

## Breeding Observations of the Red-whiskered Bulbul *Pycnonotus jocosus* in the Nilgiris, Tamil Nadu, India

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### Keywords

Breeding Biology  
Egg  
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### Abstract

A breeding biology study was conducted on the Red-whiskered Bulbul *Pycnonotus jocosus* in the Nilgiris, Tamil Nadu between June to mid-August 2020. I documented 12 nests in the study area. Totally, eggs at 9 nests were successfully hatched, while the remaining 3 nests were not successful to hatch eggs. Moreover, the egg size and nest size of the Red-whiskered Bulbul were close to each other.

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### 1. Introduction

The Red-whiskered Bulbul *Pycnonotus jocosus* belongs to the family Pycnonotidae (Bulbuls). The family Pycnonotidae comprises about 140 species and 355 taxa, widespread in southern Asia, Africa, Madagascar and islands of the western Indian Ocean (Woxwold *et al.* 2009). Red-whiskered Bulbul is a common bird in the Nilgiris. It gets its name from the presence of a red patch, called “whiskers”, behind and below the eyes. It is found in tropical Asia from Pakistan and India to Southwest Asia and China (Mark 2009). It is described as having an erect black crest and thin black malar stripe joining a blackish partial necklace. Cheeks and underparts are white. Tail coverts are red underneath. Its upperparts are uniform brownish, with white-tipped outer tail feathers. Red-whiskered Bulbul mainly eats fruits and seeds, and smaller amounts of invertebrates (Yang *et al.* 2004). Red-whiskered Bulbul mostly prefers to make the nest in shrubs, gardens and small herbs around human habitats. The reproductive traits of only a few widespread and lowland pycnonotids have been studied in Asia and Africa (Fishpool & Tobias 2005). Breeding of Red-whiskered Bulbul is less studied in the Nilgiris. The present study was aimed to obtain details on the breeding biology of the Red-whiskered Bulbul in tea plantations of the Nilgiris, Tamil Nadu, India.

### 2. Materials and Methods

This study was conducted in tea plantation areas located in Emerald, the Nilgiris, Tamil Nadu (11.322436 N, 76.635817 E), India. The vegetation community of the study area mostly consists of Eucalyptus trees, herbs, shrubs and tea plantations are common. The area’s climate conditions are normally 21°C. The study was conducted in 2020 from June to mid-August. Nests were videod by Vivo Y 73 Mobile camera. During the period, nest surveys were conducted every day. Nest measurement methods followed by guidelins of conducting research on the nesting biology of Indian birds (Barve *et al.* 2020). Once a nest was located, the following data were collected as follows, nest characteristics, egg-laying date, clutch size and hatching date. Plant and nest height were measured in centimeters (cm) and and nest sizes were measured in milimeter (mm) using a measuring tape.

### 3. Results

The breeding season starts in early April and ends in August in the study area. I found 12 nests, among them 4 nests were found in the egg laying period, and 7 were found at the incubation period and 1 remaining at nesting period. Red-whiskered Bulbul laid eggs from the mid-March to July and the breeding season ended in early August. Nest supporting plants were followed by tea plantation *Camellia sinensis* and *Desmostachya bipinnata* in the study area.

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**Table 1.** Details of measurements of nests and eggs of Red-whiskered Bulbul *Pycnonotus jocosus*.

| Nest        |            | Egg            |               | Nest height from ground<br>area (tea plantations) in<br>cm | Egg hatched * |
|-------------|------------|----------------|---------------|--|---------------|
| Height (cm) | Width (cm) | Length<br>(mm) | Width<br>(mm) |  |               |
| 5.6         | 8.4        | 22             | 15            | 56   | *             |
| 5.2         | 7.9        | 21             | 16            | 62   | -             |
| 5.5         | 7.2        | 22             | 16            | 60   | *             |
| 5.2         | 7          | 20             | 16            | 57   | *             |
| 5           | 7.5        | 21             | 16            | 65   | *             |
| 6.1         | 7.2        | 23             | 15            | 50   | *             |
| 5.3         | 7          | 21             | 17            | 69   | *             |
| 5           | 6.8        | 21             | 16            | 56   | -             |
| 5.1         | 7.4        | 21             | 16            | 60   | *             |
| 6           | 7.5        | 21             | 15            | 65   | *             |
| 5.8         | 7          | 22             | 16            | 60   | -             |

**Fig. 1.** Nests, eggs and chicks of Red-whiskered Bulbul *Pycnonotus jocosus*.

The peak of the egg-laying period matched the peak of temperature, but was offset from the peak of precipitation. Red-whiskered Bulbul spends 5–7 days to construct the nest (Mazumdar & Kumar 2007). The female lays eggs in 2–3 days. The sum of incubation period and nestling period was about 22 days. Fledglings still required parental care for 34 days (Fishpool & Tobias 2005). Given the long breeding season (Feb–Aug), it seems that adults have time for producing more than one brood in each breeding season. Parents of Red-whiskered Bulbul provided nestling mostly invertebrates, then worms and small insects when nestlings were younger. As altricial nestlings are poikilotherms, for several days after hatching they need parents to keep them warm (Watson 2013). The age-related changes in nestling diet might be because that the adults of *Pycnonotus jocosus* eat more plant foods in their diet (Yang

*et al.* 2004). The rich proteins in invertebrates promote faster growth, but they are more difficult to obtain than plant food (Morton 1973). As the food demanding increases with the nestling age, the parents might not be able to find enough invertebrates alone. Therefore they are flexible in their breeding strategies. As their nests can be easily found and accessed, we recommend that the Red-whiskered Bulbul in a semi-wild habitat exhibited territorial behavior to defend its food source and nest-site as did the bird species in the wild. The territory boundary was stable during both the pre-nesting and nesting periods, but the male resident bird was more aggressive in the nesting period and Red-whiskered Bulbul could be regarded as a model species in future studies of Indian Birds ecology. Also should be conserved avian groups and their habitats.

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