

Recent sightings of Lesser Florican in Gujarat

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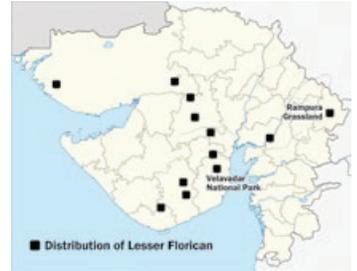
Introduction

The Lesser Florican (*Sypheotides indicus*) belongs to the family *Otididae*, the members of which are commonly known as bustards. Three species of bustards are found in Gujarat; the Lesser Florican and Great Indian Bustard (*Ardeotis nigriceps*), which are resident, while Macqueen's Bustard (*Chlamydotis macqueenii*) is a winter visitor (Ganpule 2016). Lesser Florican is now categorised as 'Endangered' (BirdLife International 2017), with a declining population.

The most common local name for the Lesser Florican in Gujarat is *Khadmor* (*Khad* = grass, *Mor* = peacock). But it is also called as *Tillor*. It is distributed in Kachchh, Saurashtra and Gujarat, and known to be a monsoon migrant to the state, when it visits grasslands and suitable habitats for breeding. The migration depends much on the rainfall (Dharmakumarsinghji 1955). The birds establish themselves where heavy and good monsoon occurs. In Gujarat, in a recent survey in 2010, it was found only in Bhavnagar, Kachchh and Panchmahal (now Dahod) districts (Bharadwaj *et al.* 2011). The Lesser Florican is a species of interest for birdwatchers here, and as there are many recent sightings reported from many parts of the state, an attempt is made here to make a compilation of the recent sightings of the Lesser Florican in Gujarat. We have also collected sightings in the non-breeding season and records of eggs/chicks from the state.

Historical records in Gujarat

There are many historical records of the Lesser Florican from Gujarat. It is mentioned for Kachchh, Saurashtra and Gujarat by Palin (1904). Ali (1945) mentions it from Kachchh. During his surveys in Gujarat, Ali (1954) noted it as 'patchy' but common in Kachchh, Saurashtra and Gujarat in the monsoon from July to October. The Lesser Florican is a well studied species here and there have been many publications (Magrath *et al.* 1985, Rahmani 1986, Sankaran *et al.* 1992, Sankaran 1994, Gadhvi 2003, Bharadwaj *et al.* 2011) about it, to name a few. Dharmakumarsinghji (1955), who studied the Lesser Florican in great detail, ringing more than 400 individuals and studying their habits, movements and breeding, gives it as 'resident and local migrant', occurring in Kachchh, Saurashtra and Gujarat.



Sightings

The Lesser Florican is usually seen in small numbers in suitable habitats like dry grasslands with scattered bushes, *vidis*, standing cotton and millet crops, and in agricultural fields. One of the last remaining strongholds of the species is the Velavadar National Park, in Bhavnagar district (also known as the Velavadar Blackbuck National Park). This area is a predominantly a well preserved grassland, with scattered shrubs and trees and the region is locally known as 'Bhal'. Lesser Florican is a regular monsoon migrant to this area. Surveys are conducted by the Forest Department and Dept. of Marine Science, Bhavnagar University, every year in the park in the monsoon season (usually in August). Data from this count, done each year in Velavadar NP, is given in Table 1:

TABLE 1: Lesser Florican count in Velavadar National Park since 2010

No.	Year	Date of count	Male(s)	Female(s)	Total
1	2010	8, 9 August 2010	48	5	53
2	2011	6, 7 August 2011	54	4	58
3	2012	5 August 2012	51	3	54
4	2013	13, 14 July 2013	44	4	48
5	2014	15, 16 August 2014	22	5	27
6	2015	25, 26 July 2015	50	5	55
7	2016	20, 21 August 2016	25	1	26
8	2017	23, 24 August 2017	35	6	41

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Similarly, Rampura Grasslands in Dahod district is also another location in which it is monitored every year. The data of counts from Rampura Grassland is given in Table 2:

We also collected sightings of the species from locations other than these two locations to know about its current sightings in Gujarat. We have generally collected data for the last 6-7 years, to get an idea about its distribution here. There may be more sightings from other areas which we could have missed, but we have tried to cover sightings from as many locations as possible outside of Velavadar NP and Rampura Grasslands. Also, we have not given repeated sightings from the same location (in the same month/year) since these could be of the same bird(s) seen by different people. These sightings are given in Table 3.

