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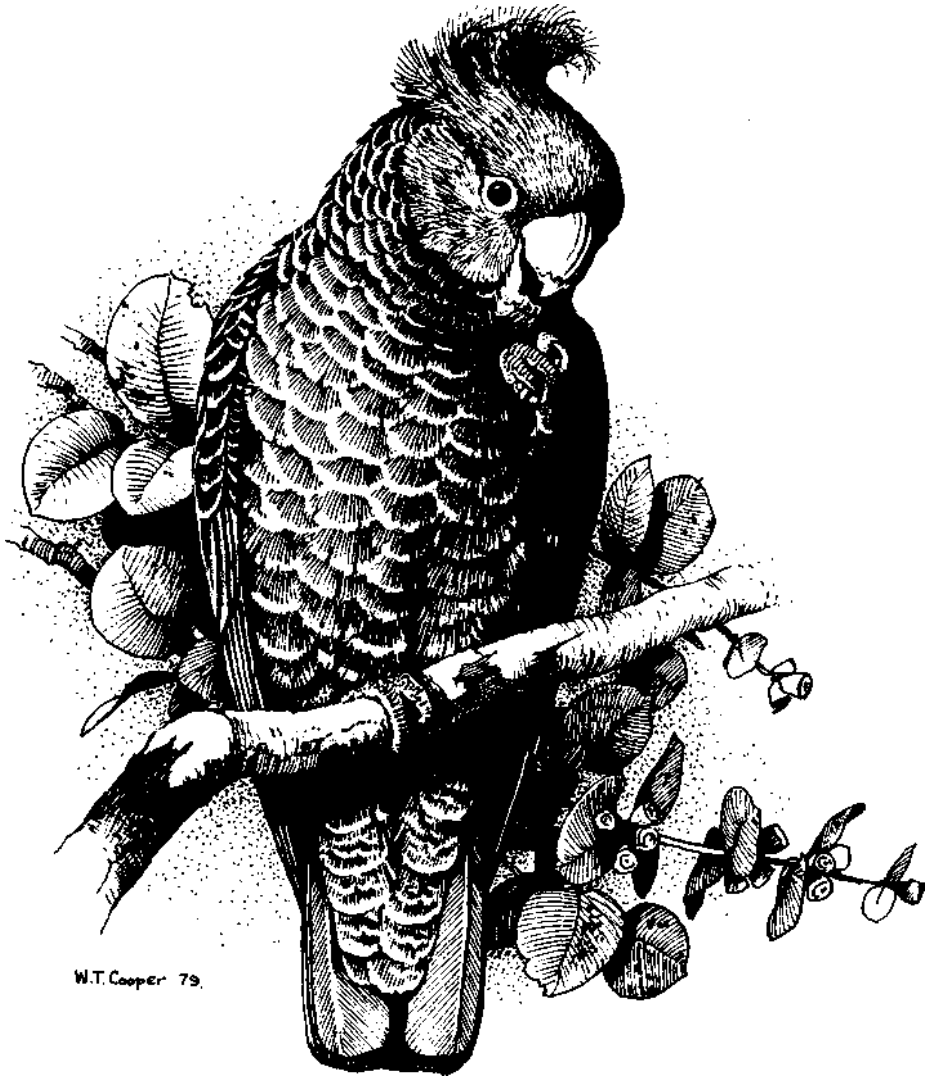

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MURRUMBIDGEE RIVER CORRIDOR HONEYEATER SURVEY 1997

Nicki Taws
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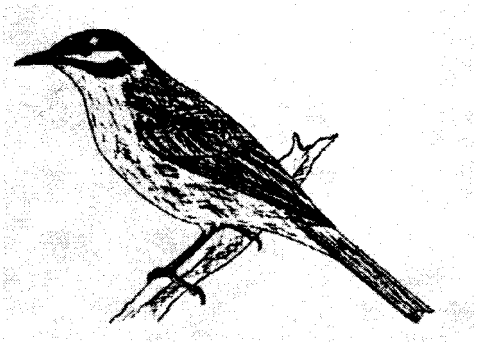


Yellow-faced Honeyeater
Lichenostomus chrysops

The autumnal exodus of large numbers of honeyeaters from the Canberra region is a seasonal phenomenon which was first documented in the early 1950s. Several surveys conducted over the years since then, by COG or its members, have greatly increased our knowledge of this spectacular event. Many questions still remain, however. This latest survey, conducted by Nicki Taws and COG, attempts to glean further information on some of these questions, as well as addressing the question of whether the migration event can be useful as a bio-indicator of the health of the Murrumbidgee River Corridor and its immediate environment. Because of these objectives, Environment ACT generously provided funds for the undertaking of the project and production of a report of the findings. This report, the Murrumbidgee River Corridor Honeyeater Survey 199?. was prepared by COG member Nicki Taws and submitted to Environment ACT. So that COG members may readily avail themselves of these results, and so that the information is available in a public forum, we are now publishing the Report in Canberra Bird Notes. We have made several small editorial changes, and have omitted the recommendations at the request of Environment ACT, but the Report is otherwise essentially unchanged.

Summary

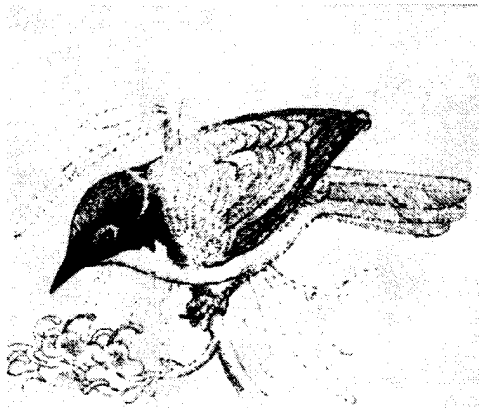
Surveys of migrating honeyeaters in the Murrumbidgee River Corridor (MRC) were conducted on three consecutive Sundays in April 1997. Teams of three people were stationed at seven sites along the river and two sites on the Monaro Highway. Observers counted and, where possible, identified all migrating honeyeaters passing through the site in 15-minute intervals between 8:00 h and 13:00 h. A total of fifty volunteers from the Canberra Ornithologists Group (COG) were involved in the survey. The first survey day, 13 April, was sunny and calm, and a total of 39,423 honeyeaters were recorded. The second survey day, 20 April, was fine but overcast and 9,088 honeyeaters were recorded. The third survey day, 27 April, was again sunny

and calm, and numbers totalled 21,880. The Yellow-faced Honeyeater *Lichenostomus chrysops* was the most common migrating species (comprising approximately 95% of birds on the first survey. decreasing to 50% by the third survey) with White-naped Honeyeaters *Melithreptus lunatus* making up most of the remainder of the flocks. Red Wattlebirds *Anthochaera carunculata* made up between 5-10% of migrating birds on the second and third survey days.

Direction of movement across the Canberra region was generally easterly, with the birds often following well-defined routes, apparently determined by topographical features and availability of trees and shrubs. The migration route and the number of birds using it varied from day to day, possibly due to the weather. Greatest movement occurred on calm clear sunny days. Significant numbers of honeyeaters crossed the Murrumbidgee River Corridor in the Tharwa to Williamsdale area. The lack of suitable cover at sites such as Point Hut Crossing and Angle Crossing may cause additional stress to the birds during migration as they are forced to fly longer distances between trees and are more prone to predation by raptors.

Introduction

The autumn movement of honeyeaters through the Canberra region is a well-known phenomenon, with much of our current knowledge provided by surveys undertaken in 1985-86 (Davey 1986, Taylor 1987).



White-naped Honeyeater *Melithreptus lunatus*

The two most common migrating species are the Yellow-faced Honeyeater and the White-naped Honeyeater. It is assumed that the migrating birds are those which breed in the Brindabella Ranges, where the Yellow-faced Honeyeater is particularly numerous over spring and summer. Movement away from the mountains begins at the end of March, triggered apparently by the first cold weather, and is largely finished by mid-May.

Despite intensive banding efforts during autumn migrations in the 1960s and 1970s, too few birds were ever re-trapped to provide conclusive evidence about the origins and destinations of the migrating honeyeaters (Purchase 1985). General consensus is that the birds are

moving to forests east of the Great Dividing Range. One migration route has been traced from Canberra north-east towards Geary's Gap, along the escarpment on the western side of Lake George then towards Goulburn (R. Allen pers. comm., COG 1986). In coastal and escarpment areas of NSW, autumn movements of Yellow-faced Honeyeaters have been reported, for example, at Moruya on the south coast from late April into early winter (Horey 1979), in the Clyde Range close to the coast (Lamm and Calaby 1950), at Mittagong close to the escarpment on 20 April 1997 (R. Allen pers. comm.), and at Saddleback Mountain on the edge of the escarpment near Kiama on 27 April 1997 (M. Braby pers. comm.). Yellow-faced Honeyeaters also become more common during the winter months on the western slopes of the Divide, and movement away from the higher areas of the tablelands has been noted in many areas of NSW.

The movement away from the mountains appears to be a post-breeding dispersal in search of better food sources, and the honeyeaters will stop moving when they find adequate food. The increase in native plantings in Canberra suburbs over the last 20 years seems to have encouraged the overwintering of Yellow-faced and White-naped Honey eaters in greater numbers than occurred previously (S. Wilson pers. comm.).

The Murrumbidgee River through the ACT is described as 'a major trunk route' for the autumn migration, with nearly all parts of the river corridor being used (Taylor 1987). The Murrumbidgee River Corridor Draft Management Plan (ACT Parks and Conservation Service 1995) recognises the importance of the River to honeyeater migration, 'especially at Angle Crossing, Tharwa, and from the Cotter north to Uriarra, east to Stromlo and south-east along the River to Point Hut'.

In the Draft Management Plan, the list of specific management practices includes one related to the honeyeater migration :

5.2.3.3 Habitat for honeyeater migration

The Service will monitor honeyeater migration patterns, particularly the effects of development in southern Tuggeranong.

The Canberra Ornithologists Group has previously provided assistance to managers of the Murrumbidgee River Corridor (MRC) in surveying birds (Canberra Ornithologists Group 1986). In 1997 COG agreed to assist the ACT Parks and Conservation Service in undertaking its objective to monitor honeyeater migration patterns. The survey in the first year was designed as a trial to:

> determine suitable methods for monitoring honeyeater movements, identify suitable survey sites where migration concentrations occur, assess whether the monitoring of honeyeater movement would, as the only source of data, provide sufficient information to achieve successful management of the Corridor, and if not, what additional

The results from this trial would be used to improve survey techniques and locations in subsequent years.

Survey method

In the 1985 survey of honeyeater migration (Davey 1986) daily records were kept of honeyeater movements across the ACT, and one 'blitz' day was organised involving small teams counting honeyeaters in specified time periods, passing through 18 sites.

This survey method was modified for the 1997 survey. Three days in April (13th, 20th and 27th) were selected as 'blitz' days. It was felt that three days were necessary to ensure at least one day of good weather for migration. As the principal aim of the survey was to monitor honeyeater movement along the Murrumbidgee River Corridor, seven sites along the river were selected. Three sites along the Monaro Highway (later reduced to two) east of the river were also chosen in an attempt to track the movement across the ACT. Sites were selected on the basis of ease of access, ease of viewing, and the likelihood of seeing honeyeaters at that location according to prior experience, local knowledge and the results from the 1985 survey.

Preliminary site visits were made prior to the first survey day to determine the exact location for observers to be stationed. The sites selected are listed below and shown in Map 1.

Uriarra Crossing - 300 m north of the crossing on the east bank.
Casuarina Sands - near the weir 300 m north of the northern carpark.
Kambah Pool - southern carpark, overlooking gully running in from the east.
Pine Island - 200 m south of the southernmost carpark.
Point Hut Crossing - 200 m north of the picnic area.
Gigerline A - site beside the Murrumbidgee River below Smiths Road, 500 m east of the Gudgenby River bridge.
Gigerline B - on Smiths Road 500 m east of Gudgenby River bridge, overlooking the Gudgenby River.
Angle Crossing A - 100 m north of the Crossing, west side of the river.
(Only used on the first survey day.)
Angle Crossing B - Angle Crossing Road 1 km before the Crossing.

