

Goa University

School of Biological Sciences and Biotechnology

Report of Invited Lecture on “When shells tell stories: Where Zoology meets Geology”

1. Title of the Event/Activity/program	Invited Lecture on “When shells tell stories: Where Zoology meets Geology”
2. Date and Time	13 th October 2025
3. Mode of conduct (Physical/Online)	Physical
4. School/ Directorate/ Section	School of Biological Sciences and Biotechnology, Zoology
5. Collaborating Agency/School/Directorate	—
6. Detail of the Resource Person (Brief biodata)	Ms. Tanya is currently a third-year PhD student at the Institute of Geological Sciences, Jagiellonian University, Krakow, Poland under the guidance of PhD supervisor- dr. Hab. Mariusz Kędzierski. Her research is focused on bivalve sclerochronology and sclerochemistry to reconstruct past environments, particularly within mangrove forest ecosystems, as a means to track anthropogenic influences on sensitive blue carbon environments.
7. Number of Faculty attended/participated	6 faculty
8. Number of Student attended / participated	45 students of M.Sc. Zoology (Part I and Part II)
9. No. of external students/faculty/other participants	--
10. The objectives of the Program/activity/event	The objective of the lecture was to expose students to the interdisciplinary nature of modern science, demonstrating how principles of biology,

	geology, and climate studies can come together to understand long-term environmental processes.
11. Description of the Program/activity/event	<p>A guest talk on “Sclerochronology: Assessing Seasonality and Climate Change through Shells of Bivalves” was organized in Zoology discipline, School of Biological Sciences and Biotechnology. The session was delivered by Ms. Tanya, a Research Scholar, who offered an engaging insight into how bivalve shells can serve as natural records of environmental change.</p> <p>Ms. Tanya began by emphasizing the importance of mangrove ecosystems, highlighting their crucial roles in carbon sequestration, preventing coastal erosion, and supporting diverse marine life. She explained that the loss of mangroves contributes to increased carbon emissions, global warming, biodiversity loss, and economic challenges for coastal communities. Major drivers of this decline include deforestation, land conversion, pollution, overexploitation, and climate change.</p> <p>Transitioning to her research, Ms. Tanya explained why bivalves serve as excellent indicators of environmental variation. Their shells grow in periodic bands or increments that act as natural “shell calendars,” with growth lines forming during resting phases. These bands can record environmental changes on annual, seasonal, or even hourly scales, often more distinctly than in other mollusks.</p> <p>She also discussed her research methods, which involve cross-sectioning bivalve shells to examine alternating white and dark growth bands. These patterns provide valuable information about the age of the bivalve and the environmental conditions it experienced. Ms. Tanya’s ongoing research focuses on species of the genus <i>Meretrix</i>, which she uses to reconstruct past climate patterns and seasonal variations.</p> <p>The session concluded with an interactive discussion on how sclerochronology bridges biology and climate science, offering valuable insights into long-term environmental change.</p>
12. Benefit/Key outcomes of the Program/activity/event	<p>Attending the talk on “Sclerochronology: Assessing Seasonality and Climate Change through Shells of Bivalves” provided participants with a unique opportunity to understand how biological structures like bivalve shells can serve</p>

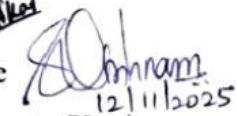
	as valuable archives of past environmental conditions. The session helped students appreciate the interdisciplinary connections between zoology, geology, and climate science, illustrating how these fields collectively contribute to the study of long-term ecological and climatic trends. Moreover, the talk enhanced awareness of advanced analytical approaches used in environmental research, encouraging students to think critically about how natural materials can be used to reconstruct seasonal variations, oceanographic changes, and climate patterns. Such exposure fosters scientific curiosity, broadens career perspectives, and builds a foundation for future research in marine ecology, paleoclimatology, and environmental monitoring.
13. Enclosures with report	Geo-tagged photos and attendance attached.

