female wing-lengths overlapping one another. Drawing by eye, the best normal distribution curves we may tentatively give the extreme ranges as

♂ (91-96-101), ♀ (86-91-96)

A measurement of 94 or more will give an approximately 90% chance that the bird is a male, and 93 or less a similar chance that it is a female. This implies an even sex ratio, which would be expected for this species. These figures must be used with caution for sexing moulted birds, and it would appear that prior to moulting the wing may be shorter by as much as 5%.

2) Ageing Liversidge (1972) states that a flesh-coloured wattle indicates a juvenile bird. Since the proportion of birds which show such a wattle is very small this character must disappear shortly after fledging. The size of the wattle varies considerably (6.4mm to 10.7mm) but it is not yet clear whether this difference is due to age or to sex or both. This would be worth further investigation.

3) Moult The moult, which follows breeding, takes possibly three months. The primary moult is regular with, on average 1.8 primaries per wing in growth at any one time. The secondary moult begins at about P (3). The tail moult is very rapid.

Proportion of birds with active primary moult:

Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr
1/11	8/9	9/9	3/7	8/13	25/77	4/46	0/3

There is insufficient data to examine the weights in detail:

(31-38-43) gm (117)

This is rather a premature account, as I shall be unable to continue this project in England. I shall be pleased to give the original data to anyone who wishes to make use of it.

References:

Lawson, W.J. (1962) The genus Pycanotus in southern Africa. Durban Museum Novitat 6:165-180.

Liversidge, R. (1970) The ecological life history of the Cape Bulbul Ph.D. thesis: Univ. of Cape Town.

SOME NOTES ON THE AGEING OF LAUGHING DOVES - Stigmatopelia senegalensis

By: Clive Hunter,
P.O.Box 67158,
Bryanston, Tvl.

The following observations were made on a semi-rural population of Laughing Doves in the Transvaal, and a small number of aviary controls of known age obtained from the Johannesburg S.P.C.A.. As this study has thus far only involved about 1 000 birds, and extended over a period of less than eighteen months, inferences drawn are not necessarily the conclusions that will be arrived at when the study is complete, but rather, an aid to ringers engaged in more general ringing studies and finding from time to time Laughing Doves of unknown age in their catches.

Observations indicate that juvenile birds in their first plumage begin their primary moult about the time they are two months old. The moult however starts with the replacing of the feathers on the head and throat. This is rapidly followed by the moulting of the upper wing-coverts and general body moult as much as two weeks before the first primary is dropped.

There are a number of rather simple methods of determining whether or not a bird is in juvenile plumage. Some methods are more reliable and readily noticeable than others. The most obvious of these indications of juvenile plumage is the russet or rufous tips to the remiges and wing-coverts. The accompanying sketch indicates where the russet should be looked for on the primaries, secondaries and wing-coverts. The degree of russet varies from one individual to the next, but it is always present in juveniles. Thus a bird showing russet tips to all the primaries can safely be classified as a pre-moult juvenile, probably under two months old. Another clear indication of juvenile plumage is the presence of white crescents on the shoulder, formed by the white tips to the lesser wing-coverts present only in juveniles. Traces of these crescents can often be seen after the juvenile has moulted the tenth or outside primary. These white tips are sometimes quite pronounced on the secondaries and their coverts. Juveniles also tend to have dark-grey legs in

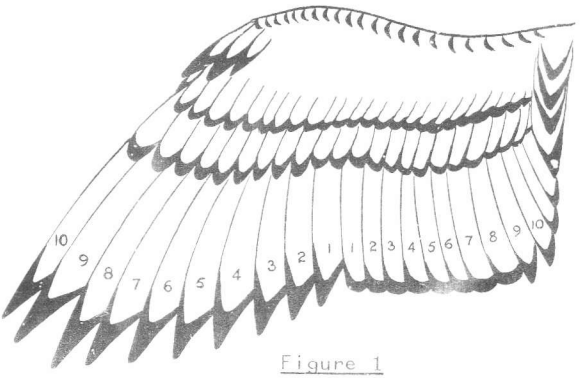

Figure 1

contrast to the red legs of adult birds. Pre-moult juveniles have no black spots on the throat and neck, and are generally an overall pale-grey, lacking the distinct pinkish head, upper- and under-parts of birds that have completed their first moult.

Once the primaries start moulting, and new remiges start growing, these new feathers will immediatly be obvious as they will be much darker, will lack the russet tips and will be clean edged while the remaining juvenile remiges will generally be faded and have frayed and worn edges. Occasionally new remiges will retain a trace of juvenile russet, but where it does occur it is very slight and in my experience rather rare.

New primaries grow in at varying rates depending on the individual bird. The most rapid rate of primary replacement in first-moult birds is about one new primary every ten to fourteen days, while one new primary every two to three weeks appears to be about normal. On occasion when birds in moult have become sick or been injured or subjected to stress, the moult has been slowed down or temporarily

suspended.

At the above rate of primary replacement, a juvenile bird would theoretically take ca. 140 days to complete the primary moult, and would at that stage be about 200 days old. The 5th and 6th secondaries are usually the last remiges to be replaced, and this generally takes place about the same time that the 10th primary reaches full-length or soon after.

The timing of the second moult is as far as I am concerned still something of a mystery, although it appears that it can start almost as soon as the first moult is complete or up to three months after, and appears to take anything from seven to eleven months to complete, but I am by no means sure of these facts.

Finally, it has been observed that one moult can begin before the previous moult is complete. Thus a bird may be growing the 9th and 10th primaries and still have the 5th and 6th secondaries from the old plumage intact, and yet have started moulting the first and second primaries on both wings.