



A male Musk Duck *Biziura lobata* swimming (top) and in display (middle) (Klaus Kussman). (Bottom) The Slimbridge female visiting one of her males (Mary Evans).

The Musk Duck

The photographs on the opposite page are of the Musk Duck *Biziura lobata*, an inhabitant of southern Australia and Tasmania. It is a member of the tribe of Stiff-tails, the Oxyurini, a group of nine species which are not closely related to any other ducks. Their main characteristics include the long stiff tail feathers which give them their name, a broad bill, high at the base, short stubby wings, and rather large feet. The neck, unlike that of other ducks, is short and thick, and can be inflated in display.

The sexes of the Musk Duck are alike in plumage, though the female is considerably smaller, only one-half to one-third the weight. Both sexes have a throat, or gular, pouch but only the male's is inflatable, and is additional to the inflatable air-sac in the throat. The name comes from the strong musk odour that the male can emit from its green gland. The purpose of the odour is unknown.

Musk Ducks breed on deep fresh water, preferably with thick emergent vegetation round the margins. In winter they resort to a wider variety of wetlands including rivers and estuaries. Their nest is a well concealed cup of reed stems and leaves, usually in the centre of a thick clump. A small amount of down is plucked to line the nest. The clutch size is small, only 2-3 eggs (mean 2.8), though up to 10 eggs have been found in one nest, presumably the product of at least two females. The incubation period is not known. Frith (1967), from whom these breeding details are taken, reports that unique among ducks the young are fed by the female.

The upper photograph shows the low-in-the-water, short-necked profile of the swimming bird, with the stiff tail feathers flat on the water where they are clearly acting as a rudder. The pouch is uninflated and hangs down loosely. In the lower picture the male is tail-cocking with the pouch fully inflated. The courtship of the female by the male is performed by three main behavioural postures, the Paddling-kick, the Plonk-kick, and the Whistle-kick. In the first the bird lowers itself along the water and then kicks sharply back with both feet, splashing water a metre or two into the air. A few kicks like this lead into the Plonk-kick where the head is held upwards with the neck and cheeks puffed out and the

pouch inflated. Whilst holding this attitude the feet are kicked outwards and backwards, before being returned to the accompaniment of a loud 'plonk' as they hit the water. As many as 50 Plonk-kicks may be performed in rapid succession. The climactic display is the Whistle-kick in which the tail is fanned and held right over the back instead of just upright as in the Plonk-kick. The feet again kick outwards and backwards and simultaneously the bird emits a sharp clear whistle. The photograph shows the posture adopted between successive kicks of the feet in a series of Whistle-kicks.

Johnsgard (1966), who has published by far the best description of the Musk Duck display, has suggested that the audible signals during the display may be of value to the bird in the overgrown swamps where it breeds. The inflated throat feathers and pouch are thought to be important in sexual selection rather than as a species isolating mechanism, there being no congeners of the Musk Duck in Australia, and chances of hybridization with the much smaller Blue-billed Duck *Oxyura australis*, the other Australian stiff-tail, seem remote.

We have two males and one female Musk Duck in the collection at Slimbridge, the only ones outside Australia. We have already had evidence of the extreme aggressiveness of the male, reported by Delacour (1959), when the male of our original pair cornered the female in the aviary where they were kept and nearly killed her. After that incident the birds were kept in separate though adjacent pens. However as successful breeding could only be achieved by keeping them together some mechanism had to be devised of preventing the male from carrying out further attacks on the female. The Curator's ingenious solution to this problem was to place a board in the channel of water that separates the two pens and to cut a number of holes in the board just at water level. Their diameter allows the ready passage of the female, but the much larger male cannot get through. Thus when the female wants to join the male she can, but if he becomes too aggressive, she can escape from him. Currently there is one male in each of the pens and the female is free to move from one to the other as the whim or the need arises.

References

- Delacour, J. 1959. *The Waterfowl of the World*. Vol. 3. London: Country Life.
 Frith, H. J. 1967. *Waterfowl in Australia*. Sydney: Angus and Robertson.
 Johnsgard, P. A. 1966. Behavior of the Australian Musk Duck and Blue-billed Duck. *Auk* 83: 98-110.
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