Age/Plumage Relationship of Rufous Whistlers

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Observations indicate that Rufous Whistlers *(Pachycephala rufiventris)* in 'female' plumage are more common than those in male plumage. Relatively few individuals of this species have been banded as they are not found in large numbers although widely distributed.

Of the 67 Rufous Whistlers banded by me, 30 were in male plumage and 37 were in 'female' plumage. ('Female' used in this manner indicates that birds in this plumage may be females or immature and juvenile males.)

P. J. Spurge has provided the following figures from two seasons' banding near Sydney.

Birds in male plumage (or partial male plumage)	7
Birds in 'female' plumage	24
Total banded	31

In three years at Mount Isa, Queensland, W. Horton banded 4 males and 19 'females', while S. J. Wilson, between 1960 and 1968 in the A.C.T. banded 38 males and 75 'females'. These figures provide a total of 79 males and 155 'females'.

Juvenile and some immature Rufous Whistlers can be identified by plumage, skull ossification, soft pale gape, eye colour and also probably by the colour of the legs and feet. The eye colour is dark brown. (In adults it is a bright reddish-brown).

To date there is no positive method known to me of differentiating between the adult female and most immature (or sub-adult) male plumages until the males show signs of the adult plumage—unless the eye colour is positively diagnostic. At various times observers have reported two 'females' at a nest and no 'male' present. A. H. Chisholm informed me that he had recorded this occurrence and H. J. de S. Disney had a similar experience near Woy Woy, New South Wales, on 6 December 1964. Both birds attending a nest containing two nestlings about eight days old, were in 'female' plumage. One of the birds had a rufous wash on the breast.

A Rufous Whistler nested in my garden in December 1961. No whistler in male plumage

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attention to an additional published record; also to Dr Glen Storr for permission to copy his map showing Arctic Tern records and movements in the Southern Hemisphere, and for confirming the absence of additional records from Western Australia, apart from the Madora Bay recovery.

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was seen in or near the garden during the breeding period. One adult was caught in a mist net. To avoid any possible disturbance or attraction of predators to the nesting location, no further efforts were made to catch the adult/s. The only bird subsequently observed feeding the nestlings was the banded 'female'. (I was unaware at that time of cloacal examination for sexing breeding passerines and the banded adult was recorded as a female by plumage.) Clear observation near the nest was difficult and it can only be reported that observation failed to reveal an unbanded 'female' in attendance, although this could have been possible. The two nestlings were banded on 4 January 1962, and left the nest about a week later. Neither they nor the adult/s were observed again in the garden.

The breeding season is recorded as September to January and Rufous Whistlers are reported to be migratory at least in the south-eastern part of the continent although individuals are occasionally present throughout the year. Unlike some species, particularly certain honeyeaters, there is no late autumn or winter nesting of Rufous Whistlers in south-eastern Australia, hence the plumage changes should be more clearly related to the breeding season.

Consequently, two retraps of birds banded in 'female' plumage provide useful evidence. The details are as follows:

(a) 030-08469. Banded 30 December 1960 at North Ryde, N.S.W. Retrapped at banding place on 31 March 1961, three months later when it was in male plumage.

(b) 030-65060. Banded by S. J. Wilson on 12 December 1967 at Lees Creek, Brindabella Range, A.C.T. Retrapped by M. T. Murn at Blundells Creek, one mile north of banding place, on 2 March 1968, nearly three months later when it, too, was in male plumage.

In the first example (030-08469), the bird was recorded as a female when banded on 30 December. Its plumage was worn and certainly it was not a young bird of the season. The second case was similar.

This incomplete evidence indicates that male Rufous Whistlers may breed in the breeding season following their birth and apparently do so while still in 'female' plumage. This would account for the preponderance of birds in 'female' plumage and also for the lack of male-plumaged birds at some nests. It seems likely that these 'immature' males obtain their full male plumage at their post-breeding moult, at between 15 and 18 months, or after the next breeding season between 27 and 30 months. Hence the two examples retrapped in male plumage in March, about three months after they were banded in "female" plumage.

While banding at Round Hill near Mount Hope, N.S.W., from 2 to 6 September 1968, H. J. de S. Disney and R. Lossin caught ten Rufous Whistlers. Details of sex and plumage were:

Male plumage		3
'Female' plumage	— females	6
	— male	1
Total		10

The females were sexed by cloacal examination, while two of the males in male plumage and the male in 'female' plumage had enlarged tubules. The latter showed no sign of adult male plumage.

This additional evidence confirms that males of this species can and almost certainly do breed while still in 'female' or immature male plumage.

There are a number of records of male Golden Whistlers (*P. pectoralis*) breeding in 'immature' plumage. A. J. Campbell (1901) records finding a nest containing eggs 'which were "shepherded" by a pair of birds both in grey plumage'; L. G. Chandler (1913) records a male 'breeding in immature plumage', while F. M. Littler (1910) said 'Mr H. C. Thompson informs me that he has frequently seen birds in immature dress sitting on eggs or tending young, so that he is convinced that like the Flame Robin, this species breeds while yet in adolescent plumage.' Littler also stated that young males do not attain full plumage until the second year. I. C. J. Galbraith (1967) indicated that male Golden Whistlers assume full plumage in their fourth year in Eastern Australia, but S. J. Wilson (per. com.) has said that this fact is not yet proved.

In the case of Rufous Whistlers, if the banding figures referred to are any criterion, they would indicate that in this species, the males probably acquire full plumage in their second year. If this were not so, the preponderance of birds in 'female' plumage should be far greater than indicated by the banding figures, assuming the birds breed at about 12 months old.

The following are some of the problems which can be solved by additional banding and subsequent retrapping, providing adequate information is recorded.

1. At what age do male Rufous Whistlers breed?

2. At what age do they acquire adult male plumage?

3. Is there a plumage difference between adult females and immature males?

Rufous Whistler (male) at nest.

Rufous Whistler (female) at nest.
Photos: E. Lindgren.

These problems relate only to the matters discussed in this paper, but in addition, banding will provide knowledge of migration, territory, return to breeding location, longevity, etc.

Some longevity information has already been obtained from banding. A male Rufous Whistler was retrapped more than eight years after it had been banded in full male plumage (Lane and Lonnon, 1967) while another (band number 030-08467) banded on 28 December 1960 as an adult female was retrapped at banding place nearly six years later (see Recovery Round-up, Vol. 5, No. 2, p. 39) and again retrapped on 15 November 1967.

Valuable information will accrue if banders record detailed information, particularly of 'female' whistlers. Moult data would also be of value, and in time, some of the problems will be solved.

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