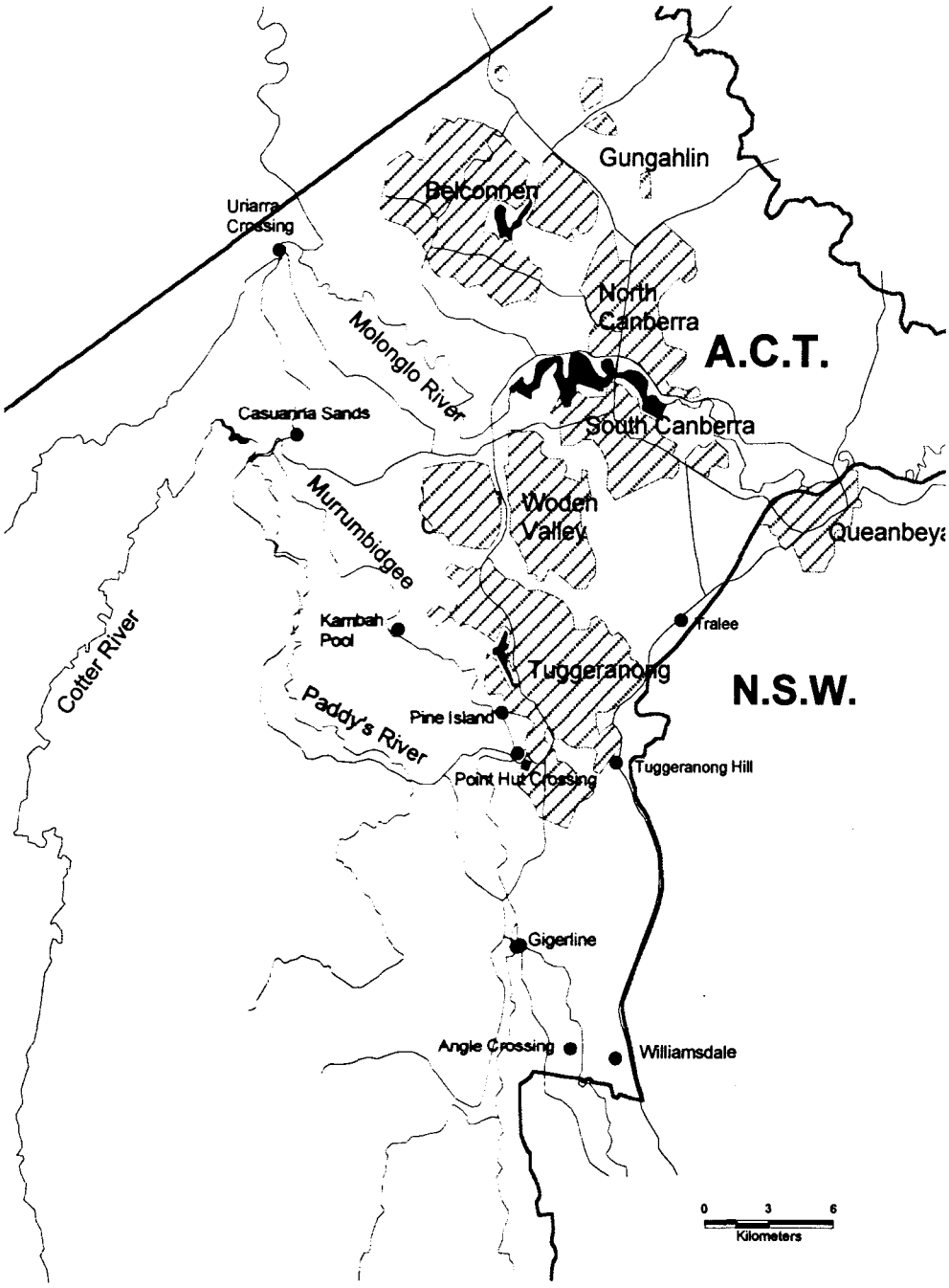
(Used for the second and third survey days.)

Williamsdale - Angle Crossing Road, 800 m from Monaro Highway.
Tuggeranong Hill - Information Bay on Monaro Highway.

Tralee - corner of Mugga Lane and Monaro Highway, also Tralee St in Hume.

The survey teams consisted of three or more people when volunteer numbers were sufficient. If fewer people were available the sites expected to have lower honeyeater numbers were allocated only one or two observers. Each team had at least one leader who was experienced in identifying honeyeaters by sight and call. Other team members assisted with identification, counting and recording. Fifty volunteers from COG took part on at least one day

Map 1. Honeyeater Survey Sites 1997



The survey period ran from 8:00 h to 13:00 h to cover the expected time of peak movement between 9:00 h and 11:00 h. All honeyeaters migrating through the sites were counted as accurately as possible in 15-minute periods. The different honeyeater species were identified. either visually or by call, but identification was not always possible NN hen the birds were too far away. The main species which migrate are the Yellow-faced Honeyeater and White-naped Honeyeater, with lower numbers of Red Wattlebird, and occasional White-eared Honeyeaters *Lichenostomus leucotis,* Fuscous Honeyeater *Lichenostomus fuscus* and Eastern Spinebill *Acanthorhynchus tenuirostris.* Some birds not normally considered to be migrating species, such as White-plumed Honeyeater *Lichenostomus penicillatus* and Brown-headed Honeyeater *Melithreptus brevirostris,* get caught up in the mass migration. Observers also recorded the numbers of other bird species seen or heard while at the site, however this activity took second priority to the counting of migrating honeyeaters.

Weather information was collected from the local newspaper for the three weeks from 7 to 27 April.

Results

The weather

The weather throughout the survey period was remarkably stable, forming one of the driest spells of Autumn weather on record for the ACT. On 2 April, 0.6 mm of rain was recorded and it did not rain again during the month. Daily maximum temperatures were above average and minima were below average. The only significant cold front to affect the ACT during the period 7-27 April passed through on 7 April. Other weak fronts passed through on 15 April, 19 April and 22 April bringing only high cloud and slightly cooler temperatures. The typical April day was fine and sunny with a maximum of 22 C after a minimum of 5 C, conditions which appear to be ideal for honeyeater migration (Davey 1986).

Weather on the individual survey days was as follows:

13 April Some fog and low cloud in the morning, minimum of 7 C, clearing to a fine sunny day with light winds, maximum of 25C .

20 April Cool at first with local fog patches, minimum of 3 C. The day was fine **but** high cloud kept temperatures lower than expected, maximum of 21 C.

27 April Fine and sunny with light north-west winds, maximum of 23 C.

Honeyeater numbers

Pre-survey

Several trips were made to the sites prior to the survey days to determine the best locations for honeyeater viewing. These trips occurred on the morning of 28 March (to Kambah Pool, Pine Island, Point Hut Crossing, Gigerline, Angle Crossing, Williamsdale, Tuggeranong Hill and Tralee), 8 April (to Kambah Pool, Pine Island, Point Hut, Williamsdale, Tuggeranong Hill and Tralee) and 9 April (to Uriarra Crossing

days was fine and sunny with temperatures around 23 C, and on each trip large numbers of honeyeaters were observed moving, particularly at Gigerline and Casuarina Sands.
[On a visit to the Angle Crossing area on 18 April, during the week between the first and second survey days, approximately 3000 honeyeaters were observed in 30 minutes at the Angle Crossing B site, and it was decided to use this location, rather than the Angle Crossing A site for the remainder of the survey.]

13 April
The largest number of honeyeaters was recorded on the first survey day, 13 April, when a total of 39,423 honeyeaters were counted at the 10 sites (see Table 1). Particularly high counts were recorded at the southern sites, Gigerline (18,022 honeyeaters at A and B sites combined) and Williamsdale (6,980); and also at Casuarina Sands (6,828) in the north. The lowest count was recorded at Tuggeranong Hill, where only 10 honeyeaters were seen. Tralee was also a quiet site with only 182 honeyeaters counted, all in the last hour of the survey. The total number of migrating honeyeaters counted at each site is given in Table 1.

Across all sites on this day, 90-95% of identified migrating birds were Yellow-faced Honeyeaters.

The time of honeyeater movement across all sites is shown in Figure 1. Movement was delayed in the morning by fog and low cloud along the river corridor, until it lifted around 9:00 h. Peak movement occurred at different times at each site, but overall the highest numbers occurred between 9:30 h and 9:45 h, with another peak between 11:15 h and 11:30 h.

Table 1 Number of migrating honeyeaters at each site on 13 April 1997

Site	Total	Y-f	W-n	R W	Unid.	Other	% of identified h'eaters		
							Y-f	W-n	RW
Gigerline A	13,485	8.084	1.258	0	4,135	8	87	13	0
Williamsdale	6.980	180	0	5	6.795	0	97	0	3
Casuarina Sands	6.828	5.914	914	0	0	0	87	13	0
Gigerline B	4.537	4.112	425	0	0	0	91	9	0
Point Hut Crossing	2.441	2.425	16	0	0	0	99	1	0
Pine Island	1.984	1.604	380	0	0	0	81	19	0
Angle Crossing	1,357	1.031	208	0	118	0	83	17	0
Kambah Pool	1.128	1.103	25	0	0	0	98	2	0
Uriarra Crossing	491	486	5	0	0	0	99	1	0
Tralee	182	182	0	0	0	0	100	0	0
Tuggeranong Hill	10	10	0	0	0	0	100	0	0
Total	**39,423**	**25,131**	**3,231**	**5**	**11,048**	**8**			

20 April

The second survey day, 20 April, provided an interesting contrast to the previous week. The day was fine and calm, with the only apparent difference to the preceding good migration days being a layer of high cloud associated with a weak cold front. However, this appeared to be enough to affect honeyeater movement, and the total count of 9.088 was well down on the previous week. The highest numbers were again recorded at the southern sites, Angle Crossing B (3,601) and Williamsdale (2,827). Other sites along the river all recorded less than 1000 birds (see Table 2).

The proportion of Yellow-faced Honeyeaters to White-naped Honeyeaters varied across the sites. Most sites recorded a high proportion of Yellow-faced Honeyeaters (85-95%), with a lower proportion recorded at Kambah Pool (53%) and Gigerline A (60%). Several flocks of Red Wattlebirds were recorded at the southern sites, and they totalled 9% of the final honeyeater numbers across all sites.

Time of movement was less defined this day with small peaks at various times of the morning (Figure 2). The sun emerged from behind the high cloud towards the end of the morning which may account for the greater numbers of honeyeaters counted after 11:00 h.

Table 2 Number of migrating honeyeaters at each site on 20 April 1997

Site	Total	Y-f	W-n	R W	Unid.	Other	% of identified h'eaters		
							Y-f	W-n	RW
Angle Crossing	3,601	1,432	1,780	332	50	7	40	50	9
Williamsdale	2.827	1,448	470	418	491	0	62	20	18
Gigerline A	961	563	366	10	0	22	60	39	1
Casuarina Sands	590	498	92	0	0	0	84	16	0
Gigerline B	384	311	8	65	0	0	81	2	17
Pine Island	259	249	10	0	0	0	96	4	0
Point Hut Crossing	217	189	28	0	0	0	87	13	0
Kambah Pool	173	92	81	0	0	0	53	47	0
Uriarra Crossing	55	55	0	0	0	0	100	0	0
Tralee	21	21	0	0	0	0	100	0	0
Total	**9,088**	**4,858**	**2,835**	**825**	**541**	**29**			

27 April

Ideal autumn weather conditions continued during the week up to the third survey day, 27 April. The total count of 21,880 was only just over half the total of the first survey day, but well up on the preceding week. The southern sites at Angle Crossing B (5,107) and Williamsdale (6,881) again led the count, with a high number of honeyeaters also recorded at Kambah Pool (3,904). Figures for all sites are given in Table 3.

Table 3 Number of migrating honeyeaters at each site on 27 April 1997

Site	Total	Y-f	W-n	R W	Unid.	Other	% of identified h'eaters		
							Y-f	W-n	RW
Williamsdale	6,881	2.680	2.603	624	974	0	45	44	11
Angle Crossing	5,107	1,333	2.800	464	510	0	29	61	10
Kambah Pool	3,904	1.310	2.579	0	15	0	34	66	0
Gigerline A	;,660	611	259	0	810	0	70	30	0
Pine Island	1,478	521	893	60	4	0	35	61	4
Casuarina Sands	1,293	687	574	30	0	2	53	44	2
Point Hut Crossing	993	387	263	130	213	0	50	34	17
Gigerline B	445	328	111	0	0	6	75	25	0
Tralee	83	55	28	0	0	0	66	34	0
Uriarra Crossing	16	10	1	0	0	5	91	9	0
Total	**21,880**	**7,922**	**10,111**	**1308**	**2526**	**13**			

At all sites the proportion of Yellow-faced Honeyeaters to White-naped Honeyeaters was roughly equal. Of interest was the large number of Red Wattlebirds migrating, with flocks totaling up to 500 moving through Angle Crossing and Williamsdale, and over 100 counted at Point Hut Crossing.

Time of movement conformed to the expected pattern this day with the largest numbers of honeyeaters counted between 8:45 h and 10:45 h (Figure 3).

Post survey

During the week following the last survey day (28 April - 4 May) the weather remained very similar to the preceding four weeks. During a brief visit to the Casuarina Sands site on 4 May, a fine sunny day, only 20 honeyeaters were counted between 9.30 h and 10.30 h.

Honeyeater movements

On good migration days when large flocks were moving, the honeyeaters were observed to follow defined routes. The honeyeaters moved in 'rolling' flocks, with some birds joining the flock as it passed and others dropping out to rest or feed and wait for the next flock. Towards the end of the morning when fewer birds were moving, direction was less defined, and some small flocks were even seen heading in the opposite direction to the main migration route. Similarly on the second survey day when conditions were less than ideal and few honeyeaters migrated, direction was less defined. Birds moved in smaller flocks, seemingly with less urgency, spending more time flying back and forth in the one area. Similar confused movement on a cold windy day was reported in COG (1986).

