

# ZSI E-News

Monthly E-Newsletter from Zoological Survey of India





## From the Director's Desk



Heartiest Greetings to our readers!

The e-News is an endeavour of the Zoological Survey of India to keep the readers posted about several events, new discoveries and activities that are undertaken at ZSI (HQ and the Regional Centres). With this current edition, it gives me immense pleasure to bring to you the report of April 2023.

ZSI had organized one day virtual seminar on 'Biodiversity Conservation and Mann Ki Baat' on 28<sup>th</sup> April 2023 to commemorate the 100<sup>th</sup> episode of Mann Ki Baat by Hon'ble Prime Minister Shri Narendra Modi. Hon'ble Union Minister of State, Ministry of Environment, Forest and Climate Change, Government of India released the book entitled, *Faunal Diversity of Biogeographic Zones of India: Gangetic Plain* at Gangetic Plains Regional Centre, Zoological Survey of India, Patna while inaugurating Dr. M.L. Roonwal Multipurpose Hall at the Centre. In order to strengthen the scientific activities of the organization, 17<sup>th</sup> meeting of Research Advisory and Monitoring Committee (RAMC) was organized in Goa and the committee recommended for the induction of 17 new research programmes during the current financial year. Further, it is a matter of pride to receive the ISO Certification for Freshwater Biology Regional Centre, Hyderabad and Andaman and Nicobar Regional Centre, Port Blair towards enhancing the scope of activities including museum, DNA laboratories, Capacity building training; survey and documentation of fauna. Description of eight new species under the vertebrate and invertebrate faunal group during the month is worth mentioning.

I extend my congratulations to all the officers and staff of ZSI for the remarkable contributions during the month.

With best wishes for successful publication of this E-News edition.

Jai Hind

**Dr. Dhriti Banerjee**

Director  
5<sup>th</sup> May 2023  
Kolkata

## ISO Certification

Two Regional Centres of ZSI have been certified by ISO.

**Freshwater Biology Regional Centre, Hyderabad** received an ISO 14001:2015 for Environmental Management System for the scope of activities as *a premier research institute in taxonomy and systematics of freshwater fauna, DNA Barcoding laboratory, Automated high end Microscopes, Faunal Museum, Organizing Training, Workshop and Skill Development programmes for the students and research enthusiasts.*

**Andaman and Nicobar Regional Centre, Port Blair** received an ISO 9001:2015 for the maintenance of quality management system with the scope of *Provision of Maintenance of Museum at Port Blair, Operation of Molecular Lab for internal testing, Faunal Exploration and Listing of Species, EIA study, Zoological Survey and Skill Training on Biodiversity of the Andaman and Nicobar Islands.*



## HEADQUARTERS, KOLKATA

Two surveys were conducted to Manas National Park, Assam and to Arunachal Pradesh. Total 3879 examples and 354 species of Collembola, Arachnida, Formicidae, Chalcididae, Crustacean, Diptera, freshwater fishes, Porifera, Earthworm, Leeches, Echinodermata, Ephemeroptera, Plecoptera, Trichoptera, Odonata, Mollusca, Nematodes, Trematodes, Acanthocephalan, Dermaptera, Orthoptera and 138 specimens and 13 species of fossils from Bharati Huda archaeological site were identified during the month. One genus of Nematode *Tigronchoides* Ivanova and Dzhuraeva, 1971 and two species of Orthoptera, *Euconocephalus narayanpurensis* Kumar & Chand 2023 and *Conocephalus (Anisoptera) himalayicus* Chandra, Kumar & Chand, 2023 were described as new to science. Two species of Chalcididae, three species of soil nematodes and four species of platyhelminthes were augmented to National Zoological Collection. DNA isolated from 7 species under the order Diptera. Identification and Advisory services rendered to Ramkrishna Mission Vivekananda Centenary College, Khardaha, Uttar Banga Krishi Vishwavidyalaya, Kalimpong, Fergusson College, Pune. Detailed reply on the queries related to coral transplantation for the holistic development of Great Nicobar Island as per the instruction of the Hon'ble NGT for revisiting the Environmental Clearance as required by MoEF&CC. Comments on import of hunting trophy of 1 no. of taxidermy animal mount shoulder mount of Isard (*Rupicapra pyrenaica*) submitted to Wildlife Division, MoEF&CC on 24<sup>th</sup> April 2023. Organized the 17<sup>th</sup> Meeting of RAMC (Research Advisory Monitoring Committee) of ZSI on 27<sup>th</sup> and 28<sup>th</sup> April 2023 at Goa.

**Published by**

The Director, Zoological Survey of India, Kolkata, INDIA  
Email: director@zsi.gov.in | Website: www.zsi.gov.in  
Cover: *Phoenicopterus roseus* Pallas, 1811 (Greater flamingo), Courtesy: FBRC Hyderabad

**Edited by**

Dr. Dhriti Banerjee  
Dr. C. Raghunathan  
Dr. S. Sheela

**Citation:**

Zoological Survey of India, 2023:  
E-NEWS, 51: 1-26



## NORTH EASTERN REGIONAL CENTRE, SHILLONG, MEGHALAYA

One new frog species *Amolops siju* Saikia *et al*, 2023, is described from Siju cave, Meghalaya by the scientist of NERC, Shillong. The scientists and staffs of the Centre participated in an exhibition stall during the State Level Earth's Day celebration organized by the DMR, Government of Meghalaya on 22 April, 2023. A field survey was conducted under the Project "Exploring the Subterranean biodiversity: selected cave fauna of Meghalaya state (Phase I. Khasi hills. The scientists of the Centre identified 72 species belonging to faunal groups Mammalia (02 spp.), Amphibia (06 spp.), Crustacea (03 spp), Hemiptera (23 spp), Aranea (05 spp.), Orthoptera (05 spp.), Odonata (03 spp.) and Pisces (25 spp.). Rendered photographic identification of one bat species to Mahishadal Raj College, West Bengal, and also provided advisory services to two undergraduate students of St. Edmunds College, Shillong.



