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Observations on the Wattles of Adult Helmeted Guinea Fowls (*Numida meleagris galeata*)

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Abstract: Morphological study on the wattles of forty adult male and female (20 each) helmeted guinea fowls weighing between 0.86-1.40kg was undertaken for sexing the birds. The birds were bought from local markets in Zaria. The shape, size and disposition of the wattle were studied grossly. The wattles of helmeted guinea fowl were found to be similar in structure for both sexes but the main difference was the wattle shape, size and angle of inclination in the upper jaw. The differences in the shape and size observed in wattles of heavier adult males were that they appeared elongated, large and folded upwards at their margins. The wattles of the adult males were also observed to be inclined at an angle to the axis of the upper jaw when compared to those of the females. This observation was confirmed in all the birds selected as males and females after slaughter and dissection. It is concluded that a guinea fowl weighing between 0.95-1.40kg with wattle inclined at an angle to the attachment in the upper jaw with upward folded margin is a male guinea fowl.

Key words: Observation, wattle, helmeted guinea fowl

INTRODUCTION

The helmeted guinea fowl (*Numida meleagris galeata*), a native to Africa, is a member of the order Galliformes. It is widely distributed in the Guinea Savannah vegetation zone of Nigeria (Ayeni and Ajayi, 1983) and estimated at 44 million in captivity (Ayeni, 1980).

To the untrained eye, it is not always an easy task to determine the gender of guinea fowl. This is because the exposed structures of the head, that is, the helmetic process of the frontal bone is found in both sexes and tend to have similar appearance (Ojo *et al.*, 1983).

As with the *Gallus domesticus*, the comb is important for sex differentiation. Therefore, one would expect guinea fowl to have an external feature that could be used to distinguish the sexes of this specie. We are therefore motivated to investigate the wattle in an attempt to distinguish the sexes in adult helmeted guinea fowl.

Very little information is found in available literature on the wattle of several groups of birds. The present study was undertaken to provide information on the wattle of the helmeted guinea fowl as a feature for sex differentiation.

MATERIALS AND METHODS

Forty adult helmeted guinea fowls of both sexes weighing between 860g and 1400g (1129.50 ± 35.06 g) were used in this investigation. The birds were purchased from the local market in Zaria, Kaduna State, Nigeria and housed in cages in the Department of Veterinary Anatomy, Ahmadu Bello University. Prior to purchase, the disposition of the wattle in the birds was used as a criterion for selection. The birds with their wattles tucked (carried flat, laterally and directed vertically close to the side of the throat) were selected as females.

Those birds with their wattles cupped and inclined at an angle to their attachments in the upper jaw were selected as males. The shape and disposition of the wattle were grossly observed. The birds were later sacrificed and decapitated.

The observations on the wattle in both sexes were photographed. The birds were then cut open to confirm their sexes. All recorded weights were expressed as Mean and \pm Standard Error using Statistical Package for Social Science (SPSS) version 13.0.

RESULTS

All selected birds with their wattles tucked (carried flat, laterally and directed vertically close to the side of the throat) were each confirmed positive for females after slaughter and dissection (Figs. 1-4).

The birds that carried their wattles cupped (convex and carried at an acute to 90-degrees angle to the side of the head) were each confirmed positive for males after slaughter and dissection (Figs. 5-8).

The male and female heads of the helmeted guinea fowls are generally similar for the helmetic processes and other features of the skull, except for the disposition of the adult male wattle (Figs. 9-10).

Table 1 presents the mean body weight values for the male and female guinea fowls. There was no significant ($p > 0.05$) difference in the weight values of both sexes.

DISCUSSION

It was observed that increase in body weight of the female guinea fowl did not affect the disposition of the wattle. But in the adult male, the wattle is cupped and inclined at an angle up to 90-degrees to the side of the upper jaw with increasing body weight.

