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# A technique for making custom-sized colored plastic bird bands

Betsy Trent Thomas

The current trend toward behavioral bird studies often requires a population of color-banded birds (Wolfenden, 1975; Smith, 1978; Balph, 1979). To study the cooperative breeding of the White-bearded Flycatcher (*Conopias inornata*) in Venezuela (Thomas, 1979), I began by color-banding a population of birds on adjacent territories. I selected the color-band size next larger from the one that did not float freely on the birds' legs.

In subsequent years, three (about 5%) of these flycatchers, all of them males, caught the long and exceptionally sharp hallux in the colored band. The handicapped birds were potentially counter-productive to my project because they could be at a competitive disadvantage. I tried to recapture them, but they were exceedingly net-shy. Fortunately, during the months it took me to re-net them, all retained their territories and mates, and bred, two of the three successfully. Nevertheless, I decided to change the color-band size that I had used on this species, in new bandings and in all the recaptures that I could make. What I needed, however, was a band size intermediate between the two commercially available sizes (A.C. Hughes Regs. bands).

Another need for custom-size colored bands occurred in a different study. The smallest commercial size band easily slipped over the feet of very small flycatchers and other tiny neotropical passerines weighing 5-8 g (Thomas, 1982). Recently I learned of still another use for a special size: to prevent band loss in larger birds that need an intermediate size.

To solve these problems, I developed a simple method of cutting down colored bands to custom-fit birds as follows:

- (1) First I measure, with calipers, the maximum diameter of the tarsus of the bird I want to band; this is best done on a living bird because allowance must be made for shrinkage in museum skins. Then I select, from an assortment of nails and short pieces of stiff wire, the appropriate size for the inside diameter of the re-sized band.
- (2) Using a pair of very sharp pointed scissors (Fig. 1A) I cut a small section out of the too-large band. It is important to make a non-beveled cut at a right angle to the band for proper butt-end acetone sealing (Fig. 1B).
- (3) Poorly cut bands should be discarded or re-cut to a smaller size. I found it helpful to save the cut-off snips, as they are the best gauge for judging how much to cut off when making a series of bands the same size. Next I pinch the band gently around a nail of the appropriate diameter with a pair of needle-nosed pliers (Fig. 1C), and dip it into a small pan of hot water for about 3-10 seconds, just long enough to allow the band to reform into a closed circle again (Fig. 1D). Better still is the use of banding pliers with bored holes in the jaws, if the correct size is available, instead of needle-nosed pliers and a nail. The water can be kept hot, just below boiling, on a stove, but I find it easier to work at a table. Therefore I use a candle in a tin can, though a chafing dish or baby's bottle warmer probably could be used instead.
- (4) I check all of the newly-made bands with inside calipers, since even with the utmost care there is often slight variation. If I find more than 0.3 mm difference, I divide the bands into separate class sizes for use on different species of birds, or on different sexes if the birds are dimorphic. For use with smaller bands than the commercially available ones, I filed down one of the aluminum opening tools supplied by the manufacturer (Fig. 1E).

Two short cuts that I tried did not work. One was to drop the newly-cut band into hot water without holding it around the nail form. Immediately the circle relaxed and flattened, after which it became difficult to reform a closed circle. The second was to try to save money by making two small bands from a larger one. I discovered that it was difficult to bend a half-circle smoothly around a nail before dunking it in hot water, and when I succeeded, the resulting band was both too thick and too wide for tiny birds' short tarsi.

Investing this much time and effort in custom-sizing bands for birds may seem unusual, but I believe it is worthwhile as it insures that my study birds have correctly fitting bands. Currently I have several populations of neotropical birds that have worn custom-sized bands for more than three years, and they are rewarding me with exciting and valuable field data.

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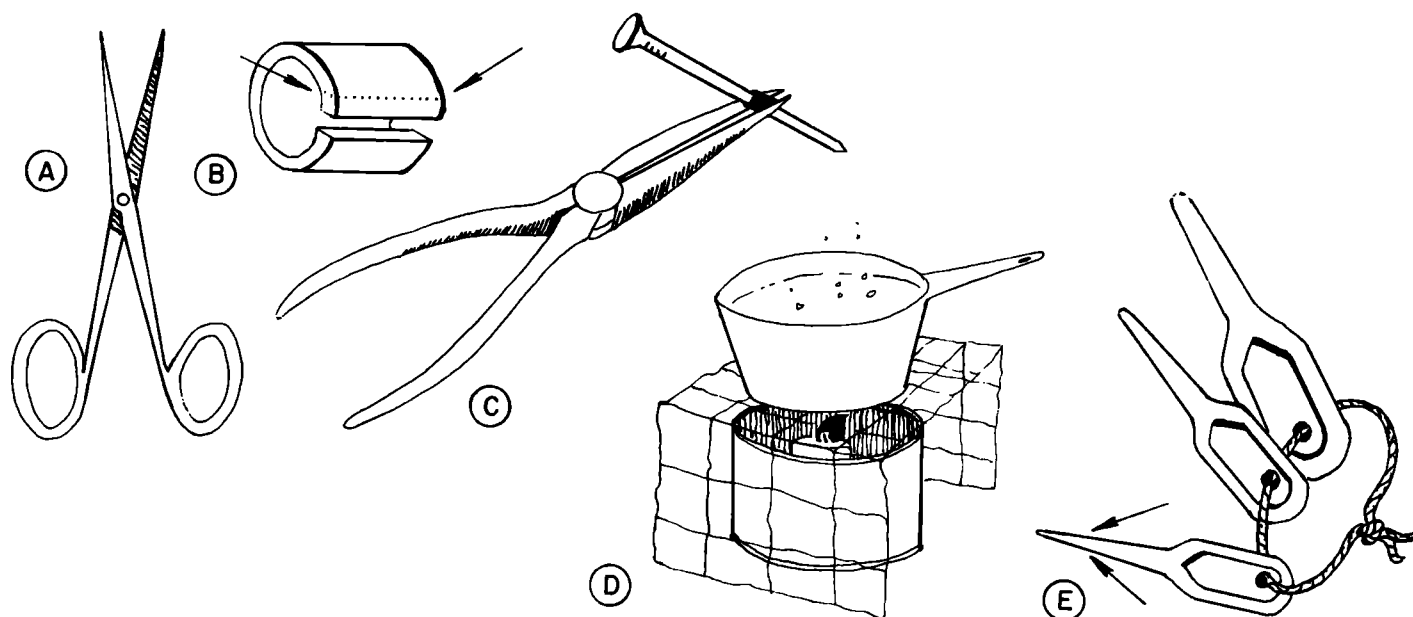


Figure 1. Tools for making custom-sized colored plastic bird bands

- A. Scissors for cutting plastic bands
- B. Enlarged band with arrows indicating cut edge
- C. Pliers for holding nail and re-sized band
- D. Hot water for brief immersion of plier-held band
- E. Arrows indicate filed-down band opening tool for tiny sizes