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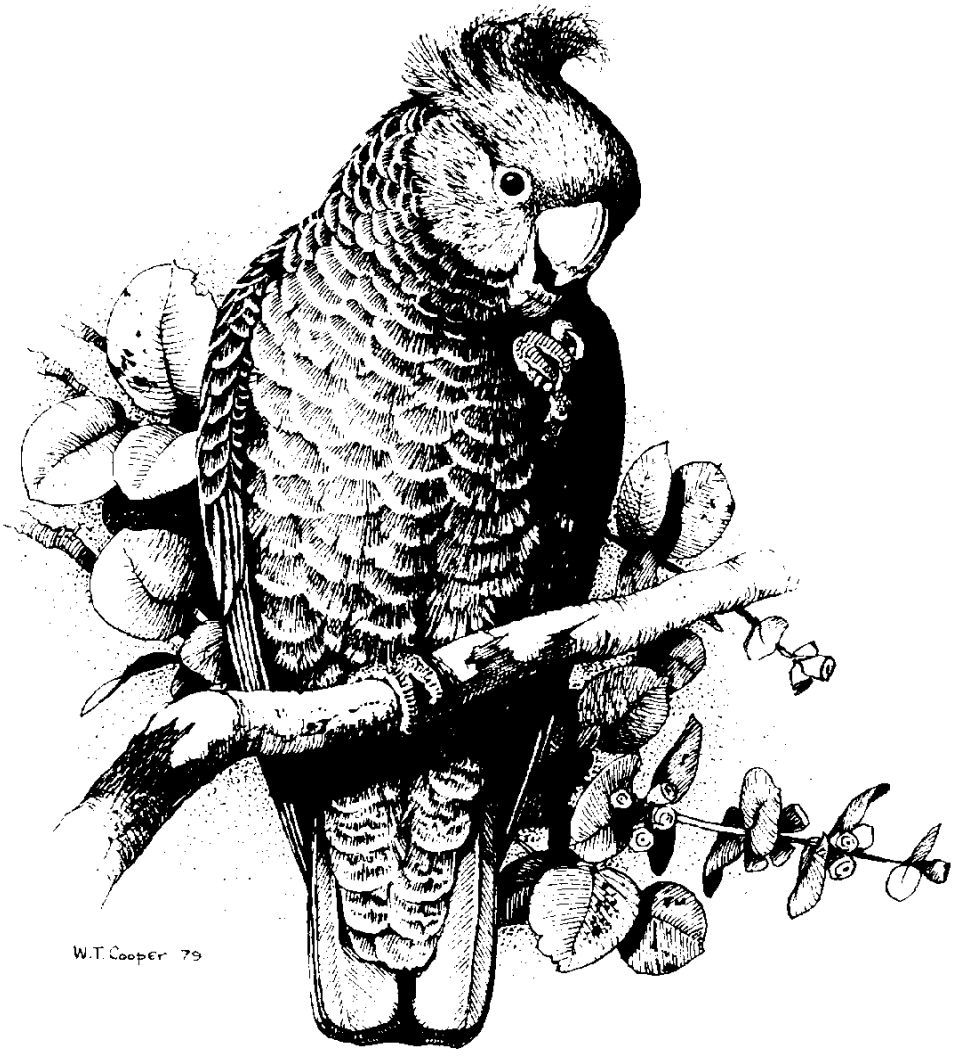


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# *ARTICLES*

*Canberra Bird Notes* 43(3) (2018): 226-235

## STATUS OF THE AZURE KINGFISHER IN THE COG AoI

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***Abstract:*** *The Azure Kingfisher (*Ceyx azureus*) is not frequently reported in the ACT or nearby areas (COG Area of Interest) nor do the records indicate long term links to specific sites. While banding records do not indicate movements over long distances, wide-ranging data sets show different patterns of sightings between seasons. It appears that while some birds are tied tightly to a small area, close to water, others move relatively long distances.*

### 1. Introduction

The catalyst for this note was sighting an Azure Kingfisher (*Ceyx azureus*) in riverine vegetation in the Murrumbidgee River adjacent to the Point Hutt picnic area on 21 Mar 2018. The bird was seen clearly by 10 members of a COG field trip and identification beyond dispute. While the habitat was typical for the species it has not previously been reported from this location.

The status of the species is described in the COG Annual Bird Report as "Non-breeding vagrant". Wilson (1999) lists it as "Rare non-breeding migrant".

On consulting other references there seems to be little agreement on the status of the species with regard to mobility.

- Commentary in HANZAB (Higgins 1999) commences with "Sedentary or resident, though occurrence apparently seasonal in some areas ..." The detailed comments suggest many areas in which the species is seen infrequently.
- The relevant entry in Handbook of Birds of the World (HBW - Woodall 2018) is "Mainly sedentary, but juveniles disperse varying distances, and some adults wander widely when not breeding, resulting in sporadic occurrences. Seasonal movements in some localities, *e.g.* more common in austral summer in Tasmania and parts of Victoria."

  It is notable that all the banding records cited in HANZAB (comment also made in HBW) were 10km or less from the original banding site. The Australian Bird and Bat Banding Scheme (ABBBS) http://www.environment.gov.au/cgi-bin/biodiversity/abbbs/abbs-search.pl reports 187 recoveries of banded birds. The greatest movement recorded is 5km for a bird at Nanango (near Kingaroy) in Queensland.
- Morcombe (2000) "most sedentary, some migratory"
- Pizzey and Knight App (2013-16) "mostly sedentary"

- National Photographic Index (Strahan 1994): "… appears to be sedentary over most of its range, but many are killed flying into windows, behaviour usually associated with migration."

- Atlas of the Birds of NSW and the ACT (Cooper *et* al 2016), in a section headed "Seasonal movements" describe this species as sedentary but note reductions in reporting rate in Spring and Autumn.

- The other popular field guides (The Australian Bird Guide; Slater; and Simpson and Day) consulted are silent on the question of mobility.

As the species seems to be reported occasionally, and from different locations in the ACT, this seems to go against the theme of the species being tied to a location (using that term to cover both resident and sedentary). Thus the main thrust of this report is to attempt to clarify the migration status of the species with a consequent view of ascertaining what that might mean for the overall rarity status of the species in the COG AoI.

## 2. A linguistic interlude

The Macquarie Dictionary 4th edition (Yallop C et al 2005) defines *sedentary* as meaning (in part):

> **'3**. *Chiefly Zoology* **a**. abiding in one place; not migratory **b.** (of animals) seldom moving about or permanently attached to a stationary object.'

Meaning 'b' is certainly not applicable to Azure Kingfishers. While they are seen perched they are also very active birds flying from perch to perch as well as diving into the water after prey.

The same reference defines *resident* as meaning (in part):

> '**3** a bird, animal *etc.* that does not migrate.'

… which is almost the same as meaning 'a' for sedentary. To resolve this tautology I invited comments through the birding-aus internet discussion group. Of the responses received, the most concise was from Stephen Ambrose (*pers comm*):

> 'I've always regarded "sedentary" as a reference to behaviour of individuals of a particular species. Therefore, individuals that are territorial and/or have small home ranges would be regarded as sedentary. A species that is present in a particular habitat or geographical area for part or all of the year is "resident" in that habitat or area for that period of time.'

Perhaps it is safe to resolve this by concluding that where a member of a species resident in an area establishes and maintains a territory within that area for one or more breeding periods, it can be regarded as sedentary. That is, residence is necessary, but not sufficient to merit the term 'sedentary'.

The rest of this report begins with a review of records of Azure Kingfishers in the COG Area of Interest (COGAOI) and then considers observations in other areas and possible factors influencing those observations.

**3. Distribution of observations in the COG Area of Interest and the ACT.**

Since downloading data from the eBird database and drafting this report there have been further accepted sightings, reported to eBird by Sue Beatty (https://ebird.org/australia/view/checklist/S47084909) at Stoney Creek Nature Reserve; and Christine Darwood (https//ebird.https://ebird.org/view/checklist/S48596429) and Yvette H (https://ebird.org/australia/view/checklist/S48537553) at Cotter Bend. As these came from new sites on the Murrumbidgee, and in the middle of a Canberra Winter, it has impacted some of my initial conclusions. Rather than repeat all the analysis from scratch I have simply updated the final tables and images in this document as required.

There is some small difficulty in analysing the data available from the COG database so as to ensure it is free from simple duplicates *(e.g.* several people turning up to view the bird and each putting in a record). For my purposes I have regarded birds seen in different months, even at the same site as being different records worthy of separate analysis in this account. Birds seen on different days of the same month at the same site have been treated as a single record.

This approach gives 19 records within the ACT and 16 records in the rest of the COG AOI.

**Table 1: Number of records x month and component of COG AoI.**

| Month code | ACT | Other COG AOI | Total |
|---|---|---|---|
| **Jan** | 2 | 2 | 4 |
| **Feb** | 2 | 0 | 2 |
| **Mar** | 1 | 1 | 2 |
| **Apr** | 1 | 4 | 5 |
| **May** | 3 | 2 | 5 |
| **Jun** | 2 | 3 | 5 |
| **Jul** | 2 | 0 | 2 |
| **Aug** | 1 | 2 | 3 |
| **Sep** | 2 | 0 | 2 |
| **Oct** | 1 | 0 | 1 |
| **Nov** | 2 | 2 | 4 |
| **Dec** | 0 | 0 | 0 |
| **Total** | 19 | 16 | 35 |

*3.1. Month of observation*

There is not an obvious seasonal pattern in the records shown in Table 1. Even combining the records for the whole AoI there is not a significant pattern in number of observations by month. They indicate that the species does not migrate into this area due to the impact of seasons

*3.2. Spatial distribution*

A starting point for this report was that the sighting at Point Hut was the first record for the portion of the Murrumbidgee flowing through the ACT. In checking the records, there have been sightings in 2017 and 2018 reported to eBird from the Murrumbidgee to the North of the ACT in the Yass – Burrinjuck areas. The recent record by Sue Beatty (*pers comm*) was also from the Murrumbidgee, about 1km upstream from the Uriarra East picnic area. This was followed by 3 further sightings (one not yet endorsed) from the Cotter Bend near the Cotter Dam.

Records for the COG AOI are indicated as small teardrops in this screenshot at Figure 1.
It is possible that the lack of historic records from the Murrumbidgee corridor is a result of the dense vegetation on the banks in many areas (including at Point Hut) making access difficult. However some sites – notably the recent sightings along the Valley - with fairly good access to the waterline and a reasonable number of checklists overall (*e.g.* Kambah Pool 73 checklists; Uriarra East 119 and Tharwa Sandwash 178) – have no records of Azure Kingfisher. This at least suggests the birds are **not resident** in those areas.

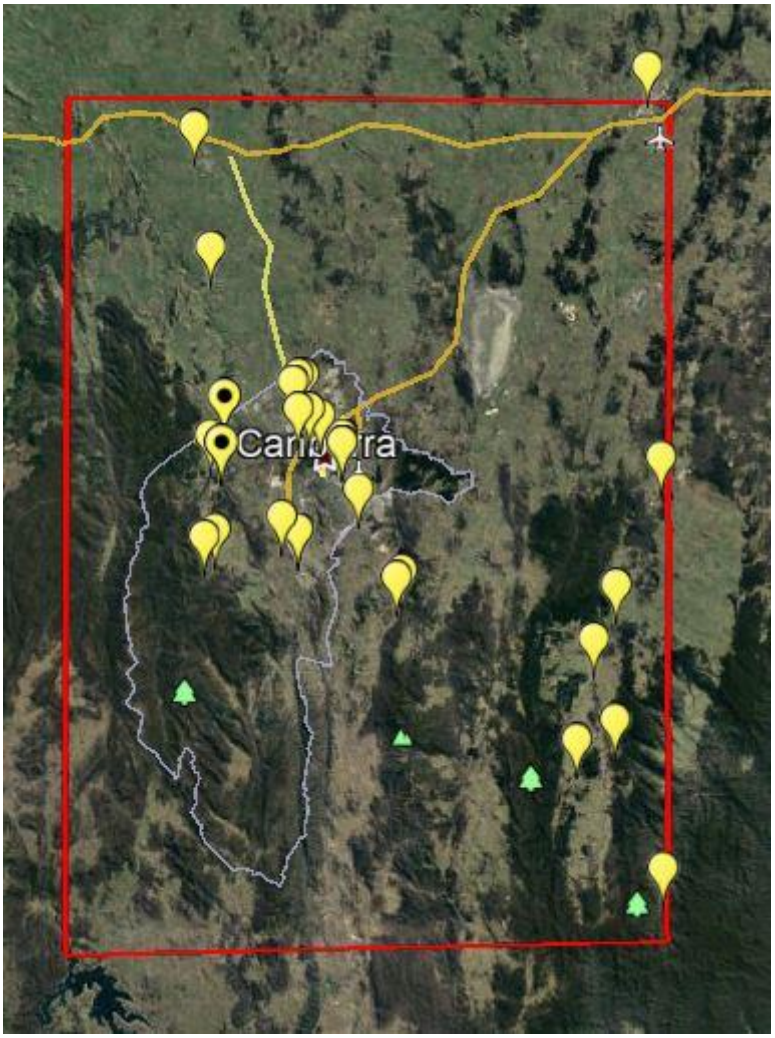

**Figure 1. Location of sightings within COG AOI.**

## 4. Distribution and Seasonality of records in New South Wales and Australia as a whole

This section looks at the seasonality of records in New South Wales and Australia. It concludes with some comments about habitat, focussing on observations at Mallacoota in East Gippsland, Victoria.

### *4.1. Seasonality of Records – New South Wales*

To attempt to gain insight to the presence of Azure Kingfishers through the year I looked at the geo-coordinates of locations in NSW and the ACT from which Azure Kingfishers have been reported to eBird in Summer and Winter (using the official 3-month definitions of those seasons). While so doing I was unable to work out the impact of differences in user effort since eBird does not make available counts of checklists by locations and time.

My basic approach was to examine which $1^{o}$ latitude x $l^{o}$ 1ongitude cells contained a higher proportion of observations in Winter than Summer.

If there was a clear migration pattern due to seasonal effects it could be expected that the cells with higher proportions in Winter would be grouped towards the cells in the North East of the State. That is not the case. The highest increase is in the cell $33^{o}$S $150^{o}$E – effectively,

the Blue Mountains from Penrith to Capertee Valley. The cell containing Royal National Park (34°S 151°E) also shows a large increase while the lower Blue Mountains and Illawarra (34°S 150°E) show a marked decrease.

It is difficult to rationalise this as being a result of birder behaviour leading to more effort going in to these areas in Winter than Summer. Possibly shorter day-length leads to the Kingfishers having to spend more time feeding – and thus being obvious to observers - rather than quietly perching in dense vegetation.

The author does not have the resources to explore this further but it seems clear that the Azure Kingfisher does not migrate in the same way as shown by species such as Honeyeaters or Cuckoos.

As noted in the Introduction, the Atlas of Birds of NSW and the ACT regards the species as sedentary but notes reductions in reporting rate in Spring (related to breeding activities) and Autumn (post breeding dispersal). The reporting rate for the Tablelands is less than for All Regions and shows a slightly different pattern with peak reporting rate in Winter. (That Atlas uses a non-standard grouping of months, presumably to give a better fit to bird life cycles.) The two profiles are shown in Figure 2.

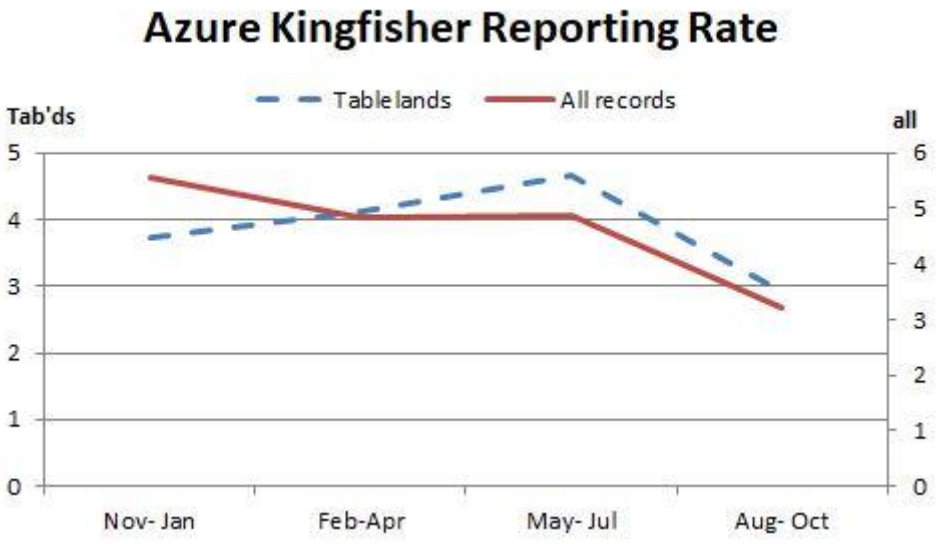


**Figure 2. Reporting Rate: Tablelands and All Records**

The peak for the Tablelands occurs in Winter, suggesting that the birds disperse to the Tablelands in Winter returning to the Coast for the breeding season.

*4.2. Seasonality of records – Australia*

The New Atlas of Australian Birds (Barrett *et al.* 2001) has maps for four seasons roughly corresponding to the official seasons. Figure 3 shows (poorly scanned) copies of the maps for Summer and Winter.

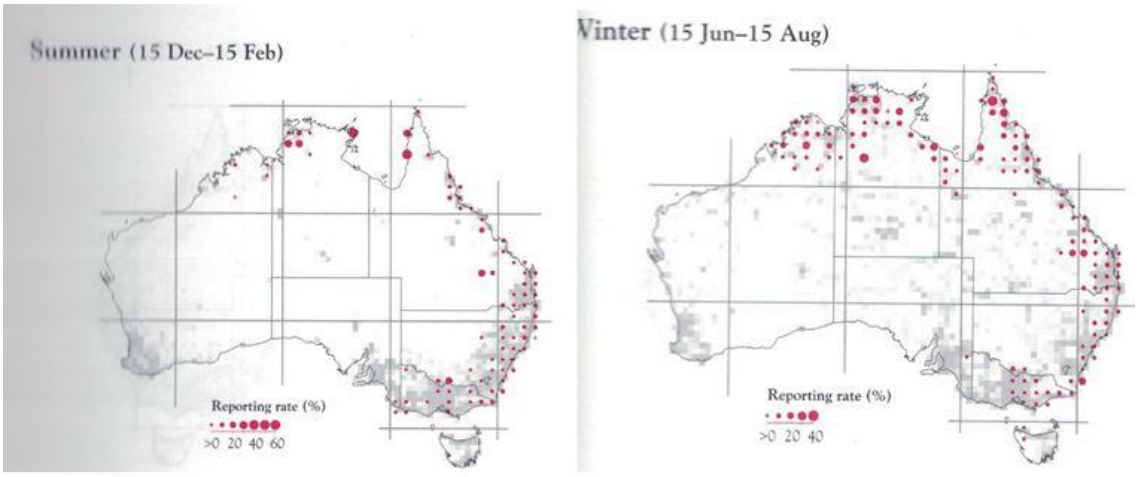


**Figure 3. New Atlas of Australian Birds: Summer and Winter reporting Rates.**

The equivalent eBird maps, in Figure 4, are based on aggregates of complete months and thus correspond exactly with the official seasons. Allowing for other potential sources of error in the data this discrepancy in dates is merely annoying.

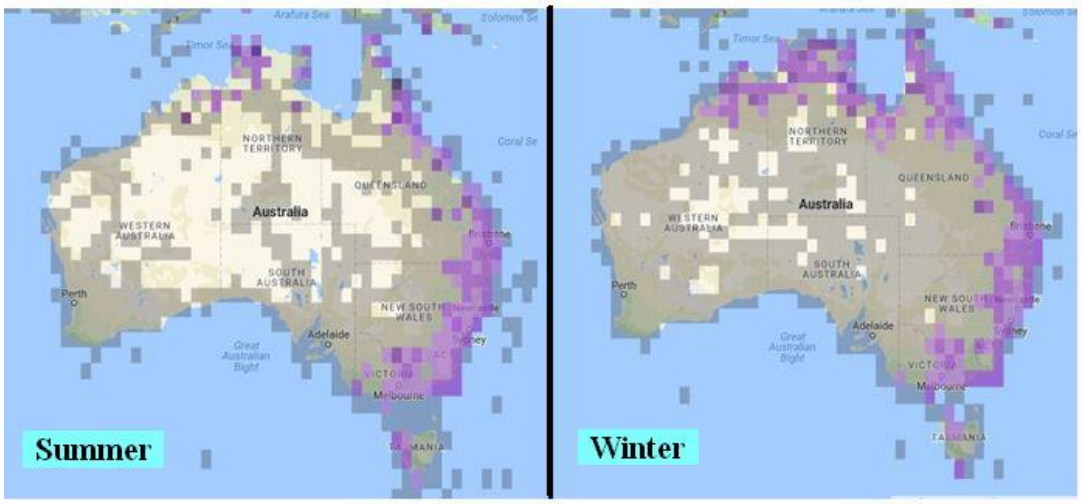


**Figure 4. eBird Winter and Summer Reporting Rates.**

In both cases there is a much higher level of reporting in the North of the country in (austral) Winter than Summer.

It would seem unlikely that low temperatures alone would cause Azure Kingfishers to migrate. The author has observed one perched on a bush overhanging the MacIntyre River at Inverell in July with the temperature at -4$^{o}$C. More generally Figure 5 shows the locations from which Azure Kingfishers were reported to eBird in July.

While the majority of records are in coastal or Northern areas the species has been reported in July from Dubbo (Bureau of Meteorology mean minimum temperature for July 3.0$^{o}$C), Tumut (0.9$^{o}$C), Mudgee (1.2$^{o}$C), and Albury (3.2$^{o}$C).

The seasonal pattern could reflect:

1. birds migrating from the South (where the records look somewhat sparser in Winter); and/or
2. differences in observer behaviour; and/or
3. difference in behaviour of the birds between seasons and/or
4. some other reason.

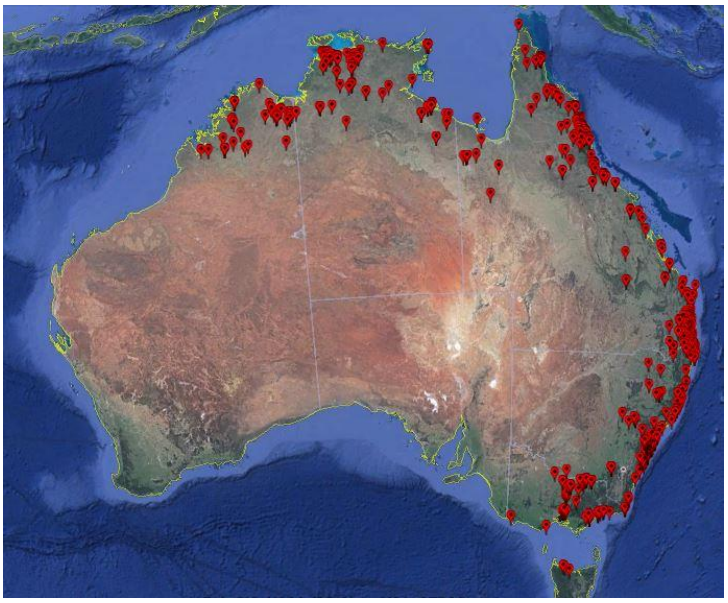

**Figure 5. eBird: location of July observations.**

Point 1 is not supported by banding records. With regards to point 2 it would seem probable that observers in tropical areas are less willing or less able to get to the habitat (low-hanging branches over water) forming likely locations of the Azure Kingfishers in Wet Season torrents than in the billabongs of the Dry. I have no grounds for assuming different observer behaviour in the South affecting reporting. As noted above, the Atlas of Birds of NSW and the ACT suggests that point 3 could be important with bird behaviour affecting reporting rates in Spring and Autumn. I conclude that there has to be more to this pattern of observation than just observer behaviour/presence and suggest point 4 requires contemplation in the wider context

*4.3. Impact of Habitat*

All sources consulted agree that the species is rarely encountered far from water. The habitat section of the HANZAB species account refers to freshwater or tidal habitats. At first thought, this makes claimed sightings on wooded hillsides – of which the author is aware of some instances both in the ACT and the hinterland - highly problematical without photographic evidence. If however it is accepted that the species actually moves around more than is thought by some authorities, then occasional sightings along the course of flights from one water body to another are quite logical (and should, in fact, be expected).

The author has seen the species in freshwater rivers in the ACT and the ranges and tablelands of NSW, the lower (tidal) reaches of the Bega River and (most commonly) along the

shoreline of the tidal/brackish waters of Mallacoota Inlet. Some notes about sightings at Mallacoota illustrated in Figure 6 assist in considering the question of resident vs sedentary.

Numbers 1-4 in Fig. 6 indicate the areas where Azure Kingfishers are most frequently seen on morning walks along a shared path. The walking distance between point 1 and point 4 is approximately 3.5km. The area marked 'a' is where dense vegetation (mainly *Pittosporum* sp. and *Melaleuca* sp.) prevent walkers from checking the waterline. Area 'b' is similar except there is an area of saltmarsh between the small trees and the open water.


Where visibility permits the birds are usually first noticed either flying rapidly, with very distinctive jizz, between perches or (particularly in areas 3 and 4) perched on the woodwork of jetties or a boardwalk. It is not uncommon to see a Kingfisher at two of the areas in a single walk which suggests to me that the territory of the birds could be up to 1km in length. This would be on the upper bound of territory size described in HANZAB but, as much of the area is not observable from the path, there could be other territories, or unclaimed areas, in between the noted sites of observation.

**Figure 6. Location of sightings at Mallacoota**

## 5. Discussion

It seems clear from my research as reported in this article that, for the purposes of the COG Annual Bird Report the description "Non-breeding vagrant" is appropriate.

- Birds of this species appear not to reside in the COG AOI reflected by the absence of continued reports from any specific area.
- My analysis also seems to disprove the birds being migrants, in the sense of making regular seasonal transfers between areas.

Wilson 1999 cites two cases where 2 birds were seen in 1966 and 1969. However only one of the more recent records in the AOI is of more than 1 bird (although there was considerable, but ultimately inconclusive, chatline discussion in August 2014 whether two birds were at Jerrabomberra Wetlands or one bird moved from the Molonglo to Jerrabomberra Creek). With respect to the definite recent report of 2 birds the observer's comments on the observation at London Bridge noted "… the birds were seen together at the first of the spots where the track goes right to water's edge". Apart from the lack of behaviour indicating breeding the observation was in June: hardly breeding season.

Following the most recent sightings near Uriarra Crossing and at Cotter Bend the question arises whether this is the same bird as that seen near Point Hut. Since:

A. it is "only" 31kms (as measured on Google Earth) between Point Hut and Uriarra Crossing and 17km to back upstream to Cotter Bend;

B. for a bird to move from the sites where Azure Kingfishers are more frequently reported and travel to Point Hut would cover far greater distances than those, over habitat less suitable for an Azure Kingfisher; and

C. 70 days elapsed between the bird last being seen at Point Hut (the 5 checklists for that site since 1 May have not included an Azure Kingfisher) and Sue's sighting at Uriarra Crossing and a further 64 days elapsed between that sighting and the first at Cotter Bend

… it could be hypothesised that:

1. The bird has left Point Hut; and
2. It is quite possible for the bird to travel an average of ~500m per day as required to reach Uriarra in the elapsed time and much less distance per day to come back to Cotter Bend.
3. It is also possible that the bird, if there is only one, moved several times during those periods.

As the bird was not banded and had no distinguishing features that must remain an open question but it seems more likely that it is a single bird moving around than two or more birds turning up independently.

In more general situations I suggest that it is not appropriate to use a single word, such as sedentary or resident to describe the ties between the species and a particular site. Although I cannot persuade the data to support this observation I am inclined to suspect that the birds seen in the COG AOI are birds which have been unsuccessful in establishing or holding a breeding territory elsewhere, dispersing in search of suitable free real estate. The lengthy summary in HBW quoted in the Introduction above, appears to describe the situation well but could perhaps be summarised as "Many (adult) Azure Kingfishers are sedentary but a number of birds disperse long distances."

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**Azure Kingfisher (*Graham Stephinson*)**

*Canberra Bird Notes* 43(3) (2018): 236-251

# NUMBERS AND BEHAVIOUR OF WELCOME SWALLOWS AT A SUBURBAN ROOST IN KINGSTON, ACT

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***Abstract.*** *The Eyre Street Bridge between Kingston Harbour and Norgrove Park in Kingston, ACT, serves as a roost site for Welcome Swallows* (Hirundo neoxena) [WSs hereafter] *outside the breeding season. The western section of the bridge has features that provide good shelter from the elements. In monthly counts from 2016 to 2018 of departing birds the highest number recorded was 2148 swallows (April 2016), the lowest 59 (July 2018). The overall seasonal pattern of records was similar for the three years. The highest winter maximum was close to 800 swallows (June/July 2017). These maxima set records for the COG Area of Interest.*

*Until about March most WSs still arrived at the roost by sunset. Thereafter and throughout winter an increasing percentage of WSs reached the roost well after sunset until last light; they foraged until late in the day, especially following wet and windy conditions. WSs left between 24 min before to 10 min after sunrise. Departure could be delayed by up to 39 min due to rain or fog. Morning fog forced many WSs that had left initially to return to the roost until the fog had lifted. WSs departed in numbers from 1 to >100 birds. It took 34 to 111 min to empty the roost. WSs left in directions between N/E/S but never to the W. The size of the catchment area for the roost population is unknown.*

## 1. Introduction

Outside the breeding season Welcome Swallows (*Hirundo neoxena*) roost communally. Reedy vegetation over water is used for roosting. Other types of sites, including man-made structures, can be chosen as well (Higgins *et al*. 2006). In Canberra the Eyre Street Bridge in Kingston between Norgrove Park and Kingston Harbour served as a roost site for Welcome Swallows not long after its completion in December 2012, and has been in use ever since. Previously birds had roosted in small numbers in a stand of sedges at the eco-pond in Norgrove Park only a short distance from the bridge (Lenz 2015).

