

## Notes on the Macqueen's Bustard *Chlamydotis macqueenii* in Gujarat

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### Introduction

The Macqueen's Bustard *Chlamydotis macqueenii*, is also known as the Asian Houbara Bustard, Houbara Bustard or the Eastern Houbara Bustard. The species is omnivorous, eating fruits, seeds, shoots, leaves and flowers, and animal prey including locusts, grasshoppers, mole-crickets, and beetles (Cramp 1980). The Macqueen's Bustard is a desert- and steppe- dwelling bird, distributed throughout Central Asia and whose range stretches from Mongolia to the Arabian Peninsula (del Hoyo *et al.* 1996). It is a small to mid-sized bustard, categorized as 'Vulnerable' (Birdlife International 2021). It is an iconic inhabitant of steppe and semi-desert in Central Asia and the Middle East. A highly terrestrial bird, capable of going long periods without taking flight, it is, nonetheless, a true long-distance migrant, with some individuals travelling more than 7,500 km over the course of a single year (Combreau *et al.* 2011, Islam *et al.* 2014).

The Macqueen's Bustard population extends from northeast Asia (Mongolia and China) across Central Asia, the Middle East and the Arabian Peninsula to reach the Sinai Desert. After breeding in the spring in Central Asia, some Macqueen's Bustard groups migrate southward to spend the winter in warmer regions (the Arabian Peninsula, Pakistan, and NW India). In early spring, they return to their breeding habitats in China, Kazakhstan, Mongolia and other provinces. Some Macqueen's Bustards breed and are resident in the southern part of their range, particularly in Saudi Arabia, the United Arab Emirates, Oman, Yemen and parts of Iran, parts of Pakistan and Turkmenistan (source of information: International Fund for Houbara Conservation, Abu Dhabi).

For the Indian Subcontinent, the Macqueen's Bustard is mainly a winter visitor to Pakistan and Northwest India; it breeds in south-eastern Pakistan, in Baluchistan (Grimmett *et al.* 2011). It is an uncommon winter migrant to Gujarat, with scattered sightings from Little Rann of Kachchh and Greater Rann of Kachchh, where it winters in small numbers. Recently, there have been isolated photographic records from Jamnagar and Dwarka Districts (Jamnagar City outskirts and Positra near Dwarka) and there are a few unconfirmed reports from other areas of the state (Ganpule 2014, 2016).

Here, we present the current status and distribution of the Macqueen's Bustard in Gujarat, based on eBird sightings and photographic records collected from bird watchers and report sightings of ringed birds recently photographed from Gujarat.



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### Taxonomy

The Macqueen's Bustard, found in Asia, was described by John Edward Gray in 1832 as *Otis macqueenii*. Earlier, it was treated as a subspecies of the Houbara Bustard *Chlamydotis undulata*, but is now treated as a separate species following clear cut differences in plumage, courtship behaviour, vocalizations, and mitochondrial DNA between the two (Sangster *et al.* 2004).

The earlier taxonomy of the Houbara Bustard was as follows:

***Chlamydotis undulata undulata*** – the nominate subspecies found in northern Africa, from Mauritania to western Egypt.

***Chlamydotis undulata fuertaventurae*** - Fuerteventura, Lanzarote and Graciosa, in the Canary Islands.

***Chlamydotis undulata macqueenii*** - Eastern Egypt (Sinai), Arabia and Central Asia, from northwest Kazakhstan east to Mongolia, wintering from the Persian Gulf to northwest India and in central China.

Macqueen's Bustard has now been recommended to be treated as a full species, while the 'Houbara' group is treated as the African Houbara Bustard *Chlamydotis undulata* (comprising *C. u. undulata* and *C. u. fuertaventurae*). The dividing line between the two *Chlamydotis* species is the Sinai Peninsula (Rahmani 2012). The application of recently published quantitative criteria for species delimitation, as outlined in Tobias *et al.* (2010), also suggests that the 'Houbara' group is better split as two species — the African Houbara Bustard (including the nominate and ssp. *fuertaventurae*) and Macqueen's Bustard (monotypic). This new taxonomy has

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been adopted by the BirdLife Taxonomic Working Group and is followed in the recent HBW - Birdlife Illustrated Checklist of the Birds of the World (del Hoyo & Collar 2014).

