

OBSERVATIONS ON THE BEHAVIOUR OF THE YELLOW-VENTED BULBUL, *PYCNONOTUS GOIAVIER* (SCOPOLI) IN TWO INSTANCES OF FAILED NESTING

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INTRODUCTION

The yellow-vented bulbul (*Pycnonotus goiavier*) is a common resident bird species in Singapore. It can be found in almost all habitats, from mangrove to secondary forests, and from rural to urban areas. Nesting is common and can be encountered in gardens, parks as well as along corridors of high-rise buildings where the birds nest in potted plants.

In Jun.2005, a pair built their nest in my *Dracaena reflexa* ‘Song of India’ tree whose foliage was then sparse. Later, in mid-Jul.2009, another pair nested in the same, but now bushier tree. As the foliage was rather sparse in the first nesting, I had no difficulty noticing the nest but not so the latest nesting. I only realised that there was a nest after I had partly sawed off one of the four upright branches. As the stem collapsed, the chicks chirped excitedly and two adults suddenly appeared and cried out loudly. Realising what I had done, I propped up the stem to allow the chicks to remain in the nest and the adults to continue brooding them.

In both instances I took the opportunity to document the nesting process through photography (Chan et al., 2007; Tsang et al., 2009). Unfortunately, both nestings were interrupted before the chicks had a chance to fledge.

INCUBATING AND BROODING

The cup-shaped nests, made from twigs, pliable stem pieces of herbaceous plants, roots and dried leaves were lodged firmly in the branch forks of the tree. These bulbuls are opportunists as far as nesting materials are concerned, also making use of shredded paper, pieces of raffia, and strips of plastic when available. Both sexes helped in building the nests, taking about a week to complete.

A single egg was laid in the first nesting and two in the second. All eggs eventually hatched. Up to four eggs have been reported, laid on consecutive days and the female is solely responsible for incubation, starting from the second egg (Fishpool & Tobias, 2005). However, as the sexes are not distinguishable, this cannot be confirmed. An adult was observed incubating the eggs for about 10–15 minutes at a time during daylight hours. Only towards dusk did it stay in the nest all the time, leaving at dawn. Incubation lasted 12–13 days. The chicks hatched naked and blind (Figs. 1–2), lying flat at the bottom of the nest until an adult arrived to feed (Fig. 3). The eyes began to open on the third day (Fig. 3). The eggshell in many birds are removed by the adult and discarded some distance away (Cheah & Ng, 2008; Wee & Wang, 2008) and this must have been done but was not observed.



Fig. 1. Two-day old chick, naked and blind, lying flat at the bottom of the nest.



Fig. 2. Three-day old chick with pin feathers developing from the wing.



Fig. 3. Three-day old chick craning its neck and gaping to be fed with eyes slightly open.



Fig. 4. An adult with a grasshopper to feed the chick.

Both adults were kept busy ferrying food to the nest (Fig. 4). Feeding started in the early morning and ended late in the evening. A three-hour observation on the morning of 17 Jul.2007 showed the adults feeding the two chicks continually for a total of 36 times, or an average feeding of once every five minutes. In actual fact, feeding regularity varied from 1–5 minute intervals to as long as 10 minutes or more as the morning wore on. There was no coordination between the two adults in feeding. As long as one managed to secure a morsel of fruit or an insect, it would bring it to the nest. If both arrived together, one would wait nearby for its turn.

Flying to the nest was never direct. With food in its bill, an adult would fly to a nearby branch and look around to see if the coast was clear. Only then would it fly to the nest (Fig. 5). As soon as it touched the nest, the chicks would crane their necks, gape widely and cry loudly, begging to be fed. The actual feeding took 2–20 seconds to complete, depending on the amount of food brought in. A longer period meant that there was enough food for both chicks. Once feeding was completed, the adult flew off.



Fig. 5. Adult bearing fruits of the MacArthur palm (*Ptychosperma macarthurii*) for the chicks.



Fig. 6. Two chicks craning their necks and gaping to be fed when the adult flew off after feeding.



