

Study of the Seasonal Migration of Painted Storks at Anerdam Wildlife Sanctuary, Shirpur, Maharashtra, India

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Abstract:

The Painted Stork (*Mycteria leucocephala*) is a colonial waterbird whose seasonal occurrence and breeding are closely associated with the availability of wetlands, food resources, and favourable environmental conditions. The present study was conducted at Aner Dam Wildlife Sanctuary, Shirpur, Maharashtra, during October and November 2024 to document the seasonal occurrence and breeding status of Painted Storks. Systematic field surveys were carried out using direct counts, binocular observations, and photographic documentation. A maximum of 152 Painted Storks was recorded in October, indicating peak seasonal abundance. By the end of November, the number of adults had declined to 47, while 105 individuals remained associated with chicks, and active nests were recorded, indicating successful breeding. The findings demonstrate that Aner Dam Wildlife Sanctuary provides suitable nesting and foraging habitat for Painted Storks and serves as an important breeding site. This study provides baseline information for future monitoring and supports the conservation and management of wetland habitats essential for sustaining Painted Stork populations.

Key words: Painted Stork (*Mycteria leucocephala*), Migration, Aner Dam, Shirpur.

Introduction

Migration is an important ecological adaptation that enables birds to exploit seasonally available resources and suitable climatic conditions. Among water birds, the Painted Stork (*Mycteria leucocephala*) is a prominent large wading species belonging to the family Ciconiidae. It is widely distributed across the Indian subcontinent and is commonly associated with wetlands, shallow water bodies, marshes, and irrigated agricultural landscapes. The species exhibits seasonal movements influenced by variations in water availability, food resources, breeding requirements, and environmental conditions. The Painted Stork is known for its colonial nesting behavior and its strong dependence on wetland ecosystems for feeding and breeding activities. Seasonal migration or local movements of this species are often linked to monsoon patterns, post-monsoon water availability, and habitat suitability. In India, wetlands play a crucial role in supporting both resident and migratory populations of Painted Storks, particularly during the winter season when many birds congregate in favorable habitats.

The Aner Dam Wildlife Sanctuary is located in the Shirpur Taluka of Dhule district, India. It lies on the southwestern slopes of the Satpura hill ranges and forms part of the catchment area of the Aner River, particularly in regions above the high flood level surrounding the Aner Dam. The Aner Dam is an earthfill dam constructed across the Aner River in Shirpur Taluka of Dhule district in the state of Maharashtra, India. The dam is situated approximately 8 km from Hisale village, which lies near the Shirpur–Chopda state highway within Shirpur Tehsil.

This sanctuary has common boundary with Yawal Wildlife Sanctuary in Jalgaon district and forest area of Khargone district in Madhyapradesh. Anerdam Wildlife Sanctuary, located in Shirpur, Maharashtra, represents an important wetland ecosystem that supports a variety of resident and migratory bird species. The availability of water reservoirs, surrounding agricultural fields, and suitable roosting sites makes it a favorable habitat for Painted Storks during winter seasons. Despite its ecological importance, limited detailed studies have been conducted on the seasonal migration patterns and habitat use of Painted Storks in this region. Therefore, the present study aims to investigate the seasonal migration patterns of Painted Storks at Anerdam Wildlife Sanctuary, with specific focus on their temporal occurrence, population dynamics, habitat preference, and behavioral patterns. The study also seeks to highlight the ecological significance of the sanctuary and contribute to the conservation and management of wetland-dependent avian species in northwestern Maharashtra.

Studies on the nesting ecology, reproductive patterns, and breeding biology of the painted stork have been conducted in various parts of India. Desai (1971) investigated the feeding ecology and nesting behavior of the painted stork (*Ibis leucocephala*). Subsequently, Desai et al. (1977) examined its reproductive patterns, while Bhat et al. (1990) reported on a breeding colony of the species. Devkar et al. (2006) documented the captive breeding of painted storks and Eurasian spoonbills, and Urfi et al. (2007) studied the nesting ecology of painted storks in detail. Despite these contributions, information on the nesting behavior of painted storks at Takali (Padmawati) Lake, Pandharpur, remains limited.