### Historical status in Gujarat

There are historical records of Macqueen's Bustard from Gujarat. It was said to be distributed in Saurashtra, Kachchh and other parts of Gujarat, and given as a winter migrant to the state. Butler (1879) gave it as 'cold weather visitant, common in Sindh and Kachchh, rare in Kathiawar (=now Saurashtra) and Gujarat'. Ali (1945) gave it as a winter visitor, fairly common in Kachchh, but local, and abundant in some years, less in others. Ali (1954) collected a specimen from Khavda, Kachchh, and noted that it was fairly abundant in some years; in three drives in December 1943, the Maharao of Kachchh shot 16 and 17 Macqueen's Bustards in the sand dunes near Mandvi! It is further stated that it is rare elsewhere in Gujarat, only occasionally met with in semi-desert northern parts, for e.g. about Deesa in northern Gujarat. Dharmakumarsinhji (1955) gave it as an uncommon but regular winter visitor to Saurashtra, in the northern part from Jamnagar to Dhrangadhra, with specimens being shot in Wankaner and Jasdan; stragglers to eastern Saurashtra were

recorded, with few records from Bhavnagar and Talaja. Khachar (1996) stated that the Macqueen's Bustard is not 'rare' but rather a regular winter visitor to the semi-desert margins of the Ranns and the sand dunes of the Saurashtra and Kachchh coasts. Thus, the Macqueen's Bustard was fairly common historically in Kachchh.

### Sightings

Based on the eBird data collected till now, published sightings and from personal records from bird watchers, the Macqueen's Bustard is still mainly a winter visitor to Kachchh, with scattered and isolated records from other parts of the state. It has been recorded in Kachchh from Greater Rann of Kachchh, Banni Grassland, Little Rann of Kachchh, Naliya and there are other isolated records from Pingleshwar Beach and other parts of Kachchh. The records from outside Kachchh are from near Dwarka (Positra and Mithapur), Jamnagar, Rajkot, Bhavnagar, Amreli, Porbandar, northern parts of Gujarat on the fringes of Little Rann of Kachchh in Banaskantha and Patan Districts (Vora *et al.* 2008). The maximum numbers of sightings are from the arid regions of the Greater Rann of Kachchh (GRK) and the Little Rann of Kachchh (LRK), with few records from other parts of Gujarat. There are more than 477 checklists (Graph 1)

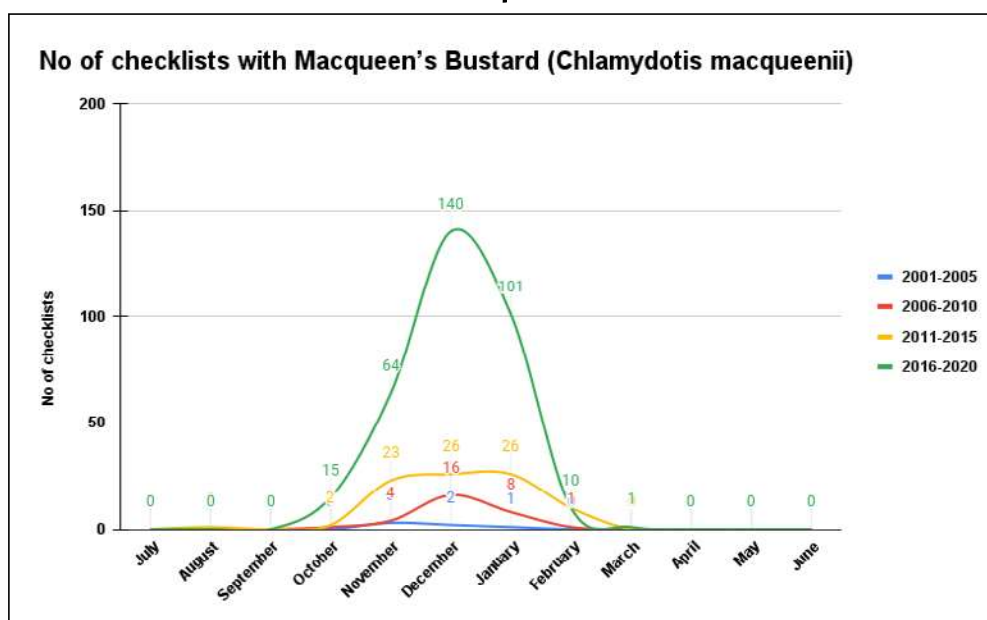


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with sightings of Macqueen's Bustard on eBird (eBird Basic Dataset 2021), but only a handful of records are from outside Kachchh. The records from other parts of Gujarat (other than

Kachchh) are given here in Table 1. All sightings are given in Map 1, which shows the current distribution of Macqueen's Bustard in Gujarat.

