

# Predation of eggs and nestlings of pigeons (Columbidae) by the lion-tailed macaque *Macaca silenus* in the Western Ghats, India

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Nest predation is an important factor in the population ecology of birds, and the major cause of egg and nestling losses (Ricklefs 1969; Martin 1993). However, our understanding of the identity of the predators, and their relative importance in the demography of tropical birds is poor. Although video surveillance monitoring of nest predators is now common in temperate habitats (Thompson 2007), due to the high cost of such equipment, a majority of the studies in the tropics rely on isolated direct observations of nest predation. Several species of mammals, birds, and reptiles were identified as nest predators of many Indian birds through direct field observations (Ali & Ripley 1987; Balakrishnan 2007).

In this note I report some observations of predation on the nests of Nilgiri Wood Pigeon *Columba elphinstonii*, and Mountain Imperial Pigeon *Ducula badia* by the endangered lion-tailed macaque *Macaca silenus* in the Western Ghats of southern India.

The Nilgiri Wood Pigeon is one of the 16 restricted range species endemic to the Western Ghats, India, and is restricted to the moist evergreen biotope (Ali & Ripley 1987; Stattersfield *et al.* 1998). It is currently listed as 'Vulnerable' due to habitat loss and hunting (BirdLife International 2009a).

The Mountain Imperial Pigeon is one of the largest columbids discontinuously distributed in the Indo-Malayan region (Ali & Ripley 1987; BirdLife International 2009b). The subspecies *Ducula badia cuprea* is endemic to the Western Ghats (Ali & Ripley 1987).

The instances of predation reported here were observed at the Silent Valley National Park (11°00' & 11°15'N 76°15' & 76°35'E; 700–2,283 m a.s.l.), and Muthikkulam Reserved Forest (10°56' & 10°59'N 76°41' & 76°45'E; 610–2,065 m a.s.l.) in southern India, during a field study (February 2002–May 2005) on the ecology of the Grey-headed Bulbul *Pycnonotus priocephalus* (Balakrishnan 2007). The vegetation at both the sites constitutes large stretches of wet evergreen, and montane shola forests.

I observed three episodes of predation by the lion-tailed macaque; one at a Nilgiri Wood Pigeon's nest, and the other at nests of Mountain Imperial Pigeons.

## Nilgiri Wood Pigeon

The predation on the Nilgiri Wood Pigeon's nest was observed on 25 April 2003, in a patch of wet evergreen forest at Walakkad (1,260 m a.s.l.) in the Silent Valley National Park. At 0900

hrs, along with a field assistant, I located a group of lion-tailed macaques feeding on insects and fruits near the Nilgiri Wood Pigeon nest. The nest was placed at a height of 5.5 m in a 9 m tall *Clerodendrum viscosum*. The nest site was covered with several woody climbers. The brooding bird flew away when a male lion-tailed macaque approached to within five meters from the nest. Within two minutes the macaque moved towards, and sat near the nest. Then it picked up the four-day old nestling, detached its head with its teeth, and swallowed the entire body of the nestling.

## Mountain Imperial Pigeon

The first instance of predation of a Mountain Imperial Pigeon's nest was on 12 March 2004 (1125 hrs) at Muthikkulam Reserved Forest (980 m a.s.l.). I found a group of macaques feeding on the fruits of *Cullenia exarillata*. On this tree I had noted a Mountain Imperial Pigeon's nest two days ago on 10 March 2004. The nest was placed at a height of 7.5 m. The incubating bird left the nest while a male lion-tailed macaque was feeding on *Cullenia* fruits by moving on a branch of a *Macaranga indica* tree (c. two meters down from the nest). Although the macaque noticed the departure of the bird, it continued feeding for about five minutes, till it finished the fruits on the branch. It then moved towards the nest, and snatched the single egg from it. With the egg in its hand it moved down to the *Macaranga* branch and then swallowed the egg.

The second instance of predation was on 23 April 2005 at Walakkad (1,180 m a.s.l.) in Silent Valley National Park. The nest was placed at a height of 4.2 m in a *Hopea parviflora* tree. At 1020 hrs a group of lion-tailed macaques was observed feeding at this site. When a juvenile macaque moved on a woody climber near the nest, the incubating bird flew away. An adult male followed the juvenile onto the climber, found the nest, and immediately caught the two-day old nestling and moved to a big tree. There the macaque killed the nestling and ate it.

