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Breeding record of black-winged stilt *Himantopus himantopus*, Small Pratincole *Glareola lacteal* and Black-breasted Weaver *Ploceus benghalensis* in anthropogenic wetland (ash dyke) of NTPC thermal power plant

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Abstract

Chhattisgarh boasts rich biodiversity, supporting a large diversity of avifauna. However, escalating habitat destruction and anthropogenic disturbances are driving birds to adopt novel breeding sites for nesting. This study documents ground breaking discoveries of nesting sites for the Black-winged Stilt (Himantopus himantopus), Small Pratincole (Glareola lactea) and Black-breasted Weaver (Ploceus benghalensis) in an ash dyke at the NTPC Sipat thermal power plant in Bilaspur, Chhattisgarh. These findings highlight the adaptive resilience of wetland-associated waders amid environmental pressures and underscore the unintended ecological role of industrial by-products in avian conservation.

Keywords: *Nesting, Black Winged Stilt, Small Pratincole, Black breasted Weaver, Ash Dyke, Chhattisgarh.*

Introduction

Coal-based thermal power plants remain a primary energy source in our country and are expected to continue for decades. The massive scale of production creates significant disposal challenges for its by-product(fly-ash). Ash ponds adjacent to production sites serve as the main disposal method. Ash ponds are typically built in stages. The initial stage involves barricading the pond with an earthen embankment. As disposal needs grow over time, the ash dykes are raised in multiple stages to increase their height [7]. The increased height of dyke makes pond elevated hence making it isolated from surrounding environment and minimises external disturbances. This ash and water host a wetland ecosystem for native and migratory birds.

black-winged stilt (Himantopus himantopus) has slender appearance with long pinkish legs and fine straight bill. Colouration of upper wings is dark black contrast with white lower body. Both sexes can show variable amount of black or grey colour on crown and hind neck [8]. This bird is a large wader which features striking contrasting plumage and inhabits wetlands across tropical, steppe, desert, and semi-desert landscapes of Eurasia [11]. This bird occurrence is common across Africa, Australia, Eurasia, and Southeast Asia.

They are known to breed in both marine habitats as well as freshwater habitats. Suitable site is selected by breeding pair close to their feeding grounds. They typically build nests amid low vegetation or around isolated plants and occasionally in open areas of salt marshes, sandstone spits, and islands. These birds form mixed-species colonies and share habitats and nesting grounds with other Charadriiformes. Mud is essential for constructing nests near the water's edge. Males generally construct the nests, while both sexes provide parental care for the young [6]. Previously its nesting was documented in Mahanadi basin near Dhamtari in 2021 which is aprox 150 km south from this location.[4].



Img. Flock of Black Winged Stilt Img. small pratincole

Small Pratincole (Glareola lactea), or Little Pratincole, is a bird species that resides year-round or migrates across the Indian subcontinent, Sri Lanka, and Southeast Asia.

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It is a compact wader in the pratincole family Glareolidae, order Charadriiformes, favours riverbeds, sandbanks, and wetlands for habitat. It hunts insects while flying. While it breeds in certain Indian regions [5]. In India it is a wide spread resident bird with small size, grey coloured and square-ended tail. Breeding adults have black lore's and buff wash to throat whereas non breeding lacks these features [8]. In Chhattisgarh previous breeding records from the River Mahanadi at Dhamni-Rohasi village (Balodabazar district), located 40 km upstream of Kutela, were documented in 2018 on a sandy riverbed [2].



Img. Black Breasted Weaver (breeding male).
Img. Black Winged Stilt (mating)

Black-breasted Weaver (Ploceus benghalensis), a resident species, shows distinct plumage variations. Breeding males feature a striking yellow crown and solid black breast, with the throat either black or white. In non-breeding males, females, and juveniles, the breast band appears patchy or limited to side patches, accompanied by faint, diffuse streaking on the lower breast and flanks. Its habitat is generally seasonally flooded grasslands and reedy marshes [8]. Breeding occurs from June to September. Nests form in small clusters of two or three within loosely scattered colonies amid thick grass strands along pond and canal edges. Each nest takes a retort shape, with a short entrance tube fastened directly to reeds. Earlier its breeding has been reported in Raipur and Rajnandgaon of Chhattisgarh in 2024 which are 120 kms and 150 kms south of this location [3].

