

**Dr. Rafiq Zakaria College for Women,  
Chhatrapati Sambhajinagar**

**2024-25**

**Department of Zoology**

**Environment Awareness Beyond Campus**

**Dr. Rafiq Zakaria College for Women**  
**Navkhanda, Jubilee Park, Aurangabad-431001**

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**2024-25**

**Department of zoology**

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**HOD**

**Principal**



## **Fire Flies Festival**

**Name of the Event : Fire Flies Festival**

**Date of the Event : 27<sup>th</sup> & 28<sup>th</sup> May 2024**

**Place : Bhandardara ,District Ahamadnagar**

**Student Participant : 91**

### **Aim**

- It seems like you're asking about the Fireflies Festival in Bhandardara, a village in Maharashtra, India. The Fireflies Festival takes place before the monsoon season, when millions of fireflies light up the night.
- It's a nature-centric festival that attracts tourists and photographers to witness this mesmerizing natural phenomenon.
- Celebrate Nature's Wonders to provide an opportunity for people to witness the unique natural phenomenon of fireflies lighting up the night, promoting the beauty of biodiversity.
- Promote Ecotourism encourage responsible and sustainable tourism in the rural region of Bhandardara, contributing to the local economy while protecting the environment.
- Raise Environmental Awareness educate attendees about the importance of preserving ecosystems and the role fireflies play in biodiversity.
- Cultural Exchange provide a platform for local communities to share their culture, traditions, and hospitality with visitors from across the country and world.
- The use of artificial light was kept to a minimum so as not to interfere with the fireflies' natural behavior. Only eco-friendly torches were used for guiding participants to and from the viewing area.
- Loud noises and music were prohibited to ensure that the natural ambiance was preserved and the wildlife was not disturbed.
- All participants were informed about the "Leave No Trace" policy, which required them to carry back any waste they generated and leave the area exactly as they found it.

**Objectives:**

- Attract Tourism to draw nature enthusiasts, photographers, and tourists to Bhandardara, creating an engaging eco-tourism experience.
- Support Local Communities generate income for local businesses, including homestays, guides, and food vendors.
- Preserve Firefly Habitat promote awareness about the conservation of the local environment and the delicate habitats where fireflies thrive.
- Foster Responsible Tourism implement and promote eco-friendly practices during the festival, such as waste management, minimizing the carbon footprint, and respecting local wildlife.
- Enhance Visitor Experience ensure the safety, comfort, and education of attendees by providing well-organized tours, informative sessions, and guided walks.
- Due to the risk of fire in a forested area, strict rules were enforced prohibiting smoking,
- open flames, or any activity that could lead to fire hazards. Fire extinguishers were placed
- At strategic point All participants were instructed to dispose of waste only in designated bins. Volunteers were stationed to monitor littering, ensuring the environment was kept clean.
- First aid stations were set up, and volunteers were trained to assist in case of any medical emergencies. No major incidents were reported, and minor cases of dehydration or exhaustion were handled immediately by on-site medical staff

**ATR**

All students and participants were given a detailed briefing on maintaining decorum in a natural environment, avoiding fire hazards, and not disturbing the wildlife. Fire safety equipment (fire extinguishers, first aid kits) were placed at multiple locations. Volunteers were assigned to monitor any possible fire hazards, especially since fireflies thrive in dry forested areas where there might be a risk of fire. Organizers emphasized the importance of not disturbing the local ecosystem, keeping noise levels down, and avoiding the use of artificial light during the firefly display to prevent disturbing their natural glow. Volunteers ensured that the participants stayed within the designated viewing areas and did not stray into the deeper forest regions. This was done to minimize human impact on the natural habitat of fireflies and to prevent any accidents, such as falls or encounters with wildlife. All participants were instructed to dispose of waste only in designated bins. Volunteers were stationed to monitor littering, ensuring the environment was kept clean. Due to the risk of fire in a forested area, strict rules were enforced prohibiting smoking, open flames, or any activity that could lead to fire hazards. Fire extinguishers were placed at strategic points around the campsite and festival area. First aid stations were set up, and volunteers were trained to assist in case of any medical emergencies. No major incidents were reported, and minor cases of dehydration or exhaustion were handled immediately by on-site medical staff. The use of artificial light was kept to a minimum so as not to interfere with the fireflies' natural behavior. Only eco-friendly torches were used for guiding participants to and from the viewing area. Loud noises and music were prohibited to ensure that the natural ambiance was preserved and the wildlife was not disturbed. All participants were informed about the "Leave No Trace" policy, which required them to carry back any waste they generated and leave the area exactly as they found it.