Lenz (2015) reported first observations, including counts of swallows as they left the bridge roost and the impact of some weather conditions on the departure pattern. Swallows tend to start leaving roosts early in the morning, often even before sunrise. The initial observations were more opportunistic and often started too late to catch all the first risers in the morning. In 2016 to 2018 a number of counts were carried out, ensuring that the author was present in time for the morning departure of the swallows and early enough to observe the birds arriving at the roost in the late afternoon. This article summarises these observations.

## 2. The roost site

The Eyre Street Bridge (ESB thereafter) is 40 m long and 12 m wide (http://www.gmbarchitects.com/projects/kingston-foreshore-bridge) (Figs. 1 and 2). Underneath it are several ledges on which swallows can settle for the night, notably under the northern pedestrian section (Hal Guida, *pers. commun.*). But the key feature that makes the

**Figure 1. The Eyre Street Bridge in Kingston. *Top:* View from N (Kingston Harbour) side. *Below:* View from the S (Norgrove Park) side (Photos courtesy of *Rodrigo Vargas*).**

bridge such an important roost site is that it is integrated for a length of 12 m on its SW side with a concrete structure that forms part of the streetscape at the north-western edge of

Norgrove Park (Fig. 1, Below). This creates a space for the swallows that is well sheltered from the elements (Fig. 2, *Top* and Fig. 3). Most of the swallows roost in this section of the bridge.

**Figure 2. Eyre Street Bridge, Kingston. *Top:* Showing the SW corner of the bridge with a protective concrete wall on the S side (see also Fig. 1, below and Fig. 3), the favoured part of the bridge for roosting Welcome Swallows (*Michael Lenz*). *Below:* Bridge with footpath across Kingston Harbour 25 to 42 m out from the bridge (Photo courtesy of *Rodrigo Vargas*).**


**Figure 3. Aerial view of the Eyre Street Bridge. The (red) arrow indicates the length of the concrete wall (12 m) in the SW (Norgrove Park side) corner of the bridge (as part of the extended streetscape towards Norgrove Park) (Google Earth Pro, 2018).**


**Figure 4. Aerial view of Kingston Harbour and northern part of Norgrove Park with Eyre Street Bridge and walkway across the harbour to N of bridge (Google Earth Pro, 2018).**

In 2012, when the photos in Figs. 1 and 2 were taken, only a few buildings were under construction around Kingston Harbour. By 2018 the harbour was surrounded by three- to four-storey buildings on its W, E and N sides. On the S side it is open to Norgrove Park with the ESB in between. The harbour connects to Lake Burley Griffin in the NE (Fig. 4). The building activity and changed landscape have not deterred the Welcome Swallows (WSs hereafter) from using the ESB for roosting.

An angled walkway 25 to 42 m out from the N side of the ESB leads across Kingston Harbour from E to W (Figs. 2, *Below* and 4). In the space between the bridge and the walkway the first signs of swallow activity can be seen in the morning.

## 3. Methods

Most observations were carried out in the morning. The author arrived usually at first light, *i.e.* about 25 min before sunrise and stayed on the bridge until it was evident that the last WS had left the roost. Departing WSs were counted exactly when numbers were small and had to be estimated when many WSs left at the same time. In the latter case it was often possible to double-check numbers as WSs often rose high above the harbour and circled a couple of times over the area before disappearing from view. On a few occasions in 2016 counts of WSs arriving in the afternoon or early evening were conducted as well.

All departing/arriving groups were recorded individually but then summed at 5-min intervals for some of the graphic presentations.

WSs were counted outside the main breeding season once a month, and, on a few occasions, notably in 2016, more than once. In the latter case, only the highest count for the given month was used for graphing the seasonal changes in the roosting population.

On foggy mornings WSs may depart, but decide after a short flight, at times even several minutes after departure, to return to the roost. They made their second departure when the fog had lifted. The numbers of returning WSs were recorded as well. The total of departing birds was corrected for the number of returns.

## 4. Results

### *4.1. Numbers of Welcome Swallows (counts at departure from the roost)*

Overall, the numbers of WSs built up from late summer to a maximum in early to mid autumn and declined to a low in mid winter. Numbers increased again between August and September (Fig. 5, Table 1). However, once-a-month counts may not necessarily capture the actual peaks of autumn and spring passage of WSs through our area (Note *e.g.* for August/September increases in 2016 and 2018, and a decrease in 2017; Fig. 5). Usually in September, pairs of WSs start occupying breeding sites in Canberra and commence nest-building and hence may stop visiting the communal roost.

#### 4.1.1. Population in 2016

Counts were carried out between March and August, including additional counts rather than just one per month as in 2017 and 2018 (Fig. 5 and Table 1). Numbers built up from early March to a high of >1500 birds by the end of March and declined from this time onwards to a low of 570 birds by the end of July. Numbers increased during August with a maximum of >1100 WSs by the end of the month. Absence of the author from Canberra prevented any later counts.

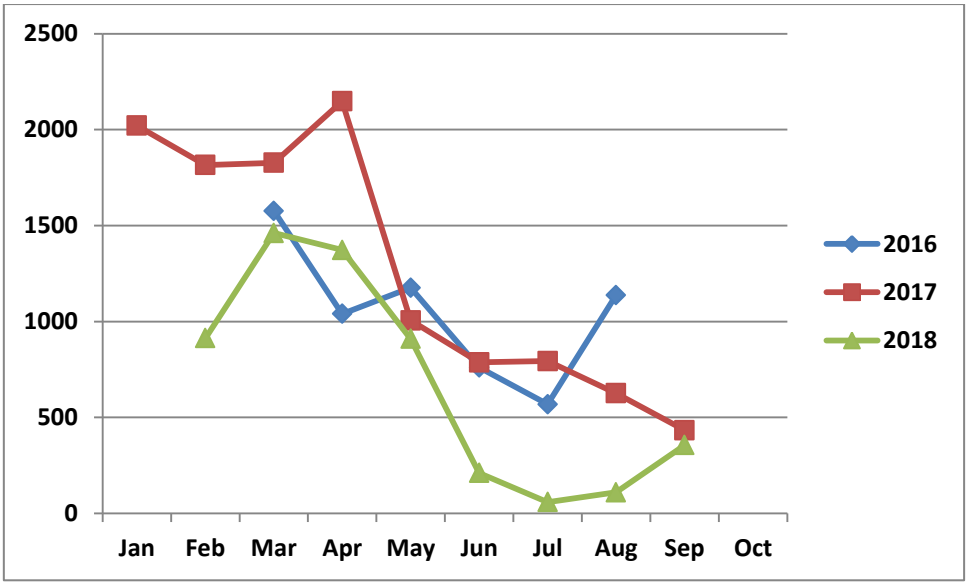


**Figure 5. Numbers of Welcome Swallows recorded per month from 2016-2018.**

The overall similarity in the seasonal distribution pattern is also evident when the observations for all years are arranged on the same scale (Julian dates) (Fig. 6).

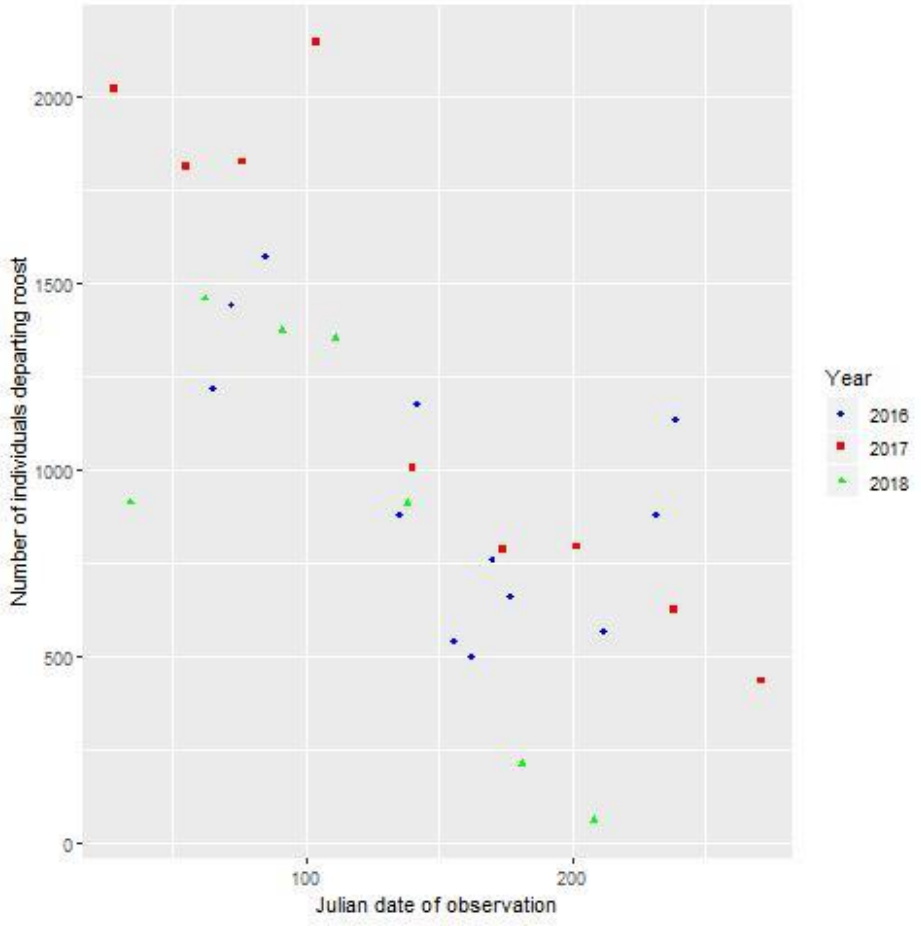


**Figure 6. The number of Welcome Swallows 2016-2018 as a function of the Julian date of observation (Graph courtesy of A.O. Nicholls).**

Considering all 2016 censuses, it is clear that the decline from April to July was not linear. Between May and July numbers fluctuated, though decreasing overall (Table 1).

**Table 1. 2016 to 2018 counts of Welcome Swallows: Dates, numbers, start and duration of departure and weather conditions (minimum temperature, wind speed *etc.*).**

| Date | No. Welcome Swallows | Start of departure | | Duration of departure [min] | Weather conditions (min. temperature/ wind speed at 06:00 h) and other comments |
|---|---|---|---|---|---|
| | | before [min] | after [min] | | |
| | | sunrise | | | |
| **2016** | | | | | |
| **6 Mar** | 1220 | --- | 10 | 34 | 14°C; 6 km/h |
| **13 Mar** | 1445 | 19 | --- | 32 | 6°C; 10 km/h |
| **26 Mar** | 1576 | 7 | --- | 48 | 13°C; 9 km/h; light rain |
| **28 Apr** | 1040 | --- | --- | 46 | (afternoon count) |
| **15 May** | 878 | --- | 39 | 45 | 11°C; 24 km/h; rain |
| **22 May** | 1176 | 12 | --- | 80 | 2°C; 6 km/h; some fog |
| **5 Jun** | 543 | --- | 24 | 95 | 12°C; 10 km/h |
| **11 Jun** | 497 | --- | 4 | 36 | 8°C; 32 km/h; some rain |
| **19 Jun** | 761 | 6 | --- | 50 | 9°C; 10 km/h |
| **26 Jun** | 663 | 18 | --- | 90 | 5°C; 2 km/h |
| **31 Jul** | 569 | 8 | --- | 65 | 5°C; 26 km/h |
| **20 Aug** | 881 | 17 | --- | 70 | 5°C; 24 km/h |
| **27 Aug** | 1138 | 18 | --- | 100 | -3°C; 6 km/h |
| **2017** | | | | | |
| **29 Jan** | 2021 | 19 | --- | 80 | 15°C; 7 km/h |
| **25 Feb** | 1816 | 16 | --- | 135 | 15°C; 13 km/h |
| **18 Mar** | 1827 | 12 | --- | 107 | 14°C; 18 km/h |
| **15 Apr** | 2148 | 20 | --- | 100 | 6°C; 5 km/h |
| **21 May** | 1006 | 12 | --- | 111 | 1°C; 4 km/h |
| **24 Jun** | 787 | --- | 3 | 75 | 0°C; 20 km/h |
| **22 Jul** | 794 | --- | 30 | 30[A] | -7°C; 0 km/h; fog |
| **27 Aug** | 626 | 7 | --- | 93 | -3°C; 9 km/h |
| **29 Sep** | 434 | 17 | --- | 45 | 7°C; 22 km/h |
| **2018** | | | | | |
| **4 Feb** | 913 | 0 | --- | 80 | 12°C; 11 km/h |
| **4 Mar** | 1461 | 24 | --- | 87 | 13°C; 13 km/h |
| **2 Apr** | 1373 | 7 | --- | 75 | 12°C; 0 km/h |
| **22 Apr** | 1353 | 15 | --- | 77 | 11°C; 6 km/h |
| **19 May** | 910 | 4 | --- | 80 | 2°C; 6 km/h |
| **1 Jul** | 211 | --- | 3 | 90 | -3°C; 6 km/h |
| **28 Jul** | 59 | --- | 10 | 94 | -3°C; 0 km/h |
| **25 Aug** | 110 | 5 | --- | 81 | 8°C; 10 km/h |
| **22 Sep** | 357 | 10 | --- | 70 | 1°C; 7 km/h |

[A] Forced departure of many birds after disturbance by Grey Butcherbird

4.1.2. Population in 2017

The counts for 2017 extended from January to September, *i.e.* from the end of one breeding season to the start of the next. Numbers were quite stable from January to April, with between 1800 and >2100 WSs using the roost site (Fig. 5, Table 1). The highest number of WSs ever recorded over the three years was 2148 birds on 15 Apr.

Numbers declined thereafter, but plateaued in June/July at close to 800 WSs, a notably high number of WSs for winter in our area (Fig. 5; Table 1).

WSs appeared to be moving to their breeding sites from August onwards, as indicated by a steady decline at the ESB from August to September (Fig. 5; Table 1).

4.1.3. Population in 2018

WSs were counted between February and September. Numbers increased from 900 birds in February to a maximum of >1400 birds in March, fell slightly by April, but declined sharply thereafter to a low of just 59 birds at the end of July. This is the smallest presence of WSs at this roost over the three-year period. By late September numbers had risen to just over 350 birds.

*4.2. Numbers of Welcome Swallows (counts at arrival at the roost)*

Initially it was thought that it might be more convenient to count the WSs as they arrived at the ESB in the evening, rather than having to be present at the site well before sunrise. Counts from the evening were compared with counts from the following morning to determine how reliable the evening counts were.

**Table 2. Counts of Welcome Swallows at departure/arrival as closely matched as possible** (evening and following morning, except for 13/14 Mar with a full day separating the counts)**.**

| Date (2016) | Departure | Arrival | Difference departure to arrival [No. (%)] | Day length [h] |
|---|---|---|---|---|
| **13 Mar** | 1445 | --- | 124 (8.6) | 12.21 |
| **14 Mar** | --- | 1321 | | |
| **10 Jun** | --- | 236 | 221 (44.5) | 9.48 |
| **11 Jun** | 497 | --- | | |
| **18 Jun** | --- | 276 | 436 (57.3) | 9.46 |
| **19 Jun** | 761 | --- | | |
| **25 Jun** | --- | 325 | 338 (51.0) | 9.47 |
| **26 Jun** | 663 | --- | | |
| **30 Jul** | --- | 124 | 445 (78.2) | 10.21 |
| **31 Jul** | 569 | --- | | |

The first afternoon count on 14 Mar 2016 gave a similar result to the morning count on 13 Mar, with a difference of just 8.6% between the surveys (Table 2). This implies that most of the WSs had arrived at the roost by sunset or soon after it, *i.e*. before last light. For a period after dark, no further arriving swallows could be detected (Fig. 7).

**Table 3. Percentage of Welcome Swallows arriving before sunset as autumn progressed.**

| Date (2016) | No. Welcome Swallows | % arriving before sunset |
|---|---|---|
| **14 Mar** | 1321 | 93 |
| **28 Apr** | 1040 | 54 |
| **10 May** | 978 | 35 |

However, from April onwards an increasing percentage of the birds arrived at the ESB only after sunset (Table 3) and even after dark, when birds could no longer be detected adequately except for the odd shadows (there is some artificial lighting at the bridge and the walkway) and brief calls (example for 10 May 2016, Fig. 8). Clearly, only counts of departing WSs in the morning will give accurate figures at all times (Tables 2 and 3).

Several factors may force increasing numbers of WSs to arrive only after sunset at the roost in the period from late autumn to winter. Day length shortens towards winter, giving reduced foraging time (Table 2). Probably more important, cold and wet weather can adversely affect the supply of small flying insects, making it difficult for WSs to obtain enough food, hence forcing them to forage for as long as possible in the day.

Local weather may be the key factor, as the example from 10 May 2016 illustrates. On the two preceding days Canberra had received around 40 mm of rain. It was raining on and off again on the 10$^{th}$, this combined with up to 60 km/h winds, created difficult conditions for WSs, or rather for their food supply, small flying insects. This meant that for almost three days the WSs had limited opportunities to find food. At 15:48 h, seven WSs landed under the ESB. Light rain was still falling. By 16:21 h, numbers had increased to 38. Rain started to clear around that time. All birds left again and headed NE towards Lake Burley Griffin. By 16:35 h, 20 WSs were foraging in close circles around *Casuarina* trees in Norgrove Park. From 16:44 h onwards, WSs again started to go under the bridge. But as late as 17:10 (SS 17:11) 15 WSs headed out again to the N. These observations indicate that at least some of the WSs had not found sufficient food by the end of the day and made use of any opportunity to continue foraging before resting overnight.

*4.3. Welcome Swallow behaviour at departure*

The first signs of the presence of WSs under the ESB are a few contact calls early in the morning. Closer to spring a few birds may even start singing while still under the bridge. The definite sign that WSs are preparing for departure is when a couple of birds come out and fly loops low over the water in the space between the bridge and the walkway. After a little while they will disappear again under the ESB. It seems almost as if birds are checking the current outside conditions. Usually, shortly after, the first group of WSs will depart. This process, of a small number of WSs flying first in front of the northern side of the bridge, then going back underneath, followed by another group departing, can be repeated a couple of times early in the morning. Later on, WSs will depart without much prior announcement except a few contact calls. All birds emerge from the roost on the North side of the bridge.

The most notable fact is that the swallows departed as singles or in distinct groups of up to 100. Many minutes can pass between departures. This is best illustrated with an example from 25 Aug 2018, when only 110 WSs were present. They departed in 18 groups of up to 22 birds (Table 4).

**Table 4. Welcome Swallows depart in distinct groups at various intervals: example from 25 Aug 2018.**

| | Number of Welcome Swallows departing and interval [min] between departures | | | | | | | | | | | | | | | | | | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **No.** | 6 | 1 | 14 | 6 | 2 | 22 | 4 | 2 | 1 | 6 | 1 | 1 | 2 | 13 | 19 | 8 | 1 | 1 | 110 |
| **Interval** | 0 | 1 | 2 | 11 | 7 | 4 | 7 | 3 | 2 | 4 | 2 | 3 | 1 | 4 | 11 | 6 | 5 | 9 | 81 |

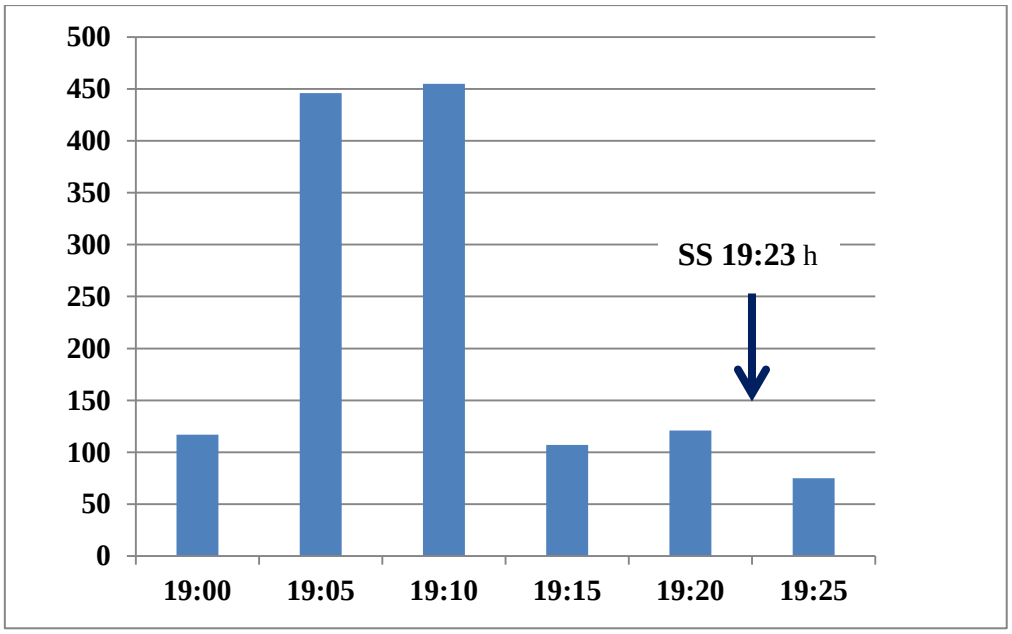


**Figure 7. Arrival pattern of Welcome Swallows (n = 1321 birds) on 14 Mar 2016. Most birds arrived well before sunset (SS).**

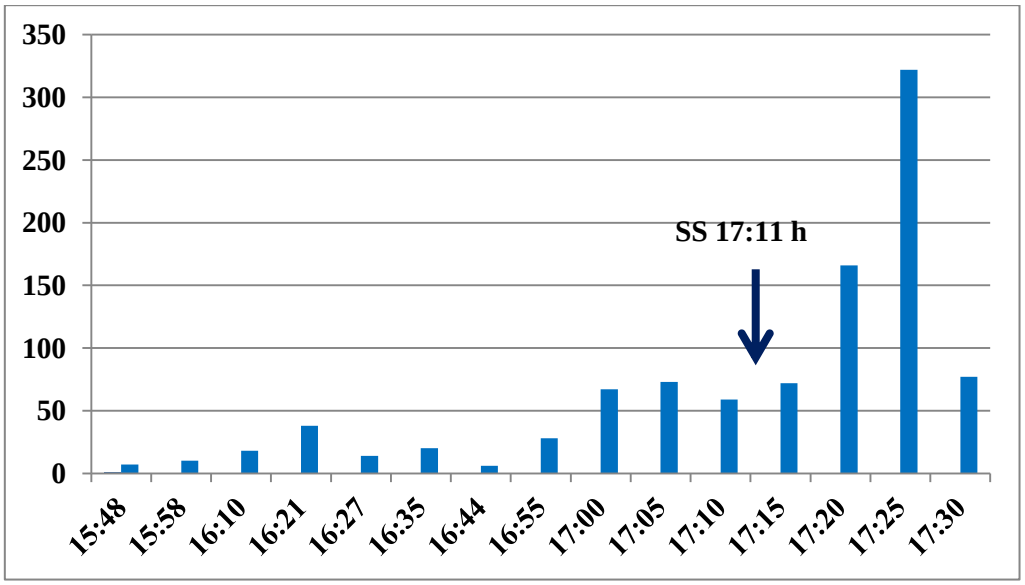


**Figure 8. Arrival pattern of Welcome Swallows (n = 978 birds) on 10 May 2016. Most birds arrived well after sunset (SS).**

At times a couple of groups may depart at the same time and disperse only when higher up in the air. For example, on 22 Sep 2018 two groups split up high over the harbour, in both instances one flying North, the other South.

The time it took for all swallows to depart on a given morning ranged from 34 to 111 min. The total number of WSs present did not seem to influence the length of the departure time as over >2000 birds took as long as just 59 birds to clear from the ESB, *i*.e. 100 and 94 min on 15 Apr 2017 and 28 Jul 2018, respectively (see Table 1).

On many occasions the first departing WSs left towards Lake Burley Griffin, flying low over the water to the NE harbour exit. Most birds, however, tend to rise quickly over the harbour, once past the walkway, then circle a few times, getting higher and higher and are quickly lost from sight. The main departure direction is to the E (NE/E/SE). A few times birds have left to the S.

### *4.4. Possible effects of weather on departure*

Weather conditions or the distances groups have to travel to their feeding sites may influence the timing and pattern of departure. With the source areas for the WSs unknown, we can only comment on possible weather factors that may influence the departure (and arrival, see Sect. 4.1.) pattern.

**Figure 8. Kingston Harbour with heavy fog over Lake Burley Griffin [top left part of picture]) and to the East of the harbour on 15 May 2016. Some Welcome Swallows are waiting for the fog to lift, resting on the railing of the walkway just out from the ESB.**

Some weather observations for dates of counts are listed in Table 1. They include occurrence of rain and fog at Kingston Harbour, and measurements of wind speed and minimum

temperature at 06:00 h, taken from the records of the Canberra Airport weather station and are available from https://www.timeanddate.com/weather/australia/Canberra/historic.

4.4.1. Morning fog

Fog tends to delay departure (Fig. 8; see also descriptions in Lenz 2015). Some birds may fly out as usual only to return within a minute or as late as 5 mins after leaving (Fig. 9). Returns were especially common the higher the fog layer extended.

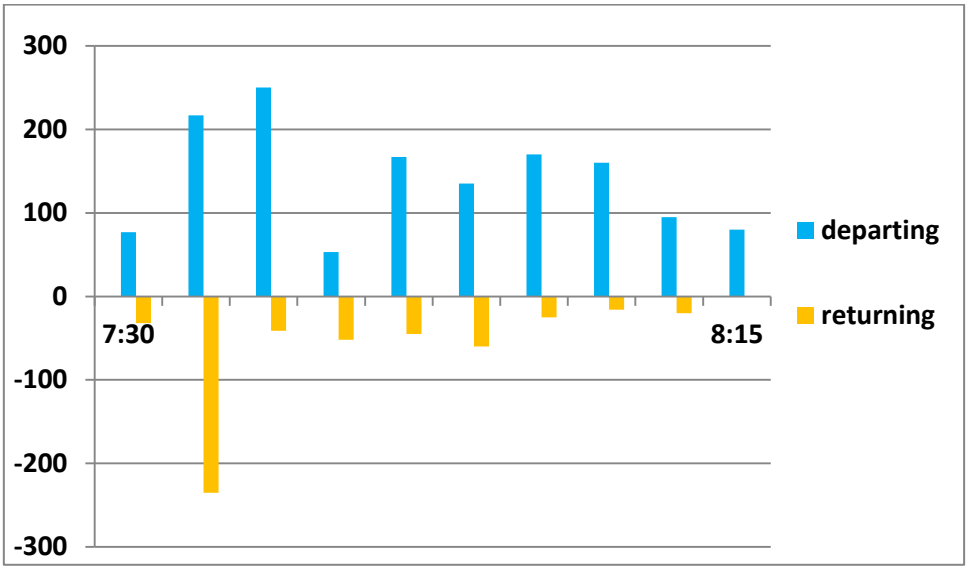


**Figure 9. Pattern of departures and returns of Welcome Swallows (n = 878) in response to the fog on 15 May 2016.**

4.4.2. Wind speed

On days when counts were conducted, wind speeds were low (see Table 1), ranging from 0 (calm) to a maximum of 32 km/h (fresh). However, on most days the speeds were either 19 km/h or less (light) or between 20 to 29 km/h (moderate) on the Beaufort Wind Scale (http://www.bom.gov.au/marine/knowledge-centre/reference/wind.shtml). With such an accomplished aerial species as the Welcome Swallow, it is unlikely that the low wind speeds observed affected the departure pattern of the WSs from the ESB.

On the other hand, stronger winds, and especially in combination with rain and/or lower temperatures, can significantly affect swallows via the effect of these factors on their food supply, small flying insects (see example in Sect. 4.1). In such adverse weather conditions, insects are less likely to be airborne.

4.4.3. Temperature

On cold mornings with a clear sky the sun will warm the western side of Kingston Harbour. Those WSs that departed after the sun had reached the area tended to settle first on railings and the edge of the western board-walk to sun themselves, and could spend up to 20 min or so sun-baking (as many bird species do on cold mornings) before finally departing (see also Lenz 2015). In 2016 the first buildings on the western harbour side adjacent to the ESB were completed. From that time onwards WSs switched to using railings on the top balconies and some ledges on these particular buildings for sunning (Fig. 10). Buildings further along on the same side of the harbour were not selected (but some high roof structures on a couple of

buildings one street to the West were sometimes also chosen.). Early morning pedestrian traffic (people walking their dogs or exercising) caused enough disturbance to swallows settling on low structures for them to move higher up into warming sun.

**Figure 10: Three examples of sites on buildings at the western side of Kingston Harbour used by Welcome Swallows for basking in the sun.**

After basking in the sun, WSs departed again in distinct groups. Single Australian Ravens (*Corvus coronoides*) and Silver Gulls (*Chroicocephalus novaehollandiae*) at times casually investigated the gatherings of WSs at the very top of the buildings (top photo in Fig. 10), causing them to rise and later settle elsewhere on the building, and some departed. If the morning was calm, some swallows proceeded to dip repeatedly into the water of Kingston Harbour.

From late 2017 onwards, the buildings on the eastern side of Kingston Harbour (see Fig. 4) were completed, blocking the early morning sun. By the time the top parts of the buildings on the western side are in sunlight, most of the WSs have departed. The birds are now rarely seen using their previous sunning spots.