Visit of students at ZSI stall on Earth Day Celebration



## WESTERN REGIONAL CENTRE, PUNE, MAHARASHTRA

One survey was conducted to Talegaon Lake, Pune district, Maharashtra. The scientists of the Centre identified 86 species of Decapoda, Arachnida, Coleoptera, Hemiptera, Hymenoptera, Lepidoptera, Mollusca, Pisces and Amphibia. One new species Siju Cascade Frog, *Amolops siju* has been described. Fifteen DNA sequences for four species of small mammals from Great Nicobar Islands/Madhya Pradesh/Odisha were submitted to the GenBank. Identification and Advisory services rendered to Assistant Police Inspector, Crime Branch, Panvel, New Mumbai, for confiscated flat skin and claws samples, Range Forest Officer, Panvel, Raigad district, Maharashtra for confiscated shell sample, Range Forest Officer, Mhasla, Raigad district, Maharashtra for confiscated shell, Forest Officer, Rajur Range, Ahmed Nagar district, Maharashtra for photo images of confiscated bird, TC college, Baramati, Deputy Director of Wildlife, Palakkad Wildlife Division, Kerala, Prof. Ramakrishna More Arts, Commerce and Science College, Akurdi, Pune, University of Calicut, Kerala.



Lesser whistling duck



Nanda Lake (Ramsar Site), Goa

## CENTRAL ZONE REGIONAL CENTRE, JABALPUR, MADHYA PRADESH

Hemipteran species *Praetextatus typicus* Distant, 1901 (Hemiptera: Pentatomidae: Caystrinae) recorded as new to India while reporting *Cletomorpha benita* Kirby, 1891 (Hemiptera: Heteroptera: Coreidae) as new to Mizoram State. Scientists of the Centre identified 80 species of Coleoptera, Lepidoptera, Hemiptera, Mollusca, Pisces and Amphibia. In the context of "Lifestyle for Environment (LiFE)", a pamphlet on "Energy Saving" was made and distributed to spread awareness. Earth Day was celebrated by officers and staff.



Celebration of Earth Day with the Students



Museum visit of the Students



## DESERT REGIONAL CENTRE, JODHPUR, RAJASTHAN

Scientists of the Centre identified 61 species (7 species of Gastropoda, 48 species of insects, 2 species of Arachnida, & 4 species of Pisces). Under Mission LiFE celebrated the World Earth Day on 22<sup>nd</sup> April, 2023 and all the officials participated in plantation of sapling at DRC campus.



Plantation of sapling under Mission LiFE



*Halcyon smyrnensis*  
(Linnaeus, 1758)

## SOUTHERN REGIONAL CENTRE, CHENNAI, TAMIL NADU



*Egreta intermedia* Wagler, 1827



Purple Heron *Ardea purpurea* (Linnaeus, 1766)

The scientists of the Centre identified 143 species belonging to Blattodea, Ephemeroptera, Hemiptera, Odonata, Lepidoptera, Mollusca, Fishes, Amphibia, and Reptiles. DNA barcodes were generated for 18 species of insects and 20 samples of Rhesus macaque. One book chapter on aquatic insects was published.

## NORTHERN REGIONAL CENTRE, DEHRADUN, UTTARAKHAND

Scientists of the Centre identified 70 species belonging to 08 faunal groups i.e., Protozoa, Phthiraptera, Orthoptera, Lepidoptera, Hymenoptera, Pisces, Amphibia and Reptilia. Submitted the Management Effectiveness Evaluation studies report of Gamgul-Siabahi Wildlife Sanctuary of Himachal Pradesh and Kamala Wildlife Sanctuary of Arunachal Pradesh to the MEE Team. Along with students of D.D. College, Dehradun participated in "Mission Life Programme- Save Water, Save Electricity, Cleanliness Drive, use of Millets Awareness Rally" in Dehradun city on 25<sup>th</sup> April, 2023.



*Argya striata*  
(Dumont, 1823)



Mission LiFE on 25th April, 2023



## GANGETIC PLAINS REGIONAL CENTRE, PATNA, BIHAR

Hon'ble Union Minister of State, MoEFCC Shri Ashwini Kumar Chobey inaugurated Dr. M. L. Roonwal Multipurpose Hall of the Centre on 15<sup>th</sup> April, 2023. Organised one-day National Conference on *"Rejuvenation of the Ganga River Ecosystem: Opportunities and Challenges"* on 15<sup>th</sup> April, 2023. Three books were released during the National Conference on 15.04.2023 i.e Faunal Diversity of Biogeographic Zones of India: Gangetic Plains, Abstract cum Souvenir volume on "Rejuvenation of Ganga River Ecosystem: Opportunity and Challenges" and Bharat ka Rashtriy Jaliy jantu - Ganga ki Rani: Dolphin (Kavita Sangrah). Mission Life Exhibition was also displayed through poster and standee in the campus during the National Conference. Six Post Graduate students of A. N. College, Patna have started dissertation work on the various faunal groups of Bihar. Dr. M. E. Hassan, Scientist-E evaluated a Ph.D. Thesis entitled "Studies on antibacterial and antioxidative activities of natural honey samples and honey mediated biosynthesis of silver nanoparticles with broad antibacterial spectrum" for University of Gour Banga, Malda, West Bengal.



Inauguration of Dr. M. L. Roonwal Multipurpose Hall by Shri Ashwini Kumar Chobey, Hon'ble minister of state, MOEFCC in the presence of Dr. Dhriti Banerjee, Director, Zoological Survey of India and Dr. Gopal Sharma, Scientist-E and Officer-in-charge, GPRC, ZSI, Patna



GANGETIC PLAINS REGIONAL CENTRE, ZSI, PATNA ORGANISED ONE DAY NATIONAL CONFERENCE ON "REJUVENATION OF THE GANGA RIVER ECOSYSTEM: OPPORTUNITIES AND CHALLENGES"



### BOOKS RELEASED

Two books and one Souvenir cum Abstract were released Shri Ashwini Kumar Chobey, Hon'ble Minister of State, MoEFCC during the National Conference on 15.04.2023 i.e. Faunal Diversity of Biogeographic Zones of India: Gangetic Plains, Abstract cum Souvenir volume on "Rejuvenation of Ganga River Ecosystem: Opportunity and Challenges" and Bharat ka Rashtriy Jaliy jantu - Ganga ki Rani: Dolphin (Kavita Sangrah)



## HIGH ALTITUDE REGIONAL CENTRE, SOLAN, HIMACHAL PRADESH

The scientists of the centre identified 42 species of Invertebrates (Insects) and Pisces during the month. One local survey was conducted in Agro-ecosystem of districts Solan at Brandli Khad near Rampur, on 18-04-2023. DNA Barcoding of 4 specimens of Lepidoptera (Butterfly) and fish were done and submitted to NCBI. Identification and advisory services were rendered to Lovely Professional University and PAU, Ludhiana, Punjab.