Figure 1.
Time of honeyeater movement across all sites 13 April 1997

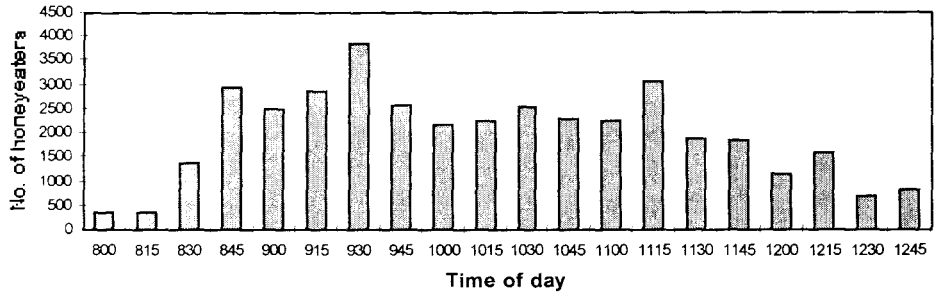


Figure 2.
Time of honeyeater movement across all sites 20 April 1997

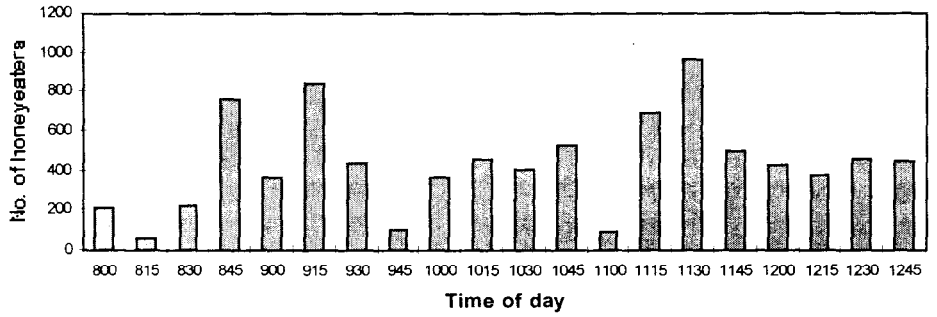
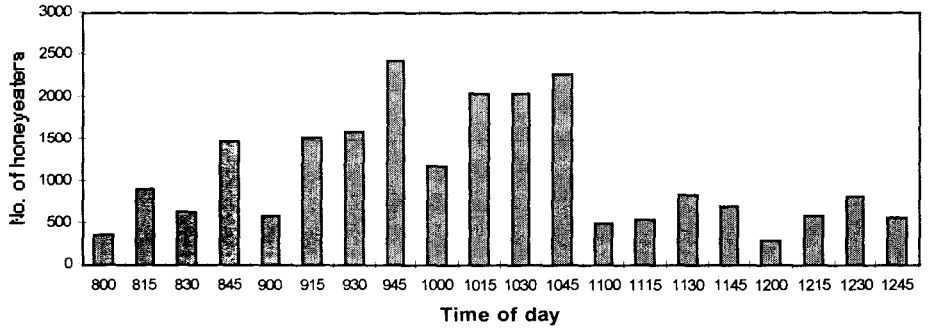


Figure 3.
Time of honeyeater movement across all sites 27 April 1997



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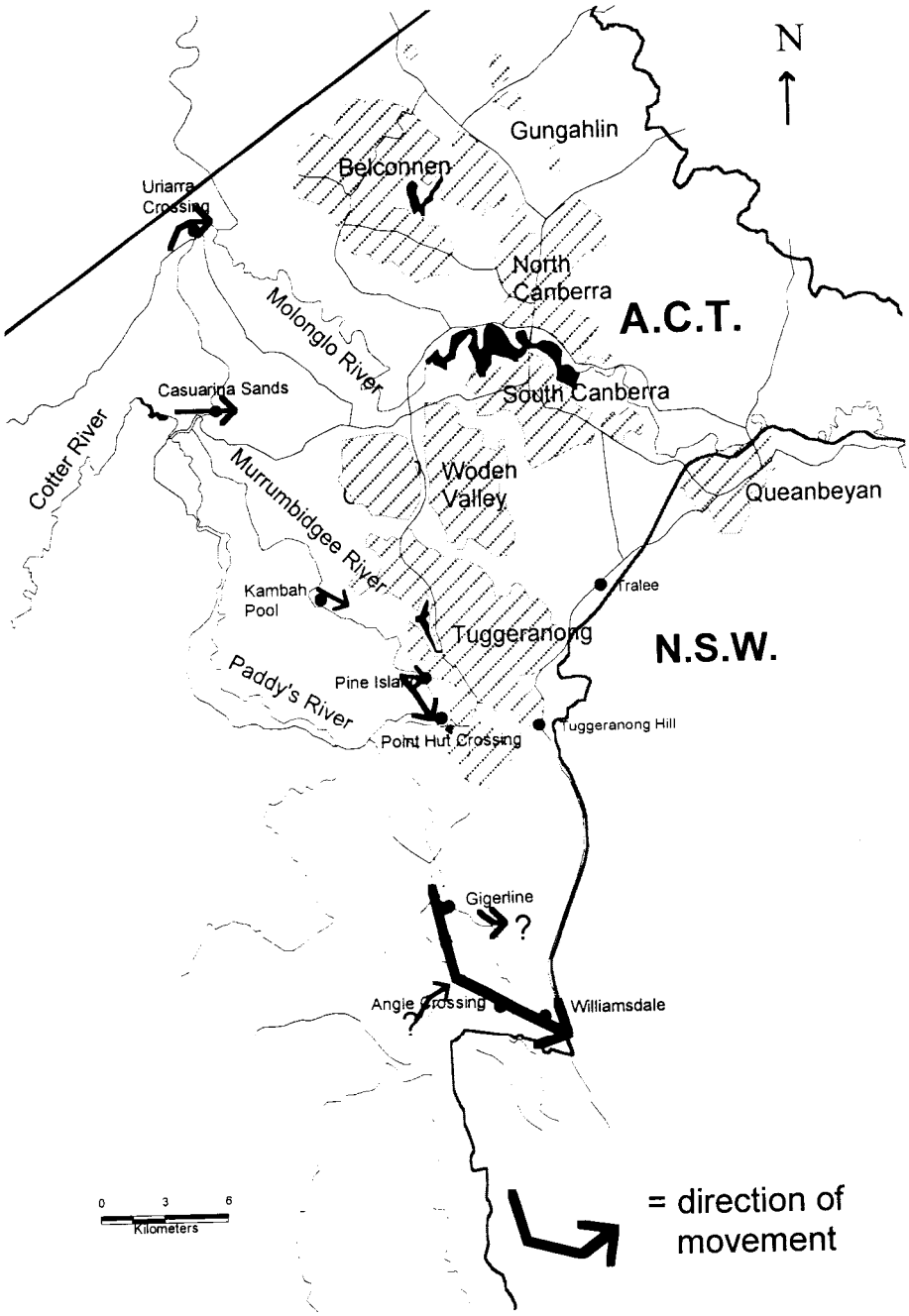
Map 2. Honeyeater Movements April 1997



At some sites the honeyeaters passed through on a wide front or along two routes, and the observers in a team had to swatch in different directions or sit in different parts of the site to be able to count as many of the honeyeaters as possible.

Direction of honeyeater movement at each site is described below and is illustrated in Map 2.

Uriarra Crossing

Movement was mostly in a northerly direction following the river downstream, with some flocks flying easterly up the hill.

Casuarina Sands

Greatest movement was in an easterly direction across the river and up the small gully. **Smaller** flocks sometimes headed south along **the** river, or south-east up the steep hill beside the river.

Kam bah Pool

Movement was predominantly south-easterly, following the river upstream. From **the** site at the carpark well above the river, only the honeyeaters flying overhead could be recorded, however, it was noted that many honeyeaters were also moving along the riverbanks, and could be counted only by moving to a new site closer to the river.

Pine Island

Movement was predominantly south-south-easterly, following the river upstream. However, on the final survey day it was noticed that a significant number of honeyeaters were following the line of young trees from the southern carpark up the hill behind Bonython, and from there probably across towards Tuggeranong **Hill.**

Point Hut Crossing

Honeyeaters either flew south-south-easterly up over Point Hut Hill, or south along the river into the large deciduous trees at the Point Hut picnic area. From there they moved south-easterly up Point Hut Creek but were not observed beyond that point.

Gigerline A

Honeyeater flocks arrived from the Tharwa area to the north and appeared to split into several routes at the junction of **the** Gudgenby and Murrumbidgee Rivers. At Gigerline A honeyeaters were observed to follow the Murrumbidgee River upstream in an south-easterly direction, either along the banks or in large flocks along the ridge on the north-east side of the river.

Gigerline B

The flocks of honeyeaters from Tharwa **split at the confluence of the Gudgenby and Murrumbidgee Rivers with** some following the Gudgenby for a short distance. South of Smiths Road the Gudgenby turns from a south-easterly direction to **the south then sharply to** the west. The honeyeaters were observed to leave the river as it turned south, move up onto the Smiths Road ridge, and fly south-east through **the Ingledene pine plantation before passing the Angle Crossing site.**

Angle Crossing A

On the first survey day the site was located at the Crossing, however relatively few birds were counted **there considering it** was a good migration day.

Further investigation during the week between the first and second surveys revealed that the large numbers of honeyeaters moving through Ingledene pines were crossing the river approximately 1 km north of the Crossing. Observers for the second and third survey days were stationed at this site (Angle Crossing B) on the Angle Crossing Road approximately 500 metres from the edge of the pines.

Angle Crossing B

The honeyeaters amassed at the edge of the pine plantation before venturing across the largely treeless western slopes above the river. From the pines they followed a very well defined route along a narrow line of eucalypts east towards the river. Across the river they followed a gully up the other side towards Williamsdale, but dispersed across a wider front through the scattered trees.

Williamsdale

Movement was south-easterly. The birds passed over this site on a wide front. Observers were stationed on the road to count honeyeaters to the north, and on mullock heaps south of the road to count honeyeaters flying south of the site below the crest of the hill.

Tuggeranong Hill

The Tuggeranong Hill site was abandoned after the first survey day. Only ten honeyeaters were recorded on a morning when big movements were recorded at other sites. On several pre-survey trips this site was visited, again when many honeyeaters were moving at other sites, and no migrating honeyeaters were seen.

Tralee

Movement was easterly. On the first survey day only 182 honeyeaters were recorded, and all in the last hour. On several pre-survey trips this site was visited, again when many honeyeaters were moving at other sites, and no migrating honeyeaters were seen. For the second and third survey days, the site was moved off the Monaro Highway to a quieter location in Tralee Street. Volunteers were not stationed here for the full morning, instead the site was visited for the last hour. The honeyeater survey in 1985 recorded over 10,000 birds at Tralee, however it appears that this site may have been at a different location, further to the north.

Other species

During the survey a total of 93 bird species were observed at the sites along the Murrumbidgee River. These are listed, with their frequency of occurrence across the three days, as an Appendix. Eight of these species were not recorded during the Murrumbidgee River bird survey undertaken by COG in 1985-6 (Taylor 1987). These species are Straw-necked Ibis *Threskiornis spinicollis,* Peaceful Dove *Geopelia striata,* Little Corella *Cacatua sanguinea,* Australian Owlet-nightjar *Aegotheles cristatus,* Spotted Quail-thrush *Cinclosoma punctatum,* Crested Shrike-tit *Falcunculus frontatus,* as well as the introduced Common Myna *Acridotheres tristis* seen at Gigerline and Point Hut Crossing, and a domestic goose. The Common Myna is an aggressive species whose numbers in Canberra have increased rapidly in recent years (Pell and Tidemann 1994).

Discussion

The results of the 1997 honeyeater migration survey confirm much of the information reported in the literature.

- The most common migrating species is the Yellow-faced Honeyeater.
- White-naped Honeyeaters migrate in lesser numbers and about two weeks later than the Yellow-faced Honeyeaters.
- The two species migrate in mixed flocks which may include small numbers of other honeyeaters.

- Direction of movement across the Canberra region is generally easterly, varying from north-east to south-east.
- Greatest movement occurs on calm clear sunny days.
- The birds often follow well-defined routes, apparently determined by topographical features and availability of trees and shrubs.
- Significant numbers of honeyeaters cross the Murrumbidgee River in the Tharwa to Williamsdale area.

- The migration route and the number of birds using it varies from day to day, possibly due to the weather.

Also revealed by the survey was the significant number of Red Wattlebirds migrating (16% of the total honeyeaters on the third survey day). The wattlebirds moved at about the same time as the majority of White-naped Honeyeaters, and often in single-species flocks.

Honeyeater numbers

The variation in numbers between the three survey days is most likely a result of the weather, which is considered to be a strong determinant in the movement of the honeyeaters (Wilson 1963b, Davey 1986). Autumn 1997 was unusually warm and dry with the majority of days seemingly suitable for migration. The survey results suggest that many of the honeyeaters left early in the migration period (late March to mid April), with the highest numbers recorded on the first survey day (13 April), and the large movements noticed during pre-survey trips.

The second survey day (20 April) happened to be the first day of less than ideal conditions for about 12 days, and the presence of high cloud seemed to be enough to keep honeyeater numbers to one-fifth of the previous week. The third survey on 27 April was carried out under apparently good migration conditions, but numbers were still only half that of the first survey day. Anecdotal evidence from the observations of COG members during April in suburban gardens suggests that honeyeater numbers peaked in the first half of April, a week or two earlier than usual. The succession of fine sunny days early in the migration period may have allowed greater than usual movement during this time, or the dry conditions in the mountains may have limited food availability and stimulated the honeyeaters to move. Alternatively, the continuing warm conditions may have meant that many honeyeaters had still not left the mountains by the end of April, although post-survey observations indicate that this is less likely.

