COLOUR-RINGING EXPERIENCES WITH FOREST ROBINS

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Recent articles in Safring news on colour marking techniques prompt me to relate some experiences gained over 19 years with colour-ringing of forest robins in Natal.

In a recent excellent article on colour rings for vultures, John Ledger writes: "In any colour-ringing project, the rings should reasonably be expected to remain on the bird for the greater part of its lifetime, and the colours must remain true." At first glance this is a reasonable statement. However, evidence points to the fact that plastics are not colour fast, and that even some passerines may be expected to live 9 - 10 years on average and 13 - 17 years (or more ?) in a percentage of individuals in some populations. These facts may lead some among us to dismiss colour ringing as a worthwhile research tool. But if a careful appraisal of the pertinent parameters of any projected marking scheme is undertaken, known shortcomings of marking materials can be frequently overcome by adoption from the outset of a planned marking procedure.

When I started ringing robins in a Natal forest in 1955 there was no planned procedure, no awareness of ring fading and no conception of the length of time that those colour rings would be required to last. It all started very simply. I had built a hide at a forest pool and I wanted to know how many different robins came to bathe there, or conversely how many times in a given period the same robin came to bathe. Two species were involved, the Chorister Robin Cossypha dichroa and the Starred Robin Pogonocichla stellata. The latter was the main quarry; I knew there were at least two individuals involved as both had been in view simultaneously on several occasions. The simplest way to solve the problem seemed simply to catch the birds and put colour rings on them. I started colour-ringing in mid August and in 15 capture days between then and the end of May 1956 when I left that part of Natal, I caught and colour-ringed 18 Starred Robins and 8 Chorister Robins. In the process I learnt that the particular pool was resorted to by robins from all over a large area of forest because I was able to locate many of the birds away from the trapping site in the vicinity of their nests. The original aim of the exercise had been

fulfilled but the real spin-off was still to come.

In subsequent visits to the forest, the first of which was at the end of 1957, I was able to locate some of the ringed robins in their old haunts. At the end of 1962 I moved back to Natal from Zululand and it was then possible to visit the forest more frequently. On 27th July 1966, walking along a path in the forest, I happened on a rare find, a dead bird, furthermore a dead Starred Robin. It was lying face down in the path and I turned it over, expecting to find the underside nothing more than a blackened, larvae-infested carcass. But it was immaculate, still stiff, and bore a red and a mauve ring on the right leg. I had ringed it as an adult bird on 5th December 1955. Because of its plumage it must have been at least 2 years old on that date, so at death it was at least $12\frac{1}{2}$ years old. Post mortem revealed a very thick skull and no injuries.

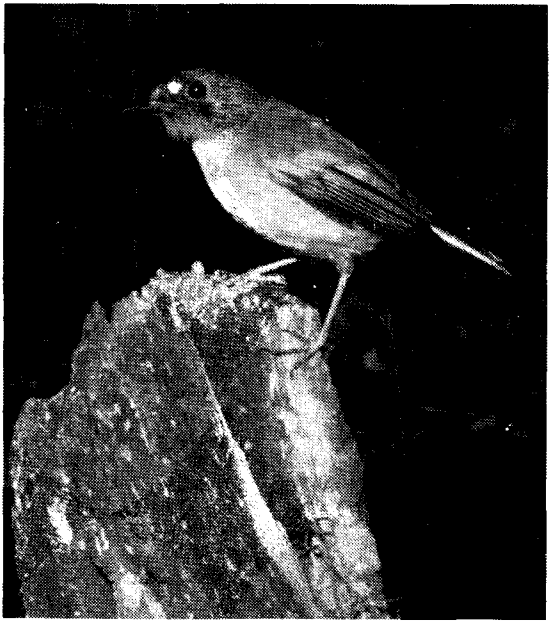
Two other Starred Robins had been last seen in December 1962, and one of the Choristers in April 1963. In addition to the birds caught at the hide I had ringed two Starred Robin nestlings in December 1955. They fledged successfully and were seen near the hide soon after leaving the nest. Neither were seen again until 16th January 1968 when one of them was found feeding a fledgeling near the forest edge, at which time it was of course 12 years old.

These sightings encouraged me to start a new colour-ringing project and this was commenced on 16th March 1968 and is still continuing. But to complete the history of the original group of robins it is worth recording that on 17th March 1968 I caught a Starred Robin ringed as a one year old bird on 27th December 1955 which meant that it was going into its 14th year. Finally, one of the Chorister Robins, ringed as an adult (at least one year old) on Christmas day 1955, and which had been retrapped first in July 1966 was caught again in April 1968 and again in September of the same year when I decided to replace its colour ring with an identical one from the original batch. This ring, which was getting rather thin, had been worn for 12 years and 257 days. The robin himself was last retrapped on 14th April 1971 when in his 17th year.

