

A versatile set of inexpensive mist net poles

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Bird banders who use mist nets have a wide variety of net poles from which to choose, ranging from one-piece, personally-cut bamboo poles to aluminum, telescoping poles available commercially (DeHaven 1969, Bleitz 1970, Karr 1979). Variables to consider in selecting poles include: durability, cost, weight, and ease of transport. Because the cost of commercial poles is high (\$50-\$60 plus a \$15 pole pounder), we have developed a set of poles, the parts of which can be easily purchased and assembled at minimal cost. These poles incorporate desirable features lacking in others we have seen.

The materials needed for a set of poles to support a 4-shelf mist net are: 4 sections of steel conduit of $\frac{1}{2}$ in (1.27 cm) inner diameter and approximately 5 ft (1.5 m) in length; 2 conduit connectors of $\frac{1}{2}$ in (1.27 cm) diameter; and 10 $\frac{3}{8}$ - to $\frac{3}{4}$ -in (0.95- to 1.91-cm) diameter hose clamps (Fig. 1). Conduit and conduit connectors can be purchased at an electrical supply store and hose clamps are readily available at most hardware and automotive supply stores. The cost of these materials will vary, but we were able to purchase them for \$8.00: conduit, \$3.40 (20 ft @ \$.17/ft); conduit connectors, \$.60 (2 @ \$.30 each); hose clamps, \$4.00 (10 @ \$.40 each). Conduit is usually sold in 10-ft (3-m) lengths, but these can easily be cut into sections with a hacksaw.

Each mist net pole consists of 2 conduit sections joined by a conduit connector tightened with a screwdriver. If desired, conduit connectors can be welded permanently to lower pole sections. Hose clamps are used as points of attachment of the mist net loops, and are temporarily placed about 0.5 m (20 in) and 1.0 m (40 in) from the top of lower pole sections and the same distances from the bottom of upper sections. Attach the remaining 2 hose clamps to the top of lower pole sections or to the bottom of upper sections. These hose clamps are not always necessary, for screws of the conduit connectors can serve to anchor the middle loops of the mist net.

To set up a mist net, push a lower pole section into the ground at the desired location. If the soil is not easily penetrated, first hammer a small piece of conduit (30-50 cm [12-20 in] long) into the ground, remove it, and place a mist net pole into the hole created. Never hammer on pole sections directly as this may damage

the upper end, preventing proper connection with adjoining sections. To determine the approximate spacing of the second pole, connect 1 set of loops (have them tied together) of the net around a screw of the conduit connector and walk in the desired direction to where the second pole should be. At the point where the length of the net is maximally extended, push the lower pole section into the ground. Untie the net loops and begin attaching them to the poles. In contrast to other pole designs, net loops are not slipped over the poles but attached directly to the flanges of the hose clamps and/or 1 of the screws of the conduit connectors (Fig. 2).

Begin with the top loop and hose clamp on the upper pole section. Upper pole sections do not have to be connected to lower ones at this time if upper hose clamps are difficult to reach otherwise. After loops

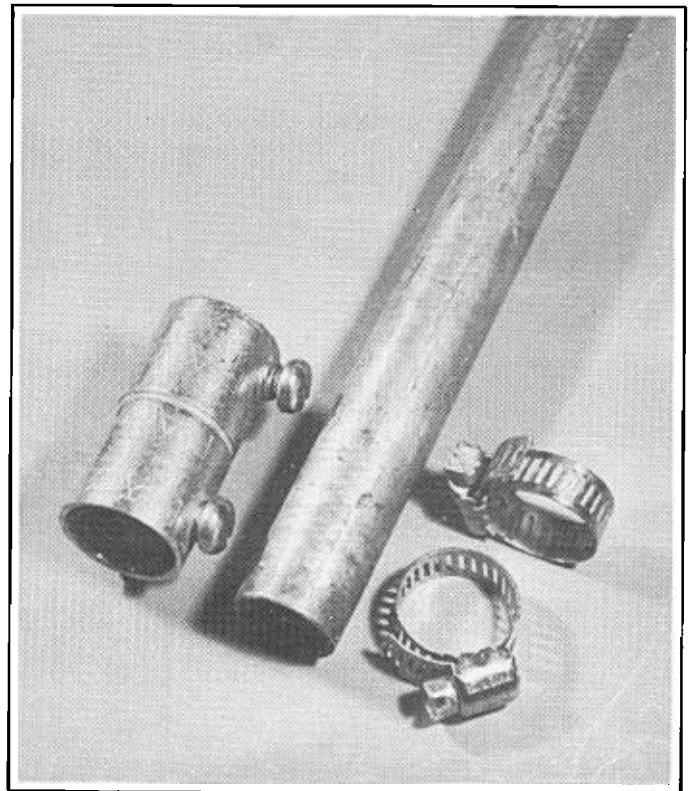


Figure 1. Components used in mist net poles. Shown are a conduit connector, a portion of conduit, and 2 hose clamps.