Having three survey days was necessary to allow for the possibility of one or more days of poor migration weather. The scheduling of the survey days from

mid to late April was timed to cover the expected peak migration period, however the dry and sunny conditions this year may have meant that migration peaked in early to mid April. It may be that future surveys need to have some flexibility to take account of the daily weather and the seasonal conditions.

To provide a comparison with similar previous surveys, the results of the 1997, 1986 and 1985 migration surveys have been compiled in Table 4 for comparable sites along the Murrumbidgee River. Of interest in comparing figures from different years is the variation in numbers between days and years and between sites. It is difficult to see any overall pattern other than the variation in total numbers associated with the weather. As an example, numbers at Uriarra Crossing were relatively low in 1985 on a day of good migration weather, high on two days in 1986, even though weather on 20 April 1986 was not considered good for migration, and low on three days in 1997 when ideal migration conditions prevailed on two of the days.

Table 4 Number of migrating honeyeaters at the Murrumbidgee River sites surveyed during 1985, 1986 and 1997

Site	**Date**						
	1985 28 April (Davey	**1986** 6 April (COG	**1986** 20 April (COG	**1986** 4 May (COG	**1997** 13 April	**1997** 20 April	**1997** 27 April
Weather	Fine	Cool, fine	Cool, windy	Sunny. calm	Warm, sunny, calm	Mild, calm, overcast	Warm, sunny, calm
Northern and central sites							
Uriarra Crossing	953	14	4,540	2,500	491	55	16
Casuarina Sands	668	973	1,000	-	6,828	590	1,293
Kambah Pool	4,326	-	616	1.385	1,128	173	3,904
Pine Island	2,102	938	180	-	1,984	259	1,478
Point Hut	3,360	-	260	100	2,441	217	993
Total	**11,409**	**1,925**	**6,596**	**3,985**	**12,872**	**1,294**	**7,684**
Southern sites							
Gigerline A	-	995	43	65	13,485	961	1,680
Gigerline B	-	-	-	-	4,537	384	445
Angle Crossing A	-	-	-	-	1,357	-	-
Angle Crossing B	-	7,445	780	3,375	-	3,601	5,107
Total		**8,440**	**823**	**3,440**	**19,379**	**4,946**	**7,232**

The earliest reports on the honeyeater migration in the 1950s and 1960s provide some interesting figures on honeyeater numbers when compared with more recent records for the same sites. Records for Pine Island have been compiled in Table 5 and for Point Hut in Table 6.

Murn (1963) at Pine Island estimated 10,000-12,000 honeyeaters passed during a four hour period. Wilson (1963b), also at Pine Island, estimated 10,000 birds passed in two hours. Lamm and Calaby (1950) reported 4000 birds per hour moving northward between Casuarina Sands and Uriarra Crossing. Two weeks later they reported the honeyeaters were moving west to east across the valley at a rate of 10,000 birds per hour.

Figures in Table 4 for the sites at Casuarina Sands and Uriarra Crossing and in Table 5 for Pine Island, are well below those reported in the 1960s with no more than a few thousand birds recorded at these sites on each morning. The highest recent count was at Casuarina Sands on 13 April 1997 when about 7,000 honeyeaters passed through. Apart from this, nearly all other counts were below 2,000.

Records from Point Hut Crossing have been kept more regularly than other sites since the early 1980s, as this has been the location of the annual COG excursion to view the honeyeater migration. The figures from Point Hut can be considered a reflection of the numbers of honeyeaters at Pine Island, as it is assumed that these two locations are on the same migration pathway, and are only 2 km apart. The highest honeyeater count reported from Point Hut is 9,200 made in 1984. The only other figure close to this is 8,400 made in 1991.

Suggestions have been made that the general migration pattern has moved to the south of Canberra (S. Wilson pers. comm). However, apart from the reports in the 1960s, few pre-1980 records are available for the numbers of honeyeaters migrating through particular sites. Unfortunately, most of the banding efforts in the 1960s and 1970s were not coupled with a visual census of the number of migrating honeyeaters (Purchase 1985).

The available records suggest that current migration numbers in both the Pine Island - Point Hut and Casuarina Sands - Uriarra Crossing areas rarely reach the levels reported in the 1960s. However it is not possible to determine whether this is a result of daily fluctuations, seasonal fluctuations, a general decline in honeyeater numbers or a shift in migration patterns. The significance of the Tharwa - Angle Crossing area to honeyeater migration was not revealed until the 1986 Murrumbidgee River survey (COG 1986), so it cannot be determined whether the large number of birds now recorded in this area has changed over the last few decades.

Seasonal fluctuations may be an important factor in the variation in migration numbers. In 1982-83 the number of honeyeaters reported in the COG Garden Bird Survey was 75% lower than the previous year. The failure of the autumn migration in this year was considered to be a sign of poor breeding success possibly due to drought or

bushfires (Taylor 1984). The following year, however, numbers had returned to previous levels, and the migration from Point Hut (Taylor and Davey included the figure of 9,200 reported 1985).

Table 5. Number of migrating honeyeaters recorded at Pine Island

Date	Source	Weather	Time	No.
1963, 6 April	Murn, 1963	-	7.30-11.30	10,000
1963, 13 April	Wilson, 1963b	Sunny, calm	6.00-11.00	10,000
1963, 14 April	Wilson, 1963b	Cool, overcast	7.00-11.00	0
1985, 28 April	Davey, 1986	Fine	8.00-13.00	2,102
1986, 6 April	COG, 1987	Cool, clear	8.00-12.00	938
1986, 20 April	COG, 1987	Cool, windy	8.00-12.00	180
1997, 13 April		Warm, sunny, calm	8.00-13.00	1,984
1997, 20 April		Mild, calm, overcast	8.00-13.00	259
1997, 27 April		Warm, sunny, calm	8.00-13.00	1,478

Table 6. Number of honeyeaters recorded at Point Hut Crossing

Date	Source	Weather	Time	No.	Comments
1984 26 April	Taylor & Davey, 1985	-	9.00-14.00	9,400	Yellow-faced
1985 28 April	Davey, 1986	Fine	8.00-13.00	3,360	50% Y-f, 50% W-n
1986 20 April	COG, 1987	Cool, windy	8.00-12.00	260	
1986 4 May	COG, 1987	Cool, calm, fine	8.00-12.00	100	
1990 April	Davey, 1991	-	3 hrs in AM	1,300	
1991 20 April	Davey, 1991	'perfect'	8.48-12.00	8,200	mostly W-n, although Y-f were more vocal
1992 12 April	Holland, 1992	clear and still	AM.		flocks of several hundred, mostly Y-f, some W-n.
1993 10 April	Davey, 1993	cool, overcast	8.00-11.00	0	
1993 17 April	Davey, 1993	Cool start to a warm still clear day	8.00-11.15	1500	down on previous years, majority Y-f, very few W-n, W-e, W-p
1995 22 April	Davey, 1995	Clear and sunny after a cool night	8.30-12.15	2200	similar to 1993, more than 1994, 70% Y-f, 30% W-n.

Honeyeater movements

The Murrumbidgee River provides a corridor for movement of honeyeaters for a part of their journey; for those flying south-east from Kambah Pool to Point Hut Crossing, and those flying from Tharwa-Gigerline towards Angle Crossing and Williamsdale. Not all honeyeaters use these routes for the full length; flocks were observed leaving the river corridor from Kambah Pool area and heading more easterly over Gleneagles (also reported in COG 1986), and at Pine Island flocks veered away from the corridor where the river turns to the south, heading along a line of young trees in a south-easterly direction, behind the suburb of Bonython.

It also appears that the migration routes and the number of birds using them change from day to day, possibly depending on the weather. In the report on the 1985-6 Murrumbidgee River survey, two migration routes were proposed for the Tharwa - Angle Crossing area. Observations during the 1997 survey suggest that these two routes are not as separate as drawn, but sometimes cross over.

On 13 April a stream of honeyeaters from the Tharwa area were observed at Gigerline A to fly east following the ridgeline north of the Murrumbidgee River. It is thought these birds follow the river upstream and leave it probably somewhere in the Guises Creek area, as illustrated in Map 2. On the same day large flocks of birds counted at Gigerline B (overlooking the Gudgenby River) were followed by observers up the ridge along Smiths Road and through Ingledene Pines to Angle Crossing and across to Williamsdale. Unfortunately the Angle Crossing observers were not stationed at the best location on this day to count all these birds, but this was rectified the following week. The birds passing Gigerline B were coming from the north, presumably also from the Tharwa area, therefore the Tharwa migration route seems to split in two at Gigerline (Map 2). It appears, however, that Angle Crossing also receives birds from another source. On the following two survey days, only small numbers were recorded at the Gigerline sites but ten times as many were counted at Angle Crossing. This would support the idea of the southern route (COG 1986) in which honeyeaters move from the Naas - Gudgenby catchment through Ingledene pines to Angle Crossing.

Holland (1992), watching the migration at Point Hut, noted that a number of honeyeaters were moving downstream from the direction of Lambrigg. This is different to the usual upstream movement from Pine Island, and remains the only report of honeyeaters arriving at Point Hut from a different direction.

The availability of tree cover may be a major determinant of the honeyeater migration routes. Honeyeaters generally prefer to migrate making short distance flights between trees and will only cross extensive open area when forced to do so (Wilson 1963a). Trees provide a resting place and shelter from birds of prey. Shrubs also provide important shelter and feeding opportunities. Wilson (1963a) noted that during bad weather and in the first hour of light on a fine day the movement of honeyeaters in loose flocks through the tree tops was

abandoned in favour of individual movement through the shrubs.

The presence of raptors causes considerable concern amongst the migrating honeyeaters (Clayton 1979). At a location such as Angle Crossing the absence of tree and shrub cover and the use of a well-defined route makes the honeyeaters particularly susceptible to predators. At this site several raptors, including Peregrine Falcon *Falco peregrinus,* Australian Hobby *Falco longipennis* and Brown Goshawk *Accipiter fasciatus,* were present during the surveys causing the honeyeaters to remain quiet and still whenever they flew over. On one morning a Peregrine Falcon was observed eating a White-naped Honeyeater. At the Williamsdale site, an Australian Hobby and Brown Goshawks were observed, and the Hobby was seen to attack a honeyeater flock, taking one of the birds in flight.

Where adequate cover exists, it appears that the honeyeaters migrate across the MRC in an easterly direction, as at Uriarra Crossing and Casuarina Sands. Where there is a lot of treeless space either side of the river they use the available cover in the corridor until a suitable exit route is available. Judiciously placed plantings are likely to assist migration, particularly in treeless areas such as Angle Crossing, or where suburbs are closest to the river corridor. such as Point Hut. Holland (1992) noted the effect of plantings on honeyeater movement at Point Hut. 'While many [honeyeaters] made several abortive sorties as in the past, the recent planting / regeneration on the nearby hill now appears to allow the slightly different option of diving into and resting in these before continuing.' During the 1997 survey at Pine Island, a stream of honeyeaters was observed to follow the line of young trees heading south-east away from the river, behind the suburb of Bonython. Presumably from here they use the few remaining mature trees to cross the suburb of Gordon to Tuggeranong Hill.

Plantings which lead to a dead end and don't create a corridor could cause confusion. Although further observations are required, from Point Hut Crossing it was noted that some honeyeaters followed the line of trees up the creek to Point Hut Dam, then rather than fly over the expanse of water, they followed the new plantings circling back around Point Hut Hill towards the river. Their movement was not followed from here but it is assumed that somehow they do continue eastwards over or around the suburbs.

Whether or not there is suitable cover, the birds will eventually migrate. It can be assumed that an easier migration path would benefit the birds, and the fewer 'stress points' such as at Point Hut, the better. Therefore judicious plantings to create as many 'escape corridors' through the suburbs from Point Hut northwards could facilitate migration.

The migration of the honeyeaters is an interesting study. The 1997 survey of migrating honeyeaters has confirmed the importance of certain sites, such as Angle Crossing, as part of the route used during migration. However, there remain many unanswered questions about the destinations of the birds, about the movement patterns themselves, and about the status of a group of birds

which is certainly not endangered but whose numbers may have declined significantly over the last two decades.

However it may be postulated that while the honey eaters have to traverse the MRC in a general west to east direction, the nature of the vegetation in the MRC has little bearing on the success or otherwise of the migration. What is more significant is the lack of tree or shrub cover on either side of the river, particularly in the stretches north of Point Hut and Angle Crossing, which channels the honeyeaters along the river. Therefore in management terms, the advice is to plant trees and shrubs at those points where they will most assist an exit from the corridor. Further work is required to identify these points.

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APPENDIX: List of bird species recorded at honeyeater survey sites along the Murrumbidgee River Corridor, April 1997.

Records were kept at eight sites on three days. Occurrence (Occ) is the number of sites and days a species was seen: maximum of 24 (8 sites x 3 days).