### **Fire Flies Mohatsav : Bhandardara**



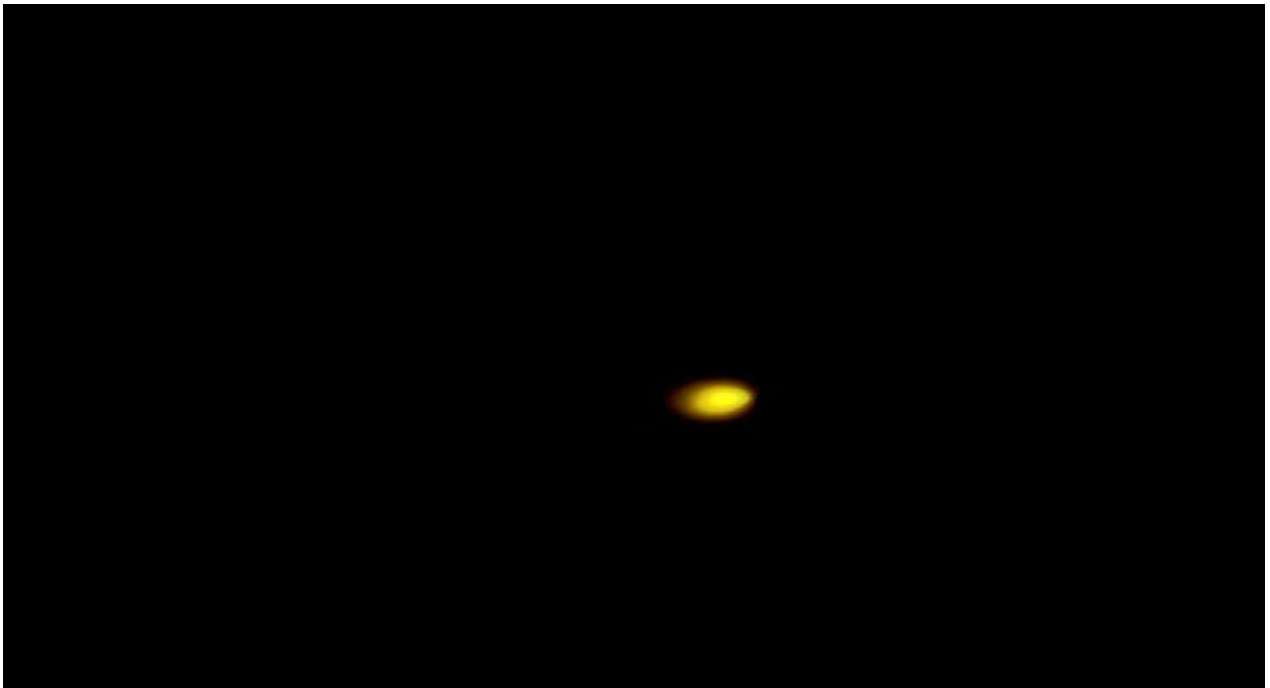
## Natural Phenomenon: To Promote Eco-tourism (Bhandardara: District Ahmednagar)



**Fire Flies: Study Toor to Promote Awarness abought Biodiversity  
Conservation**



**Fire Flies Gather & Emit Light to attract metes Creating a magical  
Visual Spectacle**





**Fire Flies Festival**  
**Celebration : Research Students Enjoying Rural life**



**Staff and Students : Fire Flies Festival**





**Study Toor: Bhandardara**  
**Biodiversity & Conservation Study**



**Visit to Sandan Valley (Western Ghats) Ahmednagar Bhandardara**  
**Vally of Shadows**



## **Fire Flies Festival: Celebration**



## **Fire flies on Tree Plantation Emitting Light**



## **Visit to Adivasi Mahotsav**

**Name of the Event : Visit to Adivasi Mahotsav**

**Place of the Event : Bhandardara**

**Date of the Event : 28/05/2024**

**No. of Participants: 200**

### **Aims:**

- To preserve and promote the rich cultural heritage, customs, and traditions of the Adivasi (tribal) communities.
- To educate the general public about Adivasi traditions, art, and folklore to foster respect and inclusivity.
- To provide a platform for tribal artisans and entrepreneurs to showcase and sell their products, thus promoting tribal economies.
- To facilitate cross-cultural exchanges between tribal artists and artists from other regions, promoting diversity in arts.
- To provide an exhibition space for displaying the unique handicrafts, textiles, and art of Adivasi communities.
- To honor and recognize the contributions of tribal leaders, artists, and innovators in their fields.
- To discuss and promote sustainable development goals and policies relevant to tribal communities, such as environmental conservation.

### **Objectives:**

- Encourage the preservation and promotion of tribal languages, arts, and cultural practices through performances and exhibitions.
- Create a market space where tribal artisans can sell their handmade crafts, boosting local economies.
- Organize workshops, seminars, and discussions about the history, challenges, and aspirations of tribal communities to build awareness.

- Facilitate cultural exchanges between tribal and non-tribal communities to foster mutual understanding and cooperation.
- Engage younger generations in tribal communities through events and programs that instill pride in their heritage.
- Highlight the issues faced by tribal communities in India, such as land rights, education, and healthcare, and advocate for policy changes.
- Use the festival as a platform to celebrate the diversity and richness of India's tribal populations, making it part of mainstream cultural discourse.

### **Action taken report:**

- Tribal artisans were invited to display and sell their products, resulting in significant sales of traditional crafts like pottery, beadwork, and textiles. This boosted their income and helped promote indigenous art forms.
- Dance and music troupes from various tribal communities performed their traditional folk dances and songs, attracting a wide audience and generating interest in tribal heritage.
- Educational seminars were conducted focusing on tribal history, sustainable development, and indigenous knowledge systems. These attracted participants from both tribal and non-tribal backgrounds.
- Awards were given to outstanding tribal leaders and innovators in the fields of culture, social work, and entrepreneurship, encouraging further contributions from these communities.
- Specialized workshops were held to train young tribal artisans in improving their craft and marketability, thus ensuring the continuity of their skills and providing them with new avenues for income.
- Tribal cuisine stalls introduced visitors to traditional Adivasi foods, while handicraft stalls allowed visitors to buy authentic handmade goods, contributing to the economic empowerment of tribal communities.
- Several discussions were organized on the sustainable use of natural resources and environmental conservation, focusing on tribal practices and their relevance to modern ecological challenges.