Served Lunch of Millets on 19.04.2023



Poshan Pakhwa celebrated at ZSI, SOLAN on 19.04.2023

## MARINE BIOLOGY REGIONAL CENTRE, CHENNAI, TAMIL NADU

Scientists of the Centre identified 50 species comprising 06 marine sponges (36 examples), 03 Foraminifera, 15 Mollusca, and 22 Fishes. Seventy-six specimens containing bivalves, gastropods, crabs and a black coral species were identified for Justice Basheer Ahmed College for Women, Chennai.



Visit of School children at the marine aquarium



*Acropora formosa* in the lagoon of Kavaratti

## ANDAMAN AND NICOBAR REGIONAL CENTRE, PORT BLAIR

One survey was conducted to Great Nicobar Island and South Andaman. The scientists of the Centre identified 227 species including Fishes (32 species), Mollusca (19 species), Echinoderms (7 species), Arachnida (52 species), Lepidoptera (53 species) and Aves (64 species) during the month. Received ISO Certification for the following areas i.e., Maintenance of Regional Museum, Operation of Molecular Lab, Faunal exploration & listing the species, EIA study, Zoological Survey and Skill Training on Biodiversity of the Andaman and Nicobar Islands. Identification and advisory services rendered to Department of Environment & Forests, Andaman & Nicobar Islands regarding identification of Reticulated Whip Ray.



*Phelsuma andamanense*  
Blyth

## SUNDERBAN REGIONAL CENTRE, CANNING, WEST BENGAL

Scientists of the centre identified 38 species of different faunal groups viz. Mollusca 33 species, Arthropod 2 species, Cnidaria 3 species during the month. One day local survey conducted on 22.04.2023 in Diamond Harbour and adjoining areas for collecting information of turtle and sea snakes from the West Bengal coast.

*Turbinaria mesenterina*  
(Lamarck, 1816)





## FRESHWATER BIOLOGY REGIONAL CENTRE, HYDERABAD, TELANGANA



Beach stone-curlew *Esacus magnirostris* (Vieillot, 1818)



Citrine Wagtail *Motacilla citreola* Pallas, 1776

Conducted field survey under programme "Faunal diversity of Godavari" from 13<sup>th</sup> March to 1<sup>st</sup> April 2023. The scientists of the Centre identified 94 species viz. 15 species of Aquatic Coleoptera, 24 species of Aquatic Hemiptera, 7 species of Mollusca, 28 species of fishes, 10 species of Amphibia and 10 species of Reptiles during the month. 18 DNA barcodes belonging to 18 species have been submitted to NCBI.



Grey headed swamphen *Porphyrio poliocephalus* (Latham, 1801)

## WESTERN GHAT REGIONAL CENTRE, KOZHIKODE, KERALA

Two species of Hymenoptera and one species of Mantodea are described new to science. They are *Ceropales (Ceropales) anaghae* Anju, Girish Kumar & Thejass, 2023 (Hymenoptera: Pompilidae), *Dasylabris leleji* Terine & Girish Kumar, 2023 (Hymenoptera: Mutillidae) from Mohad, Madhya Pradesh, India and *Parananomantis fascifemorata* Sureshan, Kamila & Fasano, 2023 (Insecta: Mantodea) from Shendurney Wildlife Sanctuary, Kerala, India. The scientists of the Centre identified 109 species from 19 different faunal groups during this month. Identification and advisory services rendered to Jammu University, Forensic science laboratory, Ahmedabad, Govt. of Gujarat. Indonesian primate species (seized live animals) were identified through photographs and report sent. Replies were provided through proper channels on extinct and threatened wildlife occurs in Madhya Pradesh and Uttar Pradesh for Lok Sabha question.

## ESTUARINE BIOLOGY REGIONAL CENTRE, GOPALPUR-ON-SEA, ODISHA

The scientists of the Centre identified 140 species from different faunal groups. One day local survey was conducted to Bahuda estuary. One survey was conducted till 31<sup>st</sup> March and had added 1049 specimens to the National Zoological Collections. Three DNA barcodes belonging to 2 species were uploaded in the NCBI data base. During this month turtle hatchlings have come out and was observed moving to the sea at Rushikulya rookery.



Otter in Coringa Wildlife Sanctuary visible in camera trap



Olive Ridley Turtle hatchlings



## ARUNACHAL PRADESH REGIONAL CENTRE, ITANAGAR

The scientists of the Centre identified 89 species belonging to order Lepidoptera 48 spp.; Orthoptera 11 spp.; Coleoptera 01 spp.; Hemiptera 03 spp.; Pisces 15 spp.; Mollusca 03 sp.; Amphibia 07 spp. and Reptilia 01 spp. during the month. Two local surveys were conducted, the first survey was conducted to Buka Nullah, Sopo Village, Papum Pare, Arunachal Pradesh on 8<sup>th</sup> April, 2023. The second survey was conducted to Gumto Village, Doimukh, Papum Pare, Arunachal Pradesh on 14<sup>th</sup> April, 2023. Advisory services rendered to Himalayan University, Itanagar. An awareness programme under Mission LiFE Campaign on Conservation of Biodiversity & Water to ITBP jawans at ITBP HQ, Northeast Region, Itanagar, Arunachal Pradesh was conducted on the 20<sup>th</sup> April, 2023. A Tree Plantation Programme under Mission LiFE Campaign at ZSI Residential Campus, Itanagar, Arunachal Pradesh was conducted on the 25<sup>th</sup> April, 2023.



Tree Plantation under Mission LiFE



Local survey at Buka Nullah

## MARINE AQUARIUM AND REGIONAL CENTRE, DIGHA, WEST BENGAL



*Ocypode macrocera* (H. Milne Edwards, 1837)



*Takifugu oblongus* (Bloch, 1786)

Scientists of the Centre identified and registered 110 species belonging to Polychaete (18 spp.), Fishes (34 spp.), Crustacea (14 spp.), and Mollusca (44 spp.) and deposited in National Zoological Collection. Nineteen days local survey was conducted to Digha and adjacent areas West Bengal. 05 samples of gDNA and PCR products for polychaete and fish and 01 gDNA and PCR product for crab have been amplified. Totally five awareness programme conducted.

