



Research Article

RARE SIGHTINGS OF RED WATTLED LAPWING PARENTAL CARE IN AN ARID TOWN OF RAJASTHAN

***Anita Jhahria**

Department of Zoology, Shri Kalyan Govt. Girls College, Sikar - 332001, Rajasthan, India

Article History: Received 26th April 2021; Accepted 21st May 2021; Published 30 June 2021

ABSTRACT

The observation on parental behavior of Red Wattle Lapwing was observed during March -April 2021 in Vrindavan Nagar of Sikar nearby a small pool. Clutch size of 2 eggs was recorded in the ground nest. The hatching success was 100 %. The bird shows meticulous parental care by protecting her eggs and hatchlings. As the eggs are laid on the ground both the parent Lapwings are vigilant day and night. They constantly make alarm noises at a higher pitch and a soft sound for guiding the hatchlings. Behavior of both the parents was observed during protecting and imprinting hatchlings. The present study focuses on the need to conserve the Red Wattle Lapwing biodiversity so that the ecological balance is maintained and bird ecotourism is boosted in Sikar.

Keywords: Hatchling, Parental Care, Biodiversity, Red Wattled Lapwing.

INTRODUCTION

The Red-Wattled Lapwing is currently classified as Least Concern according to the IUCN Red List and is a common and widespread wading bird of the Indian Subcontinent. Red Wattled Lapwing scientifically called *Vanellus indicus* belongs to family Charadriidae of the avian order Charadriiformes. It prefers open areas of, found in pairs or in groups of 10 to 15 birds. It is characterized by long yellow legs and a prominent rough red wattle which extends from eyes to beak. They are best known for their loud annoying alarm calls. Red Wattled Lapwing is a carnivorous bird as it sustains on a wide range of aquatic and terrestrial insects, insects larvae, caterpillars and other invertebrates. Red Wattled Lapwing acts as a biological agent for controlling farm pests in surrounding agricultural fields of Vrindavan Nagar of Sikar. Recent studies have shown decrease in population of insectivorous birds all over India which has caused a marked increase in insect pest problems. Notable contributions in the ecology, breeding and nesting behavior has been done by Anil & Sharma, (2011); Fletcher *et al.*, (2005); Hart *et al.*, (2002); Kaleka, (2020); Narwade *et al.*, (2010); Saxena & Saxena, (2013).

There is little base line information on the aspects of foraging ecology of Red-Wattled Lapwing (*V. indicus*) in Sikar, so the present piece of work was focused to have an acquaintance with the various parameters related to foraging such as foraging tactics, foraging time, probable food items, and association during feeding. The present work focuses on the ecological parameters of this species and the need to conserve them to maintain ecological balance and biodiversity.

MATERIALS AND METHODS

The present study was conducted for 02 months during the period March to April 2021. The study was conducted in Sikar, Rajasthan, having latitude the longitude 27.6094° N & 75.1398° E. The Observations were made using Canon Camera and binoculars in Vrindavan Nagar of Sikar. Study area is bestowed with a distinct diversity of arid crops and water resource with a low human interference. Mostly observations were taken during morning hours as hatchlings were left unattended. Hatching success was calculated with the Mayfield method (Mayfield *et al.*, 1975) as well as with the traditional method (% of eggs that hatched successfully out of total eggs laid).

*Corresponding Author: Dr. Anita Jhahria, Associate Professor in Zoology, Shri Kalyan Govt. Girls College, Sikar - 332001, Rajasthan, India, Email: anita290106@gmail.com

RESULTS AND DISCUSSION

Lok & Subaraj, (2009) reported Red Wattled Lapwing nesting from February through to August. Breeding season observed in present study was similar to (Kragten & de Snoo, 2007) reported it from April to May. Moreover, the peak breeding season of RWL was also observed as April to June (Sethi *et al.*, 2011). Breeding season of RWL begins from April and lasts until June (Khalil *et al.*, 2019) with the peak season of April. In the present study it is from March to April. Red Wattled Lapwing has been observed constructing its nest on the ground by constructing small depression on the ground surface. They build their nests near water sources so that they could keep their eggs cool by soaking their belly feathers in water and then sprinkle water on eggs. Nesting materials were found to consist of materials accumulated from nearby sites. (Gupta & Kaushik, 2012) observed that the nests of lapwing were stuffed by earth pebbles, straws and sometimes small

stones. In the present work nests were made of grass, twigs, and small stones.

