Observations at a nest of a Grey Francolin *Ortygornis pondicerianus* in an urban area

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Introduction

The Grey Francolin *Ortygornis pondicerianus* is a widespread member of the Galliformes, and is common in most parts of India except the wet zone and much of the high- and trans Himalaya (Praveen 2025). Its breeding occurs through most of the year though there are two documented peaks: March to May, and August to October (Islam 2021). It is a typically ground-nesting species while it is also known to nest in bushes, piles of harvested crop, and other sites (Ali & Ripley 1987; Islam 2021). Previous studies have highlighted the species' adaptability in nesting site selection; however most studies found nest locations away from human settlements (Hussain et al. 2012; Khalil et al. 2016; Pandian 2021). This provides a context for the present observations as the nesting behaviour of a pair of Grey Francolins in this study were documented in a residential garden of a densely populated urban locality in Jaipur, Rajasthan, in May 2022. However, it is generally a common species around Jaipur, including urban settings like this one.

Study Site & Methodology

Observations were made at my private residence in Nemi Nagar Extension, Vaishali Nagar, Jaipur (26.910°N, 75.730°E), Rajasthan, India in May 2022. The region has a monsoon-influenced hot semi-arid climate, with extremely hot and long summers, moderate rainfall in monsoon, and mild to warm short winters. A single nest was monitored daily (24x7 surveillance) using a mini wireless night vision camera with motion detection and high-definition resolution (1080p) to ensure quality of recorded outputs, with observations recorded manually as well, from live feed. The camera was positioned discreetly and standard protocols were followed during nest monitoring to minimize disturbance to birds and habitat (Barve et al. 2020). Data collected include timing of incubation, brooding patterns, hatching sequence, and chick departure from the nest. All photographs are screengrabs from the video camera and hence of lower quality. However, original videos have been uploaded in Macaulay Library (Bhardwaj 2022).

Results & Discussion

On 04 May 2022, I found the nest concealed in a clump of Nahar Kantha *Asparagus racemosus* c.50 cm above the ground **[229]**. The nest was located within a dry grassland-scrub mosaic, characterized by sparse *Cenchrus ciliaris* and *Dichanthium annulatum* grasses interspersed with *Capparis sepiaria* shrubs. Such habitat preference closely matches the known nesting ecology of the Grey Francolin, which prefers ground-level nesting sites concealed within grass tussocks or under small shrubs in open scrub or agricultural margins. The clutch comprised seven pale buff-coloured, smooth, slightly glossy, unmarked eggs **[229]**. Considering the proximity of the nest, I immediately installed my camera setup and started watching the daily proceedings through live feed. This arrangement provided uninterrupted access to the nest without creating any disturbance to the breeding birds. I did not watch the nest continuously but only intermittently, as I was interested to see when the clutch hatched. During the entire observation period, the incubating bird was identified as the female, distinguished by its comparatively smaller size, slightly duller plumage, and behaviour of consistently remaining on the nest, while the accompanying male stayed nearby but never undertook incubation **[230]**. Female-specific brooding has been previously documented for this species (Ali & Ripley 1987; Islam 2021). However, the female seems to be leaving the nest unattended, daily, presumably for foraging. Though I did not record every instance when the bird was absent, some of the absence periods varied from one-to-three hours (Table 1). The bird left the nest at least twice a day; in the morning (between 0530 and 0630h) and post noon (between 1330 and 1530h). Morning breaks were usually short (28–72 minutes) while afternoon breaks were longer (64–240 minutes). However, the brooding was consistent and the female was present at the nest every night. All seven eggs remained visible and appeared protected until they hatched on 22 May 2022. No predators were observed around the nest during this period, either on the camera or otherwise.

Table 1. Observations during brooding period in May 2022

Date	Departure	Absence Duration (minutes)
15 May	05:36	59.75
15 May	13:34	157.78
16 May	05:36	55.75
16 May	13:31	93.80
17 May	05:50	72.40
17 May	14:07	117.48
18 May	06:02	45.67
18 May	14:02	139.35
19 May	05:42	62.20
19 May	14:19	64.45
20 May	05:56	71.52
20 May	13:28	239.80
21 May	06:20	28.22
21 May	15:32	171.37

229. Clutch of seven cream-coloured eggs discovered near my house on 04 May 2022.

233. Two chicks visible

230. A female Grey Francolin incubating the eggs on 04 May 2022

234. Female consuming the egg yolk after the chicks have hatched.

231. Minor egg wobbling observed in the clutch.

235. All seven hatched chicks clearly visible.

232. Female assisting hatching of eggs by pecking on it.

236. Female shows signs of movement with chicks underneath her.

All photos: Surveillance camera installed by the author

237. Female standing upright with chicks moving under her

238. Adult left the nest and six chicks visible, as they are leaving the nest

239. Empty nest with no chicks

All photos: Surveillance camera installed by the author

Table 2. Observations during hatching in May 2022

Date	Time	Activity	Figure
22 May	9:01:32	Minor egg wobbling observed; no visible sign of pipping yet.	**231**
22 May	9:02:36	Observed wobbling as the chick, still in the early post-hatching stage with poor coordination of head and limb movements, attempted to emerge; during this process, the female actively assisted by pecking at and cracking the shell.	**232**
22 May	11:41:50	Two chicks were visible, in down feathers.	**233**
22 May	11:51:56	Once most chicks had hatched and begun moving, the female was observed consuming the residual yolk.	**234**
22 May	17:39:54	All seven chicks clearly visible while they were moving.	**235**
23 May	9:05:17	The incubating female showed initial signs of activity within the nest, shifting position and adjusting nesting material before leaving.	**236**
23 May	9:05:39	Female stands up, in upright position, pecking. Chicks alert and moving under the adult.	**237**
23 May	9:05:48	When the adult left the nest, six chicks were visible, and the pair gave repeated contact calls directed toward the brood.	**238**
23 May	9:06:08	Six chicks left the nest.	**239**

On the morning of 22 May, the female did not leave the nest for her usual sortie indicating that the eggs might hatch on that day. The female remained near the nest from then on throughout the hatching process detailed in Table 2. All eggs hatched between 0901h and 1237h, a period of about 3.5 hrs. However, the next day when the chicks left the nest along with the female, I could only count six chicks and no trace of the seventh chick could be found (Table 2). While the chicks were leaving the nest along with the female, the male remained nearby, giving alarm calls.

After the chicks left the nest, no other activity was observed in the nest. I physically inspected the nest after the chicks have left the nest. It was empty, with only eggshells remaining.

This is probably the first camera-assisted observations of a Grey Francolin nest within its native range. Clutch size of seven that I observed is within the range of the clutch, 4–12, reported for wild populations (Khalil et al. 2016; Islam 2021). The incubation period of Grey Francolin is reported to be between 18–22 days (Islam 2021). In this case, it took at least 18 days to hatch as we do not know when the entire clutch got laid. It has been documented that the eggs are laid over multiple days, sometimes over alternate days (Khalil et al. 2016). So, it is quite likely that the first egg may have been laid in the last week of April 2022. In our case, the clutch had a complete hatching success but it is unclear where one chick disappeared within a few hours. This is probably the first study to report the total hatching time of a clutch of Grey Francolins, as 3.5 hours. The fact that the chicks were mobile immediately after hatching, and left the nest within 14 hours of their hatching, and that period included one night, reaffirms their strong nidifugous habits.

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