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Rallidae is a large and widely distributed family of small to medium-sized terrestrial, marsh and aquatic birds that primarily inhabit wetlands but are mostly adapted for wading and threading through vegetation. They include rails, crakes, coots and gallinules and comprise c. 133 extant and c. 17 recently extinct species worldwide (Rasmussen & Anderton 2005). Most of the species are rare or threatened and their basic biology is largely unknown (del Hoyo et al. 1996). In India, 18 species were reported which include one vagrant and one hypothetical species (Rasmussen & Anderton 2005). The Slaty-legged Crake *Rallina eurizonoides amauroptera* (Lafresnaye, 1845) is a medium-sized terrestrial bird, resident and local migrant, found in well-wooded and well-watered tracts of plains and up to 1600m elevation, particularly during the monsoon season (Ali & Ripley 1987). They have a wide geographic distribution throughout Southeast Asia, the Indian subcontinent and Japan as a resident, and as migrant in Nepal and Lao Peoples Democratic Republic (Birdlife International 2014). This species is evaluated as 'Least Concern' under the IUCN Red List of Threatened Species due to an extremely large range of occurrence (BirdLife International 2014) but the overall population trend is decreasing (Wetlands International 2006). Although there are several sightings from

ON THE BREEDING OF THE SLATY-LEGGED CRAKE (AVES: RALLIDAE: *RALLINA EURIZONOIDES*) IN NILAMBUR, KERALA, SOUTHERN INDIA

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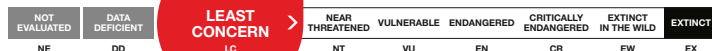
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different parts of India, from the Himalaya to the southern peninsula (Ali & Ripley 1987; Grimmett et al. 1999; Narayanan et al. 2011; Sashikumar et al. 2011), apart from several anecdotal reports (e.g., Bell 1902; Betham 1903; Osmaston 1916; Matthews 1953; Jackson 1971; Bhat & Sreenivasan 1972) the breeding biology of this species including incubation periods remains largely unknown (Ali & Ripley 1987). Here, we report the presence of the Slaty-legged Crake and its breeding including new information on the developmental periods from Nilambur, Kerala, southern India.

While doing field work in Nilambur, Kerala as part of a project on the life history evolution of tropical birds, we were informed by a local field assistant about the



Rallina eurizonoides
Slaty-legged Crake



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Image 1. Aravallikkavu teak plantation showing the nest site of Slaty-legged Crane.

presence of an unusual bird constructing a nest in a Teak *Tectona grandis* plantation. We visited the site and identified the bird as a Slaty-legged Crane *Rallina eurizonoides*. Although we have been conducting regular bird surveys in this region for more than 10 years, the bird was sighted for the first time. The nest was found in the Aravallikkavu teak plantation (11°16'N & 76°13'E) of Nilambur North Forest Division (Image 1). Aravallikkavu teak plantation (c. 80ha) is located approximately one kilometer from Nilambur Town and hosts teak plantations of different age groups. The area is bordered by Chaliar River and human-dominated areas. The temperature varies from 21–38 °C and the area receives an annual rainfall of about 5000mm (Anonymous 2002). The teak plantation of this region supports a large number of fauna including more than 130 species of birds (P. Balakrishnan, unpublished data).

The nest of the Slaty-legged Crane was placed above a termite mound formed at the base of a *Strichnos nuxvomica* clump and a *Ficus* sp. sapling. The nest was placed about 0.55m above ground, 2.5m away from a natural canal and about 200m away from the Chaliyar River. The nest was within one meter from a forest trek path frequented by the villagers to the riverside. The nest was an oval and slightly concave structure made up of dry twigs, vines and dry leaves mainly of teak. The nest measured 8cm in depth externally and had 14×12 cm upper diameter. Measurements were



Image 2. Nest of Slaty-legged Crane with completed clutch.



Image 3. Nest site habitat of Slaty-legged Crane with incubating bird.

taken after the birds left the nest with chicks. It was concealed by braches and leaves of the *Strichnos nuxvomica*, teak and some creepers. The first egg was laid on 03 August 2014 and the bird completed her clutch on 11 August 2014 with seven eggs in the nest. After the first egg was laid, every day the clutch was added to by one egg each up to 07 August and from 08–11 August 2014, only two eggs were laid, with an interval of one day each. On the third day of incubation, a local resident collected five eggs from the nest believing that it is a Jungle Fowl nest. We convinced him about the importance of the species and managed to collect eggs from him and replaced them in the nest. As the eggs were available in hand we measured them using a digital vernier caliper. The eggs were whitish and 2.5×3.5 cm in diameter. The bird started its incubation on 11 August 2014 after the completion of the clutch (Images 2–5). The total incubation period was 20 days. The day-time nest attentiveness (percentage of total



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Image 4. Slaty-legged Crake incubating the eggs.



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Image 5. Slaty-legged Crake with chicks on the day of leaving the nest.

daylight hours spent on the nest), on-bout (incubation durations) and off-bout durations (time spent away between two incubation visits) were recorded for three hours each in the morning and evening following the methods described in Balakrishnan (2010). The overall nest attentiveness was more than 90%. The on-bout durations ranged between 30–180 minutes and the off-bout durations ranged between 4–10 minutes. The number of off-bouts averaged three per hour for the first 12 days of incubation. On the last eight days, the off-bouts were very few and the time interval between each off-bouts was less than five minutes. The continuous heavy rain during those days might have been a reason for the continuous on-bouts of the bird. The role of the sexes in incubation was not clear.

Out of the seven eggs, only three hatched. The nestlings were uniformly black coloured with slate coloured legs. One unhatched egg remaining in the nest was found to be rotten. The fate of the other three eggs were unknown, but pieces of egg shells remained in the nest. Potential predators like Crested Hawk-Eagle *Nisaetus cirrhatus*, Shikra *Accipiter badius*, Indian Grey Mongoose *Herpestes edwardsii*, stray dogs *Canis familiaris* and domestic cat *Felis catus* were found within a 50m radius of the nest. The partial nocturnal behaviour (Ali & Ripley 1987) and the extreme stillness during incubation may be the reason for the survival of the bird and the eggs from the predators close by. The selection of a nesting site near the frequently used forest path may be an anti-predator strategy. The bird showed tranquillity and tolerance during the closest approach of villagers to the nest. The nestlings were precocial and started feeding with the parents on the next day of hatching. The chicks were active and both the parents were engaged in feeding the young ones by

searching the soil and leaf litter using their legs. After a couple of minutes the bird family disappeared into the under storey very swiftly from the nest site.

As in the case of many rare and elusive birds, the sighting of the Slaty-legged Crake was made during breeding. The present breeding observation was made from a teak plantation with high level anthropogenic threats such as waste disposal, hunting and man-made forest fires, and forestry practices. This reiterates the need for developing strategies that include least disturbance to under storey vegetation for biodiversity conservation in plantation landscapes which support several species.

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