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College of Arts, Science & Commerce (Autonomous)
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NAAC REACCREDITED - 'A' GRADE

VOLUME 15 ISSUE 3

life E-Newsletter

LIFE E-NEWSLETTER

Welcome to Cryosphere!

We are delighted to present the final issue of LIFE, the eNewsletter of the Department of Zoology, marking the culmination of this academic year's journey. This edition is centered around the theme "Cryosphere", aligning with the International Year for Glacier Protection, and explores life in some of the planet's coldest and most challenging environments.

In this issue, we delve into the remarkable strategies organisms adopt to survive seasonal extremes—ranging from migration and hibernation to finely tuned breeding cycles in snowy regions. We also take you beyond the classroom through a study tour to Gujarat, offering insights into the rich animal diversity observed in the field. Complementing these features is a curated photo gallery that captures life across contrasting landscapes, from frozen terrains to vibrant ecosystems.

As we bring this year's series to a close, we hope this issue reflects the spirit of exploration, learning, and appreciation for the natural world. May these pages inspire curiosity and remind us of the delicate balance that sustains life—from icy frontiers to diverse habitats closer to home.

IN THIS ISSUE

Seasonal Masters: Migration, Hibernation & Breeding Cycles in Snowy Regions.

By Rabia Siddiqui (SYBSc)

In the extreme environments of snowy regions, survival depends less on strength and more on timing and adaptation. Animals living in such habitats face freezing temperatures, limited food, and rapidly changing seasons. To cope, they rely on three key strategies: migration, hibernation, and precisely timed breeding cycles.

Migration is one of the most visible survival strategies. Many birds and some mammals move from colder regions to warmer areas during winter. This behavior is triggered by environmental cues such as shorter daylight hours and declining temperatures. Migration helps animals avoid harsh conditions and ensures access to food. Interestingly, many species return to snowy regions during spring and summer. These seasons offer abundant food and fewer predators, making them ideal for raising young.

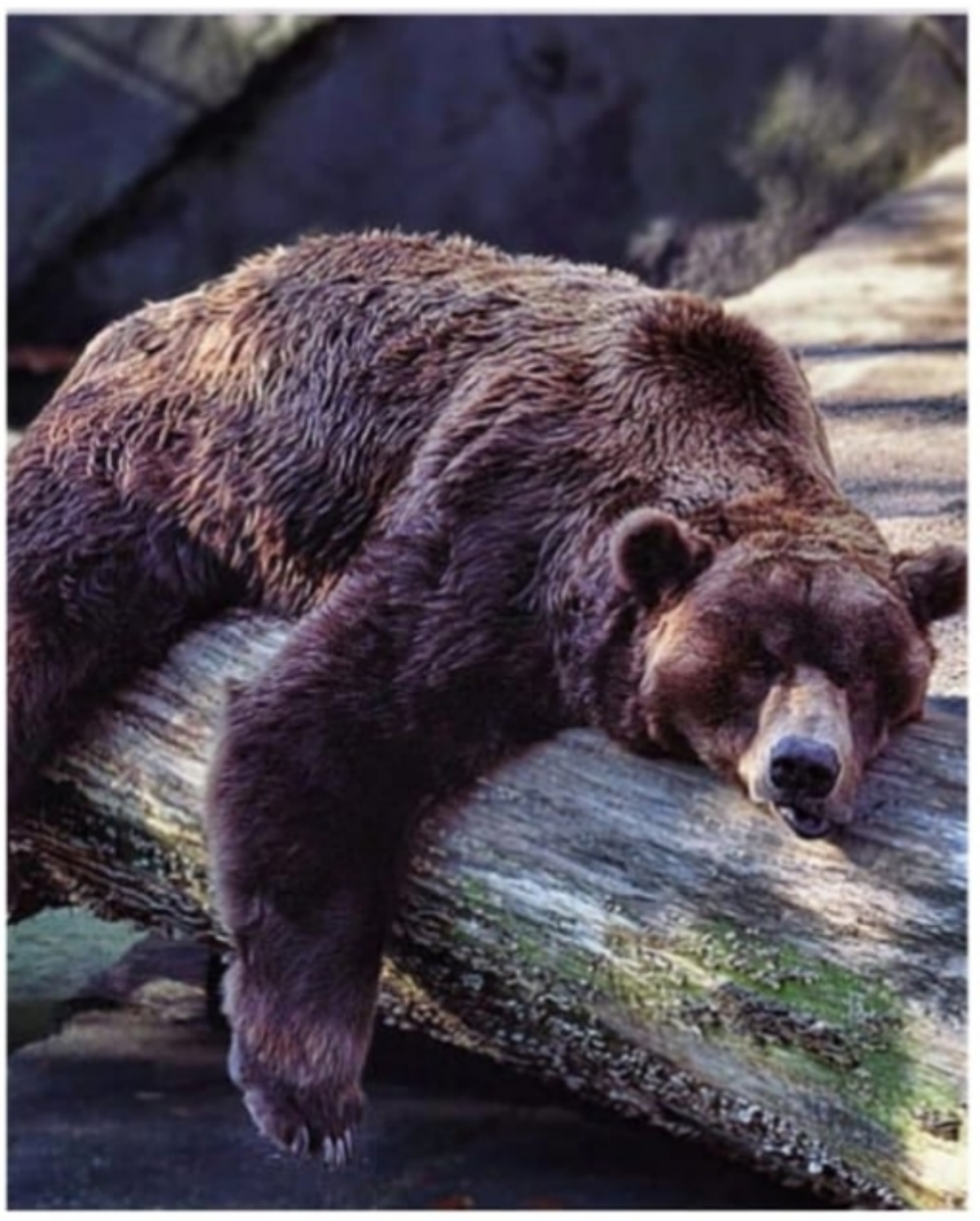
Hibernation is another effective strategy. Instead of moving away, some animals remain in snowy regions but enter a state of reduced metabolic activity. During hibernation, body temperature drops, heart rate slows, and energy consumption is minimized. Animals like bears and ground squirrels rely on stored fat to survive for months without eating. This adaptation allows them to endure periods when food is unavailable under snow.