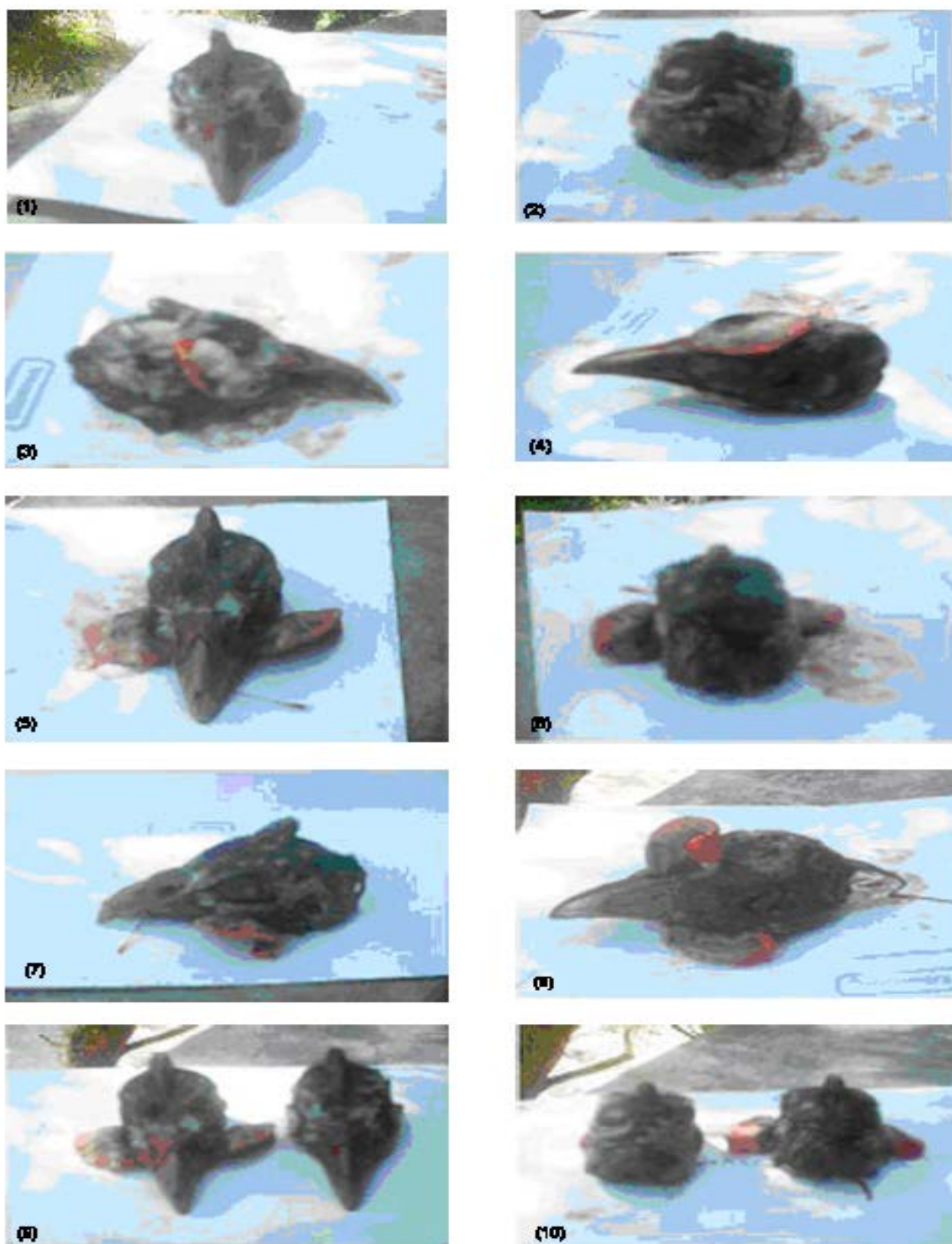


Fig. 1-10: Wattle Pictures

Table 1: Mean body weight of the male and female helmeted guinea fowls

Sex	Body weight (g)		Mean \pm S.E.
	Minimum	Maximum	
Female	860.0	1360.0	1087.0 \pm 48.63
Male	950.0	1400.0	1172.0 \pm 49.23
Male and Female	860.0	1400.0	1129.50 \pm 35.06

In *Gallus domesticus*, wattles are fleshy structures which hang from the lower jaw (Lucas and Stettenheim, 1972). The *Gallus domesticus* lacks a homologue for the cartilaginous wattle which hangs from the upper jaw of *Numida meleagris* (Crowe and Crowe, 1979).

Since the measured size of exposed structures of the head, that is, helmet height, helmet thickness and cere structure thickness are not reliable features to differentiate male from female (Ojo *et al.*, 1983), the disposition of the wattle in both sexes is important as the basis for differentiation in adult helmeted guinea fowl.

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