Signature: 

Name of coordinator **Dr. Preeti Parvin**

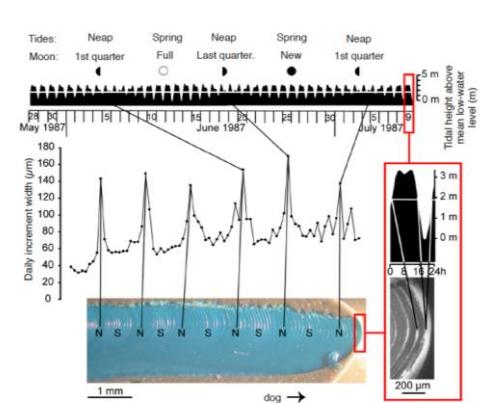
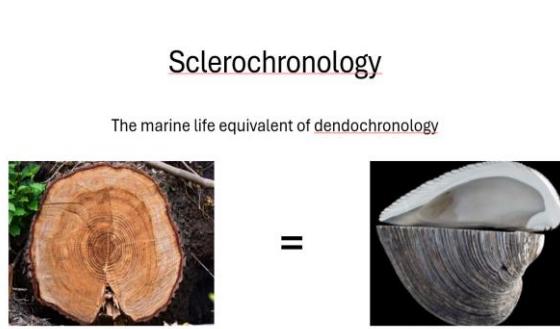
Designation: **Assistant Professor**

Date: **28/10/25**

PD
Zoology
Signature 
12/11/2025

Dean/Director/Head

Seal of the School/Directorate/University
Dean of School of Biological Sciences
& Biotechnology
Goa University, Goa - 403206





Activity: Hunted Lecture on sclerochronology

Date: 13/10/2025

Sr. No.	Name	Discipline/School	Signature
1.	Samaa Sapre	Zoology	Sap
2.	Rhea Martins	Zoology	martins
3.	Anisha De souza	Zoology	De souza
4.	Velika Desa	Zoology	Desa
5.	Tabassum Bepari	Zoology	Bepari
6.	Saloni Paingankar	Zoology	Paingankar
7.	Sanjona Nath	Zoology	Nath
8.	Shafali Vaigankar	Zoology	Vaigankar
9.	Himanshu Kerkar	Zoology	Kerkar
10.	Shradha Pethkar	Zoology	Pethkar
11.	Hanshad Vaigankar	Zoology	dr.
12.	Sakshi Sharma	Zoology	Sharma
13.	Vaishnavi Bharti	Zoology	Bharti
14.	Pratiksha Say	Zoology	Say
15.	Viraj Vaigankar	Zoology	Vaigankar
16.	Shreya Khoyurekar	Zoology	Khoyurekar
17.	Sakshi Sharma	Zoology	Sharma
18.	Samita Rebello	Zoology	Rebello
19.	Ambish C. Vaigankar	Zoology	dr. Vaigankar
20.	Prinicia Castanha	Zoology	Castanha
21.	Shubby Fernandes	Zoology	Fernandes
22.	Juelka Vienna Pereira	Zoology	Pereira
23.	Akash Ashok Patil	Zoology	Patil
24.	Depparna A. Mandlekar	Zoology	Mandlekar
25.	Astrid Vienna Dias	Zoology	Dias
26.	Pooja Gawade	Zoology	Gawade
27.	Giddhi Chari	Zoology	Chari
28.	Manali Punalekar	Zoology	Punalekar
29.	Anshul Sinari	Zoology	Sinari
30.	Anurush Naik	Zoology	Naik
31.	Om Kurharkar	Zoology	Kurharkar
32.	Mammat Seth	Zoology	Seth
33.	Jessica Furtado	Zoology	Furtado
34.	Deepasha Naik	Zoology	Naik
35.	Drisha Fernandes	Zoology	Fernandes
36.	Veena Narsule	Zoology	Narsule
37.	Khushi Sadekar	Zoology	Sadekar
38.	Shrawani Satandekar	Zoology	Satandekar
39.	Athena A. Naik	Zoology	Naik

Activity: Invited lecture on Scherachnology

Date: 13/10/2025