Materials and Methods.

The study area selected for counting and observing the Painted Stork was Aner dam wildlife sanctuary in Shirpur in Dhule district. For nest analysis, we employed direct observation methods along with surveying from various nesting trees to study. The site was visited weekly from October to November to monitor the birds. We followed the guidelines related to the study of birds without disturbing birds. The observation was carried out using Olympus binocular and the number aspects were recorded using a tripod and NIKON D500 camera at morning times of the day, capturing activities like nest building, courtship, mating, egg incubation, feeding, and parental care

Painted stork there were roughly 152 painted storks. October was the peak season with the site hosting 152 painted storks of were recorded .The count of painted storks was reduced to 47 by the end of November. There remained 105 with chicks. There were still 15 on end of November. We were able to witness 152 painted storks during October and November month. The presence of birds around the waterbody makes it an ideal site for Painted Storks and other avian species .

Result and Discussion

The arrival of painted storks at the study site was recorded during October and November 2024. Nest construction activity was first observed in the last week of November. For nest building, the birds collected twigs, sticks, and small branches from the trees surrounding the lake. All nests were constructed on tree branches and were large, with a shallow central depression lined internally with leaves and dry straw. Both male and female painted storks actively participated in nest construction, egg incubation, and parental care. Similar observation were recorded by Rekha Bhawnani et al. reported in breeding biology of painted stork (*Mycteria leucocephala*), in an urban water body rarely reported in Bhilwara district of Rajasthan. The species was observed to visit the Aner Dam Wildlife Sanctuary primarily during the nesting season, indicating that the area serves as an important breeding habitat. A total of approximately 152 painted storks were recorded at the study site during October and November 2024, with October representing the peak period of abundance. The highest count of 152 individuals was observed during octber month. By the end of November, the number of adult painted storks had declined to 47, while 105 individuals remained at the nesting site attending chicks. In addition, 15 nests with active breeding pairs were still present at the end of November.

The consistent presence of painted storks around the waterbody indicates that the site provides suitable habitat conditions for breeding and foraging. The availability of nesting sites, food resources, and aquatic habitat also supports a diverse assemblage of other avian species, highlighting the ecological importance of the study area. Similar observations on the seasonal breeding and nesting behavior of painted storks have been reported from Keoladeo Ghana National Park, Bharatpur (Ali and Vijayan, 1983) and the Delhi Zoo (Urfi, 1997). Desai et al. (1977) reported an incubation period of approximately 32 days, which is consistent with the breeding behavior observed in the present study. The selection of nesting sites by painted storks appears to depend on several ecological factors, including the availability of secure nesting locations, suitable nesting materials, and an adequate food supply for adults and nestlings. The Aner Dam Wildlife Sanctuary provides all these essential conditions, making it a favorable breeding ground. Consequently, painted storks migrate to this sanctuary every year during the breeding season to nest and successfully rear their young.

Conclusion

Based on the findings of the present study, it can be concluded that the Aner Dam Wildlife Sanctuary provides a suitable and significant breeding habitat for threatened painted stork bird species. The availability of secure nesting sites, adequate nesting materials, and sufficient food resources makes the sanctuary favorable for successful breeding and nesting. According to Shilpa Kumar and Salunkhe, same observations were recorded in Takali lake at Pandharpur.

The conservation of this ecologically important species requires increased awareness among local communities regarding its ecological significance and conservation status. Appropriate management measures should be implemented to protect nesting colonies from anthropogenic disturbances and habitat degradation. Furthermore, regular monitoring of the breeding colonies and nesting sites is essential for understanding the breeding biology, nesting ecology, and population trends of painted storks. Such long-term studies will provide valuable scientific information for developing effective conservation and management strategies for the species and its breeding habitat.

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