

# Juvenile Channel-billed Cuckoo: some behavioural observations

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The concurrent presence in a suburban environment of a juvenile Channel-billed Cuckoo *Scythrops novaehollandiae* with its Pied Currawong *Strepera graculina* host parents and two other juveniles with their Australian Raven *Corvus coronoides* host parents allowed opportunities to compare behaviour. Observations documented included some begging and feeding behaviour of the juvenile cuckoos and their host parents, interactions between the host and juvenile birds, the weaning strategies adopted by the host species, and interactions with an adult Channel-billed Cuckoo.

## INTRODUCTION

The Channel-billed Cuckoo *Scythrops novaehollandiae* is the largest Australian cuckoo and a breeding migrant, regularly observed during the spring and summer months on the east coast of NSW (Higgins 1999). The species is easily identified from its body and bill shape, size, flight patterns and raucous call. An obligate nest parasite, the species is well known for using larger passerine species, in particular ravens, crows and currawongs, as hosts to raise its young (Higgins 1999).

While there are a number of documented observations of the general behaviour (Brooker & Brooker 1989; Kellam 1974; Kloot & Wardlaw 2002), courtship (Merrett 2014), host species (Brooker & Brooker 1989; Goddard & Marchant 1983; McAllan 1995) and parasitic behaviour (Brooker & Brooker 1989; Goddard & Marchant 1983) of the Channel-billed Cuckoo, there are only a small number of documented observations of the interactions between the host species and still-dependent juvenile cuckoos (Wood & Wood 1991; Wood 2004).

From December 2016 to March 2017, two pairs of host parents raised Channel-billed Cuckoo chicks near our house in Newcastle. This allowed many opportunities to observe some of the behaviours of the juvenile birds and their host parents. In this note, we report the main observations.

## METHODS

Observations were made at and near our residence in Addison Road, New Lambton (32° 55'S 151° 42'E), near Newcastle NSW. This is a leafy urban environment with numerous tall native and introduced trees and shrubs within adjacent backyards, leading into Blackbutt Reserve to the west. Approximately 210 m to the south-east is Regent Park, an urban greenspace fringed by Port Jackson Fig trees *Ficus rubiginosa*.

Our observations were opportunistic, more frequently occurring in the morning and mid to late afternoon although not confined to those periods.

## OBSERVATIONS

A pair of Pied Currawong *Strepera graculina* was actively foraging for food within our backyard during the week 18-25 December 2016. Whilst not an unusual observation, it coincided with contact calls being made by a juvenile bird about two properties away (~25 metres). We could not see the juvenile nor a nest, due to the density of the tree canopy. However, we often heard feeding noises after foraging, and so we concluded that the calling bird was a nestling. The pair of currawongs foraged across most substrates, searching the eucalypt canopy, foraging on the ground, hawking from the air, and foraging in shrubs and smaller trees for insects. Both birds were observed foraging on a large infestation of Bronze Orange

Bug *Musgraveia sulciventris* within two citrus trees in our yard. The currawongs predated extensively on them, returning to feed the juvenile bird immediately after foraging. We had never before seen birds of any species feeding on these insects.

On 27 December 2016 we first saw a juvenile Channel-billed Cuckoo, which was being fed by both of the currawongs. Sometime during the preceding days, the juvenile had moved into trees with dense cover within our yard, where it mostly stayed hidden from our sight. The juvenile cuckoo was not quite as large as the currawongs. It had a less well-developed bill than an adult cuckoo and there was no obvious orbital ring or bare skin between the mandibles and eye. The eye was dark in colour as opposed to the red of an adult Channel-billed Cuckoo. Its plumage had a distinctive fawn to buff colour across the chest and head with lighter patches on the wings and back. The juvenile made persistent loud begging calls to the host parents, which fed it frequently. The begging calls were triggered by almost any movement of the hosts, particularly when they were close by.

We saw the juvenile Channel-billed Cuckoo on a daily basis over the next week. The juvenile mostly remained in the dense cover provided by the eucalypts. At most it ranged within three suburban backyards (~25 metres) and usually stayed in approximately the same place for long periods of time (2-3 hours) with the host currawongs returning to feed it at intervals of *c.* 2-10 minutes. Its movements seemed clumsy, suggesting it was recently fledged. It rarely flew, making only occasional and ungainly 2-5 m flights between adjacent trees.