**Study of Culture & Tradition at Bhandardara: Adivasi Mohatsav**



**Mrs. Sunitabai (Sarpanch) Feliciting Prof. Vidya Pradhan at the Adivasi Mohatsav**





**Students & Staff enjoying Dinner at Adivasi Mohatsav**



**Welcoming the staff & students by the Adivasi people of Bhandardara**





**Study of Culture & Tradition Adivasi Dance: Women Enjoying the Mohotsav**



**Culture of Adivasi: Dance & Songs at Bhandardara**





**Ramayans Dance & play at Adivasi Mohtsav**



**Adivasi Women Enjoying the traditional Dance at the Mohatsav**





**"Unity in diversity: Adivasi Mohotsav showcases the soul of India's tribal heritage."**



**"Colors, culture, and community: A glimpse into the heart of Adivasi Mohotsav."**



## **Visit to Kalsubai Wildlife Sanctuary**

**Name of the Event : Kalsubai Wildlife Sanctuary**

**Place of the Event : Kalsubai Wildlife Sanctuary**

**Date of the Event : 28/05/2024**

**No. of Participants : 164**

### **Aims:**

- To explore and observe the rich biodiversity of the Kalsubai Wildlife Sanctuary, including its unique plant and animal species.
- To raise awareness about the importance of wildlife conservation and the role of protected areas like Kalsubai in preserving ecosystems.
- To promote eco-friendly tourism practices that help in sustaining the local environment while providing a rich experience for visitors.
- To learn about the different ecosystems within the sanctuary, including forest, grassland, and water bodies.
- To document sightings of rare and endemic species, both plant and animal, contributing to wildlife research and documentation.
- To educate participants, especially students, about the ecological significance of the sanctuary and the broader importance of biodiversity.
- To understand and support local communities dependent on the sanctuary for their livelihood, promoting sustainable co-existence.

### **Objectives:**

- Conduct field observations and collect data on wildlife species present in the sanctuary, focusing on bird species, small mammals, and reptiles.
- Organize talks and educational sessions on wildlife conservation, ecosystem balance, and the significance of sanctuaries for biodiversity protection.

- Undertake a guided trek through Kalsubai, adhering to eco-friendly practices such as minimal waste generation, responsible trail use, and respect for wildlife.
- Identify and document diverse plant species, insects, and birds through photography and note-taking, contributing to a comprehensive biodiversity log.
- Engage participants in citizen science activities, allowing them to contribute to ongoing research by reporting their observations to relevant wildlife agencies.
- Organize interaction sessions with local guides and community members to learn about their traditional knowledge of the sanctuary and sustainable practices.
- Encourage participants to become advocates for wildlife conservation by sharing their experiences through blogs, social media, or presentations.

### **Action Taken Report:**

- Before the visit, an orientation was conducted to inform participants about the sanctuary's rules, the biodiversity they would encounter, and the eco-friendly practices they needed to follow. Necessary permissions were secured for the visit from the forest department.
- The group undertook a well-planned trek starting from Bari village, with a local guide leading the way. The trek covered different habitats within the sanctuary, including forests, streams, and open grasslands, offering ample opportunities to observe wildlife.
- Field guides and participants carried out wildlife observations, documenting sightings of birds like the Indian eagle-owl, and reptiles like the monitor lizard. Notes and photographs were recorded for future reference.
- Conservation experts conducted an on-site session explaining the sanctuary's importance, its role in preserving species like the leopard, and ongoing efforts for wildlife protection. Special emphasis was placed on the challenges of conserving endangered species.
- The group engaged with local villagers who depend on the sanctuary for certain resources. Discussions focused on their traditional practices, efforts to minimize human-wildlife conflict, and how eco-tourism can benefit their livelihoods.

- Several rare plant species were identified and photographed by participants, contributing to local biodiversity studies. The findings were shared with a local conservation NGO for inclusion in their biodiversity documentation project.
- After the visit, participants were encouraged to share their experience and learnings through blogs and social media to raise awareness about wildlife conservation and the importance of Kalsubai Wildlife Sanctuary. Some participants also created photo essays and reports which were submitted to wildlife organizations for advocacy purposes.



**Prof. Vidya Pradhan, Prof. Saraf & Research students visit to Kalsubai**

**Wildlife sanctuary**



**Explore the biodiversity of kalsubai wildlife sanctuary**





**"Where the Sahyadris breathe life – a day well spent in the lap of nature."**



**"Stepping into a sanctuary where nature rules and peace prevails."**





**"Wild encounters and green adventures at Maharashtra's highest peak sanctuary."**



**"Witnessing the raw charm of the Western Ghats at its best."**





### Research students making dinner



"From rare birds to hidden waterfalls Kalsubai is a treasure trove of wonders."