## NEW DISCOVERIES AND NEW RECORDS

### NEW SPECIES



*Amolops siju* Saikia et al, 2023



*Ceropales (Ceropales) anaghae* Anju, Girish Kumar & Thejass, 2023



*Dasylabris leleji* Terine & Girish Kumar, 2023



*Parananomantis fascifemorata* Sureshan, Kamila & Fasano, 2023



## PUBLICATIONS

### BOOKS

1. Chandra, K., Banerjee, D., Raghunathan, C., Gupta, D., Roy, P. and Sharma, G. 2022. *Faunal Diversity of Biogeographic Zones of India: Gangetic Plains*: 1-369 (Published by the Director, Zool. Serve. India, Kolkata).
2. Abstract cum Souvenir volume on "Rejuvenation of Ganga River Ecosystem: Opportunity and Challenges".
3. Bharat ka Rashtriy Jaliy jantu - Ganga ki Rani: Dolphin (Kavita Sangrah), Editor: Shivanarayan and Sharma, G.

### PAPERS

1. Anagha, S., Girish Kumar, P. and Hegde, V.D. 2023 [2021]. New record of *Ampulex ruficornis* (Cameron, 1889) (Hymenoptera: Ampulicidae) from southern India. *Government Arts & Science College Research Journal*, **11**(2): 45-50.
2. Anju, K., Thejass, P., Binoy, C. and Girish Kumar, P. 2023. Taxonomic study on the spider wasp genus *Ceropales Latrielle*, 1796 (Pompilidae: Ceropalinae) with description of two new species from India. *Zootaxa*, **5264**(1): 119–128. <https://doi.org/10.11646/zootaxa.5263.1.8>.
3. Ayisha Mawadda, N.V., Girish Kumar, P. and Hegde, V.D. 2023. Range extensions of two species of *Palarus Latreille*, 1802 (Hymenoptera: Crabronidae) within India. *Government Arts & Science College Research Journal*, **11**(2): 64-75.
4. Ghosh, D., Girish Kumar, P. and Subramanian, K.A. 2023. A Rare Cleptoparasitic bee *Tetralonioidella himalayana* (Bingham, 1897) (Hymenoptera: Apidae) from India: Review and New Data. *National Academy Science*

*Letters*, <https://doi.org/10.1007/s40009-023-01243-w>.

5. Guha, M. and Gantait, V.V. 2023. A New Species of the Genus *Tigronchoides* Ivanova and Dzhuraeva, 1971, (Nematoda, Anatonchidae), from India. *International Journal of Science and Research*, **12**(3): 1641-1646.
6. Hasan, M.N., Ahmed, S., Deuti, K. and Marimuthu, N. 2023. Earthworm (Annelida: Clitellata) fauna of Chhattisgarh, India. *Journal Threatened Taxa*, **15**(4): 23091-23100.
7. Hazra, A.K., Jana, D., Mandal, G.P. and Baltanas, R. 2023. On a new species of silverfish of the genus *Ctenolepisma* (Zygentoma:Lepismatidae) from Kawal Tiger Reserve, Telangana, India. *Graellsia*, **79**(1): e190.
8. Kosygin, L., Laskar, B. A. and Khyriam, D. 2023. Cave fish of Meghalaya. *Records of Zoological Survey India*, **123**(1S):37-43.
9. Kumar, A. and Alam I. 2023. Increase of waterfowl abundance in Kaziranga National Park, India. *Records of Zoological Survey India*, **123**(1S): 17-24.
10. Kumar A. and Alam I. 2023. Migration of birds and their flyways in India. *Records of Zoological Survey India*, **123**(1S): 25-35.
11. Kushwaha, S., Jahan, S., Khare, P., and Dubey, A. 2023. Rediscription of *Cletomorpha benita* KIRBY, 1891 (Hemiptera: Heteroptera: Corieidae) first time from Northeast with an updated checklist from the world. *International Journal of Global Science Research*, **10**(1):2004-2008.

12. Kushwaha, S., Kumar, H. and Jahan, S. 2023. First record of genus *Praetextatus* Distant (Hemiptera: Pentatomidae: Caystrine) from India. *Species*, **24**:1-4.
13. Marimuthu, N., Wilson, J.J. and Kumaraguru, A.K. 2023. Seasonal Variability of Biofouling Community Structure in the Gulf of Mannar, Southeast Coast of India: A Multivariate Approach. *Journal of Ocean University of China*, <https://doi.org/10.1007/s11802-023-5353-7>
14. Nath, K.P., Temnjenmongla, M.Y. and Khersa, B. 2023. New Distribution Record of Assam Hill Wormsnake, *Trachischium monticola* (Cantor, 1839) (Natricidae) from Arunachal Pradesh, India. *Reptiles & Amphibians*, **30**: e18824
15. Paunekar, S. and Kushwaha, S. 2023. Studies on Beetles (Insecta: Coleoptera) Diversity and Distribution in the different Elevation Zones of Forest areas of North-West Himalaya of India. *International Journal of Global Science Research*, **10**(1):2015-2028.
16. Sureshan, P.M., Kamila, A.P. and Fasano, A. 2023. Description of a new species of praying mantis (Insecta: Mantodea) from Agasthyamalai Biosphere Reserve, India. *Oriental Insects*.
17. Priyadarsini, P. and Kushwaha, S. 2023. Diversity and Distribution of Freshwater Molluscs in Pench Tiger Reserve, Madhya Pradesh, India. *International Journal of Global Science Research*, **10**(1):1992-2000.
18. Rajpoot, A., Acharya, S. and Bahuguna, A. 2023. Identifying ticks of genus *Hyalomma* using the COI gene from preserved old specimens—a significant approach for controlling zoonotic diseases. *Current science*, **124**(7): 851-857. DOI:10.18520/cs/v124/i7/851-857

19. Saikia, B., Sinha, B., Shabnam, A., and Dinesh, K.P. 2023. Description of a new species of *Amolops* Cope (Anura: Ranidae) from a cave ecosystem in Meghalaya, Northeast India. *Journal of Animal Diversity*, **5**: 36–54 <http://dx.doi.org/10.52547/JAD.2023.5.1.2>
20. Sen, A, Sreeraj C.R., Raghunathan, C. 2023. First report of two euryhaline gobiid fishes (Gobiidae cuvier, 1816) from West Bengal, India. *Species*, **24**: e29s1512
21. Sharma, N. 2022. Range extension of rare skipper butterfly, Toothed Spotted Flat *Celaenorrhinus zea* Swinhoe (Insecta: Lepidoptera: Hesperidae) to Western Arunachal Pradesh. *Journal of Entomological Research*, **46**(Suppl.): 1171-1174.
22. Dey, S.L. and Emiliyamma, K.G. 2023. Four new distributional records of earwigs (Insecta: Dermaptera), with a checklist of species from Chhattisgarh, India. *International Journal of Zoology and Applied Biosciences*, **8**(2): 36-39.
23. Sharma N. 2023. Sighting of the rare brilliant silverspot, *Issoria mackinnoni* (de Niceville, 1891), (Lepidoptera: Nymphalidae: Heliconiinae) in Arunachal Pradesh, India. *Indian Forester*, **149**(3): 359-361.
24. Terine, J.B., Girish Kumar, P. and Adithya, Y.B. 2023. A new species of *Dasytabris Radoszkowski* (Hymenoptera: Mutillidae) from India. *Zootaxa*, **5263**(1): 135–140. <https://doi.org/10.11646/zootaxa.5263.1.8>.