*4.5. Disturbances*

Only a few times did swallows leave *en masse*, and it happened in response to disturbances: when three Black Swans (*Cygnus atra*) started to fight right under the bridge (Lenz 2015) and when a Grey Butcherbird (*Cracticus torquatus)* swooped under the bridge to try and catch a swallow (after a failed earlier attempt to get a swallow in flight) (Table 1). In both cases, several hundred birds came out at once. Many left, but a good number returned to the bridge.

Concentrations of birds are likely to attract predators. Apart from the Grey Butcherbird, a Peregrine (*Falco peregrinus*) and occasionally an Australian Hobby (*Falco longipennis*) showed brief interest in the swallows while passing the area.

However, on two occasions an Australian Hobby made a sustained effort to catch swallows. On 4 Feb 2018 and again on 1 Jul 2018 a hobby settled on top of a dead poplar near the electric transfer station, 180 m to the SE from the bridge.

On 4 Feb 2018 the hobby either approached in a straight line, coming low over the bridge aiming to catch a swallow from behind, or flew North along the back of the first eastern building at the harbour and appeared low over the water in the gap between this building and the next, trying to strike at the swallows from the front. This route was about 380 m long. It took 19 strikes before the hobby caught its breakfast. It consumed the prey back at the poplar.

In July the hobby was successful after five strikes. The swallow appeared to have been knocked out rather than killed, and fell into the water. The hobby retrieved it instantly and again took it to the poplar. Probably the same bird hunted WSs for several days on site, according to observations from local residents.

It was notable that the swallow exodus from the roost did not appear to be much interrupted and proceeded normally. Only the birds out at the time the hobby appeared tried to gain height as quickly as possible. Also notable was that the hobby, although returning to its poplar after each failed strike, always returned in time, even when choosing the ‘long’ route, when groups departed. WSs give only few and rather quiet calls before or when just coming out from under the bridge; clearly the hobby was very effective in detecting the earliest calls to get to the bridge in the same time as WSs left. On some occasions the hobby may have taken up a waiting position closer to the bridge (*i.e.* on a building) during times when no swallows were out. It was not possible to keep an eye at all times on both the swallows and the hobby.

## 5. Discussion

Communal roosting may provide several benefits. The main ones quoted are (1) increased protection from predators and (2) reduction in overnight heat loss (Warrilow *et al.* 1978; Beauchamp 1999).

Protection from predators can be achieved by selecting sites that will not allow undetected approach by land predators, *i.e.* sites in, over or surrounded by water, or sites in urban areas with lower predator species diversity than in natural habitats. And of course, the many eyes

and ears of the group of birds at a roost greatly reduce the chances that a predator could approach undetected.

The architecture of a roost site, for example the extent of foliage cover, may raise the temperature above surroundings or provide protection from wind, and thus reduce heat loss in birds. Further, larger concentrations of birds within a limited space may cause a temperature rise, or birds may huddle together to keep warm. Roost sites on or near city buildings also provide elevated temperatures and less exposure to wind. These features are for example exploited locally by roosting Galahs (*Eolophus roseicapilla*), Pied Currawongs (*Strepera graculina*), Starlings (*Sturnus vulgaris*) and Common Mynas (*Acridotheres tristis*) in Canberra's City Centre and in similar situations elsewhere in town. Even minor savings in energy could be critical to the survival of roosting birds during cold nights (Yom-Tov *et al.* 1977; Walsberg 1986; Warrilow *et al.* 2011).

The ESB meets those criteria: it is a safe site from predators (the temporary presence of an Australian Hobby was a coincidence that WSs could encounter anywhere during the day), and it certainly provides a far more favourable microclimate than a reed bed. Moreover, the birds have a roof over their heads and thus are completely protected from rain. The western section with the concrete wall will also greatly help to reduce exposure to air movement.

The immediate switch from using reed beds to the bridge after its completion (Lenz 2015) and the ongoing use of it for roosting by WSs in large numbers despite significant construction work and increased human traffic is testimony to the advantages this site offers. No doubt, there are other WSs roost sites in and around Canberra, but probably none as large as the one in Kingston. There may be one close to West Belconnen Pond in reed beds along Gooromon Ponds. In the morning WSs often sit on dark-coloured roofs of nearby houses, facing the sun or basking in the sun on branches and railings around the main pond.

The author had originally assumed that swallows would depart from the roost in large numbers within a short time. However, they flew out in distinct groups of up to 100 birds, and it could take from 30 min to nearly two hours to clear the roost. It is possible that birds from a day-time feeding site stay and travel together to the roost, and depart again together the next morning. The distance to their feeding area may also determine whether they depart earlier or later. But it is notable that except for the WSs leaving low over the harbour towards Lake Burley Griffin, the bulk of them rose quickly to great heights and travelled out of sight to their respective destinations. Similarly, on 28 Apr at West Belconnen Pond about 150 birds were sitting on railings in the morning. At 09:10 h a few birds called, and all swallows lifted up and disappeared high into the sky. The area remained free of swallows thereafter.

It is impossible to know whether those birds departing at great height were just flying to foraging areas or whether some at least were migrating out of the Canberra area. However, migrating WSs can also travel close to the ground, as an observation from the West side of Lake George on 15 Jun 2017 indicates. In a period of 1 hour, 317 birds passed from S to N in a steady stream of a few birds at a time. They flew low over ground and water with only a few twists and turns to forage.

These roost gatherings with a maximum of over 2000 WSs (Table 1) are the highest numbers of WSs recorded for COG's AoI. The previous maximum was 500 birds at Lake George (see Lenz 2015).

The size of the catchment area that brings WSs to the ESB roost site is unknown. All that can be said is that the birds depart from North over East to South; they were never recorded heading to the West.

Numbers of WSs over the winter of 2018 were exceptionally low (compare just 59 birds in July 2018 with 794 birds in July 2017; Table 1). It is reasonable to link the decrease in swallows overwintering in our area in 2018 with the severe and prolonged draught. WSs commonly forage over wetlands (Higgins et al. 2006). In winter especially they are often encountered over farm dams feeding on midges. Many wetlands and dams have dried up, depriving WSs of an important part of their food base. It is also notable that fewer birds appear to be present at breeding sites this spring, including in Norgrove Park.

This ESB roost site provides a reliable means to monitor seasonal and yearly changes in the local Welcome Swallow population. It has attained great significance for the species. Its favourable microclimate may be especially important for swallows staying in the Canberra region over winter.

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# THE 2017-2018 ACT EASTERN KOEL SEASON. I. ADULT AND FLEDGLING BEHAVIOUR IN CHAPMAN/RIVETT

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***Abstract:*** *Detailed observations on the behaviour of adult and fledgling Eastern Koels* Eudynamys orientalis *from the Chapman/Rivett area for the seasons from 2013-2014 to 2016-2017 were provided in four previous papers. Part I of this series of three articles documents further observations of adult behaviour, and of a similar number but different pattern of fledglings produced during the summer of 2017-2018. These observations either add new information or support previous ones. In Part II a series of adult Koel observations in Deakin, as well as of a cluster of fledglings in Narrabundah, and their interactions with adults and other species, are described. Part III details the 2017-2018 Koel season elsewhere in Canberra.*

## 1. Introduction

Previously I have published observations of Eastern Koel *Eudynamys orientalis* (hereafter Koel) fledglings and adult behaviour in Chapman/Rivett for the four Koel seasons from 2013-2014 to 2016-2017 (Holland 2017a and references therein). This paper documents some further aspects of adult behaviour, as well as observations of a similar number but different pattern of fledglings recorded over a longer period in the summer of 2017-2018.

## 2. Methodology

As previously the first fledglings were generally found opportunistically by listening for the characteristic begging call while I was walking my dogs in Chapman/Rivett early in the mornings. Once they were found I tried to walk past the spot daily and sometimes two or more times.

While the typical *ko-el* call is well known and recognised, there are various verbal renditions of the alternative male call such as *wirra wirra* and *wurroo wurroo*. In this paper I have again used *whoa whoa*, which it mostly sounds like to my ears. Similarly there are a number of renditions of the female call, such as *keek keek keek* or *whip whip whip* (which often seems the closest to me, though to my ears *quick quick quick* is also a good rendition), but in this paper I have again used *kek kek kek*, which seems to be most often used by other authors.

## 3. Aspects of adult behaviour during the 2017-2018 season

The first reports of the Eastern Koel had already been posted on the COG chat line (see Holland 2018c, Part III this issue) before I was away for the second half of October, though I had not recorded any locally. On my return Andrea Holland indicated she had heard Koels calling in Rivett, and at 06:45 h on 1 Nov I first heard a female calling midway along the path that runs from Bangalay Cres to Croton St, Rivett. On getting closer I saw it flying away giving the typical *kek kek kek* call with a Red Wattlebird (*Anthochaera carunculata*, hereafter RWB) in hot pursuit. At 06:45 h the next morning I heard another female calling about a km away at the corner of Perry Dr/Rafferty St Chapman, where a male had been whoaing (the

call usually accepted as given in the presence of con-specifics) around the same time on the morning of 31 Oct.

The two observations above provide further evidence that females now arrive much earlier than when the species first started coming to Canberra (Holland, 2017b, see also Holland 2018c, Part III, this issue). Both sightings were over 600 m from my home. However, compared with the 2016-2017 season (Holland, 2017a) activity was relatively low during the remainder of November, with nothing heard on some days and with otherwise mainly the male *whoa* call noted, usually well away from and only a few times close to my home. There was also some *ko-eling*, though no males were actually seen.

There was very little female activity recorded; one was heard calling on 25 Nov at the E end of Rene St Chapman about 1 km from home. However, at 06:18 h on 26 Nov a female called and flew across the street to the wires/pole at the rear of 17 Angophora St Rivett, where it sat in the open for several minutes while being harassed by a Magpie-lark (*Grallina cyanoleuca*). Then at 06:45 h on 28 Nov a female flew calling over 45 Woollum Cres, about 200 m from the Angophora St observation.

Activity in the first half of December seemed to be even lower, particularly close to home, with any calling heard mostly on the E or S side of Rivett Oval or from the Sidaway St/Chapman shops direction, both a km or more from our house. The only actual sighting was at 06:40 h on 11 Dec, when following strong *whoa-ing* a male flew over Perry Drive at the W corner with Rene St pursued by a Noisy Friarbird (*Philemon corniculatus*), one of the few local summer sightings of this potential host.

More notable was the sustained *whoa-ing* in the mid distance at 03:21 h on 14 Dec, with much closer single *whoas* at 04:21 h. To my recollection this is the first time I have heard this call (as well as the female call early the next morning – see below) being given while it was still dark, though over the years there has never been persistent nocturnal *ko-eling* here either. *Whoas* were again heard reasonably close at 04:40 h on 17 Dec, followed by *kek kek kekking*. Once it was light, *whoas/ko-eling* and some female calling was heard from the Monkman/Ordell St direction to the SSE from 05:50 h to at least 06:10 h. This was followed by much greater activity from 18:30 h that evening, close to but outside my GBS site, culminating in two birds flying over it at 20:40 h, the second giving the "female" call.

On 18 Dec the first *whoa* was heard from the Monkman St direction at 06:04 h, followed by separate *ko-el* and *whoa* calls from 06:10-06:15 h. Activity closer to home was much less for the rest of that day, but on 19 Dec all three calls could be heard relatively close from around 05:00-05:10 h, including very close at 05:08 h, with two possibly three birds in my GBS site. About 08:10 h a male was *whoa-ing* in my neighbour's trees, and a female called nearby. Similar calling occurred at 15:15 h (with likely a second female present), 19:15 h, and after 19:30 h. The main observation on 20 Dec was a female calling in my neighbour's tree at about 12:15 h, it then flew into their Photinia bush and was seen lurking in there. I thought at the time it was looking for a RWB nest, but if so a fledgling did not eventuate in this area (see below).

It was then quieter until we went away on holidays on 22 Dec, but on our return on 7 Jan 2018 a female flew over the house calling at 18:44 h, with a *whoa* in response, and then more calling after 19:45 h. This heralded a seven-week period of adult activity within my GBS site and environs for a season's total of 11 GBS weeks, counting those before Christmas and on 7

Jan, as well as the juvenile/female seen on 10 March, to date the longest period of their presence very close to home (*cf* eight weeks for 2016-2017). However, activity never seemed to be as frantic as described in Holland (2017a), with a maximum of four birds several times in the week starting 8 Jan, gradually decreasing after that. Males and females were often heard calling together, changing so seamlessly from one call to the other that I sometimes wondered if they were being given by the same bird.

Some of the more important adult bird observations during this period are briefly discussed. There was no more calling at night except for the following close to or after first light. On 8 Jan a female gave some longish and then some shorter calls at 05:29 h, at 05:17 h on 12 Jan a variant of the male *whoa* call was given close to home, on 15 Jan there was repeated *whoa-ing* in the mid distance from 05:22-05:32 h; and on 23 Jan there was a mid distance female call at around 05:45 h, followed by *ko-eling* and other calls.

*Ko-eling* was still clearly heard on five occasions between 15 Feb and 2 March, but the last male was seen on 24 Feb when I disturbed it in the trees off the back corner of 29 Goodenia St (the same spot as where fledgling J5 or J6 was seen on 22 Jan – see Table 2) at 17:38 h. From 17:37-17:39 h on 10 March there were repeated clear *whoas* from the rear of 8 Casuarina St (where fledglings had been found in previous years but not in 2018 – see discussion in Section 4.1). At 17:00 h that day a juvenile/female was flushed from my neighbour's figs at 4 Chauvel Circle. It flew to another neighbour's tree and then back to the figs closest to their house, but on closer inspection I could not find it around 18:00 h. The final aural observation was around 07:16 h on 11 Mar, when there was clear, mainly mid distance, male *whoa* (with some female) calling.

## 4. Local fledglings for 2018

### *4.1 Early fledglings along Darwinia Tce*

Given the lack of adult activity near my home until mid December, it was a surprise at 06:35 h on 9 Jan to find my first fledgling for the season about 325 m away in Darwinia Tce. An even bigger surprise was on the next day when 3 fledglings, including the above, could be sequentially located within a 250 m stretch of Darwinia Tce.

Details of these, as well as a fourth fledgling first found on 14 Jan, also along Darwinia Tce but about 225 m to the ESE of the second fledgling (J2), are in Table 1. Their locations can be found in Map 1.

This approximately 500 m stretch of Darwinia Tce is an area where I have not previously found fledglings, with the closest (J1 at 81-83 Tce) being around 125 m W from the area around 6 Casuarina St where fledglings were found in 2015 and 2017 (Holland, 2017a), but not in 2018 despite regular checks there. The fledgling found for a short time at 24 Rafferty St on 7 Feb 2016 was marginally closer.


**Map 1. Locations of fledglings J1 to J4 in Rivett/Chapman.**

**Table 1. Observations of the fledglings found along Darwinia Tce.**

| Date | Time (h) | Comments |
|---|---|---|
| **Fledgling J1** | | |
| 9 Jan | 06:35 | Begging fledgling found in trees on the verge of 81 Darwinia Tce Rivett; saw it being fed by a RWB. It appeared to be quite an advanced one, with a well formed tail and flew >10 m following its host, though it was begging softly (I had dismissed it as an RWB fledgling at first). |
| 10 Jan | 06:38 | Relocated the begging fledgling in a more open position in trees on the verge next door (83 Darwinia Tce), it was fed by a RWB before both flew behind the houses. |
| 16 Jan | 17:32 | Possibly heard in large conifer at 81 Darwinia Tce - could not locate. |
| **Fledgling J2** | | |
| 10 Jan | 06:33 | A Koel fledgling was begging very loudly at the rear of Nos 100-102 on the opposite (Chapman side) of Darwinia Tce, about 150 m away to the SE of J1 found on 9 Jan. |
| 12 Jan | 06:42-06:45 | Begging heard at the rear of 98 Tce. I went through the open Mr Fluffy block at No 100 and saw it fly from there to bushes at the rear of No 102, where it stayed until fed by a RWB. The large dark-coloured fledgling then followed its host to the low wires at the rear of 100 Tce. |
| 15 Jan | 06:39 | Found on wires begging softly at the rear of 100 Darwinia Tce, it then flew to back bushes of No 98. Could not hear J4 at 115 Tce at 06:30 h. |
| 17 Jan | 06:49 | Could hear fledgling calling rear of 98 Darwinia Tce. |
| **Fledgling J3** | | |
| 10 Jan | 06:43 | A smaller looking lighter-coloured Koel fledgling was begging softly from an open perch in a wattle beside the driveway of 75 Darwinia Tce Rivett, about 75 m to the NW of J1 (and 250 m from our house). It was fed by a RWB before flying towards the back of the house. |
| 19 Jan | 19:52-19:54 | Begging heard from 125 m away in Goodenia St traced to a large intermediate-coloured fledgling in a tree at the rear of 75 Darwinia Tce, fed by RWB. Probably J3 seen here previously, but I can't rule out J1. |

*Table 1 continuing next page*

*Table 1 continued*

| Date | Time (h) | Comments |
|---|---|---|
| 23 Jan | 06:18-06:21 | Normal begging heard from Tce end of lane to Burgan Pl traced to an elderberry bush in the back corner of 73 Darwinia Tce, mid dark sleeker bird found there before it flew NW along the back fences. Then heard clearly in a large tree at the back of 9 Burgan Pl about 75 m away. Possibly J5/6, but about 200 m from their then closest sighting. |
| **Fledging J4** | | |
| 14 Jan | 06:39 | Clear begging call traced it to a dark-coloured fledgling in small tree at the front of 115 Darwinia Tce, after 1 minute it flew to back of No 117. |
| 21 Jan | 06:44-06:49 | Clear begging heard at the Rene St end of the lane that goes to Darwinia Tce continued for at least 5 minutes, but could not find at the rear of 112-114 Tce (diagonally opposite and <100 m from 115 Tce). |
| 23 Jan | 06:39 | Begging could be heard from Kanooka St end of lane to Darwinia Tce, but traced over 150 m to the back of 112 Tce, calling relatively softly. |
| 3 Feb | 10:45 | Heard a fledgling begging loudly in a gum at the rear of 119 Tce. |

It is also an area where I had found little, if any, Koel activity so far in the 2017-2018 season, as it did not seem to be from where the noisy adult interactions from around 14 Dec (see Section 3 above) had been coming. Further, the maximum 26-31 elapsed days would be too short compared with the maximum 37 days from laying to fledging, based on Abernathy and Langmore (2017), particularly as all fledglings seemed quite advanced (see Table 1). However, this is not unusual; my experience is that fledglings are not necessarily found where there has been much previous activity (see Section 6.10 of Holland, 2015, and Discussion in Holland, 2016). This also applies to fledgling J7 below but it is less clear for J5 and J6 at Themeda/Mentha Pls (see Section 4.2). It contrasts with observations from wider Canberra as described in Parts II and III (this issue), though several observers reported reduced activity in the month or so before finding fledglings.

It certainly supports a much earlier fledging season (see Discussion, Section 5). In my now five years of finding many fledglings locally J1 is the earliest by nearly a week (9 Jan, *cf* 16 Jan in 2017). They were also quite advanced fledglings, with well-formed tails and flew well. It is very likely they would have been present early in the 16-day period we were away from 22 Dec 2017 to 7 Jan 2018, noting that the last time I had walked along that part of Darwinia Tce was on the morning of 19 Dec.

An indication of their advanced, mobile state is that only one of the identified fledglings could be found on 12, 14, 15, 17 or 21 Jan. Two were found on 23 Jan when at 06:42 h I thought I could also hear another at the rear of 100 Tce but could not confirm it. This is the main reason why I have designated those found at 112-114 Tce around 200 m away on 21 and 23 Jan as fledgling J4 rather than J2. Likewise the fledglings found at 73-75 Tce on 19 and 23 Jan could have been J1 or J5/6 (the latter were less likely on 19 Jan as they had only just been found). Likewise the fledgling heard at 119 Tce on 3 Feb, 11 days after the last one in Table 1, could have been any of them, or even a different one. RWB hosts were confirmed for all fledglings except J4, but the same host was also likely due to the lack of Noisy Friarbirds present (see also Discussion Section 5).

### *4.2. Two fledglings in the Themeda/Mentha Places area*

Over a 3-week period from 18 Jan to 9 Feb two fledglings were present in an area centred around the S end of the laneway that runs between Themeda and Mentha Places (T/M lane from here) Rivett, and at the NNW and wider end of the small park in Rivett (Rivett park

from here). In contrast to the above this is an area where multiple fledglings were found and were active for long periods in 2015 and particularly in 2017 (Holland 2015, 2017a).

On at least 15 occasions the two could be seen/heard sequentially or sometimes at the same time. Initially they could be distinguished by one being darker and having a different and much sharper begging call than the other, though after a few days this distinction became much more difficult to discern. E-mail correspondence on 19 Jan with Celia Hindmarsh, who lives in Mentha Pl, confirms the likely presence of two fledglings already on 18 Jan. She noted, "I have definitely noticed at least one Koel fledgling being fed by RWBs, it was calling persistently all day yesterday in the tree at 10 Mentha place. I'm fairly sure there is another one in the big gum trees on the other side of the cul-de-sac too, but it may be the same one."

Details of sightings of these are in Table 2 and their locations are in Map 2.


**Map 2. Locations of fledglings J5 and J6 in Rivett.** White square = core area; X = either fledgling out of core area; ? unclear if either fledgling (sightings on 28 and 29 Jan, and on 18 Feb at 25 Darwinia Tce).

**Table 2. Observations of the two fledglings around the laneway that runs between Themeda and Mentha Places Rivett.**

| Date | Time (h) | Comments |
|---|---|---|
| **Fledgling J5** | | |
| 18 Jan | 18:07-18:10 | Alerted by unusual (sharper and less frequent) begging in large gum at SSE end of T/M lane (between 11 Themeda and 12 Mentha Pls), a dark bird found, thought to be an adult but stationary until twice fed by a RWB. A new one, 250 m away from J3 at 75 Tce seen on 10 Jan. |
| 21 Jan | 19:49-19:51 | Sharply begging fledgling found at the rear of 11 Themeda Pl, flew to rear of No 12, dark one seen before it flew across to 14 Mentha Pl. |

*Table 2 continued next page*

*Table 2 continued*

| Date | Time (h) | Comments |
|---|---|---|
| **Fledgling J6** | | |
| 20 Jan | 06:45-06:50 | Begging heard towards the front of 12 Themeda Pl. Realised it was coming from the laneway between Themeda and Toona Places (T/T lane from here) and traced to a silver birch at the back of the edge of 2/4 Themeda Pl (100 m further on). It was begging strongly and more normally, RWBs around but not seen fed, flew across lane to 3 Toona. |
| 21 Jan | 09:00-09:10 | Loud begging (like that on 20 Jan, so likely the same one) heard from the Pavonia St end of T/T lane, traced to a large gum at the rear of 15/17 Pavonia St m 125 m away (and 125 m to mid T/M lane). Could be seen moving around, RWBs present but not seen or heard feeding. |
| 22 Jan | 06:45-06:49 | Could hear more normal begging fledgling from end of T/M lane and traced to exotic tree rear of 6 Mentha Pl. Could see it moving around, RWBs around but again not seen fed. Occasionally there was a sharper call close by, probably J5. |
| **Fledgling J5 or J6 or often both** | | |
| 19 Jan | 06:50-06:55 | More normal begging call in T/M lane, found darkish fledgling in small tree rear of 10 Mentha Pl, flew to an oleander and had clear views. Then heard sharper begging more like evening of 18 Jan at the rear of 12 Themeda Pl, it persisted but I could not find it. |
| | 08:15-08:30 | Found different sounding stationary dark fledgling NNW end of lane, fed several times by RWB. Then heard more normal fledgling begging in 16 Mentha Pl, but could not find it. Returned to dark one which had moved a bit, the other fledgling could still be heard. |
| 22 Jan | 18:33-18:47 | Begging in lane from Rivett path traced to large conifer/gums on W corner of 29 Goodenia (250 m away, same spot as F1b in 2017). I could see/hear fledgling moving around including into the backyards of Geebung Pl, but it then flew towards the Rivett shops with a RWB in pursuit. I then heard faintish begging which was traced to a gum at the front edge between 10 and 12 Mentha Pl, fledgling moved around a bit, before it flew off E with RWB towards Melia Pl. |
| 23 Jan | 17:52-17:58 | Heard sharper begging rear of 12 Themeda Pl at the boundary with No 11, and more normal but intermittent call at rear No 12 <20 m away. Located latter in a melaleuca, and former in a large conifer. |
| 24 Jan | 06:54 | Heard soft begging (but sharper?) coming from rear 12 Themeda Pl. |
| | 16:58 | Heard (sharper?) begging from end of Burgan Pl, fledgling located 100 m away in SE side of the battle-axe block (24 Burgan Pl) on the W corner of the Rivett park. |
| | 17:23-17:25 | Begging (more normal?) heard front 10 Mentha Pl from T/M lane, then heard other one again and located on NW corner of 24 Burgan Pl. It was then heard at the front of 20 Burgan Pl, but soon flew back. |
| 25 Jan | 17:19 | Found fledgling in open position in 12 Themeda Pl melaleuca, fed by RWB. Could hear other fledgling begging at front of 12 Mentha Pl. |
| 26 Jan | 17:07 | Could hear fledgling when at rear 12 Themeda Pl, found in small gum in lane behind No 9, flew to the front of 10 Mentha Pl. |
| 27 Jan | 06:45 | Heard from laneway between Darwinia Tce and Woollum Cres (Wool/Tce lane from here) and traced for 125 m to bottlebrush at the front of 16 Woollum Cres (about 250 m from mid T/M lane). The fledgling flew to the back of house, then was heard again and found in smallish bush at the front of 25 Angophora St around 100 m away, again the large dark fledgling flew N to rear of the house. Nothing in T/M lane or rear 12 Themeda Pl, but could then be heard in T/T lane. |
| | 16:26-16:31 | Begging fledgling in T/M lane traced to rear 7 Themeda Pl before lawn mower starting flushed it to Mentha Pl. Much stronger begging traced to large gum at the front of 31 Pavonia St (100 m away), dark fledgling sitting on bare branch flew N over the back of this house. |

*Table 2 continued next page*

*Table 2 continued*

| Date | Time (h) | Comments |
|---|---|---|
| 28 Jan | 16:47, 17:02 | Heard begging (quite softly) and located in dense ornamental bushes/small tree rear of 9 Themeda Pl. Then a fledgling was heard begging loudly around 33 Darwinia Tce, could not check as raining. |
| 29 Jan | 06:15-06:20 | No begging fledgling at 33 Darwinia Tce, but possibly heard in mid Wool/Tce lane (fence obstructed view). |
| | 06:45-06:47 | Begging heard when in laneway between Angophora and Pavonia Sts traced 125 m to a very brown fledgling in the large gum overhanging rear of 12 Mentha Pl. Then a softer begging fledgling (again darkish) located in a gum in the Rivett park NE of 22-24 Burgan Pl. The first still there, it flew to tree rear of 16 Mentha. |
| | 18:19-18:21 | Heard from Rivett park W corner and found a dark fledgling in an open position in large gum rear of 12 Themeda Pl. Heard intermittent begging in T/M lane, fledgling located in dense ornamentals rear of 9 Themeda Pl. First one was still begging around 30 m away. |
| | 18:36 | Heard first bird still in same tree and other at back 12-14 Mentha Pl. |
| 30 Jan | 16:40 | Possible intermittent begging at 22/24 Burgan, nothing in T/M lane. |
| 31 Jan | 06:47-06:52 | Heard begging in T/M lane, dark slim fledgling found in low bush next to oleander rear fence line of 10 Mentha Pl. Thought I heard another at 22/24 Burgan, but begging intermittent and not located. |
| | 16:25 | Begging traced to dense ornamentals rear of 9 Themeda Pl, moved across to rear of No 11 and could be seen moving around quite low. |
| 1 Feb | 06:48-06:49 | Begging fledgling located in large gum at SSE end of T/M lane, it was seen flying to conifer at the back of 11 Themeda Pl. |
| 2 Feb | 07:54-07:58 | Begging heard from just past the end of Burgan Pl (125 m away), and large lighter fledgling located rear 12 Themeda Pl (fed by RWB), another heard from there and darker (slimmer?) fledgling located in medium exotic rear 10 Mentha Pl, it flew towards front of the house. |
| 3 Feb | 06:53 | Soft begging heard rear 12 Themeda Pl and large brown above but lighter underneath fledgling seen hopping around quite low. |
| 4 Feb | 08:44 | Again heard from end of Burgan Pl (150 m away), dark above, honey below fledgling found rear 12 Themeda Pl, it moved around a bit. |
| 5 Feb | 06:20 | Fledgling begging relatively softly at same spot rear 12 Themeda Pl. |
| 6 Feb | 07:51-07:55 | Begging heard from end Burgan Pl (150 m away), fledgling located in same spot rear 12 Themeda Pl and found low just above the shed. |
| 7 Feb | 08:06-08:12 | Fledgling heard from 125 m away found in conifer rear 11 Themeda Pl, flew to gum at side and then to gum next to Rivett park path, good view of light brownish one, heard a second in Rivett park and found high in gum NE of No 22 Burgan. First one still calling but quieter. |
| 8 Feb | 06:22, 06:59 | Fledgling heard going past 12 Themeda Pl, later heard begging relatively quietly there and briefly seen being fed by a RWB. |
| 9 Feb | 06:59 | Very soft begging call rear of 12 Themeda Pl, then fledgling seen low hopping over drums etc below foliage, it was still heard 150 m away. |

Nothing more was heard or seen at the rear of 12 Themeda Pl etc at 16:53 h on 9 Feb, or at 08:21 h or 16:52 h on 10 Feb, or in the mornings and evenings thereafter for at least a week.

