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THE MOULT OF SOME BIRD SPECIES ON MOUNT CAMEROON*

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Biological field work was carried out during a visit to the slopes of Mount Cameroon in February, March and April 1981 (Bosmans 1982). Systematic mist-netting at several localities from 22 February to 24 March resulted in the capture of 305 birds belonging to 64 species (Eyckerman & Cuvelier, in prep.). For some of these species large samples were caught and examined for moult. Moult data for African birds being scant, our data are presented here even if they are sometimes fragmentary.

Moult was assessed by scoring according to the numerical method used by Newton (1966). Each remex and rectrix feather was scored as 0 (old), 1 (missing, or small pin), 2 (one-third grown), 3 (half grown), 4 (three-quarters grown) and 5 (full-grown), and the moult score determined simply by summing the individual feathers scores.

VERREAUX'S TOURACO *Tauraco macrorhynchus verreauxii*

A male and a female with regressed gonads were shot at 1,900 m; both were in heavy moult:

♂	Primaries	Secondaries	Tertials	Rectrices	
left	0,0,0,0,2,5,5,5,5,5,	5,5,5,0,4,4,	5,5,5,5,	5,5,3,5,0,	inner
right outer	5,0,0,2,2,5,5,5,5,5,	5,5,5,0,5,5,	5,5,5,5,	0,5,5,0,1,	

♀				
left	(damaged; moult not scored)			2,1,5,5,0,
right	0,0,0,0,0,0,0,5,5,5,	5,5,5,5,5,2,	0,0,0,0,	0,5,5,5,5,

The moult of the male agrees with Stresemann's (1966) findings: distal primaries start moulting when the proximal reaches P5. The secondaries of the male seem to follow a similar pattern with a proximal and distal group, but in the female there is no evidence for this. The tail moults very irregularly. Louette (1977) recorded remex moulting specimens of this species in the months February, July, October, November, December.

* Scientific results of the Belgian Mount Cameroon Expedition, February-April 1981: VI.

BROWN-BACKED CISTICOLA *Cisticola hunteri discolor*

This species has a complete postnuptial moult in March, April and May (Lynes 1930). We caught 18 individuals at 1,900 m in March; the presence of family parties and juveniles suggests that the breeding season ended shortly before. Of 13 adults ten were moulting, with primary scores between 14 and 55. This span was too small for assessing the relationship between primary, secondary, and tertial moult. Comparing primaries and rectrices, we find the relationship y = 24.31 + 0.82 x; i.e. tail moult starts when P3 is growing and has finished before P8 grows. Tail feathers seem thus to grow somewhat faster than primaries. Tail moult is irregular and many feathers are growing simultaneously:

Bird no.	T6	5	4	3	2	1	1	2	3	4	5	6
1	1	5	1	0	5	5	5	5	5	2	5	0
2	0	0	0	0	0	0	0	0	0	0	5	0
3	1	2	2	2	4	0	0	2	2	2	2	1
4	0	0	3	2	0	2	4	4	3	3	3	0
5	2	3	3	3	3	0	0	3	3	3	3	2
6	2	0	5	0	2	0	0	0	0	0	2	2
7	2	0	0	0	0	0	0	0	0	0	0	2
8	0	0	0	0	0	0	1	0	0	0	1	1
9	1	2	3	3	0	5	5	2	2	2	2	1
10	1	1	1	2	2	1	5	0	0	0	1	1

PREUSS'S DOUBLE-COLLARED SUNBIRD *Nectarinia preussi preussi*

Eight were captured at 1,900 m, all moulting. Five males had primary scores from 37 to 55 (mean 43) and three females from 24 to 44 (mean 34). Thus females may moult slightly later than males. The relation between primary and secondary moult in males was: y = 34.79 + 0.85 x. The first secondary remex is thus shed when P4 is growing, and secondary moult is completed when P9 is growing. For the relation between primaries and tertials we find: y = 36.19 + 0.70 x. Tertials seem to follow the sequence: middle (2), proximal (3), distal (1). The first (2) is shed when P4 is growing and the moult of the tertials is complete when P6 is growing. Only two birds were moulting tail feathers, and tail moult appears normally to be centrifugal. Rectrix 1 is thus dropped first and not last as Hanmer (1981) found in several species of *Nectarinia* in Moçambique and Malaŵi.

BLACK-CROWNED WAXBILL *Estrilda nonnula*

20 were caught at 1,200 m and seven at 1,900 m. Seven were moulting flight feathers and one was in contour moult. For six birds we calculated the relationship between primary and secondary moult to be: y = 44.68 + 1.08 x; i.e. secondary moult starts when P5 is growing and lasts somewhat longer than primary moult.

BRONZE MANNIKIN *Lonchura cucullata cucullata*

Bronze mannikins were very common around the camp site at 1,200 m and 24 were caught, mainly juveniles. All except one were moulting. In juveniles, primary and secondary moult are related by the equation: $y = 34.22 + 1.27 x$ ($n = 15$), which means that the secondary remiges moult starts when P4 is growing and continues some time after primary moult is completed. Secondary remiges thus appear to grow at a slower rate.

Woodall (1975) described moult in Zimbabwe. Post-juvenile and post-nuptial moult is complete and he found no differences between the two moulting patterns. He found that secondaries only started to moult with P6, P7 or P8, considerably later than in our population. Also, in Zimbabwe, secondary moult extends beyond the primary moult period. Tertial moult follows the pattern: middle (2), proximal (3), distal (1) in contrast with Woodall's sequence from distal to proximal (1, 2, 3). The relationship with primary moult is: $y = 31.77 + 1.40 x$ ($n = 4$). The first tertial is thus dropping when P4 is growing and continues until P8 is growing. This is in agreement with Woodall's findings. Many individuals had new feathers in their tails but only five were actively moulting rectrices ($y = 58.2 + 0.23 x$). Tail moult would thus take place between the P6 and P8, which is also later than Woodall found in his population where tail moult started with or before primary moult.

YELLOW BISHOP *Euplectes capensis phoenicomerus*

Nine were caught at 2,800 m of which eight were moulting flight feathers. We derived the following equation: primaries - secondaries $y = 88.84 + 0.56 x$ ($n = 7$); primaries - tertials $y = 69.30 + 0.75 x$ ($n = 5$); primaries - tail $y = 60.80 + 0.77 x$ ($n = 8$). Moult of secondary remiges as well as tertials and tail start while P7 is growing. They all end at about the same time as primary moult.

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SUMMARY

Moult data are discussed for *Tauraco macrorhynchus, Cisticola hunteri, Nectarinia preussi, Estrilda nonnula, Lonchura cucullata* and *Euplectes capensis*.

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