

# BIRD BANDER

---

## Analysis of Rufous-throated Honeyeater Banding at Mount Isa

R. K. CARRUTHERS

Observations and results of five years banding of Rufous-throated Honeyeaters (*Conopophila rufogularis*) in the Mount Isa district, Queensland are analysed and discussed. Netting locations, the study area and the method of ageing are described.

### Introduction

Liddy (1962) stated that the Rufous-throated Honeyeater "arrives at Mount Isa regularly during mid-August and becomes common and conspicuous along the watercourses from September to December. Thereafter it gradually becomes less common and disappears towards the end of March". Banding during the years 1963 to 1968 has now confirmed that the Mount Isa populations of *C. rufogularis* are migratory and appear to return by the same routes each year. They are nomadic in the district except for a short period while nesting.

### Trapping Method

Mist netting has been the sole method used for trapping during the study. Nets were normally set around waterholes, in heavy vegetation near waterholes or amongst food trees within a few hundred yards of water. Some netting was carried out in home gardens away from the water attraction and this achieved reasonable success particularly during March and April.

### Ageing

Ageing was determined by plumage. Juveniles (February to April) are distinguished from immature birds by the slightly paler colour and downy appearance. In particular the head is a uniform downy grey-brown whereas on immature and adult birds the feathers of the crown are tighter and darker, each feather having a dark brown centre. This gives a somewhat striated

appearance to the crown that is readily observed when the bird is being held.

Immature and juvenile birds are distinguished from the adults by the absence of rufous feathers on the throat. The rufous throat of the adult plumage appears to be attained at the end of the first year as many immature birds trapped in the middle and later part of the season (December to April) show a few rufous feathers on the throat.

Checking of skull ossification to determine age was not attempted.

### Study Area

Rufous-throated Honeyeaters were observed and banded at many places in Northern Queensland and in Northern Territory, but intensive study was confined to the Mount Isa district. All major banding sites were within 25 miles of the town.

Most banding stations were located around flooded backwaters of Lake Moondarra (the Leichhardt Dam) or at springs and waterholes on the Leichhardt River and its tributaries. The only major banding station away from this area was at the East Leichhardt River adjacent to the permanent seepage waterholes below the East Leichhardt Dam about 25 miles east of Mount Isa. Regular netting was also carried out in home gardens in the town.

During 1963 and 1964 banding was concentrated in two favourable areas on the northern end of Lake Moondarra at Stone Axe Creek and Spring Creek. After 1964 the low level of the

Lake made these locations unsuitable for much of the time particularly from August to December which is the vital period for banding these honeyeaters.

Towards the end of 1964 permanent waterholes with ideal netting conditions were discovered at the East Leichhardt Dam and this area became the most important banding site for the study.

The growth of a dense fringe of sapling River Red Gums (*Eucalyptus camaldulensis*) along Spear Creek at the south end of Lake Moondarra following the filling of the Lake, resulted in a major improvement in habitat and the bird population in the area increased considerably. Deep holes in Spear Creek also provided permanent water and after 1965 this area was adopted as another regular banding station.

**Results**

During the five years the dates of arrival and departure were noted. The arrival dates varied between 6 August and 20 August while the departures occurred between 20 April and 13 May.

From May 1963 to April 1968 1,343 Rufous-throated Honeyeaters were banded by the author. None was recovered elsewhere but 48 were re-trapped 53 times. During the period May 1963 to November 1969, Mr W. Horton banded 450 birds of this species in the study area and re-trapped 20 individuals 21 times; Table 1 summarises these results. Two birds were re-trapped two years in succession at the East Leichhardt Dam banding site. The details follow.

Band Number	Date Banded	Dates Retrapped
021-20766	27.12.65	25.9.66, 18.11.67
021-35454	14.11.65	15.1.67, 26.11.67

Three birds have been re-trapped during a third or subsequent migration after banding. The details are



● *Tristania* and River Red Gums growing in Mica Creek (non-perennial). The *Tristania* is the most important source of nectar in many locations. Rufous-throated Honeyeaters concentrate in large numbers in flowering *Tristania* adjacent to water during spring and summer.

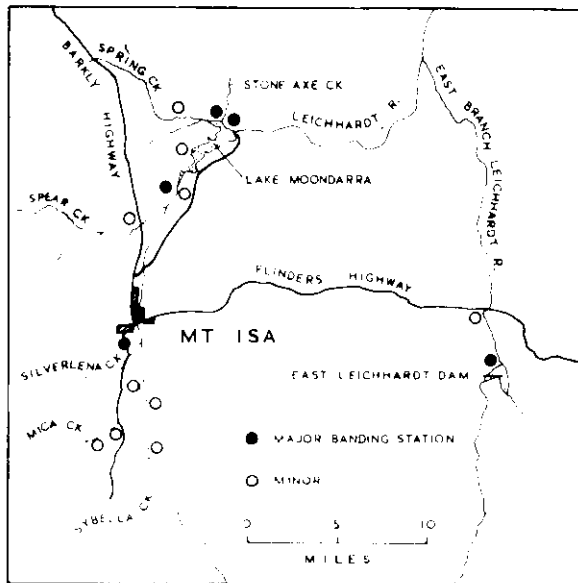
Band Number	Date Banded	Date Retrapped	Location
020-74506	29.12.63	5.10.68	Mica Creek
021-02222	3.1.65	3.11.68	Stone Axe Creek
021-81631	11.12.66	8.11.69	East Leichhardt Dam

Table 2 sets out the monthly banding and re-trap figures obtained by me for the period August 1963 to May 1968. This shows that the re-trap rate is 4 per cent of all birds banded. However, when only retraps in subsequent seasons are considered, birds banded in the last season (1967-68) being omitted, the rate is 4.5 per

TABLE 1  
Summary of Rufous-throated Honeyeaters banded at Mount Isa, 1963 to 1969.