TABLE 2: Lesser Florican count in Rampura Grassland, Dahod, since 2010

Sr. No.	Year	Male(s)	Female(s)	Total
1.	2010	4	0	4
2.	2011	3	1	4
3.	2012	2	2	4
4.	2013	1	1	2
5.	2014	1	1	2
6.	2015	0	0	0
7.	2016	0	0	0
8.	2017	0	0	0



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TABLE 3: Sightings of Lesser Florican from June – October in Gujarat (except Velavadar NP and Rampura, Dahod).

Sr. No.	Date	Location	No. of Individuals	Observer	Remarks	Source
1.	17 July 2015	Visavadar, Dist. Junagadh	1	Viral Joshi	Male	<i>pers. obsv.</i>
2.	July 2011	Savarkundla, Dist: Amreli	1	Viral Joshi	Male	<i>pers. obsv.</i>
	July 2012	Savarkundla, Dist: Amreli	2	Viral Joshi	Males	<i>pers. obsv.</i>
	August 2013	Savarkundla, Dist: Amreli	5	Viral Joshi	4 Males & 1 Female	<i>pers. obsv.</i>
	September 2014	Savarkundla, Dist: Amreli	14	Viral Joshi	8 Males, 4 Females & 2 Juveniles	<i>pers. obsv.</i>
	July 2015	Savarkundla, Dist: Amreli	10	Viral Joshi	7 Males, 2 Females & 1 Juvenile	<i>pers. obsv.</i>
	26 August 2015	Saladi, Dist. Amreli	1	Viral Joshi	-	<i>pers. obsv.</i>
3.	25 July 2011	Muli outskirts, Dist. Surendranagar	1	Devvratsinh Mori	Male	<i>pers. obsv.</i>
	July 2012	Outskirts of Little Rann of Kachchh, Surendranagar	6	Nirav Bhatt	4 Males & 2 Females	<i>pers. comm</i>
	20 August 2014	Anandpar, Dist. Surendranagar	3	Devvratsinh Mori	Males	<i>pers. obsv.</i>
	30 July 2017	Near Surendranagar	1	Gulamahmed Vora	Male	<i>pers. comm</i>
4.	August 2014	Naliya, Kachchh	1	Great Grey Owl	-	eBird
	20 August 2017	Naliya, Kachchh	2	Punit Mehta	Males displaying	eBird
5.	15 August 2015	Mithapur, Dist. Bhavnagar	4	Devvratsinh Mori	Males displaying	<i>pers. obsv.</i>
	20 September 2015	Mithapur, Dist. Bhavnagar	3	Devvratsinh Mori	1 Female & 2 Juveniles	<i>pers. obsv.</i>
	8 August 2016	Mithapur, Dist. Bhavnagar	5	Sunil Kini	Males	<i>pers. comm</i>
	17 July 2017	Adhelai - Velavadar Road, Bhavnagar	17	Irshad Theba	Males displaying	eBird
	26 August 2017	Mithapur, Dist. Bhavnagar	1	Devvratsinh Mori	Male displaying	<i>pers. obsv</i>
	17 September 2017	Kana Talav, Velavadar Outskirts, Bhavnagar	1	Gaurang Bagda	Male displaying	eBird
6.	30 October 2017	Dumad, Dist. Vadodara	1	Rahul Bhatt	Female (Rescue)	<i>pers. comm</i>