## BOOK CHAPTERS

1. Banerjee, D., Naskar, A. and Sengupta, J. 2023. Beneficial Diptera. In: *Parasitoids in Pest Management*. Ed: Omkar. 12:315-336 CRC Press. UK. <https://doi.org/10.1201/9781003354239>.
2. Sureshan, P.M. and Girish Kumar, P. 2023. Chalcidoid Parasitoids. In: *Parasitoids in Pest Management*. Ed: Omkar. Published by CRC Press, Taylor & Francis Group, Boca Raton (USA) & Oxon (England). Pp: 151-188. DOI: 10.1201/9781003354239.
3. Subramanian, K. A. 2023. Aquatic Insects. In: *Insect predators in pest management*. Ed: Omkar. Pp. 285-295. CRC Press, London.
4. Chandra, K., Banerjee, D., Raghunathan, C., Gupta, D., Roy, P. and Sharma, G. 2022. Faunal Diversity of Indian Gangetic Plains- An Overview, In: *Faunal Diversity of Biogeographic Zones of India: Gangetic Plains*. 1-369 (Published by the Director, Zool. Serve. India, Kolkata).
5. Hassan, M. E., Mukherjee, P. and Kushwaha, S. 2022. Insecta: Hepimtera, In: *Faunal Diversity of Biogeographic Zones of India: Gangetic Plains*. 1-369 (Published by the Director, Zool. Serve. India, Kolkata).

## ARTICLES

1. Kumar A. and Alam I. 2023. Status and Diversity of Waterfowl in Kaziranga National Park, India. ZSI E-news (Special Issue on Maan Ki Baat), 50(April): 06-15.
2. Kumar A. and Alam I. 2023. Status, Diversity and Distribution of Migratory Birds in India. ZSI E-news (Special Issue on Maan Ki Baat), 50(April): 16-27.

## MEETINGS ATTENDED

1. Dr. Dhriti Banerjee, Director attended and Addressed students of Shyampur Siddheswari Mahavidyalaya, Howrah on their visit to several sections at ZSI, Kolkata on the occasion of World Aquatic Animals Day on 03.04.2023 for an introduction and exposure to the museum; Attended the Second Meeting to review the progress to undertake Pilot Capacity Building Programme for Biodiversity Management Committees held on 11.04.2023 onwards through video conference in collaboration with National Biodiversity Authority (NBA), ENVIS Secretariat of MoEF&CC and Botanical Survey of India (BSI) for the effective implementation of Biological Diversity Act, 2002 and discussed a "draft module for the capacity building programme to BMC and way forward" to develop the training module obtaining required information from the BSI. She also highlighted the topics that would be covered in the course materials; Organised a one-day national seminar on the theme of the "Rejuvenation Ganges River Ecosystem" and published an abstract denoting Problems and Conservation related to Gangesat GPRC, Patna on 15<sup>th</sup> April, 2023.

Official tour to Vikram University, Ujjain, Madhya Pradesh on 17<sup>th</sup> April, 2023 for signing of an MoU between ZSI, Kolkata and the university to boost the creativity and innovative attitude of students and faculty members; Attended the meeting of High Powered Committee (HPC) for revisiting the Stage-I Forest Clearance granted on 27.10.2022 and Environmental Clearance granted on dated 11.11.2022 by the MoEF&CC in respect of integrated project in Great Nicobar Island by the Andaman and Nicobar Islands Integrated Development Corporation (NIIDCO) on 18<sup>th</sup> April, 2023 at Kaveri Conference Hall, 4th Floor, Prithivi Wing, Indira Paryavaran Bhawan, MoEF&CC, New

Delhi; Attended the Stakeholder Networking Workshop organized under GIZ's NERAQ (Protection and Sustainable Management of Aquatic Resources in the North-eastern Himalayan Region of India) project on 21 April 2023 at GIZ office, Guwahati. The workshop aimed to bring together the main partners of the NERAQ project from government, research and civil society to gain a common understanding of the objectives and key deliverables; Delivered a special address at an online Seminar on "BIODIVERSITY CONSERVATION AND MANN KI BAAT", organised by ZSI, Kolkata on 28.04.2023 commemorating 100th Episode of Mann ki Baat and released the ZSI E-Newsletter Special Issue on MANN KI BAAT; Chaired the 17<sup>th</sup> meeting of the Research Advisory Monitoring Committee (RAMC) of Zoological Survey of India at Goa from 26<sup>th</sup> to 29<sup>th</sup> April, 2023.

2. Dr. C. Raghunathan, Scientist- F attended GIZ meeting regarding the methodology for vulnerability studies on fishes of North Eastern States of India held on 10<sup>th</sup> April 2023; Attended the Departmental Promotion Committee meeting of ZSI as a Member on 12<sup>th</sup> April 2023; Chaired MACP committee meeting of ZSI on 12<sup>th</sup> April 2023; Attended the meeting of EPCH in connection with export of bone-inlay products and delay and fees charged for export held on 18<sup>th</sup> April 2023 at MoEFCC; Attended the Meeting of High Powered Committee in the matters of Hon'ble NGT Appeals No, 29-32 of 2022 for the project of Great Nicobar Island held at MoEFCC, New Delhi on 18<sup>th</sup> April 2023; Attended the NERAQ Stakeholder Networking Workshop on 21<sup>st</sup> April 2023 at Guwahati, Assam; Attended the 17<sup>th</sup> meeting of RAMC of ZSI held on 27<sup>th</sup> and 28<sup>th</sup> April 2023 at Goa.
3. Dr. Gaurav Sharma, Scientist-E participated as invited member "20th Board Meeting of

Uttarakhand Biodiversity Board" on 27 April, 2023.