have been secured to hose clamps of the upper section, connect the 2 sections and tighten the screws of the conduit connectors firmly. Attach the remaining loops to hose clamps of the lower sections. The vertical tautness and height of the net should now be adjusted by loosening and repositioning hose clamps. To increase the horizontal tautness of any of the net shelves, shift the orientation of hose clamps on the pole or wrap net loops around the poles an additional time (Fig. 2). If the net is sagging considerably, remove 1 pole from the ground and place it in a new position to remedy this. It is usually desirable to stabilize poles with nylon rope secured around conduit connectors and guying each down with 2 tent stakes.

Taking down mist nets with these poles is similar to setting them up. Remove the loops from hose clamps beginning at the top or bottom and working towards the middle. Upper pole sections may have to be removed if the loops are out of reach. Tie off each set of loops and fold the net (Bleitz 1970). The poles are best stored in sections, and it is not necessary to remove hose clamps or conduit connectors. Be sure that free screws are tightened enough to prevent them from being misplaced. A tent pole bag is ideal for storing pole sections, but we use a homemade storage bag made of discarded denim pant-legs sewn together. Extra material at the bottom is desirable for reinforcement, and a nylon ribbon sewn at the top secures the opening.

The use of hose clamps is an innovation that makes setting up mist nets simple and allows the netter great control of the height and tautness of the net. It is easy to mix up the shelf order on poles where the net loops are slipped over them; and it is difficult to correct such a mix-up, for all loops must be removed and then replaced in the proper sequence. With hose clamps, only those loops improperly placed need manipulating. Slippage of the loops cannot occur using hose clamps, and adjusting the horizontal tautness of individual shelves is easily achieved, as described earlier.

Mist net poles that consist of short sections offer the advantage of ease in transport, storage, and use. Those available commercially consist of tubing that fits snugly over a plug of the adjoining section. These can only be made with special machinery and skill to insure a proper fit between sections. In using these commercially-made sectioned poles, care must be taken to prevent sand, dirt, and moisture from contaminating the points of attachment, causing the sections to bind and making disassembly difficult. On the other hand, conduit connectors slip easily over the conduit sections so that contamination is not a problem with our poles.

We have described a set of mist net poles that we have successfully used and believe to be superior in many

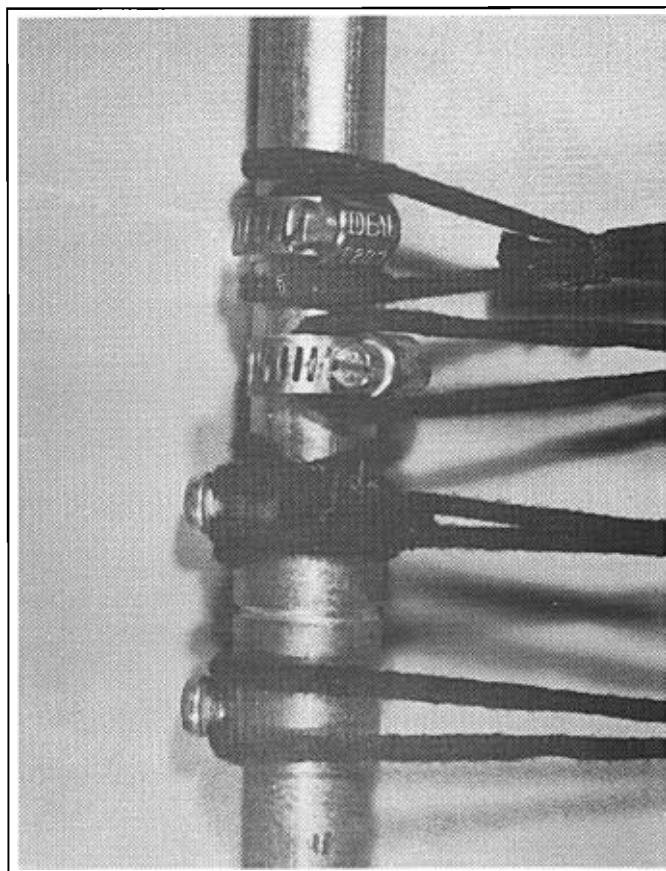


Figure 2. Various modes of attachment of mist net loops to hose clamps and conduit connector.

respects to other types of poles presently available. Using the basic ideas and types of materials we described, modifications can be made to suit the particular needs of other mist-netters. For instance, aluminum conduit instead of steel could be used for a lighter set of poles. Some banders require poles with greater diameters to accommodate heavier or larger nets. Different lengths and numbers of pole sections may be desirable to others.