The clutch size of Red Wattled Lapwing was limited to 2 eggs. Eggs were elliptical in shape with narrow tapering end towards the centre of the nest which helps them from rolling away from the nest. They are greenish grey in colour with black spots which covers their surfaces. Incubation period was calculated as the time taken between the laying of the last egg and hatching of the chick. Hatching success was 100 % in the two eggs. According to (Gupta & Kaushik, 2012) hatching success in Red Wattled Lapwing was found to be about 60.92% in Kurukshetra. (Muralidhar & Barve, 2013) reported 75% hatching success in Mumbai. Kaur and Khera 2017 reported 59 % hatching rate for Lapwing. Parents used different types of calls, which were made to alert their young ones, regarding the presence of predator or visitor (Figure 1).



Figure 1. Adult Lapwing defending the territory in Sikar.



Figure 2. Hatchling of Red Wattled Lapwing.



Figure 3. Morphology of Hatchling.

It was also observed that lapwing chicks were precocial i.e. the young ones were relatively mature and mobile from the moment of birth and hatching. The grayish black down feathers of the young ones made them blended in with the surroundings (Figure 2). The hatchlings have black eyes and long clawed hind limbs. They are able to run but unable to fly as feathers are still developing (Figure 3). They actively responded to the alarming calls of the parents and used to crouch in the low grass immediately or they sat down motionless (Kaur & Khera, 2017). This was also reported same in the present study. Both the parents were seen defending the nest and the young one very aggressively against any intrusion by humans and other birds.

Making frantic calls they dived at the invaders and tried to chase away them out of the territory. In fact, on the day of hatching the parents were seen closely monitoring each and every activity not only in the territory but even at the distance. They use small soft tone for their hatchlings. The basic technique used by lapwing was “Run and Pause” and they were observed to actively pursue its prey and then suddenly peck at it. The probable reason for the adoption of such a strategy might because they were visual foragers, once a prey has been located, they run in order to grab and capture it and again repeat the same tactics. Red Wattled Lapwings utilized “Run-pause-run-dip” foraging method (62.72%) most frequently followed by “Walk Quickly” being 28.18% and then “Walk Slowly” being 9.09%. This was similar to the findings of (Koul *et al.*, 2014).

It is well known that ground nesting birds are vulnerable to high rates of depredation of their eggs and young ones. The present study area has a very high degree of potential predators especially birds, dogs and other stray animals. Lapwings were seen aggressively chasing dogs, and stray animals by making strike with their pointed beaks and loud noise. Apart from predation, ground-nesting Red Wattled Lapwings faced the risk of nest damage by grazing animals. Due to current anthropogenic pressure and degradation of the natural foraging and breeding habitat

lapwings have shown a transition in their habitat selection from natural surroundings to urban areas such as municipal waste disposal grounds, water drainage sewers, and rooftops of ongoing construction houses. The nests are built on the rooftops instead of ground nests by these birds evolving nature in nedology. This has drastically degraded the quality and quantity of food resources available to the bird and ultimately led to reduction in their population. Current observations shows that RWL is adapting to urban settings and choosing a nest location adapting to a new habitat for nesting on rooftops as the chances of survival is more for the hatchlings.

CONCLUSION

Conservatory strategies are must for the maintenance of their foraging and breeding grounds which will alleviate the dwindling number of these birds in the arid area of the Desert. The local residents need to be made aware of their importance in the ecosystem so that their ground nests are safe from human interference. The study will pave way to start Bird Ecotourism in Rajasthan.

