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Nesting Behaviour of Painted storks

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ABSTRACT

A large wading bird in the Ciconiidae family, the Painted stork is classified as Near Threatened. A study was conducted from the Zoo in the Lucknow District of Uttar Pradesh, India. The only seasonal short-distance movements that painted storks exhibit are those made in pursuit of food and breeding grounds. These birds are migratory natives to the area. In many bird species, choosing the nest site is thought to be crucial to successful reproduction. In order to suggest management of the species for conservation, the study set out to determine the factors influencing the choice of nesting habitat and nest tree, as well as time management during nest building. In this species, little research has been done on the significance of choosing a nest site and nest building behavior. In trees or places close to bodies of water, painted storks prepare their nest. The Ashoka nest trees (*Saracal longifolia*) were the ones chosen. The availability of food was the primary factor influencing the choice of nest site. The female and male took part in cleaning the nest. The materials used to build the nest were grasses (*Sacharum* and *Jussiaea*), some soft green leaves (twigs of *Eucalyptus*), and pieces of old tree branches. These branches contributed to the fortification. The nest was made softer by the grasses and leaves. *Eucalyptus* leaves have the ability to repel insects.

Key words: Nesting Behavior, Nest sanitation, Painted storks, Zoos

INTRODUCTION -

The IUCN has given the Painted stork, a large wading bird in the Ciconiidae family, the status of Near Threatened.

The majority of it is white, with black feathers for flying and black bars on the wings and breast. On the lower back, there is a pinkish wash. Their name comes from their characteristic pink tertiary feathers. With a bare reddish face and pink legs, the bill is long, yellow, and slightly arched (Pennant, 1769).

In many bird species, the choice of nest site is thought to be a significant factor in determining reproductive success. The choice of nest site determines the success of a species' reproduction. The British Ornithologist proposed that improving predator avoidance and improving more effective use of food resources are the main selective factors supporting colonial nesting in birds (David Lack, 1968).

There has been little research done on the significance of nest site selection and nest building behavior in this species. They only exhibit brief, seasonal migrations in pursuit of food and breeding habitats. The nests of

Painted storks are typically located in trees or close to bodies of water. The Ashoka trees (*Saracal longifolia*) were the chosen nesting trees.

The availability of food was the primary factor influencing the choice of nest site. Both the male and the female engaged in nest-cleaning practices. Its breeding season is quite long, lasting from the middle of December to January.

The materials used to build the nest were pieces of soft green, ancient tree branches. The grasses and leaves assisted in softening the nest, while these branches strengthened it. *Eucalyptus* leaves possess insect-repelling properties.

In order to suggest management of the species for conservation, the study set out to understand the factors influencing nesting habitat, nest tree, and nest building behavior.

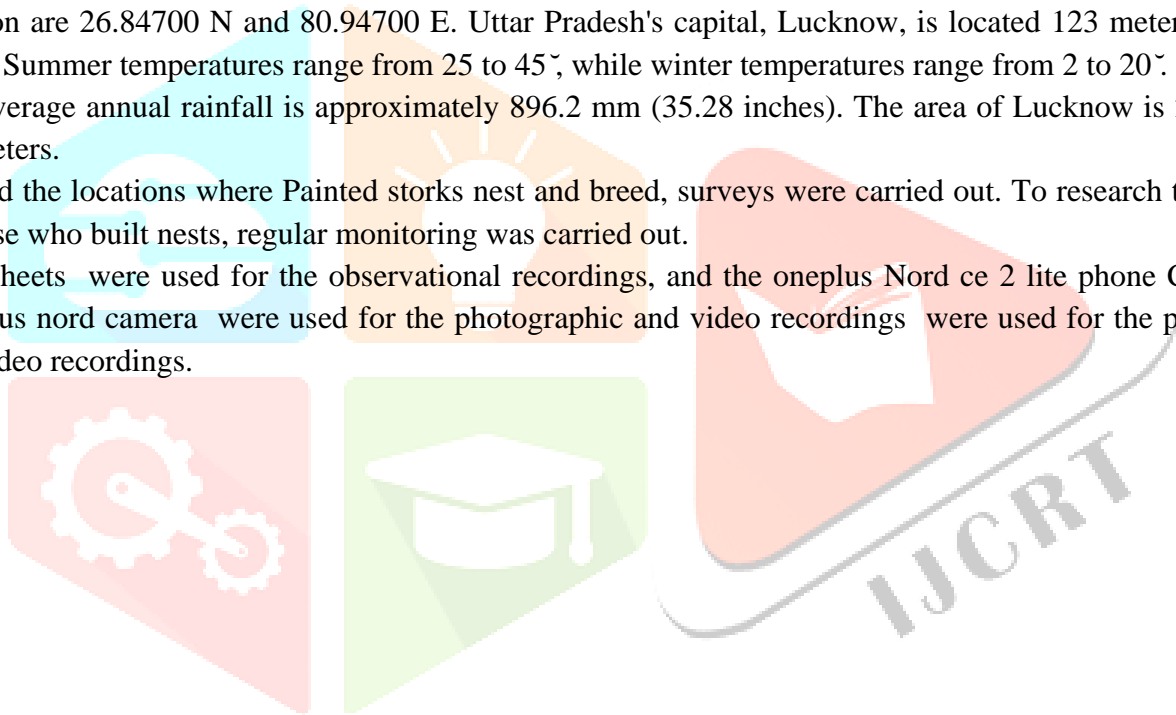
MATERIALS AND METHODS

In Lucknow districts (near Lucknow Zoo) in Uttar Pradesh, India, the Painted Stork's (*Mycteria leucocephala*) nest-building behavior was observed from Dec 2023 to May 2024. The coordinates of Lucknow's geographic location are 26.84700 N and 80.94700 E. Uttar Pradesh's capital, Lucknow, is located 123 meters above sea level. Summer temperatures range from 25 to 45°C, while winter temperatures range from 2 to 20°C.