## Discussion

Faunal prey is an important part in the diet of the lion-tailed macaque, and includes frogs, lizards, bats, and several species of squirrels (Umaphathy & Prabhakar 1996; Kumara *et al.* 2000; Sushama & Singh 2008). Kumara *et al.* (2000) also reported predation of adult birds (White-cheeked Barbet *Megalaima*

*viridis*), and nestlings by lion-tailed macaque. However, this is the first report of predation on the nests of two large columbids by the lion-tailed macaque. A recent study identified only a single predator species, Large-billed Crow *Corvus macrorhynchos*, of the nests of Nilgiri Wood Pigeon, although about 80% of nests were lost by predation (Somasundaram 2006). To my knowledge there is no record of any other nest predators of Mountain Imperial Pigeon. The observations presented here indicate that the arboreal predators like macaques play an important role in the population dynamics of open nesters such as pigeons. Further intensive studies using video surveillance monitoring of predation may help in understanding the relative significance of macaques as nest predators of rainforest birds.

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### References

- Ali, S., & Ripley, S. D., 1987. *Handbook of the birds of India and Pakistan together with those of Bangladesh, Nepal, Bhutan and Sri Lanka*. Compact ed. New Delhi: Oxford University Press.
- Balakrishnan, P., 2007. *Status, distribution, and ecology of the Grey-headed Bulbul *Pycnonotus priocephalus* in the Western Ghats, India*. PhD thesis. Coimbatore: Bharathiar University.
- BirdLife International. 2009a. Species factsheet: *Columba elphinstonii*. Downloaded from <http://www.birdlife.org> on 1/8/2009.
- BirdLife International. 2009b. Species factsheet: *Ducula badia*. Downloaded from <http://www.birdlife.org> on 1/8/2009.
- Kumara, H. N., Singh, M. E., Sharma, A. K., Singh, M. R., & Kumar, M. A., 2000. Faunal component in the diet of lion-tailed macaque. *Primate Report* 58: 57–65.
- Martin, T. E., 1993. Nest predation and nest sites. *BioScience* 43: 523–532.
- Ricklefs, R. E., 1969. An analysis of nesting mortality in birds. *Smithsonian Contributions to Zoology* 9: 1–48.
- Somasundaram, S., 2006. *Status and ecology of Nilgiri Wood Pigeon in the Western Ghats*. PhD thesis. Coimbatore: Bharathiar University.
- Stattersfield, A. J., Crosby, M. J., Long, A. J., & Wege, D. C., 1998. *Endemic bird areas of the world: priorities for biodiversity conservation*, Cambridge: BirdLife International.
- Sushama, H. S., & Singh, M. 2008. Hunting of Indian giant squirrel (*Ratufa indica*) by the lion-tailed macaque (*Macaca silenus*) in the Western Ghats, India. *Current Science* 95 (11): 1535–1536.
- Thompson III, F. R., 2007. Factors affecting nest predation on forest songbirds in North America. *Ibis* 149 (Suppl. 2): 98–109.
- Umapathy, G., & Prabhakar, A., 1996. Meat eating by lion-tailed macaque *Macaca silenus* (Zimmermann). *J. Bombay Nat. Hist. Soc.* 93 (1): 79.

## Caspian Plover *Charadrius asiaticus* at Tal Chhappar: first record for Rajasthan

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On receiving a message, and three images, of a 'new' plover from SSP, on the evening of 23 August 2009, HSS and GB dashed to Tal Chhappar Wildlife Sanctuary the next morning. Despite the poor quality of the images, they were quite confident that the 'new' bird was a Caspian Plover *Charadrius asiaticus*, a species never recorded before in Rajasthan. On 24 August 2009 HSS and GB looked for the bird where SSP had seen it in Tal Chhappar but they did not find it. However, on 25 August 2009 the bird was spotted at 0842 hrs, after a search of one hour. They observed it for about 20 min while it fed on sparsely covered ground.

Caspian Plover does not appear to have been previously reported from Rajasthan, and is rarely reported from across the Indian Subcontinent (Ali & Ripley 1980; Grimmett *et al.* 1998; Kazmierczak 2000; Rasmussen & Anderton 2005).

### Description

The bird was an adult male in winter plumage. It still retained some of the strong markings of an adult male in breeding plumage.

Its crown, nape, mantle, and entire upper-parts were sandy brown while the tail-coverts were brown above, and white below. The feather fringes were almost pink-buff, almost rufous, being fresh.

The extensive greyish-brown unbroken breast-band showed vestiges of breeding plumage in the form of three-four rusty patches. Even the black edge, which is below the rusty band, was partially present. The forehead, lores, cheeks, supercilium, and throat were pure white; a small patch in front of the eyes appeared almost black. The supercilium was long, broadening behind the eye. The wing tips projected well beyond the tail-tip,