Fledglings were seen in this area over a 23-day period, which is similar to the 25-day period for fledgling F1 in 2015 (Holland, 2015), but much less than the 34-day period for the F1 complex here in 2017 (Holland, 2017a). Interestingly J5/J6 seemed much more mobile in the first half of the period, being found well away from the T/M lane core area [up to 250 m away, see 22 and 27 Jan entries in Table 2 (Goodenia St and Woollum Cres, respectively), and possibly 28 and 29 Jan as well], but after that much closer including the adjacent Rivett park, and in particular the rank backyard of 12 Themeda Pl, where one was still seen being fed by its RWB host on 8 Feb.

Thus it is tempting to speculate there were more than 2 fledglings in the area, though I have no solid further evidence. There was no break in the sightings, with fledglings being found every day over the 23-day period. In February two fledglings were seen only on 2 and 7 Feb (though close together on both occasions). However, there is evidence that they were quieter at the time, with none located on the hot afternoons from 3-8 Feb (note this location was not checked on the afternoons of 1-3 Feb). In this respect Diana White's observation that her by then quite advanced fledgling D1 rested during the afternoons (see 19 Jan entry in Table 1 of Holland 2018b, Part II this issue) is of interest. Note also that I have previously only observed two fledglings consistently in such close proximity in 2017 (F5 and F6, then followed by F5 and F7, Holland, 2017a), though on 10 Feb 2015 three fledglings were found together in the same area as J5 and J6 (Holland 2015).

Again there was little adult activity here until around 14 Dec, after which it was the general direction from where the noisy adult interactions could be heard. While the 35-day period to 18 Jan would fit in with the maximum 37 days from laying to fledging (see above), this could possibly apply only to J5 which seemed relatively immobile for the first couple of days, unlike J6 which appeared to be mobile and quite advanced soon after being located. Again RWBs were the confirmed host, with fledglings observed being fed from 18 Jan to as late as 8 Feb. This was the only area RWBs were also found to be feeding their own fledglings, from 19 Jan to 7 Feb, though with a maximum of two only observed, fewer than observed here in 2015 (see Section 6.6 of Holland, 2015) and 2017.

### *3.3. Late fledgling in NW Rivett*

No further fledglings were heard/seen for over a week, but then relatively soft begging was heard from the Wool/Tce lane on 18 Feb, which was traced to the big tree at the rear of the then vacant Mr Fluffy block at 25 Darwinia Tce at 17:43 h (this is where I heard possible begging on 29 Jan and is around 100 m from 33 Tce, where begging was heard on 28 Jan – see Table 2). It stopped for a while then started again as I was walking back on Woollum Cres and I could hear it right up to corner with Angophora St 150 m away. Except for a possible brief Koel fledgling begging call at this same corner at 17:25 h on 19 Feb, no more begging fledglings were then heard or seen until 25 Feb, when at 16:14 h one was found just to the E of the corner of Darwinia Tce and Hindmarsh Drives (about 300 m from the Wool/Tce lane). The observations associated with this fledgling (J7) are summarised in Table 3.

The fledgling could not again be found in this area around 06:55 h or 17:30 h on 2 March, or again despite often two visits/day for at least the next week. This indicates that it was more mobile than it appeared on the two times it was actually seen. Finding J7 was a surprise as I had regularly walked past this spot, which is a new location for fledglings, the closest previously being those in Woollum Cres close to the 18 Feb Wool/Tce lane sighting (see above). It is also about 300 m away from the site of fledgling F6 at 307 Hindmarsh Drive in 2016-2017 (Holland 2017a). On 31 Jan I thought I heard begging across Hindmarsh Drive from the underpass there at 06:35 h, on checking it seemed to be on Rivett side, possibly at the back of No 305, but it was not heard again including when walking along the lane at the back of this, or when passing by/through this area subsequently.

In five years of making these observations J7 has been the only fledgling that has been observed locally in March (the previous latest were on 22 Feb in both 2015 and 2017

(Holland 2015, 2017a), though other Canberra fledglings have been reported as late as 31 Mar (Holland, 2016).

**Table 3. Observations of Fledgling J7 at the corner of Darwinia Tce and Hindmarsh Drive Rivett.**

| Date | Time (h) | Comments |
|---|---|---|
| **Fledgling J7** | | |
| 25 Feb | 16:14-16:17 | Koel fledgling begging heard just around the corner of Darwinia Tce, traced to low down in the bushes behind the letter box of 331 Hindmarsh Drive, but I could not see it until RWBs flew in and it rose to be fed. Largish dark one seen, but thought to be fairly recently fledged as it only hopped up higher in the big oak tree behind rather than following its RWB hosts, which flew off. |
| 26 Feb | 16:25-16:28 | Could hear begging at 327 Hindmarsh Drive, but it then stopped. |
| 27 Feb | 17:40 | Heard begging in same big oak tree at No 331 but couldn't locate until a RWB flew straight in and fed very noisily, after which a dark one again hopped/flew clumsily for a short distance, allowing brief views. |
| 28 Feb | 11:18-11:25 | Failed to find at 331 Hindmarsh Drive, but then heard diagonally across the road, and the begging call was traced to a large gum in the back SE corner of 7 Manton Pl Duffy (about 125 m away). Rather soft and could not locate, but it did suggest it was reasonably mobile despite previous observations. |
| 1 Mar | 17:38-17:42 | Not heard up Hindmarsh Drive including at No 331, but then clearly heard at the back of 3 Darwinia Tce around 50 m from front of No 331. |

## 5. Discussion

As in the 2016-2017 season, females arrived early, but then there was limited activity until mid December. Thus it was somewhat of a surprise to observe multiple fledglings close together earlier than in previous seasons, but this is consistent with the earlier arrival and consequent earlier laying of eggs by female Koels (see Holland 2018c, Part III this issue). As in 2016-2017, and in contrast with the previous years (see Discussion in Holland 2017a), very few adults were found close to fledglings. This was restricted to 22 Jan when I heard *ko-eling* near the W corner of Pavonia/Angophora Sts at 06:49 h, followed by *kek kek kekking* at the rear of 12 Themeda Pl, with at 06:52 h a female flying across the Rivett park calling, followed by male *whoa-ing*. Also on the afternoon of 28 Jan there was a male/female interchange in the T/M lane and shortly after in the Wool/Tce lane (see Table 2).

In terms of fledglings found, the 2017-2018 Eastern Koel breeding season in my local area of Chapman/Rivett was similarly successful to that of 2016-2017, but they were found over a much longer 51-day period compared with the previous maximum of 37 days (in 2016-2017), and for the first time extending into March. A minimum of seven fledglings were found, possibly up to 10 if the late J4 observation on 3 Feb (see Table 1) was of a different one, if there was a third (overlapping?) fledgling at the T/M lane site (see Section 4.2), and if any of the aural observations on 28 Jan at 33 Darwinia Tce and those on 29 Jan and 18 Feb in the Wool/Tce lane were of a different fledgling. However, it is possible J1 and J3 were the same (they were only seen sequentially on one occasion, 10 Jan), as were J2 and J4 (never seen/heard sequentially). In addition the above aural observations were only around 300 m from mid T/M lane, and the Wool/Tce lane is close to the 27 Jan sighting of J5 or J6 at 16 Woollum Cres, a similar distance away. Thus the most likely figure is seven, with possibly isolated single aural observations of two more fledglings on 3 and 18 Feb.

All confirmed fledglings were found in new locations except for J5 and J6, which were observed over 23 days in an area where multiple fledglings had been found and were active for long periods in 2015, and particularly in 2017 (Holland 2015, 2017a). As in 2016-2017, fledglings were found in a rough straight line but were more widespread, over 800 m *cf* 1100 m, respectively (see also Holland 2018b,c Parts II and III this issue). All appeared to be relatively advanced and mobile, with longish tails and all flew well despite some initial observations on J5 and J7.

In summary while a similar number of fledglings were observed as in 2016-2017, the fledgling season was longer, with four already reasonably advanced ones found a week earlier than previously, and another extending into March for the first time. Their locations were also different from previously, except for two observed for over three weeks in an area of previous high activity.

All confirmed hosts were RWBs. Though J4's host was not confirmed there were no Noisy Friarbirds observed in the local area during the fledging period. However, some interactions were observed with another potential host, the Magpie-lark (see 26 Nov observation in Section 3). Also on 29 Jan a female heard in the T/T lane at 06:51 h was chased out by a Magpie-Lark over to Burgan Pl where a male/female Koel interchange was heard. Also at 08:53 h on 30 Jan, a dark bird was chased out of a large red box in my GBS site by a Magpie-lark. At the same time a female *kek kekked* in a Chauvel Circle tree, and was chased out by similar-sized dark bird, possibly a male.

**References -** See Holland 2018c, Part III this issue.

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# THE 2017-2018 EASTERN KOEL SEASON. II. DETAILED OBSERVATIONS OF ADULT AND FLEDGLING BEHAVIOUR IN DEAKIN AND NARRABUNDAH

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***Abstract:*** *This Part contains detailed observations by David Rosalky of the behaviour of a pair of Eastern Koels* (Eudynamys orientalis) *in Deakin over the 2017-2018 season. Detailed observations by Diana White are also included of a greater concentration of fledglings in Narrabundah than I have documented from the Rivett/Chapman area in Part I (2018) and previous papers. Associated aspects of adult Koel behaviour, in particular interactions with fledglings, and interactions between fledglings and other species are also discussed.*

## 1. Introduction

In Part I (Holland 2018a, this issue), further observations of Eastern Koel *Eudynamys orientalis* (hereafter Koel) fledglings and adult behaviour in Chapman/Rivett are detailed. This Part documents detailed observations by David Rosalky of adult behaviour, including some new information, based on a pair of Koels in Deakin over the 2017-2018 season. It also contains detailed information collected by Diana White on a greater concentration of Koel fledglings in Narrabundah than I have previously observed in Rivett/Chapman. Some associated aspects of Koel behaviour, in particular adult interactions with fledglings, as well as of interactions between fledglings and other species, are also detailed.

## 2. Methodology

The information detailed in this paper was gathered by David Rosalky and Diana White, respectively. David's set of observations on the behaviour of a pair of Koels and a subsequent fledgling around his Deakin garden were all posted on the COG chat line, and was obtained from there. Similarly, Diana's initial observations of a Koel fledgling in her Narrabundah garden were posted on the COG chat line. When she realised from regular walks around her area that there were other fledglings nearby, much of the correspondence was directly with me. In both cases due to space limitations some of these observations and comments have been edited. The descriptions of adult calls, as well as the begging ones made by fledglings, are as given by them, despite my preferences outlined in Part I.

## 3. Detailed observations of adult Koel behaviour in Deakin

On 21 Nov David Rosalky posted that he had been hearing Koels in his neighbourhood in Deakin ever since his first report on 12 October (see Holland 2018c, Part III this issue), but on that day he had a brief but pleasurable visit by a male and female in his yard. On 30 Nov he noted that the pair of Koels at his home was frequently visible and they seemed to perch on exactly the same branches of next door's cedar on repeated occasions. A couple of other interesting observations had emerged. When the pair was separated by about 30 metres, they each made little quiet contact noises which he would not have recognised had he not seen

their prior behaviour. As well as he could discern, the two sexes had different contact noises. The other observation was that when the male was calling from this visible vantage point, David attempted to whistle the male's call with the result that both birds reacted and, in each case, the male flew off in the same direction.

On 7 Dec David posted that a few days previously he had heard strange sounds (which as far he could remember he had never heard before) in a low thick bush – no more than a metre off the ground. He tried to peer into the bush and flush the perpetrator but with no luck. That evening, just after 20:00 h, he heard a female Koel call once, close to the house, so he went outside to inspect. Up in the cedar where they had been roosting, or loafing, he saw the male, which then flew off. He followed its flight a few doors down the road and saw movement in a tree, which turned out to be the female. As he approached she flew straight into the same low bush he had been observing a few days earlier. As he got close, he heard what he could only describe as a sequence of yelping calls, not like anything he had heard before – some sort of alarm response. He tried his male-call whistle and got movement in the bushes but in the crepuscular gloom, he couldn't be sure if he had seen the male or the female or both. He wondered if perhaps the low bush was some sort of roosting site, and noted it was an interesting and different experience from the loud calls and lots of chasing that one usually observes.

On 14 Dec David posted that after a few days' absence (or silence), the Koel pair had reappeared around his house. He followed them around the area for a few hundred metres while they called from separate trees. After a gap, he heard loud *keek-keeks* nearby and saw them immediately in "their" cedar. The male approached the female, mounted her and separated after just a few seconds, she then flew off. There was no soliciting or other preparatory behaviour that he saw, but it may have occurred before he saw them.

David noted that HANZAB (Higgins 1999) describes various and quite elaborate courtship and soliciting behaviour, but also describes a single mating event as: "…; male then descended rapidly from his perch, approached the female without any display, mounted and copulated immediately. The pair then separated and the female left within 1 minute." In the HANZAB description, the female was described as initially responding to the male call ca. 100 m away by flying to his tree and giving a *wuk* call, which he missed if it had occurred. As it was otherwise very similar to the HANZAB description, David concluded he had observed a Koel mating event, noting there were both Red Wattlebirds (*Anthochaera carunculata*, hereafter RWB) and Magpie-larks (*Grallina cyanoleuca*) nesting nearby.

On 2 Jan David noted that the Koels around his house had been very visible and audible for some months, but that there had been a change in the past week. The female had disappeared and the male was making the *ko-el* call more than was the case earlier. He suspected a lost partner. Despite the apparent Koel breeding behaviour he had been observing, he had no evidence locally of young Koels (but see below). The nearby Magpie-lark nest produced its own chick, not a Koel, and the RWBs had been feeding dependent RWBs.

On 30 Jan David posted that after a quiet period, much of which was when he was away, Koels had sprung back to life around his home. A pair was feeding avidly from some exotic berry in his backyard on Sunday 28 Jan. That evening there were two pairs chasing each other around the immediate neighbourhood, at one time sitting in a neighbour's eucalypt in close proximity to each other. Usually, a female would call and fly off chased by a male. The

two females were of the two morphs shown in HANZAB (Higgins 1999) and referred to there as "dark type" and "light type".

On 30 Jan he also noted he had found his first fledgling. Already on the evening of 28 Jan he heard the distinctive call of a begging Koel dependent young. He did not see it, but there were some pretty active RWBs around presumably trying to quell the youngster's hunger. On 5 Feb David posted that the fledgling he had reported near his place was located in trees between Robe St and Northcote Cres Deakin. He had been seeing or hearing it since about 27 January, but it had not moved far in that time (all of the locations where he had seen or heard it were within about 200 m). However, he had no reason to believe that there was more than one fledgling involved (this is agreed as from my experience two birds within that distance should be able to be heard begging at the same time, or at least sequentially). Its feeders were RWBs.

On 14 Feb David posted that the fledgling at his place was sticking around. The previous day it had come right down to drink from a water barrel and then spent the rest of the day in a Chinese elm in his yard. When the RWB foster parents were nearby, they were very protective and growled at him. On 23 Feb David noted that the fledgling in Deakin seemed finally to have departed (since Wednesday 21 Feb). It had stayed for around 24 days.

### 4. A concentration of fledglings in Narrabundah and their interactions with adults and other species

Following the initial posting on the COG chat line by Geoffrey Dabb on 30 Dec, on 5 Jan Diana White first posted about her Koel fledgling, which had been present in her garden at 65 Caley Crescent Narrabundah since 26 Dec. A number of further posts on the COG chat line followed, but in particular over the next two months there was a detailed E-mail correspondence exchange directly with me. In this she described her considerable number of observations of this fledgling, as well as at least 7 other Koel fledglings found within 400 m from her place.

The observations for Diana's garden fledgling (which I have labelled as D1) are contained in Table 1, while the observations for the 7 other fledglings are outlined in Table 2 below. Note that these are written in the first person, as they were in the original correspondence. The Discussion of these observations, including adult interactions with fledglings, as well as of the latter with other species, follows in Section 5. Their locations are indicated on Map 1.

**Table 1 Diana White's observations of fledgling D1 in her 65 Caley Cres garden.**

| Date | Comments |
|---|---|
| 30 Dec | First posting of this fledgling by Geoffrey Dabb, present since 26 Dec (see Holland 2018c, Part III this issue.) Seen that morning, moving between the sour cherry shrub and the mulberry tree, perching on the paling fence, waiting to be fed by RWBs. |
| 5 Jan | The Koel fledgling has been in our backyard for 10 days now, pipping persistently with RWBs feeding. A very insistent female adult Koel has been shrieking all around close by, and just now the fledgling flew up to the large mulberry when the female flew in. There were some rustlings and more calling till the adult flew off to a nearby wire, calling loudly. However, the fledgling, which is able to fly strongly now, stayed there. |
| 6 Jan | Fledgling still here from very early in the sour cherry and on the paling fence being fed by RWBs. Adult male and female Koels were very active and noisy from 05:00 h, all around this garden, later around 08:00 h in larger trees and on wires with the fledgling. |

*Table 1 continued next page*

*Table 1 continued*

| Date | Comments |
|---|---|
| 7 Jan, am | Fledgling Koel keeps coming back into back garden to the same spots in the sour cherry, on the paling fence and surrounding larger trees. RWBs still feeding. |
| 7 Jan, pm | Around 20:00 h I noticed an adult female Koel on top of the Transact pole silently observing the garden below where the fledgling had been continually pipping. Next the latter flew up to the mulberry and the adult followed. There was a kerfuffle and vocalisations in the tree, and when I moved down underneath the mulberry the fledgling was continuing to make strained hoarse sounds with its wings fluttering. The female was making a different sound, it then flew off. I looked up to the wires over the lower fence and another (same?) female was observing silently, then flew off. The fledgling continued the hoarse sounds for a little while then it flew back down into its usual spot in the sour cherry and started pipping again. A group of adult birds had been calling out earlier, they seem to return periodically. |
| 8 Jan | Male Koels around from early on. The Koel fledgling was pipping very insistently on the back fence around 07:00 h, RWBs feeding frequently. I could hear another similar pipping further away in a neighbouring yard (see 10 and 11 Jan entries and Discussion below). At 09:00 h the fledgling flew up to the wire directly above the sour cherry and almost immediately a Magpie-lark flew down next to it. The fledgling put its "hackles" up and mouthed aggressively and the Magpie-lark flew off. A RWB called out at this point and the fledgling flew further away following it to the wire above the fence in the lower garden. Another larger bird (adult or fledgling Koel?) followed this drama down to the ACTEW pole in the corner and sat silent for quite some time while the pipping of the fledgling from here continued till it eventually returned to its place near the sour cherry. The other bird stayed still for some time longer, then flew off. |
| 10 Jan | I thought yesterday evening the fledgling here may have flown off after the storm etc. It pipped for a long time being much more often up on the wire. It finally flew off over back neighbour's house around 20:00 h and disappeared. However, there it was again this morning in its favourite place around 06:30 h (I had only been round the block by then, trying to locate some other pipping I had heard from time to time, but with no luck). The adult male and female were both in a Pinoak in the front yard further up Caley Cres as I went by, and flew away in different directions, male up to Rocky Knob, female towards the Griffith shops. The fledgling here kept making limited forays along the Transact wire following the feeding RWB, but always returning to the place above the sour cherry. From time to time, both male and female calling in the distance and at times very close. |
| 11 Jan | On the way home (from hearing D2, see Table 2), in a small *mannifera* on the front verge in 53 Caley Cres RWBs were busily feeding a large Koel fledgling. I wasn't sure if it was ours or not, but it was here in the backyard when I got back 10 minutes later. |
| 13 Jan | In Caley Cres a fledgling was being fed by RWBs across the road from our place, first in a plum moving to a larger neighbouring tree. There was a lot of adult activity around here close and further away at different times throughout the day. Our original fledgling is still returning mornings, then follows RWBs away, but comes back and stays for quite long periods during the middle of the day, then back again early evening. It can fly quite strongly now trying to follow the RWBs, which are definitely leading it further away, it seems to do a loop around some of the larger trees on our side, front and back garden. |
| 16 Jan | The Koel fledgling in this garden was last here at 16:00 h on 14 Jan in the side garden Hakea being fed by RWBs. It had been here morning, middle of day and early evening with short pursuits away during the previous day or two. |
| 17 Jan | I thought the fledgling had disappeared but unexpectedly it reappeared yesterday scrambling up out of the fig (still green) in the back corner. |
| 18 Jan | Fledgling was being fed by RWBs on wires above back garden olives and sour cherry. |
| 19 Jan | Our Koel fledgling is still nearby but higher in the canopies. This morning at 06:30 h it was in an ash opposite in Caley Cres, and back here at 13:00 h pipping in a Manchurian pear in the garden till it gave up and flew up to a *mannifera* in our front garden still calling. I have noticed previously when it happily roosted down low in the back garden that it also rests quietly for quite long periods of time too in the afternoon. |

*Table 1 continued next page*

*Table 1 continued*

| Date | Comments |
|---|---|
| 22 Jan | Turning and coming back down Walker Cres that same morning (after confirming D4 and D5 – see Table 2 below), there was very loud pipping in a large gum on the footpath verge of 84 Walker Cres (diagonally behind 65 Caley Cres). Two Pied Currawongs chased the fledgling from the tree across the road to No 83 where it perched on the roof edge. With the Currawongs bombing it flew down to a hawthorn in the street and a RWB flew in and fed it. The Pied Currawongs were still bombing and a second RWB flew in and led the fledgling back across the road and up the hill towards our house. When I got back home our fledgling was in a Pagoda tree behind our back fence. So probably D1 was venturing further as this was another of the peripheral spots where it was often fed. |
| 24 Jan | Our original Koel fledgling is still here, much quieter now except for early morning when it's being fed and chasing after RWBs in canopies all round in close proximity. It comes back and sits very quietly in the mulberry and doesn't seem bothered if Ian (my husband) is working nearby. It feeds itself on any stray rogue raspberry while resting in the depleted sour cherry and I surprised it feeding in a plum below the mulberry. |
| 28 Jan | Our garden Koel fledgling was last seen here on 25 Jan sitting close by in the mulberry. |


**Map 1. Locations of Diana White's fledglings D1 to D8 in Narrabundah**

Observations for the 7 other fledglings are outlined in Table 2 below.

**Table 2 Diana White's other Narrabundah fledgling observations.**

| Date | Comments |
|---|---|
| **Fledglings D2 and D3** | |
| 11 Jan | In an early morning walk I heard unmistakable very loud pipping further down the hill in a large Casuarina in the back yards behind 71-73 Walker Cres between it and Captain Cook Cres. I heard feeding but couldn't see any of them. |
| 13 Jan | This morning early, I heard and briefly glimpsed a fledgling Koel (quite large) near the same place down the hill (79 Walker, D2). Further uphill (39 Walker, D3) I heard a softer pipping and saw RWBs feeding a fledgling (Koel?) in a sheltered side garden. |
| 14 Jan | On an afternoon walk, I finally clearly saw the larger Koel fledgling pipping loudly behind 79 Walker Cres being fed by RWBs. There was no sign or sound of the one previously heard and seen beside 39 Walker's side garden. |

*Table 2 continued next page*

*Table 2 continued*

| Date | Comments |
|---|---|
| 15 Jan | The only sign of Koel fledglings today was pipping somewhere in the dense back gardens between 71 Walker and Captain Cook Cres. |
| 18 Jan | After observing D4 and D5 (see below) I was hoping to confirm D3 I'd previously heard diagonally opposite the latter. Though I watched and heard it being fed in No 39's side garden I couldn't see it. |
| 19 Jan | Going further (see entry 19 Jan entry for D4 and D5 below) opposite in 39 Walker Cres' side garden I heard soft pipping and saw RWBs feeding (hidden in shrubbery). Round Captain Cook Cres and back up the laneway to Walker Cres again, there was no sign of the one behind Nos 71 to 79 Walker Cres (D2). |
| 20 Jan | In the western garden of 39 Walker Cres (the same garden as where fledgling D3 had been fed by RWBs), I saw a Koel fledgling pipping loudly and a Satin Bowerbird with a worm in its beak land on the same branch near it. They both looked at each other, then the fledgling looked straight ahead again and kept up its monotonous pipping and the bowerbird flew down into the shrubbery out of sight in the garden below. |
| **Fledglings D4 and D5** | |
| 18 Jan | In my early walk up the hill in Caley Cres and down Allen St I immediately heard loud pipping and found a fledgling (D4) being fed by RWBs further along in larger shrubbery and a small gum behind 50 Walker Cres. Continuing along Walker Cres, there was soft insistent pipping from the upper canopy of a very large Pinoak on the boundary of No 40 and 42 and RWBs feeding (D5). |
| 19 Jan | Both the "new" fledglings were still in similar locations, the larger, more mobile (D4) behind 48-50 Walker Cres with RWBs feeding. The other (D5 at 40 Walker Cres - in nest?) pipping softly being fed by RWBs? While I stood & watched from opposite I noticed a female adult Koel sitting silently on top bare branches of same Pinoak looking down watching. A male Koel called from further down the hill, and she shrieked twice in reply. Another female yelled from up the hill and she flew off towards Rocky Knob. |
| 22 Jan | I confirmed the fledgling behind and the side of 48-50 Walker Cres (D4) was definitely different from the "nest "one in the huge Pinoak at Nos 40-42. It was much larger. A few minutes later I briefly saw the smaller/shorter tailed fledgling (D5) from Nos 40-42 being fed and then led from the Pinoak to the Transact wire behind the block between Walker and Caley Cres. |
| 24 Jan | The one (D5) in the very large, dense Pinoak on the front footpath boundary of 40 Walker Cres which I initially thought could still have been in a nest was finally drawn out clearly. I saw it this morning early on the edge of the canopy being fed by RWBs. |
| 30 Jan | At 06:30 h there was still pipping behind 48-50 Walker Cres (the older one D4?) |
| **Fledgling D6** | |
| 24 Jan | Just today a new young one in a garden diagonally behind us (D6, heard not seen yet) was constantly pipping, not moving round very much and fed by RWBs. |
| 28 Jan | The pipping fledgling was still diagonally behind us in and around 78 Walker Cres yesterday and today being fed by RWBs. |
| 5 Feb | I haven't found any new fledglings round this immediate area. The one diagonally behind (D6) has disappeared and no sign of any others since 30 Jan (see above). |
| **Fledglings D7 and D8** | |
| 14 Feb | Following where I saw and heard adult male and females calling in a Pinoak in Strzelecki Cres at the corner with Meehan Gardens yesterday, I discovered a recent fledgling (D7) in a cotoneaster hedge on the footpath edge and heard another (D8) in close proximity in a dense side garden. I managed to get photos of the smaller fledgling, and also of the much older one with a long tail sitting still while loudly and persistently pipping from near the top of a Pinoak almost directly behind, then being harassed by two Pied Currawongs who flew in chasing it through the top with the fledgling defensively lunging and still pipping. Both fledglings were being fed by RWBs (I assume different ones). I'm not sure if the RWB defence helped but the 2 Currawongs eventually flew off. |
| 16 Feb | This morning a RWB was feeding a RWB fledgling in Wild Street and further down the hill in Meehan Gardens RWBs were feeding 2 Koel fledglings. |

*Table 2 continued next page*

*Table 2 continued*

| Date | Comments |
|---|---|
| 1 Mar | This morning a fledgling surprisingly showed up just after 07:30 h in Meehan Gardens, which I hadn't been down to since 24 Feb and the heavy rain period following. It appeared right above my head flying across from almost the same garden area as before to a silver-leafed gum in the centre green space begging. It kept its pipping up seemingly oblivious to the noise of the construction vehicles directly below in the street, it then flew off in direction of Macintyre and the Stuart St Flats. A pair of RWBs was following at a distance at the point where it moved away. In that short time there was no evidence of feeding. I'm assuming it was the very young fledgling (D7) which I first found on 14 Feb (see above). I thought it was not long out of the nest then with a short tail and not moving very far from there in the few times I happened to see it again. |
| 3 Mar | In my walk this morning, the Koel fledgling (probably the same younger one – D7 from 2 days ago) was in a dense Ash on the footpath of 33 Meehan Gardens with a RWB sounding an intermittent warning *chuk chuk* in the small silver birch in the front garden next to it. As I approached the RWB flew off to a larger tree behind the houses and the fledgling began following. A Pied Currawong immediately began chasing it, and it went into the Pinoak on the corner of Meehan Gardens. The RWB flew back behind the houses and the fledgling attempted following and I could see 2 RWBs and the Pied Currawong in conflict in the further taller trees behind the houses. |

## 5. Discussion

### *5.1 David Rosalky's Deakin observations*

David made a series of very interesting observations and posts about Koel behaviour around his home in Deakin between October 2017 and early February 2018 which appear to be the first reports of some of this behaviour. HANZAB (Higgins 1999), again citing a single reference, notes that about a week before laying, pairs begin to spend much time near the nest tree of the host and engage in apparently excited behaviour. However, from 21 Nov to at least early Jan David's adult Koels consisted of a pair that seemed to have marked out a territory and had a favourite perching spot in next door's cedar. They also seemed to make some unusual contact noises and other sounds, and to have had a favoured roosting spot. These observations contrast with my experience, including from other reports in Canberra, of highly mobile adults sometimes in noisy aggregations. The only other mention of a roost site of which I am aware is that of Diana White's fledgling D1 (see 19 Jan entry in Table 1 above, and sub-section 5.5 below).

David's description of a mating event is the third I am aware of in Canberra [previous observations by Christine Darwood and Stuart Rae, see Holland (2017b)]. Interestingly, HANZAB (Higgins 1999) describes only a single mating event. More importantly, David observed a fledgling about 44 days after the mating event occurred on 14 Dec. As 37 days is maximum time between egg laying and fledging (Abernathy and Langmore 2017), eggs could have been laid several days later and the young fledged a few days earlier. David was also able to watch his fledgling for over 3 weeks (24 days), which supports some of my observations (and by others in 2017-2018, see Holland 2018c, Part III this issue) that young can stay in the same place for a long period.