Breeding cycles in snowy regions are carefully synchronized with seasonal changes. Animals must ensure that their offspring are born during favorable conditions, usually in late spring or early summer. This timing increases the chances of survival, as food is more available and temperatures are less extreme. Environmental signals, especially changes in day length, play a major role in regulating reproductive hormones.

Some species even show delayed implantation, ensuring that birth occurs at the most suitable time.

These strategies highlight how animals adapt to challenging environments through precise biological timing. However, such systems are sensitive to environmental changes. Shifts in climate can disrupt migration patterns, alter hibernation periods, and affect breeding success.

In conclusion, animals in snowy regions demonstrate remarkable survival skills through migration, hibernation, and well-timed reproduction. Their ability to adapt to seasonal extremes reflects the complexity and resilience of life in some of the harsh conditions on Earth.



Study Tour to Gujarat: A glimpse of Animal biodiversity in Gujarat.

By Shravani Ayare (SYBSc)

The Zoology Department of S.I.E.S College organized an educational study tour to Gujarat to help students gain practical knowledge of biodiversity and wildlife. The tour included visits to important places like *Gir National Park*, *Okha Beach*, *Khijadia Bird Sanctuary*, and *Narara Marine National Park*. This trip was a perfect combination of learning, observation, and enjoyment.

Our journey began with a visit to *Gir National Park*, which is famous as the home of the Asiatic lion. The jungle safari was one of the most exciting parts of the trip. During the safari, we had a great time observing animals in their natural habitat. We saw nilgai, peacocks, and spotted deer moving freely in the forest. The most memorable moment was seeing a pride of lions, which was truly thrilling and unforgettable. We also observed many birds such as eagles and vultures, which helped us understand the rich biodiversity of the forest ecosystem.

The visit to *Okha* was a very different and interesting experience. At *Okha Beach*, we studied different types of algae in their natural surroundings. We also collected algae samples, which made the learning more practical and engaging. On the next day, we used these samples to prepare a herbarium. This activity helped us learn proper collection, preservation, and identification techniques, which are very important in zoology and environmental studies.