## **National Workshop Bee Keeping**

**Name of the Event : Scientific Workshop on bee keeping for sweet & green, Revolution & Entrepreneur Development in Collaboration with bee Organic farm (Supra Kruti Madhushala Training, Research & Bee study Tourism centre), Goverdhan Nashik.**

**Date of the Event : 1 October 2024**

**Resource Person : 1) Dr.T.B.Nikam (Technician of honey Exhibition & Bee Communication (Short Film Director of Honey Bee)  
2) Prof.B.B Waykar (Prof. Dept of zoology Dr.BAMU, Importances of honey bee)**

**Place : Maulana Azad college of arts Sciences & Commercials Aurungabad.**

**Student Participant : 217**

### **Aim**

- Provide a thorough understanding of organic beekeeping practices and standards.
- Raise awareness about the critical role bees play in pollination and maintaining biodiversity.
- Instruct participants on sustainable methods for managing bee colonies that minimize environmental impact.
- Discuss the nutritional and health benefits of consuming organic honey compared to conventional honey.
- Provide practical advice on effective hive management techniques to ensure healthy and productive bee colonies.
- Educate participants about bee biology, behavior, and the social structure of a colony.

- Teach participants how to manage pests and diseases organically without harmful chemicals.
- Discuss how organic beekeeping practices can enhance local biodiversity and ecosystem health.
- Include practical sessions where participants can learn how to inspect hives, collect honey, and manage bee colonies safely.
- Educate participants on the significance of planting bee-friendly plants and maintaining healthy ecosystems to support bees.
- Discuss the potential for starting a small business or side hustle in organic honey production and other bee-related products.
- Foster a sense of community among participants to promote local beekeeping initiatives and support networks.
- Raise awareness of how climate change affects bee populations and the importance of adapting practices accordingly.
- Offer participants access to resources, literature, and networks for further education in organic beekeeping.
- Promote ethical treatment of bees and sustainable harvesting practices to ensure colony health and longevity.
- Teach participants about honey extraction methods, processing, and opportunities for value-added products (e.g., beeswax, propolis).
- Encourage participants to advocate for policies and practices that protect pollinators in their communities.
- Share case studies or success stories from local organic beekeepers to inspire participants.
- Provide knowledge and skills for constructing and maintaining hives in an organic setting.
- Encourage participants to develop a deeper appreciation for nature and the importance of maintaining healthy ecosystems through beekeeping

## Objective

- Equip participants with a solid understanding of the principles and practices of organic beekeeping.
- Showcase sustainable beekeeping methods that minimize environmental impact while maintaining bee health.
- Instruct participants on effective hive management strategies to optimize colony productivity and health.
- Educate participants on the importance of pollinator health for ecosystem stability and agricultural productivity.
- Explain the requirements and processes for obtaining organic certification in beekeeping.
- Provide strategies for managing pests and diseases organically, without the use of synthetic chemicals.
- Encourage networking and collaboration among participants to support local beekeeping initiatives.
- Educate participants about bee anatomy, behavior, and the life cycle of honeybees.
- Discuss the nutritional advantages of organic honey and its uses in natural remedies.
- Facilitate practical sessions where participants can gain hands-on experience in hive inspection and honey harvesting.
- Teach participants about the importance of planting bee-friendly flowers and maintaining a healthy environment for bees.
- Present the potential for creating income through organic honey production and other bee-related products.
- Discuss the impact of climate change and habitat loss on bee populations and what can be done to mitigate these issues.
- Provide examples of successful organic beekeeping operations to inspire participants and provide practical insights.
- Provide educational materials and resources for continued learning and support after the workshop.
- Foster a commitment to ethical treatment of bees and responsible beekeeping practices.

- Demonstrate methods for extracting, filtering, and packaging honey and other bee products.
- Encourage participants to engage in advocacy for pollinator-friendly practices and policies in their communities.
- Teach participants how to construct and maintain hives suitable for organic beekeeping.
- Encourage participants to develop a deeper appreciation for nature and its interconnectedness, particularly regarding bees and the environment.

## ATR

- Experts in organic farming and beekeeping delivered lectures on sustainable beekeeping techniques, the lifecycle of honeybees, and organic certification standards.
- Topics included pest management without chemicals, bee biology, and the benefits of organic honey production.
- Participants engaged in practical demonstrations of hive inspection, colony management, and honey extraction.
- They were shown how to handle bees safely, monitor hive health, and identify signs of pests or diseases.
- A session on constructing and maintaining organic hives was conducted, where participants were shown how to build and position beehives in environmentally friendly ways
- A live demonstration of honey extraction and processing was conducted, showcasing organic techniques and the use of eco-friendly tools for harvesting honey.
- Participants were taught how to create bee-friendly environments in their gardens and farms, focusing on planting native flowers and avoiding harmful pesticides.
- The event facilitated interaction among participants, allowing for the exchange of ideas and fostering collaborations to promote local organic beekeeping initiatives.
- Information was shared about the critical role of pollinators in food production and the need for advocacy and protective measures to ensure the survival of bee populations.