### *5.2 Diana White's cluster of fledglings in Narrabundah*

In the 2017-2018 breeding season Diana witnessed a remarkable cluster of at least 8 and possibly 9 Koel fledglings in a small arc from the NNW to the N within a 400-m direct line of her garden at 65 Caley Cres Narrabundah. This presents a higher concentration of young than those I have observed in Rivett/Chapman in the 2016-2017 and 2017-2018 breeding seasons. The latter occurred in a rough straight line of around 800 and 1100 m, respectively.

The season during which fledglings were observed (26 Dec to 3 Mar) was also longer, by around 16 days, than any of mine so far (9 Jan to 1 Mar, also for the 2017-2018 season).

In particular, detailed observations were made of the fledgling (D1) in her garden which was present for around 30 days. This is less than the 34-day period for the F1 complex in 2017 (Holland, 2017a), but more than the 25-day period for the fledgling F1 at the same spot in 2015 (Holland, 2015). All had RWB hosts. Koels continued to be present and calling around Diana's area in Narrabundah during the first week of March, with the last call heard being a female on the morning of 9 Mar.

Hearing a second fledgling while watching her own on 8 Jan (though she was unclear from which direction), and the one seen on 11 Jan at 53 Caley Cres with D1 seen at No 65, only around 125 m away, 10 minutes later, raises the possibility that there was a second fledgling in Caley Cres. Though there are now many reports of fledglings close together [for example, fledglings J6 and J7 (Holland 2018a, Part I this issue), and Diana's fledglings at 39 and 40-42 Walker Cres and the 2 together in Meehan Gardens], it could have flown there in that time. Even though it had been present for around 16 days, D1 did not seem to have been particularly mobile up to then, though it certainly was by 13 Jan. On 5 Feb Diana noted that other neighbours further uphill at 57 (only around 50 m away) and 51 Caley Cres had reported fledglings in their back yards fed by RWBs and defended against Pied Currawongs (*Strepera graculina*), probably during the same period of time as she had noted in her walks.

Thus it is possible that there was a second fledgling in Caley Cres, though the begging on 8 Jan could have been D2 first located around 150 m away at 71-73 Walker Cres on 11 Jan, but was closer to 100 m away at No 79 on 13 Jan (not found at either on 10 Jan, see Table 1). Diana has indicated that she also saw or heard other possibly different fledglings in her daily walks/searches, but these were never confirmed.

*5.3 Adult/fledgling interactions*

Previously I have described increased adult Koel activity in the presence of fledglings (Holland, 2014, 2015, 2016a). In contrast to my experience in both 2016-2017 and 2017-2018 (Holland, 2017a, and 2018a, Part I this issue) Diana's observations contain many examples of adult/fledgling interactions, especially for D1 in her own garden, but also for D5 on 19 Jan, as well as possibly D7 and D8 in Meehan Gardens before they were first found on 14 Feb. The descriptions of the close interactions of fledgling D1 with the female on 5 and 7 Jan, including the vocalisations, are noted in particular.

Adult/fledgling interactions are also described in Part III (see Holland 2018c, this issue). Geoffrey Dabb noted a female calling after he observed his fledgling in Narrabundah (see 25 Jan entry in Table 2); Martyn Moffat saw 2 adults and a fledgling in his Curtin garden over December and January (see 5 Feb entry in Table 3); and Denise Kay had adult Koels in attendance with her fledgling in her Giralang garden (see 3 Mar entry in Table 4). Particularly interesting are Gail Neumann's observation of the adults moving away after her fledgling died in the nest in the 2016-2017 season (see 6 Feb entry in Table 3), and Barbara Allan's observation of a female being present the last time she saw her fledgling (see sub subsection 5.7 and also discussion in sub-section 5.8 as to possible reasons for this).

### *5.4 Fledgling and adult Koel interactions with other species*

#### 5.4.1. Pied Currawongs

Diana also made some interesting observations of interactions with Pied Currawongs *in and around her garden. These include the 22 Jan entry for fledgling D1 (see Table* 1), as well as comments from neighbours at 51 and 57 Caley Cres above, the competition for the sour cherries and mulberries (see sub-section 5.5 below), and the observations at Meehan Gardens on 14 Feb and 3 Mar (see Table 2). Diana noted that Pied Currawongs seemed to be a constant threat for young fledglings, but in my five seasons of keeping a close watch on Koel fledglings in my local area of Rivett/Chapman I have previously observed this only on one occasion (see 22 Feb entry in Table 7 of Holland 2017a). However, Mark Clayton clearly observed such an interaction in his Kaleen garden on 11 Feb, as did possibly Charmian Lawson on 18 Feb (see Tables 3 and 4 in Holland 2018c, Part III this issue) and Philip Veerman on 23 Feb (see sub-section 5.7 of Part III).

#### 5.4.2. Magpie-larks

Diana's observation of a possible interaction between fledgling D1 and the Magpie-lark on 8 Jan is also of interest. She clarified that she had the impression the Magpie-lark perhaps had innocently landed beside the fledgling, which was not impressed and reacted aggressively until it flew off. At the time she wondered if the Magpie-lark was feeding another Koel fledgling that she could hear from time to time, but this was never confirmed. She did watch a pair of Magpie-larks in a nest on Captain Cook Cres feeding and bringing out a pair of their own chicks during this time. I have never observed an interaction between a Koel fledgling and a Magpie-lark, though on a numbers of occasions, particularly during the 2017-2018 season, have seen them interacting with adult Koels (Holland 2018a, Part I this issue). Charmian Lawson's observation of 18 Feb on the interaction of her fledgling with a Magpie-lark should also be noted, as well the comments by Barbara Allan on 16 Nov and 18 Dec of the interaction of this species with female Koels (see Table 4 and Section 3, respectively, of Holland 2018c, Part III this issue). However, this species has still not been confirmed as a local host.

#### 5.4.3. Satin Bowerbirds

On 20 Feb Diana indicated she had noticed some Satin Bowerbird (*Ptilonorhynchus violaceus*) activity in her area, she had glimpses in her garden of them eating green tomatoes while the Koel fledgling was down at the back fence. The 20 Jan observation with fledgling D3 in Table 2 should also be noted. Again I have only ever observed a single interaction near a bower with an adult male Koel (Holland, 2017a), but I note Con Boekel's observation on 24 Jan (see Table 2 of Holland 2018c, Part III this issue) of the interaction of a fledgling and a male Satin Bowerbird in Kambah.

In particular Jean Casburn witnessed some interesting interactions of Koels with Satin Bowerbirds around her Duffy garden when there was a fledgling or juvenile present. On 6 Feb she noted that the Koels were back in her GBS site again, and at about 17.30 h she went out the front and followed them down Tullaroop St to just past Coliban Pl. There were 3 birds, male, female and juvenile all within metres of each other. They were being harassed by 3 or 4 green Satin Bowerbirds, with RWBs and an Australian Magpie (*Gymnorhina tibicen*) looking on. The male Koel was fast and aggressive in retaliation, but she did not think it made physical contact. When the juvenile or the female were attacked they made sounds like a small cry of fear.

Very interesting here is that the interaction was with a group of both Satin Bowerbirds and Koels, including a possible juvenile. Jean indicated that she was looking out and listening quite a lot, and although there was *wherra–wherraing* and *ko-eling* on and off in the vicinity, on 6 Feb the young bird was not begging and she did not hear any begging calls during that afternoon. However, a juvenile Koel was confirmed on 8 Feb when again there was an interaction with Satin Bowerbirds (see entry in Table 3 of Part III). She did not know whether they were just interested or being territorial, but were possibly youngish birds as there had been a bower across the road and the birds had been in her back garden in the last few days. I suspect it may have been a female with dependent young, which are usually very quiet and you have to look very closely to confirm this.

5.4.4. Comments on the above interactions

Geoffrey Dabb's observation of a fledgling making advances to an Australian King-Parrot (*Alisterus scapularis*) on 25 Jan (see Table 2 of Holland 2018c, Part III this issue) should also be noted. Interestingly HANZAB (Higgins 1999) has very little on Koel interaction with other species, at least under "Agonistic behaviour". The only example included is of a male vigorously defending a female being mobbed by Grey-crowned Babblers. While the Pied Currawong would clearly be interested in Koel fledglings as a food source, and the Magpie-lark is a potential host, the interactions with Satin Bowerbirds are less easily explained except for the interpretation of Jean Casburn's being of a female defending her dependent young. HANZAB (Higgins et al, 2006) does not mention interactions between Satin Bowerbirds and Koels under "Agonistic behaviour", though 16 other species are mentioned.

*5.5. Fledglings feeding themselves independently?*

From the very first posting by Geoffrey Dabb on 30 Dec, fledgling D1 seemed to spend a lot of time in either the sour cherry shrub or the mulberry tree. However, I expected, at least initially, that it was not actually eating the fruit, rather just using the tree as good cover. Diana has commented that:

I am not absolutely certain when the fledgling started eating the sour cherries and mulberries, because I didn't make a note of that, but I think it was eating them or pecking at the sour cherries and eating mulberries in between waiting for the RWBs to come back to feed it from the time I was first aware of it there. I had been picking sour cherries to preserve until I discovered it there so I stopped gathering them.

Over time the fledgling really thinned them out with some help from Pied Currawongs when they had a chance. It was very defensive of its spot there and actively lunged at any Currawongs that tried to get a look in (see also sub-section 5.4.1 above). I couldn't be certain whether it was actually eating them whole or just pecking at them, but it was definitely eating mulberries, searching for them in the canopy. It also found raspberries further over under the cherries at a later stage (see 24 Jan entry in Table I) where it huddled in the heat of the day. The two sour cherry shrubs made excellent camouflage for it too, and the paling fence behind was where it would wait peering and calling persistently when it was obviously really hungry and wanting to be fed. The depths of the sour cherry were also the place where it seemed to rest or sleep (see 19 Jan entry in Table 1 and also comments on David Rosalky's pair's roosting spot in sub-section 5.1) for quite long periods of time, possibly because it was feeding more on the fruit and could last longer between the RWBs feeds.

Other reports of juveniles observed eating include Philip Veerman's post of 23 Feb of his fledgling appearing to be feeding on some fluffy stuff extracted from the underside of the leaves of a eucalypt (see Section 5.7 of Holland 2018c, Part III this issue), and Denise Kay's observation of her fledgling eating fruit and grapes (see 3 Mar entry in Table 4 of Holland 2018, Part III this issue). However, in both cases these fledglings were quite advanced by that time.

**Acknowledgements**

My sincere thanks go to David Rosalky for allowing me to use his observations posted on the COG chat line in this Part. Particular thanks go to Diana White for both collecting the fledgling observations near her house in Narrabundah, for her detailed correspondence with me, and for allowing me to use this information as described in this Part, having declined a number of offers to be a co-author. Diana also kindly invited me to inspect her local area, affording me a much more complete picture.

**References -** See Holland 2018c, Part III this issue.

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# THE 2017-2018 EASTERN KOEL SEASON. III. OBSERVATIONS OF ADULT AND FLEDGLING BEHAVIOUR IN WIDER CANBERRA

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***Abstract:*** *This Part details further evidence of changing adult Eastern Koel* Eudynamys orientalis *behaviour throughout Canberra during the spring/summer of 2017-2018. This is again based on comments posted on the COG chat line, as well as correspondence directly with me, and more detailed observations from Chapman/Rivett and Deakin/Narrabundah (see Parts I and II). This season the early arrival of females led to earlier observations of fledglings. The number of reported fledglings also increased to a minimum of 84.*

## 1. Introduction

The first breeding records for the Eastern Koel (*Eudynamys orientalis*) (Koel hereafter) in Canberra were published in 2009 (Lenz *et al.* 2009). Since that time reports of breeding have steadily increased. For the past four years I have published observations of fledglings and associated adult behaviour in Chapman/Rivett (Holland 2014, 2015, 2016, 2017a), as have Darwood (2015) for Flynn, and Abernathy and Langmore (2016, 2017) for Canberra. I have also published observations documenting the apparent changing adult Koel behaviour throughout Canberra and a significant increase in the number of fledglings reported during the spring/summer of 2016-2017 (Holland 2017b). This Part details similar observations in Canberra for the 2017-2018 season, as does Part I for Chapman/Rivett and Part II for Deakin and for a cluster of fledglings in Narrabundah.

## 2. Methodology

Again most of the reports of fledglings and adult Koel behaviour for 2017-2018 came from the COG E-mail Discussion List (COG chat line), though some were from E-mails directly to me. Due to space limitations many of these observations as well as the comments and subsequent correspondence have had to be edited, retaining only the most relevant information. However, despite my own preferences (see Holland 2018, Part I this issue) descriptions of adult and fledgling Koel calls have been left as indicated by the authors. As far as possible all these communications are acknowledged.

## 3. Observations of adult Koels' arrival and activity

The first report of a Koel on eBird Australia was on 7 Oct 2017, but the first post on the COG chat line was by David Rosalky. At about 18:05 h on 12 Oct he heard two Koels calling near his home in Deakin. The first was the *kek-kek-kek* usually attributed to a female, followed a few seconds later by the "*koel*" call several times. For the remainder of the month there were further reports of the first Koels arriving in various suburbs but, surprisingly compared with 2016-2017, no more reports of females in October (Holland 2017b). This was possibly an artefact of reporting, given the much earlier observations of the first fledglings (see Section 4 below). There were some reports of early morning calling, with Lindell Emerton reporting a

Koel letting its presence be felt at 04.15 h on 26 Oct in Mawson, and David Nicholls reporting two of them calling about the same time in Deakin.

On 12 Nov Ryu Callaway posted that while for some time he had been hearing them frequently in Deakin/Narrabundah, they always seemed to get to Fadden much later than elsewhere in Canberra, and he had only heard the first Koels there in the past few days. In response Geoffrey Dabb noted that in Narrabundah it was not a particularly loud year so far; each morning they were heard distantly though he had seen a female the day before[1]. On 21 Nov Alison Milton posted that while Koels had been visiting Higgins for the past five or six years she had heard them calling there only in the past week. While the above possibly correlates with my experience of a very quiet November in Rivett/Chapman (see Holland 2018, Part I this issue), Alison noted that elsewhere (*e.g*. Kingston and Weetangera) over the past week there seemed to be a lot around this year.

Higher activity also seems to have begun in other locations from mid November. On 16 Nov Barbara Allan reported lots of Koel activity in Page over the past few days. Barbara noted the female was trying to lay and had had a go at all likely nests in the vicinity. She was sent packing by one Red Wattlebird (*Anthochaera carunculata,* hereafter RWB) and by a Magpie-lark (*Grallina cyanoleuca*). On 21 Nov Mark Clayton posted that he had had Koels in his garden, including a female that may have laid in a RWB nest, on their third clutch. On 20 Nov Fiona Rochford posted that they usually have one lonesome male in Florey but this year they had four birds, two males and two females. Also on 21 Nov Chris Hastir reported a Koel convention with five in her Wanniassa garden the previous evening before sunset, two females and three males, and on 22 Nov Susan Robertson reported two males and one female Koels calling in Campbell over the past week.

On 18 Dec Barbara Allan followed up that this year Page was simply awash with Koels. Males chasing males, males chasing females, females perched together and calling. She noted the RWBs and Magpie-larks were certainly no longer naïve and sent them on their way promptly. She was keeping an ear out for begging young, but had only found RWB fledglings thus far. On the same day Charmian Lawson posted that there had been much Koel activity around their place in Holder over the past week or so, with the male in their big backyard tree several times yesterday. On 19 Dec Daryl King posted about the high Koel activity in the Ginninderra Creek corridor (see sub-section 5.5 below).

On 2 Jan Alison Milton posted an update that she had at least four Koels in Higgins; two males and two females, and possibly a fifth calling further away. Until the last week or two they were constantly calling to each other. Now they called early in the morning and early evening, perhaps moving further away during the day. On the same day David Rosalky also reported reduced activity in Deakin (see Holland 2018, Part II this issue). Activity in some other areas also seemed to die down around that time. On 19 Jan Con Boekel posted that the very high level of Koel noise over Christmas/New Year in Turner had now subsided substantially, and Barbara Allan noted that in Page Koels had gone considerably quieter and despite serious efforts looking and listening, no fledglings as yet (interestingly, David found a fledgling on 28 Jan, Con one later that day, and Barbara one on 3 Feb). Ryu Callaway also posted that adult Koels had become fairly quiet in his local area of Fadden, and on 20 Jan Steve Wallace reported that Koel calling had certainly diminished in Fraser/Spence.

[1] This is a very interesting observation given that only around 250 m away Diana White recorded many fledglings including her first one only 44 days later on 26 Dec – see Holland 2018b, Part II this issue).

Adult Koels continued to be reported until mid March. The last record on eBird Australia was of 2 birds by Alastair Smith in Garran on 19 Mar, though on the morning of 20 Mar Sue Lashko heard a Koel calling in Cook. However, Denise Kay's late observations of fledglings picked up and taken to the vet on 26 Mar should be noted – see Table 4 below.

### 4. A continuing increase in numbers of Eastern Koel fledglings reported in Canberra

Holland (2017b published totals of Koel fledglings that had come to attention over the three breeding seasons from 2014-2015 to 2016-2017, noting in particular how numbers for the last of these were around double the previous two. However, despite this and the documented earlier arrival of females, few fledglings had been reported by mid January, and the fledgling reporting period was actually shorter than the 2015-2016 season. The earlier reporting of fledglings in the 2017-2018 season (6 already in December, see Table 1) suggested an even higher total and longer season. Again I closely monitored reports of them on the COG chat line, including corresponding with the observers. A number of specific requests were also made for further observations, to which again there was an excellent response. This information, including observations by me, David Rosalky and Diana White reported in Holland (2018a, b, this issue), is summarised in the Tables below.

The early records to mid January are summarised in Table 1, and later records in Tables 2-4. A discussion of these results follows in Section 5.

**Table 1 Early Eastern Koel fledglings reported in December 2017 to 15 January 2018.**

| Date* | Name | Location | Comments |
|---|---|---|---|
| 3 Dec | Ryu Callaway | Spence | A well feathered Koel nestling with its nest was taken into care after the nest fell down in bad weather. It was returned in a makeshift nest with RWBs still in attendance. |
| 4-10 Dec | Martyn Moffat | Curtin | Reported the first fledgling in his Curtin garden in the GBS week starting 4 Dec – see further comments in 5 Feb entry in Table 3 and Section 5.2 in Discussion below. |
| 24 Dec | Mark Clayton | Evatt | Forwarded on behalf of Gil and Marion Pfitzner. They commented that it was really hard to get a photo and thought the Koel fledgling was not flying yet, though it had been there a couple of days. It kept hopping into clumps of leaves. |
| 26 Dec | Geoffrey Dabb | Narrabundah | On 30 Dec Geoffrey first reported Diana White's fledgling D1 present in her garden at 65 Caley Cres from 26 Dec. For further details of D1 see Holland (2018b, Part II this issue). |
| 30 Dec | Michael Lenz | North Lyneham | This morning a recently fledged Koel made its noisy appearance in my GBS site. RWBs are the host. |
| 30 Dec | Steve Wallace | Spence | RWBs near the Spence shops are feeding a fledged Koel. |
| 1 Jan | Tyrie Starrs | Wanniassa | Spent an hour that morning waiting for the Koel fledgling being fed (RWB hosts) in their Bolton Place backyard to emerge. It only made a very brief appearance in full view. |
| 4 Jan | Shorty | Symonston | In the afternoon a RWB was feeding a young Koel. |
| 5 Jan | Diana White | Narrabundah | Fledgling D1 – details in Holland (2018b, Part II this issue). |
| 9 Jan | Jack Holland | Rivett | Fledgling J1 - details in Holland (2018a, Part I this issue). |
| 9 Jan | Steve Wallace | Spence | Two fledglings fed by RWBs confirmed within 100 m of each other near the shops. One was usually near the intersection of Magrath Cr and Moroney St, and the other near the intersection of Magrath Cr and the southern entrance to Somerville St. |
| 10 Jan | Jack Holland | Chapman | Fledgling J2 - details in Holland (2018a, Part I this issue). |
| 10 Jan | Jack Holland | Rivett | Fledgling J3 - details in Holland (2018a, Part I this issue). |
| 11 Jan | Sue Lashko | Macquarie | A friend sent her a photo asking for an ID and it was a recently fledged Koel being fed by a RWB. |

*Table 1 continued next page*

*Table 1 continued*

| Date* | Name | Location | Comments |
|---|---|---|---|
| 13 Jan | Diana White | Narrabundah | Fledglings D2 and D3 confirmed - see details in Holland (2018b, Part II this issue). |
| 14 Jan | Jack Holland | Rivett | Fledgling J4 - see details in Holland (2018, Part I this issue). |
| 14 Jan | Martin Butterfield | Jerrabomberra Wetlands | A raucous begging Koel fledgling was at Kellys Swamp right next to Ardea hide. A RWB was the host. |
| 15 Jan | John Brannan | Florey | There had been a Koel chick in and around his garden for the past 10 days. It started out in their paperbark and has since moved to various spots in the garden and the adjacent park, but never far away. The hosts were RWBs. |

*Wherever possible this is the date of the record. In some cases it is the date of posting on the COG chat line or E-mail to me.

Fledglings for the second half of January are summarised in Table 2.

**Table 2 Eastern Koel Fledglings reported in second half of January 2018.**

| Date* | Name | Location | Comments |
|---|---|---|---|
| 17 Jan | Daryl King | Melba | His first local sighting this season; the fourth consecutive season at this site; RWBs have been the hosts in all cases. |
| 18 Jan | Jack Holland | Rivett | Fledgling J5 - see details in Holland (2018a, Part I this issue). |
| 18 Jan | Diana White | Narrabundah | Fledglings D4 and D5 confirmed – see details in Holland (2018b, Part II this issue) |
| 19 Jan | Con Boekel | Turner | A begging fledgling was being attended by RWBs at Ridley Street (and adjacent areas) on 19 and 20 Jan. On 27 Jan Con noted that he had not heard it subsequently. |
| 20 Jan | Jack Holland | Rivett | Fledgling J6 - see details in Holland (2018, Part I this issue). |
| 20 Jan | Barbara Allan | Lake Ginninderra peninsula | A Koel chick with RWB hosts within 100 m of last year's one. Between the Eastern car park and the water. She noted she had not seen or heard Koels on the peninsula this season though she goes there at least once a week. Many RWBs. The chick was there again on 27 Jan but not on 3 Feb. |
| 21 Jan | Steve Wallace | Fraser | That morning he located a third juvenile Koel in Nish Pl about 250 m from the nearest of the other two (see 9 Jan entry in Table 1). He located all three twice on the same walk. As this is a location he walked past nearly every day, he was confident it was a fairly recent fledgling. It was calling more consistently, like a new fledgling unable to feed itself. |
| 20 Jan | Mary Mulcahy | Wanniassa | Had a fledgling Koel in their yard in 72 Degraves Cres attended by its RWB 'parents'. It was very mobile (and very noisy!). This advanced fledgling could possibly have been the same as the recent fledgling Tyrie Starrs reported 3 weeks before on 1 Jan (see Table 1), but as this is about 500 m from Bolton Place it's been counted as a different one. |
| 24 Jan | Con Boekel | Kambah | A fledgling being fed by RWBs corner of Coombs Pl and Boddington Cres. An obviously confused male Satin Bowerbird displayed to it. |
| 25 Jan | Mark Clayton | Kaleen | He flushed a large juvenile from a small mallee in his backyard. Mark's initial reaction was to an alarm call from an RWB that was feeding a fledgling RWB. As he approached the tree the Koel flew to a neighbour's tree. It was NOT fed by the RWBs and appeared to be developed and possibly feeding itself. He did not know of any RWB nests locally where the bird could have come from The local ad. Koels had been highly mobile and going crazy over the last week with much weird calling, some of which he had never heard before. |

*Table 2 continued next page*

*Table 2 continued*

| Date* | Name | Location | Comments |
|---|---|---|---|
| 25 Jan | Michael Lenz | North Lyneham | Koel young heard this morning in my GBS site, host RWB. |
| 25 Jan | Geoffrey Dabb | Narrabundah | This morning his first close-at-hand Koel chick. The familiar persistent beep came from the top of the Catalpa tree. A fairly developed young, possibly one of Diana White's from down the hill at Caley or Walker Cres (while these were all over 250 m away this could have been D1 in Diana's garden which was by then very mobile and was last seen on the same day – no others likely as they were still too young). It was making hopeful advances to an Australian King-Parrot but soon flew off to a more distant tree, still just audible. Sure enough, a female was just over the street giving croaks and groans, and soon the usual multi-Koel vocal inter-action broke out. |
| 27 Jan | Michael Lenz | Lyneham | Another young Koel in a large Oak tree between Blackbutt and Wattle Sts. He did not actually see the bird, but an older young by its call. Saw no RWB, but it was the assumed host. |
| 27 Jan | Steve Wallace | Fraser | Located two more Koel chicks tonight, this time on the western side of Tillyard Dr (>1.8 km from the first two posted on 9 Jan). Both were attended by RWBs. |
| 27 Jan | Diana White | Narrabundah | Fledgling D6 confirmed (Holland 2018b, Part II this issue) |
| 28 Jan | David Rosalky | Deakin | Fledgling first reported (see Holland 2018b, Part II this issue). |
| 31 Jan | Steve Wallace | Macgregor | Another Koel chick this morning in the park near SW corner of suburb. He did not see it fed but RWBs were in the area. |

*Wherever possible this is the date of the record. In some cases it is the date of posting on the COG chat line or E-mail to me.

By the end of January a further 19 fledglings were reported, assuming Geoffrey Dabb's was not one of Diana White's. This becomes 22 if Tyrie Starrs' second fledgling reported on 5 Feb (but first seen on 27 Jan), Martyn Moffat's second fledgling also reported on 5 Feb and Marian Sawer's, seen for 2 weeks before being reported on 6 Feb (see Table 3), are added. Adding the 18 in Table 1, the total to the end of January was 40.

Table 3 summarises reports of fledglings in the first half of February.

