



E-ISSN: 2320-7078

P-ISSN: 2349-6800

[www.entomoljournal.com](http://www.entomoljournal.com)

JEZS 2024; 12(1): 05-07

© 2024 JEZS

Received: 08-11-2023

Accepted: 12-12-2023

**Harshit Sharma**

Research Scholar, Department of  
Zoology, Government College  
Kota, Kota, Rajasthan, India

**Anshu Sharma**

Assistant Professor, Department  
of Zoology, LBITS College,  
Ranpur, Kota, Rajasthan, India

**Surabhi Shrivastava**

Former Co-ordinator and HOD,  
Department of Wildlife Science,  
University of Kota, Kota,  
Rajasthan, India

**Subrat Sharma**

Professor, Department of  
Zoology, Govt. College Kota,  
Near Antaghar Circle, Nayapura,  
Kota, India

## Beak Abnormality in European white stork (*Ciconia ciconia*): A record from Ummendgunj conservation reserve, Kota, Rajasthan

**Harshit Sharma, Anshu Sharma, Surabhi Shrivastava and Subrat Sharma**

**DOI:** <https://doi.org/10.22271/j.ento.2024.v12.i1a.9270>

### Abstract

European White Stork belongs to the family Ciconiidae. It is rare winter migratory bird in India. European White Stork is distributed in Europe, Africa and Indian subcontinent. Beak deformities may be permanent or temporary and are caused by various factors. Despite its vast geographical area in India, there has been limited research on beak abnormalities in wild birds and few cases have been reported. In the present study, a beak abnormality in European White Stork (*Ciconia ciconia*) has been reported first at worldwide level as reviewed from many research paper. The present research paper reports first photographic evidence of Avian Keratin Disorder from Ummendgunj Conservation Reserve, Kota, Rajasthan. The present study is the first scientific study confirming this disorder through photographic evidence. The importance of photographs as a valuable tool for documenting bird beak abnormality has been highlighted here.

**Keywords:** European white stork, beak abnormality, Ummendgunj conservation reserve, winter migratory, Kota

### Introduction

Beak abnormalities can be permanent or transitory, and they can be caused by a variety of circumstances (Pomeroy, 1962) <sup>[7]</sup>. Beak abnormalities in wild birds are infrequently documented, which could be due to their rarity. Genetic mutations, injuries, infections, nutritional shortages, contact with chemical pollutants, issues during incubation, and inadequate rhinotheca wear are the main causes (Pomeroy, 1962; Craves, 1994) <sup>[7, 2]</sup>.

Developmental abnormalities in organisms are caused by starvation, illnesses, trauma, and mutation. It can be rooted in any keratinized organs (Gilberston *et al.*, 1976) <sup>[3]</sup>. The beak is an organ that is mostly utilized for feeding, preening, and fighting (Olsen, 2003) <sup>[10]</sup>. Individuals' health and environmental situation are impacted by malformations (Martí *et al.*, 2008; Van hemert and Handel, 2010) <sup>[5, 11]</sup>. Some other passerines have also been reported with the beak deformities (Craves, 1994) <sup>[2]</sup>. According to Pandey *et al.*, 2018 <sup>[6]</sup>; Siva *et al.*; 2021 <sup>[9]</sup>; Chouhan *et al.*; 2022 <sup>[1]</sup>; Samal *et al.*; 2023 <sup>[8]</sup> in India, very little information is available on beak deformities in birds namely Common Myna (*Acridotheres tristis*), Indian Jungle Crow (*Corvus culminatus*), Indian House Crow (*Corvus splendens*), Indian Rock Pigeon (*Columba livia*), Indian Eagle Owl (*Bubo bengalensis*) and Ashy crowned sparrow lark (*Eremopterix griseus*).

A research paper on bill deformities in Egyptian vulture (*Neophron percnopterus percnopterus*) is a noteworthy record from Rajasthan, India was published in 2023. Another article depicts an observation of beak abnormality in Common Myna *Acridotheres tristis* in the grassland complex of Shokaliya, Ajmer (26.125245°N, 74.950801°E) in 2018.

