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# A hand-net capture technique for Eastern Bluebirds

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Numerous mist net techniques have been developed to capture specific birds from local populations (Johns 1963; Martin 1969; Collins 1971, 1972). Methods can be even more successful and specific when a cavity nesting bird, such as the Eastern Bluebird (*Sialia sialis*) is the target. The known location of nesting bluebirds, often in a nest box, provides numerous opportunities for their capture. Techniques utilizing nest box traps have proved successful (Fischer 1944; Kibler 1968, 1969; Stewart 1971), and the use of mist nets near the nest site often results in captures (Pinkowski 1974a, 1977; Sloan and Carlson 1980). Limiting factors often exist that make these methods inadequate, i.e. time constraints, material, site logistics, etc. For a researcher studying a large population of bluebirds over a wide ranging area, a technique was needed that was portable, easy to use, and provides a quick capture of nesting adults. These criteria were met with the development of a hand net.

A hand net was constructed (Figure 1) using two 1" (26 mm) diameter extendable tent poles ( $\frac{1}{2}$ " steel conduit could also be used). The poles are 4' (1.3 m) long and extend to a length of 6' (2 m). A 6' section of  $1\frac{1}{2}$ " (38 mm) 4-shelved mist net was salvaged from an old 12 m net and was equipped with new net loops. The loops were slid over the pole ends and secured with electrical tape which allows them to move loosely up or down to varying positions (Figure 2). With this design the poles and net can be changed to provide a 4' or 6' length for capture, depending on trapping conditions and banding needs. This also makes transportation easy by collapsing the poles to their shortest length, bringing the loops together and rolling the net on 1 pole providing a light compact package (Figure 3).

Although an incubating or brooding female Eastern Bluebird is usually quite easy to capture (Krieg 1971; Gutzke 1980), the male is much more elusive and difficult to locate. The hand net was developed specifically for the capture of the male. A male bluebird is very protective of its mate and young, and will attack any intruder vigorously if threatened. This behavioral trait along with the hand net was used to capture the male. This took place during normal banding operations for nestling bluebirds, usually 12 to 14 days after hatching. It is an optimum time for banding because sex can be

determined by the amount of blue on the remiges (Pinkowski 1974b) and nestlings are usually unable to fly so that any nest disturbance should not cause premature fledging.

Two people are required to use the hand net capture technique. One removes a nestling from the nest for banding while the other stands near the bander with the net open but down. Usually when a nestling is handled it will emit a distress call. If it does not, it can be stimulated to do so by holding the upper legs (tibia) and gently turning it upside down for a second or two. This will not harm the bird but will cause it to call. Presumably, a tape recording of the bluebird distress call would work as well and eliminate the need for an assistant. Immediately after the distress call is emitted the male will attack, almost always from the rear. The female will also attack, but not as aggressively. Allowing the male to make a couple of passes at the bander tends to make him more bold and he will come very close. The individual holding the net then holds it upright during such an attack and a capture is made. The bird is removed as from a normal mist net.

Should it be necessary to capture a male bluebird when the nestlings are older and possibly able to fly prematurely, this technique can still be used. Before banding is initiated, a nest box restricter can be affixed to the front of the nest box which inhibits the young from exiting but causes no harm (Gutzke 1982a). Following the same procedures as outlined previously, a capture can be accomplished. A return to the nest to remove the restricter a day or two later or when the young are 16 days or older and normally ready to leave, will allow successful nest departure.

The hand net capture technique was used 7 times during the 1980 and 1981 nesting seasons and was successful in 5 attempts. The 2 failures resulted when neither parent bird would attack the bander in a manner to allow capture within 5 minutes.

Other techniques for capture of bluebirds were reviewed by Gutzke (1982b). Nest box traps work well; but after the nestlings reach the age of about 10 days, the parent male does not usually enter the nest box but