Observation

In a routine bird watching trail on 29th of march 2025 team encountered a large flock of black winged stilt (approx. 300 birds) along with small pratincole (Glareola lactea) (approx. 100 birds), whiskered tern (Chlidonias hybrida) (8 birds), The oriental pratincole (Glareola maldivarum)(3 birds) and a sole pied avocet (*Recurvirostra avosetta*) in ash dyke of NTPC Sipat (22° 5.64' N, 82° 17.34' E) Bilaspur, Chhattisgarh.

Black-winged Stilt Nesting Observations

Upon close inspection, the team encountered mass nesting of black-winged stilts (Himantopus himantopus) near the shore area. A total of 19 nests were recorded in approachable zones, with additional nests observed on surrounding islands inaccessible due to water barriers and thus uncounted. These nests contained 3–4 eggs, typically laid around yellow-fruit nightshade plants (Solanum virginianum) or torn sack bags.

Distinguished distraction behaviour was also noted, with flocks flying overhead continuously emitting loud alarm calls while individual birds purposefully descended to feign nest-sitting, only to fly away upon our approach and lead us in the opposite direction from their actual nest. The eggs had dark brown or blackish spots with average size of 40 mm [8][1].



Img. Black winged Stilts nest

Small Pratincole Nesting Observations

Nearby, small pratincoles (Glareola lactea) displayed distinct defensive behaviour differing from the stilts: while some birds flew away upon close approach, others stood their ground, flapping their wings on the ground to intimidate the observers. An additional 15 nests, smaller in size than those of black-winged stilts, were discovered, each containing clusters of 2–3 smaller and light-coloured eggs than black winged stilts, measuring approximately 20 mm each with brownish spots.



Img. Small Pratincole nest



Img. Small Pratincole nest

Black breasted weaver observations

First bird to be sighted was on 21st December 2021 in NTPC Sipat Bilaspur. Large flock of about 350-400 birds was regularly recorded year-round. On 17th July 2025 a round nest was observed with a pair of black breasted weavers nearby in reeds of cattail plant (*primarily T. latifolia and T. angustifolia*). This was the second documented nesting of the state earlier as mentioned photographic evidence of bird holding nesting material was recorded in Abhanpur, Raipur (2024) which is about 140 kms south of current location [3] but here in Bilaspur clear evidence of bird with nnest was recorded. Male bird had yellow crown and dark black coloured breast which resembles breeding plumage.



Img. Black Breasted Weaver nest

Conclusion

Monitoring and Mass Breeding Confirmation: The NTPC ash dyke site in Bilaspur, Chhattisgarh, was subjected to regular inspections throughout 2025, documenting the first confirmed instance of sympatric mass breeding by Black-Winged Stilts, Small Pratincoles and Black Breasted Weavers in this anthropogenic wetland. On April 12—approximately 14 days after initial egg counts—small black-winged stilt chicks were recorded foraging independently away from nests, evidencing successful hatching and early chick mobility in this novel habitat. Also, all three species were recorded year-round which confirms birds to be resident here and have adapted themselves to new environment which is ash dyke.



Img. Black winged Stilts chick



Img. Black winged Stilts nest

Observation of nesting and breeding behaviour of the avifauna, comparing them with key references (Compact handbook of the birds of India and Pakistan 1987, Handbook on Indian wetland birds and their conservation. Director, Zoological Survey of India 2005, Birds of the Indian subcontinent (2nd ed.)2011 [1] [10] [8] to confirm and validate our findings on the species involved.



Img. Black winged Stilt incubating nest



Img. Small Pratincole nest



Img. Black winged Stilt nest



Img. Black winged Stilt nest and chick

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