Some birds proved very 'trap shy' - not approaching a trap which was clearly visible for up to 2 hours. Others, in the same area, were trapped 3 times in under an hour.

ECONOMICAL COLOUR BANDING

By: Thomas S.Choate
University of Rhodesia,
P.O.Box MP 167,
MOUNT PLEASANT,
Salisbury, Rhodesia.

Too few ringers undertake studies which give information other than movements. Recognition of individuals at a distance is the key to studies of population characteristics, behavioural interactions, aspects of life history and ecology. Colour ringing is one of the simplest and most widespread of methods for individual recognition. A bird needs only to be captured once and given a unique combination of colours and thereafter data are obtained by observations with binoculars, thus minimising disturbance and bias such as net shyness. Even without planned research projects on a particular species, population or community, the kind of information produced from casual observation of identifiable individuals is of considerable value. For example, one can say that "male blue over red left, returned again after a seven month absence and occupied a large territory of 3000m² centered on the same tree as in the previous year. After male yellow over green right arrived two weeks later on the territory to the north, three boundary disputes were seen and the eventual area occupied by the first male was 2400m²". Such precision of statement is essential in modern ornithological research.

Commercial colour rings are usually of the split ring or spiral sort, made from medium-hard plastics. These are often just as, or more, expensive than metal numbered rings and may either work open with age, or be removed by the bird. This problem of ring loss can often be solved with a drop of a suitable glue (e.g. quick drying plastic based cements) or of a solvent such as acetone which melts the rings ends together. By always placing a numbered ring on the bird as well the loss of identity through losing one or more colour rings or through the bird migrating elsewhere is avoided. Colour rings can be purchased at cost from NUBRA.

If many colour rings are to be used, the costs can be considerable to the non-subsidised ringer. Provided a life of about three years is all that is expected, and the species takes an X, A, or 2 sized ring, the following economical banding system can be considered. It takes a little longer to apply, but provides a highly visible mark because of the "tails" which are not readily covered by feathers or mud. Perhaps its greatest advantage is the low cost (about a tenth of commercial ring costs) and

wide availability. Since the material is sometimes available only in bulk, it is suggested that local groups purchase supplies for members, as the R.O.S. has done.

The two components of the band are polythene tubing and miniature (size 10) staples. The tubing is designed for lacing garden chairs and is fairly soft and flattenable. In Rhodesia the tubing used has an o.d. of about 12mm, an i.d. of about 9½mm and comes in seven bright colours. An ordinary pair of scissors will do to snip off bands 5mm wide and thus produce a set of 200 from a metre of tubing. The cost of this is about 4cents so if blue, green, yellow, red, white and black are purcahsed at ½metre each (100 bands) plus two boxes of 1.000 no.10 staples, the total for the 600 bands is about 30c. These bands are sufficient to produce two sets of 120 unique colour combinations (see table) to suit two species (or 240 of one species if the sexes clearly differ) which is plenty for most studies.

The banding procedure is to slip the bird's leg through the ring and then flatten the ring between the fingers of the hand holding the bird. Provided the no.10 stapler is small enough, it is simple to staple the band closed as near as possible to the bird's tarsus. Then turn the band around and place a second staple from the opposite side, ideally about 1mm from the 'feet' of the first staple. Pliers are then used to ensure a tight closure of the staples. A squeeze with the fingers makes the ring part of the band round so that it turns easily on the bird's tarsus (see figure). In practice it has been found impossible inadvertently to staple the band too tight. Now the procedure is repeated for a second band (if any), and with the numbered ring fastened on the process is complete. With practice and a reliable stapler, each colour band should take about 15 seconds to apply.

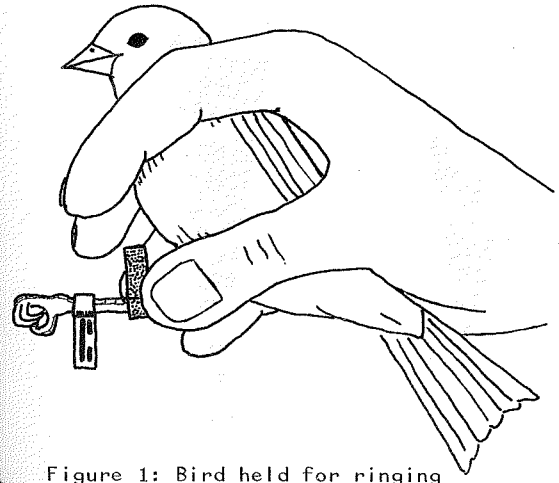


Figure 1: Bird held for ringing with the colour bands in position. The upper band is being gripped closed prior to stapleing in the manner shown on the lower band.

The table shows how one or two colour bands per bird will produce 120 (six colours), 161 (seven colours) or 208 (eight colours) uniquely marked individuals. If more combinations are needed a third band can be added per bird, and even without using an upper and lower position

for the numbered ring the number of unique marks is increased to 329, 468 and 643 respectively. A table showing this three band system is available on request.