Fig. 7. An adult flying in to clean the nest.



Fig. 8. An adult probing the nest to clean it.

In the case of the second nesting where the main stem bearing the nest was partly severed so causing the branch supporting the nest to be less stable, taking off by the adults caused the nest to vibrate, just as in landing. In this case the chicks similarly craned their necks and gaped widely, just as they did when the adult landed (Fig. 6). However, the chicks calmed down within a few seconds and immediately lay down on the nest bottom. This was not witnessed in the earlier nesting as only the arrival caused such a response.

This bulbul is an ultimate generalist in terms of food, taking flowers, nectar, fruits, insects, and even carrion (Ward, 1969; Fishpool & Tobias, 2005; Wells, 2007). The chicks are fed mostly on animal foods, mainly invertebrates like grasshoppers, butterflies, spiders and worms.

Towards late morning, after numerous feedings, an adult would fly in and remain in the nest for up to two minutes to indulge in nest cleaning and waste removal (Fig. 7). They pecked deep down the nest as if picking up specks of food and eating them (Fig. 8). At the same time one was observed picking up a faecal sac and eating it (Fig. 9). As young chicks of up to about 4–5 days old are unable to completely digest the food provided, eating the waste helps recycle the available nutrients (Winkler, 2004).



Fig. 9. An adult removing a faecal sac from chick.



Fig. 10. An adult caught one of the many bees swarming around the nest.



Fig. 11. An adult arriving at the nest after the chick was predated.

Fig. 12. Adult crying in the nest after the chick was predated.

There was a mass of swarming bees near the second nesting and at times they bothered the arriving adults who were seen pecking at them. An adult actually caught a bee in its bill (Fig. 10). However, it was not established whether the bulbul ate it up or simply discarded it, considering that it is not equipped to de-venom the insect as in the case of bee-eaters (Fry, 2001).

PREDATION

In both nesting, the chicks failed to fledge due to predation. The predators were not identified but it is suspected that the resident plantain squirrel (*Callosciurus notatus singaporensis*) was responsible. In the earlier nesting where only a single chick was in the nest, the adults responded to the disappearance of the chick with cries and apparent shock. They kept on arriving at the empty nest looking for the chick with bill wide open (Fig. 11). They even sat in the nest for short periods, looking around, puzzled and bill agape (Fig. 12). This they did at intervals for the most part of the day. All the time they were crying out softly.

The second nesting had two chicks. One disappeared, probably removed by the predator, while the other chick lay dead on the ground below the nest. In this case, the adults did not return to the nest but directed their attention to the dead chick. One or the other regularly returned with food in its bill in an attempt to feed it. When it failed to get any response, the adult occasionally pecked at the body—to either nudge the chick or maybe to remove ants that began to appear. Once a fruit was left on the ground when the feeding attempt failed. At other times the adult simply ate the food. Such behaviour continued throughout the morning, with the adults sometimes calling softly.



Fig. 13. An adult arrived with a butterfly to feed the dead chick. Note the red palm fruit left earlier by an adult.

Fig. 14. An adult probing the dead chick.



Fig. 15. A common treeshrew probably feeding on the ants around the dead chick.

At all times the adults were very protective of the dead chick. When a Javan myna (*Acridotheres javanicus*) tried to scavenge on the body, it was vigorously and noisily chased away by the pair. A common treeshrew (*Tupia glis*) later arrived at the scene and nibbled at the carcass. Both adults could only perch nearby, helplessly scolding the animal until the latter left within a few minutes. Being mainly an insectivore, it probably was only interested in the ants around the body (R. Subaraj, pers. comm.).

The chicks of the yellow-vented bulbul indulge in siblicide, regularly pushing its younger and weaker sibling out of the nest (Wee, 2003). In such cases, the adults apparently condone the act, as they do not react to the helpless chick lying on the ground below. Presumably, as long as there is a chick in the nest to brood, the adults would simply ignore the dead chick. The adults, when surprised at the nests, would try distract the intruder away with the “broken wing” trick. I had an earlier experience when I inadvertently surprised the brooding adult when I walked under the nest. It suddenly flew off and landed nearby on the ground. Then it played out its act, flapping its wings to exaggerate its supposedly wounded condition. When I approached, it moved further away, to subsequently fly off.