On 5 January 2017, we received a report of two juvenile Channel-billed Cuckoo being hosted by a pair of Australian Raven *Corvus coronoides* *c.* 300 m from our yard (A. Stuart pers. comm.). Later that same day, we saw these four birds in our front yard. The newly arrived juvenile cuckoos had similar buff-coloured plumage to the original juvenile but overall, they seemed to be more mature. For example, they were more mobile, were less ungainly in their movements and they seemed to us to be larger birds.

Over the next two weeks (8 to 22 January 2017), the currawong-hosted Channel-billed Cuckoo continued to inhabit our yard and adjacent properties. It became more confident and adventurous with its flight and moved further from

the cover of the denser vegetation. The juvenile also became more and more demanding of its host parents. On several occasions we observed it chasing the currawongs along tree limbs immediately after being fed, and begging with increasing vigour and volume. Both currawongs fed the juvenile cuckoo and they were constantly foraging.

During these two weeks, we often saw the raven-hosted cuckoo youngsters, and sometimes they were in the vicinity of the currawong-hosted cuckoo. However, we saw no interactions between the two pairs of host parents nor between their two sets of chicks. The raven-hosted cuckoos were commonly in more open habitat, following their surrogate parents with constant contact calls and food begging behaviour. Perhaps as a result of the nature of the habitat, they were more frequently harassed by other bird species, in particular the Noisy Miner *Manorina melanocephala* and the Australian Magpie *Gymnorhina tibicen*.

Throughout the observation period, some adult Channel-billed Cuckoo were often in the neighbourhood. During January, one of these adult birds flew into trees near the currawong-hosted Channel-billed Cuckoo, with the local bird species reacting strongly to its presence. The juvenile cuckoo immediately ceased making calls to its host parents; staying quiet and still within the foliage where it was perched. As soon as the adult cuckoo flew off, the juvenile bird resumed its calling and begging behaviour with its surrogate parents.

During the last week of January and in early February 2017, the currawong-hosted cuckoo became increasingly demanding. It followed one or other of its host parents closely, begging loudly. Close scrutiny of the bird at this point revealed that the fawn colour of its plumage was starting to disappear. It was patchy across its head and chest with white patches on wings and back still showing evidence of this colouration. Its bill and body size had grown substantially but its eye colour was still dark.

The two raven-hosted cuckoos were present less frequently during this period, although still seen at least weekly. These juvenile birds were tending to follow one each of their host parents, with the two ravens usually foraging separately.

By the last week of February 2017, the raven-hosted cuckoos had all but lost the fawn colouring from their head and chest, while retaining the tint on the lighter patches of their back and wings.

Their eye colour remained dark. We also noted that the Australian Raven host parents were becoming indifferent to the attention given them by the two juvenile cuckoos. Overall, they were less responsive than previously to begging behaviour and they often ignored the young cuckoos, opting to forage for themselves instead.

At this stage, the pair of host Pied Currawong was foraging over a greater area within the neighbourhood, including Regent Park and neighbouring streets, with their juvenile cuckoo always following them. All three birds regularly returned to our neighbourhood most evenings, foraging for food within shrubs and trees and from the ground, as in the preceding weeks. On a number of occasions, we saw the currawongs “false feed” the cuckoo despite not having caught food or undertaken foraging activity for some time. On those occasions, the currawong would insert its empty beak into the open gape of the cuckoo. Both of the currawongs appeared noticeably slimmer in body size by comparison with other currawongs in the area.

During the first week of March 2017, the Pied Currawong pair and their Channel-billed Cuckoo were only sighted once; however, we could still hear the begging and contact calls of the juvenile bird all the week. In the following week, the currawongs came to our yard of an evening but without their cuckoo. There was no sign of the young Channel-billed Cuckoo and no begging or contact calls were heard. It was evident that the currawongs were foraging for food for themselves and they continued to forage in this manner across the neighbourhood.

Late during this same week, a Channel-billed Cuckoo landed in trees in our yard. It was a sub-adult bird based on the presence of some remaining small buff patches of plumage and a dark eye. The bird perched quietly in the trees for some time, ignoring the Noisy Miner alarm calls. It is possible that this was the cuckoo hosted by the currawongs, still moving around the neighbourhood where it was raised. If that was the case, it was our last observation of the currawong-hosted Channel-billed Cuckoo.

