Two interesting features of the biology of the Pied Starling have emerged during this study. It is a co-operative breeder, with up to seven other birds, primarily juveniles and subadults, helping the pair to feed the chicks. In the eastern Cape wing-moult starts while the birds are still breeding and it appears that the time of moulting is constant for all populations, while the breeding season may vary in different parts of the country.

A few other starlings have been colour-ringed at Table Farm. A female Redwinged Starling *Onychognathus morio* is still present after 27 months. Five of her chicks have been ringed, and one was shot 18 months later on a farm 30 km away; the only recovery to date. None of the five Cape Glossy Starlings *Lamprotornis nitens* ringed have been recaptured, but four of them have been resighted 11, 20, 21 and 23 months after ringing. The one bird which has disappeared was again a juvenile.

Clearly for all these species observations of colour-ringed birds are yielding much more information than a simple mark-recapture study. My wife complains that Pied Starlings are not nearly as attractive as Red Bishops. They are, nevertheless, engaging birds, and it is a lot easier to see their colour-ring combinations. There are many advantages in working on conspicuous resident birds, even if they are too common to excite most birdwatchers.

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ABERRANT WOODLAND KINGFISHERS

D.B. Hanmer

At Nchalo, Malawi (16 16S; 34 55E), four Woodland Kingfishers *Halcyon senegalensis* have been caught which had red areas on the lower mandible (normally uniformly black in this species). In April 1979 an immature bird, whose upper mandible was still in

the process of changing from black to red, had also a reddish patch in the middle of the lower mandible. In March 1981 another similar immature was caught. This bird was recaught twice in November 1981, at which time the central third of the lower mandible was a clear, bright red, although the rest was black. In February 1982 an adult was caught with a small patch of red in the centre of the lower mandible and in February 1983 another adult had almost the entire lower mandible bright red, only the tip and a narrow band at the gape being black. The tip of the upper mandible was also black (Fig. 1).

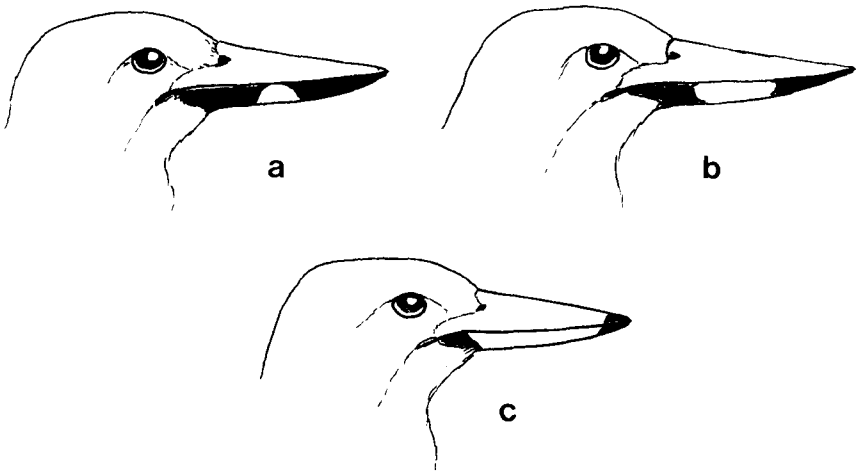

FIGURE 1

ABERRANT BILL PATTERNS

(a) Adult 1 (b) Immature 2 (November)
(c) Adult 2

These birds were all apparently Woodland Kingfishers, with blue/greenish back and blackish legs and feet. The second immature was particularly heavy and had a very long bill but even as a young adult in November, presumably after moulting, the wings were very short. One of the adults was very light and had a short bill but the tip showed signs of regrowth, so had probably been worn down in the breeding season and was still shorter than usual. The other two birds were within normal

limits for their age. Measurements are given in Table 1 with those of 27 normal Woodland Kingfishers from Nchalo.

TABLE 1

MENSURAL CHARACTERISTICS OF NORMAL AND ABERRANT WOODLAND KINGFISHERS

Age/Sex	No./Month	Wing (mm)	Culmen (mm)	Weight (g)
Normal				
Imm.	10	106-112 (109,0±2,2)	44-49 (45,9±1,7)	51-68 (59,7±5,6)
Ad.	15	108-114 (111,1±1,6)	44-51 (47,2±1,9)	54-76 (62,5±5,2)
Ad. M.	1 Feb.	116	51	61
Ad. F.	1 Feb.	111	46	57
Aberrant				
Imm. 1.	Apr.	108	46	59
Imm. 2.	Mar.	107	50	72
	Nov.	109	52	78
	Nov.	109	52	83
Ad. 1.	Feb.	112	46	55
Ad. 2.	Feb.	114	42	49

Have any other Woodland Kingfishers been seen with this aberration? Can anyone offer suggestions as to why the lower mandibles were partly red; were the birds hybrids and, if so, with what?

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COMMENT ON "ABERRANT WOODLAND KINGFISHERS"

C.H. Fry

I have handled substantial numbers of skins of Woodland Kingfishers *Halcyon senegalensis* from all parts of Africa without ever having noticed red on the lower mandible (although such a feature would show much less well in the skins than in life). In Nigeria I handled about the same number of netted live birds as Dale Hanmer caught in Malawi, and certainly never recorded any with red lower mandibles; nor have I ever seen any in the field, where I imagine the character would show clearly.

Evidently it is a rare condition but Dale, having caught four birds with it out of c. 30 handled, suggests either that the condition has been widely overlooked or (more likely, I think) that her population is genetically unstable in respect of mandible colour.

It is tempting to speculate that the large immature birds might be a first or later generation hybrid between *H. senegalensis* and another species, and the obvious candidate would be the Mangrove Kingfisher *Halcyon senegaloides* (in which the lower mandible is red, and which is larger). But to the best of my knowledge, no population of *H. senegaloides* occurs nearer to Nchalo than about 350 km so introgression of *senegaloides* genes into Malawian *senegalensis* populations is most improbable.

Can birdwatchers between Malawi and the coast keep a sharp lookout in future? Results might be interesting!

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