This type of colour band has been tried so far on House Sparrows, Masked Weavers, Fiscal Shrikes and Kittlitz Plover (A.J.Tree). There is as yet no evidence of ring loss, hardening of plastic, rusting of staples, colour fading, injury to the bird or any other problem in some thirty recaptures and scores of sightings after up to three months of use. Thus, though not fully tried, this seems a promising and economical method. It is probable that it would suit birds which have wider tarsi than 2-size, provided a hand riveting device was used instead of a stapler. Strips of this polythene or larger diameter tubing could be used to make colour bands of any size.

TABLE OF COLOUR BAND POSITIONS (one or two bands per bird)

First Two Colours (AB)			Additional Colours (C)		
right leg		left leg	right leg		left leg
A		*	C	*/	C
*		A	A	*/	C
B		*	C	*/	A
*		B	B	*/	C
A/B		*	C	*/	B
*		A/B	C		*
B/A		*	*		C
*		B/A	A/C		*
A/A		*	*		A/C
*		A/A	C/A		*
B/B		*	*		C/A
*		B/B	B/C		*
A	*/	A	*		B/C
B	*/	B	C/B		*
A	*/	B	*		C/B
B	*/	A	C/C		*
			*		C/C

* position normally occupied by numbered ring or
*/ optional leg.

TOTAL COMBINATIONS PER COLOUR GROUP

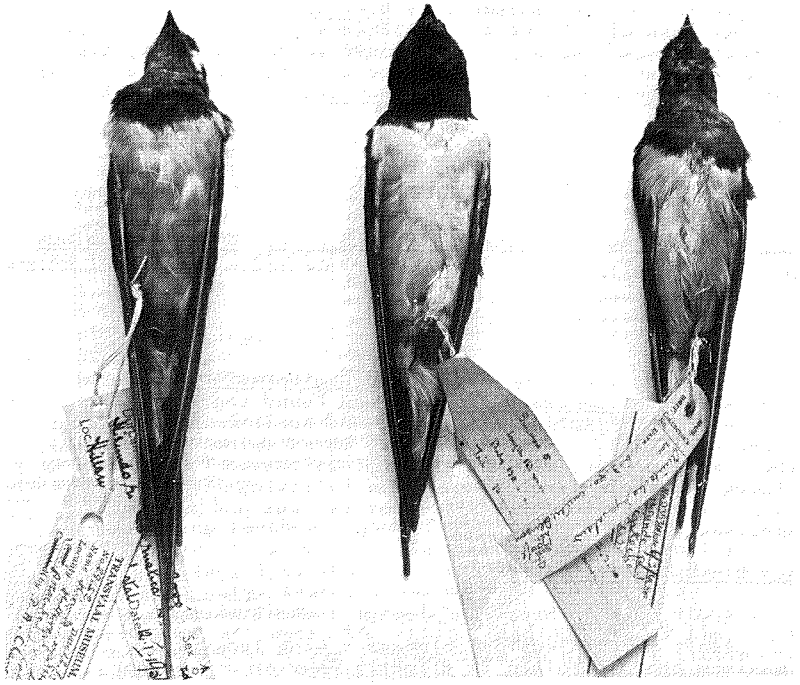
ABC	33	(AA5, BB5, CC5, AB6, AC6, BC6)
ABCD	56	(ditto plus DD5, DA6, DB6, DC6)
ABCDE	85	(ditto plus EE5, EA6, EB6, EC6, ED6)
ABCDEF	120	(ditto plus FF5, FA6, FB6, FC6, FD6, FE6)
ABCDEFG	161	(ditto plus GG5, GA6, GB6, GC6, GD6, GE6, GF6)

For eight colours(ABCDEFGH), if obtainable, 208, (ditto plus 47).

RACES OF THE EUROPEAN SWALLOW - Hirundo rustica

By: H.P.Mendelsohn, (N.T.O.S.),
1228 Burnett Street,
HATFIELD, Pretoria.

As far as is known, only two races of Hirundo rustica L. overwinter in southern Africa, namely the nominate race, H. r. rustica and H. r. gutturalis (Clancy, Durban Museum Novitates 27.2.70). The latter breeds in Eastern Asia. It has been established that birds of this race reach southern Africa on migration and there are a number of specimens in our museums. Although these have so far only been obtained in



Two specimens of H.r.gutturalis are shown on either side of H.r.rustica, illustrating the chestnut penetration of the breast band.

Natal, Rhodesia and Botswana within our region, as well as Tanzania, Zambia and Malawi north of the Zambesi, there is evidence to suggest that they also occur in the Transvaal and possibly other parts of South Africa. Swallow ringers should, therefore be on the alert and carefully examine any deviate bird coming to hand.

In H.r.gutturalis the chestnut of the throat patch is possibly a little paler than in H.r.r. but the most signif-