**Table 3 Eastern Koel fledglings reported in the first half of February 2018.**

| Date* | Name | Location | Comments |
|---|---|---|---|
| 1 Feb | Sue Beatty | Holder | There was a Koel fledgling in our Fossey Street garden last Thursday evening with RWB foster parents. |
| 1 Feb | Lyndon Howe | Flynn | One juvenile Koel seen at Oster Pl around 17:00 h. |
| 2 Feb | Steve Wallace | Fraser and Spence, respectively | Located another Koel chick in the area of Brophy St., was close to the location of the bird in Nish Pl, but that morning two young birds were near each other in trees on either side of Brophy St so a second chick confirmed in the area. Another a chick was at Magrath Pl Spence, likely a new one from its behaviour (calling all the time), but was close to the location of the first bird he reported, which, as it was first reported 36 days before on 30 Dec, should have been independent by now. |
| 2 Feb | Michael Lenz | Jerrabomberra Wetlands and The Causeway | 5 adult Koels and 5 fledglings, 4 of them older ones: 1 at the Tadorna Hide, 1 opposite Fulica Hide; 1 in Sandalwood/Blueberry St, 1 Sandalwood/Spinifex St (both at the Causeway). Also 1 small young just a few cm above the RWB host's nest at the Woodland Loop. With only 1 record from the Jerra. Wetlands (14 Jan, see above), and as an advanced fledgling could probably fly between the various hides, this represented 4 new ones. Both older young at the hides were heard at the same time, likewise the 2 at The Causeway. Only RWBs were feeding the young.** |

*Table 3 continued next page*

*Table 3 continued*

| Date* | Name | Location | Comments |
|---|---|---|---|
| 3 Feb | Barbara Allan | Page | Her first Koel chick was beeping from her *Hakea*. She noticed it in next door's *E. mannifera*, then it moved to their wattle and it was now with her. It was just recently fledged, she suspected, and very pretty, with quite strong rufous markings, bold dark eye stripe, dark eye, short tail. RWB hosts were working hard. |
| 4 Feb | Jack Holland | Duffy | Koel fledgling heard from the Duffy shops 150 m away and a quite golden one with a long tail in the gums located opposite 36 Jemalong St at 09:45 h. It flew across the road to the trees in that garden; nothing came to feed it in over 5 minutes. On 5 Feb Jean Casburn saw and heard this juvenile Koel in the tree obliquely opposite at 57 Jemalong St. She noted a lovely orange spikey crown and interesting gold and brown markings on the feathers. |
| 4 Feb | Daryl King | Melba | Adult Koels could still be heard/seen reliably along the Melba/Evatt stretch of the Ginninderra Creek, although not in the aggregations as on 15 Dec (see Sub-section 5.5 below). He had not detected any juveniles in the creek corridor and had not systematically searched the adjacent residential areas, but knew of 3 juveniles in residential Melba (2 more - see 17 Jan above). |
| 4 Feb | Tina Bromhead | Rivett | There was a Koel chick in their park being fed by a pair of RWBs (this is the same location as the earliest one reported in the 2016-2017 season – see Table 1 in Holland, 2017b). |
| 5 Feb | Tyrie Starrs | Wanniassa | A second fledging from the RWBs in their backyard. First heard begging on 27 Jan, and numerous times since including on 4 Feb (but not seen), within 20 m of the photos taken on 28 Jan. |
| 5 Feb | Martyn Moffat | Curtin | His first Koel in his GBS site in Curtin arrived 23 Oct. His first fledgling was in the GBS week of 4 Dec (see above), fed by RWBs. He had had up to 3 birds continuously since then, two adults and a fledgling. Given that the maximum known period for fledglings staying around in the one spot is about a month, and there was a gap of 2-3 weeks before the next sighting, these have been counted as two separate fledglings. |
| 5 Feb | Michael Lenz | O'Connor | That morning 1 young in Mulga/Boronia Sts, RWB as hosts |
| 5 Feb | Pete Cranston | O'Connor | Koel fledgling had been moving between Miller and Quandong Sts for 2 days, being fed by RWB. At least 250 m from the Mulga/Boronia Sts one above, so assumed to be a different one. |
| 5 Feb | Diana White | Parkes | Unmistakably loud and persistent Koel fledgling heard but exact spot not seen in Antarctic Beeches in the small green space between Walpole Cres and Kings Ave. She was stopped at the Kings Ave/National Circuit lights about 17:00 h. |
| 5 Feb | David Rosalky | Deakin | Updated his fledgling - see Holland 2018b, Part II this issue |
| 6 Feb | Helen Walker | O'Connor | Saw a juvenile male Koel from her Coolibah Cres backyard this week. She had heard and seen more Koels in the area this season so was pretty sure the juvenile was from around there. It was just across the park from Boronia St and also near Miller St, but at least 250 m from the former, again assumed to be a different one. |
| 6 Feb | Gail Neumann | Yarralumla | A begging juvenile Koel between the lake end of Novar and Banks Sts. This bird entered her GBS area on 4 Feb and was moving around from one yard to the next, fed by two RWBs. She had not heard the adult birds for several days, which seemed a bit odd to her. The activity in this area had been significantly lower than it was during the last couple of years. She thought perhaps the unsuccessful breeding in one of the street trees last year might have put them off the area. Last year the nestling either died from heat during the 40$^{o}$C days when the RWB had left the nest, or it was predated. The adult birds that were around it left that same day and were not heard from again. |

*Table 3 continued next page*

*Table 3 continued*

| Date* | Name | Location | Comments |
|---|---|---|---|
| 6 Feb | Marian Sawer | Hughes | A photo of the young Koel that had been eating grapes in Wisdom Pl for the past two weeks. It did not have a RWB in attendance but did regularly make young bird squawks (probably independent given the early records this season). |
| 6 Feb | Jean Casburn | Duffy | Interaction between a group of Koels including a possible juvenile and Satin Bowerbirds – see description in Holland 2018b, Part II this issue. |
| 8 Feb | Jean Casburn | Duffy | She walked out the front door in Tullaroop St at 07.40 h to the sound of what you would call typical begging, and a Koel was visible in the tree close in front of her in the garden. It was looking a bit ragged but was definitely a young bird – 500 m from the Jemalong st one above, so a different one. Again the green Satin Bowerbirds seemed to be chasing it. The Koel took off across the road and away down the hill and the bowerbirds then appeared to follow. |
| 10 Feb | Diana White | Manuka | Driving down Murray Cres she heard the familiar very loud pipping. 15 minutes later the fledgling, eventually located near the top of a tall silver-leafed gum at 15 Murray Cres, was still persistently pipping. She watched for perhaps 10 mins but did not see RWBs, though there were occasional calls from nearby. |
| 11 Feb | Mark Clayton | Kaleen | From around 08:15 to 08:32 h this morning he watched a very advanced and what appeared to be totally independent 'young' Koel in his garden, feeding within cm from the ground on the fruits of an *Eremophila maculata*. There were at least 5 Pied Currawongs 'attending' the bird very closely (they were also feeding on the fruits), and one rather disinterested RWB. The juvenile tried to stay as deep as it could in the bush to avoid being harassed. Probably not the same bird reported 17 days before on 25 Jan, which was already close to independence. |
| 14 Feb | Philip Veerman | Kambah | He had his first Koel fledgling for the year in his GBS site, only 1 m from his bedroom window, giving that persistent slow 'weep' call. It appeared close to independence with a tail more than half grown, so not a very recent nest leaver (but see below). |
| 14 Feb | David Rosalky | Deakin | Further update of his fledgling - see Holland 2018b, Part II |
| 14 Feb | Susanne Gardiner | North Ainslie | Had a Koel fledgling since Monday last week (5 Feb, about 10 days ago), fed by RWBs. The first one in years. |
| 14 Feb | Diana White | Narrabundah | Fledglings D7 and D8 confirmed – see details in Holland (2018b, Part II this issue). |

*Wherever possible this is the date of the record. In some cases it is the date of posting on the COG chat line or E-mail to me.

** On 5 Feb Jane Gregor posted that a fledgling was seen and photographed at the Jerrabomberra Wetlands on the Woodland Loop on Saturday 3 Feb (so probably the same as Michael Lenz's). Sue Beatty responded it was still on the Woodland Loop that afternoon being fed by RWBs.

Assuming O'Connor ones and Mark Clayton's were different Table 3 adds 25 further fledglings, so the total was now 65.

## Table 4 Eastern Koel Fledglings reported mid February to March 2018.

| Date* | Name | Location | Comments |
|---|---|---|---|
| 16 Feb | Rosemary Blemings | Fraser | Koel fledgling picked up at Mt Rogers was put down by the Gungahlin vet and is to be delivered to CSIRO Wildlife. |
| 17 Feb | Martin Butterfield | Yerrabi Pond | There was a fledgling Koel just on the land side of Soroptomist Point. A RWB was in attendance. |

*Table 4 continued next page*

*Table 4 continued*

| Date* | Name | Location | Comments |
|---|---|---|---|
| 17 Feb | Robin Hide | Ainslie | At midday near Corroboree Park was what he assumed was a young Koel (confirmed by attached photo) calling repeatedly for about 30 mins; a begging sound he had never heard before. It moved between 3 trees in backyards. He could not see any RWB or other bird feeding it. It was eventually chased away he thought by a Noisy Friarbird. Until now he had only occasional adult birds in and above the garden, t near distance adult calling was heard almost every day. |
| 18 Feb | Charmian Lawson | Holder | Had seen her first female/fledgling (the photo confirmed the latter) Koel. She had heard a call that was new to her, a sort of 'krip krip' in the Chinese elm in the back, but before she could locate it, a bird flew off. Then she heard it again up on the power line in full view being inspected very closely by a young Australian Magpie only a few feet away. It was still there further away later, this time with more magpies, a Pied Currawong and a Magpie-lark, but scrutinising it carefully. |
| 19 Feb | Maggie Indian | Turner | Reported a Koel fledgling (with photo) during the last week of January. The fledgling was observed begging and being attended by RWBs in and around a Turner backyard on the corner of David & Stawell Sts. As this is at least 400 m from Ridley St (see 19 Jan entry in Table 1), and given it was around a week later, it has been counted as a different one. |
| 19 Feb | Beth Collins | Evatt | Posted a photo of a juvenile that had hit their window on 13 Feb, and then struggled against the pool fence for a while before flying away. While it appeared to be quite an advanced one, Beth saw it again the next day, pursued by RWBs, and again on 20 Feb. |
| 19 Feb | Michael Lenz | Kingston | Today a very mobile young Koel at Wentworth/Giles St (with 1 RWB). |
| 21 Feb | Martin Butterfield | Yerrabi Pond | Some members of the COG Wednesday Walkers were busy observing a young Koel (recently fledged judging from the photo), when a few metres back from this a similar ruckus was audible, and there was a second one. Both attended by RWBs. Only one counted due to 17 Feb entry above. |
| 23 Feb | Steve Wallace | Fraser | Another Koel chick, this time in Rochford St. He first heard it earlier in the week but got a look at it today (RWB host). |
| 23 Feb | David Rosalky | Forrest | Another fledgling sighted on 20 Feb together with RWB hosts in the grounds of the National Jewish Centre on the corner of National Circuit and Canberra Ave. |
| 23 Feb | Philip Veerman | Kambah | Update of his fledgling - see sub-Section 5.7 below |
| 25 Feb | Jack Holland | Rivett | Fledgling J7 - see Holland (2018a, Part I this issue). |
| 27 Feb | David Rees | Yerrabi Pond | Update of 21 Feb fledglings - see sub-Section 5.7 below |
| 27 Feb | Philip Veerman | Kambah | Further update of his fledgling - see sub-Section 5.7 below |
| 3 Mar | Denise Kay | Giralang | Reported a juvenile Koel with adult Koels in attendance in Balanu Pl. Yesterday it was on its own, but had been eating fruit for a couple of weeks, spending a lot of time in the peach with RWBs in attendance. Since moving on to the grapes it appeared to be flying solo, until that morning when the adults arrived calling. |
| 4 Mar | Barbara Allan | Page | Update of her fledgling - see sub-Section 5.7 below |
| 8 Mar | Maggie Indian | Turner | For the last couple of days they had heard a Koel fledgling in their garden. It had been very elusive, but she had just seen and confirmed it. Based on the dates of Maggie's previous one (see 19 Feb above) this was certainly a new and late one. |
| 9 Mar | Martin Butterfield | Bungendore | A post to their community Facebook page had a photo of a juvenile Koel taken in Bungendore a couple of days earlier. |

*Table 4 continued next page*

*Table 4 continued*

| Date* | Name | Location | Comments |
|---|---|---|---|
| 15 Mar | Kym Bradley | Richardson | Posted two photos dated that day of a juvenile male Koel moving into pre-adult male plumage eating tomatoes in her garden. On 16 Mar Kym reported (through Geoffrey Dabb) that earlier there had been a begging noisy one following the RWBs, but getting a photo was impossible. |
| 21 Mar | Margaret Robertson | Giralang | She had had juvenile Koels in her Kinalung Pl garden this season. She believed there were two separate breeding events, both chicks attended by RWBs, one earlier in the season on 28 and 30 Jan, one later. On 8 Mar she saw a juvenile in the garden and heard an adult after that, but both have disappeared. As this is around 500 m from Balanu Pl (see 4 Mar entry above), they have been counted as different. |
| 22 Mar | Denise Kay | Giralang | Picked up an injured juvenile (broken spine the vet thinks) Koel, sadly it was not making the journey home. |
| 10 Apr | Denise Kay | Kaleen | The last 2 birds they had records for were: both fledglings, both from Kaleen, and were taken to the Kaleen vet on 26 Mar. The first was of unknown sex with no obvious injuries and was released back to Kaleen on 1 Apr; the second was also of unknown sex with no obvious injuries but died. |

*Wherever possible this is the date of the record. In some cases it is the date of posting on the COG chat line or E-mail to me.

Another 19 fledglings are reported in Table 4, so the minimum ACT total for 2017-2018 was 84, not counting the Bungendore one

## 5. Discussion

### *5.1. Noisy multiple adult Koel aggregations/interactions*

During the 2017-2018 season there were many observations of noisy multiple adult Koel aggregations/interactions, particularly in late spring/early summer. These are described in Section 3 and include the reports from Barbara Allan in Page on 16 Nov and 18 Dec, Fiona Rochford in Florey on 20 Nov, Chris Hastir in Wanniassa on 21 Nov, Susan Robertson in Campbell on 22 Nov, Charmian Lawson in Holder on 18 Dec, and Alison Milton in Higgins on 2 Jan. The comments from Julie Clark in Amaroo on 30 Nov and Philip Veerman in Kambah on 8 Jan in sub-section 5.4 below should also be noted, as should those by David Rosalky in Deakin on 2 Jan (see Section 3 in Holland 2018b, Part II this issue).

For the discussion of adult/fledgling interactions as well as interactions with other species see Holland 2018b, Part II this issue.

### *5.2. Earlier Eastern Koel breeding*

While compared with the 2016-2017 season (Holland 2017b) there were surprisingly very few reports of female Koels during October, as shown in Table 1 reports of fledglings started much earlier. By comparison with the 2016-2017 season when there had been only three reports of fledglings by 15 Jan, there were eighteen (including one nestling) to this time included in Table 1, underlining the much earlier fledging during the 2017-2018 season. All those found up to 1 Jan appeared to be very recent fledglings. This contrasts with the four advanced fledglings I found in Rivett/Chapman from 9 Jan (see Holland, 2018, Part I this issue), which as noted might have been picked up as early as before Christmas if we had not been away.

Martyn Moffat's observation of a fledgling in his Curtin garden in the GBS week starting 4 Dec is the earliest I am aware of, beating the previous one of 14 Dec 2015 (Holland 2016). Given the first Koel arrived in his GBS site during the GBS week of 23 October, with the now known maximum of 37 days from egg laying to fledging (Abernathy and Langmore 2017), the egg must have been laid very soon after Koels first arrived. It is just 42 days to 4 December, though the dates could have been as late as 29 Oct and 10 Dec, respectively.

Ryu Callaway's well-feathered nestling of 3 Dec additionally supports very early egg-laying. Attempted early egg-laying is also supported by Barbara Allan's report on 16 Nov of a female trying to lay in all likely nests in the vicinity, and Mark Clayton's report on 21 Nov of a female that may have laid in a RWB nest in his yard (see Section 3 above). In both cases it seems to have been unsuccessful, though they did report fledglings later on 3 Feb and 25 Jan, respectively (for Barbara 37 days would have involved fledging around Christmas).

*5.3 Fledgling locations and numbers*

A summary of the broad locations and numbers in each suburb/location within these broad areas follows (with numbers for the 2016-2017 season in italics in parenthesis):

**Belconnen** – **29** (18-21[2]): Macquarie 1 (*1*), Fraser 6 (*3-5*), Giralang 4 (*5*), Lake Ginninderra 1 (*2-3*), Evatt 2 (*1*), Page 1 (*1*), Spence 4 (*0*), Flynn 1 (*1*), Melba 3 (*0*) Kaleen 4 (*2*), Florey 1 (1), MacGregor 1 (*0*).

**Inner Southside** – **35** (*17-21*): **South Canberra - 20**: Manuka 1 (*1*), Deakin 1 (*2*), Yarralumla 1 (*1*), Jerrabomberra Wetlands 3 (*1-2*), Kingston 1 (*1, Telopea Park*), The Causeway 2 (*0*), Symonston 1 (*0*), Narrabundah 9 (*0*), and Parkes 1 (*0*).
**Weston Creek - 12**: Rivett 7 (*6-9*), Chapman 1 (*1*), Holder 2 (*0*), Duffy 2 (*0*).
**Woden - 3**: Hughes 1 (*1*), Curtin 2 (*2*). *None in Mawson (1).*

**North Canberra** – **11** (*12-14*): Turner 3 (1), Ainslie 2 (*1*), O'Connor 3 (*1*), Lyneham 3 (*4-5*). *None in Dickson (2) or Watson* (*3-4*).

**Tuggeranong** –**6** (*2*): Wanniassa 3 (*0*), Kambah 2 (*0*), Richardson 1 (*0). None in Fadden (1) or Macarthur (1*).

**Gungahlin** –2 (*5-6*[3]): only from Yerrabi Pond.

Again no fledglings were reported from **Queanbeyan,** but 1 was from **Bungendore NSW (**see 9 Mar entry in Table 4).

Adding up the total for each of the broad areas gives a **total of 84 fledglings**[4] in the ACT for the 2017-2018. This compares with a **minimum of 56 and a maximum of 64**[5] for the 2016-2017 season. Given the similar methodology of obtaining the numbers outlined above, there

[2] This has been amended down as the four reported from Palmerston were incorrectly included in Belconnen.

[3] This has been amended upwards as the four reported from Palmerston were incorrectly included in Belconnen.

[4] This is a minimum number. Closer scrutiny this season has allowed a more accurate estimate than for the previous one.

[5] This has been amended upwards based on the additional fledglings in Melba (see 17 Jan entry in Table 2) and Yarralumla (see 6 Feb entry in Table 3).

were certainly more fledglings reported in the 2017-2018 breeding season than in 2016-2017, around 40% more if we assume 60 fledglings for the latter. However, as previously I suspect both are likely to be significant underestimates, as I expect many fledglings are overlooked or are simply not reported.

*5.4. Further comments on fledglings' location and numbers*

As can be seen, the increase in numbers comes mainly from Belconnen, the Inner Southside and Tuggeranong. For the former, the increase comes mainly from the suburbs of Fraser, Evatt, Spence, Melba, Kaleen and MacGregor, all in the northern half of Belconnen, with Steve Wallace finding 8 fledglings over a distance of around 2 km in Spence/Fraser. In fact there is only one report (from Macquarie) from south of the Belconnen Way. Whether Koel numbers are actually lower in this S half is unclear, though on 11 Feb Chris Davey indicated there very few around Holt.

The largest increase clearly comes from the South Canberra part of the Inner Southside, the bulk coming from Diana White's cluster of 8 fledglings in Narrabundah (see Holland 2018b, Part II this issue), but also from the Jerrabomberra Wetlands/The Causeway where on a single day Michael Lenz found 5 fledglings over a distance of about 800 m.

There has also been a significant increase, though from a very low base, in Tuggeranong where Koel activity seemed quiet in the 2016-2017 season. This may reflect higher Koel activity this season as noted in Chris Hastir's post of 21 Nov of a Koel convention in her Wanniassa garden (see Section 3). On 1 Jan, in response to Tyrie Starrs' fledgling post (see Table 1), Sandra Henderson posted that she had never known Koels in Wanniassa to be as noisy or as numerous as they had been this year. On occasion she had been hearing three separate birds close by. On 8 Jan Philip Veerman posted that there were close to 5 Koels around his GBS area in Kambah most days, usually calling from at least 05:30 h, not much of the 'name' call, more the other calls.

Taking into account the error made placing Palmerston into Belconnen last season, the number of fledglings from Gungahlin is much lower. This is despite a reported much higher level of activity, at least in the NE part. On 30 Nov Julie Clark posted that in Amaroo, after driving them crazy with their persistent calls, two Koels (a male and female) finally popped out of a conifer next door and flew onto the fence and then bare branches on a tree. They sat there for about 10 minutes, the first time she had unobstructed views of each. On 29 Dec David Rees watched a male Koel being chased around his street in Harrison by Common Blackbirds (*Turdus merula*), RWBs and Noisy Miners (Manorina melanocephala). He noted it was the first one he had seen in about 10 years of living there. On 10 Jan Bill Graham mentioned to me there had been many more Koels around his home in Bonner this season.

Martin Butterfield's post of a fledgling in Bungendore (see 9 Mar entry in Table 4) is also noted. This may be the first record from there, as he checked eBird and as far as he could tell none of the records from the Bungendore, Goulburn or Yass areas mentions breeding. The limited reports of breeding from Queanbeyan to date is interesting, they are certainly present there as on 9 Feb Martin Butterfield reported at least two Koels giving the wirra wirra call. There may have been a third but in view of the elapsed time it could have been the first bird.

### *5.5. Further Koel activity/fledglings away from the suburbs*

The further records at Lake Ginninderra, Yerrabi Pond and the Jerrabomberra Wetlands are worth noting, in particular the latter (see 2 Feb entry in Table 3). This is consistent with Geoffrey Dabb's diagram of Koel flight paths and confirmed perching/calling sites there for 2013-2016, noting that the core area was the NE corner of the adjacent Causeway area of Kingston (Holland 2017b).

In addition Daryl King posted that on 15 Dec he made his first observation of Koels in the Ginninderra Creek corridor itself, although they had been present in residential areas backing on to the corridor for the past several seasons. An intense interaction involving 9 individuals took place entirely within the creek corridor. He was able to manoeuvre to a high open vantage point roughly in the centre of the group where he could see/hear all at once. He noted that this season there were several males established nearby: 2 in residential areas within 670 m downstream; 3 along the residential edge within 1 km upstream; 2 in the residential area within 780 m to the north. There were several Noisy Friarbird, RWB and Magpie-lark nests nearby. However, no fledglings seem to have resulted from this activity (see 4 Feb entry in Table 3).

On 18 Dec from about 08:00 h, I first heard ko-eling several times in the horse paddocks to the west of the W boundary of the Narrabundah Hill reserve. I then heard this call very loud and clearly from bushland close to the NW corner of W fence around 08:20 h. This was the first time that I had recorded Koels in my local area well away from the houses and gardens, the suburb of Duffy being at least 1 km away. Notably it was ko-eling as might be expected for a single male. In addition, on 3 Feb Jean Casburn heard a Koel along the N fence line of Narrabundah Hill about 600 m from Eucumbene Drive. On 4 Feb I thought I heard begging on N boundary about 200 m W of Eucumbene Drive, but it was probably the Noisy Friarbird family present there, though I did hear a short whoa from in the bushes.

Also on 5 Jan Martin Butterfield posted that he had received a report of a Koel that morning from Wanna Wanna Rd (which runs off Captains Flat Rd east of the Cuumbeun NR), at least 3 km to the E of Queanbeyan. The eBird database also shows a record from Bowen Rd slightly to the E of there on 29 Jan, as well as one from Uriarra woodland on 8 Jan.

### *5.6. Other Comments on fledgling observations*

In well over half the cases, RWBs were confirmed as the host, and this would have also been the case for many more. No alternative host was identified, the Magpie-lark was suspected on several occasions but not confirmed (see Section 5.4.2 of Holland 2018b, Part II this issue). Only one, Ryu Callaway's (see 3 Dec entry in Table 1), was a confirmed nestling for 2017-2018, though Michael Lenz's fledgling on the Jerrabomberra Woodland loop (see 2 Feb entry in Table 3) was only just above the nest. Diana White suspected several times one of hers was still in the nest (fledgling D5 and possibly also D3 – see Holland 2018b, Part II this issue), but it was not fully confirmed. Together with Gail Neumann's observation in 2016-2017 (see 6 Feb entry in Table 3), this makes seven ACT nestlings that I am now aware of.

The difficulty in finding the nests was underlined by John Brannan who on 15 Jan wondered about the location of the host nest in his Florey garden. He did not think the young bird could travel far, but he failed to find a nest anywhere close to the paperbark where he first spotted it. On finding his fledgling on 14 Feb Philip Veerman wrote, "Being my first notice I expect it has come from outside my GBS area. Are Koel chicks noisy in the nest or only when they

leave?" In response I noted that in the many times I had located and observed Koel fledglings, particularly in my local area, they had always been out of the nest. I had never found the nest they may have been raised in, even when likely to have been within my GBS site. Also Geoffrey Dabb posted that the one he watched over several days (a few years ago) was fairly silent when in the nest and clambering around in the nest tree, but started its monotonous bleep when in a different tree, possibly a location signal. This suggests the difficulty of finding them in the nest is because they are quiet there.

Based on the last three fledglings from Kaleen/Giralang taken to the vet (see Denise Kay's 26 Mar and 10 Apr observations in Table 4), it is tempting to speculate that they were moving through from further S in the ACT. It is certainly no surprise that some juvenile Koels encounter difficulties during their journey North. It is amazing how recently fledged these (and other summer migrant fledglings) can be before they make this hazardous migration.

*5.7. Fledglings observed for long periods*

Several fledglings were observed over a long period as I have on a number of occasions and as Diana White did for 30 days for the fledgling D1 in her garden (also her fledgling D7 in Meehan Gardens seemed to have been present for 17 days from 14 Feb to 3 Mar - see Table 2 in Holland 2018, Part II this issue). These include David Rosalky's which stayed in his Deakin site for 24 days (also see Section 3 of Holland 2018, Part II this issue)

On 23 Feb Philip Veerman posted that a juvenile - he suspected the same one that he first noted on 14 Feb (see Table 3 above) - was still in his area. He had heard it again on around 6 days including that morning. He watched it for a while the day before and on 21 Feb, when it was in his big eucalypt tree and appeared to be feeding on some fluffy stuff extracted from the underside of the leaves (it was 'sort of glued' to its beak). A pair of Pied Currawongs (Streptura graculina) was watching it closely and a pair of RWBs also fussing about it and flying back and forward to the tree. He had not actually seen the RWBs feeding it. On 27 Feb Philip noted the Koel juvenile at his home was still there the previous afternoon. Its begging call was now louder and tail full grown. It was being watched by a RWB but again there was no sign of it being fed by them in the 10 minutes he watched.

On 27 Feb David Rees posted that there were two juvenile Koels close to Yerrabi Pond at the corner of Phyllis Ashton Circuit and James Kirk Street, Gungahlin. They were seen being fed by very busy RWBs. These have been counted as those seen on 21 Feb (see Table 4 above), as they were only around 100 m away. On 4 Mar Pat Wyllie noted there was a begging juvenile being attended to by a RWB at Yerrabi Pond between the main playground and Soroptimist Point, while on 7 Mar David posted that one was still demanding food as of the previous day at the bottom of James Kirk St.

Finally on 4 Mar Barbara Allan posted that her fledgling was last seen in the late afternoon of 27 Feb. It came into the back garden into the crab apple, and then flew to the wires and preened, showing a beautifully developed colourful tail. It then flew off, with mum (?) giving a kek-kek-kek call in the background. It was first heard 2 Feb, first seen 3 Feb, and last seen 27 Feb, so a total of 26 days. There had been no sightings or calls of any Koels since. Interestingly, it was the fledgling that stayed closest to her home of any she had seen – she made a point of checking it every day she was there and it never moved further than 100 m.

*5.8. Eastern Koels calling, including ko-eling, late in the season*

Ryu Callaway noted that on the morning of 3 Mar he had heard a male calling in the distance - repetitively doing the drawn out ko-el call as they tend to do when they first arrive, which he had not heard for quite some time, as they as they usually gave their other call. On 7 Mar David Rosalky posted that after two or three weeks of no Koels (adult or fledgling) a lone male was calling at his home that morning with the *ko-el* call. In my local area of Chapman/Rivett, while there were mostly the male and female calls of *whoa whoa* and *kek kek kek* (and their variants), respectively, ko-eling was still clearly heard on five occasions between 15 Feb and 2 Mar, sometimes for a few minutes. This was also the case of the male calling on the COG boat trip on 11 Feb (Holland 2018d).

To me a question which keeps arising is why Koels, both males and females, still call so late in the season, right up to when they would be heading North, unlike our other local cuckoos which are usually silent after Christmas. The theory which seems to have gained most acceptance is that they are imprinting the call - so again why do other cuckoos not do the same? Based on very similar observations to Denise Kay's and Barbara Allan's (see 3 and 4 Mar entries in Table 4, respectively) of the adults arriving once their fledglings were independent, I had formed the theory that they arrive to escort them up North (Holland, 2015), but I have not observed this since and the imprinting theory seems to have prevailed.

One thing that is clear is that there are now quite a few local examples of adults and fledgling/juvenile Koels interacting (see Discussion in Holland 2018b, Part II this issue).

*5.9. Was it a good Koel season or not?*

From the above it is clear that there was high Koel activity in the N half of Belconnen, in South Canberra around Narrabundah, in Tuggeranong and in the NE of Gungahlin. In respect of breeding, however, there was none in several areas where fledglings have previously been reported. This includes Christine Darwood in Flynn who on 9 Jan posted that she had been hearing Koels all of this season, but rarely seeing them. On 7 Mar she noted that her figs were currently ripe (where, as she has published, much activity previously took place – see Darwood 2015), but she had not seen any Koels recently.

On 5 Feb and 4 Mar Terry Munro, who in the past has also had Koel fledglings in or around his garden in Watson, posted that he had not seen or heard any juvenile Koels there. There had been adult Koels in the distance. He noted there were still lots of juvenile RWBs present, which led him to think that RWBs are waking up to the Koels' designs. As noted in Section 3 above, on 18 Dec Barbara Allan posted high Koel activity but added that the RWBs and Magpie-larks were certainly no longer naïve and sent them on their way promptly. This is supported as she only recorded a single fledgling in Page, as in the previous 2 seasons, compared with at least 8 in 2014-2015 (Holland, 2015).

On 20 Jan Steve Wallace posted that on his walk that morning he only detected the two fledglings he had already reported on 9 Jan (see Table 1). However, there were plenty of young RWBs so he thought that perhaps the Koels were not as successful at parasitising the nests this year. However, he subsequently found another 6 fledglings in the area.

## 6. Conclusion

The information detailed and discussed in the three Parts provides further evidence that Eastern Koel activity in Canberra is changing with female Koels now arriving at much the same time as males. In particular there is now stronger evidence that some Koels commence breeding almost as soon as they arrive, with a consequent further increase in the number of fledglings reported. It also explains the less frequent reporting of the previous continuous *ko-*

*eling*, so extensive in previous years, thought to be made by lone males advertising for a mate. There is also further evidence that Koels are moving out of the Canberra suburbs into parklands, creek corridors and bushland. At the same time, some areas which in the past have had many fledglings, appear to again have experienced reduced breeding activity. However, in other areas such as Rivett, Fraser and Giralang multiple fledglings continue to be reported, suggesting that their main RWB hosts remain relatively naïve.

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**Eastern Koel female (*Julie Clark*)**

*Canberra Bird Notes* 43(3) (2018): 290-293

# MASS EMERGENCE OF DRAGONFLIES ATTRACTS LARGE NUMBERS OF WHITE-FACED HERONS

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The White-faced Heron (*Egretta novaehollandiae*) is a common and widespread breeding resident in the COG Area of Interest (AoI), and present 'on bodies of water of all sizes' (COG 2018). At times, notable large numbers can be found at natural lakes and lagoons, such as Lake George, Lake Bathurst, Rowe's Lagoon and others (see Table 1).

In most cases it is not clear why the birds gather in larger numbers, although it can be assumed that a temporary abundance of (preferred) food may be the chief reason: falling or rising water levels may expose or flush out prey.

Most of the observations in Table 1 were made during COG's waterbird surveys at Lake George and Lake Bathurst. During the surveys the birds are counted with the least amount of disturbance, hence the surveys are, as a rule, conducted at some distance from the shoreline (using telescopes) and the possible reasons for such gatherings of herons were not discovered.

