and digitization of the specimens have been taken up. There is also a plan to install air-conditions to check dust and humidity that affects the specimens negatively. The study of taxonomy of invertebrates has been the Department's forte in past and presently the vertebrate taxonomy is also being gaining foothold. Keeping in view this, the Department has approached the National Biodiversity Authority, Government of India to recognize the Natural History Museum of Osmania University as nodal agency for registering voucher and type specimens of fauna in southern India.

The Natural History Museum of Zoology Department is one of its kinds in Indian subcontinent being repository to specimens of rare animals and fossils that have been collected from different parts of the world. Recent renovation have been done and new air-conditioned gallery for mammals and birds was created. The Natural History Museum has been recognized by the Telangana State Biodiversity Board as a repository of faunal diversity of Telangana State.

ACTIVITIES AND ACHIEVEMENTS DURING

Major attention was focused on improving the infrastructure of M.Sc. Labs, classrooms that are equipped with audio-visual aids. The Department has acquired new instruments and made research contribution under the grants received from DSA-I(SAP-II) and DST(FIST) according to the guidelines outlined under the UGC and to implement UGC curriculum. During this year 2 national conferences were organized. Following CBCS guidelines, under DSA-I(SAP-II) programme two new papers- 1. System Biology and 2. Research Methodology, were introduced in M.Sc. Final year.

OPPORTUNITIES

Post graduate students and Ph.D. scholars find employment opportunities in educational and research institutions in the country and abroad, Department of Fisheries, wildlife, pest control organizations, ICAR, ICMR, CSIR institutions, Sericulture and Pollution control boards. Opportunities are plenty in many biotechnology labs and institutions working in the area of bioinformatics and pathology laboratories.

Future Plans / Activities

i) To upgrade the Natural History Museum as a state level Taxonomic Capacity Building Center and Reference Center, and as a Center for Biodiversity Education for Students.

ii) To digitize the information on faunal diversity of the State and develop Virtual Museum.

iii) To establish a network between the Department and Research Institutions in twin cities for inter-institutional collaboration in research and teaching.

iv) To improve infrastructure and equipment facilities in the teaching labs, add specimens to Insect Consortium.

v) To develop new drugs and ameliorative agents from plants and other natural sources for diabetes, neuropathy, and cataract.

vi) To study genetic disposition of diabetics Type II in Indian population.

vii) National symposium on Innovative challenges in applied aspects of zoological Sciences (Prof. M. Madhavi as Organizing Secretary) from 18.12.2021 to 19.12.2021.

viii) On occasion of centenary celebration of Prof. M. Madhavi as Head & Organizing Secretary conducted A Three-day International conference on Recent Advances in Zoology- Innovations, Challenges, and Opportunities from December 20-22, 2023, at Osmania University Hyderabad.

Registration fees Rs. 200/-

We accept Cheques/ DD's/online

Account Number – **52198260046, Head, Department of Zoology, UCS, OU**

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सत्यमेव जयते

रविप्रीसंप NCSTC

ON THE OCCASION OF

NATIONAL SCIENCE DAY
(NSD-2024)
ONE DAY NATIONAL CONFERENCE

ON

"EMERGING CHALLENGES AND PROSPECTS IN APPLIED ZOOLOGICAL SCIENCES"

ON 28TH SEPTEMBER 2024

Organized by

Department of Zoology, University College of Science
Osmania University, Hyderabad, Telangana – 500 007

Catalyzed & supported by

Telangana State Council of Science & Technology (TSCOST), Govt. of Telangana.

The Department of Zoology came in to existence in 1924 with the introduction of teaching of Zoology in Intermediate Course in the then Biology Department. In the subsequent eight decades of growth and expansion, the Department has diversified teaching and research to suit both recent advances and needs of the regional populace. Strong research sections emerged, in addition to the established teaching line, in the last few decades through funding from UGC, DBT, DST, MoE&F, CSIR, SERB, UKIERI, ICMR, ICAR, DoAE & DRDO. Today significant research contributions are being made in biochemistry and physiology of parasites, cell and molecular biology, immunology, neurobiology, fisheries, animal models and biodiversity studies. This complements the studies on vector biology, insect pest management, phytonematology, effect of stress on physiological functions, use of botanicals as ameliorative agents, biopesticides, taxonomy of vertebrates, biodiversity inventorisation, and conservation.

In recognition of the work done by the Faculty, the department is recognized as potential center for conducting investigations in the area of fluorosis, diabetes related neuropathies, and as a training center for challenges related to tropical diseases. It is also training center for Integrated Pest Management and formulation of bio-pesticides. It is associated with national and international institutions and universities for formulating biodiversity action plans and wildlife conservation activities. The faculties of this department are full fledged members of international institutions like, World Conservation Union (IUCN, Switzerland). The department associated in collaborative research work with various departments of Government of Telangana State (like, Forest & Wildlife, Fisheries, Pollution Control, etc.); Telangana State Biodiversity Board and also with MNJ, Yashoda Hospitals and Global Hospitals,; Central Council for Research in Homeopathy, Government of India; National Fisheries Development Board, Government of India; Zoological Survey of India,; National Biodiversity Authority, Government of India and many industries associated with biotechnology.

