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RESEARCH ARTICLE

REPORTING A NEW SITE RECORD OF THE BREEDING POPULATION OF LESSER ADJUTANT (*LEPTOPTILOS JAVANICUS*) FROM BANKURA DISTRICT, WEST BENGAL, INDIA

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ABSTRACT

The lesser adjutant stork (*Leptoptilos javanicus*) ranges throughout the South East Asian region. It has been evaluated by IUCN as of "globally vulnerable species". This species has been reported in a few states of India including a few districts of West Bengal. This paper deals with reporting a new site record of the species from Bankura District, West Bengal, India. The study was conducted during August 2012 to November 2013. In the study, birds were found to arrive at the site during last week of June every year and stay there for eight months and leave for some other location during last week of February. The total number of lesser adjutant population was found to be 33 birds in the year 2012 and 42 birds in 2013. Adults were found to feed on snails, fishes, frogs, crabs, locusts, rats, carrion and snakes. The paper concludes that the population of lesser adjutant storks in the site are not protected in any way and, therefore, special conservation efforts are needed by raising public awareness among local people.

INTRODUCTION

The lesser adjutant stork (*Leptoptilos javanicus*) ranges throughout India, Nepal, Myanmar, Bangladesh, Thailand, Laos, Cambodia, Southern China, Vietnam, peninsular Malaysia, Brunei and Indonesia (Bird Life International 2001). It belongs to the order Ciconiiformes, suborder Ciconiae, family Ciconiidae, and tribe Leptoptilini (giant storks) (Elliot *et al.,* 1994). The species have been evaluated by IUCN as of "globally vulnerable species" (IUCN, 2013). It has the global population probably numbers 6,500 - 8,000 individuals or possibly more with 4,300 - 5,300 mature individuals, out of which 2500 - 4000 are in Cambodia (Bird Life International 2011). In India colonies or individual nest of this bird have been found in Uttar Pradesh, Kerala, Tamil Nadu, Orissa, Bihar, West Bengal and Assam (Whistler, 1934). The previous records of this species in West Bengal are from Jalpaiguri district, Darjeeling , Jaldapara Wildlife Sanctuary, Torsa block, Puruliya (Manbhum), Durgarpur, (at the barrage), Sundarban National Park , Kahala (Maldah town). But through this note we report a new site record and provide an update on the geographic range and breeding population of lesser adjutant from Bankura District, West Bengal, India.

MATERIAL AND METHODS

Study area

This study was conducted, within the Lakshmanpur forest office campus (Figure 1) near the Shuri chitra village (23° 11′ 44.82′′ N latitudes and 86°51′09.58′′ E longitudes), of Bankura District in West Bengal, India.Two big water bodies and paddy fields are also in the close proximity of the study area. The vegetation consists primarily of Simul (*Bombax ceiba*), Sal (*Shorea robusta*), Piasal (*Pterocarpus marsupium*), Mahua (*Bassia latifolia*), Eucalyptus (*Eucalyptus* sp.), Segun (*Tectona grandis*), Arjun (*Terminalia arjuna*) Sonajhuri (*Acacia auriculiformis*), Kend (*Diospyros melanoxylon*), Haritaki (*Terminalia chebula*), Kalajam (*Eugenia jambolana*) Kusum (*Schleichera trijuga*), Bel (*Aegle marmelos*), Palas (*Butea frondosa*), Asan (*Terminalia tomentosa*) and Setisal (*Dalbergia latifolia*) trees.

Data collection and analysis

We visited the study site on August 2012, after getting information from a local bird watcher about the occurrence of lesser adjutant stork in the study site .The entire study was done by rigorous field survey. For our documentation we visited the site several times during August 2012 to November 2013. During our study we documented the number of lesser adjutant nests in the colony, number of stork population, breeding success i.e. the annual inclusion of young nestlings into the stork population and feeding behavior. The total number of individual birds were counted in the middle of October every year because during this time most of the eggs were hatched and chicks were grown up. Counting of the birds were done at dusk when all the birds return to their nests, as the number may vary due to foraging activities in other times of the day. Other relevant data were collected by interviewing the local people as well as forest officials of the Lakshmanpur forest office. Questionnaire surveys made to local people near the nesting site were used to assess the threats to the lesser

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adjutant stork's ecology and survival. Care was taken not to disturb the birds. A nest was categorized as active or apparently occupied if young were seen in the nest or at least one adult was on the nest (Bibby *et al.,* 1992). All the observations were done using Olympus DPS Binocular 8—16 X 40 zoom and documentation was done using a digital camera (Model Nikon Coolpix 110 & Sony DSC- H70).

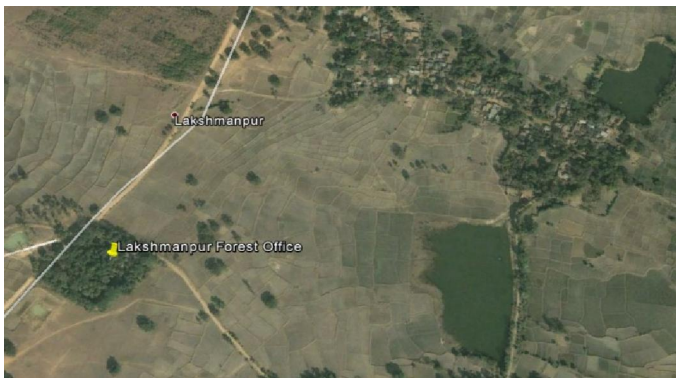

Figure 1. Satellite image of Lakshmanpur forest Office area of Bankura District, West Bengal, India