**DR. Maqdoom Farooqui (Principal, Dr. R.Z.C.W) been Facilitation by Mazhar Farooqui Principal (MAC)**



**Inauguration of National Workshop  
“Bee Keeping”**



**National Workshop: Bee Keeping**  
**Felicitation of Dr.T.D .Nikam (Resources Person)**



**Inauguration of National Workshop**  
**“Bee Keeping”**





## **DR.Maqdoom Farooqui (Principal ,Dr.R.Z.C.W), Highlights on Bee-Keeping (Benefits Of Bee Keeping)**



## **Dr.Mazeher Farooqui (Principal),Maulana Azad College of Arts, Sciences &Commerce College (Importance of Bee)**





**Inauguration: of National Workshop on ‘Bee Keeping’**  
**Dr.T.D .Nikam,Prof,Sunita Borde , DR.Maqdoom Farooqui,**  
**Dr.Mazeher Farooqui, Prof Vidya Pradhan,Prof.J.D.Shaikh**



**Prof.T.D.Nikam falcation ,Prof.B.B.Waykar**



**Prof.B.B.Waykar (Resources Person).Proffesor, Dept.of Zoology  
Dr.B.A.M.U. A'Bad (Setting Up Your First Bee Hive)**



**Bee Protector suit : DR.Maqdoom Farooqui, Dr.Mazeher Farooqui  
at Workshoop**





**Workshop :Bee Keeping**  
**Instrument of Bee Keeping**  
**(Bee Keeping Equipment)**



**Bee Hive Tool**



**National Workshop :“Bee Keeping”**  
**(Apparatus of Bee Keeping)**



**Bee-Hive :Queen Gate Box**





## **Propolies:Bee Keeping**



## **Pollen Trapper :Bee Keeping**



## Bee Keeping Appratus



## Pollen



## **Visit to Kaziranga National Park, Assam**

**Name of The Event : Visit to Kaziranga National Park, Assam**

**Place of the Event : Kaziranga World heritage site, Assam**

**Date of event :14<sup>th</sup> Feb' 2025**

**No. of Participants : 19**

### **Aims:**

- To study the biodiversity of Kaziranga National Park.
- To analyze the impact of tourism on wildlife conservation.
- To document the habitat and behavior of the one-horned rhinoceros.
- To assess the role of local communities in conservation efforts.
- To examine the effects of climate change on the park's ecosystem.
- To explore sustainable eco-tourism models.
- To study the water bodies and their significance for flora and fauna.
- To evaluate anti-poaching measures and their effectiveness.
- To document avian diversity in the park.
- To collaborate with local researchers and forest officials for future studies.

### **Objectives:**

- Conduct field surveys and wildlife observations.
- Interact with forest officials and conservationists.
- Document species diversity through photography and video recording.
- Analyze soil, water, and vegetation samples.
- Study the migration patterns of birds and mammals.
- Interview local communities about their conservation practices.
- Evaluate the impact of deforestation and habitat fragmentation.
- Identify human-wildlife conflict areas and mitigation strategies.
- Gather data for potential academic publications.
- Propose recommendations for sustainable management of the park.

**ATR:**

- Conducted a guided safari to observe key wildlife species.
- Collected soil and water samples from different regions of the park.
- Documented photographic evidence of biodiversity and habitat conditions.
- Attended a briefing session by forest department officials.
- Conducted interviews with local villagers and conservationists.
- Recorded bird species and their habitat preferences.
- Examined conservation strategies, including anti-poaching units.
- Studied eco-tourism models implemented in the park.
- Analyzed the impact of floods on Kaziranga's ecosystem.
- Compiled research findings for future publication and awareness campaigns.



**"Exploring the wetlands and wilderness of Assam's crown jewel – Kaziranga."**



**"Treading carefully through the UNESCO heritage of biodiversity and beauty."**





**Prof. Vidya Pradhan & Research students at Orchadium Nursery**



**Prof. Vidya Pradhan & Research students at Orchid National Park ,  
Kaziranga**





**"Grasslands, riverbanks, and roaring wildlife**



**"From jeep safaris to tranquil moments – Kaziranga leaves footprints on the soul."**





**"In the land of the one-horned rhinoceros – Kaziranga's wild heart beats strong."**



**Assam Cultural event at Kaziranga National Park**





**"Kaziranga's magic: Where every rustle tells a story of the wild."**



**Prof. Vidya Pradhan & Research students at National Orchid Nursery of Kaziranga National Park**



## **Visit to ZSI Research Institute, Shillong**

**Name of the Event : Visit to ZSI Research Institute, shilling**

**Place of the Event : ZSI Institute, Shillong, Meghalaya.**

**Date of the Event : 13<sup>th</sup> Feb' 2025**

**Name of Guide : Mr. Gautam Amlan**

**No. of Participants : 20**

### **Aims:**

- To understand the role of ZSI in biodiversity conservation and research.
- To explore various zoological specimens and their significance.
- To gain hands-on experience with research methodologies used in taxonomy and ecology.
- To learn about the documentation and preservation techniques of animal species.
- To interact with scientists and researchers to understand ongoing projects.
- To develop awareness about endangered and endemic species in Northeast India.
- To enhance knowledge of faunal diversity and ecological significance.
- To explore career opportunities in zoological research.
- To familiarize students with modern laboratory and field research equipment.
- To encourage students to undertake independent research projects in zoology.

### **Objectives:**

- To observe and analyze different zoological specimens in the institute's collection.
- To learn about specimen collection, identification, and classification.



- To understand the methods used for species documentation and conservation efforts.
- To study the importance of molecular techniques in zoological research.
- To examine research papers and reports produced by ZSI.
- To attend a seminar or lecture by ZSI scientists.
- To explore the impact of climate change on biodiversity in the Northeast.
- To participate in practical demonstrations of field sampling techniques.
- To collect data for academic projects and research work.
- To establish academic and professional networking with ZSI researchers.

