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An Improved Technique for Handling Striped Skunks in Disease Investigations

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Investigations of sylvatic rabies incidence and striped skunk (*Mephitis mephitis*) population dynamics in North Dakota required the development of a handling technique incorporating minimum: (1) danger to handler from biting and/or scenting, (2) injury to skunks from handling, (3) handling time. In addition, the technique must be practicable for sexing, weighing, ear-tagging, tattooing, and collection of saliva samples from live-trapped or hand-netted skunks.

Materials and Methods

The hand-net used is a modification of the basic design described by Upham (1967, M.S. Thesis, North Dakota State University). The following materials, available locally for about \$5.00, are required for its construction:

10 feet of 1" thin wall steel alloy electrical metallic tubing (EMT)
6 feet of 1/2" thin wall EMT
3 feet X 6 feet of 2" mesh poultry wire
2 1" X 1/8" X 8" steel traps
1 shovel handle

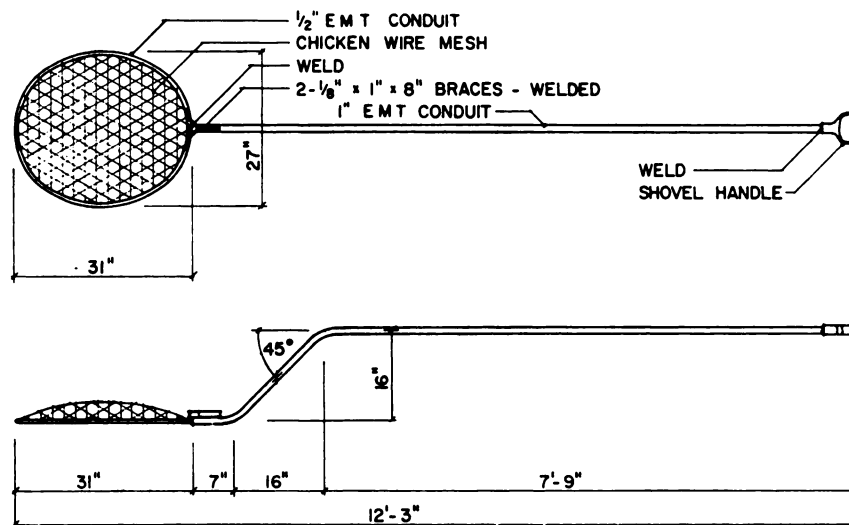


FIGURE 1. Diagram of hand-net used to capture striped skunks.

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FIGURE 2. *Senior author weighing a striped skunk using vulsellum forceps and spring scale.*

The net is constructed as shown in Fig. 1. Two lengths of EMT are shaped and welded together, and the steel strap is welded over this joint for rigidity. Poultry wire is doubled, stretched over the hoop, and secured with light wire. Excess poultry wire is trimmed from the net rim.

A 20" box-lock Knowles vulsellum forceps (Haver-Lockhart Lab., Kansas City, Mo.) is used to suspend the skunk for sexing, and the forceps and skunk are hung on a spring scale (Fig. 2) for weighing.

During nightlighting operations, we found striped skunks are quite easily overtaken and captured with a hand-net under most field conditions at sighting distances up to 75-100 yards. Escape occurred only when very dense vegetation, holes, or culverts were near. Live-trapped skunks are released and recaptured under the hand-net. Two 10 foot lengths of $\frac{1}{2}$ " EMT (one with a small hook welded to one end) are used to open the doors of the National Live Traps. Skunks seldom leave the traps voluntarily; it is usually necessary to dump them out.

Discussion

Skunk handling techniques involving anesthetization have been reported by Rausch (1947, Jour. Wildl. Mgmt., 11 (2): 189) using chloroform or ether, Rausch (1947), Jour. Wildl. Mgmt., 11 (4): 552-555) using an anesthetizing chamber and ether, and Verts (1960, Jour. Wildl. Mgmt., 24 (3): 335-336) using intraperitoneally injected pentobarbital sodium. These techniques were rejected for the present study because of possible complications and mortality attributable to anesthetization, and the length of time necessary for the onset of anesthesia (i.e., 15-20 minutes with pentobarbital sodium, Upham (op. cit.)). The technique described by Allen (1939, Jour. Wildl. Mgmt., 3 (3): 212-228) appeared complicated for a single handler, and was not tried. The technique described by Crabb (1941, Jour. Wildl. Mgmt., 5 (4): 371-374) using a handling box for spotted skunks (*Spilogale putorius*), was tried but found to involve a lengthy handling time and difficulty in sexing.

Once the skunk has been captured under the net, with its tail down and back straight, the handler can work up the net handle and quickly place his foot on the skunk's tail with the forward edge of the foot resting on the hindquarters of the skunk. The other foot is placed on the net rim. Eartagging, saliva swabbing, and tattooing can then be conducted through the net. Grasping the skunk lightly with channel-lock pliers by the nape of the neck facilitates these operations. The area between and slightly posterior to the ears, and the jaws of the vulsellum forceps are next sprayed with an aerosol disinfectant. After removing the foot from the net rim and raising the net, the forceps can be clamped and locked on the disinfected area. By simultaneously removing the other foot from the skunk's tail and pulling out and up on the forceps the skunk is suspended. The forceps are then hung on the scale and sex and weight recorded without touching the skunk. When observations are completed, a simultaneous throwing motion and unlocking of the forceps safely releases the skunk 4-5 feet away.

The present technique has been used successfully on over 50 hand-netted and 200 live-trapped skunks, ranging in weight from 0.6 to 12 pounds. Reaction of the animals to being picked up has varied from no reaction to vigorous activity; the majority were extremely docile (Fig. 2). To date, no skunks have escaped from the forceps. Scenting has not occurred with the 50 skunks handled during nightlighting operations, but has been observed on 3 of 200 occasions during daytime handling. This problem may be reduced by attaching the forceps high on the head, minimizing sudden movements in view of the skunk, and minimizing time suspended.

This technique allows the handler to complete tagging, tattooing, and collection of saliva samples with the skunk under the net. Information on sex, weight, reproductive status, and gross morphological characteristics are collected during suspension from the forceps. With experience, handling time from capture to release should not exceed 10 minutes.