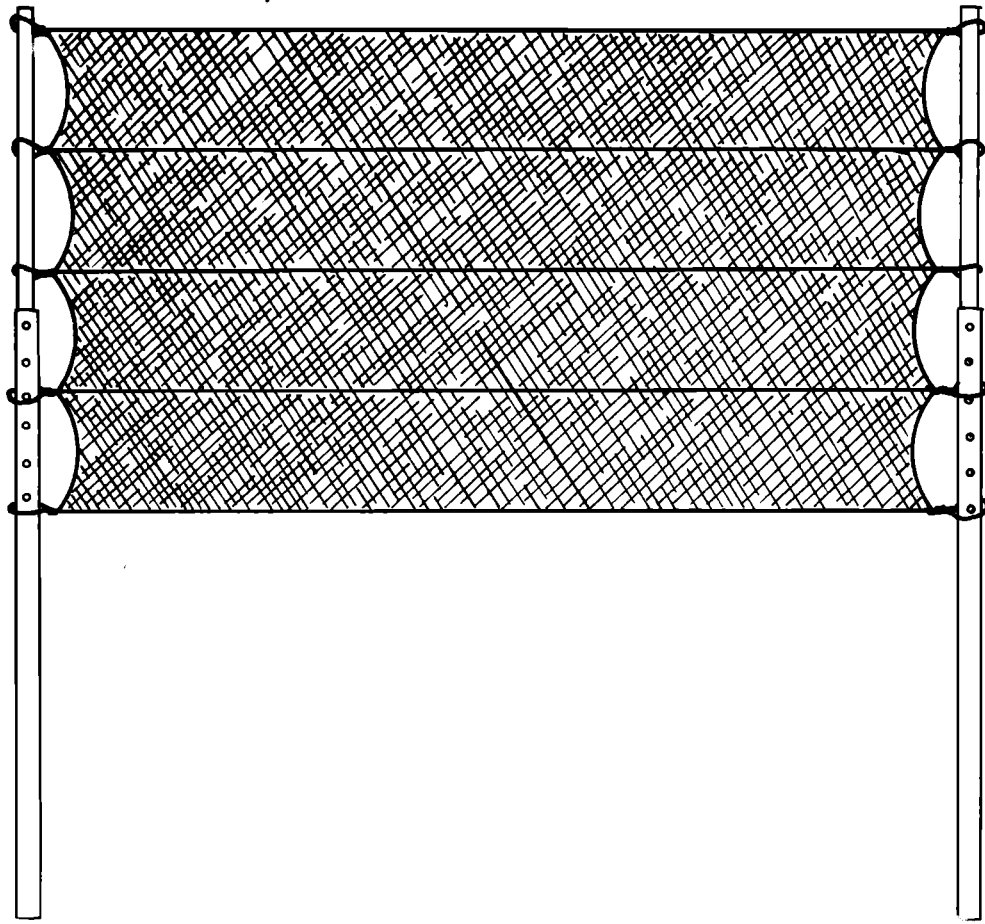


Figure 1. The hand-held mist net in the open position.

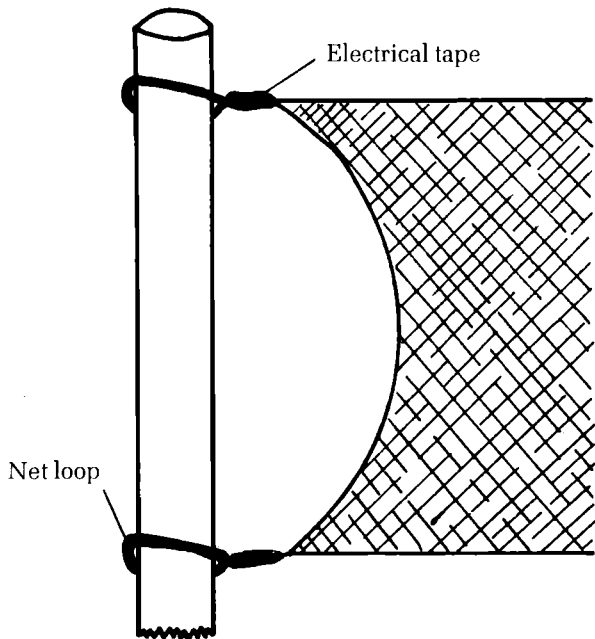


Figure 2. Attachment of net loops to pole allowing easy movement up or down.



Figure 3. Hand net in a closed position ready for easy transport.

clutches the front and feeds the young through the entrance hole. This precludes any opportunity of capture, for the bird must physically enter the nest box for the device to work. Also the male becomes much more elusive than the female when a trap device is attached to a nest box (Pinkowski 1978), occasionally making capture impossible (pers. obser.). Likewise, standard mist net operations near the nest site can be successful, but experienced birds soon recognize and avoid the nets. When the above methods prove unsuccessful or when a nest location is so distant that the transportation of mist nets, poles, and other equipment is not feasible or is too time consuming, the hand net is desirable. Other techniques seem to cause less nest disturbance and are recommended by the author before trying the hand net. However when time, distance, or advanced nestling age becomes a factor, and it is necessary to capture the parent male, the hand net is then desirable. When used properly there should be no mortalities and nest disturbance will be kept to a minimum. I have never had an adult or juvenal mortality employing this method but, because of the necessary disturbance, excessive stress could be placed on juvenal birds. That is why this technique was used only when other methods prove unsuccessful or logistics exist such that it was the only method available.

I have also tried this technique on nesting Tree Swallows (*Iridoprocne bicolor*) with excellent results; both male and female of the 2 nests attempted were captured in less than a minute without any difficulties.

## Summary

In conclusion, the hand held mist net is inexpensive to construct, mobile, easy to use, and effective in capturing nesting adult bluebirds at the nest site. I reiterate, however, that this device should be used only when it is necessary to capture the male bird and after other techniques have proved unsuccessful. The capture operation should be as smooth and quick as possible, keeping harassment to a minimum. Although the author has never had a mortality using the hand net, the possibility of serious disturbance or injury is always present, with nestlings more vulnerable than adults. Care must be observed at all times.

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