

SHORT COMMUNICATION

A village heronry of Black-headed Ibis *Threskiornis melanocephalus* in Haryana: Threats and conservation needs

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ABSTRACT

Breeding colony of a near threatened bird, Black-headed Ibis, was discovered in Karnal, Haryana. This paper describes the species composition and characters of the colony. 425 nests were counted in the colony including the nests of Cattle Egret and Little Egret. Authors identified human encroachment of the village pond, waste dumping, eutrophication and road expansion as the primary threats to the colony. Community based conservation and monitoring programme is suggested for the protection this colony.

Keywords: Heronry, Black-headed Ibis, Cattle Egret, Breeding Colony, Village ponds.

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INTRODUCTION

Black-headed Ibis (*Threskiornis melanocephalus*) is a near threatened colonial bird with decreasing population trend. It is a widely distributed species in South East Asia [1]. This species nests in association with other species in heronries [2-5]. Breeding occurs during southwest monsoon taking advantage of food abundance of the wetlands [5, 6]. It breeds in variety of landscapes, including agricultural, rural and urban [3, 4]. Despite its near threatened IUCN status [7] limited studies have focused on its ecology and conservation [8,9,10,11,12].

Wetlands of Haryana have been studied well for their waterbird communities [13-17] but Black-headed Ibis has been reported only in few studies [6, 13]. Breeding records are even scarce from this state⁶. Lack of information on breeding colonies of Black-headed Ibis adds to the problem of conservation. This paper describes a recently discovered heronry in district Karnal, Haryana. Authors also identify potential threats and suggest conservation initiatives.

MATERIALS AND METHODS

In July 2016, authors came across a heronry in village Jhanjhari during a random road survey of water birds in district Karnal, Haryana. Heronry was studied for its species composition and features including landscape and nest substrate. Images and videos of birds were recorded with a digital camera. Google Earth [18] was used to estimate the distances and area of the relevant geographic features. Satellite images of the study area were downloaded from the Google Earth¹⁸ to record any changes in the land-use changes around the village pond. Interaction with the local people provided more information on the history of colony and their relation with the birds.

RESULTS AND DISCUSSION

Colony is located in village Jhanjhari, 16 Km west of Yamuna river (Fig 1). It is approximately 8 Km. away from the center of the Karnal city. Heronry is on the periphery of the village pond (Approximate area =

0.02 square Km). Few children were spotted fishing in the pond. Authors identified *Labeo sp.* as one of the fish species of the pond.

Pond is closely surrounded by the human settlements from three sides and the other, eastern side is adjacent to a national highway (see Fig-1). This national highway (NH-1) is an extremely busy road route connecting two major cities of India, Delhi and Chandigarh. This heronry was visible from the national highway (Fig 2a). Southern side of the pond also has many Mesquite (*Prosopis juliflora*), Neem (*Azadirachta indica*), Peepal (*Ficus religiosa*) and Mulberry (*Morus alba*) trees. Few trees were found surrounded with shallow water forming an ideal nesting spot. Mesquite and Mulberry trees were favored as nesting substrate by the birds. Enquiry from the local could not ascertain the age of the heronry. It could be due to the sporadic nature of the heronry.

Three colonial species, Cattle Egret (*Bubulcus ibis*); Black-headed Ibis; and Little Egret (*Egretta garzetta*), were found to be nesting in the heronry. Nests were built only on mesquite and mulberry trees. Total 425 nests were built on 29 trees. 22 trees had 358 nests of Cattle Egret and seven trees had 66 nests of Black-headed Ibis. There was only one nest of Little Egret in close proximity of a Cattle Egret nest. Few other water birds were also identified including Lesser whistling Duck (*Dendrocygna javanica*), Purple Swamphen (*Porphyrio porphyrio*), Common Moorhen (*Gallinula chloropus*), Red-wattled Lapwing (*Vanellus indicus*) and White-breasted Waterhen (*Amaurornis phoenicurus*).

Many broken (>50) shells were seen below the nesting substrate (Fig 2b). Some shell pieces were fresh and some were old. It appeared that some eggs fell off nests before hatching. Most of the nests had very vocal and nearly two week old juveniles. Black-headed Ibis juveniles were observed to be moving from one nest to another but could not fly. Two pairs were found to be attempting to mate, however it was not possible to identify if these pairs were late breeders or the pairs attempting a 2nd bout of nesting.

Heronry was exposed to continuous human exposure but birds seem to be habitual to human activity. Below the nesting substrate many bundles of husk were piled up (Fig 2c). Continuous human movement was observed under the nesting substrate. A cattle shelter was also constructed very close to the nesting substrate. Some cattle were tied to the nesting substrate as well, but these nesting substrates had fewer nests. Despite huge vocal nuisance and foul smell of fishes from the nests, local people did not cause any harm to the heronry. But authors could identify few threats to the village pond and the heronry; including waste dumping, eutrophication, pond encroachment, and highway expansion.

Comparison of satellite images from year 2006 and 2016 clearly shows that land use around the village pond has changed (Fig 3). A good number of trees have been lost to the highway expansion NH-1 has gone through major expansion increasing the width of the highway. Built area around the village pond has also increased since 2006 reducing pond area. A large hotel has come up south of the village. Household waste including plastic, disposables and organic waste were seen dumped around the pond. Polybags were seen floating in the pond. Nearly 30% surface of the pond water was covered with Water Hyacinth (*Eichhornia crassipes*), and blue green algae (BGA) indicating eutrophic condition of the pond.

