
Flock Bronzewing Floating: Transport of Water in Feathers?

This note describes a single observation of a Flock Bronzewing *Phaps histrionica* deliberately alighting on the surface of a waterhole, and not drinking. It is speculated that it may have been collecting water in the feathers to take to its young, though bathing is not excluded as a possible motive.

On the early morning of 22 August 1981, three Flock Bronzewings were seen circling low over a waterhole (c. 1 ha in area) on a large cattle station near Ifley in the Gulf Country of North Queensland. Their behaviour reminded me of surface-feeding ducks about to land on the water, but it came as a surprise when one of them suddenly dropped and alighted on the surface of the water, several metres from the bank. It sat there floating buoyantly like a duck for about two minutes, splashing occasionally but otherwise not actively bathing or drinking. Then it took off easily, rose steeply and flew away and out of sight.

A number of explanations could be offered for this behaviour. There are several published reports of Flock Bronzewings landing on water to drink (MacGillivray 1932; Frith 1976, 1982). MacGillivray recorded birds drinking while afloat 'by immersing their heads completely', and Frith recorded that when there is 'a great crush at a small water-hole', Flock Bronzewings will 'land on the water like Budgerigars *Melopsittacus undulatus*, drink while floating and take off vertically'. Crome & Shields (1992) and Lindsey (1995) published photographs showing this behaviour, taken by M. Wright and G. Longford respectively. The birds at Ifley were not seen to drink. Further, a few Grey Teal *Anas gracilis* and other waterbirds were sitting on the shore but there was no great crush, and there was plenty of space for the pigeons to land on the shore. Read (1991) has also seen Flock Bronzewings land in the water when there is free space on the banks. Some waterbirds at Ifley were aware of the observers, but it seems unlikely that this deterred the Bronzewing from either landing on the shore or drinking. I concluded that it landed there deliberately for purposes other than drinking. The morning was not yet unduly hot and I doubt that it just wanted to cool down. Bathing remains a possible motive as pigeons may bathe somewhat passively by immersion (Frith 1982, p. 25), but this bird did not appear to immerse its upper body feathers.

Lastly, the bird may have been collecting water in its feathers to take to eggs or young. Flock Bronzewings usually breed from March to July in northern Australia (Crome & Shields 1992), but could still have had young in August, especially as the area had received above-average rainfall in the previous three months (Bureau of Meteorology data). Young fledglings and nestlings have limited access to water which they may need for drinking or keeping cool. Supply of water can be a problem in arid areas, especially for granivorous birds as their diet contains little moisture. In Africa and Eurasia, adult males of various species of sandgrouse (Pteroclididae spp.) are renowned for carrying water in their feathers, which are especially absorbent for the purpose (Cade & Maclean 1967, Cramp 1985). However, sandgrouse nest in more exposed situations than Flock Bronzewings, and their young are precocial and need to drink soon after hatching, whereas young pigeons can rely on 'crop milk' as a source of food and moisture until almost capable of flight (Frith 1982, K. Al-Dabbagh pers. comm.).

Overseas, various species of pigeon have been seen landing on water to drink, or by mistake (Goodwin 1974), or possibly to avoid predators (Oliver 1985). Transport of water to cool eggs was suggested in one case involving a Stock Dove *Columba*

oenas (White 1947, cited in White 1985), and cooling the brood patch was suggested as an alternative for the same observation (C.H. Fry in post-script). Either of the latter explanations could apply to the Ifley observation. It seems quite possible that the bird was soaking itself to cool a brood patch or (more likely in view of the late date and low temperature) to carry water in the feathers for young birds to drink or to keep them cool as the temperature increased during the day. Some mammals carry water short distances in their fur, as with Little Red Flying-foxes *Pteropus scapulatus* which I have seen belly-flopping onto water in northern Victoria and then drinking from their breast fur (Loyn 1982). It is possible that some published observations of Flock Pigeons and Budgerigars alighting on water involve water transport as well as drinking or bathing.

I examined skins of Flock Bronzewings in the Museum of Victoria with Belinda Gillies, then Acting Curator of Birds. Some belly feathers appeared to show structures similar to those reported for sandgrouse, though microscopic examination is needed to confirm this. We concluded that more detailed examination could be fruitful, including careful comparison with other pigeons and sandgrouse.

Many thanks to John Martindale and Clive Minton (who organised the expedition through Ifley), Bill Goldstraw and Don Jeans who took part and flew the planes, Jim and Mary Bridges who gave us memorable hospitality at Ifley, Belinda Gillies who helped examine the museum skins, and Ian McAllan, Khalid Al-Dabbagh and Peter Higgins who provided valuable comments on a draft.

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Received 30 January 1995

