. "Double-halo" trap with half the elliptical nooses tied to the top halo. The metal washer is wrapped around a limb to anchor the trap.