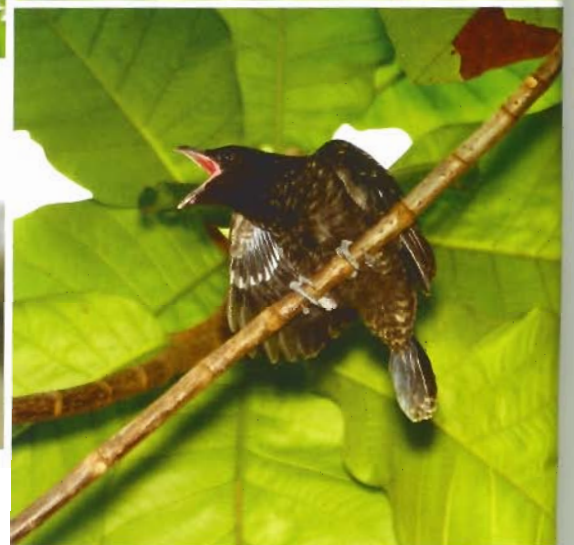


Look, what came out of the crow's nests

TEXT AND PICTURES BY
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A tale of brood parasitism as observed by botanist Wee Yeow Chin. The Asian Koel's unwitting role in controlling the problematic House Crow population in Singapore.



Clockwise from top left: A parent House Crow; The koel chick stretching its wings after landing on a branch of a nearby tree on its first flight; Begging for food; The speckled koel chick further afield.

Most people are familiar with House Crows (*Corvus splendens*). Their large size, black plumage (except for the grey collar), loud belligerent cries and bold behavior make them very hard to ignore.

These birds are not native to Singapore, unlike the Large-billed

Crow (*Corvus macrorhynchos*) which is native and lives in the forests.

The House Crow was introduced to the West Malaysian town of Klang from Sri Lanka towards the end of the 18th century. A plague of caterpillars was then threatening the coffee industry and it was thought the crows

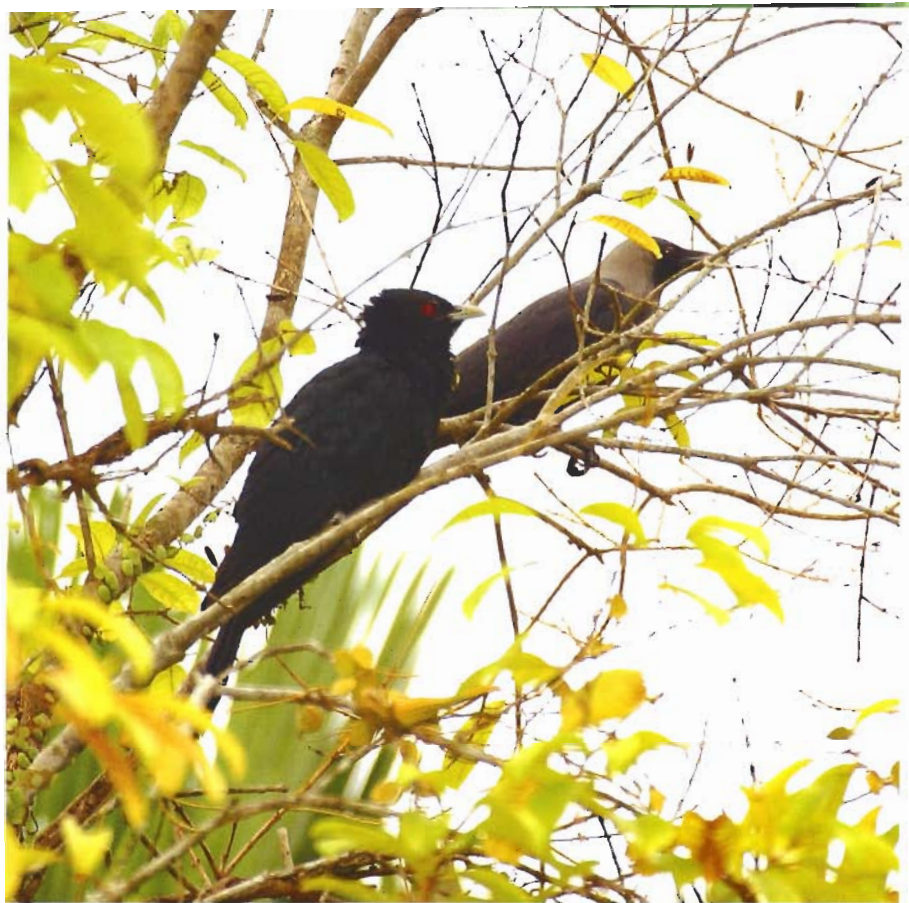
could help to eradicate the pests. The birds in turn established themselves, spread throughout the country and eventually moved south to Singapore. However, their proliferation in urban Singapore is a recent phenomenon. Only two decades ago they were relatively scarce in urban areas. Not so now.