**Table 1. Cases of numbers of White-faced Herons of ≥90 birds from COG's AoI.**

| Date | Number | Location | Observer |
|---|---|---|---|
| 25 Feb 1990 | 162 | Lake George, North end | M. Lenz |
| 08 Apr 1990 | 135 | Lake George, North end | M. Lenz |
| 22 Apr 1990 | 95 | Lake George, South end | M. Lenz |
| 28 Jan 1991 | 90 | Lake George, North end | M. Lenz |
| 23 Feb 1991 | 254 | Lake George, North end | M. Lenz |
| 23 Mar 1991 | 157 | Lake George, North end | B. Lepschi |
| 07 Nov 2010 | 100 | Lake Bathurst | D. Mantle |
| 13 Feb 2011 | 90 | Lake Bathurst | M. Lenz |
| 20 Jan 2014 | 120 | Rowe's Lagoon | Birdlife Australia |

However, in one case, when 90 White-faced Herons were at Lake Bathurst on 13 Feb 2011 (Table 1), the reason for the large number became evident. The birds had gathered at a fence line that runs East/West across the lake. Birds were either sitting on fence posts or were foraging along the fence in the shallow water close to shore. Only about 25% of the lake was under water. This meant that the other fence lines at Lake Bathurst were located on the dry lake bed.

[6] **All photos by author.**

**Figure 1. (*Top, left*) Fence post at Lake Bathurst with many larval exuviae and adults of Tau Emeralds (*Hemicordulia tau*); (*Top, right)* Closer view of same post; (*Below*) Many dead adult Tau Emeralds in the water.**

The observation was unusual for two reasons. First, at Lake Bathurst proper, White-faced Herons normally only occur in small numbers. They are found more regularly in the marsh vegetation around the Southern Morass and at smaller similarly vegetated ephemeral ponds in the lake basin. Second, it was unusual to see the White-faced Herons so concentrated around this fence and it warranted a closer look. I walked up to the western end of the fence (and

herons from that end flew to the eastern end as I approached) and could see that a large number of dragonflies were present. Numerous larvae had climbed up the fence posts, some even clinging to the wires, and the adults had emerged, some still present on the posts (Fig. 1, Top), but surprisingly also many adults were lying dead in the water (Fig. 1, Below). From these photographs, Harvey Perkins identified the dragonflies as Tau Emeralds (*Hemicordulia tau*), 'one of Australia's most common and widespread species' (see also Theischinger and Hawking 2006).

**Figure 2. The only area of (recently) submerged standing vegetation, chiefly Serrated Tussock, at Lake Bathurst in February 2011. The water was very shallow, suitable for nesting Pied Stilts, but no dragonfly larvae were seen to crawl up on any of these plants.**

This abundance of dragonflies would have provided the attraction for the White-faced Herons to gather at the lake and especially along the fence. This fence was the only structure above the water that the dragonfly larvae could crawl up for eclosure. The lake had only one other small area with recently inundated vegetation, consisting of Serrated Tussock (*Nassella trichotoma*), other weeds and a few emerging rushes that the larvae could potentially use. No dragonfly larvae were seen on any of the plants at this part of the lake. However, the area served as a nesting site for several pairs of Pied Stilts (*Himantopus leucocephalus*) (Fig. 2).

The gathering of White-faced Herons was clearly the result of an astonishing biological event, the mass emergence of these dragonflies. As Harvey Perkins (*pers. commun.*, 8 Apr 2018) wrote:

> What an amazing phenomenon. I can only assume it is the manifestation of the extremes of the Lake Bathurst archetypal but extreme boom-and-bust ecological system.

and

> It is also unusual to see very recently emerged dragonflies, particularly in any numbers, as they tend to eclose before dawn when the risk of predation is lower. Clearly in this case they were prepared to do it in daylight.

It is not clear why so many adult dragonflies ended up dead in the water. One possibility may be that with the limited number of sites for eclosion, larvae had to congregate at the fence posts, resulting in high densities not encountered normally and leading to aggression between individuals. Possible injuries to larvae may have affected the survival of the emerging adults.

With regard to the feeding behaviour of White-faced Herons: 'Most feeding solitary, congregations occurring only when food at high density' (Marchant and Higgins 1990). Table 1 indicates that much larger gatherings of White-faced Herons have been recorded in COG's AoI than the one discussed here. The highest number was 254 birds at the northern end of Lake George (Table 1). The herons were concentrated at the mouth of Collector Creek and the edge of the surrounding cane grass swamp. At times they formed a single flock. We do not know what might have brought the large numbers of herons together in this and most other cases given in Table 1: availability of dragonflies could be one reason.

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**Acknowledgement**

My thanks go to Harvey Perkins for identifying the dragonflies and for putting the mass emergence into context. Paul Fennell and Jaron Bailey provided observations from the COG database on high numbers of White-faced Herons.

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# *NOTES*

*Canberra Bird Notes* 44(3) (2018): 294-295

## LARGE NUMBER OF BROWN THORNBILLS ROOSTING TOGETHER

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During our weekly backyard survey we observed a large group of Brown Thornbills (*Acanthiza pusilla*) (an unidentifiability of thornbills according to http://bioacoustics.cse.unsw.edu.au/birding-aus/2000-08/msg00549.html) huddling together in a eucalyptus tree. We were initially alerted to the group by the cheeping sound coming from the tree. On closer inspection we saw a group of approximately 10 thornbills roosting and another group foraging within the same tree. Over the course of the next 15 minutes the foraging birds also settled as though to roost for the evening. Based on the birds' calls, our observations and photographs, we identified the 24 birds as all Brown Thornbills. These observations were made on 7 Aug 2018 from 17:11 h.

In our Garden Bird Survey site (GBSS) small groups consisting of 2-4 Brown Thornbills are regularly observed, but rarely larger groups. At this time of year we would generally expect the thornbills to have paired off for breeding; hence the smaller groups. Other records indicate that large groups of Brown Thornbills (>10) have been occasionally observed in some of the local open woodland sites around Canberra. However, from e-bird it is not possible to discern whether these numbers represent a cumulative count of birds observed throughout the reserve or if they represent a single large group of birds.

We stayed at the site for another 20 minutes, until the light faded, and the birds appeared settled and continued to huddle in this formation (see photo). However, we did not return after dark to confirm this roosting behaviour, although it was most likely that the thornbills spent the night together.

Over the next few evenings we monitored the thornbills to see if this behaviour was repeated or whether it was just a chance observation. On the following night, we located a smaller

group of Brown Thornbills feeding together in a different eucalyptus tree at 17:00 h. Between 17:10 and 17:20 h the group expanded to around 10 birds and appeared to be settling and preparing to roost. However, they were harassed by a group of Noisy Miners (*Manorina melanocephala*) and a Pied Currawong (*Strepera graculina*), and flew into denser cover on a private property where we were not able to view them further.

On the third consecutive night, the birds had moved further away from our GBSS and were not as easy to locate (in private properties). Based on their calls, the birds appeared to be roosting in several smaller groups dispersed over a few properties. We continued to try to locate the birds over the next few nights. However, they continued to move further away from our GBSS into other private properties where we were unable to locate them. In addition, the numbers per group continued to decrease until only pairs of thornbills were observed.

*Accepted 27 October 2018*

**Brown Thornbill (Left: *Lindsay Hansch;* Right: *David Cook*)**

*Canberra Bird Notes* 43(3) (2018): 296-298

# HARRY THE HARRIER FROM YANKEE HAT (VIA ROCKHAMPTON)

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Harriers, the hawks in the 'circling' genus *Circus*, occur worldwide. They have acute hearing and a facial disc which apparently augments and funnels sound to their ears. In flight they often quarter low and slowly over grassland close to the ground with their wings held in a characteristic dihedral. Their long legs help them snatch prey from tangled vegetation. Australia has two species, the Spotted Harrier *Circus assimilis* and the Swamp Harrier *Circus approximans*. Both species occur in the ACT, but only the Swamp Harrier has been found breeding here (so far) and only one or two breeding pairs are known for the ACT. They nest on the ground in swamps and tall grasslands. Swamp Harriers can be polygamous, one breeding male with two or more females in different nests (Olsen 2014).

On 12 Dec 2017 we banded and satellite-tagged an adult male below Yankee Hat at Gudgenby in Namadgi at about 1000m above sea level (asl). This is the first time the species has been satellite tagged (see Photos 1 to 4). We called him 'Harry'. Swamp Harriers are known to migrate (Debus 2012, Olsen 2014) but their migration is poorly understood. The ACT ranger at Gudgenby, Ben O'Brien, told us harriers were only present for half the year, during the spring-summer breeding season, so we hoped a satellite tag would reveal where Harry spent the winter.

There were two other adult harriers with Harry on the Gudgenby swamp in 2017, apparently two females. Swamp Harriers are late breeders compared to most other ACT raptors and by 14 Jan 2018 we noted two fledged juveniles on the swamp, five harriers in total. We saw prey deliveries by the adults. In early February 2018 Harry left the fledged young and travelled to an area between Cabramurra and Tantagara NSW at about 1400m asl. He stayed a few weeks before slowly drifting north. He stopped at the Fitzroy River in Rockhampton Qld close to sea level and stayed there. In late July, he started back south and was back at Gudgenby by early August (Fig. 1).

Because of the drought, the swamp at Gudgenby was much drier in September 2018 than it was in September 2017, so there may not be enough water or plant growth for the harriers to breed. Again, there were three adult harriers on the swamp, including Harry. We will keep an eye on them and report their progress. If you see them, or any other nesting Swamp Harriers, please avoid disturbing them. Many Swamp Harriers desert their young if disturbed (Olsen 2014), and it would be a shame if Harry lost his young after making the longest round-trip migration ever recorded for a Swamp Harrier (so far).


**Photo 1. Harry the adult male Swamp Harrier.**

**Photo 2. A hood keeps the harrier calm while we band him and attach the satellite tag.**

**Photo 3. Harry being released**.

**Photo 4. Harry flying off with the satellite tag attached**.

**(All photos by authors).**

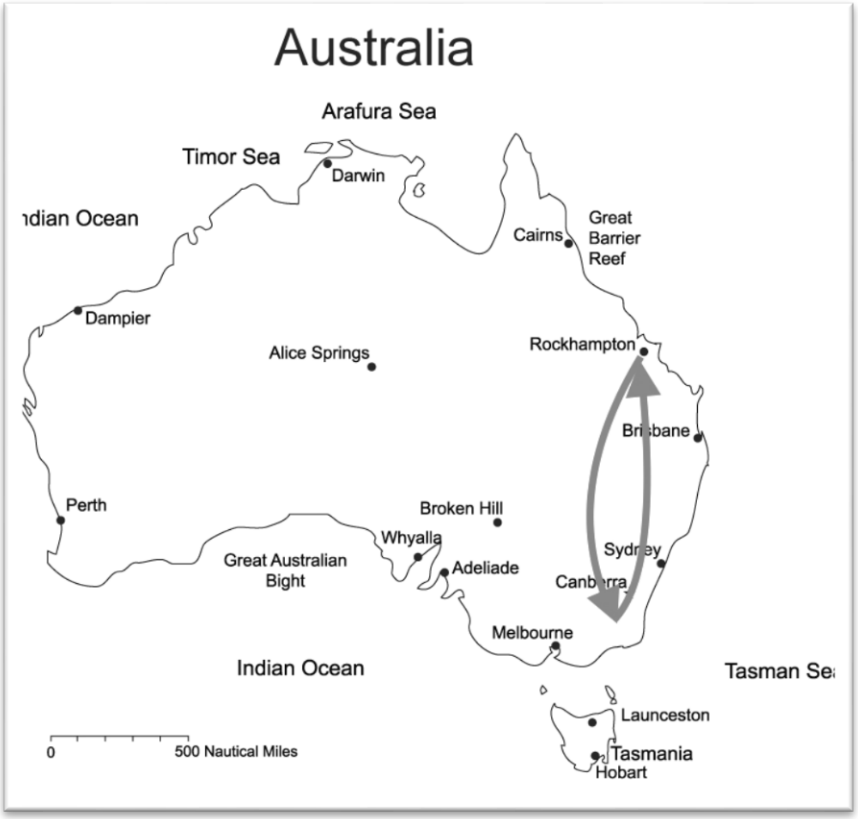


**Figure 1. Harry the adult male Swamp Harrier nested in Gudgenby south of Canberra and wintered near Rockhampton Qld.**

**Acknowledgements**

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# WHITE-FACED HERONS: ARE THEY CARRION EATERS?

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On 8 Oct 2018 at 10:00 h on the Old Cooma Road, approximately 4 km south of Queanbeyan, a White-faced Heron (*Egretta novaehollandiae*) was observed standing within one metre of the carcass of an Eastern Grey kangaroo (*Macropus giganteus*). The kangaroo had been killed by a vehicle approximately 3–4 weeks earlier, and was in an advanced state of decomposition.

On 11 Oct 2018, a White-faced Heron was again seen near the carcass three times between 11:00 h and 14:45 h. Photographs of the bird standing very close to it were taken from a parked car at 14:45 h.

Following a posting on the COG Chatline on 8 Oct about this behaviour, several responses were received by the author reporting White-faced Herons being observed close to kangaroo carcasses (Bungendore–Gundaroo Road; The Federal Highway; and in the Wamboin area May–Jun 2018).

The diet of the White-faced Heron consists primarily of insects, small fish, crustaceans, other invertebrates, and less commonly frogs, and very rarely mice (Barker and Vestejens 1989, Hayward and Macfarlane 1971, Marchant and Higgins 1990). Based on detailed examination of gut contents (cited by Marchant and Higgins 1990), carrion does not appear to be a consistent part of the bird's diet. Three definitive reports of White-faced Herons feeding on carrion have been published. Baldwin (1974) reported a personal observation made in 1962 of a White-faced Heron tearing flesh from a dead Galah (*Eolophus roseicapilla*) on a road north of Inverell, NSW. Antos *et al* (2009) reported two independent observations of White-faced Herons feeding on the flesh of road-killed Bennett's Wallaby (*Macropus rufogriseus*) on King Island. In each case a single bird was seen to be actively pecking and probing within the carcass with its bill (Antos *et al* 2009). Examination of the carcasses indicated that the birds had penetrated the abdominal skin and were feeding on internal flesh and organs. Importantly the authors noted the absence of maggots within or on the carcasses, suggesting a short time since the death of the wallabies. During a mouse plague in Victoria in 1970, White-faced Herons were observed feeding on both live and dead mice (Hayward and Macfarlane 1971). Klapste (1982) claimed to have observed a White-faced Heron feeding on a calf carcass; however, this report was severely criticised by Garnett (1993) on the basis that the bird was not seen to be tearing flesh from the carcass, and that there were other possible explanations for three deep holes in the calf's body. Klapste (1982) also noted the absence of maggots in the carcass, although he did not carry out a detailed examination of it.

In the assumed absence of maggots, it is possible that White-faced Herons may be feeding on carrion beetles; (adult carrion beetles feed on maggots to survive [https://australianmuseum.net.au/image/carrion-beetle-ptomaphila-perlata accessed Nov 2018], reducing the numbers of maggots present following the death of the animal and possibly competing with other scavengers). Adult carrion beetles lay eggs on or near a decomposing carcass. The young larvae emerge in about a week and will feed on the carcass for up to a month before pupating (https://en.wikipedia.org/wiki/Silphidae). There are five species of carrion beetles in the family *Silphidae* in Australia and New Guinea (Peck 2001). *Ptomaphila perlata* is reported to be a very common carrion beetle that is found across the southern half of Australia (https://australianmuseum.net.au/image/carrion-beetle-ptomaphila-perlata accessed Nov 2018); *Ptomaphila lacrymosa* is another possibility as it is stated to be more abundant than *P. perlata* (Peck 2001). However, adult carrion beetles require live maggots to feed on. Whether maggots were present in the observed carcass 3-4 weeks following death is not known.

In the absence of carrion beetles, another possible food source for the heron may be Hide Beetles (*Dermestes maculatus*), which have been described as being present at the sites of kangaroo harvest offcuts in arid Australia (Read and Wilson 2004) and have a world-wide distribution. They are reported to arrive on decomposing remains 5 to 11 days after death of animals or humans and can become one of the dominant insects present in mid to late decay, as was the case in this report (http://entnemdept.ufl.edu/creatures/misc/beetles/hide_beetle.htm accessed Nov 2018). Larvae do not appear on corpses until the later stages of decay when the body has dried out. Full development of *D. maculatus* is only reached when temperatures are consistently above 18°C and will take 96 days at 18°C from the time the egg is laid to reach adulthood (Arnaldos et al. 2004).

It is apparent that although the "normal" diet of the White-faced heron does not include carrion, some White-faced Herons have learnt that food may be found on or near animal carcasses, possibly hide or carrion beetles. In the case reported here, the bird (assuming it was

the same bird) was observed to return to the decomposed carcass over several days. It should be emphasised that in this case the bird was not seen pecking at the decomposed carcass but was in very close proximity; it is therefore, highly unlikely that the bird was feeding on carrion, but possibly feeding on insects such as hide or carrion beetles.

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# SACRED KINGFISHERS ATTACKING STRIATED PARDALOTES

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The Sacred Kingfisher, *Todiramphus sanctus,* is a fairly common summer migrant in ACT woodlands, especially in the vicinity of smooth-barked gums. They arrive from the north in early spring for the breeding season. All books and websites note that Sacred Kingfishers eat small reptiles, rodents and, if near water, small fish and crustaceans. A few sources mention 'occasional reports' of them predating small birds. This taking of birds was observed by 15 people on a COG walk on Percival Hill on 20 Oct 2018.

An old-growth or remnant forest stands on the western side of Percival Hill, not far from the summit. On the day, there was a lot of bird activity in the old trees, including nesting cockatoos and parrots and some birds enlarging hollows. Smaller hollows were being used by Striated Pardalotes, *Pardalotus striatus.*

A pair of Sacred Kingfishers were hunting in the trees. They were seen to take small lizards and a large spider. They attacked Striated Pardalote nesting hollows and drove away the adults, which fled to nearby branches. The Kingfishers then managed to get their beaks and heads into the nesting hollows to remove the young Pardalotes.

The group of birdwatchers knew that they were fortunate to have been 'in the right place at the right time' to see this fascinating (if sad!) event. Discussing their observations, they wondered if this behaviour was more common than the literature suggests, but had not often been observed.

*Accepted 4 December 2018*

# *COLUMNIST'S CORNER*

*Canberra Bird Notes* 43(3) (2018): 303-306

***A Confusion of Owls***

Let us consider those tufts of feathers on the heads of some owls. They are sometimes called 'ears', but they have nothing to do with hearing, so 'horns' is a better word for present purposes.

The number of owl species world-wide is about 230. Indonesia has quite a few of them, about 55. Australia has a paltry 10, excluding the 5 that are vagrant or belong to island territories.

When many people think of an owl they envisage a bird with those horns. Certainly many northern hemisphere owls have them. There is a famous one that was painted by Edward Lear for John Gould's *Birds of Europe* (1832-1837). That was an 'Eagle Owl', and the owl as painted had a bemused expression and the wrong kind of feet. Lear is also known for the nonsense poem that begins 'the owl and the pussycat went to sea …'.

Some smaller owls also have horns, in particular some 54 species of the genus *Otus*, known as 'Scops Owls'. Indonesia has 20 of those. The 10 mentioned Australian owl species lack horns, all being of the hornless *Tyto* ('Barn owl') or *Nino*x ('Hawk-owl') types. However, it would not be strictly correct to say that no Australian owl has horns. This is because on the Australian list, among those additional 5 marginal species, is a once-recorded Buffy Fish Owl that found its way to Cocos Island, and a once-recorded Oriental Scops Owl that turned up on Barrow Island, WA, in 2013.

From chance encounters with such wind-blown strays are national bird lists compiled (well, in part anyway). Notwithstanding the contents of the national list, it is unlikely that at the time of writing (October 2018) any live, naturally-occurring horned owl is present in Australia.

When living in the leafy suburbs of Washington DC some years ago, I used to see a live Great Horned Owl in the garden. This is a close relative of the Eagle Owl. Cheap replicas of the species, made of fibre-glass, are often mounted on buildings in North America in the hope that they will deter pigeons and other pest species. I still have one of these, a large object measuring 50cm in a straight line from tail-tip to horn tip, about life-size according to the books. (I do not have space here to discuss, yet again, complications that arise from different methods of measuring length of birds.)

I recently checked the shelves of a large hardware store, Bunnings at Canberra airport. Surprisingly, these offered about 10 different owl-based items for deterring 'birds and other garden pests' from damaging your garden. Several were of a highly ornamental character; some had moving parts and/or accompanying lights and sound. One, the 'Bobble Head Owl', had a revolving head 'cleverly activated by the slightest wind gusts'.


1.
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The above illustrations accompany this contribution:
*(1) Edward Lear's Eagle Owl*
*(2) The Bobble Head Owl and Great Horned Owl discuss the best way of guarding Canberra gardens*
*(3) The owl emblem on a shirt used by the ANU first-grade cricket team*
*(4) The owl emblem on an ANU Sports re-useable drink bottle*
*(5) The (hornless) Powerful Owl of Haig Park*

Neither the Bobble Head Owl (BHO) nor any of the other offerings bear much resemblance to any resident Australian owl species. For one thing, they all have horns. Notwithstanding that, the claim was made for the BHO that 'many [presumably Australian] pest animals are scared of this natural predator by instinct'. I suppose that in today's international marketplace one cannot expect the Chinese manufacturers to design a natural predator specifically with Australian conditions in mind. 'One predator fits all' seems to be the policy.

The uncertainty of the average Australian about what an owl looks like is demonstrated by the matter of the sporting emblem of the Australian National University. In October 2015 Canberra journalist Ian Warden drew attention to the adoption of an owl as the basis of the university's new sporting logo. The accompanying publicity referred to sportswear provider Kukri Sports, and stated:

> The Owl is symbolic of the ANU communities' wisdom, whilst also having a strong association with Parliament in Canberra. … It has been modelled off the Powerful Owl which resides in Haig Park in Turner – less than a kilometre from campus. Photos were provided to Kukri of the iconic bird with a directive to highlight the fierce features of the Owl. [Wording as in original announcement.]

The story of the Turner Powerful Owl may be found in *Canberra Bird Notes* 41(3), December 2016.

The owl logo may be found displayed prominently in the headquarters of ANU Sports in the heart of the university. In view of the design brief, one would expect the owl image to show a certain amount of aggression, but was it necessary to add the horns? Perhaps the artist misplaced the photos, and found it convenient to copy the plastic pest-deterring owl lurking in the garden. Or perhaps the client thought that a hornless owl just needed an extra something to be convincing. To be fair, the designers of most owl emblems seem to think that horns are an essential feature.

*A Parliament of Owls*?

As the ANU announcement indicates, owls these days are often associated with parliaments.

There is an absence of evidence that this alleged collective name is grounded in actual use by anyone out there with experience of the world of nature. I am not able to find any evidence of use of the phrase before its appearance in the children's stories known as *The Chronicles of Narnia*. It has been speculated that CS Lewis was prompted to use the phrase by the name of a poem by Geoffrey Chaucer, The Parliament of Fowls, generally agreed to date from 1381-1382.

In the Narnia fantasy novel *The Silver Chair*, first published 1953, Lewis used ‘A Parliament of Owls’ as the title of Chapter 4. In this there is a description of a gathering of owls in the top of a ruined tower.

> “Now,” said Glimfeather, “I think we’re all here. Let us hold a parliament of owls.”
>
> “Tu-whoo, tu-whoo. True for you. That’s the right thing to do,” said several voices.

It is clear from this passage that the fictional gathering of owls was not itself a parliament. In the story, the imaginary gathering of owls decided to hold a parliament. We can imagine just as easily, or perhaps more easily, a gathering of cane toads deciding to hold a parliament.

Nonetheless, people seem to like to use the phrase ‘a parliament of owls’. Compilers of improbable lists of ‘collective names’, and the organisers of, and participants in, trivia quiz competitions are happy to believe that owls routinely gather together and that they hold a parliament whenever they do so.

***Stentoreus***

*Canberra Bird Notes* 43(3) (2018): 307-309

## *Birding in Cyberspace, Canberra Style*

It is no exaggeration to observe that smartphones have revolutionised the capture and transmission of birding data. The advent of unlimited internet access plans (or virtually unlimited ones such as my 1 TB per month plan) for smart phones and home computers means that more and more of us are capturing and transmitting large files, including high resolution audio recordings and images. (Images used to be known as photographs!) For some years, eBird has been strongly encouraging birders to upload bird images to its database at the Cornell Lab of Ornithology, and more recently has extended this facility to audio recordings of bird calls. (I won't embark on a discussion of the differences between 'calls', 'songs' and other bird vocalisations. Perhaps my fellow columnist, *Stentoreus*, is braver than I am, and will do so in a future column?)

The experts at the Cornell Lab have produced wonderful resources to help us learn how to use our smartphones to capture audio recordings of bird calls, to edit them and to upload them to the eBird bird call database. A good place to start is the documentation at **Best Practices for Audio Upload to eBird** https://help.ebird.org/customer/portal/articles/2159648?t=412380. It commences by drawing attention to six Key Points: 1) create and submit .wave files, 2) trim recordings, 3) normalise bird sounds and voice announcements, 4) pay attention to individuals and group files accordingly, 5) avoid filters and cosmetic editing, and 6) include voice announcements. Details are provided on these and other aspects of the task.

At the URL given above are fact sheets that you may find particularly helpful: 'Sound Editing in Audacity', 'Sound Editing in Adobe Audition', and (especially) 'Making Sound Recordings with a Smartphone'. I was fascinated to read in the third of these that their tests have revealed that '…using good recording technique will make more of a difference for smartphone recordings than purchasing a small external microphone'. They recommend certain inexpensive audio recording apps that are more useful than those that come on the phone by default (e.g. 'Voice Memos' on iPhones), and advise on the optimal app settings. If you have not yet ventured into bird call recording, and sharing your recordings with the world via eBird, these resources may be just what you need to get started.

Most of us find it distressing when birds fly into our windows, sometimes injuring or killing themselves in the process, or spend lengthy periods attacking their own reflections. The good folk at the Cornell Lab of Ornithology share our concerns and, keen to raise funds to support their work on eBird and Merlin, have invited us to add to someone's Christmas or New Year stocking a resource to **help make the windows safer** https://www.allaboutbirds.org/great-gifts-that-do-good-a-bird-lovers-guide/. They explain that:

> *Window collisions kill more than 500 million birds each year in the U.S. alone. Although hawk decals are popular as 'fixes', they don't work nearly as well as bird tape or the 'zen curtain' design of Acopian bird savers (tip: if you're into DIY, the website even has instructions for making the curtains yourself). The American Bird Conservancy has more on window safety.*

The bird tape sounds good for the birds https://www.collidescape.org/abc-birdtape :

> *ABC BirdTape was designed and tested by bird experts at American Bird Conservancy, the leading bird conservation organization in the U.S. It reduces the likelyhood (*sic*) birds from flying (*sic*) into glass, effectively and affordably.*
>
> *Apply ABC BirdTape in one of the recommended patterns or your own pattern following ABC guidelines, and birds will see a barrier to avoid, not space to fly through. In a scientific evaluation of the ¾" tape conducted in Austria, 81% of birds tested avoided vertical stripes spaced 4" apart.*

Whether or not it will look good on your windows is up to you to judge!

In the July 2018 issue's column I drew attention to a remarkable milestone: eBird had cracked the 500 million bird records barrier? Yes, half a billion! It happened on 26 March 2018, details at https://ebird.org/news/500-million-ebird-records . The half-billionth record was a Barn Swallow, submitted from Shan, Myanmar.

On **6 October 2018 eBird's Big Day** was conducted: '…more than 17,000 birders around the world went birding together for the first October Big Day. Reporting from 146 countries, they tallied 6,136 species of birds: more than half of the world's birds in a single day. eBirders added 21,149 pictures to their lists, photographing 2,356 species in these 24 hours. This is a new height for a single day of October birding' https://ebird.org/news/october-big-day-6-october-2018 . Of all the nations, Australia had the fifth largest number of checklists submitted (1,210) and, among this top five, the third highest rate of submissions (49 per million population). The following table has details.

| Jurisdiction | Checklists | Rate per million |
|---|---|---|
| World | 41,961 | 5 |
| USA | 22,476 | 69 |
| Canada | 3,877 | 106 |
| Argentina | 1,736 | 39 |
| India | 1,519 | 1 |
| Australia | 1,210 | 49 |

Predictably, perhaps, Columbia had the largest number of species (1,108). Australia had the 12th largest number: 527. The country with the smallest number of species was Tonga: one species…perhaps you guessed it…the Red-vented Bulbul! I wonder how we will fare in October 2019?

***T. Javanica***

This column is available online at http://canberrabirds.org.au/publications/canberra-bird-notes/. There you can access the web sites mentioned here by clicking on the hyperlinks.

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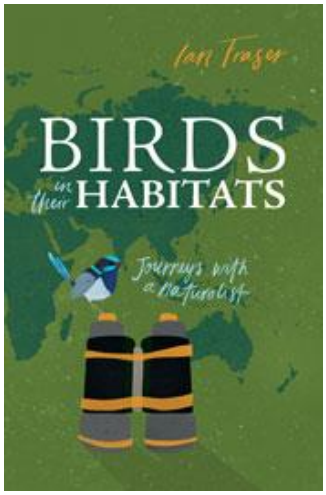
The *CanberraBirds* list's searchable archive is at http://bioacoustics.cse.unsw.edu.au/archives/html/canberrabirds.

# *BOOK REVIEWS*

*Canberra Bird Notes* 43(3) (2018): 310-311

***Birds in Their Habitats: Journeys with a Naturalist*. By Ian Fraser.** CSIRO Publishing, Melbourne, March 2018. ISBN 9781486307449, Paperback 240 pages, RRP AU $39.95

*Reviewed by JANETTE LENZ, Lyneham, ACT (lenzmj@homemail.com.au)*




Ian Fraser writes well. Many COG-ites will recall with pleasure his stories, *Avian Whimsies*, in the monthly Gang-Gang newsletter, and many have also been fortunate enough to be part of Ian's tour program: this book could be the perfect memento. As well as being a very readable and interesting introduction to the world of birding for non-birders, it would also be an engaging addition to any birder's library.