ACKNOWLEDGMENT

The authors express sincere thanks to the head of the Department of Zoology, Shri Kalyan Govt. Girls College, Sikar, Rajasthan, for the facilities provided to carry out this research work.

REFERENCES

- Anil, K., & Sharma, R. K. (2011). Observations on breeding behaviour and vocalizations in Red-wattled Lapwing, *Vanellus indicus* (Aves: Charadriidae) from Northern India. *Journal of Experimental Zoology, India*, 14(1), 333-338.
- Fletcher, K., Warren, P., & Baines, D. (2005). Impact of nest visits by human observers on hatching success in

- Lapwings *Vanellus vanellus*: a field experiment. *Bird Study*, 52(2), 221-223.
- Gupta, R. C., & Kaushik, T. K. (2012). Spectrum of threats to nests of Yellow-wattled Lapwing *Vanellus malabaricus* in Kurukshetra outskirts-a case study. *Journal of Applied and Natural Science*, 4(1), 75-78.
- Hart, J. D., Milsom, T., Baxter, A., Kelly, P. F., & Parkin, W. K. (2002). The impact of livestock on Lapwing *Vanellus vanellus* breeding densities and performance on coastal grazing marsh. *Bird Study*, 49(1), 67-78.
- KALEKA, A. S. (2020). Breeding behaviour of red-wattled lapwing, *Vanellus indicus* (Boddaert, 1783) in agricultural landscape of Punjab. *Uttar Pradesh Journal of Zoology*, 41(8), 27-51.
- Kaur, M., & Khera, K. (2017). On the fundamentals of breeding biology and present threats to red wattled lapwing (*Vanellus indicus*) in agricultural landscape of Punjab. *Journal of Entomology and Zoology Studies*, 5(4), 1501-1506.
- Khalil, S., Hussain, T., Anwar, M., Rafay, M., Abdullah, M., Khalid, M., Ashraf, I. (2019). Breeding biology of red wattled lapwing (*Vanellus Indicus*) from Southern Punjab, Pakistan. *International Journal of Biodiversity and Conservation*, 11(2), 78-84.
- Koul S , K. P. a. S. D. N. (2014). Feeding ecology with respect to time activity budget in Red Wattled Lapwing *Vanellus indicus* in Jammu region. *Journal of International Academic Research for Multidisciplinary*, 2(7), 99-105.
- Kragten, S., & de Snoo, G. R. (2007). Nest success of Lapwings *Vanellus vanellus* on organic and conventional arable farms in the Netherlands. *Journal of Ibis*, 149(4), 742-749.
- Livingstone, S. E., Mayfield, J. H., & Moore, D. S. (1975). Thio derivatives of β -diketones and their metal chelates. XX. Magnetic moments of some ruthenium (III) chelates of fluorinated Monothio- β -diketones. *Australian Journal of Chemistry*, 28(11), 2531-2533.
- Lok, A., & Subaraj, R. (2009). Lapwings (Charadriidae: Vanellinae) of Singapore. *Nature in Singapore*, 2, 125-134.
- Muralidhar, A., & Barve, S. (2013). Peculiar choice of nesting of Red-wattled Lapwing *Vanellus indicus* in an urban area in Mumbai, Maharashtra. *Indian Birds*, 8(1), 6-9.
- Narwade, S., Fartade, M., & Fartade, K. (2010). Effect of agricultural activities on breeding success of Red-wattled Lapwing *Vanellus indicus*. *National Journal of Life Sciences*, 7(1), 31-34.
- Saxena, V., & Saxena, A. (2013). The study of nidification behavior in Red-wattled Lapwing, *Vanellus indicus*. *Asian Journal of Experimental Science*, 27(2), 17-21.
- Sethi, V. K., Bhatt, D., Kumar, A., & Naithani, A. B. (2011). The hatching success of ground-and roof-nesting Red-wattled Lapwing *Vanellus indicus* in Haridwar, India. *Journal of Forktail*, 27, 7-10.