

Occurrence of Lesser Florican (*Sypheotides indicus*) at the Statue of Unity, Narmada District, Gujarat, India – with a note on its captive feeding habits

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ABSTRACT

An indigenous bustard (Otididae) of the Indian Sub-continent called the Lesser Florican *Sypheotides indicus* is in danger of extinction. This species, formerly widespread throughout India, has become progressively scarce due to breeding habitat loss and threats in non-breeding habitats. Numerous research has been done on its population status, habitat utilization and breeding grounds behaviour. However, there is seldom any data on their care in captivity. A Lesser Florican was rescued, and captive care was given at the Sardar Patel Zoological Park. They have never been reported from this area and our observation will add to the details of the husbandry care of the species in captivity.

Keywords: Captive feeding habits; Lesser Florican (*Sypheotides indicus*); Sardar Patel Zoological Park

1. INTRODUCTION

Out of the six species of bustards (family Otididae) found in the Indian, the Lesser Florican *Sypheotides indicus* (Miller, 1782) is the smallest bustard species. It is primarily found in grass lands and is a threatened species. It belongs to Family - Otididae and Order – Otidiformes and is listed under Critically Endangered (CR) in IUCN 3.1 (BirdLife International, 2021) and Schedule I of the Indian Wildlife Act (1972). The two species Great Indian Bustard *Ardeotis nigriceps* and Lesser Florican *Sypheotide sindicus* are endemic to India. The past records of the Lesser florican are from Pakistan, Nepal and one unconfirmed historical report from Myanmar (Birdlife International, 2021). It is a timid bird species and nearly impossible to find without the help of an expert. The southwest monsoon, which typically starts by the end of June, is when it breeds (Dharmakumarsinhji, 1950; Ali & Ripley, 1983; Sankaran, 1997; Grimmer et al., 2011). During this time, there has been evidence of a distinct expansion into Gujarat, eastern Rajasthan and western Madhya Pradesh, where it congregates in regions with abundant rainfall (Sankaran et al., 1992).

According to Sankaran, (1991), the Male occupies less than 2 ha territories during the breeding season (June to October), from which they display aerially to attract females. The florican's ability to reproduce and increase the population depends on a favourable climate, particularly the monsoon and habitat. They are also wildly erratic in their breeding requirements and nesting disturbance (Sankaran, 1994). According to Gadhvi, (2003), the typical clutch size is 4-5 eggs. The eggs are spherical and dark olive green; a male did not participate in egg incubation. The typical incubation time is 21 days (Dharmakumarsinhji, 1950; Sankaran, 1997).

2. METHODOLOGY

There is a sizable population of Lesser Floricans in Gujarat state's Blackbuck National Park, Bhavnagar district and Rampura grass land, Dahod district. From 2011 to 2017, there were also sporadic reports of the species in the following five districts: Amreli, Surendranagar, Kachchh, Junagadh and Vadodara (Mori et al., 2017). Here we report the first record of the Lesser Florican from the Statue of Unity, Narmada district, Gujarat, along with its feeding habits in captivity.

Sardar Patel Zoological Park (SPZP) is situated (21°50'08" N 73°44'04" E) in Ekta Nagar Narmada district, Gujarat state, India. The SPZP was a newly established Zoological Park in February 2020. In the early morning of 28 November 2020, a security guard of the Statue of Unity (Kevadiya – Ekta Nagar) rescued a bird in the visitor garden area (21°50'17" N 73°43'25" E) (Figure 1). The rescued bird was brought to the Veterinary hospital of Sardar Patel Zoological Park. Later, the bird was identified as Lesser Florican with non-breeding plumage and seemed sub-adult. The Rescued Lesser Florican was found normal after a body check-up with no injuries on the body part. After receiving the bird, we took weight, did a physical examination and provided an isolated small enclosure with a dry grass bedding material for hiding and roosting. The individual's body weight was 219 gm., and sex was unidentified. As it could not fly, we kept it under observation for a few days.



