



PRINCIPAL COMPONENT FACTOR ANALYSIS OF THE MORPHOSTRUCTURAL TRAITS OF MUSCOVY DUCK

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Eleven body measurements were taken on 320 adult Muscovy duck (124 male and 196 females) within the guinea savanna zone of central Nigeria. The body measurements included body length (BDL), body width (BDD), bill length (BLL), bill width (BLD), bill height (BLH), shank length (SHL), body height (BH), head length (HL), neck length (NL), head width (HD) and wing length (WL). Sex had a significant influence on all traits with higher means recorded for male traits. The correlation coefficient of the body measurements ranged from negative to moderately high for both sexes. In factor solution of the principal component analysis with VARIMAX rotation of the transformation matrix, four factors with ratio variances of 71.9% were identified for males, the first factor accounted for 36.7% and had its loading for body width, bill width, shank length and body height. In females 2 factors with ratio variances of 53.0% were extracted, the first and the second factors explain 36.8 and 16.3% of the generalized variances. The first factor had its loading on body length, bill width, body height, neck length and wing length. From the results it was concluded that factor loading in the Muscovy duck is sex dependent and can be exploited in improvement programme for the bird.

Keywords: Body measurement, factor analysis, Muscovy duck, variance