Species	Occ	%Occ	Species	Occ	%Occ
domestic goose	1	4%	White-eared Honeyeater	23	96%
Australian Wood Duck	1	4%	Fuscous Honeyeater	8	33%
Pacific Black Duck	10	42%	White-plumed Honeyeater	6	25%
Little Pied Cormorant	10	42%	Brown-headed Honeyeater	1	4%
Little Black Cormorant	1	4%	White-naped Honeyeater	23	96%
Great Cormorant	3	13%	Crescent Honeyeater	4	17%
White-faced Heron	15	63%	New Holland Honeyeater	6	25%
Great Egret	1	4%	Eastern Spinebill	19	79%
Straw-necked Ibis	1	4%	Scarlet Robin	17	71%
Whistling Kite	1	4%	Flame Robin	1	4%
White-bellied Sea-Eagle	1	4%	Eastern Yellow Robin	15	63%
Brown Goshawk	5	21%	Spotted Quail-thrush	1	4%
Wedge-tailed Eagle	12	50%	Varied Sittella	2	8%
Brown Falcon	6	25%	Crested Shrike-tit	1	4%
Australian Hobby	1	4%	Golden Whistler	9	38%
Peregrine Falcon	3	13%	Rufous Whistler	3	13%
Nankeen Kestrel	7	29%	Grey Shrike-thrush	17	71%
Black-fronted Dotterel	2	8%	Restless Flycatcher	5	21%
Masked Lapwing	4	17%	Magpie-lark	10	42%
Crested Pigeon	2	8%	Grey Fantail	8	33%
Peaceful Dove	2	8%	Willie Wagtail	10	42%
Yelowl-tailed Black Cockatoo	3	13%	Black-faced Cuckoo-shrike	6	25%
Gang-gang Cockatoo	5	21%	Dusky Woodswallow	17	71%
Galah	20	83%	Grey Butcherbird	11	46%
Little Corella	1	4%	Australian Magpie	20	83%
Sulphur-crested Cockatoo	12	50%	Pied Currawong	17	71%
Australian King-Parrot	6	25%	Australian Raven	23	96%
Crimson Rosella	23	96%	Little Raven	2	8%
Eastern Rosella	9	38%	White-winged Chough	1	4%
Red-rumped Parrot	1	4%	Satin Bowerbird	1	4%
Australian Owlet-nightjar	7	29%	Skylark	3	13%
Laughing Kookaburra	7	29%	Richard's Pipit	1	4%
White-throated Treecreeper	15	63%	House Sparrow	2	8%
Brown Treecreeper	3	13%	Double-barred Finch	2	8%
Superb Fairy-wren	19	79%	Red-browed Finch	17	71%
Spotted Pardalote	15	63%	Diamond Firetail	2	8%
Striated Pardalote	10	42%	European Goldfinch	15	63%
White-browed Scrubwren	15	63%	Mistletoebird	4	17%
Weebill	6	25%	Welcome Swallow	19	79%
Brown Thornbill	20	83%	Tree Martin	2	8%
Buff-rumped Thornbill	13	54%	Fairy Martin	2	8%
Yellow-rumped Thornbill	16	67%	Golden-headed Cisticola	1	4%
Striated Thornbill	4	17%	Silvereye	16	67%
Red Wattlebird	14	58%	Common Blackbird	20	83%
Noisy Friarbird	3	13%	Common Starling	7	29%
Noisy Miner	1	4%	Common Myna	2	8%
Yellow-faced Honeyeater	24	100%	Total species	93	

BREEDING OBSERVATIONS OF CRIMSON AND EASTERN ROSELLAS IN SUBURBAN NESTBOXES

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Readers may recall an article published in *Canberra Bird Notes 22(2)* in which I described the fight, for a nest box I had erected, between Crimson Rosellas *Platycercus elegans* and Common Starlings *Sturnus vulgaris* in the Spring of 1996 (Gleeson 1997). The Common Starlings won that battle but were prevented from incubating their eggs as I closed the box.

With springtime 1997 on the horizon, I re-erected the 1996 nest box on the garage wall in late August together with a second smaller box about four meters away. Soon prospective tenants began to examine my handiwork and chase each other about the overhanging Tulip Tree *Liriodendron tulipifera*. Interestingly, this time a pair of Eastern Rosellas *Platycercus eximius* joined their Crimson cousins in search of a nest site. Of course the wretched Common Starlings were constantly harassing all corners and two pairs of Common Mynas *Acridotheres tristis* joined the other species in checking out the two boxes.

Throughout September and October the battle for possession continued but it became increasingly obvious that the smaller box was just what the Eastern Rosellas wanted while the starlings and Crimson Rosellas continued to claim the larger box. In an effort to frustrate and drive off the confounded starlings, I fitted their preferred nest site (Box A) with an electric door buzzer on the inside of the door and connected it to a switch in the kitchen where I could watch the goings on. It worked like magic initially, with the buzzer sending the birds flashing out of the box, but within a few days they had learned to live with it and paid no heed whatsoever to the noise. The mynas grew tired of all the fuss and thankfully sought accommodation elsewhere. By the end of October the Crimson Rosellas had sole possession of their box, helped in their quest by me. I kept clearing the starlings' twigs and bark and placed 5 cm-deep bases of rotted wood in the bottom of the nest boxes which both pairs of rosellas soon set about chewing into carpets of fine, almost sawdust-like particles.

As in 1996 the female partners of both species did all the work with the males occasionally poking their heads into the holes in the boxes to reassure themselves that preparations were being undertaken appropriately.

The first Crimson Rosella egg was laid in Box A on 1 November but the starlings were back and trying to oust them. On 4 November, I found the starlings had won control of the box and had dropped the rosella egg onto the concrete path below. Soon the Crimson Rosellas lost interest as they had the previous year and, after a couple of days, disappeared altogether. Meanwhile, in the smaller nest box (Box C) the Eastern Rosellas were getting on with their own breeding program, which is summarised in Table 1.

Table 1. Spring 1997 breeding activity at nest box C

Year	Mth	Date	Comments
		3	First egg laid
		5	Egg 2
		7	Egg
		9	Female on nest most of day and at night from today onwards
		10	Egg 4
	Nov	12	Egg 5
		13	Egg
		15	Egg 7
1997		23	Female left nest at 12:17 h and flew away with male - returned and , continued incubation at 12:25 h. Away from nest again 17:40 h to 18:10 h
		1	First hatchlings out today
I		2	4 nestlings
		3	4 nestlings huddled around remaining 2 eggs

During June/July 1998, a pair of Eastern Rosellas was still visiting my bird feeder tray and bird bath occasionally, and on one occasion there were four birds, but I have no way of knowing whether it was the same family that had occupied the nest box the previous summer.

Another spring

In August 1998 I again hung the two refurbished nest boxes and, true to form, the Common Starlings and Crimson Rosellas were checking them the same day. Soon too, other interested tenants began their inspections. The Eastern Rosellas were back and Common Mynas joined in the search. By September, the Tulip Tree was sprouting and the Crimson Rosellas were busy chewing the new shoots and buds in between their other activities.

A pair of Galahs *Cacatua roseicapilla* visited the smaller nest box and soon realised it would not suit their nesting requirements, but their interest did cause me to get out the tool kit again and construct a nest box big enough for them. In fact, the new box (Box B) in which I fitted a recessed window covered with a sliding metal shutter to exclude light in the front, and a large door on the side, made viewing and cleaning so much easier that I modified the earlier boxes to match it. The changes also included small wire netting strips tacked on front interior to assist fledglings to climb out.

After experimenting for several years on various perches for the birds below and near the opening, **I** found that the rosellas preferred wooden blocks about 14 cm x 6 cm x 4 cm. These provide something akin to the thick protrusions at the entrances to many eucalypt hollows. They also prevent Pied Currawongs *Strepera graculina* from roosting and trying to get their heads inside the boxes, whereas wooden pegs or similar perches give these birds something to cling to while they attempt to snare a young rosella. Starlings need no assistance and simply fly directly into the nest box hole.

Throughout late August, all of September and into October the daily hubbub surrounding the nest boxes continued unendingly. Just when I was beginning to wonder if any species would be allowed to occupy a nest, my 18.00 h round of the nests on 11 October revealed a Crimson Rosella egg had been laid in Box A and an Eastern Rosella egg in Box C. A chronological register of breeding events in the three nest boxes is given in Tables 2 and 3

Table 2. Spring 1998 breeding activity at nest boxes A and C

CR = Crimson Rosella, ER = Eastern Rosella. CS = Common Starling. CM = Common Myna

Mth	Date	**Box A**	**Box C**
Oct	11	1 CR egg	1 ER egg
	12		1 CR egg
	13		Both eggs smashed. CR and CM both in box at times
	17	CS in box	
	21		1 ER egg (now 2)
	22		ER (F) spending most of day & night on nest
	25		1 ER egg. ER (F) still incubating but 1 egg smashed outside nest (2 remaining)
	27	CS egg 1	
	28	CS egg 2	
	30	CS egg 3	1 ER egg (now 4) incubating
Nov	1	CS egg 4	1 ER egg (now 5) incubating
	4	CS egg 5	Incubating
	9	Common starlings trying to enter all three boxes	
	10	1 CS + 5 eggs removed together with nest material	
	11		Tragedy! All 6 eggs had been removed. Two I found nearby had chicks probably about a day or so from hatching
	20/21 I	Another pair of CR checking out nest boxes but no further developments	

Table 3. Spring 1998 breeding activity at nest box B

CR = Crimson Rosella, ER = Eastern Rosella, CS = Common Starling, CM = Common Myna

Mth	Date	Box B
Oct	17	1 CR egg. Also found CR egg (from Box A?) on lawn, placed it in this box
	20	1 CR egg (now 3)
	22	1 CR egg (now 4)
	24	1 CR egg (now 5)
	26	1 CR egg (now 6), female began sitting
	29	Female incubating (6 eggs)
	30	Still incubating
Nov	1	j Incubating
	4	Incubating
	9	Common starlings trying to enter all three boxes
	11	Incubating
	13	4 hatchlings
	15	5 hatchlings + 1 egg. Both adult birds now feeding nestlings
	20	1 5 juveniles covered in down & pin feathers appearing
	27	5 juveniles pin feathers & wings showing some colour
Dec	9	5 fledglings - feathers showing a lot of colour
	10	Fledgling first seen sitting in nest opening
	11	1 bird found in grass under the Tulip Tree - returned to nest with other 4. Fledglings now four weeks old
	12	1 fledgling seen at 0600 h in a shrub 15 m from nest - parents watching. Another fledgling died overnight. Remaining 3 birds looked fine
	16	Snapped a photo of the last 3 fledglings in the next box
	18	Now 5 weeks old. 2 fledglings left the nest this morning or overnight. Last one flew away in afternoon
	20/21	Another pair of CR checking out nest boxes but no further developments

At June 1999, the nest boxes have been left *in situ* where the birds, particularly the Common Starlings and Crimson Rosellas (including young birds), continue to visit and check them over. The Eastern Rosellas **I** have seen only once since they lost their brood last year.

Blowfly association with nestboxes

The dead nestlings I removed from Box C on 10 and 19 December 1997 were riddled with maggots, and the inside of the box was swarming with thousands more, particularly in the high corners. There were also about 10 blowflies in the upper parts of the nest box. These flies seemed almost comatose and were not easily frightened away. Also, blowflies (similar in size to those found around the barbecue) continually hung about the outer perimeter of the nest box and on the garage wall nearby. While the latter were more alert than those inside the box, they still seemed somewhat sleepy and were always present.

On the afternoon of 19 December 1997, while the adult rosellas were absent. I removed the box from the wall and. after placing the two remaining fledglings in a covered, padded cardboard box. I emptied out the nesting material which was alive with maggots. I hosed and scrubbed the box until all traces of the larvae were removed. After allowing the box to dry in the sun, I replaced the old nest material with a fresh supply of rotted wood and shavings, replaced the nestlings, and re-hung the box on the wall. The adult rosellas when they returned were initially suspicious and clearly aware that the nest box had been tampered with but, after checking their young were unharmed, soon resumed their feeding routine.

On the morning of 12 December 1998. **I** found a fledgling had died overnight and_ as with last Spring's dead birds, this one had been reduced to a skeleton **and** feathers in a few hours by a seething mass of voracious maggots. The material in the bottom of the box and the high corners were again alive with larvae. Nevertheless, the nest box smelled quite fresh. The more I contemplated the situation the more convinced I became that the maggots were Nature's little housekeepers - cleaning the birds' excreta and dead animals alike.

In a paper (Morrison 1996) that appeared in the first issue of ECLECTUS, the journal of the Birds Australia Parrot Association, the author describes a similar situation in a nestbox occupied by Adelaide Rosellas *Platycercus elegans adelaidae*. The maggots were allowed to pupate and were subsequently identified as being *Passeromyia steini* (Muscidae). *P. steini* lives in the nests of birds and is considered to be a free-living scavenger feeding on excreta, food remnants and dead nestlings, but never attacking living birds. My own observ ations support this, but of course **I** cannot be sure that the flies and maggots in my nestboxes were *P. steini.* This relationship would appear to be a symbiotic one since there is no evidence that the maggots attack living birds, but that they perform a useful role in keeping the nest clean and sanitary.

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Appendix — Nestbox details

Following are the dimensions of the three nestboxes. All measurements are external.

Box (A)
Height 580 mm, width 190 mm, depth 240 mm; entrance hole diameter 60 mm. Window 130 mm square. Window is covered by sliding metal shutter that is flush against the box to exclude light. Side door 120 mm square. Door is hinged with leather strips and similar strips cover the perimeter gaps to exclude light.

Box B
Height 650 mm, width 270 mm, depth 270 mm; entrance hole diameter 100 mm.