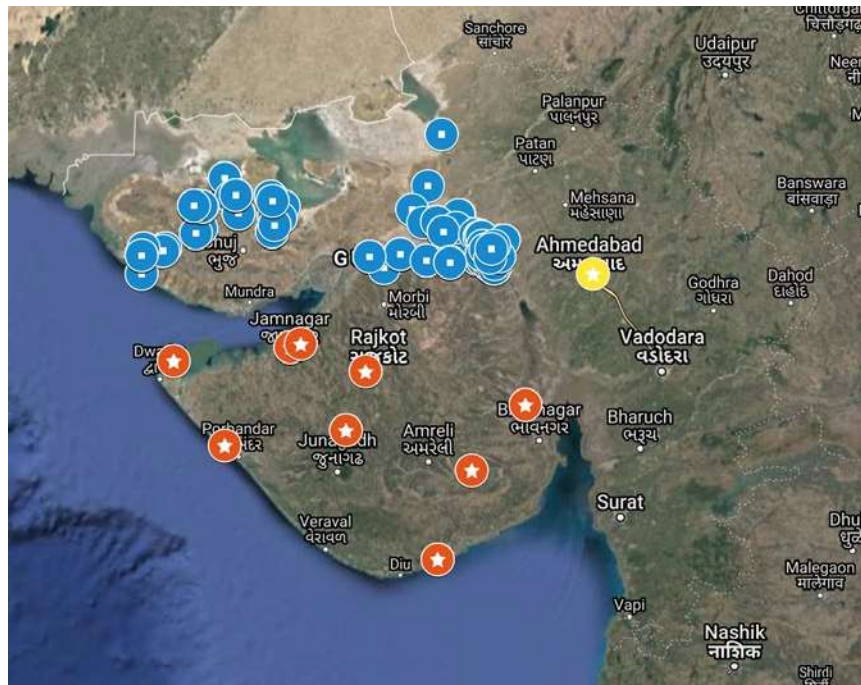
**Graph 1**



**Table 1: Records of Macqueen's Bustard from Gujarat (other than Kachchh)**

Sr No.	Date	Locality	District	Reference
1	1994 to 2003	Velavadar National Park (around Kanatalav), & between Velavadar and Sanesh	Bhavnagar	V. J. Rana, <i>pers. comm.</i>
2	Winter of 1999	Near Porbandar	Porbandar	Rughani 1999
3	14 December 2003	Suigam	Banaskantha	Jadhav & Parasharya 2003
4	January 2004	Mithapur	Jamnagar (Now Dwarka)	Trivedi 2004
5	18 November 2008	Positra	Jamnagar (Now Dwarka)	Parasharya & Gajjar 2009
6	14 December 2009	Wetland near Jamnagar	Jamnagar	eBird
7	15 December 2009	Wetland near Jamnagar	Jamnagar	eBird
8	23 February 2014	Velavadar National Park	Bhavnagar	eBird
9	27-October-2015	Jafrabad Salt Pan	Amreli	Batuk Bhil, <i>pers. comm</i>
10	11 January 2016	Jafrabad Salt Pan	Amreli	Author's sighting
11	15 February 2016	Jafrabad Salt pan	Amreli	Author's sighting
12	November 2017	Nagershree	Amreli	Photo available, source: social media
13	31 October 2017	Gariyadhar	Bhavnagar	Batuk Bhil, <i>pers. comm.</i>
14	16 October 2018	Sabarmati (Rescue)	Ahmedabad	Arvind Parmar & Arif Theba, <i>pers. comm</i>
15	3 January 2019	Fofal Dam	Rajkot	eBird
16	23 January 2019	Khijadiya Bird Sanctuary	Jamnagar	eBird
17	11 October 2020	Khambhala <i>vidi</i>	Rajkot	Rindani <i>et al.</i> 2021

