

**Research Article**

## **FIRST NESTING OF CRITICALLY ENDANGERED VULTURE IN BIKANER: THE NEST SITE RECORD OF LONG BILLED VULTURE (*GYP S INDICUS*) IN KOLAYAT TEHSIL, BIKANER**

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### **ABSTRACT**

For the first time a vulture's nest has been recorded in Bikaner district. Long billed vulture or Indian vulture's (*Gyps indicus*) nest was observed in Kolayat Tehsil of Bikaner (Rajasthan). It is situated away from human disturbance in Khetolai Village, on a twenty five feet high *Khejri* (*Prosopis cineraria*) tree. Nine long billed vulture and a chick in nest was recorded. Chick was about two and a half month's older and looked ready for flight. Probably mother vulture feeds small pieces of carcass obtained from small dumps near villages. The survival of Indian vultures and chick in 45<sup>0</sup>C - 47<sup>0</sup>C temperature is incredible, shows possibilities of nesting in future. Long billed vulture is classified as critically endangered (IUCN Red list), declined 90-98% worldwide. The breeding of rare species in Thar Desert reveals good sign for gyp's species population. Four adult, one sub-adult, four juvenile long billed vultures shows possibilities of colony development in future.

**Keywords:** Long Billed Vulture, Chick, Critically Endangered, Temperature, Nesting

### **INTRODUCTION**

The long billed vulture or Indian vulture (*Gyps indicus*) is an old vulture. The long billed vulture has very broad wings and short tail feathers. It is smaller and less heavily built than the Eurasian Griffon (*Gyps fulvus*) and measuring 80-103 cm long, weighting between 5.5 and 6.3 kg. and 1.96 to 2.38 m wingspan. Typical Gyps vulture, robust, strong feathers giving eagle like bearing. Perched adults have pale-yellowish bill and cere, pale eye rings, large white neck-ruff and buff back and under wing coverts. The stout blackish neck has pale down. In flight thighs are heavily feathered and concolourous with the rest of the underparts.

Indian vulture (*Gyps indicus*) breeds in south-east Pakistan and Peninsular India south of the Gangetic plan, north to Delhi, east through Madhya Pradesh, south to Nilgiris (Collar *et al.*, 2001). The species in classified as critically Endangered (IUCN Red List) because of catastrophic decline of 90-98% in the population of Gyps species due to diclofenac poisoning (Gilbert *et al.*, 2006; Green *et al.*, 2004). Through the early half of the 20th century, long billed vultures *Gyps indicus* and white-rumped vultures *G. bengalensis* were the most abundant vultures in South Asia (Thiollay, 2000). In 20-30 years following World War II, vultures disappeared from entire Far East Asian countries (Thiollay, 2000; Hla *et al.*, 2011).

This paper reflects first nesting evidence of long billed vulture as first vulture nest in Bikaner district and complete data of Indian vulture in past years at Jorbeer, Bikaner.

### **MATERIALS AND METHODS**

#### **Study Site**

The nest of Long billed recorded in Kolayat Tehsil of Bikaner, Rajasthan. It is also the headquarters of the tehsil in the Bikaner sub-division with the same name. The town is 51 kilometer from Bikaner on the highway to Jaisalmer (NH-15). The exact location of nest was 25 kilometers away from Kolayat in village Khatolai. The distance of nest from Bikaner is near about 75 kilometers. The nest is placed on 25 feet *Khejri* tree (*Prosopis cineraria*). It is state tree of Rajasthan. The Bikaner district of Rajasthan is situated in western part of the Thar Desert, where temperature reaches 49.50<sup>0</sup>C high and minimum -1<sup>0</sup>C to -2<sup>0</sup>C. The vegetation of the region is thorny and scanty.

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### Methods

The nest of long billed vulture was observed by using binocular, placed at comfortable distance. The number of visits was adjusted according to vulture's behavior because minimum disturbance is a better option for survival of new chick. Mostly morning hours were used for monitoring nest and vulture's activities. The research work has been based on monitoring and protection of Indian vulture.