The average annual rainfall is approximately 896.2 mm (35.28 inches). The area of Lucknow is 2528 square kilometers.

To find the locations where Painted storks nest and breed, surveys were carried out. To research the behavior of those who built nests, regular monitoring was carried out.

Data sheets were used for the observational recordings, and the OnePlus Nord CE 2 Lite phone Camera, and one plus nord camera were used for the photographic and video recordings were used for the photographic and video recordings.



Observation

Table1

Table 1: Time Management and Time Spent on Collecting Materials for Nest Building by Painted Stork

Date of Observation	Attempt No.	Time Spent on Complete One Attempt	No. of times leaf/stick plucked and fell down in one attempt
12 December 2023	1	11:30 min - 11:11 min, 27 sec (1 min, 27 sec)	1 time
	2	11:13 min, 43 sec - 11:16 min, 11 sec (3 min, 54 sec)	2 times
	3	11:17 min, 02 sec - 11:18 min, 57 sec (1 min, 55 sec)	0 time
	4	11:19 min, 26 sec - 11:22 min (2 min, 24 sec)	3 times
	5	11:23 min, 02 sec - 11:28 min, 07 sec (5 min, 05 sec)	4 times
	6	11:33 min, 43 sec - 11:37 min, 19 sec (4 min, 19 sec)	5 times
	24 January 2024	1	4:21 min, 03 sec - 4:24 min, 17 sec (3 min, 14 sec)
2		4:26 min, 22 sec - 4:31 min, 05 sec (4 min, 12 sec)	2 times
3		4:33 min, 01 sec - 4:46 min, 13 sec (14 min, 39 sec)	11 time
4		4:47 min - 4:48 min, 38 sec (1 min, 39 sec)	1 time
5		4:50 min - 4:48 min, 39 sec (4 min, 56 sec)	3 times
6		4:57 min, 07 sec - 4:55 min, 03 sec (2 min, 25 sec)	1 time
7		5:00 min, 43 sec - 5:04 min, 02 sec (3 min, 45 sec)	4 times
8		5:07 min, 11 sec - 5:10 min, 02 sec (2 min, 42 sec)	2 times
9		5:11 min, 47 sec - 5:14 min, 39 sec (3 min, 26 sec)	3 times

Result

The activities of the painted stork were observed and documented on 12 Dec 2023 .After taking off, a painted stork perched on a eucalyptus tree. after making two unsuccessful attempts to remove the leafy branches, the bird finally selected the right one and carried it to the nest on its third attempt. This one task took 3 minutes and 11 seconds in total.

Observation took place on Dec 12, 2023, for 50 minutes, during which the painted stork attempted seven times to carry the nesting materials.

Additionally, a 50 minute observation was conducted in Jan 2024 during which time a painted stork was observed. Building of nests by breeding pairs of nesting supplies.

The painted stork needed a maximum of 10 minutes and 12 seconds to finish one attempt at carrying nest materials on this particular day. Table 1 displays time management and the amount of time the painted stork spent gathering materials for the nest.



NESTING BEHAVIOR OF PAINTED STORKS IN ZOO, LUCKNOW DISTRICT

DISCUSSION

Painted storks are colonial breeders. Most colonies are located on trees growing on islands, Colonies on large trees in villages and agricultural fields are also known (Urfi, 1993a).

The breeding season begins in mid-July and completes by March. Painted Storks visit Sul-tanpur to breed between August and January and are typically absent in other months (Urfi, 2007).

The breeding colony was near human settlements. The nesting trees were selected irrespective of noise pollution and other anthropogenic disturbances. Painted Storks are known to have a strong loyalty to their breeding sites and preferred trees which are inside the Village where there is human habitation (ChinnaPujari Ramesh and Gundala Harold Philip, 2015).

The nest trees selected were Ashoka (*Saracalongoifolia*). Most colonies are located on trees at a height but nesting substrates vary considerably, from low level Acacia and Prosopis trees to large Ficus and Tamarindus trees. One of the lowest substrates recorded is Euphorbia stands at Man Marodi, an offshore island in the Gulf of Kutch (Urfi, 2003a).

A Study revealed that trees utilized for nesting are *Ficus religiosa*, *Tamarindus indica*, *Azadirachta indica*, *Ziziphus jujuba*, *Prosopis juliflora*, *Leucaena leucocephala*, *Acacia negeve*, *Tectona grandis* (ChinnaPujari Ramesh and Gundala Harold Philip, 2015). Both the parents are involved in nest construction activities. The nests are large platforms of sticks lined with vegetation, mainly *Eucalyptus*.

The nests were re-paired regularly with fresh twigs of *Eucalyptus*. The leaves of *Eucalyptus* have insect repellent properties. The nests are always guarded by one partner once the site is selected. The green foliage of the nesting trees was destroyed by the fecal matter and turned white.

All the trees recovered and turned green once the nests were empty. Nest construction is a tedious work in Painted stork and birds spend ample time to pick, pluck and carry the nesting material for nest construction.

Painted storks spent an average 1 minute 17 sec to 7 minutes 52 sec to choose, pluck and carry a leafy stick to the nesting sites for nest building.

CONCLUSION

The purpose of the continuous observation is to carry out further investigation. The results of this study could guide the development of precise conservation plans. The trees that were chosen for nesting should be protected, according to this study. This will increase the Painted Stork's breeding population.

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