4. Dr. Anil Mohapatra, Scientist-E attended the meeting of standing committee of State board for wildlife, Odisha on 25.04.2023.
5. Dr. S. Balakrishnan, Scientist-E participated as a Guest of Honour for the observation of World Earth Day 2023 awareness programme organized by Digha Science Centre on April 22, 2023.
6. Dr. P.S.Bhatnagar, Scientist-E attended 24<sup>th</sup> Meeting of State Wildlife Board of Madhya Pradesh on 21<sup>st</sup> April 2023 in Bhopal.
7. Dr. Souvik Sen, Scientist-D, Dr. Tamal Mondal, Scientist-D, Ms Debashree Dam, Scientist-B and Dr. Atanu Naskar, ZSI HQ attended the Research Advisory and Monitoring Committee Meeting [RAMC] on 27<sup>th</sup> and 28<sup>th</sup> April 2023 at Goa.
8. Dr. Souvik Sen, Scientist-D, ZSI, attended National conference on 'Rejuvenation of Ganga River Ecosystem - Opportunities and Challenges' on April 15, 2023 organised by ZSI/GPRC, Patna.
9. Dr. C. Sivaperuman, Scientist-E attended Andaman Science Association Executive Committee meeting, he attended and presented the old vehicle to the inspection committee in order to fix the reserve price, he attended meeting with PCCF & Chief Wildlife Warden and discussed about the on-going activities with Department of Environment & Forests, ANI, he attended meeting of District Level Environment Impact Assessment Authority (DEIAA) under the Chairmanship of Deputy Commissioner, South Andaman, he also attended and presented the activities & achievements of ANRC/ZSI to the audit team for the ISO certification.



10. Dr. Tamal Mondal, Scientist-D, ZSI, HQ attended meetings related to e-BIS portal on Protocols for restoration of select endangered, threatened and endemic species of the country Under SSD 20: WG02 Working Group, High Power Committee (HPC) for revisiting coral transplantation related respect of integrated project in Great Nicobar Island by the Andaman and Nicobar Islands Integrated Development Corporation (NIIDCO); attended an online court trial of NGT related to Holistic Development of Great Nicobar Island.
11. Ms. Debashree Dam, Scientist-B attended a National Seminar on Rejuvenation of Ganga River Ecosystem: Opportunities and Challenges at GPRC, ZSI, Patna, VC meeting chaired by Shri Tanmay Kumar, Additional Secretary, MoEFCC to discuss actions to be undertaken by ZSI & BSI aligning LiFE with the Clean and Green Panchayats Initiative, program on signing of MoU between ZSI and Vikram University, Ujjain at Ujjain, Madhya Pradesh and a meeting with Mr. K. Bordoloi, OSD to CM, Assam at CM Secretariat, Janata Bhavan, Guwahati, Assam for finalisation of Book release of Fauna of Assam by Hon. Chief Minister, Assam. She also conducted the program of visit of Hon. MOS, MoEFCC, Shri Ashwini Kumar Choubey for inauguration of Multipurpose hall and book release at GPRC, ZSI, Patna.
12. Dr. Sandeep Kushwaha, Assistant Zoologist attended International conference on renewable energy and sustainable environment. On 25-26 March 2023 organized by Society of Biological sciences and rural development and MOU program of ZSI with Vikram University Ujjain on 17.04.2023.

## TRAININGS ORGANIZED

1. One day training was organized by ANRC, Port Blair on Biodiversity of Andaman and Nicobar Islands with special reference to Collection, Preservation and Identification to the newly recruited foresters / forests guards of Forests Training Institute, A&N Islands.
2. Capacity Building Training Workshop on Methods in Faunal Collection, Preservation and Identification was organized by WRC, Pune.
3. Five days long Hands on training programme on Ecology and Biodiversity of Diptera have been given to 5 post graduate students of Asutosh College, Department of Zoology by Officer in charge, staffs and research scholars of Diptera Section.

## TRAININGS ATTENDED

1. Dr. Gaurav Sharma, Scientist-E participated in the "7th Asia Protected Areas Partnership-Technical Workshop" organized and held at Wildlife Institute of India, Dehradun, Uttarakhand from 27<sup>th</sup> to 29<sup>th</sup> April, 2023.
2. Shri. Sreejith S. Kumar, Senior Zoological Assistant of WGRC, Kozhikode attended online Kantasth training programme organized by TOLIC, Thiruvananthapuram on 26 April 2023.

## LECTURES DELIVERED

1. Dr. Anil Mohapatra, Scientist-E of EBRC, Gopalpur had delivered a lecture on "Anguilliform Resources of India: Status and Importance" in the training cum workshop titled "Integrative Taxonomy and Systematics of Finfish and Shellfish" organized by National Bureau of Fish Genetic Resources-ICAR on

18.04.2023, he had also delivered an online lecture on "Basics of the Taxonomy of Marine Fishes" Capacity Building Training Workshop on Methods in Faunal Collection, Preservation and Identification organized by Zoological Survey of India, Western Regional Centre, Pune on 20<sup>th</sup> April, 2023.