Bander	Number Banded	Individuals Retrapped	Number of Times	Retraps in same and later seasons.					
				Same	First	Second	Third	Fourth	Fifth
Carruthers	1,343	48	53	21	21	11			
Horton	450	20	21	12	4	2	1	1	1
Total	1,793	68	74	33	25	13	1	1	1

(About 500 birds were banded by other banders but data are unavailable for inclusion here.)



● Figure 1. Map of the Mount Isa district showing the banding places.

cent. On the same basis but using only the figures for the East Leichhardt Dam station, the rate is 5.5 per cent for retraps during subsequent migrations. As indices of migration consistency these latter two figures are very significant.

Table 3 shows a comparison between banding and retrap figures for Rufous-throated Honeyeaters and Yellow-fronted Honeyeaters (*Meliphaga plumula*) from September to November 1969 at Spear Creek. Both species were abundant in the area but the percentage retrap rate was 1.4 for *C. rufogularis* and 10.5 for *M. plumula*.



● A dense stand of Red Gums along Spear Creek, one of the more important banding stations.

**Discussion and Comments**

Migration means any fairly regular movement of birds to and from a particular area. The regular times of arrival and departure, and the comparatively high retrap rate indicate that Rufous-throated Honeyeaters are migratory in the Mount Isa area.

Arriving birds move rapidly in large flocks along the main stream beds and fly throughout the area. Although they concentrate in large

TABLE 2

Monthly summary of Rufous-throated Honeyeaters banded and retrapped (by Carruthers) at Mount Isa, 1963 to 1968.

Month	1963-64		1964-65		1965-66		1966-67		1967-68	
	Number Banded	Number Retrapped	Number Banded	Number Retrapped	Number Banded	Number Retrapped	Number Banded	Number Retrapped	Number Banded	Number Retrapped
August	3	0	0	0	—	—	0	0	8	0
September	7	0	19	4(4)	2	0	18	2(2)	49	1
October	12	0	56	0	3	0	25	0	75	0
November	6	0	4	0	185	4(2)	83	8(6)	241	11(8)
December	1	0	41	1	74	5(3)	47	10(1)	241	6(5)
January	1	0	5	0	—	—	57	1(1)	2	0
February	2	0	3	0	—	—	1	0	19	0
March	6	0	2	0	4	0	9	0	1	0
April	4	0	0	0	0	0	26	0	—	—
May	0	0	0	0	0	0	1	0	—	—
Total	42	0	130	5(4)	268	9(5)	267	21(10)	636	18(13)

Retraps from previous years are shown in brackets.

TABLE 3

Comparison of retrap patterns of Rufous-throated Honeyeaters and Yellow-fronted Honeyeaters at Spear Creek, 1967.

Banding Date	<i>Rufous-throated Honeyeater</i>		<i>Yellow-fronted Honeyeater</i>	
	Number Banded	Number Retrapped	Number Banded	Number Retrapped
3. 9.67	9		22	
10. 9.67	21	1	44	1
17. 9.67	15		39	3
22.10.67	42		110	7
28.10.67	17		78	8
29.10.67	7		71	15
11.11.67	28	1	17	6
Total	139	2	381	40

numbers in suitable favoured habitats, they tend to move continually. This is in contrast to the Yellow-fronted Honeyeater, a wide-ranging nomadic species which may become resident for two or three months in a favourable location. The difference in behaviour is illustrated by the figures in Table 3. Little information has been obtained as yet concerning the direction and range of movement of individuals or flocks during the spring and early summer period. The southern limit is 50 to 60 miles south of Mount Isa and some birds caught at the banding stations may continue their southern movement that far. Others however, obviously remain within a more restricted area and a few have been retrapped at the banding place one or two months later.

The first indication of the range and nature of local movement was obtained when one bird (021-04668) banded by Horton at Spear Creek on 9 November 1968 was retrapped by him at Stone Axe Creek, about five miles north-east of the banding place eight days later.

With the onset of the first major rains and the completion of the main flowering of *Tristania grandiflora* the flocks disperse to breed. This usually occurs in January or February when these birds are found singly or in pairs throughout the area, often up to a mile or more from permanent or semi-permanent water. The diet appears to become largely insectivorous during and after the breeding season. After breeding they commence the northward movement travelling slowly in small flocks and family parties. The departure is more gradual throughout the autumn than the rather sudden arrival in the spring. Because of the change of diet and the more abundant water,

large concentrations seldom occur at this period. This is reflected by the paucity of catches in the February-May period (Table 2).

### Conclusion

Banding has added considerably to the knowledge of the movements of the Rufous-throated Honeyeater in the Mount Isa district. It is established that individuals return annually to the same area, and thus that the species is migratory. As in other studies, banding has also highlighted our lack of knowledge and set major targets for the future. With the banding still proceeding in the Mount Isa district under the direction of Mr Horton, it is hoped that the wintering areas of the Mount Isa populations, the migration routes taken by these populations and whether nestlings return to their natal area will eventually be determined. Such knowledge will contribute greatly towards understanding the pattern of behaviour and movement of the other northern populations of Rufous-throated Honeyeaters.

### Acknowledgements

I am grateful to Mr W. Horton for providing banding data, particularly important retrap results obtained since March 1968. I also wish to thank Messrs M. D. Murray and S. G. Lane for advice and assistance in the preparation of this paper.

### Reference

Liddy, J. (1962). 'Honeyeaters of North-west Queensland', *Emu*, 61:285-291.

R. K. (Sam) Carruthers,  
24 Allambie Street,  
Castle Cove, N.S.W.