The new ringing project is aimed specifically at Starred Robins, although Choristers are colour marked as part of a subsidiary study when caught. The colour marking of these robins is to aid the study of the population structure, and an essential part of the project is an annual census when an attempt is made at the height of the breeding season to locate every nest and thereby every breeding pair. In November 1973 I was able to locate 24 colour-ringed Starred Robins in the study area.

A factor that soon became apparent from the earlier ringing was the difficulty of accurately identifying colour-ring combinations on a small bird in dense vegetation. I started the scheme with five different ring colours for Starred Robins: pink, red, mauve, yellow and a two colour ring banded in pink and dark green. It was found that pink and yellow could be confused at a distance in the forest, and there is nothing more frustrating than to locate a bird, get tantalizing glimpses of its rings and end up not really sure of the combination. Consequently in starting the new scheme, when it was anticipated that many more birds would be ringed, more colours were employed, but care was taken to combine colours so that any such confusions could be eliminated. Colour rings are placed on either leg, but the leg is noted as being right or left and forms part of the code. Thus a bird with a white and a red

ring on the left leg would be coded WRL. After sighting I sometimes find myself confused about which leg the rings were on. This may sound ridiculous, but with a bird hopping about in the dense vegetation, now facing one, now reversing its direction, the rings sometimes obscured by twigs or leaves, it is surprising how quickly doubts crop up, particularly when the supposed combination proves to belong to a bird one hasn't seen for several years. For this reason the ring combinations are planned to reduce to a minimum the number of possibilities. Thus if a bird has been ringed WRL, it is essential not to ring one WRR, but an RWR combination could be used. Of course one could place the same combination on both legs, but this is less satisfactory when one is also using aluminium rings and it also doubles the cost of the colour-ring bill which nowadays is considerably more than that for numbered metal rings. In 1955 I used to pay about two shillings for a dozen coloured canary rings, made in England. More recent purchases are of the order of 50 cents for ten from a commercial supplier and they are nothing like as good a quality. Blue rings put on birds in 1969 faded to white within 18 months. By contrast, the ring removed from the Chorister Robin after nearly 13 years, which was an orange and blue ring, had faded a little, but was still quite clearly orange and blue.



Starred Robin
Pogonocichla stellata

Because of these recent fading tendencies I started putting on numbered aluminium rings in addition to colour rings in 1972. In practice it is possible with the bird in the hand to detect when a 'white- ring is actually a faded blue one, and simple to replace it with a new one of the original colour. Some dark blue rings obtained from N.U.B.R.A. in 1972 have proved to be much more colourfast than the pale blue ones used in 1968.

It was found last year also that one of the Starred Robins had lost one of its two colour rings; fortunately the aluminium ring gave the clue to its true identity when it was retrapped. The lost ring was a brown one, and of a batch which were thinner than usual. At purchase, one batch of colour rings may look much like another, but as the above experiences show, this is not necessarily the case. There is little doubt in my mind that English rings bought in 1955 are far superior to Japanese rings bought in 1970, and I hope that N.U.B.R.A. will be able to supply colour rings and keep a check on source and batch numbers.

Several other factors emerge from the above long term programme. One is that, given reasonably good quality colour rings, the colours are satisfactorily fast in a forest environment where the incidence of ultra-violet light is greatly reduced. Secondly, on soft-billed passerines the rings have proved to be long wearing. The important point however, is that if it is possible to adopt a continuous capture-recapture programme in the study area, and the population turnover through emmigration/immigration is not too great, regular ring replacement can be carried out to overcome the problems of ring wear and fading.

I do not consider that the colour ringing of nestlings is worthwhile because of the very high mortality rate that normally occurs. The fact that I had a 50% return from the two chicks ringed in 1955 was a manifestation of exceptional luck. Last year 23 Starred Robin pulli from eight nests were fitted with aluminium rings, and none has yet been recaptured, though of course it is early days yet. If and when one does turn up in the nets, it will have colour rings added so that its particular home range in the forest can be determined.

It has been said to me that these longevity records are exceptional and not really indicative of normal conditions. Such an assumption is unwarranted on two counts. The first is that hitherto few people have undertaken really long term studies, and there is a growing weight of evidence, underlined by one speaker at the recent International Ornithological Congress in Australia, to indicate that average lifespans of small birds in tropical and sub-tropical areas are much longer than has previously been believed. Secondly, 'normal' is too frequently misused. The operating conditions will always be specific to a particular study, and may constitute favourable or harsh parameters for a marking scheme.

Colour-ringing yields so much more data in a population study than ordinary ringing does that it is really worth doing, and the longer the study period, the better.