The crows gather around open-air food centres and housing estates where they can readily access discarded food. The noise they generate as well as their aggressive behaviour do not endear them to residents. Also, the noise made by the roosting birds on wayside trees in the evenings and the droppings they leave on the ground below contribute to their unpopularity. Crows also raid the nests of other birds and have been known to kill the more desirable song-birds like Black-naped Oriole (*Oriolus chinensis*). The currently large population is viewed as a nuisance and efforts have been made, especially through shooting, to reduce the population, but with questionable success.

The Asian Koel (*Eudynamis scolopacea*) on the other hand, is just as large and the male just as black. Unlike the crow, it is rather shy, more often heard than seen. Its sometimes mournful and haunting calls in the quiet early mornings and late evenings never fail to draw attention to its presence. The male koels are easily distinguished from the crows by their all black plumage, long tail, red eyes and green bill. The female of the species have a different colouration. She is dark brown and boldly spotted. Koels used to be non-breeding winter visitors to the island. By the end of the 1980s, there were reports of resident koels but there were no reports that they were breeding here. However, the proliferation of House Crows no doubt paved the way for the emergence of a sizable breeding resident Koel population. Here's why.

Fallen crows' nests

I have always been aware of the presence of crows in my neighbourhood and fascinated by the calls of koels. My interest had never been more than casual until one morning, some years ago, when I found a large mass of loosely intertwined twigs along my driveway. On closer examination, I realised that it was in fact a nest of sorts. Made up of mainly *mempat* (*Cratoxylon formosum*) twigs that came from the many wayside trees around, the nest measure 40 x 40 cm and 30



A male koel (left) and a crow (right) perching side by side.

cm deep. Intertwined with these twigs were pieces of wire of various length and thickness, pieces I had left around the garden. Sitting in the centre of this mound of loosely woven twigs was a neat shallow cup thickly lined with light brown fibres, probably palm fibres. Dried slender stems of the dragon's scale fern (*Pyrrosia piloselloides*) also found their way into this cup, which was about 20 x 20 cm and 10 cm deep.

A few months later, another dislodged nest was found lying on my driveway. These displaced nests obviously came from the crowns of the pair of tall Ceram Palms (*Rhopaloblaste ceramica*) growing nearby. Planted some 30 years ago from seedlings, they were then about 16 metres tall. They had been producing crops of red fruits regularly for at least a few years. The crows built their nests firmly lodged between the bases of the fronds. But as new fronds emerged from the growing centre of the palm, old fronds around the periphery became displaced, to eventually fall off as they aged. This caused old nests to fall off with time.

Curious, I began to examine the crowns of these palms whenever I was

in the garden, a past-time not too comfortable for the neck, considering the height involved.