DISCUSSION

Of the four yellow-vented bulbuls nesting in my garden that I have been aware of during the last 10 years, only the 1999 nesting in a potted Malayan banyan plant (*Ficus microcarpa*) was successful (Wee, 2003). The other three were all predated upon. The Jun.2008 nest, in a small belimbing tree (*Averrhoa bilimbi*) was ripped apart and the pieces scattered about [Wee (YC), 2008]. The two nesting described here, in Jun.2005 and Jul.2009 were similarly predated upon but the nests were left intact. These nesting failures reflect the generally low level of success of most birds, not only those species that build their nests in trees, but also in natural cavities as with the hornbills (Wee et al., 2008).

The simple cup-shaped nest of the yellow-vented bulbul is always well-camouflaged among the thick foliage. However, during active nesting, the constant movements of the adults, flying in and out of the nest, especially when feeding the chicks, attract the attention of potential predators. Such predators can include birds like black-naped oriole (*Oriolus chinensis*), house crow (*Corvus splendens*), squirrels, and monkeys.

Among birds that remain in the nest most of the time during incubation and brooding, failures may be very much lower. The two nesting of the pink-necked green pigeon (*Treron vernans*) in my garden in Apr.2000 and again in Feb.2005 saw both fledging chicks. The adults of these pigeons remain in the nest all the time, leaving only during the morning and evening shift change (Wee, 2005). Similarly, when a pair of zebra doves (*Geopelia striata*) built their nest in a wayside tree along a busy road fronting my house in Jul.2005, it was not predated upon (Wee & Wang, 2008). Here again, one adult was always in or around the nest and when two Javan mynas came too close to the nest, the resident adult managed to chase them away. Pigeons and doves are able to remain in the nest constantly because they feed the chicks with crop milk and need not leave to forage. They thus do not attract attention as does the yellow-vented bulbul.

Predators aside, many active nests are being destroyed through pruning of trees and shrubs. In most, if not all cases, the active nests are not noticed until the branches have been cut, as when I pruned my tree and nearly destroyed the bulbuls' nest. One way of reducing nest destruction during maintenance of gardens and roadside trees is to refrain from pruning plants during the active nesting season of March to May.

The eagerness of birdwatchers and photographers to monitor and photograph nesting birds can also contribute to nest predation. A case in point was the nesting of the emerald dove (*Chalcophaps indica*) at the Sungei Buloh Wetland Reserve in Aug.2005 (Wang & Hails, 2007). Being an uncommon resident and the first record of its breeding, birdwatchers and photographers flocked to the site. In the process, certain branches were pruned for a better view and this led to the predation of the egg and chick (Ng Bee Choo, pers. comm.). First timers, whether birdwatchers or photographers, are generally unaware that exposing nests can lead to predation. When photographing the bulbuls in my garden in 2005, I actually trimmed a few branches for a better view. Being new to birdwatching, I was totally unaware then of my destructive nature. With time, I become more sensitive to field ethics and this eventually led to my trying to save the bulbuls' nest in 2009. It is not an exaggeration to say that many of the best and most experienced of birdwatchers started off being totally unconcerned with the welfare of the birds they stalked. However, with time they become advocates of birding ethics in the field.

It is thus a major regret that when a group of bird photographers approached the Nature Society (Singapore) in the early 2000s to revitalise the then dormant Photo Group, they were rebuffed (Wee & Subaraj, 2009). The then President was obviously misled by members with vested interests in not wanting to welcome the photographers into their fold. Had the society then accepted the aspiring nature photographers with open arms, these newcomers could well have been infused with birding ethics by the more experienced birdwatchers. To the benefit of bird photographers, they now have their own codes. But this learning period could very well have been shortened if only the decades of experience nature society members had were made available to them earlier.

ACKNOWLEDGEMENT

The identification of the treeshrew by R. Subaraj is gratefully acknowledged.

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