*Birds in Their Habitats* is a collection of stories and experiences which introduce fascinating aspects of birdlife, ecology and behaviour. Informed by a wealth of historical and contemporary research, Ian Fraser takes the reader on a journey through four continents: from far-flung habitats to our own Canberran back-yard. It's an enjoyable 'birding travelogue'. Apparently effortlessly, Ian describes birds simply so that even an amateur could identify them, blends these seamlessly into descriptions of the bird's habitat, and then liberally sprinkles the account with amusing anecdotes from his travels in each region.

This does not mean that the book only dabbles in birding. There are many sections (some in boxes, separate from the text) which detail accurate and interesting research, observations and facts on diverse subjects: bird ecology, behaviour, physiology and evolution (all referenced). One can learn about display, speciation, island extinctions, triggers for breeding and the aerodynamics of flight.

The book has seven structured sections: Deserts; Rainforests; Oceans and islands; Mountains; Wetlands and Rivers; Suburbia; and Woodlands and Grasslands. There is an informative contents list, an illustrated section with colour photographs, and two indexes: one for bird species (with Latin names) encompassing nearly 400 species, about 250 of which are Australian, and a general index.

I cannot comment on the accuracy of the descriptors, being classed as a 'non-birder' (I prefer to call myself an arm-chair birder as, sitting comfortably, I take endless delight in watching the many birds who frequent our garden with its sheltered water bowl). Nevertheless, Ian's conversational approach awakens more interest in me than other dry-as-dust, more orthodox bird manuals. Take, for example, "Among the rocks, a handsome stolid Greyish Eagle owl glowered at us from within a rock shelter"; or, "The buttonquails are a Family of birds not at all related to quails … though they are certainly superficially quail-like, being small and dumpy and prone to exploding out from under your feet …" (p. 14).

Ian's delightful explorations into the arcane also endeared this book to me. Who knew, for example, that 'chook', the universal Australian word for domestic hens, whether seen as a

bird, or as a tasty dinner, comes from an old English word 'chuck' or 'chucky', presumably from their clucking? (p. 63), though, apparently, the OED cites Dr. Johnson saying it is a corruption of 'chick' or 'chicken' (Thanks Kevin Windle for this addition).

The travel anecdotes are written in the same good-humoured, yet informative style: this despite recounting tales of "When birding is tough". Included are his easier experiences in suburban Canberra, when birding is not frenetic travelling to distant places to catch a glimpse of a 'rarity'. Ian writes, "So much of birding seems to be chance, happening to be in the right place at the right time," but, he continues, "the more hours you put in, the luckier you're likely to be." (p. 154).

I have very few criticisms of the book. One is that I personally prefer illustrations to be placed next to the text which refers to them. The more economising printing method of including the coloured plates as a block (albeit with references to each plate included at the relevant text) interrupts the flow as one hastily flicks back and forth to see the photographs.

The text is poetical. Ian's "briefly surfacing wetland memories", are likened to being "Like bubbles in a churning stream, materialising on a dancing surface, catching the eye briefly before vanishing again into water and air". Perhaps this style might not suit readers who expect a drier, more detailed ornithological tome, but for me the book made for a delightful and eminently accessible excursion into the rarefied world of birders, and travellers.

The book is highly recommended, for its humour, for its travelogue, and for its wisdom. Ian writes, "The older I get the more I am sure that the most important thing, in birding as in life, is looking *for*: looking *at* is just a bonus, never to be presumed." (p. 32)

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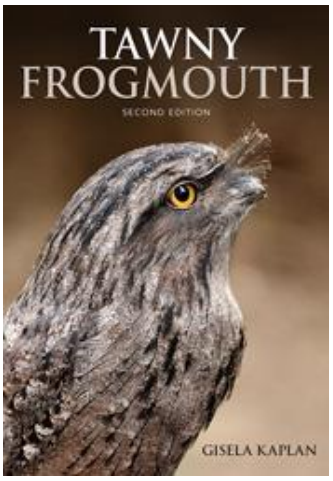
Postscript: Ian Fraser, well-known Canberra conservationist, communicator, tour leader and blogger, as well as a COG member, was awarded the Medal of the Order of Australia in the 2018 Australia Day Honours List for services to conservation and the environment.

*Canberra Bird Notes* 43(3) (2018): 312-314

***Tawny Frogmouth*. By Gisela Kaplan**. CSIRO Publishing, Clayton South, 2018, Second fully revised edition, 159pp. ISBN: 9781486308163; RRP $39.99 (Paperback).

Reviewed by *MATTHEW HIGGINS, Bega, NSW, 2550 (mattsnowy@home.netspeed.com.au)*




The Tawny frogmouth is one of Australia's most intriguing birds. Well known not just to ornithologists and practised bird-watchers but also to many members of the general public, the frogmouth's most known characteristic is its amazing camouflage. Seen roosting by day it is often almost indistinguishable from the trees in which it is found. A combination of posture and patterned plumage makes this nocturnal bird one of the most difficult to see. It can also accommodate human presence in a way that is very different to other species, and this too has helped frogmouths become known among the public.

Gisela Kaplan is Emeritus Professor in Animal Behaviour at the University of New England and an Honorary Professor at the Queensland Brain Institute. She has researched communication and cognition in birds, and as well as researching wild birds has helped to rehabilitate injured birds, including many frogmouths.

*Tawny Frogmouth* is fully revised from the first edition and is based on 20 years of observation and research; 10 years preceded the first edition and Kaplan has continued her research during the 10 years since. She has complemented her own research with that by others (the bibliography is substantial), and utilised helpful material sent by readers of the first edition. The book looks at a range of aspects of its subject. These include the birds' geographical spread, their anatomy and senses, feeding and territory, breeding, development, and a final chapter on emotions and communication.

My interest in this species derives in large part from the fact that I and my wife Stephanie Haygarth have been observing frogmouths on Mt Ainslie for many years, following usually eight pairs through their annual breeding routine and keeping an eye on pairs at other times of the year as well. In this work we have maintained close contact with Australian National University frogmouth researcher Stuart Rae (two of whose publications appear in the book's list of references).

A theme of the book is Kaplan's desire to demonstrate how special these birds are, and how they have qualities superior to, or at least as well developed as, many other avian species. Dotted through the book are large claims for frogmouths relative to other species; the author's championing of frogmouths is sometimes strident, but not entirely without evidence.

In Chapter 1, Kaplan describes how, despite earlier derogatory attitudes to frogmouths (reflected by their various names), they are intelligent birds with admirable attributes, including through their diet, pest control. Aboriginal people had 39 names for them, reflecting their wide spread across Australia. Though there are three frogmouths in Australia, only the tawny is unique to here. There are four subspecies currently recognised (reduced

from an earlier much larger number). Sex is difficult to distinguish, though size and beak-shape are key characteristics mentioned by the author. I understand that a rufous area on the neck is also indicative of (female) sex. The birds are adaptable to a wide range of open wooded habitats, including the semi-urban where streetlights attracting insects are significant.

The chapter on general anatomy finds frogmouths have several 'unusual and special' features. Though lacking a preening gland, frogmouths remain waterproof through powder-down feathers. Their finely patterned feathers add immeasurably to their camouflage. The tufts above the beak are specific to frogmouths and allies, and may protect against venomous prey. It is plumage that also helps keep these birds virtually parasite-free. Noise-absorbing underside wing feathers make frogmouths, like owls, silent in flight. Frogmouth feather positions and movements have communicative functions and Kaplan claims these birds are 'more agile and diverse' in this than perhaps any other species. The frogmouth's beak relative to body size is larger than most avian species. Though frogmouths walk very little, their feet are well developed for sound perching (as might be expected in any land bird?).

The chapter on brain and senses reveals that little is known about frogmouths' senses. Brain and body ratios are discussed, especially frogmouths in relation to owls. Frogmouths, like many other nocturnal birds, have strong binocular vision, at the expense of the monocular field. Their eyes can move in opposite directions, remarkably even at the same time. Frogmouth eye size, in relation to head size, may be the biggest of any bird (large eyes being obviously an advantage to a nocturnal bird). Changes in iris colour are a form of communication. Frogmouths' hearing ability, potentially excellent for a night hunter, is yet to be verified.

In Chapter 4, on daily life and adaptations, a lifespan of several decades is suggested. Survival is affected by predatory birds, mammals and reptiles, together with human impacts such as feral animals, vehicles, pesticides and habitat loss. Camouflage depends not just on plumage but on roosting positions (type of tree and position in it being significant) and posture, or the habit of 'doing the stick' as Stephanie and I (and Kaplan) call it. Day roost positions are changed regularly to avoid predators. Roosting position is also related to thermoregulation, as we too have observed. Frogmouths sleep very little owing to its risks in daylight, and often maintain a slightly open eyelid even when asleep. Remarkably for a large bird, frogmouths can enter torpor to deal with winter cold and lack of food.

'Feeding and Territory' begins with details of food consumption rates based on rehabilitated birds prepared for release. Diet includes many invertebrates considered by humans pest species, plus a few vertebrates. Chemical poisons for some prey species represent a serious threat to frogmouths. Yet there is a tolerance to eucalypt toxins in prey, perhaps imbibed when chewing on leaves as young. Frogmouths feed on the ground and in trees, and Kaplan has also observed very accurate aerial hunting when working with captive birds prior to release.

Frogmouth pairs are strongly bonded and are very territorial (good for watchers like ourselves) and Kaplan recounts how males fight viciously to defend territory. She also describes at this point how the species uses highly pungent faeces to repel reptilian predators, a striking observation. Frogmouths show site fidelity and we have observed how birds use not just the same territory but the same tree and same branch in successive years for nest-building. Nests are notoriously flimsy and Kaplan acknowledges frogmouths are among the 'least accomplished' nest builders. Nestlings are often lost as a result. Males incubate eggs in

daytime (as we have observed) and females do so at night; Kaplan suggests males enter a 'brooding trance' during the day.

In the chapter on development, Kaplan again argues the uniqueness of frogmouths, in terms of the behaviour and appearance of nestlings and fledglings. Consecutive egg-laying means asynchronous hatching and so nestlings of different ages and sizes, but not necessarily the sibling rivalry seen in other species (though this observation is based on hand-reared birds). At birth the birds are neither altricial nor precocial, but are in-between. Hatchlings are well camouflaged and Kaplan observes their resemblance to eucalypt blossoms. Hunting skills are taught by the parents to young. Dispersal of young, according to the author, occurs surprisingly quickly.

Kaplan finds frogmouths 'as expressive emotionally as are parrots'. While not songbirds they 'have an interesting vocal repertoire'. Use of feathers, beak and pupils are all means of communication, and vocalisation is discussed in detail. In addition to the better known deep drumming 'oom' call, frogmouths can also make high frequency threat or alarm 'scream' calls.

In the epilogue, Kaplan says the frogmouths' versatility and adaptability has helped them weather many human-induced habitat changes better than some other species. 'It is certainly a tremendously affectionate and curious bird', 'much smarter than we thought', she concludes.

The first (2007) edition of this book was reviewed by Stephen Debus in *Australian Field Ornithology* in 2008 (vol. 25, pp.49-51). The review found many admirable qualities in the book, which was the most in-depth one on this species at that time. But Debus heavily criticised the work for being too anthropomorphic, for the difficulty in distinguishing Kaplan's original data from 'previously published work or from speculation', for misuse of language and for errors of fact. Nonetheless he highly recommended the work, provided that it be read 'critically in the light of HANZAB and current scientific literature'.

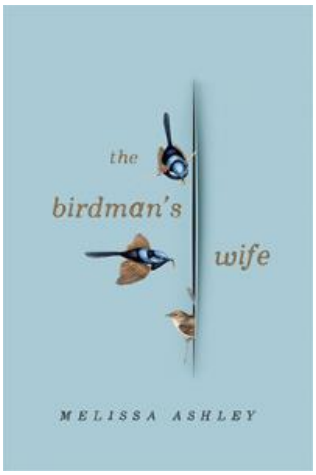
To her credit, Kaplan has in the second edition referred to a number of the additional sources recommended by Debus and so has taken criticisms seriously. The language problems too appear to have been addressed. Perhaps some of the anthropomorphism remains, but this is not a grievous fault, though it might attract criticism from reviewers more scientifically literate than I.

All in all, an engaging and well-researched overview of this intriguing Australian bird of the night. If the book assists people's understanding and respect for this species and so assists its conservation and that of its habitat, then that is a good thing.

*Canberra Bird Notes* 43(3) (2018): 315-31

***The Birdman's Wife*. By Melissa Ashley. Affirm Press, South Melbourne.** ISBN 9781925344998, 390 pp., Available as a Hardback, Paperback and Audiobook, RRP varies.

*Reviewed by PHILIP VEERMAN, Kambah, ACT (pveerman@pcug.org.au)*




This book is a novel, presented in the form of an autobiography of Elizabeth Gould (1804 to 1841), who was an important figure in early Australian ornithology. The author has set out to recreate Elizabeth's life story, so it was written in first person format, as though Elizabeth was telling the story. Each chapter is named for a bird, which is somehow woven into the story. The cover and end papers feature samples of Elizabeth's bird illustrations. The author has a bird interest and included some bird information, and she also took the time to learn taxidermy. She started this book as a PhD project and she researched the available information on her subject, with less than full success, as explained in her "Author's Note" and an acknowledgements section at the end of the book.

Sadly, little real information is known about Elizabeth Gould from her own records, apart from a small stack of letters and some notebooks. The reader is often left unclear as to which parts of the story derive from Elizabeth, John or Melissa. Elizabeth is mostly known through the work of her husband John Gould, who lived (it would appear as a widower) for another 40 years after her death. Although he then employed other artists, it appears that he did not remarry. Also notable that John Gould named the Gouldian Finch with these words: "It is with feelings of purest affection that I ventured to dedicate this lovely bird, to the memory of my late wife…". Ironically though, this was three years after she died and the name is easiest linked to him. I suggest it would have been nice if the book had mentioned these points in an epilogue or the "Author's Note", because they surely reveal something about his feelings for her.

This book seeks to provide Elizabeth with the recognition that her contribution deserves. The author has used available information of known events and added copious fictional detail as padding. This padding is mostly the assumed thoughts of Elizabeth, that would be difficult to verify. This likely draws upon records of the attitudes of the times and so is plausible. The distinction between truth and padding is blurry. Two of the book's major stories, concern the way her portrait was painted and a dinner held in her honour at the zoological society. These are identified in the "Author's Note" as made up, along with various other events. The portrait story must have at least some real basis, because a portrait does exist.

The social status of other people was a major theme of the Goulds' lives. Those presumed to be beneath them were not treated as badly by the Goulds as they were by much of society, but they were also of little concern to them. John Gould was mainly interested in people with money and high status in society or the scientific elite, as they were the ones best able to advantage him. John Gould was very successful in encouraging others, including his wife, to work for him. He arranged all this so that he ended up getting most of the credit. The book also states that it was the work of the Goulds that alerted Charles Darwin to the relationship of the various Galapagos (Darwin's) finches- a truth that Darwin had apparently not realized

until then. Professor Richard Owen and Edward Lear are among many other prominent people included in the story.
The book describes conditions of life, travel, school for their children, and the recurrent mention of laudanum as part of Elizabeth's frequent parturition. There is a clear undertone in the story that Elizabeth strives with limited success against a society that seldom fully appreciated the talents of women in most fields of life, beyond the domestic. For example, towards the end, the book describes her wish to be permitted to view the process of human autopsies, so that she might better understand anatomy. The protocol at the time was that women should not be in the room, unless they were the cadavers.

We learn a lot about the actions of the people involved in collecting animals for science, that being regarded as the main way to view an animal close up, as well as hunting for food or sport, messy taxidermy processes, endless bags of dead things that were presented to her to paint back into a lifelike form, methods of lithographic printing, and the sourcing and mixing of pigments (including such things as the importance of small boy's urine). John Gould is presented as a single-minded obsessive, who is almost grotesquely interested in killing, often eating, preserving and naming as many new birds (and mammals) as possible. He was also a skilled self-promoter and passionate about presenting his findings to the scientific establishment. This contributed hugely to the naming of many species of birds, from Australia and other continents. The book offers little evidence of his interest in learning about the living bird. His first thought was always to kill and stuff them. She is represented as having some feeling for the welfare of the birds and a desire to appreciate them in their habitat, that is not credited to her husband (at least up to that point in his life). It is only towards the end of the story, (in particular the Mistletoebird), that Elizabeth suggests to John that she should paint the birds in the foliage they were associated with, that he takes up that idea. Their intention of maintaining some specimens alive in captivity, to study or even transport them back to England, is little more than farcical by our knowledge today (success was reported only with a pair of Budgerigars). Although we can't ignore that they lacked the equipment we now take for granted.

Elizabeth would clearly have been a talented nature illustrator, even without being married to John. She had an aptitude for detail and was able to adapt to difficult situations. They saw the potential in each other from the outset. He was the greater beneficiary from the partnership. The story presents Elizabeth as his main illustrator until she died, and suggests that his role as bird painter was limited to little more than setting the postures. He is presented as devoted to her, even though she sometimes felt under-valued, whilst she appears to have been besotted with him.

Much of the story is about Elizabeth's family life: she was almost perpetually pregnant, with eight children in twelve years (two of whom died). She is presented as a forgiving, very focused, intelligent, likeable and hard-working woman, always supporting the busy schedule of travelling and illustrating birds for her husband. She was also emotional, religious and superstitious, for which her husband teased her. The book ends abruptly, as though she was writing her thoughts and feelings as she died, presumably due to childbed fever. This was a tragically common and easily preventable cause of mortality at the time, caused by lack of hygiene by the doctors. Although the book does not actually confirm this as the cause of death, the context would suggest it.

The book's writing style is long-winded, tangled, repetitive, highly expressive, going into intense detail of every situation included: sometimes so wordy it is hard to follow. The author

has Elizabeth obsessively describing the clothes and demeanour of most characters she meets, recounting every conversation, detailing every emotion, including her marital intimacies, and telling of her intense devotion to all her family, especially how hard it was for her to leave some of the children in England when the two of them went to Australia for two years, and the bonds to those friends who treated her nicely. The consistency of this rings true as a likely reflection of her personality. A reader could fairly believe that this was the author's choice to replicate either the narrative style of her subject or maybe feeling this style was typical of the time. The book follows a time line, yet jumps around; presumably this writing style is to match the constantly changing whims of her husband.

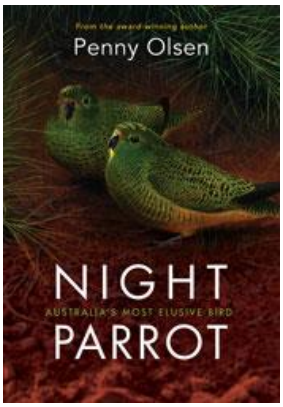
There are some clumsy errors in the book, likely inserted by the author, which a good editor should have fixed. The most obvious bird-relevant examples are these: As a young lady, Elizabeth is described as contemplating the way Emperor Penguins incubate their eggs on their feet, yet the Emperor Penguin (which breeds on the Antarctic ice) was only discovered four years after she died. She writes several times about the number of toes (per foot) that the true quails have (4) and the button-quails have (3) but gets it wrong every time. The author has Elizabeth commenting validly on the odd arrangement of the Brush-turkey's tail feathers, but strangely transposes the words 'vertical' and 'horizontal'. She wrongly describes the Brush-turkey as common in Tasmania. She describes the implausible watching of a mixed-species feeding flock of (arboreal flower feeding) lorikeets feeding on the ground. There is a long metaphoric story, about the capture and release of a Royal Albatross near the Cape of Good Hope, but selecting that species to tell the story is odd, as they inhabit the opposite side of the world. The story about the Pelican in Britain is also strange. I am puzzled at the thought ascribed to John Gould that the Purple-gaped Honeyeater was a species on its own, separate from all other honeyeaters.

Overall, readers who like the writing style will probably love this book. For anyone else, it is an entertaining read, maybe more than informative. I felt that it would easily suit a BBC period documentary. It is a good historical novel, even to those who care little about the birds. It fills in a lot about the early history of the start of our scientific knowledge of birds. It is sad that it was necessary for so much to be fictionalised by the author; it would be nice to know the story with more veracity. I feel that if more real information was known, the balance would be better. The book does the job well to release this impressive lady from relative obscurity, eclipsed by the flamboyance of her husband. That would appear to be the main motive behind the book, one well worth the writing.

*Canberra Bird Notes* 43(3) (2018): 318-

***Night Parrot. Australia's most elusive bird*. By Penny Olsen.** CSIRO Publishing, Clayton South, 2018. ISBN 9781486302987; Paperback, 368 pp.; RRP AU $49.99.

Reviewed by *MICHAEL LENZ, Lyneham, ACT (michael.lenz.birds@gmail.com)*




Many COG members, like the reviewer, will clearly remember the talk by John Young in September 2014 about his discovery in southwest Queensland of the 'lost' Night Parrot, 'Australia's avian Holy Grail', the year before. We were amazed to see the first photo of a living bird. I was equally in awe of John's bush skills, endurance and perseverance in searching for the Night Parrot over a good number of years in unforgiving terrain.

Penny Olsen has now provided a timely book bringing together all that is known about this species to date. It is also an account of the diverse people and their efforts who went in search of this elusive bird, and it makes for fascinating reading. No doubt, the re-discovery of the Night Parrot by Young, as well as recent discoveries by others in South Australia and Western Australia, has increased the potential readership of Olsen's book.

The story of the Night Parrot, from its discovery (the first specimen, only much later identified, was collected on the Charles Sturt expedition to central Australia in 1845) to recent research findings on the biology of the species, is told in six major sections, covering events State by State: South Australia, Western Australia, Victoria, New South Wales, Northern Territory and Queensland.

Not only can the reader follow the trials and tribulations of explorers, adventurers and twitchers in search of the Night Parrot, (in most cases without much to show for their efforts), but many excerpts from their diaries, numerous sketches, paintings, photographs and poems help bring the people, events and the elusive bird to life.

The book is further enhanced by contributions from other authors: 'Taxonomy' by Leo Joseph, shows that it is closely related to the Eastern and Western Ground Parrot and to the *Neophema* group of parrots; 'The vanishing habitat of the Night Parrot in the Gascoyne and Murchison regions of Western Australia: lessons from historical records, land use and landscape processes' by Peter Curry details the negative impact on the landscape of domestic animals, and points out opportunities for restoration; 'A Night Parrot legend from the Gibson Desert' by Robert Nugent; 'The last of a clan' by James Devaney; 'A diluted Ground Parrot' by Glen Holmes gives accounts of his own encounters in Queensland; 'In search of a parrot: the full story, Queensland 1993' by Stephen T. Garnett reports on his failed effort to find a Night Parrot on Devoncourt Station; 'An artist's muse' by Emma Lindsay provides background to her research on depictions of Night Parrots and extinct Australian birds and shows her paintings of the two desiccated Night Parrot specimens found in 1990 at Boulia (Walter Boles) and 2006 in the Diamantina NP (Robert Cupitt); and 'Nocturne' by Stephen T. Garnett - his entry for a National Short Story competition.

The book includes the earliest account of the biology of the Night Parrot by Frederick William Andrews (original paper presented in 1882), who collected the majority of the small number of Night Parrot specimens in museums today.
Olsen tells in detail of the intense conservation and research efforts following Young's discovery. Several parties - property owners, State and Federal Governments and mining companies, private conservation agencies and researchers - had to come together. This was not necessarily an easy process, but with a great outcome: the creation of the Pullen Pullen reserve in SW Queensland for the Night Parrot (with no access for the public).

Thanks to research, chiefly by Stephen Murphy, Rachel Barr, James Watson and Nicholas Leseberg, the natural history of the Night Parrot is now better understood. Olsen provides a comprehensive overview of this.

Penny Olsen's book attracted censure, even before it was fully launched. The criticism is mostly directed at the way she has portrayed John Young and his work. He carries some 'baggage' from a false bird discovery claim he made in the past. But is Olsen's detailed account of this past episode really necessary? On many other occasions the book places Young in a less than favourable light. Even his account of the hours and kilometres spent searching for the Night Parrot is questioned.

A serious criticism by Olsen is directed at a video by Young, 'that showed the bird wonkily staggering through the spinifex with one wing hanging', implying, that the bird was injured while kept captive for a limited time for a better photo opportunity.

While Olsen has every right to ask questions, the stated or implied answers might have been better omitted. Some have already received answers. For example, the respected naturalist Lloyd Nielsen writes in a document "*In support of John Young*" about this video recording based on his conversations with Young:

> …the bird responded [to a playback of its call] by coming out from the spinifex, with what appeared to be a threat display. The images show the bird in all sorts of poses with wings down, back arched in an aggressive pose, upright wings folded over its tail and so on. Olsen has mistaken these poses for injury! (Lloyd Nielsen, *pers. commun.*)

Whether or not this is the definitive word on the matter, the example shows the need for direct communication between Olsen and Young should have been essential.

Olsen states that Young was invited to comment, but the offer was not taken up. Unfortunately, all indications are that she relied solely on secondary sources for information about him. Clearly, more effort should have been made, since he was the one who rediscovered the species, made early audio recording of its calls (a crucial tool in later survey efforts by others) and triggered major research and conservation efforts.

Other than these reservations about the need for neutrality and greater restraint when reporting on issues not yet settled, the book can be recommended for the compilation of discovery and research on the Night Parrot written with Olsen's usual competence.

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# *RARITIES PANEL NEWS*

The story of this edition is the Yellow-plumed Honeyeater, a "first" for the Canberra region. Two birds were spotted at the Hall TSR by passing birders Matthew Stanton and L. Porter on 31 May 2018, and subsequently by many COG members at the same spot in the following days. It appears that at least one bird stayed around, as three more records were received until the end of July. The Yellow-plumed is a distinctive honeyeater from the mallee and dry eucalypt woodlands, with a prominent yellow and black cheek plume and strong grey-brown streaking underneath. The only local honeyeater with which it might be confused is the Fuscous, which has a much less conspicuous yellow plume and which lacks the undercarriage streaking. The Yellow-plumes are known to wander when conditions are harsh inland, which probably accounts for its arrival in our region.

Another record of note is that of the Square-tailed Kite, at Gundaroo in September. This species tends to turn up down the coast at the start of spring and is very occasionally recorded in the COG area of interest and even more rarely in Canberra itself. The record was supported by photographs, always helpful in assessing the identity of unusual species. The adult square-tailed is identified by its obviously square tail with a black subterminal band, white head, rufous underbody colouring, prominently barred wing fingers. It is often seen flying low over the canopy, its wings held in apposition varying between flat to shallow dihedral.

This endorsed list also includes a White-throated Nightjar record from last year, continuing the occasional reporting of this migratory species through our region.

The Panel again received a second-hand report of an interesting owl species: 2 Barking Owl on 28 Jun 2018 at Bungendore. While its practice is not to endorse second-hand reports, it acknowledges that this one seems likely.

## ENDORSED LIST 93, NOVEMBER 2018

**White-throated Nightjar** *Eurostopodus mystacalis*
1; 24 Oct 2017, Alastair Smith, "Bibaringa"

**Square-tailed Kite** *Lophoictinia isura*
1, 22 Sep 2018, Sue McIntyre and Jon Lewis, Dicks Ck Rd, Gundaroo

**Yellow-plumed Honeyeater** *Lichenostomus ornatus*
2; 31 May 2018, Matthew Stanton and L. Porter, Hall TSR
1, 11 Jul 2018, Sue Lashko, Aranda bushland
1, 18 Jul 2018, Ash Allnutt, Bluetts block
1; 29 Jul 2018, Bill Graham, Mulligans Flat centenary trail

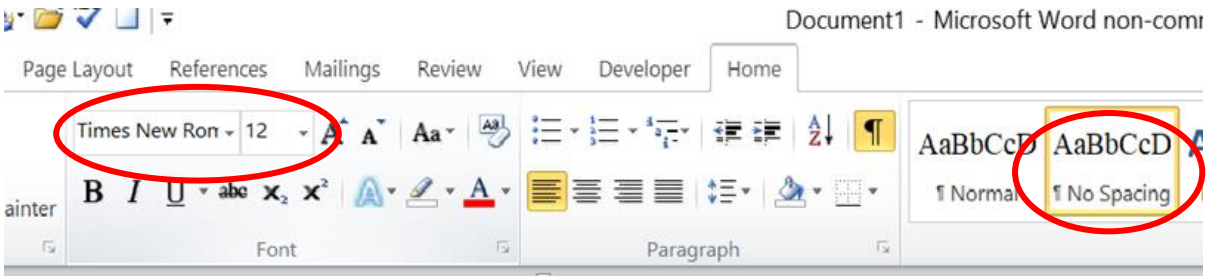
**Barbara Allan** (*allanbm@bigpond.net.au*)

## Canberra Bird Notes

Canberra Bird Notes is published three times a year by the Canberra Ornithologists Group Inc. and is edited by Michael Lenz and Kevin Windle. Paul Fennell edits the first issue/year, the Annual Bird Report. Major articles of up to 5000 words are welcome on matters relating to the status, distribution, behaviour or identification of birds in the Australian Capital Territory and surrounding region. Please discuss any proposed major contribution in advance. Shorter notes, book reviews and other contributions are also encouraged. All contributions should be sent to one of those email addresses:

CBN@canberrabirds.org.au or michael.lenz.birds@gmail.com

**Please submit contributions in *Times New Roman, with 12-point Font Size and 'No Spacing'*** (see illustration below):

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**Book Reviews continued**

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**Book Reviews**



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