

'FISHING' FOR CLIFF SWALLOWS

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On the 9th day of April 1984, I made my last round at the South African Cliff Swallow *Hirundo spilodera* colonies I had been studying intensively for the last 15 months. On returning to the office in the late afternoon I had a somewhat sad feeling. This was the first day since 15 August 1983 (except for some weekends) that I hadn't seen a Cliff Swallow. I was, however, quite relieved as a season of hard work in the field had come to an end and I could now 'relax' at my desk and work on the data.

The Cliff Swallow project started in January 1983 when I decided to ring a few Cliff Swallows 'because they seemed to be so easy to net'. The first season, which ended on 15 April 1983, saw 541 Cliff Swallows ringed - all caught by mistnet. In the four months while the swallows were roaming the veld in central Africa I had had some time to plan the project properly and came to some definite conclusions about the trapping and ringing of Cliff Swallows - the icy days during the Bloemfontein winters which confined one to one's office no doubt helped in the thinking process!!

What have I learnt during the first few months of ringing Cliff Swallows?

1. If you want to make a dent in the population, mistnetting is a waste of time (especially if one wants to gather other biological data as well), it just takes too much time.
2. It is impossible to trap at some colonies - or at least it is so difficult that one shouldn't waste time in figuring out how to get at them.
3. In a drought it always rains the night before your planned netting day which means the stream below the bridge is filled with water and you have to wear waders, or abandon the attempt.
4. Be prepared by taking along too many, rather than too few, keep boxes.
5. You can't handle all the birds you can catch all by yourself.

I thus started off the second ringing season, 1983/1984, with some firm ideas about how to do it and even firmer ideas about what I was hoping to learn from the ringing of Cliff Swallows.

Trapping

Although mistnetting is still undertaken at some of the study colonies specifically to get a sample for the study of body weight variation during the season, only a small proportion of Cliff Swallows ringed were caught by mistnets. The method used with great success to capture large numbers of Cliff Swallows was to seal off the open ends of the culverts or bridges where the swallows nested with an old fishing net and hessian and then to capture the swallows by hand as they left their nests and clung to the nets which blocked their exit. The nets had been positioned earlier in the afternoon before the trapping operation and were fastened to the top of the bridge and sometimes to the sides as well, but the entrance to the bridge was always kept open. On arrival at the trapping colony just after dark (usually with 5-15 pairs of willing hands), the operation was discussed and then, in silence, the helpers were led to the bridge and a task assigned to each. After the countdown the nets were dropped from the top of the bridge to seal off the entrances. Those in charge of the keep boxes then rushed to get them below the bridge while others stacked the stones (collected earlier in the afternoon) onto the nets where they lay on the ground. This all took approximately 20 seconds. The headlamps were then switched on and by this time a few people had already crept into the 'cage' below the bridge and started filling up the keep boxes with handfuls of Cliff Swallows. At some of the higher bridges butterfly nets were used to catch individuals too high to reach by hand. The swallows were usually very easy to catch as they clung passively to the net or sat on the ground after leaving the nests.

Since the pulli very seldom leave the nest before they are ready to do so, only adults and the young already fending for themselves were trapped with this method. At three of the colonies where swallows were trapped by this method records were also kept of breeding success. No indication was found that this mass trapping had any effect on breeding success.

With the four or five keep boxes full and no swallows flying about, the folds in the nets were carefully checked and usually quite a number of swallows found. The nets were then bundled up and, together with the keep boxes, were loaded into the vehicle and taken to my garage where the real work started.

Ringing and handling recaptures

Ringing started as soon as everything was unloaded. At this stage most of the willing hands made some excuse to leave and

one was left either all by oneself or with only one person, or if one was extremely lucky with two other persons, to help with the through-the-night ringing operation.

Each keep box had two compartments each measuring 0,5 m x 0,5 m x 0,5 m and at least one compartment of one of the keep boxes was left empty to receive the ringed birds. As birds from one compartment of a keep box were ringed they were deposited in the empty compartment so that one compartment was again left empty to receive birds from another compartment.

Special pages for recording ringing data were printed by the Museum and, except for their larger size, are very much like those of the SAFRING Schedule 1 forms. (Examples of pages can be supplied to anyone interested). Another book (specially printed) is used for recaptures. Here the ring number, age, sex, etc., is written out in full. Each recapture is later traced in the ringing book and only the recapture number jotted down in the ringing book. It was found to be essential to write the number of the ring series on at least 20 empty pages because, however funny it may sound, it is impossible to think which is the next series to be used at 03h30 in the morning! Since only the last two digits of a number are printed on the pages it is easy for a tired brain to keep track of where it's at. However, whenever there were three or more people assisting it was one person's sole responsibility to record the data and at the well-ringed colonies one person handled recaptures only.

Sexing and Ageing

From about the first week in October to the first week of March it was easy to sex the adult Cliff Swallows. Females always had a very clear brood patch while males never had the breast completely free of feathers. After the middle of March some females could be mistaken for males although the majority still showed a clear brood patch or the feathers of the patch were in pin.

Birds in their first breeding season could not be distinguished from older birds. For the first two months after leaving the nest young birds could be separated from adults by the prominent yellow gape but towards the end of the season (February-March), many young birds resembled the adults, except for the tertiaries which showed a buff edge.

The numbers trapped at each attempt are shown in Table 1 opposite. The number of mortalities due to the operation was generally very low except for the Schoongezicht 2 operation when the birds were found to be in a very poor condition after the drought. The mean mass of all birds handled during this

operation was nearly 3,0 g less than the mean weight of all Cliff Swallows ringed. If this 'unnaturally' high mortality is excluded, only 0,3% of the birds handled died because of the trapping and ringing operation *per se*.

I have another three or four seasons ahead to trap and ring swallows in their masses, by which time I shall surely have a fairly good idea of intercolony movements, the percentage of individuals returning each season, and some other aspects of their movements. If anybody has ever found any indication of the route that Cliff Swallows follow in their migration to central Africa, I should be very glad to hear from them.

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TABLE 1

NUMBERS OF CLIFF SWALLOWS CAUGHT BY THE FISHNET METHOD.*
 THE NUMBER TRAPPED INCLUDES RECAPTURES. AT THE WILLOWS
 AND SCHOONGEZICHT COLONIES DIFFERENT PARTS OF THE COLONY
 WERE TRAPPED AT THE FIRST AND SECOND ATTEMPTS.

COLONY TRAPPED	DATE	NUMBER TRAPPED*	NUMBER MORTALITIES
Schoongezicht 1	29-09-1983	512	4
Driekloof	30-11-1983	1 275	6
Leeukop	19-01-1984	525	1
The Willows 1	27-01-1984	373	1
Ou Hoogte	08-02-1984	301	0
Fortuin	15-02-1984	288	0
The Willows 2	22-02-1984	322	0
Schoongezicht 2	07-03-1984	1 162	63 (5,4%)
TOTAL		4 758	75 (1,6%)