

Research Article

BABBLER NEST PARASITISM BY INDIAN HAWK CUCKOO

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ABSTRACT

Nest parasitism is an established phenomenon by most cuckoos. The babbler, *Turdoides caudatus* build their nests on trees and uses the grasses, fine twigs and grass blades as nesting material. Most of the Nests possessed two eggs. The parasitized nests contained only one cuckoo chick. The size of hawk cuckoo and its feeding demands were higher as compared to the babbler chicks. Study of nest parasitism behavior of hawk cuckoo on babbler will help in development of conservation strategies for the two species.

Keywords: Nest-parasitism, cuckoo chick, babbler chicks, behavior, conservation strategies.

INTRODUCTION

Nest parasitism is an established phenomenon by most cuckoos. Although basic information on Indian parasitic birds was initiated in early twentieth century (Becking, 1981) but breeding biology of various cuckoos from Indian sub-continent still need to be explored further. Each cuckoo be it Koel, Crested cuckoo or hawk cuckoo has its own specific host which may include crows, babblers, bulbuls, loras who serve as foster parents to cuckoo chicks.

The Ceylone Hawk cuckoo has been recorded to change host from Ceylone babbler to jungle babbler as per the habitat (Lushington, 1949). For communal defense of the fledglings four babblers built the nest and two females laid eggs in the same nest (Macdonald, 1959). Similar strategies have also been adopted by large grey babbler *Turdoides malcalmi* (Dharmakumarsinhji, 1961). A pied cuckoo (*Clamator jacobinus*) chick has been recorded to be fed by jungle babbler (Bates, 1938, 1959) and common babbler. Brown Dipper (*Cinclus pallasii*) as a host of cuckoo has been documented (Ali,1967).

Himmatsinhji (1980) has reported the brood parasitism by Indian Hawk-cuckoo (*Heirococyx varius*) and established *T. striatus* as favourite host (Ali, 1968) Kerala. *T. affinis*, *T. striatus* and *T. rufescens* many species of laughing thrushes are host of Indian Hawk-cuckoo. The egg color and size of the cuckoo matches closely to that of the babbler eggs. The cuckoos are faster in egg laying and it is believed that egg color is inherited from maternal genes (Martin, 1987). The babblers fail to reject the eggs from the nest as morphologically the eggs are alike (Livesey, 1938).

Studies on nest building, nest lodging sites, nesting height, nest construction material, nest composition, nest morphology, nesting territory and colonial nesting (Ali and Ripley,1987; Hanzak,1971) are of the practical importance in bird conservation biology. All these parameters lay emphasis on protecting and promoting breeding and feeding habitats for the conservation of birds in their natural domain. Keeping in view the above parameters a brief study was made on the breeding biology of *T. caudatus* and brood parasitism of the Indian Hawk cuckoo (*Hierococyx varius*) in Kurukshetra University Campus, Kurukshetra, Haryana, from March, 2011 to March, 2012.

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STUDY SITE AND METHODOLOGY

The study was conducted on Kurukshetra University Campus, Kurukshetra Haryana. The Kurukshetra University Campus has rich vegetation which includes neem, Jamun, Mango, Guava, Shahtoot, Malbury, Silver Oak, Drum stick, Lichi, chikoo, Sisam, Tanu, Acacia species and numerous shrubs. There are grasslands i.e., lawns, gardens and some natural vegetation. Species of birds have been recorded so far from university campus, Kurukshetra which include three species of cuckoos. North Haryana has sub-tropical climate and monsoon contributes to major precipitation in the season, in the months of July to August temperature ranges from 30 to 35°C with high humidity level. This study was conducted during the months September to November 2011 and 2012. The nesting sites of babbler *T. caudatus* were marked. Observations of the tree species on which the nest was constructed, nesting material, height of the nest etc. were recorded. The fledglings were followed after their emergence from the nest.

RESULTS AND DISCUSSION

The babbler, *T. caudatus* build their nests at a

height of 1.53 meters to 5.27 meters on jungle jalabi, mango, neem, citrus plants, jamun and Acacia species. The trees like neem and mango which possess nests at a height of approx. 5 meters having open crown and well exposed branches were parasitized by Hawk cuckoo. Grasses, fine twigs and grass blades were used as nesting material. Most of the Nests possessed two eggs but one and three eggs containing nests were also observed. The parasitized nests contained only one cuckoo chick. Two to three members of babbler flock fed the fledglings. The feeding frequency was higher in the morning and evening hours, however, this activity continues for the whole day. The feeding demands of hawk cuckoo were higher as compared to the babbler chicks. Cuckoo chick perched at height 2 meters to 12 meters. Contrary to the earlier findings that cuckoo fledglings were observed even on ground bagging for food. The size of the Hawk cuckoo chick was larger than the feeding foster parents. It is possibly because of resemblance with Hawk that cuckoo chick is less attacked by the predators like chikra, owl, crows, hawks and squirrels as reported earlier by John Singh *et al.* (1983).



Figure 1. Hawk Cuckoo fledgling with open beak and begging for food from foster babbler parents.



Figure 2. Large size Hawk Cuckoo Chick begging food from babbler. Note the morphology of feather and size of Hawk Cuckoo Chick.



Figure 3. Another photograph showing the variation in size of Hawk Cuckoo Chick and feeding mother babbler.



Figure 4. After feeding Hawk Cuckoo Chick is comparatively calm and setting beside the foster babbler parent.



Figure 5. Picture of foster babbler parent and Hawk Cuckoo Chick depicting detail morphology of ventral view of wings.



Figure 6. Exclusive photograph of Hawk Cuckoo Chick sitting on the ground contrary to earlier report that it never sit on the ground. Note the morphology of chick and gap of beak.

CONCLUSION

Nest parasitism behavior of hawk cuckoo is worth mentioning so that the information on population management of two species inhabiting North India be addressed in consonance with each other and the conservation strategies be adapted accordingly.

CONFLICTS OF INTEREST

The authors declare that there are no conflicts of interest associated with this article.

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