



## Unusual nesting site of red-wattled lapwing (*Vanellus indicus*) in Dehradun, Uttarakhand, India

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Date of receipt: 03.12.2019

Date of acceptance: 18.12.2019

### ABSTRACT

Red wattled lapwing (*Vanellus indicus*) is a ground bird, residing in the open countryside, ploughed fields, grazing patches, and dry beds of water bodies in parts of Asia. Literature reveals that typical nesting habitat of this bird includes open country, grazing land, fallow fields, dry beds of village tanks, and islets in rivers. In natural conditions, 3-4 eggs are laid in a 'ground scrape' or a depression, sometimes fringed with pebbles and goat or hare droppings. Here, we report observations of the nesting of Red-Wattled Lapwing on a cemented rooftop of house in Dehradun (30° 19' 31.00" N, 78° 0' 6.00" E), Uttarakhand State, India. This ground-nesting bird species have adapted to the rapid urbanisation including urban environments and have developed change in their breeding sites depending upon the needs of their young. Our observations provide incentive to gather more data in connection with changing nesting pattern of ground-nesting bird species. Further, there has been limited study on the range of threats being faced by the lapwings in the state of Uttarakhand. More studies have to be conducted to ascertain the reasons causing such a shift in the nesting habitat of the species .

**Key words:** Nesting pattern, Red wattled lapwing, threats, urbanisation, Uttarakhand

### INTRODUCTION

Red wattled lapwing (*Vanellus indicus*) belongs to the family Charadriidae of the avian order Charadriiformes (Jerdon, 1984). It is a ground bird, residing in the open countryside, ploughed fields, grazing patches, and dry beds of waterbodies in parts of Asia (Ali, 1996; Vyas and Rakesh, 1997; Kaur and Khera, 2017). It feeds on insects and acts as biological pest control. It has characteristic loud alarm calls sounding like 'did he do it'. It is currently classified as Least Concern according to the IUCN Red List (Birdlife International, 2016) and is a common and widespread wading bird of the Indian subcontinent.

Typical nesting habitat includes open country, grazing land, fallow fields, dry beds of

village tanks, and islets in rivers (Ali and Ripley, 1998). In natural conditions, 3-4 eggs are laid in a 'ground scrape' or a depression, sometimes fringed with pebbles and goat or hare droppings (Sharma, 1992). The incubation period ranges from 28 to 30 days and both sexes perform incubation duties (Desai and Malhotra, 1976; Ali and Ripley, 1998).

There are reports of its nest on flat pebbled roofs in urban environments (Gole and Mundkur, 1980; Patnaik, 1980; Tehsin and Lokhandwala, 1982; Mundkur, 1985; Grimmett et al., 1998). Muralidhar and Barve (2013) have recorded nests of this species on the corrugated asbestos roof of a bungalow in urban area of Mumbai, Maharashtra which sufficed that species has been adapting to urban settings and choosing a nest location

with minimize human and livestock interference. Sangha (2011) reported its nesting in stone boundary wall near his residence. The nest was in irregular depression and filled with pebbles, grit, and limestone to create flat surface in depression.

### MATERIALS AND METHODS

Observations of the nesting of Red-Wattled Lapwing was reported on a cemented rooftop of house in Dehradun (30° 19' 31.00" N, 78° 0' 6.00" E), Uttarakhand State, India. The house is surrounded by barren land, roads and human habitation. It was observed on the rooftop of the house in the month of March 2019 (Fig. 1).



**Fig. 1.** Red Wattled Lapwing on the rooftop of AS author's residence



**Fig. 2.** Four eggs of Red Wattled Lapwing on the rooftop



**Fig. 3.** Three chicks of red wattled lapwing

The nest was built on the rooftop stuffed by pebbles and small stones (Fig. 2). Breeding season in the present study was similar to the study of Vyas and Rakesh (1977), i.e. during the month of March. Four eggs were laid on 29.3.2019 and out of which, three eggs hatched on 26.4.2019 (Fig. 3) and one egg hatched on 27.4.2019 with 29-30 days of incubation.

### RESULTS AND DISCUSSION

Chicks of lapwings are nidifugous and precocial, i.e. they leave the nest and follow the parents soon after hatching (Walter, 1982). It was interesting to note how the chicks safely descend on the ground from house rooftop without injuring themselves. In the present study, it was observed that all the four chicks descended to ground through jumping technique after 5-6 days.

Sethi et al. (2011) reported that nest survival and hatching has been higher in roof nests of Red-wattled lapwing than in the ground-nests found in district Haridwar. Desai and Malhotra (1976) studied the nesting success and observed 52.70 % hatched successfully, and overall nesting success of 40.54%. According to Gupta and Kaushik (2011) hatching success was found to be around 60.92% in Kurukshetra, Haryana, while Muralidhar and Barve (2013) reported 75% hatching success in Mumbai, Maharashtra.

Literature reveals that ground-nesting bird species have adapted to the rapid urbanisation and urban environments (Palei et al., 2017) and have

developed change in their breeding sites depending upon the needs of their young. Use of flat roofs for nesting has been suggested as an adaptive response of ground-nesting birds (Baumann, 2006).

Loss of natural habitat, increasing local population pressure, to minimise predation pressure are possible reasons for roof-nesting by Red-wattled Lapwing (Mundkur, 1985). Our observations provide incentive to gather more data in connection with changing nesting pattern of ground-nesting bird species. Further till date there has been no study on the range of threats being faced by the lapwings in the state of Uttarakhand. More studies have to be conducted to ascertain the reasons causing such a shift in the nesting habitat of the species.

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