Window 140 mm square. Metal shutter as for Box A. Side door 270 x 160 mm. Door has brass hinges and bolt with leather flaps as for Box A. Box base is 1.6 m above ground level.

Box C
Height 460 mm, width 190 mm, depth 170 mm; entrance hole diameter 80 mm. Window 150 mm x 60 mm. Metal shutter as for Box A. Front door measurements: Width: 190 mm, height 110 mm. Door has leather hinges and flaps as for Box A. Base of box is 1.6 m above ground level.

Metal shutters over entrance holes in all three boxes allow for them to be closed when unwanted pests take possession, or to enable capture through the door.

John Gleeson is a retired officer of the Department of Foreign Affairs and Trade. Since retirement he has been able to spend more time pursuing the interest in birds which he has had since boyhood. He has been a member of COG for ten years.

THE AUSTRALIAN BRUSH-TURKEY IN THE ACT: FURTHER DISCUSSION

Tony Howard and Isobel Crawford

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In *Canberra Bird Notes 24(1)* Steve Wilson presented John Gale's interesting reports of the Australian Brush-turkey *Alectura lathami* in the ACT (Gale 192') but concluded that the records were unreliable (Wilson 1999). In this note we present information that the species once occurred well inland in northern NSW. a suggestion that it occurred as far south as Cape Howe on the NSW-Victoria border, and details of observations from near Goulburn and near Jindabyne. Although this information does not relate directly to the ACT we believe it does increase the likelihood that Gale's observations were accurate.

Observations

Gould

The great English ornithologist John Gould travelled in NSW in 1839. following the Hunter River. crossing the Liverpool Range and then following the Namoi River, a tributary of the Darling (Hindwood 1938). Gould was greatly interested in the Australian Brush-turkey. In April 1840, four days before leaving Australia, he sent a paper on the species (Gould 1842) to the *Tasmanian Journal of Natural Science,* in which he made the following statement:

> The *Alectura* was supposed only to inhabit the thick brushes near the coast: but I find it enjoys a much more extensive range, being tolerably common in all the mountain districts of New South Wales.

The 'mountain districts' which Gould actually visited were those between the Hunter and Namoi Rivers (Hindwood 1938). He arrived back in England in August 1840 and three weeks later read a paper on the species to the Zoological Society (Gould 1841). Later, in *The Birds ofAustralia* (Gould 1848) he wrote that the species was:

> originally described and figured by the late Dr. Latham in the first volume of his 'General History of Birds', under the name of *New Holland Vulture;* but subsequently he conceived himself in error in classing it with the Vulturidae, and at the tenth volume of the same work placed it among the *Gallinaceae,* with the generic appellation of *Alectura....*
>
> How far its range may extend over Australia is not yet satisfactorily ascertained; it is known to inhabit various parts of New South Wales, from Cape Howe in the south to Moreton Bay in the north... I was first led to believe that the country between the mountain-ranges and the coast constituted its sole habitat; but I was agreeably surprised to find it also an inhabitant of the scrubby gullies and sides of the lower hills that branch off from the great range into the interior. I procured specimens on the Brezi [modern spelling Breeza] Range to the north of the Liverpool Plains, and ascertained that it

> was *abundant* [our emphasis] in all the hills on either side of the Namoi [which flows north-west from Gunnedah]

Corroborating Gould's inland records are much later records from 40 km south-west of Nyngan in 1898 (North 1913) and from north and north-east of Moree (Morse 1922).

Lhotsky

In 1834 Dr John Lhotsky travelled from Sydney to the Monaro (Lhotsky 1835). He aspired to be Colonial Zoologist, a post that had been vacant since 1830 when the first incumbent, William Holmes (great-great-great-uncle of the first of the present authors), had accidentally shot himself on a collecting trip (Strahan 1979). On 19 January 1834 Lhotsky was about 20 km east of Goulburn on the Wollondilly River, where the owner of the inn asked him:

> to send one of my servants with his man after some wild turkeys, *(the New Holland Vulture* [his emphasis], of Dr. Latham) which were seen in the adjacent wood. This was the first time I saw this noble bird of our forests, which however gets more common on proceeding towards Monero [sic], but was not observed by me on those downs.

And on 25 January near Breadalbane:

> we chased some wild turkeys, which we saw quietly feeding on the open plain. It was, however, impossible to come near them, unless on horseback, and although Walker crept along with great circumspection, hiding himself behind some shrubs, they soon got scent of him, and flew away majestically into the

`Wild turkey' is a source of confusion in the early bird literature, as it was used as a vernacular name for both the Australian Brush-turkey ('brush turkey') and the Australian Bustard *Ardeotis australis* ('plains turkey'). It is hard to conclude that the first observation is of any species other than the Australian Brush-turkey, as the name of the species is given with such precision. The behaviour and the description of flight from the second observation strongly suggests the Australian Bustard. This was once abundant in the ACT; for example in 1855 John Gale saw 'scores' near the present site of Old Parliament House (Gale 1927).

Carter

H.J. Carter was Honorary Entomologist to the Australian Museum and joint editor of the *Australian Encyclopedia.* In 1927 he accompanied a botanical expedition to the Kosciusko area (Carter 1933), which he had visited more than once 20 years previously. Between Jindabyne and Thredbo he saw:

> a brush turkey *(Alectura lathami)* now very rare in the district due to the ravages of the English fox.

Discussion

Two related factors pertinent to the likelihood of this species having occurred in the ACT are discussed:
i) the gross changes in vegetation cover in the ACT and surrounding region since the 1820s, and
ii) the resultant loss of bird and other species dependent on the formerly more dense tree and shrub cover.

Loss of tree and shrub cover

In a series of articles in the *Sydney Morning Herald* in the 1870s. Louisa Atkinson described the death of trees from many causes, apart from ring-barking and deliberate removal. in eastern NSW (' in many localities miles of forest have died...'). and predicted a future landscape bare of trees (Atkinson 1980). In their assessment of tree clearing from woodlands and forests in Australia, Wells, Wood & Laut (1984) estimated that the ACT had lost 50-69°0 of its woodland and forest. and the Canberra Ornithologists Group's area of concern' 50-100%. Clearing of trees is usually accompanied by loss of the shrub layer or layers (with notable exceptions. *e.g.* the dense growth of tea-tree *Kunzea ericoides* following tree removal).

The large scale replacement of forest and woodland with associated dense shrub layer by open woodland with scattered trees and grassland dominated by introduced pasture species would not have been favourable to birds such as the Australian Brush-turkey.

Loss of bird species dependent on dense tree and shrub cover

For some bird species, the structure of vegetation *(i.e.* the height and density of its various layers) is more important than its species composition *(e.g.* James & Warner 1982; Arnold 1988: Er 1995). A good example is the requirement of the Eastern Whipbird *Psophodes olivaceus* for vegetation with a dense shrub layer. This may be met by vegetation communities as widely different in their species composition as dry tea-tree *Leptospermum laevigatum* scrub on coastal sands, lantana *Lantana camara* with emergent pittosporum *Pittosporum undulatum* on basalt, and tall wet eucalypt forest (IC pers. obs.). The Bassian Thrush *Zoothera lunulata* is found in a similar range of communities, and is limited by the same need for a dense shrub layer.

The Australian Brush-turkey appears to be another such species. More often associated with rainforest and dense wet shrublands of *Melaleuca, Acacia* or *Casuarina,* it followed the spread, and the subsequent contraction, of Prickly Pear *Opuntia* spp. into semi-arid southern Queensland and northern New South Wales as far inland as Moree (various authors cited in Marchant & Higgins 1993). Like the above species, it too favours the shade and protection from predators provided by dense undergrowth. where moister soil conditions are also able to support larger populations of soil invertebrates.

Conclusion

We conclude that the territory now occupied by the ACT may well have provided suitable habitat for the Australian Brush-turkey, particularly where there was a suitably dense shrub layer such as on south- and east-facing slopes. and that there is a high likelihood that Gale's observations were accurate.

Acknowledgments

We would like to thank McComas Taylor and Ederic Slater for bringing to our attention Lhotsky's and Carter's observations.

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ODD OBS

Nest Appropriation?

On 12 November 1995, while carrying out an annual breeding-season bird census in the CSIRO forest fragmentation study at Wog Wog in the far south-east of NSW, my wife Katharine and I observed an unusual variant of the not uncommon practice of nest appropriation.

First, our attention was drawn to an Eastern Yellow Robin *Eopsaltria australis* carrying nest material. We tracked it to the nest on a horizontal branch high (estimated 15 metres) in the Eucalyptus open-forest canopy. Remarking upon the unusually high (for the Wog Wog sites at least) and unusually exposed nest site, nevertheless the nest was almost complete and typical of the Eastern Yellow Robin — a deep cup, well camouflaged with vertical strips of bark on the exterior. The robin sat in the nest, affixed and adjusted nesting material around the rim and then flew off.

Next, to our very considerable surprise. in flew a male Satin Flycatcher *Myiagra cyanoleuca*. He sat in the nest. made a few adjustments to the rim and then flew off. What next? In very short order a female Satin Flycatcher arrived with nesting material and sat in the nest. rotating her body and energetically packing down material around the rim. Well, that seemed to establish true ownership, but the next visit was by a Yellow Robin! Of course we could not ascertain whether it was just one bird or a pair of this species. At least during the short time that we had the nest under observation, the visits appeared to be perfectly timed to avoid any direct confrontation at the nest.

The nest site was absolutely characteristic of the Satin Flycatcher and very unusual for the Eastern Yellow Robin. at least in the Wog Wog reference area. On the other hand the nest itself was much more characteristic of the Yellow Robin, being a deeper and more substantial cup, with vertical bark strips on the exterior. We speculate that the Satin Flycatchers had selected the site and initiated nest construction before the Yellow Robin intervention.

The needs of the census dictated that we should move on, so that we were not to know the outcome of this mix-up.

Henry and Katharine Nix,

22 Syme Crescent, O'Connor, ACT 2602

Satin Bowerbird eating grass

After doing our Atlassing duty at two sites along Corin Dam Road, a fellow COG member and I took our sandwiches to eat at a picnic table in Woods Reserve, the large grassy picnic area below Gibraltar Falls. Before even opening the lunch boxes we were besieged by nine Australian Magpies *Gymnorhina tibicen.* We had to keep waving our arms about or they would have snatched the food from under our noses. Three Satin Bowerbirds *Ptilonorhynchus violaceus,* two males and one green bird, also eyed the food but sat more decorously just above our heads in a eucalypt. The temptation to feed them was resisted but none of them gave up until we had finished eating. The magpies then went about their business but the bowerbirds stayed feeding on the ground within three to six metres of our table so that we were able to observe clearly how the male bird closest to us was feeding. He seemed to find quite a lot of things in the mown exotic grass to gobble down and, to come to the point of this story, he grazed the grass itself much like an Australian Wood Duck *Chenonetta jubata* does, plucking off bills-full and swallowing them. He did this at least four times so there was no mistaking what he was eating. The 1982 *Reader's Digest Complete Book of Australian Birds* gives Satin Bowerbirds' diet as fruit, leaves and insects.

Do Satin Bowerbirds commonly eat exotic grasses, and are native grass species on their menu too?

Phyl Goddard
25 Southwell St, Weetangera, ACT 2614

Ashes to ashes

On 2 October 1999, on our way home from the Birds Australia Congress at Berri, South Australia, we called in at Cocoparra National Park near Griffith in NSW for an overnight stop. It was 4.30pm and the place the Woolshed Flat camping ground.

My attention was drawn to four small birds which were flying between a perch on a branch at about 10 metres up in a eucalypt, and a metal stand over a fire pit. The fire pit contained the remains of a campfire, half burnt logs and wood ash. After taking up positions on the metal stand, the birds then plunged down into the fireplace resulting in small eruptions of ash, much as one sees the splash when birds plunge into pools of water for the purpose of bathing. After making the dive the birds retreated at speed back up to their perch in the eucalypt. This went of for some few minutes and the birds then dispersed.

Intrigued I went over to the fireplace to look at the remains of the fire. To my surprise I found that, below a thin layer of ash, the coals were still hot, so hot, in fact, that, on adding some dry twigs they were soon alight. The four birds, apparently two pairs, were Black Honeyeaters *Certhionyx niger.*

Malcolm Fyfe
40 Bourne Street, Cook, ACT 2614

LETTERS TO THE EDITOR

Regent Honeyeater breeding attempts

With reference to the article "Observations of Regent Honeyeaters..." in the latest issue of *Canberra Bird Notes* (Vol 24, No. 1), I am not surprised at the breeding failure rate of three out of three.

wonder if it has occurred to the authors of this article that the Regent Honeyeater probably doesn't cope very well when its breeding routine is disrupted by:

1. the setting-up of tape players and mist nets;
2. lengthy periods of close observation;
3. the use of taped calls;
4. being trapped in a mist net, and
5. being subjected to the banding process.

Can anyone state *with certainty* that these five intrusions would have no harmful effect on the Regent Honeyeater? If any doubt exists, we should not be taking risks of this sort with a bird listed as threatened in the ACT.

David Landon

Reply to letter from David Landon 1

David Landon quite reasonably asks whether the failure of three recent nesting attempts by Regent Honeyeaters in the ACT may have been due to stress associated with the capture and colour-banding of the birds. He also suggests that unless an action involving a threatened species can be shown, with certainty, to have no harmful effect, it should not be undertaken.