Around late October 2003, I noticed a pair of crows that was regularly making loud cries every morning and evening around the two palms. Whenever I was out gardening below the palms, they would try to either distract or frighten me by perching on a low branch of a nearby tree and cawing loudly. Occasionally one would fly close by, using my head for target practice. This behaviour went on for about a week, rousing my suspicion that they might be breeding. There was indeed a nest lodged between the bases of the fronds on one of the palms. With the aid of a pair of binoculars, I spotted a chick sticking its neck out of the nest. It was a chick of an Asian Koel. This sighting was in fact the first report of an Asian Koel breeding in a crow's nest in Singapore.

In January 2004, another koel chick was spotted looking out from a nest lodged in one of the two palms. Its maiden flight was a clumsy attempt and involved flying downwards, landing on a branch of a nearby tree. This major event was accompanied with



Left to right: Displaced crow's nest (ruler = 15 cm.); Male koel feeding on palm fruit.; Crow's nest lodged between the bases of Ceram Palm fronds (note rusty wires around the base of the nest).

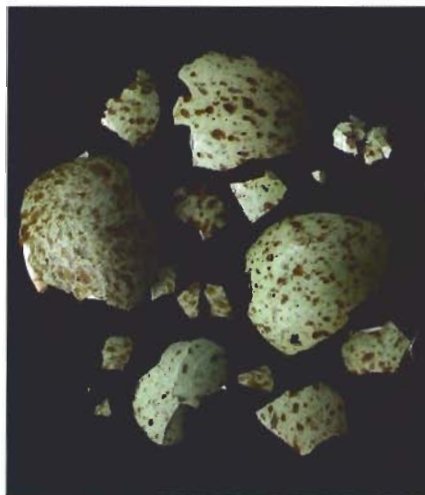
much excitement, the foster parents cawing loudly in encouragement and the fledgling giving out a continuous "creep-creep-creep" call, no doubt harassing the foster parents for food. The crows were most aggressive during this period when they perched on a low branch nearby and cawed loudly. When the fledgling's subsequent clumsy attempt at flight after a slight shake of the tree ended with it on the ground, I managed to catch it amidst its loud cries as well as those of its foster parents. The combined alarm cries attracted crows within earshot and soon there were more than a dozen flying above, all contributing to the cacophony of caws. When the fledgling was released it fled on foot to hide under some low vegetation.

Attempts at locating and photographing had to be aborted as the circling crows took turns to dive down, flying within centimetres of my head. All the time, the circling crows above were creating a loud commotion. Only after I retreated into the house did the re-enforcement fly off, leaving the two foster parents to stand guard over the fledgling.

In April 2004, another koel chick was seen emerging from a new crow's nest. It took off on its maiden flight and remained nearby crying throughout the daylight hours for the next two weeks to be fed. One week after it took off, I was surprised to see two other koel fledglings moving around the nest. The second fledgling left the nest about a week after the first while the third flew off three days later. For the next one week, the pair of crows were frantically feeding all three fledglings that were "creep-creep-

creeping" all day long. Came dusk all was quiet as the crows left the scene to roost somewhere else. Then one by one the fledglings left the scene to lead independent lives.

All through the period when the koel fledglings were dependent on the crows, the latter took on aggressive postures whenever I was around. As soon as they spotted me with my camera or binoculars, they would caw loudly. Perched on a nearby golden penda (*Xanthostemon chrysanthus*) tree,



The egg shells found on my driveway that could well be a crow's.

they would aggressively peck off one leaf after another, littering the ground below with the fallen leaves, all the time cawing loudly. On a palm they would pack noisily on the fronds to show their displeasure.

However, whenever I pointed a long stick at them, they immediately flew off in panic. Such behaviour no doubt was a response to the constant harassment by professional shooters employed to eliminate them. The crows were extremely shy when they

were looking after the egg-incubation period. An interesting point was that whenever I sent my wife Eileen out to spy on the birds, they did not react to her presence.

