

Double wing-moult in the Maccoa Duck

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During the past six years a captive male Maccoa Duck *Oxyura maccoa* (= *punctata*) in my wildfowl collection at Stellenbosch, South Africa, has regularly moulted its remiges twice annually, in January and in June of the same year.

Frith (1967) has reported that the male Australian Blue-billed Duck *Oxyura australis* has a complete prenuptial moult involving the wings and tail, and went on to say: 'In this period, unlike many other ducks, many males also change their wing and tail feathers again.' Besides introducing some confusion through the unqualified use of the word 'many', Frith provided no real evidence to support his brief, but important, statement. He credited another Australian oxyurid, the Musk Duck *Biziura lobata*, with a similar double moult, which led Johnsgard (1969) to comment: 'Most remarkably, Frith reports that Musk Ducks "have two moults per year and both involve the wings and tail", which, if true, would be unique in the family and notable among birds as a whole.'

The remiges of four captive Maccoa Ducks (three males and a female) were examined at bi-weekly intervals, over a period lasting two years. Artificially hatched, each egg came from a different clutch collected in the wild. The birds were kept in an out-door enclosure with a large pond. (I am indebted to Mr. R. Geldenhuys who cared for the birds.)

Six months after hatching in December (peak hatching time in the species' local breeding season (Siegfried 1969)), all four birds moulted their juvenal remiges, in June 1968. Thereafter, the new remiges were replaced in October 1968. Further complete moults of the remiges followed in January and June of 1969 and of 1970. Thus once past the age of one year, the three males and one female adopted the sequence of wing-moult shown by the older captive male. These observations confirm that sedentary Maccoa Ducks moult their remiges, when adult, twice a year. It would be of interest to know

whether the migratory population of the Ruddy Duck *Oxyura jamaicensis* has a similar moulting regime.

According to Frith (1967), in Australia male Blue-billed Ducks begin the post-nuptial moult (involving body, wings and tail) in December and most have completed this by March, though the occasional bird is found still moulting in May. Male Maccoa Ducks in the south-western Cape normally assume their dull winter plumage in May (Siegfried 1968), two to three months after the post-nuptial wing-moult has taken place. In effect this means that the remiges are replaced while the bird is still in full breeding dress. By contrast, males of most anatids generally moult their flight-feathers during the time they are in 'eclipse'. The males of northern anatids (for example Mallard *Anas platyrhynchos* and Carolina Wood Duck *Aix sponsa*) hatched in the south-western Cape and allowed to breed naturally, are in eclipse from November to February when they also complete the annual wing-moult. Adult male Maccoas undergo the pre-nuptial (if, in this case, it be called that) wing-moult two to three months ahead of assuming the bright nuptial plumage. Incidentally, the three captive males served to confirm a previous finding (Siegfried 1968) that the Maccoa delays assumption of the bright breeding dress until well into its second year of life.

What selective advantage is this remarkable double wing-moult to the Maccoa Duck, and to the other Oxyurini in which it probably occurs? I can give no firm answer. The birds' diving habits might place extra wear on the remiges. However, Frith (1967) reported that in the Blue-billed Duck propulsion under water is entirely by the legs. The same applies to the Maccoa Duck, which I have observed swimming underwater.

Finally, I should mention that data on the Maccoa's tail-moult are still too incomplete to permit a definitive statement.

References

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