

GENERAL NOTES

Some techniques used in a field study of Loggerhead Shrikes.— During a recent study of the Loggerhead Shrike (*Lanius ludovicianus*) in Florida, I experimented with several field techniques that might be useful to investigators studying these or other small birds.

To capture shrikes, Clark (1967) suggested setting a Bal-Chatri trap on a platform of nooses to increase the chances of snaring a bird as it walks around the lure. I found that shrikes, although readily attracted to the traps, seemed reluctant to walk among the nooses and were seldom caught. I had good success trapping adult shrikes with two-cell wire box traps (available from Russell S. Davis, Clayton, Illinois). These had mesh size of 1 x 1/2 inches, compartment size of 8 x 8 x 8 inches, and top or side doors. They were modified to include a separate bait compartment. I caught an equal number of adult shrikes in the top and side door traps. Captured shrikes attempted to escape by pushing their bills through the mesh and if not removed quickly would injure the skin at the base of the mandibles and occasionally break tail feathers. I also used larger (12 x 12 x 18 inches) Potter traps with 1-inch wire mesh. The birds seemed less reluctant to enter this trap and struggled less when trapped. The larger mesh allowed them to get their heads through without injury. Bait cages of 1/2 inch wire mesh with dimensions of 3 x 3 x 6 inches were used in these traps. One drawback to the larger Potter traps was the tendency of shrikes that landed on the side without an entrance to continue to seek entrance along that side rather than going around the end. Perhaps a circular trap design would solve this problem. For bait I first used the native old-field mouse (*Peromyscus polionotus*) that occurred on the study area, but I later switched to white laboratory mice (*Mus musculus*) because they were more conspicuous and active in the traps, showed less heat stress, and were easier to raise.

Adult shrikes were readily trapped when feeding young and in winter, but during August and September they showed little interest in the traps and none was caught. Fledglings about 35 days or older were sometimes mist-netted near mouse-baited traps that they readily investigated. Although they rarely went into the traps, they could be flushed into the nets.

When shrikes perch, their tarsi are usually hidden by feathers, thus color bands are often not visible. I therefore tried marking shrikes with leg tags 3.8 cm long and 0.6 cm wide made of Saflag, a plastic coated nylon fabric (Safety Flag Co., 390 Pine Street, Pawtucket, R. I. 02862). If the tags are longer the birds defecate on the ends, thus obscuring the markings. The tags were attached with a slit and notch arrangement, but the method of attaching the falconer's jess would probably be more satisfactory (Russell, 1940). Numbers or symbols were painted on the ends with vinyl paint. These leg tags allowed rapid recognition of individuals at greater distances than colored leg bands. Eight of 18 adults that were tagged and color banded retained their tags for at least one year. One bird carried a leg tag for at least 18 months.

One drawback to the use of leg tags was the danger of young shrikes becoming entangled in Spanish moss (*Tillandsia usneoides*). This was especially serious with young fledglings because they often use Spanish moss draperies to scramble about in a tree before they can fly well. Of 75 nestlings marked with leg tags in 1971, five nestlings and five young fledglings were caught by their tagged leg in Spanish moss. The legs of two of the nestlings were badly injured, and three of the fledglings were found dead. Only one of 18 leg-tagged adults was found entangled, and it was released unharmed.

To observe the behavior of nestlings, I placed mirrors above shrike nests and used a spotting scope to view the nest from the ground. A truck mirror (7 1/2 x 5 1/2 inches) was attached to a length of 1-inch diameter aluminum pipe, flattened in the middle for mirror attachment, in which holes were drilled for wires to anchor the pipe to branches. The mirror was aimed to allow observation into the nest from a predetermined spot. Mirrors were placed at six nests late in incubation or soon after hatching. No desertions occurred. Care was taken not to remove too many branches that shaded or camouflaged the nest.

Because nestling shrikes handled daily leave the nest sooner than if undisturbed (Lohrer, 1974) and because recently fledged young move high in the nest tree and are nearly impossible to catch, I placed nests and nestlings in

cages suspended at the nest site from a pulley in order to facilitate periodic examination in a study of postfledging growth. The cages (12 x 12 x 18 inches) had wooden ends and 1-inch wire mesh sides, top, and bottom. A clear acetate top provided protection from rain, and the wire bottom allowed feces to fall through. Perches were placed inside the cage and the nests were wedged into a corner. A perch on the outside of the wire allowed the parents to feed the young. Experience indicated that a tray suspended beneath the cage to collect pellets and modification of one corner to surround the nest on two sides with wire mesh and allow parents better access to the nest would have been desirable.

Young from three nests were placed in cages at age Day 15 and measured daily or every other day until age Day 25-30. In two of the nests the young gained weight at about the same rate as wild fledglings. The young in the third nest declined gradually, and they were about 5-7 g lighter than normal when released at age Day 25.

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A reusable cassette holder for small bands.—The problems of organizing and using small size (X, 0, 1, 1B, and 1A) butt-end aluminum bands in the field are familiar to most banders. Avoiding band mix-ups and losses are special problems when working over water, in mud, or at low light levels. The most suitable band holders are those that can be organized and loaded at home or in the laboratory for efficient use in the field. Various devices for holding, opening, and organizing larger bird bands have been presented by Addy (Guide to Waterfowl Banding, U. S. Fish and Wildlife Service: 164 p., 1956). An ideal reusable carrier and organizer for small bands is the cassette container used to market oral contraceptive tablets. One such container is the Dialpak 63 Tablet Dispenser manufactured by Ortho Pharmaceutical Corporation (Fig. 1). The Dialpak Tablet Dispenser is patented for its specific purpose and cannot be obtained commercially; however, it is generally available from contraceptive users as a recycled byproduct.

Each dialpak cassette measures 75 mm on a side by 12 mm deep. The cassette contains 21 chambers 7 mm in diameter and 7 mm deep, any 20 of which are covered at one time. The chambers hold a sequence of 20 size X, 0, 1, 1B, or 1A bands that may be spread in preparation for banding before going to the field. It is convenient to label the 1st and 11th chambers for rapid reference. The clear plastic cassette cover rotates only in a clockwise direction making it impossible to use bands out of sequence or to mix bands once they are properly placed in the container. Because bands can only be released from the cassette one at a time, spills are avoided. The cassette with bands is buoyant, a particularly important feature when banding over water.

The numerical sequence and size of bands in the cassette are recorded with a pen and India ink on a piece of masking tape which is attached to the back of the dialpak. Record-keeping is eased by packing a full string of 100 bands into five cassettes with appropriate sequence numbers. Four or five cassettes of bands fit comfortably into a shirt or blouse pocket. The cassette may be worn around the neck on a nylon cord while the banding operation is in progress.

This is an especially effective method of keeping bands and records in good order if master permittees provide bands to subpermittees, either in small groups (20) or in full strings of 100 as recommended by the BBM (North American Bird Banding Manual, 1972). Size X bands used only for special hummingbird