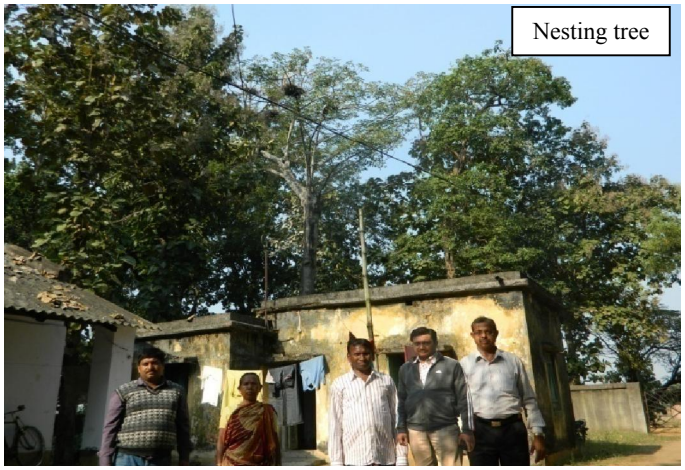

Figure 2. In Lakshmanpur forest office area, with forest Officials

RESULTS

Breeding population

The nesting season of these birds generally extends from October to March. But in our study we have found that the birds arrived at the site during last week of June every year and stay there for eight months and leave for some other location during last week of February. They were found to breed from July to October every year. All the nests were prepared in two Simul tree (*Bombax ceiba*) in the study area. The trees are about 35- 40 meter tall. The diameter of the trunk at 1 meter from the ground is about 60 cm. Most of the nests were constructed in the forks of strong branches of the tree and very close to each other. The nests were like big, flat platforms made of sticks and twigs carried to the nest by both the adults. One tree with three active nests and other with five nests was found in the year 2012 whereas the number of nest is four and six respectively in the year 2013. Each nests having one pair of adults. Generally the clutch size of each nest is 2 chicks or eggs but sometimes it may be three or more as observed by us. In 2012, we have found 16 adults and 17 chicks and in 2013, 20 adults and 22 chicks were found.

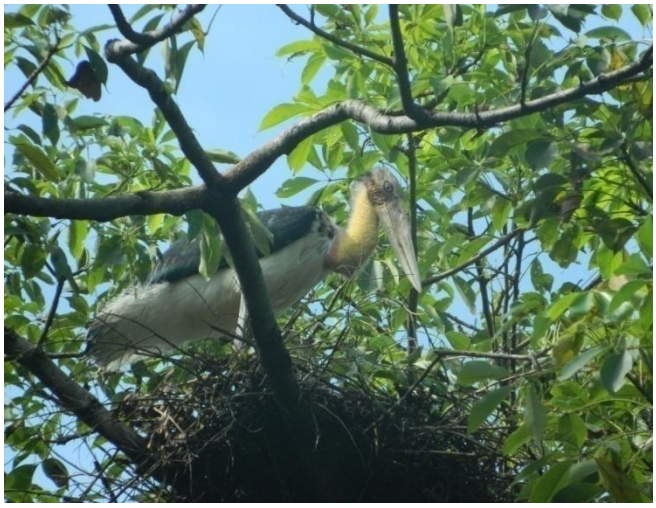

Figure 3. Adult Lesser Adjutant stork in a nest

Figure 4. Lesser Adjutant breeding population in nesting tree

So the total number of lesser adjutant stork population is 33 birds in the year 2012 and 42 birds in 2013.

Food habit

The main foraging areas of the adjutants are the junction of the river and canal, seasonally wet agricultural lands and shallow ponds. Adults were found to feed on snails like *pila* sp, fishes like *Channa* sp, *Mastacembelus* sp as well as other carps, frogs, crabs, locusts, rats, and carrion and the non-venomous water snake like *Natrix* sp. Similar observations was made by Elliot, 1994.

DISCUSSION

The lesser adjutant stork is now listed as vulnerable because of its small global population which is also showing quick declining trends throughout its range. This may be due to several factors including the felling of nesting trees, drainage and conversion of wetland feeding habitats, indiscriminate use

of pesticides, collection of eggs and chicks, and conversion of coastal mangroves (Gyawali, 2004).The loss of nest due to the felling of nest building trees is a major threat, particularly in this area. In addition, drainage and conversion of wetland feeding areas, agricultural intensification, increased use of pesticide, collection of eggs and chicks and the hunting of adults are major threats. Due to lack of other Simul tree, competition for nest formation has also been observed in this area. It has also been observed that due to low rainfall in the area there is a change in agricultural practice i.e. switching to cash crops such as vegetables and fruit from traditionally grown crops such as paddy and wheat. It is adversely affecting lesser adjutant stork population due to lack of food which is available in the paddy fields. The availability of food and reproductive success of stork population is mostly dependent on rainfall (Dhua *et al.,* 2013). Our study reveals that the population of lesser adjutant storks in Shurichitra village are not protected in any way and, therefore, special conservation efforts are needed. Although efforts are underway to raise public awareness, mainly by us there is still widespread lack of knowledge about the value of these birds. Many local people do not know that the lesser adjutant stork is globally threatened.

Conclusion

The overall result and discussion reveal that there is an interesting relationship between selection of plant by lesser adjutant. The lesser adjutants prefer tall and strong trees with forked branches. They also prefer selection of nesting plant very close to human habitation which will give them better chance to avoid their predators. Therefore, planning should be oriented both at local and administrative level to protect their habitat and secure their food availability so that these barriers cannot affect nesting and breeding of those species. The forest department needs to take a greater interest in conserving this species along with the help of local people. High level of awareness programme is required to be generated among the rural people and students about the status of these birds. Plantation of Simul trees close to their nesting sites needs to be encouraged.

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