

Courtship rituals of Black-headed Ibis

Black-headed Ibis (BHI) *Threskiornis melanocephalus* belongs to the family Threskiornithidae and is categorized as 'Least Concern' under the IUCN Red List (BirdLife International 2024). It is a large white water bird with a prominent bare black head and neck, a long down-curved black bill and its tail bears grey ornamental feathers. During the breeding season, bare regions under the wings turn into brighter red colour (Ali & Ripley 1987; Hancock et al. 1992). Sexual dimorphism is not seen due to the presence of similar plumage, so most sex identification occurs during courtship behaviour.

The species remains very active between July and August as mostly the wading birds. We observed the courtship behaviour during the breeding season at Bareli pond, Hurda (25.5393 N & 74.4109 E) of Bhilwara, Rajasthan, India. A focal method (Bibbly et al. 1992) was used for the observation of courtship behaviour without disturbing them, timing was measured using a stopwatch and followed all the guidelines for the study of the nesting biology of birds (Barve et al. 2020).

We see the sequence of courtship behaviours in BHI such as:

1. Male aggressiveness and female return: At or near the possible nest sites, several males and females aggregate in small groups, and when they get close, birds of the same sex behave aggressively toward one another. The group is wandering on or around the vicinity when the male approaches and gives up wings. The male

then viciously attacks the female, pushing her away with beak thrusts to the head and neck. The female wings stay far away from or near the male. In a small group, this sequence is repeated multiple times.

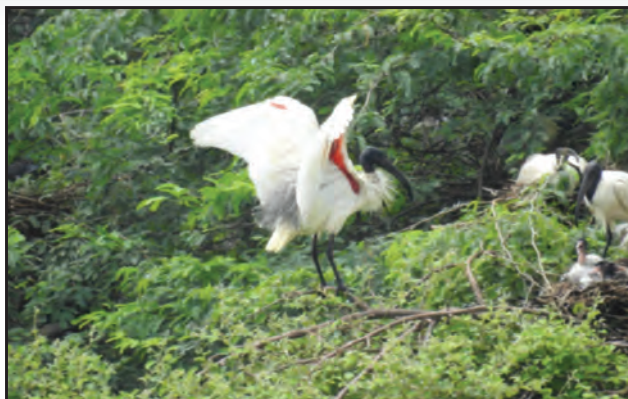
2. Pairing: Display accessories like black plumes and red-winged patches are at the peak. Females attempt to land near the male, assuming a submissive posture, but the male first repulses them.

3. Bowing display: A female bows her neck and beaks forward, away from her body, and rhythmically descends below the horizontal when she settles close to an unpaired male. The wings continue to be partially open. A female usually does this as she approaches an aggressive male during mate selection and tries to enter his display area.

4. Pairing: When a female accepts him, they both bow, bill, and preen.

5. Site selection: The male selects a suitable nest site and uses it as a platform for aggressively defending the display site while performing demonstrations of bowing and stretching.

6. Bill shaking: In pairs, one individual takes the other partner's bill and gives it a hard shake whether seated or standing. The majority of the time, this display is seen after pairing, either when sitting at the nest site or typically before copulation.



Male displays his red-winged patches.



Bowing display.



Pairing.



Selection of nesting site.



Bill shaking.



Shoulder touching.



Spreading wings.



Mounting.



Cloacal kissing.

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7. Shoulder touching: After the selection of the nest site, mating takes place during nest building. The male approaches the female tentatively and touches it on his shoulder while the female places twigs offered by the male who then places his head over her neck and presses her into a submissive position.

8. Mounting: The male balances himself by spreading both wings prominently displaying a red-winged patch. The male bird balances on the female's back. Now the male leaps onto her back holds her tightly and grabs her bill with his own in a bill lock position.

9. Copulation clattering: After attaining the desired position, the female moves her tail, latterly to expose her cloaca. The male presses his cloaca on his counterpart to achieve a 'cloacal kiss' which lasts for 05 to 15 seconds.

The cloacal kiss is performed four to six times. After one copulation, the male descends from the back. After a few seconds, the male flies away to collect more nesting material and the female starts preening herself. The whole copulatory process takes 3–5 minutes. The male bird takes more time to balance on the female's back than for making the cloacal contact. Courtship is the behaviour by which different species select their partners for reproduction.

Usually, the male starts the courtship, and the female chooses to either mate or reject the male based on his 'performance'. Courtship behaviour

can help birds distinguish between species to help them choose compatible mates and it can also reduce the aggression normally displayed when defending the nest. Courtship rituals are also used to show strength and health and their ability to produce offspring.

References

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Citation: Sharma, A.K. & A.K. Tripathi (2026). Courtship rituals of Black-headed Ibis. *Bird-o-soar* #296, In: *Zoo's Print* 41(8): 82–84.