Figure 1 Rescued Lesser Florican by the Security guard of Statue of Unity, Narmada District, Gujarat, India

3. RESULTS AND DISCUSSION

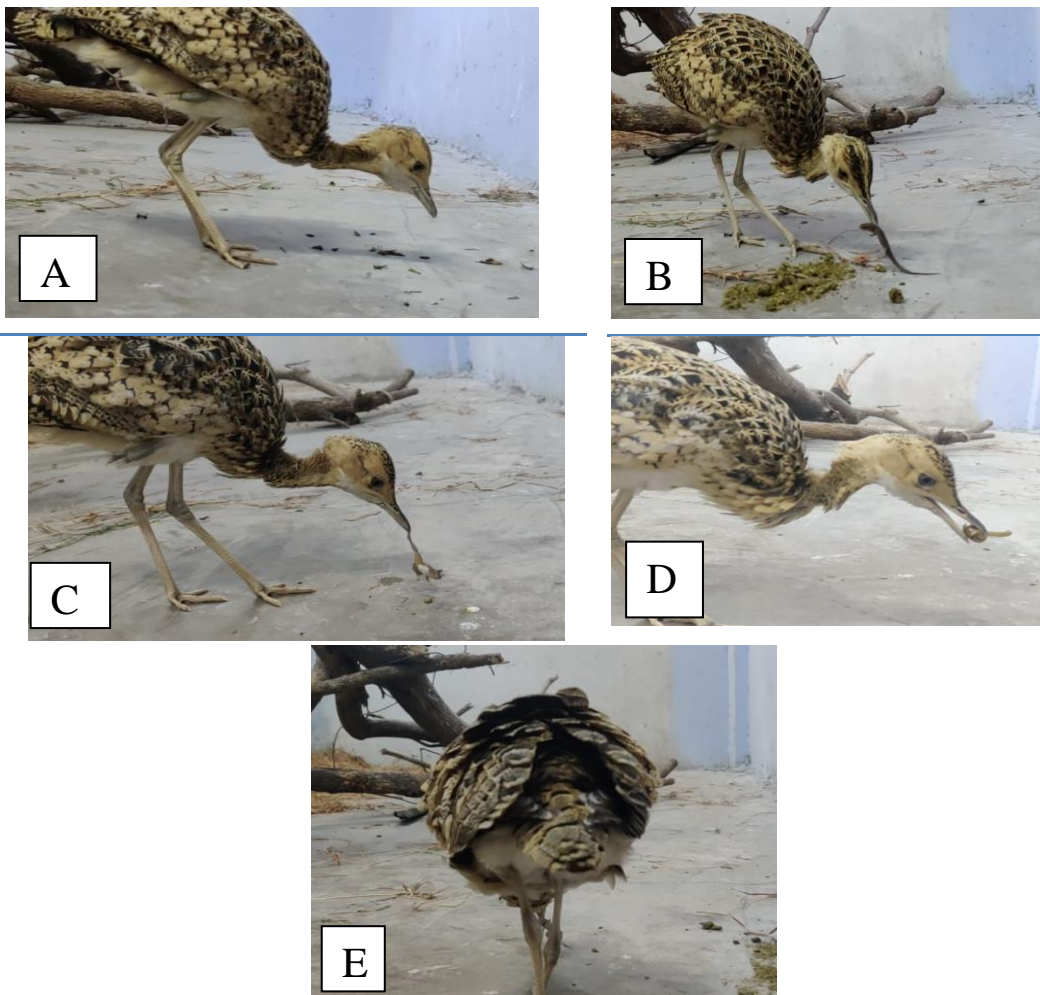
Understanding the diet of a free-ranging Lesser Florican was difficult. Therefore, we gathered data on the food of Lesser Floricans, which includes a variety of invertebrate species such as locusts, insects, small lizards and frogs, as well as seeds, herbs, berries and plant shoots (WWF, 2012). We provided 22 g (10% body weight) per day of feed and water with bird plus electrolytes during this period. We also set up a camera for the documentation for five days, from 28 November to 2 December 2020. After examination, we provided various foods consisting of 15 species, i.e., ten species of invertebrates and five species of vertebrates. Out of 15 species, nine were Insecta, one was Gastropoda, three were Reptilia and two were amphibians (Table 1). The water bowl was always filled inside the enclosure and the veterinary officer used to add bird plus and examine the bird daily.