As the leader of the Regent Honeyeater Recovery Program, on whose behalf the banding was carried out, I wish to make the following points:

Firstly, the Regent Honeyeater Recovery Team has identified one major obstacle to our capacity to adequately plan for the conservation of the species - our lack of knowledge about movement patterns and areas of habitat utilised outside the breeding period. Consequently, we have been colour-banding Regent Honeyeaters when opportunities arise since 1994, and over 480 birds have been banded. Numerous resightings of banded birds have resulted in a steadily improving understanding of movement patterns and breeding behaviour. For example, birds that breed in the ACT one year may breed elsewhere in following years; a proportion of birds breeding in the Capertee Valley can be found in the Wolar-Mudgee area at other times; individual pairs will re-nest following nest failure, or sometimes, following a successful nest; re-nesting may be close to the original nest site or up to 40 km away. We have also been pursuing a

better understanding of movement patterns through trials of radio-telemetry techniques, studies of orientation behaviour of captive birds, and analysis of genetic variation between populations from across the species' range.

Secondly, to undertake the capture and banding of these particular birds we drew upon the skills and expertise of one of Australia's most experienced bird-banders, Mark Clayton. We have complete confidence that Mark places great importance on the welfare of the birds during his banding activities.

Thirdly, we have closely monitored the outcomes of over 140 breeding attempts involving both banded and unbanded birds (Geering and French, 1998, Emu 98:. 104-116). Analysis of the breeding success of these nests indicates no significant difference between pairs with bands and pairs without bands (Geering, 1998, Corella 22: 61-63). Many of these birds were captured in their breeding territories with the help of playback tapes of their calls.

Fourthly, it is clearly overly simplistic to argue that one should not undertake an action unless one can have complete certainty that it will have no harmful effect. This philosophy completely ignores the possibility that the benefits of undertaking the action may outweigh the harmful effect. Further, it would rule out almost all management for threatened species. Management of threatened species is almost invariably conducted in an environment characterised by lack of critical knowledge, urgency to take effective action, and lack of adequate resources. The unfortunate reality is that almost all recovery actions involve taking risks. The responsibility of wildlife managers is to ensure that all available knowledge and wisdom is brought to bear to ensure that the risks are carefully assessed and minimised, and that contingency plans are in place should an undesirable outcome result.

In this case, the Regent Honeyeater Recovery Team is convinced that the gains in knowledge resulting from our colour-banding program will greatly improve our capacity to halt the decline of this species. We maintain that this outcome more than justifies any risks that may be associated with the capture and banding process, even when it involves nesting pairs.

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Reply to letter from David Landon 2

The comments from David Landon are emotive and show a lack of knowledge of or understanding of bird conservation generally and of Regent Honeyeaters particularly.

Monitoring and banding of this species are important elements in understanding its ecology, habitat requirements and especially its movements, so that effective management strategies can be put in place for the species' future survival. As Peter Menkhorst points out, several hundred Regent Honeyeaters have been banded as part of the National Recovery Program for this species. This has not proven to be detrimental to the birds in any way.

The monitoring of the birds at Mulligan's Flat and Gooroo over the several weeks they were there was minimal and unobtrusive, with one or two observers making short visits usually once a week, and only a few short periods when nets were put up.

Jenny Bounds, Mark Clayton and Nicki Taws

COLUMNISTS' CORNER

The views expressed by our columnists are personal views and do not necessarily represent the views of COG.

Birding in Cyberspace, Australian Style

Birding news and information are available from diverse sources including the Internet. In Australia we are fortunate to have available an Internet-based mailing list Birding Australia, known to many as 'Birding-aus'. What, you may wonder, is an Internet based mailing list? Well, it is a straightforward matter. A list maintainer (yes, that is a person!) establishes a mailing list using a computer program designed for that very job. If you wish to join the list you send an email message to a specified email address asking to subscribe to the list. Then, whenever a person sends an email message to the list the message is automatically distributed to everyone who is subscribed to that list. A Geelong-based birder Russell Woodford established and maintains Birding-Aus. Details on how to subscribe are on the web at http://www.deakin.edu.au/~russwood, and a comprehensive searchable archive of messages that have been posted to the list is maintained by Andrew Taylor at http://www.cse.unsw.edu.au/birding-aus. (Both Russell and Andrew provide this wonderful service on a completely voluntary basis.) Birding-aus is a moderate volume list, delivering to subscribers about 20 email messages per day. Russell does a good job preventing junk mail from being distributed. Most users establish a filter to file the list's messages together automatically for perusing when leisure permits. In August 1999 the list had some 500 members; most live in Australia but a number are overseas birders with an interest in our wild birds and birding 'down under'.

Russell Woodford explains that Birding-aus is 'a discussion list for those with an interest in Australian wild birds and birdwatching'. List subscribers are invited to discuss any aspect of wild bird biology or conservation. The list may also serve as a forum for discussion of identification problems, places to find birds, local reports and unusual sightings.'

This column aims to share with *CBN* readers some of the highlights of the discussion which has taken place on the list that may be of special interest to Canberra region birders.

So ... where better to start than the **Full Moon?** It is well known that the lunar phases affect some people's mood and behaviour. What is its impact on our birds? A discussion on this topic was initiated earlier in the year by a Canberra birder asking if owls are more or less vocal on moonlit nights, or whether the amount of moonlight does not matter. Philip Veerman responded that no monthly cycle is apparent in the Canberra Garden Bird Survey records with respect to the Southern Boobook *Ninox novaeseelandiae.* A list member who had studied the Albert's Lyrebirds

Menura alberti at Tambourine Mountain, Old, reported, however, a significant impact: the lyrebirds commenced calling quite late on mornings following full moons perhaps, he wondered, because `the bright illumination of the setting moon disguised the offset of dawn'. Another list member pointed out that Willie Wagtails *Rhipidura leucophrys* and Australian Magpies *Gymnorhina tibicen* frequently sing at night during full moons. The sad news was passed on by people driving in North Queensland: dead boobooks and Tawny Frogmouths *Podargus strigoides* are frequently seen on highways there during full moons. having been killed by passing vehicles as the birds feed on grasshoppers active on and at the verge of the highways on such evenings. This discussion then diverged (as often happens on Internet mailing lists!) into a discussion of whether. and if so how, Australian birds are affected by the length of the day.

Interested in **new books** on our birds but keen to find out others' opinions? Well. members sometimes share their opinions on books and journal articles they have read. Some months ago a listmember asked 'Has anyone had a chance to look at the fairly recently published *Where to Watch Birds in Australasia and Oceania* by Nigel Wheatley? I would be interested in opinions and comments.' The first response was to advise that it had been reviewed in a recent issue of *Australian Birding Magazine* and then out came the purple pens. An Australian bird tour operator who makes valuable contributions to the list reported. sadly, that 'I had the misfortune to pick it up at the RSPB Visitors Centre in Norfolk a few weeks back... The parts that I inspected were wrong and terribly out-dated'; he suggested that some of the errors were copied from the (far better) Thomas and Thomas volume with a similar title. Another listmember, while not so negative, questioned the accuracy of Wheatley's statement that 'In the wet eastern forests [of Australia] some people have almost been killed by leeches'!

This Autumn **duck hunting** was permitted in Victoria and we had the annual inconclusive heated discussion, on the list, about this. One subscriber made himself exceedingly unpopular with some others by posting a recipe for Duck a l'Orange commencing with the instruction 'for four people, you'll need one duck, not shot up too bad'. He responded to the 'flames' (internet term for abusive language) by explaining: 'Please understand I am vehemently opposed to duck shooting and I am sorry if this recipe offended anyone. However those who criticized the duck recipe (and me personally) seemed to have missed the point... It implied that we should first look at our own behaviour before we criticize the behaviour of others.' Not all listmembers were placated by the explanation.

July, of course, was the month to initiate the annual **Magpie attack** discussion. While we have our problem birds in Canberra, a Melbourne subscriber described the infamous Peel St., Kew maggie. He said that it 'used to attack like clockwork each year on the 1st September. It became adept at getting its claws through, under or around [bicycle] helmets and drew blood on a number of people including myself. Interesting sensation - feeling the warmth of blood running down behind your ear while

trying to out-cycle a maggie!'. Among the more innovative countermeasures suggested included taping pieces of clear plastic bottles to the helmet to stop the blows hitting the ears and head; taping mesh from orange bags to the helmet edge; and finding a different cycling route! Another listmember referred us to a fascinating article published in *Emu* on the demographics of swooping magpies, while another commented favourably on Environment ACT's magpie website: http://www.act.gov .au/env iron/magpies. htm l.

Birding-aus is not all discussions; **information exchange** is a prominent and greatly appreciated function of the list. Frequently we have RFIs: requests for information. For example, in August 1999 someone said 'A new bird has turned up in my garden, mostly heard not seen. I actually saw it for the first time yesterday. The closest thing I could find in any of my (ageing) bird books is an olive whistler' and went on to describe the observation. A number of helpful responses were posted, some of them suggesting that he had seen a female Grey Shrike-thrush *Collorincla harmonica* but, after considering the responses, he said: 'Thank you everyone, I do believe it is an olive whistler now. I had a much better look at it today.' What a great way to tap the expertise of scores of birders, without having to leave one's keyboard!

A more common type of RFI, however, relates to places to go birding. A listmember might ask something like 'I am going to the Weddin Mountains for the long weekend. Can anyone suggest a spot in that area where I might be able to see a Turquoise Parrot', and others, with detailed knowledge of the area, will provide advice. List etiquette is that, on returning form the trip, the person will post a brief trip report. The accumulating responses to these RFIs in the publicly-available archive mentioned above is a fine aid to trip planning. Other RFIs cover birding equipment, birding tour companies and web sites.

The list is a national **hotline,** too. When the South Island Pied Oystercatcher *Haemantopusfinschi* appeared at Ballina list members were advised almost instantly. As a result, I understand, the airlines experienced a boost in passenger numbers into Ballina! Closer to home, Canberra birders share with interstate colleagues information on unusual sightings (e.g. our breeding Regent Honeyeaters *Xanthomyza phrygia* of previous years) and notable observations such as the first Latham's Snipe *Gallinago hardwickii* for the year at Jerrabomberra Wetlands.

Well, we might let Sydney-based listmember Hal Wootten have **the last word,** as in July 1999 he posted to the list some highly practical advice on birding in our region. 'Bell Miners are sometimes frustratingly difficult to see even when relentlessly audible', he observed. 'One place where they are very easy to watch is Bellbird Corner on the Mittagong to Wombeyan Caves Road (south-east of Sydney NSW), 5-7 km after crossing the Wollondilly River (Wollondilly Station). The colony is on both sides of the road on a very steep slope. As a result it is possible to get a clear view of birds going about their business at eye level, 6-10 m away. You can even watch them from the car.' Useful advice, especially since this is

one of the closest colonies of this delightful species to Canberra. But Hal had more to say: 'Between Mittagong and the Wollondilly River is the enticingly named River Island Nature Retreat. Those thinking of trying the steep 3 km track down the to river and not wanting to attract undue attention should first strip off; the retreat is a very large nudist camp...'!

So, if you have internet access (and all Canberrans do courtesy of the Canberra Library Service), do subscribe to Birding-aus or at least dip into it (at the archive which can be viewed by date) to add another dimension to your birding life.

Tyto alba

About birds, datelines and the law

The Kingdom of Tonga, just west of the International Dateline, has now legislated to advance its official time one hour for the summer period. thus ensuring that (at Greenwich Mean Time plus 14 hours) it will be the first country to enter the new day. The significance of this, of course, is that it will also be the first country to enter the new year. and in particular the new millennium. whether that be on 01/01/2000 or, according to the view to which this columnist subscribes, on 01/01/2001.

It follows that the first birds to enter the new millennium will be the 35-odd resident species on the Tongan list plus those of the dozen or so visitors that happen to be there at the time. As the first birdwatchers into the 3rd millenium might be among the temporarily swollen population of Tonga, it is possible that the first *bird observation* of the millennium will also be made in that country. One would like to think that the first tick for 2000 (or 2001) might go to one of the two endemics: the Tongan Whistler *Pachycephala jacquinoti* or the Nivafo'ou Megapode *Megapodius pritchardii.* So much for spotlighting: daylight bird sightings may be a different matter, as more southerly latitudes will be lit by the summer sun before Tonga gets it.

The Chatham group, well to the east of New Zealand's South Island, is widely claimed to be among the more promising spots to 1, iew the new dawn. This is *Black Robin Country* (as in the title of the little book by David Cemmick and Dick Veitch), so it seems odds-on that there will be a twitcher or two among the crowd gathered there on 31 December. If one of these were to forgo the view from Mt Pitt and make a serious effort, the first tick for a daylight sighting could well go to the rare Black Robin *Petroica traversi* itself or to the endemic gerygone *G. albofrontata.* A disappointing outcome would be for the distinction to be achieved by the introduced Starling *Sturnus vulgaris* or House Sparrow *Passer domesticus.*

Of course if a birdwatcher were to be really serious, Antarctica would be the place to be in position. The summer sun would allow daylight observations at the stroke of midnight. On the assumption that New Zealand time applies in the New Zealand sector of Antarctica, an

observer positioned at the 150-degree west meridian at the eastern edge of King Edward VII Land would surely have the first daylight of the new millennium, when Tonga was in darkness at 1 am. In fact, that observer would be well-placed to make the first bird sighting of the 3rd millennium *and* the last of the 2nd - if he or she stepped east into the unclaimed sector (and the previous millennium) and waited a further 24 hours minus a minute or two.