Academic Programmes Offered

M.Sc. Zoology	2 Years	51 Seats
Ph.D. Zoology	3 Years	

TSCOST:

Telangana State Council of Science & Technology (TSCOST) functions under the aegis of the Department of Zoology, Science & Technology, Govt. of Telangana with the following

Vision & Mission:

- Formulation, planning, coordination and promotion of Science & Technology (S&T) activities in the state.
- Research & Developments on S &T Information Systems.

To scale up outreach of Science & Technology by integration with planning for achieving the socioeconomic progress of the state.

About the National Conference

Applied Zoological sciences deals understand the scope and present status of aquaculture in India, including different types of fisheries (freshwater, marine, brackish water, and reservoir fisheries). Gain knowledge of induced breeding techniques, the design and management of hatcheries, and the importance of hatchery operations in aquaculture. Learn about fish diseases and control measures, as well as the by-products derived from fish processing. Explore vermiculture and earthworm rearing management, including the role of earthworms in waste management and soil fertility improvement for sustainable agriculture. Comprehend the scope and present status of apiculture, including the species of honey bees in India, their life cycle, colony organization, division of labor, and communication. Familiarize themselves with beekeeping as an agro-based industry, methods, equipment, and tools used in apiculture, and effective apiary management. Acquire knowledge about honey and wax extraction methods, processing, and uses, as well as bee venom, bee diseases, enemies, and their management. Gain insights into lac culture, its production in India, the life cycle of lac insects, lac cultivation practices, and the processing and uses of lac products. Understand poultry farming, including the classification of fowls (broilers and commercial layers), their rearing methods, breeding, and management of breeding stock. Learn about feed formulation for chicks, the nutritive value of eggs, meat management in modern poultry farms, and the control and management of poultry diseases. Explore animal husbandry, including the preservation of semen, artificial insemination of cattle, and the induction of early puberty and synchronization of estrus in cattle. Comprehend dairy farming, its advantages and disadvantages, integrated livestock farming, establishment management, cattle diseases, and the economic importance of livestock.

National Science Day:

NSD is celebrated in India on 28th February every year to mark the discovery of the Raman Effect by the Indian physicist Sir C V Raman. For this great discovery, Dr. C.V. Raman was awarded, Noble prize in Physics in 1930. The main objective of NSD is to increase awareness among the people about the importance of Science and Technology in daily life.

About the Workshop Mushroom cultivation, also known as mushroom farming, is a practice of growing edible fungi for food. It can be done in various settings, from small-scale home production to large commercial enterprises. Mushroom cultivation in India has gained significant momentum in recent years due to its potential as a sustainable agricultural practice and a profitable business venture. India's diverse climate conditions allow for the cultivation of a wide variety of mushrooms, making it an attractive option for both small-scale farmers and large commercial producers. Telangana region's warm and humid climate is suitable for cultivating several varieties of mushrooms, and many farmers and entrepreneurs are adopting mushroom farming as a profitable venture.

LABORATORIES

The teaching and research labs are equipped with instrumentation to impart practical skills to the students in the areas of animal biodiversity, physiology, physiological chemistry, environmental biology, development biology, cell and molecular biology, animal biotechnology, instrument techniques and computer applications in biology, entomology, helminthology, and neurobiology. Research labs are equipped to do research in the field of physiology, entomology helminthology, cytogenetics, environmental biology, and wildlife biology. DRS(UGC) SAP I, II & III, ASIST, BSR, and DST-FIST Programmes project enabled the department to add some more facilities like HPLC, PCR, GELDOC, Software for electrophysiology, voltage panel patch clamp, UV-Visual, Spectrophotometer, Electrophoresis, Inverted Microscope, Spectroflorimeter, Iono-Meter, Refrigerated Centrifuge, and a Computer Lab with 20 P4 & P5 systems to carry out advanced research

LIBRARY

The Seminar library of the Department is fully equipped with recent editions of text books and research-oriented books. Every year new books are being added from regular, DST-FIST and DSA-I(SAP-II) grants.

NATURAL HISTORY MUSEUM

Established in 1934, a brain child of Prof. B. K. Das, the Natural History Museum of Osmania University was predestined to be world renowned as it was planned on the lines of the British Museum of Natural History, London. The Natural History Museum houses a rare collection specimens from all over the world and is unique in representing fauna from all the biogeographic region it is also a repository of numerous voucher specimens fauna and zoo fossils of the erstwhile Hyderabad State.

Among the prized possessions is the valuable collection of birds of Hyderabad State Ornithological Survey of 1930-31 conducted by Dr. Salim Ali of Bombay Natural History Society, who for a brief period served the University as Curatorial Assistant at the Museum.

The impressive collection of the museum includes dry stuffed, wet preserved specimens, skeletons, skulls, trophies, zoo fossils and eggs. The Museum is in Victorian style of architecture with overhead lighting facilities and glass cupboards to house the specimens. The upkeep of the Museum is part of the ongoing long term programme of the Department that aims at proper curation, preservation, cataloguing and information dissemination. As a part of modernization programme air-conditioned mammalian and avian gallery has been expanded