ADULT MOULTING DURING BREEDING IN THE NEW ZEALAND FANTAIL, *Rhipidura fuliginosa fuliginosa*

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Most birds do not moult and breed simultaneously (Snow and Snow 1964; Payne 1972), however, some overlap between moulting and breeding has been recorded in individuals of at least 120 tropical island bird species (Foster 1975). These two events may overlap when birds take advantage of brief opportunities for breeding. If conditions are suitable for breeding, some birds may either slow the rate of moult so that moult and breeding can occur simultaneously (Jones 1978), or, interrupt the moult altogether, breed and then resume moulting (Fogden and Fogden 1979). New Zealand Fantails, *Rhipidura fuliginosa fuliginosa*, have been observed to start tail moult during early stages of moult, beginning with the central pair and progressing outwards (T. Thurley pers. com.). No records have been published on adult moulting in the New Zealand Fantail during breeding.

Nest monitoring surveys of New Zealand Fantails were undertaken by the author during November 2006 – February 2007 in Tongariro Forest, Mt Ruapehu, North Island, New Zealand (39°12'S, 175°32'E). Thirty-six fantail nests were monitored and territories were well known for twenty-one pairs, enabling pairs to be easily identified when nesting. Birds were not individually marked so the composition of the pairs could possibly have changed over the breeding season. Behaviour clearly showed if a pair was nesting or not. January and February is the end of the fantail nesting season and pairs with both successful and un-successful clutches were re-nesting. Re-nesting appears to be typical of this species, which has a high predation rate and birds can be up to the fifth nesting attempt by January or February.

In January and February four fantail pairs were observed nesting with at least one of the birds in the pair missing the two most central tail feathers, indicating the early stages of moult. Twenty non-nesting birds were observed missing more than these feathers. Two nesting pairs had one bird in the pair moulting the first two tail feathers while both birds in the other two pairs were moulting. At the same time there were also eight birds (four pairs) re-nesting that were obviously not undergoing tail moult. Though birds were not caught and examined in the hand, the extent of the moult was obvious because of the close distance at which one can observe the birds and the ease with which moulting can be detected when birds fan display with their tails.

It was also observed that 16 birds that had begun moulting did not re-nest. Moulting in these birds progressed further and faster with all the non-breeders having tail feathers completely replaced before the breeding birds had progressed past losing the middle two tail feathers. By late February, when some non-breeding birds had already completed moulting, some of the nesting birds had still not begun.

The observation that there were nesting non-moulters in late February, when the non-nesters had completed moulting, indicates that moulting is delayed in nesting New Zealand Fantails. The difference in moult time between the moulting nesters and moulting birds which had finished nesting suggests moulting can be either slowed or interrupted in nesting New Zealand Fantails. All four pairs observed nesting despite moulting successfully fledged young.

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