Day 1

We collected nine species of locusts *Diablocatantopspinguis*, *Xenocatantopshumilis*, *Cyrtacanthacristatarica*, *Acridacinerea*, *Acrida* sp. (Silent Slant-faced Grasshoppers), *Tribe Oxyini*, *Tribe Acridini*, *Ducetia japonica*, *Atractomorpha* from the wild. A total of 78 live locusts were gathered for feeding and we gave 38 of them (weighing 22g) throughout three phases: Morning, afternoon and evening. The Lesser Florican finishes up all the meals provided to it.

Table 1 List of species provided as food to the rescued Lesser Florican

Sr. No.	Class	Family	Species
Group: Invertebrates			
1	Gastropoda	Oxychilidae	<i>Macrochlamys indica</i>
2	Insecta	Acrididae	<i>Diabolocatantops pinguis</i>
3			<i>Xenocatantops humilis</i>
4			<i>Cyrtacanthacris tatarica tatarica</i>
5			<i>Acrida cinerea</i>
6			<i>Acrida</i> sp. (Silent Slant-faced Grasshoppers)
7			Tribe - <i>Oxyini</i>
8			Tribe - <i>Acridini</i>
9		Tettigoniidae	<i>Ducetia japonica</i>
10		Pyrgomorphidae	<i>Atractomorpha lata</i>
Group: Vertebrates			
11	Reptilia	Agamidae	<i>Sitana spinaecephalus</i>
12		Scincidae	<i>Eutropis carinata</i>
13			<i>Eutropis macularia</i>
14	Amphibia	Dicroglossidae	<i>Euphlyctis cyanophlyctis</i>
15			<i>Minervarya agricola</i>

**Figure 2** Lesser Florican feeding on (A) Locusts (B) Skink *Eutropis carinata* (C) *Euphlyctiscya nophlyctis* (D) *Macrochlamys indica* (E) *Minervarya agricola*

Day 2

On the second day, we provided alfalfa plus pellet and *Eutropis carinata* in the morning and evening with 12 locusts. It was observed that the individual preferred the *Eutropis carinata* over alfalfa plus pellets and didn't finish them. In the evening meal, it has finished all the locusts.

Day 3

On the morning of the third day, we provided 13 locusts and one *Euphlyctis cyanophlyctis*. Firstly, it feeds on all the locusts and a frog. In the evening, we provided one *Eutropis macularia* and finished it.

Day 4

On the morning of the fourth day, we provided ten locusts along with one *Sitana spinaecephalus* and in the evening provided one *Macrochlamys indica* and one *Minervarya Agricola*. It was observed that the individual first feed on the snail and later on the frog.

Day 5

The individual was shifted to the Blackbuck National Park, Bhavnagar, Gujarat, as it has the habitat and presence of the species.

4. CONCLUSION

From this short observation, it can be concluded that the Lesser Florican prefers to feed on grass hoppers and locusts but can feed on various foods. Narmada district doesn't have any previous records, nor is there a grass land area so it might be the migratory passage of the species. This study will serve as an excellent standard assessment for future research and contribute to micro-level decision-making toward Lesser Florican conservation, ecology and captive breeding management.

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Author's contribution

Ravikumar Patel and Hiren J Patel drafted the manuscript, Nitesh Chaudhari prepared the images and tables and Ram Ratan Nala reviewed the draft manuscript.

Ethical approval

Sypheotides indicus at the Statue of Unity, Narmada District, Gujarat, India was reported. The ethical guidelines are followed in the study for sample collection & identification.

Informed consent

Not applicable.

Conflicts of interests

The authors declare that there are no conflicts of interests.

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Data and materials availability

All data associated with this study are present in the paper.

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