

Unusual nesting site of Red-wattled Lapwing (*Vanellus indicus*) in Sikar, Rajasthan, India

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ABSTRACT

The Red-wattled Lapwing (*Vanellus indicus*) is a ground bird that lives in open countryside, ploughed fields, grazing patches and dry beds of water bodies in Asia. According to the literature, this bird's usual nesting sites are open country, grazing land, fallow fields, dry bottoms of village tanks and river islets. In nature, 3-4 eggs are placed in a 'ground scrape' or depression with pebbles and goat or hare droppings. This ground-nesting bird species has changed its breeding locations based on the demands of its young, adapting to the fast urbanization of metropolitan areas. Our findings encourage the collection of additional data regarding the shifting nesting habits of ground-nesting bird species. The variety of risks that lapwings in the state of Rajasthan encounter has also not been thoroughly studied. Further research is necessary to determine the factors underlying this change in the species' breeding environment.

Key Words - Red-wattled Lapwing, ground scrape, urbanization, Rajasthan, encounter, breeding environment

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INTRODUCTION

The Red-wattled Lapwing (*Vanellus indicus*) is a member of the Charadriidae family in the Charadriiformes order of birds. It is a ground bird that lives in open countryside, ploughed fields, grazing areas and dry beds of water bodies throughout Asia (Ali, 1996; Vyas and Rakesh, 1997; Kaur and Khera, 2017). It functions as biological pest control and consumes insects. It features loud alarm calls that sound like "did he do it?" A common and widespread wading bird of the Indian subcontinent, it is currently listed as Least Concern on the IUCN Red List (Birdlife International, 2016). Open countryside, grazing area, fallow fields, dry bottoms of community tanks and river islets are examples of typical nesting environment (Ali and Ripley, 1998). The nest of the Red-wattled Lapwing (*Vanellus indicus*) is a natural depression or scrape

in the ground that is sometimes lined with mud pellets or goat droppings and prepared with bits of cow dung or pebbles and is located on waste or stony land, fallow fields, the dry bed of village tanks and shingle banks or islets in rivers (Ali & Ripley 1980).

Under normal circumstances, three to four eggs are placed in a depression or "ground scrape," occasionally surrounded by pebbles and the droppings of goats or hares (Sharma, 1992). Both male and female carry out the incubation tasks over the 28–30-day period (Desai and Malhotra, 1976; Ali and Ripley, 1998). The species is also known to nest on the ballast of railway lines, so near the rails that the rail-boards of carriages actually pass over the nests (Baker 1929; McCann 1941), and on the flat concrete roof of a residential bungalow in

New Delhi (Ali & Ripley 1980). Its nest has been observed on flat pebbled rooftops in urban areas (Patnaik, 1980; Tehsin and Lokhandwala, 1982; Mundkur, 1985; Grimmett *et al.*, 1998; Gole and Mundkur, 1980). Numerous explanations have been put out to explain the occurrence of nesting on rooftops, which has been documented over time (Gole & Mundkur 1980; Tehsin & Lokhandwala 1982; Patnaik 1980; Mundkur 1985). However, Baker (1935) emphasizes that this type of behaviour is not new. The fact that Muralidhar and Barve (2013) found nests of this species on the corrugated asbestos roof of a bungalow in an urban region of Mumbai, Maharashtra, was sufficient evidence that the species has been adjusting to urban environments and selecting a nest location with the least amount of interference by both humans and animals.

Singh *et al.* (2019) discovered an unusual nest of the species on the cemented rooftop of a house in Dehradun, Uttarakhand, India. The house is surrounded by arid countryside, a road and human settlements. This nest was constructed on the rooftop using pebbles and small stones. Sangha (2011) observed it nesting in a stone border wall near his house. The nest was in an uneven depression and was filled with pebbles, grit and limestone to provide a flat surface in the depression.