The raven-hosted cuckoos were not seen or heard at all in March, which suggests that these birds already were fully independent. The pair of ravens was still in the area but they were without their two young cuckoos.

## DISCUSSION

During the summer of 2016-2017, we were able to observe the behaviour of a young Channel-billed Cuckoo and its Pied Currawong host parents closely and compare these observations with those of two other young cuckoos and their Australian Raven host parents. Both of the Pied Currawong host parents shared the feeding duties for their surrogate offspring throughout the observation period. Initially, the currawongs brought food to the young bird but as it aged and became more confident and mobile, it began to follow one or other of the adults. Both of the ravens also were tending to both of their young cuckoos, although they often would pair off i.e. one cuckoo was each with one raven. This is similar to observations made by Wood (2004) and as described by Higgins (1999).

The currawong-hosted cuckoo was mainly sedentary immediately after fledging but it became more active as it became older. Similar to observations by Wood & Wood (1991), this juvenile bird made constant contact calls to the host parents, as did the two raven-hosted cuckoos. As the currawong-hosted cuckoo became more mobile, it began to habitually follow its host parents. On several occasions the cuckoo grabbed hold of a currawong when the adult started to move away after feeding it, presumably to hassle the currawong for more food. Most commonly, the cuckoo grabbed the currawong on the wing or tail. We did not observe this behaviour by the raven-hosted cuckoos. Possibly that was because they were more developed than the currawong-hosted bird when we first saw them. However, we had fewer overall opportunities to observe that family group.

Both of the host pairs adopted similar strategies for weaning their dependant cuckoos to independence. The Australian Ravens began to ignore the begging behaviour of their pair of juvenile birds. The currawongs did the same and also started false feeding the juvenile cuckoo, with no food actually given. This behaviour has been previously reported to be used when encouraging birds to fledge from the nest (Higgins 1999) but no similar observations have been previously reported for encouraging juvenile cuckoos to become independent.

In comparison with the Pied Currawong-hosted bird, the cuckoos hosted by the pair of ravens appeared to be older based on their confidence and

skill in following their host parents around the neighbourhood. Wood (2004) observed that post-fledgling independence occurred on average after 57 days for birds hosted in the Wollongong area. The raven-hosted cuckoos became independent approximately two weeks earlier than the Pied Currawong-hosted cuckoo, and they disappeared in late February. This was consistent with observations by Wood (2004) for early fledged birds. By contrast, the Pied Currawong-hosted bird was a late fledgling which became independent by mid-March, similar to observations by Wood & Wood (1991).

Throughout the observation period, some adult Channel-billed Cuckoo were resident within the neighbourhood. These adult birds were often flying overhead, either as a single pair or, and commonly, as three individuals interacting and duetting loudly. They were also frequently observed moving around and feeding on the Port Jackson Fig trees on Regent Street and other fruit trees locally. Apart from the one visit to our yard in January, we saw no interactions between any adult Channel-billed Cuckoo and the juvenile birds. While it has been suggested that the adult Channel-billed Cuckoo gather the young for migration (Higgins 1999) we did not notice this to occur for the young birds in our study.

## CONCLUSIONS

We observed the behaviour of two concurrent sets of Channel-billed Cuckoo fledglings and their host parents throughout the 2016-17 summer. All observations made were opportunistic within suburban backyards in New Lambton, NSW, with a single juvenile cuckoo hosted by a pair of Pied Currawong and a pair of juvenile cuckoos hosted by an Australian Raven pair.

Observations included feeding behaviour undertaken by the host parents including begging and aggressive harassment of the host birds by the juvenile cuckoo. A single close encounter was observed between one of the juvenile cuckoos and an adult Channel-billed Cuckoo. However, no direct interactions between adult Channel-billed Cuckoo present in the area and juvenile birds were observed.

Weaning strategies included false feeding of juvenile birds and lack of response to begging behaviour by both host bird species. Weaning of juvenile cuckoos to independence occurred in late February for the raven-hosted birds and mid-March for the currawong-hosted bird.

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