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A Simple and Inexpensive System for Elevating Mist Nets

The mist net is useful to field ornithologists. While mist nets are used to capture a wide variety of birds, problems exist in placing nets in some locations. The midstory or canopy dwellers are a continuing challenge. Several designs have been proposed for placement of mist nets high above the ground. Most require expensive pulleys, net frames, and other devices. We have developed a simple, cost-efficient net scheme design to elevate nets that is easy to assemble and operate.

Design

Poles and rigging are the keys to our design. For each pole, we join 3.05-m sections of galvanized electrical conduit. Conduit is lightweight, fairly rigid, and easily carried. We use 1.9-cm tubing, but 1.3-cm tubing will work. Standard compression coupling fittings are used to join the sections and duct tape is used to wrap the fittings to smooth the edges. We believe joining three or four sections, sufficiently guyed, may be possible, but we have only used two sections (6.1 m) thus far. An eyebolt (we use 0.64 × 6.35 cm) is fixed to the top of each pole; we drill the hole for the eyebolt about 5 cm from the top. To steady the poles, we tie guy strings to the top of each pole and attach them at ground level to nearby trees or shrubs.

We use nylon string running in a continuous loop—like that used to raise a flag on a flag pole—to raise and lower the nets. Five loops, about 10 cm in diameter, are tied in the string at intervals corresponding to the distances between the net shelves, about 55 cm. These loops are placed around the pole and allowed to slide along the pole as the net is raised and lowered (Figure). The five loops keep the continuous loop tight against the pole and provide the proper distance for tying the net loops at the end of each trammel. We think that heavy, 100- to 150-pound test monofilament fishing line may be used.

Placing Nets in the Field

We place the five loops in the lowest position and plant the first pole in the ground. A net loop at the end of each trammel is then attached to each of the five loops in the continuous string and the net is stretched to its full length and proper level of tautness in the direction of the second pole. The loops on the continuous string are lowered on the second pole, the pole is planted, and the net loops are attached. Guide strings are then stretched

tight and tied, and the net is raised by pulling downward on the continuous string. One person can raise or lower the net by moving one side of the net at a time.

Cost Comparison

The supplies can be found in most hardware stores. The hardware for one net included four 3.05-m sections of conduit, two compression couplings, two eyebolts, and 60 m of string. The cost for one high-net assembly is about $15. Tools required for preparation are two adjustable wrenches, or equivalent, for tightening the compression couplings and eyebolts and a drill and bit for making the eyebolt holes. Battery powered drills could be used at remote field sites.

We used 40 of these high-net systems during the 1993 spring migration at three sites along the northern coast of the Gulf of Mexico to capture neotropical migrants. At $15 each, the material cost about $600. Similar systems may cost as much as $140 each. During a 2–3-month period, we captured 3,580 birds using high nets and 3,388 in low nets in the same habitats and with the same net effort.

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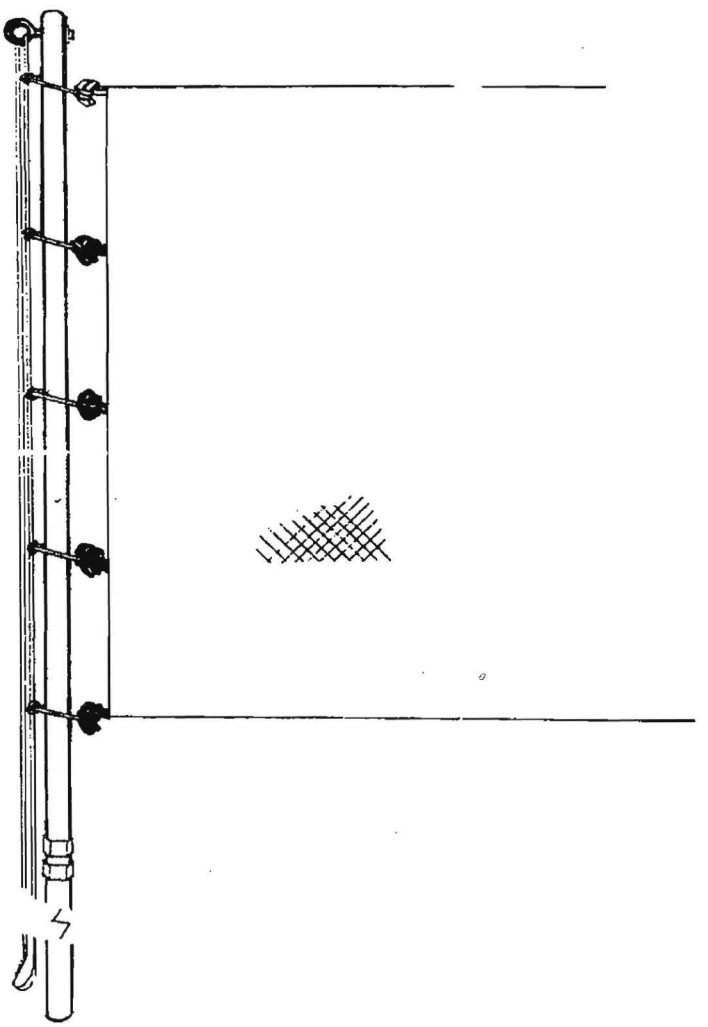

Figure. Continuous loop rigging for raising and lowering nets.