One day in July 2004, an old nest in the crown of one of the palms was literally ripped apart, leaving twigs scattered all over the driveway. Some days later the central cup of the old nest was totally removed. I was prepared for a break in the breeding cycle for by that time no new nest was being observed on the palms. However, one morning in late August, I noticed what looked to me was a smashed crow's egg at the base of one of the palms. Above was a nest the crows had secretly built with materials from what were left of the old nest in the nearby palm. And there was always a crow in the nest, obviously incubating an egg or eggs. I was eager to see what would emerge from the nest around 15-16 days later. But this was not to be.

Early in next month, two more eggs were found smashed at the base of the palms. What actually happened remains a mystery. The nest may have been raided by a koel. After this incident, the crows abandoned the nest, never to return. Today, the cycle of breeding has stopped and no more crows are using the Ceram palms to build their nests.

Breeding behaviour in Singapore

It has been reported that in India, crows breed during March-April to July-August, although breeding has also been observed during October-December. The breeding season varies from country to country, as to be expected. In Singapore, it was thought



Left to right: Female koel swallowing a ripe Alexandra Palm fruit.; Young koel chick peeping out of the crow's nest.; Crows by nest about to feed chick (in centre).

that there were specific months when House Crows breed, but this apparently is due to a lack of detailed observation.

My observations show that House Crows and Asian Koels probably breed throughout the year in Singapore. However, whether the crows that were breeding during the period of October 2003 to September 2004 were the same pair or different pairs, I am not able to say. Hopefully some serious birdwatcher or ornithologist would one day be able to answer this question.

The crows always built a new nest each time they were ready to breed. In my garden they used alternate palms to build their nest, recycling the materials from the old nest to build a new one. And both parents worked on the building of the nest, taking about two weeks or less to complete the project.

Koels are cuckoos, belonging to the family of birds known as Cuculidae. And many cuckoos have long been known to be brood parasites. In fact, of the 136 species of cuckoos, 39% are obligate parasites, most of which are from the Old World. Cuculidae is one of five families that exhibit brood parasitism.

Brood parasites lay their eggs in the nest of other birds, whether those of their own species or those of other species. Most brood parasites use more than one host species. In the case of the koel, it has been known to use the nests of crows, mynas, starlings, drongos, figbirds and many others. In Singapore it has only been shown to lay its eggs in the nests of the House Crow.

It has been reported that crows lay four or five eggs at a time. The eggs

are pale blue-green with speckles and streaks of brown. The eggs of the two species of birds are said to look more or less alike in colour and pattern. However koel's eggs from this region have yet to be reliably described.

It has been further reported that in most cases, the koel lays her eggs only after the crow has laid her first egg. The male koel apparently distracts the crow in the next incubating the egg while the female koel sneaks in to lay hers. I did notice koels around the palms during the breeding period but only once did I see a koel sneaking into the crow's nest. Because of the height of the nest on the palm, I have not been able to peek into the nest to make more important observations.

For the koel to replace the crow's first-laid egg with one of her own is an excellent strategy. This would ensure the first hatchling to be that of the koel's. Should the second hatchling be that of the crow's the koel hatchling would have the advantage of being larger and thus better able to compete for food.

Brood parasitism has a negative effect on the crow's population. My observations where all three consecu-

tive breedings ended in a koel or koels may be an extreme example. The percentage of successful breeding by crows in other parts of the island must be high. How else can one explain the success of these birds despite attempts at control by the authorities. The ability of koels to farm off the rearing of their young to crows apparently frees the former to concentrate on the production of more eggs. This definitely has a positive effect on the koel's population, as can be seen in the increase in its number during the last decade or so in Singapore. Some years ago, koels were often heard but seldom seen. This is not the case now.

I would like to thank Subaraj Rajathurai who had been unstinting in sharing his knowledge of crows and koels, as well as Morton Strange, Dr Navjot S. Sodhi and Lim Kim Seng who helped, either directly or indirectly, to confirm the identification of the koel fledglings. 🌳

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