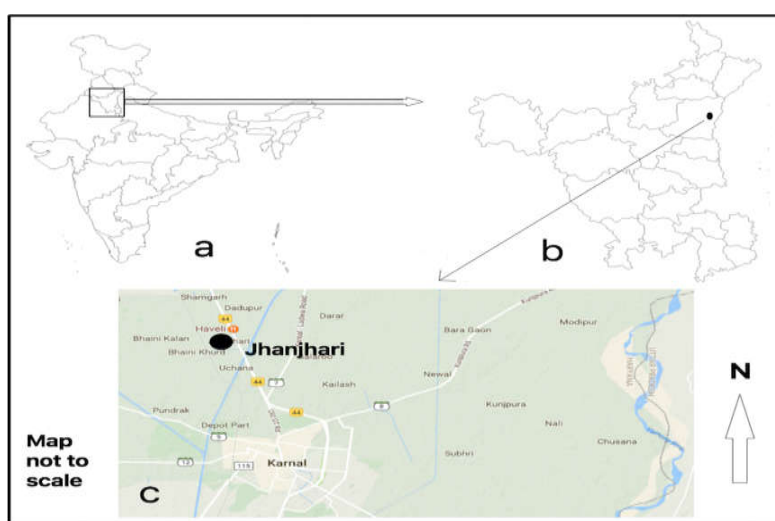


Figure 1: a) and b) Map showing location of Jhanjhari Heronry. c) Location of heronry in reference to Karnal district and Yamuna river.



Figure 2: a) View of Heronry from National Highway No.-1, b) Broken pieces of egg shells, c) Pile of husk below a nesting substrate.

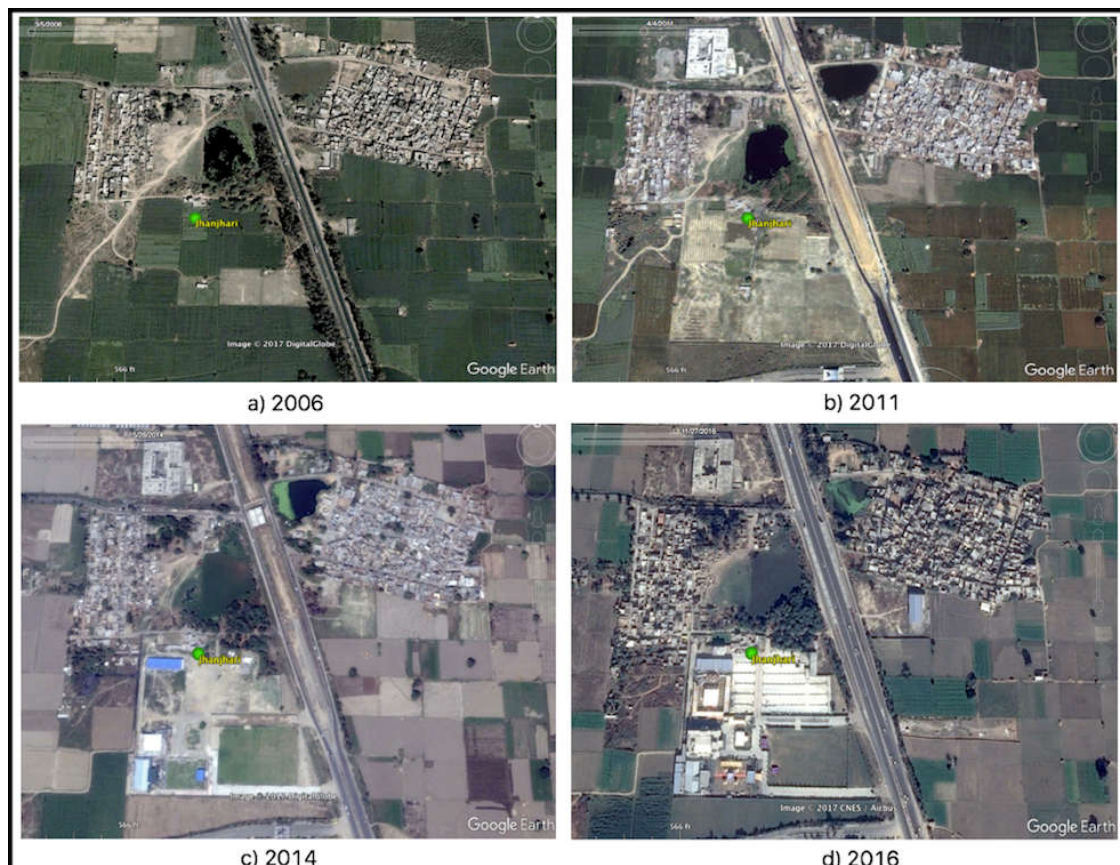


Figure 3: Satellite images of heronry showing changes in land use from 2006 to 2016.

CONCLUSION

Jhanjhari heronry is an important colony of Black-headed Ibis from Haryana as this the only known breeding colony reported, other than Sultanpur National Park, in the state. Black-headed Ibis is a near threatened bird and requires conservation of their breeding colonies. Other than the reported threats in

this study, change in the use of village ponds for economic benefits has also been recognized as the primary threats for the conservation of waterbird communities¹³. In few cases, despite the economic benefits, local communities have taken initiatives for the conservation showing positive changes^{19,20}.

Community awareness programme must be started to involve locals in conservation. Local authorities, to stop the further encroachment, should do a peripheral marking of the village pond. A long-term monitoring programme should be started. Signage explaining the identification and conservation of the colony will be a welcome move. Dumping of waste and sewage should be discouraged, as it may prove fatal for aquatic ecosystem and ultimately, water birds in recent future. Local panchayat should be consulted in developing a conservation programme.

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