Acknowledgements

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Literature cited

- Bleitz, D. 1970. Mist nets and their use. *Inland Bird Banding News* 42:43-56.
 - DeHaven, R.W. 1969. Telescoping mist-net poles. *Inland Bird Banding News* 41:84-85.
 - Karr, J.R. 1979. On the use of mist nets in the study of bird communities. *Inland Bird Banding News* 51:1-10.
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Significant encounters with banded birds

Martha H. Ralph

White Pelican. 519-48780. Banded as L-U by George Merrick at Adel, OR on 21 June 1969. Shot at Zumpango, state of Mexico, Mexico in October 1979. 10 years old.

White Pelican. 519-52240. Banded as HY-U at Stillwater N.W.R., near Fallon, NV on 11 July 1967. Found dead by Lonnie Schultz at Sacramento N.W.R., near Willows, CA on 26 January 1980. 12½ years old.

White Pelican. 519-54870. Banded as L-U by Allegra Collister at Riverside Reservoir, near Goodrich, CO on 27 June 1973. Found dead by Mrs. Kenneth Yonker at Wheatland Reservoir, Albany Co., WY on 2 August 1980. 7 years old.

Double-crested Cormorant. 638-50982. Banded as L-U by Charles H. Trost at Minidoka N.W.R., near Rupert, ID on 13 June 1979. Recovered at Morgan Hill, CA in March 1980.

Double-crested Cormorant. Band number uncertain. Banded as L-U by Marcella M. Bishop at Nine-pipe N.W.R., near Charlo, MT in July 1978. Sighted in Gulf of Mexico off Rockport, TX on 24 March 1980; identified by colored leg streamer.

Snowy Egret. 746-39870. Banded as L-U by L. Richard Mewaldt at San Mateo, CA on 14 July 1973. Recovered at San Jose, CA on 7 June 1980. 7 years old.

Black-crowned Night-Heron. 897-65315. Banded as L-U by Scott Findholt at Minidoka N.W.R., near Rupert, ID on 30 May 1979. Shot at Colima, Mexico on 25 December 1979.

Canada Goose. 698-10225. Banded as U-U by Deer Flat N.W.R. at Nampa, ID on 30 December 1974. Shot at Uriangato, Guanajuato, Mexico in February 1980.

(Aleutian) Canada Goose. 887-21509. Banded as L-U by Aleutian Islands N.W.R. at E. Agattu Island, AK on 28 July 1979. Shot at Siltcoos Lake, near Florence, OR in fall of 1979.

(Lesser) Snow Goose. 867-34210. Banded as HY-U by refuge personnel at Bosque del Apache, N.W.R., near Socorro, NM on 30 November 1973. Shot near Eyebrow, SK on 26 September 1980. 7 years old.

Pintail. 626-84645. Banded as AHY-F at Gray Lodge W.M.A., near Gridley, CA on 30 September 1965. Found dead by Lonnie Schultz at Sacramento M.W.R., near Willows, CA in December 1979. At least 15½ years old.

Nadia Mutchler

Red-tailed Hawk. 737-70724. Banded as HY-U by Peter Dring at Libertyville, Lake Co., IL on 24 October 1964. Found dead near Kankakee, IL on 4 March 1980. 100 km south. 15½ years later.

Black-capped Chickadee. 28-66181. Banded as U-U by Edith Andrews at Nantucket, MA on 12 October 1964. Retrapped at same location on 3 September 1973. Male, at least 9 years old; many previous returns.

Gray Catbird. 57-147390. Banded as HY-U by Edith Andrews at Nantucket, MA on 7 September 1959. Retrapped at same location on 17 July 1966. Male, 7 years old; no previous returns.

Common Yellowthroat. 118-85867. Banded as AHY-M by Edith Andrews at Nantucket, MA on 3 September 1969. Retrapped at same location on 13 September 1977. At least 9 years old; no previous returns.

Redwinged Blackbird. 742-09061. Banded as AHY-M by Edith Andrews at Nantucket, MA on 14 October 1971. Retrapped at same location on 3 June 1980. At least 10 years old; several previous returns.

Song Sparrow. 27-119141. Banded as HY-U by Edith Andrews at Nantucket, MA on 14 November 1963. Retrapped at same location on 8 July 1972. Male, 9 years old; many previous returns.