WHAT CAN WE LEARN FROM RINGING?

By PROF. J. M. WINTERBOTTOM

IN June, 1968, I had the good fortune to be able to be present at a ringing conference organised by Professor Aschoff of the Max-Planck-Institut für Verhaltenphysiologie. It was held at Radolfzell, the head-quarters of one of two German ringing schemes; and was attended by Dr. Zink, the present head of the ringing work there; his two predecessors, Professor Schüz and Dr. Kuhk; Dr. Goethe, the head of the other German organisation, Vogelwarte Helgoland; Robert Spencer, in charge of the B.T.O. ringing scheme; Dr. Schifferli of Vogelwarte Sempach in Switzerland; and a number of other German ringers, mostly on the staff of Vogelwarte Radolfzell or the Max-Planck-Institut.

Professor Aschoff, although he has done some notable work on birds, especially in connection with the physiological bases of their daily rhythms of activity (circadian rhythms), does not consider himself an ornithologist; but because Vogelwarte Radolfzell is financed by the Max-Planck-Gesellschaft and Professor Aschoff represents them on the governing body of that Society, he asked ringers to enumerate the problems that could only be solved by ringing. I thought South African ringers might be interested in this summary by leading European ringing organisers.

First, the problems were divided into two main groups, those in respect of migration and those in respect of population dynamics and similar topics.

In the migration section, we began with the obvious ones — the ascertaining of the breeding grounds and off-season quarters and of the routes between them. Another point that can be elucidated only by ringing is speed of migration — how long it takes a bird to proceed from breeding to off-season quarters and *vice versa* (the times are not necessarily the same each way.) Then there is the sociology of migration; do the birds proceed individually or in parties or flocks; and if the latter, are these composed of family units, or are they more broadly based, or both; and do the families or members of the same colony, in the case of colonial-breeding birds, stay together on migration and in off-season quarters.

Another problem concerning migration which can only be solved by ringing is the influence of age and/or sex. In some species, young and old migrate at different times and the same may be true of male and female. It is also sometimes the case that they may have different off-season quarters. In partial migrants, it often happens that more adult males stay on their breeding grounds than adult females; and more adult females than young birds. Only ringing can decide which, if any, of these is true. Finally, there are annual fluctuations in the dates and extent of migration, which can be revealed by ringing.

Unfortunately, I am not able to give as complete a list of the problems of population dynamics, physiology and behaviour as of those of migration because in this section the headings were all in German, with which language my acquaintance is, to put it kindly, rudimentary. However, I did get a lot of it down. The age at which a bird first breeds can only be ascertained by ringing; and this is true too of the strength of the pair-bond — do the birds mate for life, for a season or only for a single brood; or are they polygamous, polyandrous or merely promiscuous.

Daily and seasonal changes of weight can only be ascertained if one is dealing with marked birds and the same applies to changes of breeding grounds.

Of more general importance, there is the calculation of the mortality rate, the construction of life-tables and the establishment of the age-structure of the population, all indispensible to sound methods of conservation and control.

And, finally, ringing is essential to detailed behaviour studies.

This long list of topics for which the scientist considers ringing an essential tool may astonish the naive ringer of the "ring-and-fling" school; but it emphasises two points: (i) the reason why overseas ornithologists (especially the British) insist on rigid control of rings and ringers — in Britain you must have two licences before you can ring at all and a third if you use mist nest and neither Britain nor Germany will allow aviculturalists to hold ringing permits; and (ii) the importance of the "re-capture" or "control" technique, which we in South Africa have neglected in the past but which is probably the most fruitful method of ringing under African conditions.

I could say more about other aspects that were discussed at the conference — the need for closer co-operation between European and African ringers; the need for funds to analyse the mass of data already accumulated and so on; but these must await another opportunity,

Working Behind the Scenes

By MARION SAMPSON

(Ringing Clerk, P.F.I.A.O.)

THE ringing scheme of the S.A.O.S. is one of the most entertaining projects to work for. Many people spend a great deal of their spare time, capturing and ringing wild birds and writing the necessary data onto a small form about 3 ins by 5 ins. How many of these people know what happens to that form once they have handed it over to the person responsible for its safe delivery to the files of the Percy FitzPatrick Institute?

I often wonder about this as I check through the forms sent in from different clubs all over the country. Some of this checking can be awfully dull, until you find that "such-and-such" a bird was ringed at "this" place and two hours later it was killed by the next-door cat! This really did occur: such is the progress of scientific research! Difficulty, of course, arises when the next-door cat is reported as killing the bird two weeks before it was actually ringed.

Once these forms, called ringing returns, are checked for any errors and sorted into numerical order they are filed away to await the day when some-one writes to say that they have found a bird with a ring on its leg. The letters reporting the recovery of birds are even more amusing than the ringing returns. One letter came from a small girl living in Central Africa. It is so appealing that I shall quote it spelling mistakes and all:

Dear Sir,

My name is Angela Ratto I am ten years old and my school is Bishop Mackenzie As I was play in the garden I found a dead blue-jay with a tag in which I enclose in this letter. Please I want to know what to I can get the Game Rrange to stuff it.

Yours Sincerely,
Angela Ratto.

For each letter reporting a recovery any official report form is made out giving the ringing and recovery data and a description of the birds' condition when it was found. These are sent to the finder, the ringer, and the ringer's club.

Another aspect of the work in this scheme is the amount of varied foreign correspondence. There is always fascination in a letter which comes from a different country. Even more mystery enshrouds the envelope when the letter comes from Greece or Russia, the writing, for a start, is quite incomprehensible! There is a great deal of correspondence flowing from countries behind the "Iron Curtain" to the Institute and back again. I think the European Swallow and the White Stork are largely responsible for this.

One letter which came from a French-speaking monk in the Belgium Congo was almost a short story. It certainly had the makings of one:

Sir,

It was the 9th of April at about 11 *o'clock on a morning much troubled by forbidding clouds and followed by light rain; that I noticed, on the lawn, beneath the clothes-line, many white birds which periodically populated our districts and herald the coming of the dry season. Since these are rare birds which are not often harmed except by armed people, they allowed close approach without showing fear. A youth notified that one of them was struggling to take off. It was caught and examined minutely and found to have been pierced in the wing by a flint spear. The wounded bird was a tick-bird carrying one of those rings with the inscription: INFORM ZOO P.* 553 04424.

It was collected at Sanctá Maria, on the 7th parallel at the altitude 1140 *meters above the level of the Indian Ocean. These birds render great service to our cattle. So we are sorry that he who wounded the bird did not understand the fact.*

Accept, dear sir, my heart-felt salutations,
Victor Kamfwa.

This sort of letter, arriving, in a pile of purely routine correspondence, is pleasing to say the least.

Although I have been only been working on the clerical side of the ringing scheme for two months, I have learnt a great deal and feel sure that I shall learn more of this huge research programme, as time goes on. I find it quite enthralling and hope that I have been able to convey some of the interesting and amusing aspects of the work involved.

Editorial note: The mention of 'white birds' in the above letter by Victor Kamfwa is interesting. It was the custom of Europeans living in what was the Belgian Congo and French Equatorial Africa (now the Republic of the Congo and the Central African Republic respectively) to herald the annual arrival of the white birds (Cattle Egrets) from the south as a sign that the dry season had started. Likewise their departure marked the beginning of the rains, and I witnessed the accuracy of this timing Bangassou in early November 1955. The movement of the Cattle Egrets corresponds roughly with the arrival and departure of their migrant populations in Southeren Africa. K.B.N.