### **ATR:**

- Orientation Session: A briefing session was conducted by ZSI officials about the institute's history and contributions to zoological research.
- Museum and Specimen Observation: Students were taken on a guided tour of preserved faunal specimens.
- Interaction with Scientists: Researchers shared insights on taxonomy, biodiversity assessment, and conservation.
- Laboratory Demonstration: Practical demonstrations were conducted on DNA extraction, microscopic studies, and specimen preservation.
- Field Sampling Techniques: Hands-on sessions on collection and analysis of insect and aquatic specimens.
- Seminar Participation: Students attended a lecture on Northeast India's endemic and endangered species.
- Data Collection: Students recorded observations and research findings from displayed specimens and archives.
- Group Discussions: A discussion session was held to exchange ideas and reflections on the visit.
- Documentation: A detailed report was prepared summarizing key learnings and experiences.
- Follow-Up Activities: Students were assigned projects based on their visit experience and were encouraged to pursue further research.

**Prof. Vidya Pradhan , Research students & ZSI Team, Shillong**



**Visit to Dry Lab of ZSI , Shillong**



**ZSI Team introduce about Museum and preserved specimens**



**Exploring Museum of ZSI**





## Observed Preserved Specimens of ZSI



**Prof. Vidya Pradhan and Research student Observed Coleopteran Beetles**





**Visit to Wet lab of ZSI**



**Visit to Brahmaputra River and Study of Physicochemical**

## **Parameters of Water**

**Name of the Event : Visit to Brahmaputra River and Study of Physicochemical Parameters of Water**

**Resources Person : 1) Prof.Vidya Pradhan**

**Date of the Event : 12<sup>th</sup> Feb 2025**

**Place : Dibrugarh Assam.**

**Student Participant : 19**

### **Aim**

- To study the physicochemical characteristics of Brahmaputra River water.
- To assess the water quality status of the river.
- To identify sources of water pollution in the Brahmaputra River.
- To understand the seasonal variation in water parameters.
- To examine the impact of human activities on water chemistry.
- To correlate physicochemical data with aquatic biodiversity.
- To study the suitability of water for drinking, agriculture, and industry.
- To evaluate the impact of urbanization on river water quality.
- To observe the interaction between surface and groundwater.
- To understand the self-purification capacity of the river.
- To assess the role of sediments in water quality.
- To educate students on field-based water sampling techniques.
- To promote awareness about river conservation.
- To document the ecological and environmental condition of the river.
- To compare river water quality across upstream and downstream locations.
- To study the effect of monsoon on river water parameters.
- To develop scientific temper in analyzing environmental data.
- To understand the importance of rivers in sustaining life.
- To support future water resource management strategies.
- To encourage community participation in river health monitoring.



## **Objectives:**

- To collect water samples from multiple locations of Brahmaputra River.
- To measure pH, temperature, and electrical conductivity (EC) of water.
- To analyze dissolved oxygen (DO) content.
- To determine biological oxygen demand (BOD) and chemical oxygen demand (COD).
- To measure total dissolved solids (TDS) and total suspended solids (TSS).
- To estimate levels of nitrates, phosphates, and other nutrients.
- To study salinity, turbidity, and alkalinity of the river water.
- To check for heavy metal contamination (e.g., lead, mercury).
- To compare water quality between different sampling stations.
- To use appropriate field and laboratory techniques for water testing.
- To analyze data and assess compliance with WHO/IS water standards.
- To identify pollution sources like sewage, industrial effluents, etc.
- To document physical surroundings and local land-use patterns.
- To involve local community in awareness discussions.
- To understand relationships among various parameters (e.g., pH and DO).
- To prepare water quality index (WQI) for the river.
- To prepare graphs and charts for clear data interpretation.
- To present findings in a scientific report or seminar.
- To compare present findings with past historical data.
- To suggest measures for improving water quality and river health.

## **ATR**

A field visit was conducted to the Brahmaputra River to assess its physicochemical water quality parameters. Water samples were collected from multiple sites and tested for key indicators such as pH, DO, BOD, COD, TDS, and nutrient content. The study aimed to evaluate pollution levels, identify contamination sources, and analyze the river's health status. Seasonal influences and human impacts were also considered. The findings revealed variations in water quality across different sites, influenced by both natural and anthropogenic factors. The study emphasized the

need for regular monitoring and pollution control. It highlighted the role of community awareness in river conservation. The project provided hands-on experience in environmental science techniques. Overall, the visit fostered scientific understanding and ecological responsibility. It encouraged students to become active participants in protecting water resources.

## Visit to Bramhaputra river



## Brahmaputra river sunset point





Boat view of Bramhaputra river



## **Visit to The Green & Clean India's Village Mawlynnong**

**Name of the Event :** Visit to The Green & Clean India's Village Mawlynnong, Cherrapunji, Meghalaya, India.

**Place of the Event :** Mawlynnong village, Cherrapunji, Meghalaya, India.

**Date of the Event :** 12/02/2025

**No. of Participants:** 19

### **Aims:**

- **To observe and understand the village's waste management system** that contributes to its cleanliness reputation.
- **To study community participation** in maintaining hygiene and sanitation.
- **To explore eco-tourism practices** and how they support sustainable development.
- **To learn about the village's ban on plastic and tobacco** and how it is implemented and enforced.
- **To examine the use of eco-friendly materials** such as bamboo dustbins and compost pits.
- **To assess the impact of early education on cleanliness** among the youth of the village.
- **To interact with local governing bodies (Dorbar Shnong)** to understand grassroots governance in environmental efforts.
- **To explore the integration of traditional knowledge and modern practices** in maintaining a clean environment.
- **To study the influence of Mawlynnong's matrilineal society** on community hygiene and environmental awareness.
- **To document the village model as a replicable example** for other rural or semi-urban areas aiming to improve cleanliness and sustainability.