Our next destination was *Khijadia Bird Sanctuary*, which was full of bird diversity. It was an amazing experience for all of us. We observed many types of birds such as purple sunbird, grey heron, sandpiper, green bee-eater, and little ringed plover.

In total, we recorded more than 55 species of birds. We also recorded these bird observations using GPS Essentials, which helped us note locations accurately and made our study more scientific and organized. This visit helped us understand bird behavior, habitats, and the importance of conserving wetlands.

We also visited *Narara Marine National Park*. Although we reached a little late and could not see many organisms, we still observed some crabs and a few birds. Even this small observation gave us an idea about marine life and the intertidal ecosystem. It also taught us how timing is important while studying marine biodiversity.

Overall, the study tour was very informative and enjoyable. It helped us connect our classroom knowledge with real-life observations. We learned about different ecosystems, wildlife conservation, and biodiversity in a better and clearer way.

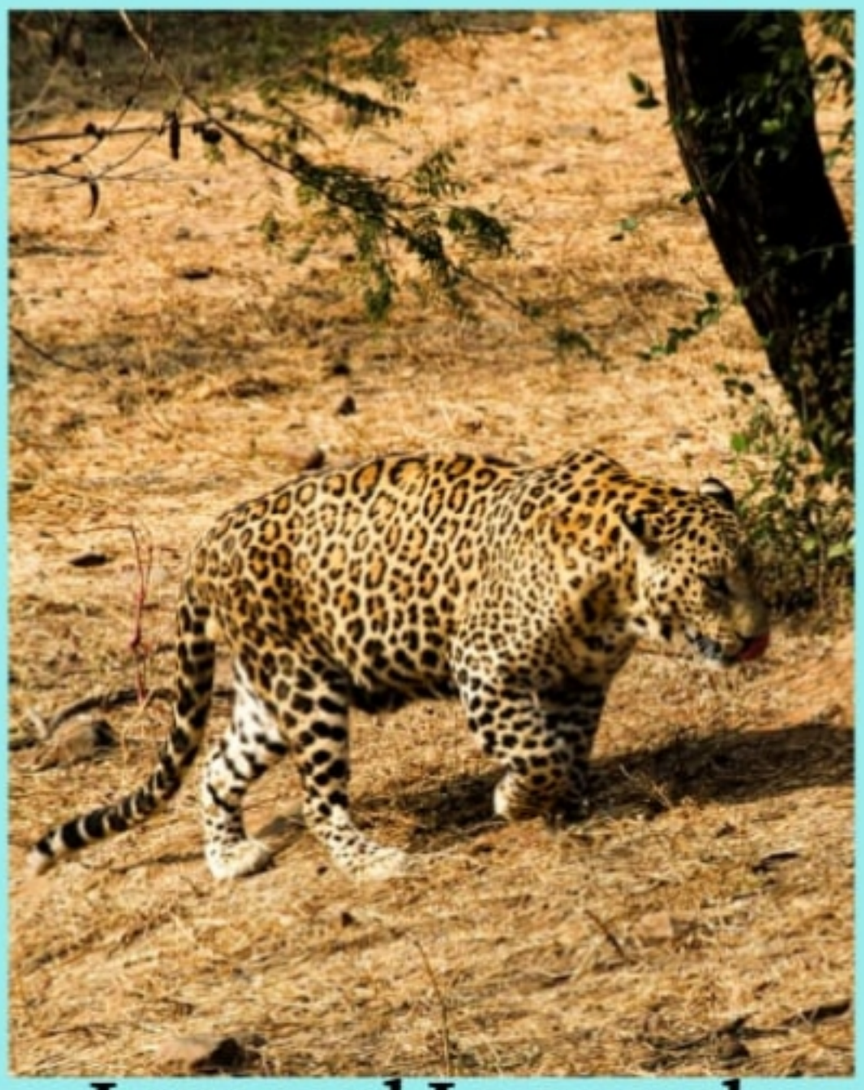
The trip also gave us a chance to work together, explore nature, and create beautiful memories. It was truly a valuable and unforgettable experience for all of us.

