

Feathered success: Shikra breeding in Delhi's Aravalli Biodiversity Park, a restored habitat

The Aravalli Biodiversity Park (77.1311 E to 77.1803 E & 28.5742 N to 28.5736 N) in Delhi is a remarkable example of successful ecological restoration and conservation efforts. Its expansive area of approximately 280.45 ha. was once a barren wasteland ravaged by heavy mining and unchecked human activities (Arafat et al. 2015). However, the park has undergone a remarkable transformation into a flourishing ecosystem, encompassing a diverse range of habitats, including grasslands, wetlands, and forests. The park's commitment to creating a conducive habitat for avian creatures has resulted in the nesting and breeding of numerous bird species, including the Shikra *Accipiter badius*. The Shikra has established its habitat within the park and successfully reproduced and raised offspring, marking a significant milestone in the park's journey towards restoration and conservation. With its diverse array of prey species, including



Female Shikra is incubating eggs on *Holoptelea integrifolia* tree at Aravalli Biodiversity Park, Delhi, India. ©Mohammad Rizwan Khan.



Grown up chicks have now become fledgelings. Female is bringing food for them. © Mohammad Rizwan Khan.

small mammals, birds, and reptiles, the park provides an ideal environment for the Shikra and other bird species to thrive. The Aravalli Biodiversity Park stands as a testament to the power of ecological

restoration and conservation efforts in promoting biodiversity.

The breeding season for Shikras typically takes place between the months of

February to April, although some variations may be observed depending on the specific geographical location. First author had the opportunity to record the nesting behaviour of this bird from 9 April 2023, while adhering to wildlife ethics and ensuring minimal disturbance to the birds (Barve et al. 2020). The observations and photographs were taken from a distance of at least 20 m away from the tree, where the nest was found. This particular nest was located on an Indian Elm Tree *Holoptelea integrifolia*, standing at a height of approximately 15 m. The nest itself was positioned at a height of 10 m. The dimensions of the nest were estimated to be around 8–9 inches deep and 14–15 inches in diameter. It appeared to be an untidy structure made up of twigs. During the observation period, the female Shikra was frequently seen sitting in the nest, presumably incubating the eggs. However, the male Shikra was not observed in the vicinity. As the days passed, on the 17 April 2023, the male Shikra was spotted near the nest, diligently guarding it. However, it maintained a distance from the nest itself. Despite regular monitoring, the chicks were not sighted until the 6 May. It was on the 7 May 2023 that the female Shikra seemed occupied with something beneath her belly, possibly indicating the presence of hatchlings. The incubation period for Shikras typically lasts between 24–28 days. The exact number of eggs could not be determined during ground observations.

On the 10 May 2023, at 1530 h, three chicks were spotted within the confines of the nest. The female bird was diligently recorded as she tended to their needs, providing them

with nourishment. Observations of the nest were conducted daily, spanning a duration of 30–45 minutes. These observations occurred at various hours throughout the day, providing a comprehensive understanding of the chicks' development. During these observations, it was noted that the female bird frequently shielded the chicks from the scorching heat. This act of protection demonstrated the maternal instincts and dedication of the female bird towards her offspring.

The female was recorded sitting away from the nest on the 16 May 2023, for a considerable period of time. This behaviour coincided with the fledglings reaching an age of approximately 11–12 days old. As the days passed, the fledglings continued to grow and develop. By the 25 May 2023, they had reached an age of 20–22 days old. The three chicks were standing in the nest, actively engaged in feeding on prey. It was deduced that the prey, most likely a rat, had been brought by the mother bird.

The physical characteristics of the fledglings were also noted during this observation. They possessed a dark brown coloration on their upper body, with an increased number of bars on their tail. The lower portion of their body displayed broad brown vertical streaks and spots. Despite these detailed observations, determining the sex of the chicks at this stage proved to be challenging. Sexual dimorphism, which would aid in identification, was not yet prominently visible.

The fledglings departed from their nest on the 27 of May when they reached an age of

approximately 25–30 days. At this stage, they had developed the ability to fly. Observations revealed that these young Shikras were engaging in a varied diet, which included feeding on lizards, birds, and rats. It is worth noting that occasional nest guarding behaviour was observed from the male Shikra; however, there was no recorded evidence of incubation or feeding by the male. It is important to mention that previous studies have indicated the involvement of male Shikras in these activities (Suryawanshi 2021).

In conclusion, the Aravalli Biodiversity Park's success in fostering the Shikra population highlights its dedication to ecological restoration. Future research should prioritize understanding Shikra nesting behaviour, site selection, and breeding success within the park. Additionally, exploring nest density can offer vital insights into the overall ecosystem health. These studies will enhance our comprehension of the Shikra's role in the park and contribute to ongoing conservation efforts, potentially guiding the restoration of biodiversity in other degraded environments.

References

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