### RESULTS AND DISCUSSION

On 17 May 2015, I have observed first nest of vulture in Khetolai village, Kolayat, Bikaner. It is first vulture nest in Bikaner and surrounding areas. After 15 years of research work an incredible moment came out. The two pairs of Long billed vultures and two month and a half months old chick in nest were sitting on tree top of *Khejri* Tree (*Prosopis cineraria*). Vultures normally prefers nesting site at the edge of forest, open grasslands with scattered trees or found in colonies in tree top at 2-10 meter high (Bird Life International, 2006).



Figure 1 (a &b): Parent Long billed vultures (*Gyps Indicus*) caring their chick on (*Prosopis cineraria*) tree



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The tree is about 25 feet long, not well dense. The nest was build by strong small and thin sticks at the corner of a strong branch with small leaves. Chick was seen actively preening its feathers. Due to nest structure and height it was not easy to observe the chick. The chick remained itself hidden most of the time.



**Figure 2 (a & b): Long billed vulture's chick resting in nest on (*Prosopis cineraria*) tree**

The chick was small, creamy white, brown feathers and large white neck-ruff with long bill and cere. Its plumage was completely developed (Rasmussen & Anderton, 2005) and the head and neck were white in color. It seems to be conducting wing exercises and appeared to be ready to take its first flight. The long billed vultures breeding reason spans consecutive calendar years because the majority of egg-laying begins in November, while fledging occurs in mid-March to mid-May (Gilbert *et al.*, 2000).



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The parent pair probably female long billed vulture protecting and groomed the chick, she were providing it shadow from direct sunlight with its wings and did not leave the nest. Until the chick reached the fledgling stage, at least one of the parent vultures were regularly found to care the chick sitting on tree. The parents showed little activities in the early morning i.e. sitting, perching, preening and flying out of and to the nest.

Both parent vultures were feeding small pieces of carcass in the beak of chick. Parents obtained food from carcasses nearby villages. Plenty of rain water available 1 to 2 km. in local ponds of Khetolai village. Foods availability is key factor for increasing population and survival of vultures (Khatri, 2012a).



**Figure 3: Parent Long billed vulture feeding chick on (*Prosopis cineraria*) tree**

Nine Long billed vultures (four adult, one sub-adult, four juvenile) and a chick vulture found in last observation at Khetolai village.

Nine species of vultures are recorded in Indian subcontinent (Ali & Repley, 1987) of which seven species observed at Jorbeer, Bikaner (Rajasthan) (Khatri, 2013a) i.e. Long billed vulture (*Gyps indicus*), white backed vulture (*Gyps bengalensis*), Eurasian Griffon vulture (*Gyps fulvus*), Himalayan Griffon vulture (*Gyps himalayensis*), King vulture (*Sarcogyps calvus*), Cinereous vulture (*Aegypius monachus*) and

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Egyptian vulture (*Neophron percnopterus*). All the vulture species migrates in winter except one sub-species of Egyptian vulture. The maximum population of long billed vulture observed (n=7) in 15 years at Jorbeer Bikaner (Khatri, 2015). It is first time that Long billed vulture observed in summers in Bikaner area. Regular monitoring of nest is still continued.



**Figure 3: A small colony of Long billed vultures (*Gyps Indicus*) sitting on (*Prosopis cineraria*) tree**

There is a need to explore the possibility of the long billed vultures feed on wild animal carcasses in nearest places. Detailed studies need to be conducted on these aspects in order to address any related threats and food availability (Swetha, 2015). Considering the fact that *Gyps indicus* population declined drastically, there is a need to provide security to the nests from threats and human disturbances.

#### Recommendations

1. Nests of such vulture's species should be protected from human disturbances because they are critically endangered.
2. Vultures are big bird, almost 2-6 kg. in weight and they need big and strong trees for nesting. The mature trees must be saved.
3. Not to make nest sites tourist places for photography and leave birds in their natural habitat.
4. The nesting area should be conserved for future breeding possibilities.

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