



A Bengal monitor lizard (*Varanus bengalensis*) prowling around the Lake vegetation

A SUCCESSFUL BREEDING SEASON FOR SNAKEHEADS IN THE WILDLIFE INSTITUTE OF INDIA'S LAKE

- Saurav Das

It gives me immense joy to spend time on the nature trail at the Wildlife Institute of India. Walking down the path always mesmerizes me with its beauty and never before had I looked at birds, butterflies, insects, plants, and other species with so much love, simply for being themselves. It is, by far, the most precious gift I have ever received from the Institute. This small area, largely undisturbed by human activities and harboring great biodiversity, always makes me think about how we are threatening wildlife by destroying habitats.

Recently, I have been observing the Lake within the Institute's premises. This quintessential aquatic ecosystem had been waiting long for rains and, eventually, received its blessing by the end of June. Drop after drop turned into torrential rains and within a week, the Lake got a new lease of life. The Lake nurtures a variety of flora and fauna across distinct trophic levels. Various birds forage in and around the Lake, including the Common Kingfisher (*Alcedo atthis*), Stork-billed Kingfisher (*Pelargopsis capensis*), White-throated Kingfisher (*Halcyon smyrnensis*), White-breasted Waterhen (*Amaurornis phoenicurus*),

Indian Spot-billed Duck (*Anas poecilorhyncha*), Red-wattled Lapwing (*Vanellus indicus*), Indian Pond-Heron (*Ardeola grayii*), Little Egret (*Egretta garzetta*) etc. The area also includes many reptiles and amphibians, such as the Tricarinate hill turtle (*Melanochelys tricarinata*), Indian black turtle (*Melanochelys trijuga*), Chequered Keelback (*Fowlea piscator*), Oriental Ratsnake (*Ptyas mucosa*), Indian bullfrog (*Hoplobatrachus tigerinus*), Bengal monitor lizard (*Varanus bengalensis*) etc.

The arrival of the rains brought joy to many, but none were more delighted than the fishes, especially the Striped snakehead (*Channa striata*). They might have been in aestivation for a few months, a process in which they burrow into the mud, create a mucus-lined chamber, and subsist on stored fat. With the increase in water level, all the snakeheads started to move towards the shallows – I noticed a particular spot where a stream is connected to the Lake, and the depth is only 6-10 cm. But why? Was there a cue? Snakeheads are predatory; they feed on fish, frogs, insects, earthworms, freshwater crustaceans, and tadpoles. As a dietary generalist,

they can feed on any available food. Hence, I wondered if they might have moved towards the shallows for better feeding opportunities. However, I found that they were there for something more than just food.

It was the beginning of July that I first observed this sudden behavioral change in them. They were splashing water, which caught my sight from a distance and my curious mind led me to investigate. As I moved closer to the site, they sensed my presence and started moving to deeper waters. “Okay! I should be more careful”, I thought. The next day, I moved closer to them, step-by-step this time. I was vigilant while approaching them, not wanting to scatter them away like last time, and observed two snakeheads in a small pit surrounded by shrubs. “Oh, wow”, I exclaimed! They were preparing to welcome their next generation, busy in copulation. I also noticed a bunch of them that appeared aggressive in their behavior. It seemed like the remaining ones were also in search of mates, and an inconspicuous tussle had begun.

I scoured through scientific literature to know more about this reproductive behaviour and here is what I found: snakeheads are solitary, and exhibit monogamous behaviour throughout the reproductive season. The mating behaviour of this species was studied in captivity by [Paray et al. \(2013\)](#), but no studies have been conducted in the wild. To study their reproductive behaviour, hormones (pituitary extract HCG) were injected into the fish. Two males and one female were kept in a single fish tank. One of the males, found to be more active, moved below the female, facing the opposite direction, which led to the pair making slow upward and downward motions.

The study also found that males also engage in courtship behaviour. They do this by frequently hitting the snout and vent of the female while gametes are being released.

I observed them for some days before the monsoon arrived in its full glory by the first week of July. Eventually, heavy rains increased the water level, making the Lake inaccessible. Their successful breeding was confirmed when I observed groups of hatchlings guarded by particular pairs. Although I still have a lot of questions about the snakehead’s reproductive behavioural patterns, I felt a sense of happiness and satisfaction at observing their new generation successfully habiting the Lake’s space.

About the Author:

Saurav is currently working as Project Associate-I in the project IDWH-Caracal since April 2024. Previously he worked as a Project Associate-I in the All India Tiger Estimation project (genetic component) during January 2023 to March 2024. His research interest includes addressing ecological and evolutionary questions using molecular genetics. Apart from research, whenever schedule permits, he enjoys traveling solo.

Email Id: saurav000das@gmail.com



A red-wattled lapwing (*Vanellus indicus*) at the bank of the Institute’s lake



Group of snakehead hatchling (*Channa striata*) foraging at the surface