These observations indicate that the Lesser Florican is still seen in areas other than Velavadar NP and Rampura. The current sightings are mainly from the districts of Bhavnagar, Kachchh, Surendranagar, Dahod and Amreli. For Rajkot district, the species was noted on 16 August 1999 and 29 August 2001 in Bhandariya *vidi*, Ta. Jetpur, and on 8 September 2000 and 8 September 2002 in Betavad *vidi*, Ta. Gondal (Vinod Nimavat and Ashok Mashru, *pers. comm.*) The earlier records from the grasslands in Rajkot district suggest that the species frequents suitable habitats in years of good monsoon. However, it is now very rare and there are only occasional sightings in these grasslands/*vidis* of Rajkot district, with one-two individuals seen once in 4-5 years depending on the monsoon (Ashok Mashru, *pers. comm.*). In Junagadh district, a male was seen for two weeks in Devaliya, Gir NP (Pati 2003) and there is only one recent sighting from Visavadar.

In general, the Lesser Florican follows the monsoon and its dispersal in the state depends greatly on the amount of rainfall in these districts. Thus, its numbers vary from year to year in the districts in which it occurs. It is seen in grasslands, *vidis*, agricultural fields, and other suitable habitats. The sightings in Bhavnagar district are from the periphery of Velavadar NP and these areas fall within 10-20 kms from the park. Though these are not sightings from the protected area of the park, it can be said that these locations are contiguous with the national park. So, many birds are seen outside the park in suitable habitat, mainly in agricultural fields. The sightings from Kachchh are mainly from the grasslands near Naliya and surroundings. Some sightings have been reported from around the Little Rann of Kachchh too. Grasslands in Surendranagar district are important and there have been many recent sightings.

There are two instances of birds rescued in recent times. A

Table 4: Recent sightings of Lesser Florican from November – May in Gujarat

Sr. No.	Date	Place	No. of Individuals	Observer	Remarks	Source
1	2 December 2010	Velavadar National Park	4	Dragan Simic	-	eBird
2	6 November 2011	Little Rann of Kachchh	1	Rajesh Shah	Female	OBI
3	March 2013	Maharaja Bet, Nal Sarovar	1	Ramjhan Sama	-	<i>pers. comm</i>
4	18 May 2013	Velavadar National Park	1	Dhyey Shah	-	eBird
5	14 January 2014	Velavadar National Park	1	Sunil Moteria	In non breeding	Moteria 2017
6	February 2015	Liliya, Dist. Amreli	1	Viral Joshi	In non breeding	<i>pers. obsv.</i>
7	12 November 2015	Velavadar National Park	-	Vipul Trivedi	-	eBird
8	12 November 2015	Shell River, Amreli	1	Viral Joshi		<i>pers. obsv.</i>
9	December 2015	Velavadar National Park	1	Samrat Bose	In non breeding	INW
10	14 February 2016	Velavadar National Park	1	Vipul Trivedi	-	eBird
11	29 April 2016	Liliya, Dist. Amreli	1	Viral Joshi	In non breeding	<i>pers. obsv.</i>
12	16 February 2017	Velavadar National Park	1	Ishleelkaur Wadhwa	-	eBird
13	26 February 2017	Velavadar National Park		Niket Chaudhari	-	Moteria 2017
14	30 March 2017	Velavadar National Park	1	Punit Lalbhai	-	eBird

female was rescued from Bardoli, Dist. Surat in 2009 (Krunal Trivedi, *pers. comm.*) and another bird, a female, was rescued near Dumad, Dist. Vadodara, in October 2017. This female, which was rescued near Vadodara, was ringed by BNHS, and released at Rampura Grassland, Dahod, which is a known site for the Lesser Floricans. The sighting from Surat is the only known recent sighting of Lesser Florican from south Gujarat.

