

The proportion of yolk in the egg of the Maccoa Duck

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Lack (1968b) has presented information on the proportion of yolk in the eggs of waterfowl, but no data were given for the Oxyurini in which the egg-weight/body-weight ratio is greatest (Lack 1967, 1968a). Nor does Lack (1968a) give information on the body-weight of adult female Maccoa Duck *Oxyura maccoa*.

Fresh eggs, each from a different clutch, were taken from wild Maccoa nesting at Uitenhage and Stellenbosch in the Cape Province, South Africa (I am grateful to Mr. P. N. F. Niven for collecting those from Uitenhage). The eggs were then hard-boiled and weighed as described in Lack (1968b). Shown in Table I are figures expressing the proportions, by weight, of shell, yolk and albumen. It is clear that the yolk forms about two-fifths of the weight of the egg in *Oxyura maccoa*, thus confirming Lack's (1968b) contention that

the proportion of yolk does not vary significantly in waterfowl eggs of different size proportionate to body-weight.

The weights of three adult, non-breeding female Maccoa were 565 gm., 580 gm. and 516 gm., giving an average of 554 gm. This suggests a figure of 15.9% for the egg relative to body-weight, which is high even among Oxyurini (Lack 1968a, see Appendix 15). Indeed if, like Lack, we took Schönwetter's (1960-66) egg-weight datum (calculated from the linear measurements of 19 eggs), a figure of 17.4% would be obtained. Even using the lower percentage, a clutch of six eggs which is the mean value given by MacNae (1959), is equivalent to 96% of the female's body. Large clutches of more than 10 eggs, which are frequently reported, are almost certainly the result of intraspecific parasitism.

Table I. Weight and proportionate constituents of Maccoa Duck eggs.

	Weight (fresh)	Percentage of weight formed by:		
	gm.	shell %	albumen %	yolk %
	98	11	50	39
	87	14	49	37
	84	12	49	39
	97	12	49	39
	73	13	49	38
Average	88	12	49	38

References

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Note. Six unincubated eggs of the Ruddy Duck *O. jamaicensis*, examined at the Wildfowl Trust in 1969, gave the following average figures for constituent parts: weight, 79 gm.; percentage of weight formed by: shell, 11%; albumen, 51%; yolk, 38%. These again confirm that the proportion of yolk does not vary significantly between waterfowl species. (J. Kear.)