### **Objectives:**

- **Map the waste segregation system** – Bamboo bins to compost pits.
- **Quantify plastic ban compliance** – Observe enforcement and tourist behavior.

- **Engage with the village council** – Interview for insights into regulation and fines.
- **Survey student hygienic education** – Visit school to see their teaching methods.
- **Inspect sanitation infrastructure** – Public and private toilets, water systems.
- **Analyze renewable energy deployment** – Solar installations and energy management.
- **Explore living root bridges** – Visit and document construction method.
- **Measure tourism's effect** – Waste generation, fees, and village economy.
- **Discuss matriarchal governance** – Women's roles in cleanliness and literacy.
- **Capture environmental awareness programs** – Workshops or signage on climate

### **Action Taken Report:**

- **Conducted field observations** of waste disposal practices, including bamboo dustbin placement and organic waste composting methods.
- **Interacted with village council members (Dorbar Shnong)** to understand enforcement of cleanliness rules and penalties for littering.
- **Participated in a community cleaning drive**, helping residents sweep pathways and public spaces to promote hands-on learning.
- **Visited the village school** to observe how cleanliness and environmental awareness are taught to children from an early age.
- **Inspected sanitation facilities** in homes and public places, noting universal toilet availability and hygienic maintenance.
- **Documented plastic-free practices**, including how shops use paper or cloth bags and discourage plastic use among tourists.
- **Observed renewable energy use**, especially the application of solar lighting in homes and along village paths.
- **Visited the living root bridge in nearby Riwai**, gaining insight into traditional eco-architecture and biodiversity conservation.
- **Interviewed local women entrepreneurs** to understand the role of the matrilineal system in promoting cleanliness and sustainable livelihoods.
- **Captured photographs and notes for educational use**, highlighting best practices that can be shared with other communities or institutions



**Prof. Vidya Pradhan & Research Students at Asia's cleanest village**



**"Green paths, clean hearts – a village that inspires the world."**





**"Asia's greenest gem – peaceful, pure, and perfectly clean."**



**"Asia's cleanest village – where nature and people live in harmony."**



## **Visit to Dawki Umngot crystal river**

**Name of the Event : Visit to study the aquatic flora and Fauna of Umngot**

**Crystal river at Dawki, Cherapunji, Shillong, India.**

**Place of the Event : Dawki Umngot crystal river, Cherrapunji, Meghalaya.**

**Date of the Event : 12/02/2025**

**No. of Participants: 19**

### **Aims:**

- To explore the biodiversity of aquatic flora and fauna in the Umngot (Dawki) River.
- To study the ecological health and water quality of the river.
- To document native, endemic, and migratory aquatic species.
- To analyze the relationship between aquatic flora and fauna and the river ecosystem.
- To understand the impact of human activities on the river's biodiversity.
- To observe the transparency and flow characteristics of the crystal-clear river.
- To raise awareness among students about freshwater biodiversity conservation.
- To collect data for future ecological and environmental research.
- To interact with local communities about traditional knowledge of aquatic life.
- To promote eco-tourism and responsible biodiversity studies.

### **Objectives:**

- To identify and classify the aquatic plant species found in and around the Dawki River.
- To collect and record data on fish, mollusks, and invertebrate diversity.
- To measure physicochemical parameters like pH, temperature, and turbidity of river water.
- To assess the ecological niche of aquatic organisms.



- To study seasonal variation in aquatic species (if applicable).
- To examine algae and plankton diversity under field microscopes.
- To understand the food chain and food web in the river ecosystem.
- To document human interaction (fishing, boating, tourism) with aquatic biodiversity.
- To evaluate the conservation practices adopted by local authorities or communities.
- To prepare a biodiversity report and eco-conservation awareness material.

### **Action Taken Report:**

- A field trip to Dawki (Umngot River) was conducted with proper equipment and guides.
- Aquatic plants and algae samples were collected and labeled.
- Various species of fish and invertebrates were observed and documented.
- Water samples were tested for pH, turbidity, and temperature using portable kits.
- Plankton netting was performed to collect microscopic organisms.
- Photography and sketching of rare and interesting species were done.
- Interaction with local fishermen provided insights into native species and seasonal trends.
- Data was recorded on human impacts like boat tourism and plastic waste.
- Group discussions and field briefings were conducted for knowledge sharing.
- A detailed report with photos, graphs, and species charts was compiled and submitted.

