

# ARTICLES & REPORTS

## AN ATTEMPT AT SEXING WHITEBROWED SPARROWWEAVERS

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Both Collias & Collias (1978) and Lewis (1982) mention that during studies on the Whitebrowed Sparrowweaver *Plocepasser mahali* in other parts of Africa they were unable to distinguish between the sexes of this monomorphic species other than by behaviour. In a long-term population dynamic study on this species in the central Orange Free State, it was essential to know the sex of each colour-ringed bird to be able to interpret the movements of individuals between colonies and to compute mortality rates for the sexes separately.

From a series of museum specimens it was noted that all birds with black bills were sexed as males. Specimens with horn-coloured bills were largely sexed as females (one exception out of 22 specimens). With this information from the museum specimens an attempt was made to capture and colour-ring all the adult Whitebrowed Sparrowweavers from the 20 colonies in the 3 km study area. To date 75 adults were captured, mostly by mistnetting, although a few incubating birds were trapped on the nest. Six standard body measurements were taken from all birds handled and the colour of the bill noted. In 13 of the colonies the identity of the dominant male and breeding female was determined through either observation or trapping the female on the nest. Only one female per colony breeds, the rest, both males and females, help to raise the chicks and defend the territory.

All black-billed birds were assumed to be males and the rest to be females. In a random sample of 10 birds collected and sexed by dissection, this was always found to be true. Four of the 75 birds ringed had dark purplish horn-coloured bills and although they were taken to be females they could have been males. On the other hand, eight weeks after two pulli were ringed in the same nest, they were both recaptured; the one with a black bill and the other with a horn-coloured bill. It thus seems as if the bill colour is attained early in life.

In Table 1 (overleaf) the body measurements from four groups of

TABLE 1

## BODY MEASUREMENTS OF WHITEBROWED SPARROWWEAVERS

Sex	Wing length (mm)	Culmen length (mm)	Tarsus length (mm)	Tail length (mm)	Body mass (g)
All males (n=33)					
Mean	105,4	16,9	26,5	63,5	48,6
S.D.	2,5	0,7	0,8	1,4	2,2
Range	101,0-109,0	15,6-18,2	25,0-28,3	61,0-67,0	44,7-53,5
All females (n=42)					
Mean	101,5	16,3	26,2	62,2	46,2
S.D.	1,9	0,8	0,8	1,9	2,8
Range	98,0-104,0	14,6-17,5	23,5-27,1	58,0-65,0	40,3-51,8
Dominant Males (n=13)					
Mean	106,4	17,1	26,7	64,3	49,5
S.D.	1,3	0,6	0,7	1,5	1,6
Range	105,0-109,0	16,1-18,0	25,0-27,2	62,0-67,0	45,6-52,0
Breeding Females (n=13)					
Mean	102,2	16,3	26,5	62,5	48,9
S.D.	1,7	0,7	0,8	1,9	1,8
Range	99,0-104,0	15,0-17,5	25,6-28,0	59,0-65,0	45,6-51,8

Whitebrowed Sparrowweavers are shown: (1) all the males, (2) all the females, (3) dominant males only and (4) the breeding females of each colony. On average males are larger than females in all body dimensions but the overlap is much too large for all measurements to be significant in any way. Measurements alone could thus not be used in sexing Whitebrowed Sparrowweavers. However, there is no overlap in the wing length between dominant males alone and females. As Collias and Collias (1978) have noted, the heaviest bird in the colony was usually the dominant one. In all the colonies studied here the dominant male was the heaviest and usually weighed more than 50 g. Just prior to egg laying, the breeding female would gain weight and the effect of this can be seen in Table 1 where the mean weight for breeding females is nearly three grams more than that of all females (including the breeding females) and just about equal to that of the dominant males.

In conclusion then, it seems as if the only method of sexing Whitebrowed Sparrowweavers in the hand is the fact that males have black bills. If a black-billed bird has a wing length of 105 mm or more it is surely a male. All birds with horn-coloured bills are probably females.

#### REFERENCES:-

Collias, N.E. & Collias, E.C. 1978. Cooperative breeding behavior in the White-browed Sparrow Weaver. Auk 95: 472-484.

Lewis, D.M. 1982. Cooperative breeding in a population of White-browed Sparrow Weavers *Plocepasser mahali* Ibis 124: 511-522.

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