**Map 1: Distribution of Macqueen's Bustard in Gujarat**



**Blue: GRK, LRK and the fringes of both the ranns, Red: Saurashtra, Yellow: Central Gujarat**

A state-wide survey was conducted by Bird Conservation Society, Gujarat (BCSG), from September 2006 to March 2007, under the leadership of Dr. Indra Gadhvi, to estimate the population of Macqueen's Bustard in Gujarat and to find out the habitat preferences of the species here. In the draft report prepared, a total of 121 individuals were reported, with indirect evidence (foot prints) of another 28 birds, for a total of 149 individuals. The maximum numbers of birds were reported from the fringes of GRK, falling in Banaskantha District. It was found that more than 80% of the birds were seen in LRK and GRK (including fringe areas). The report listed records from outside LRK and GRK, with sightings from Porbandar, Mandvi and the observation of a dead bird (probably hunted) recovered from Lakhtar *vidi*, in Surendranagar District. Thus, records from outside Kachchh were scarce during the survey too.

**Migration and Movement**

Bird ringing is a scientific research method based on the individual marking of birds. Any record of a ringed bird, either through recapture and subsequent release, or on the occasion of its final recovery as a dead bird, will tell us much about its life. This technique is one of the most effective methods to study the biology, ecology, behaviour, movement, breeding productivity and population demography of birds. We report here a ringed Macqueen's Bustard seen and photographed by

the first author [DM] in the Little Rann of Kachchh. There were two ringed Macqueen's Bustards sighted from two different places in the Little Rann of Kachchh. The sanctuary provides an important feeding, breeding and roosting habitat for a large number of birds due to its strategic location on the bird migration route and its connection with the dynamic Gulf of Kachchh.

On 29 December 2020, around at 09:30 hrs, the first author visited the southern part of the Little Rann of Kachchh. He observed a Macqueen's Bustard with one aluminium ring on both legs. The left tarsus had a green coloured ring and the right one had a metallic aluminium ring. He took many photographs of the bustard till the bird started running and went far away. The photographs were sent to BNHS (Bombay Natural History Society) and IFHC. The following ringing details were received from IFHC, which are given in Table 2 and the locations are given in the maps given here.

**Table 2: Ringing and re-sighting details of Macqueen's Bustard photographed in the Little Rann of Kachchh**

<b>Left leg ring number:</b>	EV5
<b>Sex:</b>	Male
<b>Ring colour</b>	Green (metallic)
<b>Ringing date:</b>	21 September 2020
<b>Ringed by:</b>	Earnest Shams, IFHC, in Pakistan
<b>Ringing place:</b>	Cholistan Desert or Rohi, Southern part of Punjab, Pakistan

<b>Coordinates of the release site</b>	28.56791° N, 71.33489° E
<b>Finding date:</b>	29 December 2020
<b>Finding time:</b>	09:45 hrs
<b>Country:</b>	India
<b>Finding place:</b>	Little Rann of Kachchh (southern part), Gujarat
<b>Distance:</b>	598 km
<b>Finding coordinates:</b>	23° 19' 34.6" N, 71° 34' 50.8 "E

**Map 2: Ringing location and re-sighting location of ringed Macqueen's Bustard**



Maps: Re-sighting location is Little Rann of Kachchh; distance from release to re-sighting is 598 km.

Another ringed Macqueen's Bustard has been reported from Gujarat; an injured bird was rescued near Par Village, Santalpur Taluka, Patan District, on the fringes of Little Rann of Kachchh,

on 18 January 2021. It had a metal ring on the leg with the inscription "M20K- IFHC. SKHBC.KZ, T.UAE +9 7137347555 T. KZK +7 7012280898". The photographs of the injured bird were uploaded on eBird by Prabhu Thakker. The exact details of where this bird was ringed or released are not available. But, it is a bird ringed by IFHC.

### Discussion

As can be seen from the records presented here, the Macqueen's Bustard is now a winter visitor mainly to Kachchh, with scattered records from other parts of Gujarat. It regularly winters in small numbers in Little- and Greater Rann of Kachchh. There are regular reports from Naliya area too. But, other than these areas, there are only a few records of this species from other parts of the state. It is certainly quite uncommon or rare in Saurashtra now. It is seen in good numbers in the fringes of Little- and Greater Rann of Kachchh in suitable habitat in Patan and Banaskantha Districts.