The objective of this study is to identify unusual nesting site of *Vanellus indicus* in Sikar District, Rajasthan and to assess the ecological and conservation significance of these findings.

STUDY AREA

The Sikar district (latitude: 27.613° N, longitude: 75.139° E), which is situated in northeastern part of Rajasthan has a semi-arid climate. The geographical region is made up of a patchwork of agricultural land, sparse forests and growing urban infrastructures, with limited vegetation and sandy soils. Several ground-nesting birds face difficulties due to the ecological conditions, which include an annual rainfall of approximately 450 mm and temperatures that range from 4°C in the winter to 45°C in the summer.



Fig. 1. Human habitation near stone boundary wall

MATERIALS & METHODS

The present observation of the unusual nesting site of Red-wattled Lapwing was reported by me. Recently, I discovered an unusual nest of the species in Indira colony near piprali road, Sikar, Rajasthan, India (Latitude: 27.621383° N & Longitude 75.169006° E). This nest was on the top of a stone boundary wall of a barren plot. This plot was surrounded by two side road and human habitation. This nest was observed on Saturday 22 June, 2024. This boundary wall was approximately 1.5 meter high, 30 meter long and .50 meter broad. On top of the wall, which was 1.5 meters high, the nest was situated in an uneven depression that was about 32 cm wide at its widest point. To produce a reasonably level surface, the bird had really filled the uneven depression with solid cement pieces, grit, and pebble fragments. It is challenging to explain why the bird chose this location for egg laying when there was a very good open space nearby and the species has been seen to reproduce successfully on open ground.



Fig. 2. Red-wattled Lapwing on the stone boundary wall



Fig. 3. The nest with two eggs of Red-wattled Lapwing

RESULTS & DISCUSSION

During my research sites excursion suddenly, I saw the nest of Red-wattled Lapwing on the top of a stone boundary wall. I went near the nest, there were two eggs in it. I started to taking their photos by the help of my Nikon DSLR camera. The birds started making loud noise to chase me away from there. When I noticed this, children who were playing nearby approached me. In response to my curiosity, they informed me that the nest had two eggs today, compared to three two days earlier. The next day, when I visited that stone boundary wall. The children told me that two dogs had destroyed the eggs in the nest yesterday evening. According to the literature, ground-nesting bird species have changed their breeding locations based on the requirements of their young in response to the fast urbanization and urban surroundings (Palei *et al.*, 2017). It has been proposed that ground-nesting birds have evolved to use flat roofs for nesting (Baumann, 2006). Red-wattled Lapwings may roof-nest in order to reduce predation pressure, increase local population pressure, or lose their natural habitat (Mundkur, 1985).

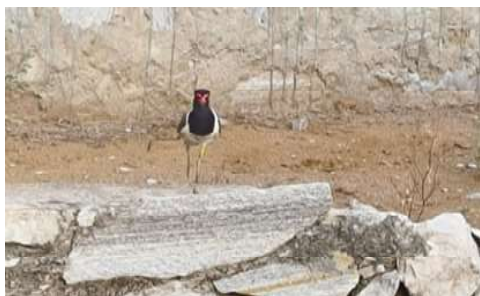


Fig. 4. Red-wattled Lapwing's highly aggressive posture for protection of their eggs

Our findings provide motivation to collect further data on shifting nesting patterns of ground-nesting bird species. Furthermore, no study has been conducted to yet on the range of risks faced by lapwings in the state of Rajasthan. More research is needed to determine the causes of this shift in the species' breeding habitat.



Fig. 5. Red-wattled Lapwing uttering loud calls



Fig. 6. Destroyed nest of Red-wattled Lapwing on stone boundary wall

CONCLUSION

The Red-wattled Lapwing exhibits an adaptive reaction to environmental changes through its peculiar nesting behaviours. These actions increase the species chances of existing in changed environments, but they also put it at danger for new threats. Additional research is required to evaluate the long-term effects and create conservation plans that facilitate wildlife coexistence in urban settings.

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