Though it is well known that the species visits Gujarat during the monsoon season for breeding, its status in Gujarat in the non-breeding season is still a mystery. Dharmakumarsinhji (1955) stated that though most of the birds seem to migrate here in the monsoon season from other areas of the Indian Sub-continent, some individuals remain in the 'vidis' and grasslands here throughout the year. We collected sightings of the Lesser Florican from November till May, to get an idea about its status during the non-breeding season. These sightings are given in Table 4.

As can be seen from the above records, the Lesser Florican has been noted in the winter months in Gujarat, suggesting that a few individuals do remain here in the winter. The local guides at Velavadar NP say that a few Lesser Floricans are seen in the area throughout the year (*pers. comm.*), which can be seen from Table 4. It should be noted that the male Lesser Florican undergoes a moult after breeding and looks similar to the female in the non-breeding season, with a few retained black neck feathers and/or some white in wing coverts (Rasmussen & Anderton 2012). Hence, it is difficult to separate the male and the female in non breeding plumage. By June, the males

start to moult into breeding plumage, with characteristic black feathers appearing on the body and plumes on the head, and are in full breeding plumage in June-July. Hence, it is difficult to sex the birds in non-breeding plumage unless seen closely.

Breeding

Lesser Florican visits the grasslands of Gujarat for breeding. It was once widespread, and common, but now breeds only in a few areas in Gujarat (Bhardwaj *et al.* 2011). This species has a dispersed lek type mating system, in which no pair-bond is formed, with the males establishing territories measuring 1-2 ha in size, clumped together in a lek, with an inter-territorial distance of 200-500 mts and they display from a particular spot within the territory (Sankaran 1994). Females are generally very shy, with a cryptic plumage, and hence finding the females or chicks/nests is very difficult. The nesting records of the Lesser Florican in the last few years are given in Table 5.

Discussion

Based on the data presented above, it can be said that Velavadar National Park is the only area in Gujarat in which the Lesser Florican is regular, and still seen in good numbers. In other districts of Gujarat, it is present, but is erratic and the numbers are quite less and vary each year depending on the monsoon.

In a survey in the grasslands of Gujarat in 2010 by Bharadwaj *et al.* (2011), a total of 54 individuals were sighted mainly in three districts; Bhavnagar, Kachchh and Panchmahal (now Dahod). It is interesting to note that no floricans were noted

Table 5: Lesser Florican breeding records in Gujarat

Sr. No.	Date	Place	Nesting Activity		Observer	Remarks/ Source
			Eggs	Chick(s)		
1	July - August 2001	5 nests near Velavadar National Park	Yes	Yes	Indra Gadhvi	Gadhvi 2003
2	17 August 2008	Kherva, Dist. Surendranagar	Yes	-	Gulamahmed Vora	<i>pers. comm</i>
3	15 September 2009	Gediya, Dist. Surendranagar	-	Yes	Gulamahmed Vora	<i>pers. comm</i>
4	October 2009	Outskirts of Velavadar NP	-	Yes	Nirav Bhatt & Devesh Gadhvi	INW
5	13 August 2014	Anandpur grassland, Dist. Surendranagar	Yes	-	S. Jebalia	Author's sighting
6	18 September 2014	Liliya, Dist. Amreli	-	Yes	V. Joshi	Author's sighting
7	8 September 2015	Mithapur, Dist. Bhavnagar	Yes	-	D. Mori	Author's sighting
8	14 September 2015	Naliya, Kachchh	Yes	-	Ashok Chaudhary	<i>pers. comm</i>
9	20 September 2015	Mithapur, Dist. Bhavnagar	-	Yes	D. Mori	Author's sighting
10	Unknown	Rampura Grassland, Dahod	Yes	-	R. M. Parmar	<i>pers. comm</i>