The recent records from Jamnagar, Rajkot and other places in Saurashtra are probably of stragglers. Even in the Little Rann of Kachchh, the number of wintering birds is not high. Though groups of six to eight birds are sometimes seen in the vast expanses of the rann, the total number of birds wintering in the area is less.

The record of the Macqueen's Bustard from central Gujarat is unusual. The individual rescued from Ahmedabad was badly injured and was brought for veterinary care. It was found injured in the Sabarmati area of Ahmedabad; there was another bird which flew away. It is possible that during migration, this individual might have become disoriented and could have collided with some man-made structures, thus getting injured. Certainly, this record is outside the current known habitat of the species in Gujarat.

The re-sighting of two ringed birds provides information about the migration route of the bustards. The bird for which ringing information was obtained shows that it was a short distance migrant, visiting Gujarat from Pakistan. The birds from Central Asia are strongly migratory, leaving their breeding grounds in August-September on trans-Himalayan migration, and arriving in wintering grounds in Persian Gulf to NW India. Satellite tracking studies have shown that birds from Central Asian and Chinese populations have wintered in India. It is quite likely that birds seen in Gujarat would comprise individuals from southern breeding (from Pakistan/Iran) and Central Asian/Chinese breeding populations. Further studies can help in determining the origins of the birds seen here.

The number of birds wintering in Gujarat is currently not

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known. An assessment of the population wintering here will help in understanding more about this species in the state and it will be useful to compare the current data with the survey carried out by BCSG in 2006-2007; the report gave suggestions for management of habitat and recommended studying the ecology of wintering birds and a comparison of habitats (then and now) will be useful. Surveys in parts of Kachchh, which are adjoining the Pakistan border (from India Bridge near Khavda till Vighakot near Pakistan border, which is a large part of Greater Rann of Kachchh) are required as we have almost no information for that area. The habitat there is suitable for the Macqueen's Bustard and there might be small populations wintering there. Similarly, the coastal areas of Saurashtra, where it was once seen regularly, need to be surveyed to check for the presence of the Macqueen's Bustard.

### Conclusion

The Macqueen's Bustard is a regular winter migrant to Gujarat, mainly to the dry desert and semi-arid areas of Kachchh; it is rare in Saurashtra. It is seen in small numbers in the state and nowhere is it common. Further surveys are required to know more about the number of birds currently wintering here. More studies are required to understand the wintering ecology of the species in Gujarat. This threatened species is an important visitor to Gujarat. The habitats in our state, if preserved properly with minimal disturbance to the wintering birds, can host more individuals and Gujarat can become a stronghold for wintering Macqueen's Bustards.

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## Breeding of Indian Eagle Owl *Bubo bengalensis* near Bhavnagar

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Kandarp Andharia

The Indian Eagle Owl (*Bubo bengalensis*) is an uncommon but widespread resident in Gujarat (Ganpule 2016). It is seen in rocky areas, semi-deserts and in the open grasslands or *vidis* of Saurashtra.

We often go to the Malnath Hill area for birding, where we regularly observed one pair of Indian Eagle Owl on the rocky areas of Malnath Hill. We started searching for its nest on the rocky escarpments where we saw this pair but could not locate its nesting. But, we always had doubts that this species

could be breeding here and so we regularly observed this area and were always on the lookout for breeding evidences.

On 4 September 2019, we saw a beautiful chick with one adult, and photographed it, thus confirming that the Indian Eagle Owl breeds at this site. We then noticed that there were two chicks and followed up regularly and observed that they were growing up day by day. We last observed them on 20 October 2019 and after that, we could not see these juveniles. It is possible that they flew away but we still observed the adult pair at the same site.

We also located one nest at Sosiya, near Bhavnagar, and observed one juvenile there. There was another breeding pair observed at Sihor, near Bhavnagar. Hence, there are at least three sites near Bhavnagar where the Indian Eagle Owl breeds regularly. We did not do any detailed study of the nesting so as not to disturb the birds. But, it is encouraging that this species is breeding regularly in these areas.

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