**Prof. Vidya Pradhan & Research Students at Dawki Umngot crystal river**



**Exploring the biodiversity beneath the crystal waters of Dawki River."**





**"Dawki's clean waters, a perfect home for diverse aquatic species."**



**Indo- Bangla border of Dawki River, Meghalaya**





## **Visit to Orchadium**

**Name of the Event: Visit to Orchadium Nursery & Study cultural diversity of Assam state of India**

**Place of the Event : kaziranga National Park, Assam**

**Date of the Event : 14/02/2025**

**No. of Participants : 19**

### **Aims:**

- To understand the role of orchadium nurseries in biodiversity conservation.
- To study the native orchid species of Kaziranga National Park.
- To observe propagation techniques of rare and endemic orchids.
- To document habitat conditions suitable for orchid cultivation.
- To identify medicinal and ornamental values of orchid species.
- To understand the ecological importance of orchids in forest ecosystems.
- To promote awareness on conservation of orchid diversity.
- To interact with nursery experts and gather scientific knowledge.
- To analyze challenges faced in orchid propagation and conservation.
- To enhance research skills through field exposure.

### **Objectives:**

- To record and photograph orchid species present in the nursery.
- To learn techniques of orchid seed germination and tissue culture.
- To collect data on soil, light, and humidity preferences of orchids.
- To compare in-situ and ex-situ conservation methods.
- To understand the role of local communities in orchid conservation.
- To study the growth cycle and blooming seasons of orchids.
- To evaluate the impact of climate change on orchid diversity.
- To gather information on rare, endangered, and endemic orchid species.

- To understand nursery layout, irrigation systems, and pest control methods.
  - To prepare a detailed research report and herbarium samples.
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### **Action Taken Report**

- Students visited and toured the orchadium nursery with guides and botanists.
- Multiple orchid species were documented and classified by students.
- Interviews with nursery staff were conducted on propagation practices.
- Environmental parameters like temperature and humidity were recorded.
- A field journal was maintained with sketches and notes on orchids.
- Orchid samples were observed under portable microscopes for morphological study.
- Live demonstrations of orchid tissue culture were attended.
- Group discussions were held on orchid conservation strategies.
- Photography and GPS mapping were done for habitat documentation.
- A final presentation and report were prepared and submitted for evaluation.
- Students visited and toured the orchadium nursery with guides and botanists.

**"A blooming journey through India's largest orchid collection!"**



**"Where every flower whispers the beauty of biodiversity."**





**"From rare orchids to medicinal plants – learning with every petal."**





**Walking through a rainbow of orchids and Assam's rich heritage."**



**Jayakwadi Biodiversity study**

**Name of the Event : Visit to Borgaon (Jayakwadi Backwaters) for  
Biodiversity study**

**Place of the Event :Borgaon Jayakwadi Backwater**

**Date of the Event : 23/03/2025**

**No. Participants : 219**

**AIMS :**

- To understand the biodiversity of aquatic and terrestrial ecosystems in the backwater area.
- To identify and document flora and fauna species present in the region.
- To assess the ecological significance of the Jayakwadi backwaters.

- To observe migratory bird patterns and behavior in the wetland habitat.
- To study the impact of human activities on the biodiversity of the region.
- To explore the conservation status of species found in the area.
- To analyze the water quality and its effect on aquatic life.
- To understand the role of backwater ecosystems in maintaining regional biodiversity.
- To study the interaction between native and invasive species.
- To promote awareness and interest in biodiversity conservation among students.

## **OBJECTIVES :**

- To perform a species inventory (plants, birds, insects, aquatic life).
- To collect field data on environmental parameters (temperature, humidity, water pH, etc.).
- To record the nesting and feeding behavior of birds.
- To identify rare, threatened, or endangered species.
- To interact with local communities to understand their dependence on natural resources.
- To take photographic documentation of biodiversity for future reference.
- To analyze the habitat diversity in wetland and surrounding land areas.
- To evaluate pollution sources and their impact on the ecosystem.
- To understand seasonal biodiversity variation by comparing data with previous records.
- To encourage students to develop skills in ecological research and field data collection.

## **ACTION TAKEN REPORT:**

- Conducted a guided biodiversity walk along the backwater shoreline and adjoining forest patches.
- Identified and documented 60+ plant species and 30+ bird species, including migratory ones like flamingos and painted storks.
- Collected water samples and performed basic quality tests (pH, turbidity, dissolved oxygen).
- Interacted with local fishermen to understand the changes in fish populations and water conditions.
- Captured high-resolution photographs and videos of flora, fauna, and habitat zones.
- Observed and recorded bird nesting behavior in reed beds and tree canopies.
- Detected presence of invasive plant species (e.g., water hyacinth) in shallow water zones.
- Prepared a checklist of species for submission to the college biodiversity cell.
- Conducted a group discussion on conservation strategies and potential threats to the ecosystem.
- Compiled field notes and submitted a detailed report with maps and species data to the concerned faculty/project guide.



**Backwater of Jayakwadi, Borgaon, Paithan**



**Prof. Vidya Pradhan & Research students at**



**Prof. Vidya Pradhan and Research student explore Bird Diversity at Jayakwadi backwater**



**Mr. Kunal Vibhandik and research student observed bird diversity**



**Research students observed Birds at Backwater of Jayakwadi**





**"Wings over water – serene moments at Jayakwadi Bird Sanctuary."**



"Wings over water – serene moments at Jayakwadi Bird Sanctuary."



**"Birdwatching bliss – witnessing biodiversity in every direction."**



**"Birdwatching bliss – witnessing biodiversity in every direction."**





**"Moments of silence, wings in motion – Jayakwadi at sunrise."**







