

Observations on the Breeding of the Koel

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INTRODUCTION

This paper is a summary of observations made on the breeding of the Koel, *Eudynamys orientalis*, during the period September 1961 to February 1964.

Most observing was carried on in Southgate, a dairying district centred approximately seven miles north-east of Grafton, N.S.W.

The Koel is a regular summer migrant to this area, usually arriving in the last week of September and departing in the latter part of March, although odd birds (juveniles) do not leave until early April. The male's arrival usually precedes that of the female by at least a week, and the former also appears to depart as much as three weeks earlier than the female.

On arrival the male commences to call, a monotonous "coo-ee" being uttered for long periods prior to the arrival of the female, when there is a distinct change in the calling; it then becomes very excited with many different notes, but as the season progresses the birds gradually become quieter except when mating. The Koel rarely calls during late February and March.

BREEDING

The Magpie-Lark, *Grallina cyanoleuca*, a common bird in this area, is the principal host species. The only other foster-parent recorded was the Noisy Friar-bird, *Philemon corniculatus*, which was feeding a young Koel in forest land in the Woolgoolga area during February 1963.

Breeding appears to be rather irregular. During 1961-62, breeding took place on fourteen occasions but during the following summer only four Koels were reared, and 1963-64 produced only one young bird. The decrease in breeding in this last season was accompanied by a distinct fall in the population of Koels.

The Koel commences breeding in late October and continues until the end of February. The earliest record was October 15, 1961. Some young Koels, though reared late in the season, do not leave their foster-parents until the end of March. Each pair of Koels appears to take up a breeding territory which may cover an area containing as many as five Magpie-Lark territories. The Koels' excited behaviour is the first indication that breeding is about to take place. This behaviour continues for about a week prior to the depositing of the egg and during this period the pair spend a noticeable amount of time in the vicinity of the tree containing the chosen nest.

The situation of the nest does not appear to affect the Koel's choice. Nests used have been placed in very sheltered positions as low as 14 feet from the ground while others have been placed high up in open situations.

The Cuckoo's egg is deposited after the Magpie-Lark's nest contains either two or three eggs, and an egg is always removed. The Koel's egg is salmon pink, marked with reddish and violet-grey shades, chiefly at the larger end. Two eggs examined measured 34 mm \times 24 mm, while the average size of the host's eggs measured was 29 mm \times 21 mm. I have not succeeded in seeing the Koel deposit its egg.

The incubation period is approximately 16 days, the young Koel and the first Magpie-Lark chick usually hatching about the same time. Only once did the Magpie-Lark hatch first—about 24 hours before the Koel. Differences in appearance and behaviour between the young Koel and the young Magpie-Lark are described in my previous paper on the Koel (*Australian Birdwatcher* 1: 226-228).

The ejection of the other nestlings takes place within 48 hours of the Koel's hatching. The young Koel is quick to take advantage of the foster-parent's absence. On two occasions I have found the young Koel with a nestling Magpie-Lark on its back within a minute of the adult leaving the nest. Attempted ejections have twice been witnessed. Once, during a period of about 15 minutes, I saw a young Koel make three attempts before successfully ejecting its nest-mate.

My description of this action, which took place at 11.35 a.m. on January 27, 1963, reads as follows:

On reaching the nest I noticed the young Cuckoo pushing its way under the one remaining Mudlark nestling. When the Koel had the Mudlark on its back it rested for a brief interval and then proceeded to back up against the side of the nest. Using its wings to balance the Mudlark on its back and anchoring its feet on the floor of the nest, the Koel gradually arched its back until it was almost level with the rim. Here it rested before attempting a final thrust to dispose of the Mudlark, but before this action was completed the Mudlark slipped back into the nest.

After a minute or so, the Koel again attempted to eject the Mudlark and again it failed, but I replaced the nestling on the Cuckoo's back as it remained poised near the rim of the nest and it tried once more unsuccessfully to throw it out. The two remained still in the nest for a few minutes but then the Cuckoo began to stir again and finally succeeded in ejecting the Mudlark.

On becoming the sole occupant, the Koel grows rapidly and leaves the nest when about 19 days old. At first the young bird tries to follow its foster-parents and as a result usually spends the greater part of its first day out of the nest on the ground; but after the first day or so it appears to be content to remain in one tree and wait for the foster-parent to bring its food. The young Cuckoo resembles the adult female in appearance but is slightly lighter in colour and a little differently marked, particularly around the head.

The foster-parents continue to feed the Koel for approximately 18 days before it leaves the locality. Only once was the fledgling observed to feed itself before leaving the foster-parents. On that occasion the young Koel was noted eating mulberries on its

first day out of the nest, but further observation was prevented by the Cuckoo's death, probably due to wet weather, three days later.

The period between the laying of the egg and the fledgling becoming independent appears to be about 53 days. On several occasions the foster-parents have commenced building a new nest while still feeding the young Cuckoo.

It is interesting to note that one pair of Mudlarks reared three Koels during the 1961-62 season and one in each of the two following seasons.

During a season as many as five young Koels have been reared in what appears to be the territory of one pair of adults. This indicates that a female may produce a number of eggs during a season.

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On the taxonomy of *Cuculus pallidus* (Latham).—Peters (Check-List, vol. 4, p. 20) rightly questioned the validity of *occidentalis* (Cabanis and Heine) 1863, proposed for West Australian birds. I can confirm that there is no difference, either in size or coloration, between eastern and western birds. It is likewise impossible to separate Tasmanian birds (*tasmanicus* Mathews 1916). Some wing measurements of adult males in the American Museum collections are as follows:

Victoria: 187, 190, 190, 190, 192, 192, 193, 193, 195, 195, 196, 196, 199, 201 (av. 193.8, 15 ♂ ad.)

Western Australia: 186, 188, 188.5, 189, 191, 192, 192, 192, 192, 194, 194, 196 (av. 191.2, 12 ♂ ad.)

Tasmania: 194, 194, 195, 196, 198 (195.4).

Mathews apparently never designated a type for his *tasmanicus*. The three adult males in his collection are thus presumably to be considered syntypes.

This species is such a perfect intermediate between *Cuculus* and *Cacomantis* that it throws doubt on the validity of the genus *Cacomantis*. In spite of its under-wing pattern the species *pallidus* is actually closer in some respects to *Cacomantis* than to *Cuculus*.—ERNST MAYR, Museum of Comparative Zoology, Cambridge, Mass., U.S.A.