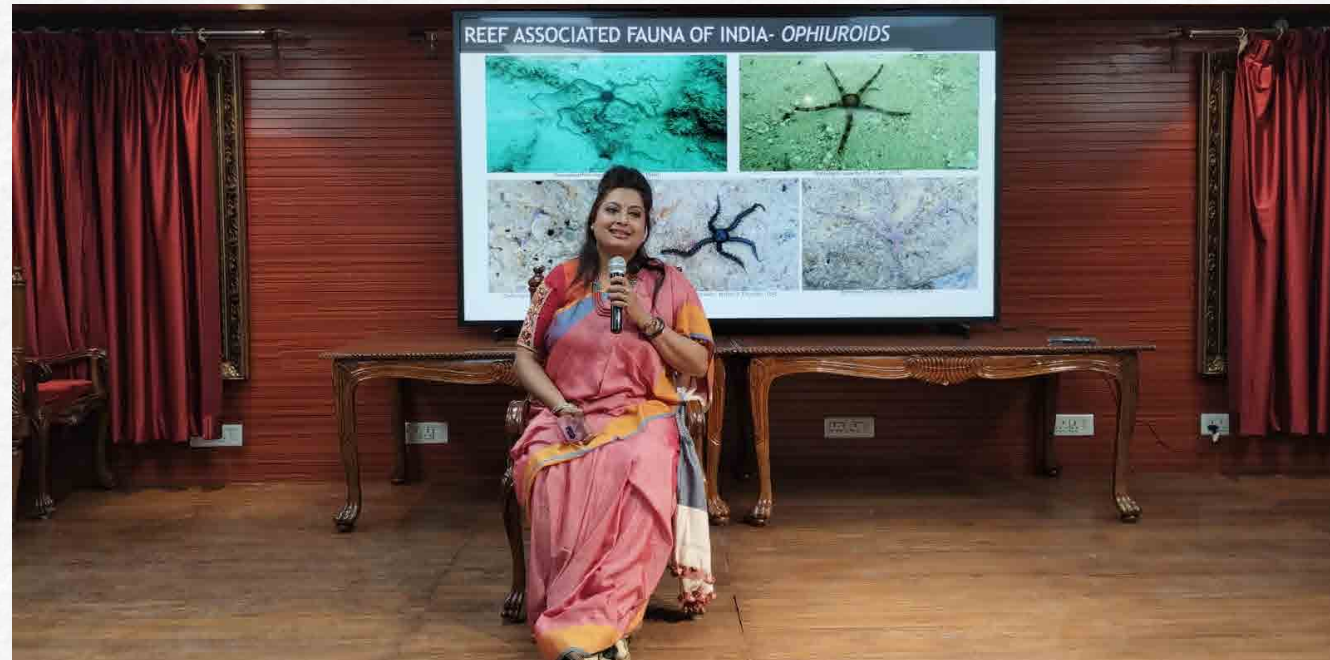
2. Dr. Gaurav Sharma, Scientist-E delivered lecture on topic entitled "Conservation of Wildlife in India" to B.Sc. and M.Sc. students of Alpine Institute, Dehradun in the conference hall of ZSI, NRC, Dehradun on 03 March, 2023. He also delivered lecture on topic entitled "Faunal Diversity and their conservation in India" to 02 Faculty and 42 students from D.D. College, Dehradun, Uttarakhand in the conference hall of ZSI, NRC, Dehradun on 25 March, 2023. He also delivered lecture on topic entitled "Status of Faunal Diversity and their conservation in India" to the 03 faculty and 36 students from Dev Bhoomi University, Dehradun, Uttarakhand at Conference Hall of ZSI, NRC, Dehradun on 26 March, 2023.
3. Dr. Anil Kumar, Scientist-E of NRC, Dehradun delivered a invited talk titled, "Migration of birds and their flyways in India" on 28-04-2023, in online Seminar on "Biodiversity Conservation and Mann Ki Baat" organized by ZSI, Kolkata.
4. S.D. Gurumayum, Sci-E of APRC, Itanagar delivered a talk on Conserve Water Conserve Biodiversity ref Arunachal Pradesh at ITBP Hqs, Itanagar, Arunachal Pradesh as part of the Mission LiFE Campaign organized by the Centre, on the 20<sup>th</sup> April, 2023.
5. Ilona J. Kharkongor, Sci-E delivered a lecture on "Butterflies: Diversity & Conservation" at ITBP Hqs, Itanagar, as part of the Mission LiFE Campaign organized by the Centre, on the 20<sup>th</sup> April, 2023.
6. Dr. A. Gokul, Scientist-B had delivered a lecture on "Arthropod Taxonomy wrt to Brachyuran Crabs" for P.G. students of Dept.

of Marine Sciences, Berhampur University on 13.04.2023.

7. Dr. Sandeep Kushwaha, Assistant Zoologist, delivered a lecture on Hemipteran pest of Central India at International conference on renewable energy and sustainable environment on 25-26<sup>th</sup> March 2023 organized by Society of Biological sciences and rural development.
8. Dr. L. Kosygin Singh, Scientist- E, delivered a lecture on "Cavefishes of Meghalaya" in the Seminar on "Biodiversity Conservation and Mann Ki Baat" organized by the Zoological Survey of India, Kolkata on 28<sup>th</sup> April, 2023.
9. Dr. C. Sivaperuman, Scientist-E delivered a talk on Collection, Preservation and Identification animals to the trainees of Forests Training Institute, Department of Environment and Forests, Andaman & Nicobar Islands, on Avifauna and its ecosystem services to the trainees of Western Regional Centre, Pune, on Biodiversity of Andaman & Nicobar Islands: An overview in the online flat form of Meditation (Everyone - Every County; Every Faith - Every Day), and on Importance of transcontinental migratory bird species and migratory flyway in the online flat form of Meditation (Everyone - Every County; Every Faith - Every Day), London.
10. Dr A.S. Kalawate, Scientist-E of WRC, Pune presented a paper on "Role of integrated taxonomy in solving the cryptic species complex" as a resource person in the National Conference on "Research in Bio, Geo, Chemical Sciences: A global perspective" organized by Dr Annasaheb Bendale Mahila Mahavidyalaya, Jalgaon on 25<sup>th</sup> March 2023.
11. Dr K.P. Dinesh, Scientist-E of WRC, Pune delivered an online guest lecture on "Assessing Cryptic Diversity" for the PhD (Zoology) students of the Jain University, Bengaluru on 14<sup>th</sup> April 2023.



## PICTURE GALLERY



Addressed students of Shyampur Siddheswari Mahavidyalaya, Howrah on their visit to several sections at ZSI, Kolkata on the occasion of World Aquatic Animals Day on 03.04.2023 for an introduction and exposure to the museum.



Organized a one-day national seminar on the theme of the "Rejuvenation Ganges River Ecosystem" and published an abstract denoting Problems and Conservation related to Ganges at GPRC, Patna on 15<sup>th</sup> April, 2023.

