

## Diversity India Meet 2022 Report

The first Diversity India Meet 2022, (16<sup>th</sup>-19<sup>th</sup> April) was conducted in the mangroves of the Sundarban Tiger Reserve. It was organised by Nature Mates-Nature Club in association with Strand Life Sciences and SpiderIndia (DiversityIndia). The purpose of this meet was to inculcate an understanding of biodiversity data mobilization and to document the biodiversity of the Sundarbans by involving students and experts on various topics related to biodiversity documentation.

Sundarban is the world's largest mangrove forest. It is listed among the UNESCO World Heritage Sites, and has rich and unique biodiversity. The Sundarbans is a delta at the mouth of the Bay of Bengal made by the confluence of major rivers such as the Matla, Bidyadhari, and Hooghly Rivers. It is the home of the keystone species, the Royal Bengal Tiger, and many lesser known taxa. In 2017, a paper showed that the Indian part of the Sundarbans is home to 20 species of crustaceans from 9 families and 13 genera. The Sundarbans alone contain 35 of the 50 true mangrove plant species recorded worldwide, with Sundry (*Heritiera fomes*) dominating, followed by Gewa (*Excoecaria agallocha*). Several species are endemic, such as *Aegialitis rotundifolia*, *H. fomes*, *Sonneratia apetala*, and *S. griffithii*. A total of 334 plant species, including 165 algae, 13 orchids, 17 ferns, 87 monocotyledons, 230 dicotyledons, 35 legumes, 29 grasses, 19 sedges, and 18 euphorbias, have been discovered in the Sundarban regions (Neogi et al., 2016).

The Sundarbans were chosen as the location of the first Diversity India meet because of its rich biological diversity. Because experts in different taxa were in the same place, a long list of different taxa was seen. These taxa are described in more detail in the following sections.

### Overview of the meet:

Bali Island is one of the islands of Sundarban Biosphere Reserve. It is situated across the Gomdi River on the opposite side of the Sundarban Reserve Forest area. Participants were hosted in a lodge - Sundarban Jungle Campright, next to the river embankment. The lodge has three different water bodies, good tree cover, and abundant local biodiversity even within its compound. The weather was hot and humid, although there was a nice breeze, which made the place more enjoyable.

There were over 35 participants, all of whom came from different places and had different interests. The location's diversity in terms of biodiversity allowed the participants to pursue their passions close at hand.

The adjoining village has a typical Sundarban landscape, with small houses having one or two ponds and some vegetable gardens or flower fences.

### Objective of the Meeting

1. Understanding the mangrove ecosystem looking at various taxa.

2. Awareness generation among the local people along with the participants.
3. Interactions and collaborations among participants

### **Engagements and Programs**

The program was conducted for the duration of four days, from April 16 to April 19, 2022.

#### **FIRST DAY**

On the first day, i.e., April 16, 2022, participants boarded a bus from Bijoygarh, Jadavpur at 7 a.m. They had breakfast en route to Gadkhali. From Gadkhali, they boarded a ferry to Bali Island with refreshments and enjoyed the beautiful view of the Gomdi River and the mangroves. Discussions about the location's distinctive biogeography and biodiversity took place on the boat.

After getting to Sunderban Jungle Camp and having some tender coconuts, which were very refreshing, people went to their rooms. Post lunch, the participants were distributed to four different groups headed by Vijay Barve, Anubhav Agarwal, Thomas Vattakaven, and Rishin Basu Roy, respectively. Each group departed from the dining hall to survey different patches of land in and around the camp for documentation of the local biodiversity. Groups also went to the nearby Delta camp, where Mr. Prosenjit Dawn discussed the identification of odonates and the relation between water body landscapes and odonate distribution.



Prosenjit Dawn explaining identification of odonates and the relation between water body landscape and odonate habitats

Later that night, there was a spiderwatching session. This session was repeated every night after dinner. A light trap was also set-up where participants observed moths and other nocturnal insects.



Nocturnal spider and moth observation event.

## SECOND DAY

The second day started early with a birding session led by Angshuman Raha, Rishin Basu Roy, Soumya Sarkar, and Swapna Biswas. A discussion about plants, birds, and mammals took place between the experts and the participants. During the afternoon, the group split up for various activities such as birding in the village and fields, water testing of nearby water bodies, discussion on butterflies and their life cycles, and discussion on fish and odonates.



A birdwatching event in progress

In the evening, the students were given a demonstration on using the various field instruments, such as range finders and GPS, and the various field methodologies used. Camera traps were installed soon after. The evening presentation session was led by Anubhav Agarwal on the concept of camouflage in insects. This very interesting session was followed by dinner and spider watching.



Group photo after evening presentations.

### **THIRD DAY**

On the third day, we took a boat safari to Dobanki Island and then to Sajnekhali Wildlife Sanctuary. The sighting started with excitement over the purple heron and ended with the sighting of an Estuarine Crocodile. We had an authentic Bengali lunch on the boat before entering Sajnekhali, which was a new experience for most of the participants.

Dobanki is a forest camp under the Sundarban Tiger Reserve that allows visitors. The specialty of the Dobanki camp is the half canopy walk, which allows the visitors to experience and see the mangrove forest of the Sundarbans. A watch tower is present in the camp, which overlooks a freshwater body. A large population of crabs of different species can be found here, along with many mammal species such as the Royal Bengal Tiger, Spotted Deer, Chital Deer, Monitor Lizards, and a large number of bird species. A soft release point for Batagur Baska is also present at the very entrance of the camp.

Sajnekhali is a part of the wildlife sanctuary and the field headquarters of the Sundarban Tiger Reserve. The Nature Interpretation Center is situated in Sajnekhali, along with a watch tower looking over the freshwater pond. The Batagur Baska turtle conservation program started on this island. This is an incredible conservation story which has now led to development of three more sites for Batagur Baska soft release and conservation.



Sajnekhali Wildlife sanctuary in Sunderbans







The pathway taken during Boat Safari to Dobanki and Sajnekhali

In the evening presentation session, the history of the Sundarbans was elucidated by Prosenjit Dawn, followed by dinner and spider watching.

#### **FOURTH DAY**

On the last day, we boarded a ferry to Gadkhali, where our bus was waiting to take us back to Kolkata. We stopped to have refreshments at a tea stall, where everyone sampled local bakery goods. We reached Banabitan Biodiversity Park, where the ending ceremony took place. We took our customary group photo in the Diversity India Meet T-shirts. Participants departed in groups to explore the park and see its biodiversity. Post lunch greetings were exchanged, and the 1<sup>st</sup> Diversity Meet India officially came to an end.

#### **Result**

During the meet, the participants documented both the flora and fauna of the area. In all the regions we have visited, 114 different types of plants have been spotted during the meeting. In fauna, students have documented animals from both the vertebrate and invertebrate sections. Among invertebrates, they have seen many arthropods, molluscs, and among vertebrates, they have seen many birds, reptiles, and mammals. The compiled biodiversity of the region was published as a dataset to GBIF. This dataset is titled "First DiversityIndia Meet (2022) held at Sundarbans, West Bengal, India" and accessible at the link below.

<https://www.gbif.org/dataset/a255c20a-10de-4bb7-8ba8-10ba413a9845>

The participants gained good exposure to citizen science and compiled occurrence data by recording observations. They were also educated on GBIF and its activities, and provided an overview of the present project and the need for mobilizing data that is inaccessible as primary biodiversity records.