A disadvantage of the walk-in trap is that birds are fed with grain during the trapping season, and this might improve the survival during the winter months."

Marking Method

All the trapped guineafowl and Swainson's Francolin were ringed with 11 mm Incoloy rings. During 1971 and 1972 a few Crowned Guineafowl were trapped on Suikerbosrand Nature Reserve, ringed with an 11,5 mm aluminium ring and marked with a P.V.C. reinforced backtag (Labisky and Mann, 1962). A guineafowl ringed on 22nd November, 1971, with an aluminium ring and marked with a white backtag was recaptured on 25th July, 1973. The ring was lost, but the backtag was still on the bird. This shows that aluminium rings may easily be lost on guineafowl and other gamebirds and that in future only Incoloy rings should be used.

References

LABISKY, R.F. and MANN, S.H. 1962. Backtag Markers for Pheasants. J. wildl. Mgmt. 26(4):293-299.

MOULT IN PALAEARCTIC WADERS

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In reply to the challenge in SAFRING 4(1):17 we have very little to brag about the knowledge of our visiting waders. There are only two waders, the Little Stint Calidris minuta and the Curlew Sandpiper Calidris ferruginea, where the moult cycle is reasonably well established.

Little Stint. The sterling work of Middlemiss (1961) showed that the Little Stint moult their primaries between the first week in November and the second week in April. The individual moult, however, is most likely to be of shorter duration. Little Stints leave the Cape towards the end of April for their breeding grounds.

Curlew Sandpiper. The Curlew Sandpiper is the most abundant wader in our area. First-year Curlew Sandpipers which over-winter at Langebaan, start a partial primary moult any time from February on, and most of them start between June to mid-August. This moult most commonly involved the outer three, four or five primaries. All the first-year birds undergo this moult in this manner and they differ from reports of the Kenyan birds. They also replace their innermost secondaries as well as the secondary coverts. This moulting of the secondaries starts with the innermost feather and proceeds to the sixth or seventh secondary. This is in the reverse order of that of the adults (Fig 1a).

In August and September about ten percent of the birds starting their second year of life have two centres of primary moult. These are birds which have not finished replacing the outer feathers but have started to drop the inner ones already (Fig 1b). Retraps have shown that the moult does not stop at the previous starting point and at this stage the fairly good outer primaries are dropped as well.

The adults arrive at Langebaan from the last days of August and early September onwards. We have no evidence of birds arriving with their primaries already in moult, but moult seems to start soon afterwards. During the early stage up to 5 feathers may be encountered in actual growth, but three is the more usual number. (Fig. 1c). Moult slows down as it proceeds towards the tip of the wing. By plotting the median moult scores we arrive at about 120 days needed to replace the remiges. The condition of the outer primaries may be used as an ageing guide after the arrival of the adult birds, and this is especially useful when both age groups are nearing completion of moult. The adult birds will have old outer primaries.

During the fall of the outermost feathers, and when the primaries are completely replaced, the conditions of the secondaries may be of use as an ageing factor. The adult will have the old secondaries and the second year birds newer feathers, (Fig 1b & 1c). The first year birds are easily recognised as they will not be in moult.

Between May and August 1973/74 our winter catches included about 4% of Curlew Sandpipers staying behind for a second time. These birds however go into our winter with a new wing and there is no evidence of any moult taking place during winter months.

Terek Sandpiper. There are indications that the moult cycle follows closely to the one laid down for the Curlew Sandpiper.

Knot. With more than 1000 individual scores at hand we are still not able to understand the sequence of moult proceedings. Stumbling blocks are the correct ageing plus the fact that adult Knots seem to over-winter to a greater extent than the adult smaller waders do. Finally there is a possibility that we have to deal with more than one population or even subspecies. To give some idea of the difficulties encountered, in July we find birds in the following stages of moult:-

Old feathers with or without breeding plumage.
Any moult score up to 50 with or without breeding plumage.
The active moult may involve as much as 5 succeeding feathers at a time.
Two moult centres at a time.
Arrested moult in the inner or the outer feathers of the wing.
There may be as many as three generations of feathers.
A typical moult might be:- P1 - growing, P2 new, P3, 4, 5 growing, P6, 7, 8 old, P9, 10 new.

Sanderling. Adults arrive about the same time as Curlew Sandpipers do, but the lack of data between their arrival and the month of November prevented us from analysing the moulting pattern. However, they complete migration before the beginning of their wing moult. Most adult birds have completed or are about to complete the primary moult by mid-February. This is 2½ months ahead of their departure time.

There is still much to be found out about the moult of Palaearctic waders. We may need quite a few seasons to sort it all out.

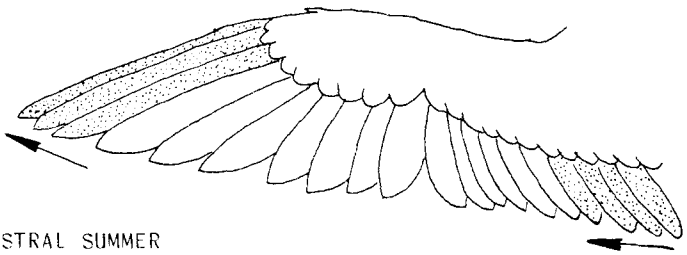
Reference. Middlemiss E. (1961)
Biological aspects of *Calidris minuta* while wintering in South-west Cape.
Ostrich 32(3):107-121

Fig 1

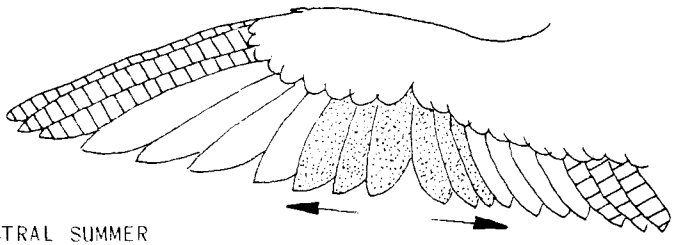
MOULT AS A GUIDE TO AGEING CURLEW SANDPIPERS

Active New Old

(a) AUSTRAL WINTER
SECOND YEAR BIRDS



(b) AUSTRAL SUMMER
SECOND YEAR BIRDS



(c) AUSTRAL SUMMER
OLDER BIRDS