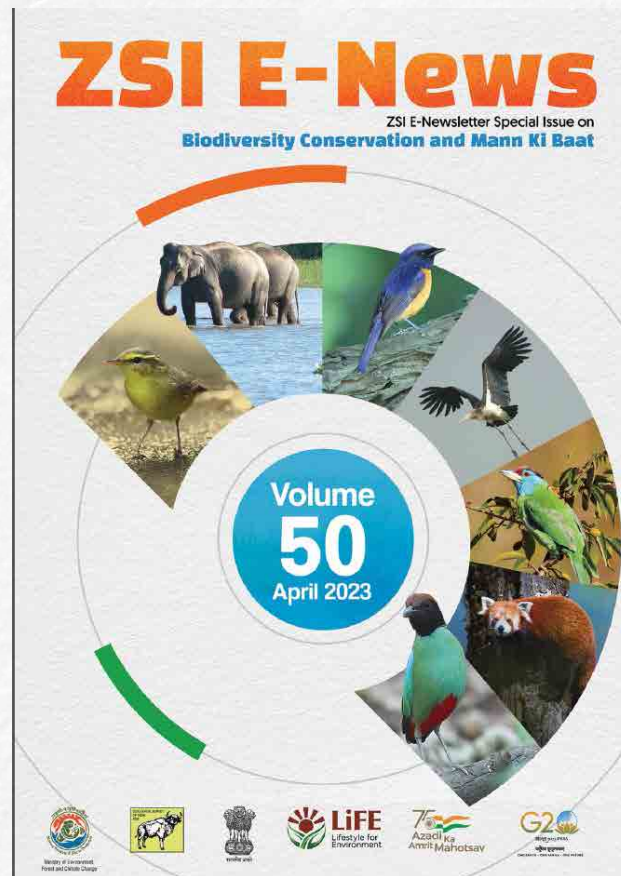
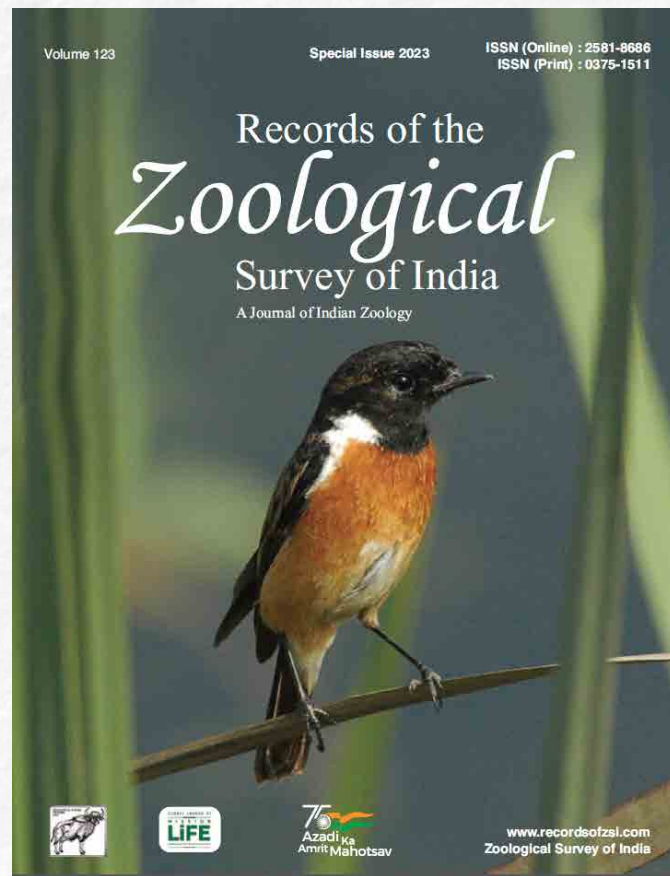
Hon'ble Union Minister of State, Ministry of Environment, Forest and Climate Change, Government of India released the book entitled, Faunal Diversity of Biogeographic Zones of India: Gangetic Plain at Gangetic Plains Regional Centre, Zoological Survey of India, Patna while inaugurating Dr. M.L. Roonwal Multipurpose Hall at the Centre.



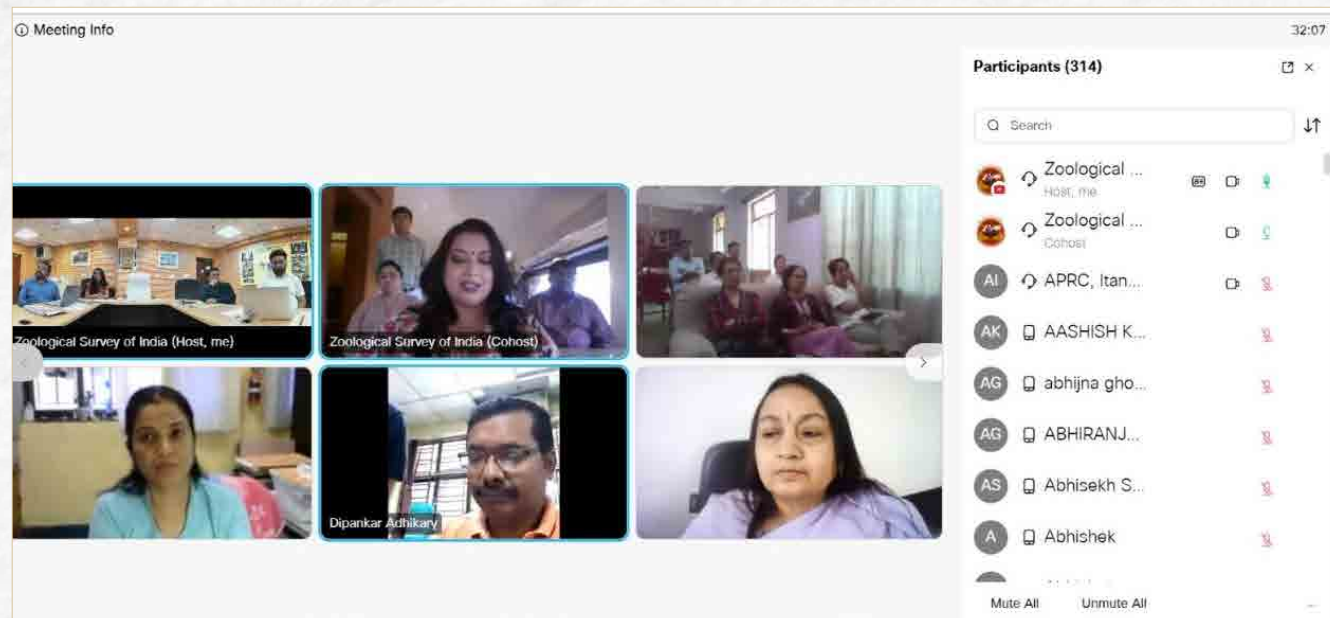
Official tour to Vikram University, Ujjain, Madhya Pradesh on 17<sup>th</sup> April, 2023 for signing of an MoU between ZSI, Kolkata and the university to boost the creativity and innovative attitude of students and faculty members.







Chaired the 17<sup>th</sup> meeting of the Research Advisory Monitoring Committee (RAMC) of Zoological Survey of India at Goa from 27<sup>th</sup> to 28<sup>th</sup> April, 2023.



Delivered a special address at an online Seminar on “BIODIVERSITY CONSERVATION AND MANN KI BAAT”, organised by ZSI, Kolkata on 28.04.2023 commemorating 100<sup>th</sup> Episode of Mann ki Baat and released the ZSI E-Newsletter Special Issue on MANN KI BAAT.