Photo Gallery

Asiatic lion
Panthera leo persica
By Jatin (TYBSc)

Sea Anemone
Actiniaria
By Aarati
(SYBSc)

Carpet Anemone
Stichodactyla haddoni
By Anisha (TYBSc)

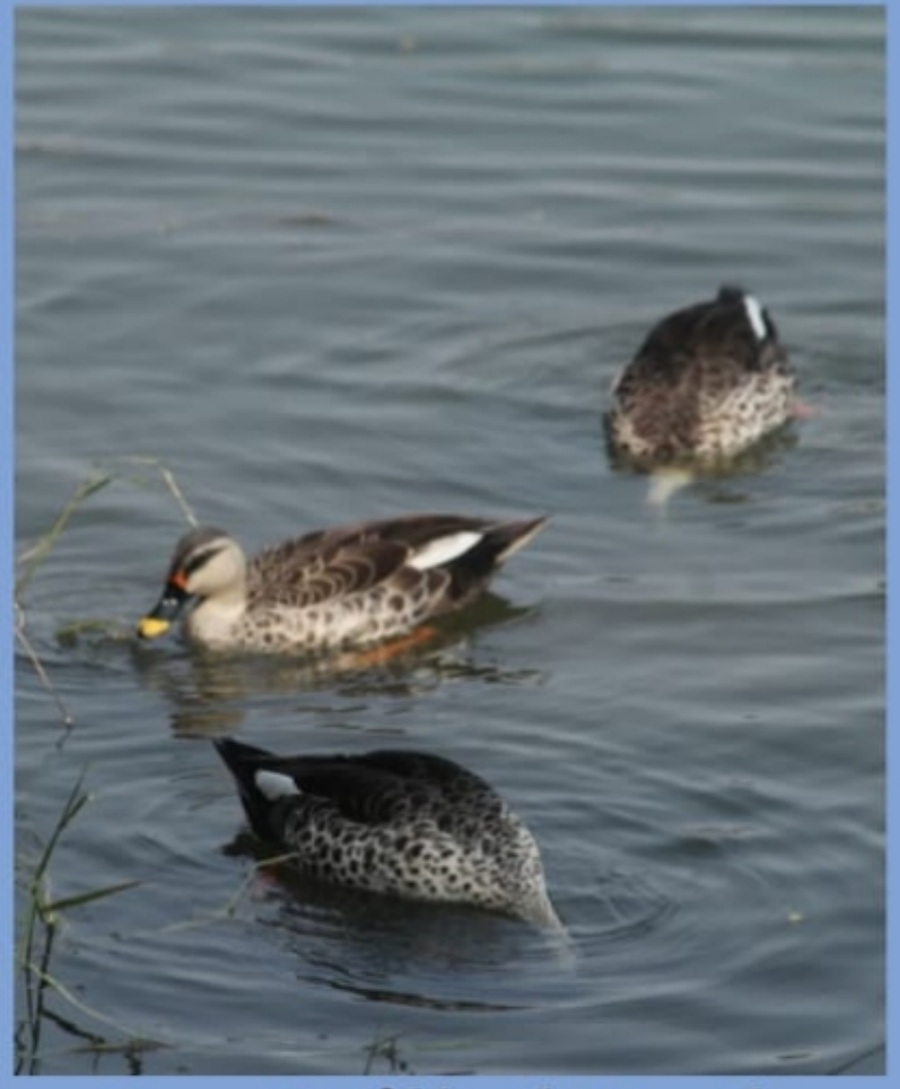


Leopard Leopard
Panthera pardus
By Purva (SYBSc)

Great Egret

Panthera leo persica

By Armaan (TYBSc)



Spot Billed Duck

Anas zonorhyncha

By Shravani (SYBSc)

LIFE E-NEWSLETTER IS AN UNDERTAKING BY THE ZOOLOGY DEPARTMENT OF SIES, SION (W)

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