

## SHORT COMMUNICATIONS

### INTERACTIONS OF A JUVENILE PALLID CUCKOO WITH THREE OTHER SPECIES

Most knowledge of Australian cuckoos stems from reports of isolated incidents. This is unfortunate, but nevertheless a gradually accumulating body of such observations can assist in piecing together accounts of the birds' biology.

The observations described here involve interactions between a juvenile Pallid Cuckoo *Cuculus pallidus*, a pair of Red-capped Robins *Petroica goodenovii* and one of their chicks, a male Rufous Whistler *Pachycephala rufiventris* and a Variegated Wren *Malurus lamberti*. They were made in a small grove of Mulga trees *Acacia aneura*, in Billabong Paddock, Middleback Station, 24 km NNW of Whyalla, SA, on 7 November 1983.

The Red-capped Robins had a nest in one of the Mulgas, containing one live chick, whose eyes were still closed, and whose age is estimated at 5-7 days. A dead chick hung from the edge of the nest; it was still limp and thus was recently dead. Our observations began at about 13.00 hours. The male Robin was feeding its own chick, while the female fed the Cuckoo in a nearby tree. An uncoloured Variegated Wren also fed the Cuckoo, but was not seen again. The Cuckoo then flew to the mulga containing the Robins' nest, where both Robins fed it.

A male Rufous Whistler had been singing all the time nearby. Without warning it attacked the young Cuckoo. It bowed towards the Cuckoo, cocked up its tail and sang loudly and continuously. The female Whistler was present nearby but took no part in the action. The Whistler's attack was so vigorous that the Cuckoo was driven to the ground, where it crouched, wings spread, head raised, beak open, making begging calls. Both Robins then attacked the Whistler, which responded by swooping on the female Robin, still singing loudly. The Whistler eventually moved away but continued to sing in the background.

The Cuckoo subsequently flew to a branch immediately beside the Robins' nest, where it continued to beg. It intercepted food brought to the nest by both Robins. The Robin chick frequently begged for food but was ignored. As soon as the Cuckoo moved a short distance away the male Robin reverted to feeding its own chick almost exclusively, but the female continued to feed the Cuckoo. She fed her own chick only when the Cuckoo was several metres away, and then not exclusively. When the Cuckoo was not continuously fed it returned

to the vicinity of the Robins' nest.

We continued to observe the Cuckoo for the next three hours. While immediately above the nest it pecked at the young Robin, stabbed towards it with its beak, and on one occasion lifted the chick up and dropped it back in the nest. While the Cuckoo was this close the male fed it almost exclusively, only occasionally feeding its own chick.

During a shower the female Robin attempted to brood her own chick, but was clearly unsettled by the presence of the Cuckoo and flew off. When the Cuckoo was disturbed it flew to another tree, where the female Robin called to it and continued to feed it. We left the area at 17.00 hours.

On 13th November the Cuckoo was still present and being fed by the female Robin. The Robins' nest was empty; the dead chick had gone and the male Robin was not seen. The Cuckoo was begging and calling continuously. It had roosted in a nearby bush and undergone moult. Most of the moulted feathers were on the ground beneath.

Several questions are raised by these observations, and we shall address them in turn:

1. What species fostered the Cuckoo? It is unlikely that the Robins raised this Cuckoo. This species is normally fostered by honeyeaters, and although Spiny-cheeked Honeyeaters *Acanthagenys rufogularis* were nesting in the area we cannot say which species raised this chick.
2. Why did the Rufous Whistler attack the Cuckoo? The behaviour observed is typical of this species' display. It would appear that the male regarded the Cuckoo as an invader of its territory and many birds attack Cuckoos in the breeding season. The interaction of the Whistler with the Robins may have resulted from the close approach of the Whistler to the Robins' nest during its attack on the Cuckoo.
3. How old was the Cuckoo? There are several threads of evidence that suggest the young Cuckoo was at least 3-4 weeks out of the nest. It was able to fly quite strongly, it was well grown and it underwent moult. The European Cuckoo *Cuculus canorus* begins moult soon after fledging; some start

moulting wing and rectrices before migration, most undergo complete moult in winter quarters (Ginn & Melville 1983). We can find no information on the moult of the Pallid Cuckoo, but the extensive moulting of this chick suggests that it was well past fledging. It is possible that it was already partly independent and was being opportunist in accepting food from other species.

4. Why did the Robins feed the Cuckoo? It is not unusual for birds other than the foster parents to feed young Cuckoos. They presumably respond to the begging behaviour of the young bird in the same way as they do to the stimulus provided by their own young. The size of the chick and its large gape may have provided a stronger stimulus than that provided by their own chick. Unfortunately we do not know whether they fledged their remaining chick. It seems unlikely that it could have left the nest by 13 November.
5. The remaining questions relate to the behaviour of the Cuckoo chick at the Robins' nest. The response of the chick to being fed by the Robins was not unusual. The fact that the female Robin was still feeding it on November 13th suggests that it stayed in the area and was continuing to obtain food for several days at least. What is unusual is the behaviour of the Cuckoo chick toward the Robin chick. We saw the Cuckoo pick up the remaining chick. It seems likely that the death of the other Robin chick occurred as the result of being displaced by the Cuckoo, which was perhaps testing it as a possible food item. It could have killed the second chick in the same way; indeed it is not beyond the bounds of possibility that it ate the chick.

While it is well known that young Cuckoos eliminate

competition by heaving out the other contents of their foster parents' nest, we can find no record of a fledged Cuckoo chick behaving in this way toward chicks of another species. There are several records of adult Cuckoos removing eggs and chicks from the nests of other species; these are summarised by Marchant (1972). Wyllie (1981) refers to host-nest predation by seven Cuckoo species, usually resulting in the eggs being eaten, though he has seen an adult European Cuckoo eating nestlings of Reed Warbler *Acrocephalus scirpaceus*. He suggests that it is most likely that either the eggs provide a useful source of nutrients, or that nest destruction results in re-nesting and hence the provision of new nests for egg laying. Such behaviour could be normally latent in the young but occasionally expressed.

We can see no likelihood that even if the Pallid Cuckoo fledgling did remove the Red-capped Robin chicks this is other than a rare and accidental occurrence.

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### BREEDING SEASONS AND DOUBLE BROODING OF THE LITTLE PENGUIN *EUDYPTULA MINOR* IN NEW ZEALAND

There are six recognised subspecies of the Little or Blue Penguin *Eudyptula minor*, five confined to New Zealand (Kinsky 1970, 1980) and one to Australia. The distribution and subspecific status of *E. minor* have been reviewed by Kinsky & Falla (1976). The Australian subspecies *E. m. novaehollandiae* has been the subject of the most extensive research and the breeding biology

of this subspecies has been reviewed by Reilly & Cullen (1981).

In comparison, the five New Zealand subspecies have been studied in much less detail. The ecology of the Northern Blue Penguin *E. m. iredalei* has been studied by Jones (1978) in Auckland and Kinsky (1960) has