The only problem might be finding cooperative birds. However, HANZAB, a handy reference for just such an occasion, indicates that that inhospitable spot is a summer breeding haunt of the Antarctic Petrel *Thalassoica antarctica*, to name just one possibility.

Who owns birds?

It has probably not entered the head of the average birdwatcher that he or she might be looking at someone's property. Even under the game laws of England, which were highly protective of proprietary rights, it was accepted that no person 'had property in' (that is, owned) a truly wild animal, although the right to hunt it, and captured animals, could certainly be owned .

However, a 1921 Queensland Act had generally been regarded as changing that position by appearing to say, in effect, that all fauna in that particular State, except fauna taken or kept lawfully, was the property of the Crown. In 1987 the High Court of Australia considered that Act and expressed no doubt that the fauna that the defendant was charged with taking in that case, two Australian Bustards *Ardeotis australis*, belonged to the State.

In the *Murrandoo Yanner* case, one of a series in recent years involving 'native title', the issue had to be reconsidered. It was regarded as sufficiently momentous to involve a number of intervening parties and a score of barristers, no less than 11 QCs among them, and it divided the High Court 5-2 when it gave its judgment on 7 October 1999.

The defendant had been charged with unlawfully taking 2 estuarine crocodiles *Crocodylus porosus* contrary to Queensland fauna protection law. Initially, he had been acquitted on the basis that he had a defence under a Commonwealth law which applied to the case for the reason that he had taken the crocodiles to satisfy personal, domestic or non-commercial needs and in exercise or enjoyment of native title rights and interests. That decision was reversed on appeal to the State Supreme Court, on the ground that the relevant native title had already been 'extinguished' by the Queensland Act asserting State property in fauna.

The point the High Court had to decide was whether that Queensland Act really made all fauna the property of the Crown in a way that excluded a 'native title' right of the kind that Mr Yanner claimed was protected by the Commonwealth law. A majority of the justices decided that the Queensland provision did not have that effect, and hence the 'native title' defence applied and the charge was properly dismissed.

The court had to consider the 'elusive concept' of property. The reasoning of

the majority was that 'property' in the sense of public ownership and control (of fauna, for example) was a different thing from private ownership of, say, a pet animal. In the Queensland Act 'property' was used in the first sense and was not accurately described as 'full beneficial, or absolute, ownership'. The first reason given for that view was illustrated by a migratory birds example. The court asked, rhetorically: 'does the Fauna Act purport to give the Crown ownership of migratory birds only as they pass through Queensland, or does it purport to give ownership to the Crown of every bird that has ever crossed the Queensland border?'.

A reasonable point, one might think. although the two dissenting justices would have strongly upheld the contrary, view of 'property' urged by Queensland and the Commonwealth. Justice McHugh said:

> The appellant contended that it would be absurd for the legislature to have intended that the Crown should have property in wild animals before they were caught. Illustrations were given during argument — the migratory bird flying through Queensland being one example. Once it is perceived that the purpose of the Act is to put an end to arguments about who has the property in or the right to hunt fauna as defined, I see nothing absurd in the legislature of Queensland giving to the Crown the property in all fauna in Queensland — even migratory birds. In any event, it leads to no more absurd results than the opposing contention which would vest property in the Crown when a young boy trapped a migratory bird but would divest it when he let it go.

Justice Callinan was equally firm that 'property' was intended to mean absolute ownership. He attributed the origins of the old English law (that wild animals may not be owned, but only the right to hunt them) to a time of 'now outdated, historical, indeed feudal conditions of questionable relevance to Australia at any time', including 'aristocratic preoccupations with the Chase, hound, horse, lure, snare, falconry, gun, and dogs'.

His next reasoning will be of interest to conservation-minded persons:

> But times and views about ecology, and the environment of which wild creatures are now indubitably taken to be part. change. Darwin's *On the Origin of Species* which raised the consciousness and sensitivity of Western Society to the importance and significance of the natural world, was published in 1859. By 1907 this consciousness was manifesting itself by statements and endeavours by concerned and informed people such as Dudley Le Souef of the Australian Ornithologists Union who said in that y ear 'Rifle wild birds do not belong to us to treat as we like'. The most effective way to ensure the survival and protection of wild creatures, particularly as the means of taking and destroying them became more efficient, was for the State to legislate in the most comprehensive way possible to obtain absolute dominion over them and this I am satisfied the legislature of Queensland did in enacting the Act. The Queensland Parliament meant exactly what it said when it used the word 'property' in s8A of the *Animals and Birds Act 1921* (Q) and when it repeated that word in each subsequent enactment.

All justices agreed, then, that in Queensland Crown property was asserted for purposes of control and regulation, but disagreed as to whether it signified true ownership. The effect of the majority decision is that the position in Queensland is as in other Australian jurisdictions: no-one owns wild birds, although by statute the birds have extensive (although not uniform) protection. Perhaps one should add the reminder that this may be subject to any existing native title right exercised for the purpose of satisfying personal, domestic or non-commercial needs.

A. stentoreus

G. tibicen has been Out and About *and too preoccupied to complete his usual column for this edition. Fear not, gentle readers, he will return!*

RARITIES PANEL NEWS

Endorsed List no. 48 contains records of sightings endorsed by the Rarities Panel for the period ending 30 September 1999. A number of records are still under consideration by the Panel.

Perhaps the most interesting of the sightings is that of the Channel-billed Cuckoo, an occasional summer visitor to the ACT. It was not reported in the summer of 1997-98 but sightings were endorsed for both of the previous summers.

The Brown Gerygones along the Molonglo were the first sightings of the species in recent years away from the Australian National Botanic Gardens. The timing conforms to the pattern of recent years, namely of small numbers of the species being seen between the months of May and September in moist locations.

The Pied Butcherbird sighting is the first endorsed sighting of the species in our region since April 1996. On this occasion, it did not quite made it to the ACT: previous sightings were of birds near Yass and in the suburb of Scullin; this time the bird was near Hall.

Another first in four years is the sighting of the Intermediate Egret at Kellys Swamp, where they have been recorded on previous occasions.

RARITIES ENDORSED LIST NO. 48

Intermediate Egret *Ardea intermedia*
1; 20 Dec 98; I McMahon: Kellys Swamp.

Grey Goshawk *Accipiter cirrhocephalus*
1; 19 Jun 99; P Marsack; Jerrabomberra.

Marsh Sandpiper *Tringa stagnatilis*
1; 19 Jul 98; M Doyle; Lake Bathurst Morass

Long-billed Corella *Cacatua tenuirostris*
1; 15 Aug 99; J Bounds; 10km nw Bungendore.

Common Koel *Eudynamys scolopacea*
1; 10 Dec 98; M Moffat; Storey St., Curtin.
1; 21 Jan 99; J Bounds; Chevalier St., Weston.

Channel-billed Cuckoo *Scythrops novaehollandiae*
1; 21 Nov 98; T Howard and I Crawford; Cade11 St., Downer
1; 21 Nov 98; T Howard and **I** Crawford; Dutton St., Dickson

Brown Gerygone *Gerygone mouki*
2; 2 May 1999; B Allan; Molonglo nr Bluetts Forest.

Little Friarbird *Philomen citreogularis*
1-4; 8 Dec 98-16 Jan 99; P Wyllie; Mulligans Flat

White-bellied Cuckoo-shrike *Coracina papuensis*
1; 17 Jul 98; M Lenz; CSIRO Black Mountain.

Pied Butcherbird *Cracticus nigrogularis*
1; 5 Apr 99; R Summerrell; 5km nw of Hall

CANBERRA ORNITHOLOGISTS' GROUP INC

Revised List of Unusual Birds (July 1998)

Magpie Goose *Anseranas semipalmata*
Plumed Whistling-Duck *Dendrocygna eytoni*
Freckled Duck *Stictonetta naevosa*
Pied Cormorant *Phalacrocorax varius*
Intermediate Egret *Ardea intermedia*
Australasian Bittern *Botarus poiciloptilus*
Black-necked Stork *Ephippiorhvnchus asiaticus*
Osprey *Pandion haliaetus*
Letter-winged Kite *Elanus scriptus*
Square-tailed Kite *Lophoictinia isura*
Black Kite *Milvus migrans*

Spotted Harrier *Circus assimilis*
Grey Goshawk *Accipiter novaehollandiae*
Grey Falcon *Falco hypoleucos*
Black Falcon *Falco subniger*
Brolga *Grus rubicunda*
Lewin's Rail *Rallus pectoralis*
Spotless Crake *Porzana tabuensis* Black-tailed Native Hen *Gallinula ventral is* Little Button-quail *Turnix velox*
Red-chested Button-quail *Turnix pyrrhothorax*
Bar-tailed Godwit *Limosa lapponica*
Little Curlew *Numenius minutus*
Eastern Curlew *Numenius madagascariensis*
Marsh Sandpiper *Tringa stagnatilis*
Wood Sandpiper *Tringa glareola*
Common Sandpiper *Actitis hypoleucos*
Ruddy Turnstone *Arenaria interpres*
Pectoral Sandpiper *Calidris melanotos*
Painted Snipe *Rostratula benghalensis*
Bush Stone-curlew *Burhinus grallarius*
Grey Plover *Pluvialis squatarola*
Banded Lapwing *Vanellus tricolor*
Gull-billed Tern *Sterna nilotica*

Caspian Tern *Sterna caspia*
White-winged Black Tern *Chlidonias leucopterus*
Diamond Dove *Geopelia cuneata* Bar-shouldered Dove *Geopelia humeralis* Long-billed Corella *Cacatua tenuirostris* Musk Lorikeet *Glossopsitta concinna* Swift Parrot *Lathamus discolor*
Blue Bonnet *Northiella haematogaster*
Blue-winged Parrot *Neophema chrysostoma*
Black-eared Cuckoo *Chrysococcyx osculans*

Common Koel *Eudynamys scolopacea*
Channel-billed Cuckoo *Scythrops novaehollandiae*
Barking Owl *Ninox connivers*
Sooty Owl *Tyto tenebricosa*
Masked Owl *Tyto novaehollandiae*
Grass Owl *Tyto capensis*
White-throated Nightjar *Eurostopodus mystacalis*
Fork-tailed Swift *Apus pacificus*
Azure Kingfisher *Alcedo azurea*
Red-backed Kingfisher *Todiramphus pyrrhopygia*
Variegated Fairy-wren *Malurus lamberti*
Chestnut-rumped Heathwren *Hylacola pyrrhopygia*
Brown Gerygone *Gerygone mouki*
Little Wattlebird *Anthochaera chrysoptera* Spiny-cheeked Honeyeater *Acanthagenys rufogularis* Little Friarbird *Philemon citreogulari*
Lewin's Honeyeater *Meliphaga lewinii*
Painted Honeyeater *Grantiella picta*
Tawny-crowned Honeyeater *Phylidonyris melanops*
Black Honeyeater *Certhionyx niger*
Scarlet Honeyeater *Myzomela sanguinolenta*
Crimson Chat *Epthianura tricolor*

Pink Robin *Petroica rodinogaster*
Grey-crowned Babbler *Pomatostomus temporalis*
Black-faced Monarch *Monarcha melanopsis*
Spangled Drongo *Dicrurus bracteatus*
White-bellied Cuckoo-shrike *Coracina papuensis*
Pied Butcherbird *Cracticus nigrogularis*
Singing Bushlark *Mirafra javanica*
White-backed Swallow *Cheramoeca leucosternus*

CHANGES FROM THE 1993 UNUSUAL BIRDS LIST

On: Freckled Duck, Banded Lapwing, Wood Sandpiper.

Off: Buff-banded Rail, Peaceful Dove, Little Corella, Superb Parrot, Red-capped Robin, Regent Honeyeater

PLEASE NOTE: Any bird that is not named in the most recent edition of *Field List of the Birds of Canberra and District* and/or the COG datasheet and is not listed above is also defined as an unusual bird. If you see one, please complete COG's unusual bird report form and send it to the Records Officer, COG, PO Box 301, CIVIC SQUARE 2608 or hand it in at COG's monthly meetings.

COG Rarities Panel, July 1998

The COG office is located at Room 5, Griffin Centre, Bunda Street, Civic and, depending on the availability of volunteers, is open from 10am-2pm Wed-Fri; 10am-1pm Sat.

The address for correspondence is PO Box 301, Civic Square, ACT 2608

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Student (18 or younger) - $15

Canberra Bird Notes is published by the Canberra Ornithologists Group and is edited by Harvey Perkins and Barbara Allan. Major articles of up to 5000 words are welcome on matters of the distribution, identification or behaviour of birds occurring in the Australian Capital Territory and surrounding area. Contributions on these topics should be sent to Harvey Perkins, 42 Summerland Circuit, Kambah ACT 2902, or via email to harvey.perkins@anu.edu.au. Short notes, book reviews and other contributions should be sent to Barbara Allan, 47 Hannaford Street, Page ACT 2614 or via email to bmallan@dynamite.com.au. If you would like to discuss your proposed article in advance, please feel free to contact Harvey on 6231 8209 or Barbara on 6254 6520.

COG's Annual Bird Reports are incorporated in an appropriate issue of *Canberra Bird Notes.*

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