**Corresponding Author:****Harshit Sharma**

Research Scholar, Department of  
Zoology, Government College  
Kota, Kota, Rajasthan, India



**Fig 1:** European White Stork (*Ciconia ciconia*) at Umedgunj Pakshi Vihar, Kota.

### Study Area & Methodology

Kota district is the south eastern most part of Rajasthan, which is situated on the bank of Chambal River. The observations were carried over done at Umedgunj Conservation Reserve Kota. It is located between 25° 06' 46.11" N 75° 55' 29.71" E. This area is 10 km. away from Kota city. Many bird species like Painted stork, Asian open bill, Woolly-necked stork, Black-headed ibis, Red-naped ibis, Glossy ibis, Red crested pochard, White eyed pochard, Common starling, Greater spotted eagle, Osprey, White tailed lapwing etc. are reported here. A good number of wetlands are found in this district and they provide a habitat platform to aquatic bio-communities. During the present study, waterbodies of Kota were covered by two wheeler than in the study area by walking. This species of stork has been reported from some protected areas and important bird areas of Kota such as: Umedgunj Conservation Reserve, Alania dam and Anantpura dump yard. Regular field visits were continued throughout this duration at intervals of two or four days. However, the schedule was altered according to the situation and weather conditions. Field data were collected during morning hours between 7.00 am to 11.00 am and in the evening from 2.00 pm to 6.00 pm. To record the activities of European white storks, photographs were taken with DSLR camera and telephoto lens.



**Fig 2:** Location map of Kota in Rajasthan.



**Fig 3:** Location Map of Umedgunj Conservation Reserve, Kota.

### Observation and Results

The bird was observed on 16<sup>th</sup> October 2023 at Umedgunj Conservation Reserve with a group of Black-headed ibis (Fig.2). During bird watching seven European white storks were observed sitting on the ground. The European white stork with abnormal beak was walking on the ground, consuming some food and was isolated by other individuals of its own species. The deformation was observed in only one of the seven European White Storks, in which the upper and lower mandibles of this bird which were found to be far shorter in comparison to normal beak. This was an amazing sighting which was later on confirmed it as a deformation. The exact reason for this is unknown and further observations need to be done in this area for investigation on the health status of European white storks. This individual was not sighted at Umedgunj Conservation Reserve during the subsequent visits. However many visits to nearby places were also made to search this individual. Beak abnormality has been observed for the first time in a ciconiiformes species in India.



**Fig 4:** A solitary European White Stork with a group of Black-headed ibis.



**Fig 5:** Flying shot of European White Stork under investigation.

### Conclusion

After documenting the sighting, the area was disturbed due to release of water in the right canal of river Chambal. This was an interesting and rare instance of observation of deformed beak structure in European White Stork from Kota, Rajasthan. Beak damage or deformity has a serious impact on the bird's ecology, including nesting behaviour, feeding habits and so on.

### References

1. Chouhan R, Jain P. Photographic Evidence of Avian Keratin Disorder in Indian House Crow (*Corvus splendens*) and Indian Rock Pigeon (*Columba livia*) from Kota District, Rajasthan, India. *Int. J Res Eng Sci Manag.* 2022;5(5):138-139.
2. Craves JA. Passerines with deformed bills. *North Am Bird Bander.* 1994;19:14-18.
3. Gilbertson M, Morris RD, Hunter RA. Abnormal chicks and PCB residue levels in eggs of colonial birds on the lower Great Lakes (1971-73). *Auk.* 1976;93:434-44.
4. Sharma H, Sharma A, Shrivastava S, Sharma S. Documentation of a European White Stork with Flock of Egyptian Vultures in Kota district, Rajasthan. *Int J Adv Res Sci Commun Technol.* 2023;3(14):251-254.
5. Marti JM, Bellagamba PJ, Coria NR. Beak deformation in a Southern Giant Petrel (*Macronectes giganteus*) chick. *Mar Ornithol.* 2008;36:195-196.
6. Pandey D, Jangid A. Beak Abnormality in Common Myna (*Acridotheres tristis*) (Linnaeus 1766). *Bio Bull.* 2018;4:35-36.
7. Pomeroy DE. Birds with abnormal bills. *Br Birds.* 1962;55:48-72.
8. Samal A, Pandey S. Rare Documentation of Beak Deformity in Jungle Crow (*Corvus culminatus* Sykes, 1832) from Odisha, India. *Entomol Ornithol Herpetol Curr Res.* 2023;12:1-2. DOI: 10.35248/2161-0983.23.12.293.
9. Siva T, Muthusamy A, Neelananarayanan P. Occurrence of beak deformity in Indian Eagle Owl in Tamil Nadu, India. *Bird-o-soar*, In: *Zoo's Print.* 2021;36(4):17-18.
10. Olsen GH. Oral biology and beak disorders of birds. *Vet Clin North Am Exot Anim Pract.* 2003;6:505-521.
11. Van Hemert C, Handel CM. Beak deformities in North Western Crows: evidence of a multispecies epizootic. *Auk.* 2010;127:746-751.