in this survey in the districts of Amreli, Junagadh, Jamnagar and Rajkot. However, we have noted it in Surendranagar, Amreli and Junagadh districts recently. But it appears that it is indeed either absent or locally very rare in Rajkot district. There are still no records from Jamnagar district and as per senior bird watchers in Jamnagar, it has not been noted in the district in last few years. In Kachchh, it is sporadic in Naliya area. However, the grasslands here are under tremendous anthropogenic pressure and unless urgent action is taken, the grasslands will all be lost to agriculture. Most of the grasslands in this area have already been converted into agricultural fields in the past few years. The many sightings from Surendranagar district in the past few years are encouraging and suggest that some individuals are regular in these grasslands and also breed in the district. A good population (more than 10 individuals) was seen twice in Savarkundla, Amreli district, which was a pleasant surprise. We could not find any records of the Lesser Florican from north Gujarat in recent times. It is quite possible that it could occur in this region, as there is suitable habitat. Towards this, extensive surveys are needed to know if the species is present here. It is important to note here that in Rampura Grassland in 2008, a total of 16 males and one female were noted while in 2009, 5 males and one female were seen. Hence, it is a cause for concern that no Lesser Florican has been noted here in the last three years.

In the study conducted by Sankaran (1994), grasslands which had five or more males were more than 75 ha. in size, and the larger the grassland, the greater the number of males that were likely to occupy it. In view of this, there is an urgent need to identify grasslands which are more than 75 ha. in size and provide immediate protection to such grasslands. Ideally,

grasslands more than 100 ha. are needed to accommodate nesting females and help in conservation of the species (Sankaran 1994). For this, detailed satellite mapping of suitable grasslands and habitats needs to be done and all such important habitats identified in the state. This data can then be used to protect and conserve such habitats.

There are still many unanswered questions regarding the migration of the Lesser Florican in the non-breeding season. Do the birds remain in the same locality or do they migrate to other parts of India? Our observations establish that at least some individuals do remain in the same area throughout the year, as there are sightings from November to May, the non-breeding period of the species. The implications of this are that grasslands are needed for this species not only during the breeding season, but perhaps also during non-breeding. Another interesting and unanswered question is regarding the population of females; majority of the birds counted in Velavadar NP are males as they are more visible and hardly a few females are seen. The counts are skewed in favour of the males since the displaying birds are easily seen. The ratio of males to females in any territory is not known and is a matter for speculation. The dispersal pattern of females, number of females in a lek, etc. is still not known.

There are very few actual observations of eggs/chicks of this species in Gujarat. While it is obvious that it is breeding in the grasslands here, there are very few studies conducted on the breeding of this species here. All the five nests recorded by Gadhvi (2003) in Velavadar NP area were outside the protected area, on the periphery of the park, and only 8 out of the 22 eggs in five nests hatched. Predation of the eggs and trampling of the nest/eggs by grazing cattle are the main

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threats to the breeding of the Lesser Florican here. The recent breeding records from Amreli, Kachchh, Surendranagar, and Dahod districts suggest that in years of good monsoon, it breeds successfully in other areas of the state. This is important as other than Velavadar and its surroundings, there is almost no data regarding the breeding of this species in other parts of Gujarat in the recent years.

While we are unable to comment on the recent population trends of the Lesser Florican in Gujarat based on our data, there is no doubt that urgent conservation is needed for the species in Gujarat. In addition to protection of grasslands, local community involvement, regular population surveys, stopping hunting and livestock grazing in grasslands, etc. can help in arresting the decline of this species in Gujarat. A Lesser Florican recovery plan (part of species recovery plan for bustards) prepared by MoEF, along with BNHS, WII, WWF – India, and field scientists, in 2011, lists guidelines for states like Gujarat, Rajasthan, Madhya Pradesh etc. to help in the recovery of the species. If these guidelines are implemented on the ground, it will definitely help in the recovery of the species in India. For Gujarat, site specific recommendations are given for only two areas; Velavadar NP and Rampura Grassland. However, based on our data of sightings in Kachchh and Surendranagar, these recommendations should be extended for all grasslands in these districts, where the Lesser Floricans are still seen in good numbers. We urge the forest department of our state to take urgent steps in this regard.

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