



Cover

Lion-tailed Macaque *Macaca silenus* (Linnaeus, 1758)
[Photo: ZSI Headquarters]

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Monthly E-Newsletter from
Zoological Survey of India



I am delighted to present the June 2020 issue of the E-News to the readers. The ZSI is gaining momentum in scientific merits after prolonged lockdown for containment of deadly COVID-19. Surveys on Locust swarming in Rajasthan, Madhya Pradesh, Chhattisgarh and Maharashtra have been conducted to assess its population, maturity status, sex ratio, species composition, foraging and settlement behaviour. The specimens of Locust collected from different localities are under analysis to identify their nativity through DNA based molecular studies. Altogether, 9154 specimens belonging to 1807 species have been identified and digitized. Ten species including insects and fishes were described as new to science while 11 species comprising insects, hydrozoans, sponge and cnidarians were recorded as new to India. As a step towards the barcoding of animals,

46 barcodes were generated by Regional Centres and submitted to BOLD. Research Monitoring and Advisory Committee meeting was organized on 19th June 2020 through video conferencing to discuss the annual progress of ZSI for the year 2019-20 and proposed research programmes for 2020-21. Vision 2030 Document of ZSI has also been prepared to cover the gap areas in research. Morphological data on the stranded female specimen of Bryde's whale *Balaenoptera edeni* Anderson, 1879 were collected at Mandarmani, near Digha coast, West Bengal on 29th June 2020. Publication of 31 papers including 21 papers in SCI journals with impact factor is noteworthy. It is interesting to mention that domestication of chicken in southwestern China has been elucidated through DNA studies based on 863 genomes involving multinational collaborative work and the finding was published in *Cell Research*. Sustainable Development Goal (SDG) 15, Target 15.8, Indicator 15.8.1 on Invasive Alien Species in India has been prepared and submitted to MoEFCC. Twenty-two identification and advisory services have been rendered to different government departments and institutions, of which 3 cases pertaining to confiscated wildlife material. World Environment Day-2020 was celebrated on 5th June 2020 on the theme 'Biodiversity' with letter and spirit. Having this significant progress during the month, I congratulate the Officers and Staff of ZSI for their relentless effort towards their contribution to science and society.
Jai Hind.

Dr. KAILASH CHANDRA

Director
July 3, 2020
Kolkata

ZSI E-NEWS

HEADQUARTERS, KOLKATA

Asiatic Cheetah *Acinonyx jubatus venaticus* (Extinct in India)

Altogether 3751 specimens comprising 578 species from different faunal groups such as Protozoa, Acari, Platyhelminthes, Nemathelminthes, Apterygota, Hymenoptera, Isoptera, Hemiptera, Orthoptera, Lepidoptera, Coleoptera, Echinodermata, Pisces, Amphibia, Reptilia, Aves and Mammalia have been identified. Eight new species of animals including *Barsine kirata* Volynkin & N. Singh, 2020 under Lepidoptera; *Clyster galatheaensis* Gupta, Chandra, Das, and Ghosh, 2020 and *Bolboceras arunachalensis* Chandra, Gupta and Ghosh, 2020 under Coleoptera; *Eutropis dattaroyi* under Reptilia; *Chimarra oliveri* Pandher, Kaur & Garima 2020, *Polyplectropus puroalaensis* Pandher, Parey & Kaur 2020 and *Polyplectropus sikkimensis* Pandher, Parey & Kaur 2020 under Trichoptera; sisorid catfish, *Glyptothorax giudikyensis* Kosygin, Singh & Gurumayum, 2020 from the Barak-Meghna-Surma drainage in Manipur were described while synonymizing the moths *Barsine germana* (Rothschild, 1913) (the yellow form) = *B. valvalis* Kaleka, 2003, syn. nov. and *B. thomasi* Kaleka, 2003, syn. nov. (the red-spotted forms). Further the Trichopteran insects *Glossosoma atito* Malicky & Chantaramongkol 1992 and *Ecnomus areolaris* Malicky 1999; Echinoderm *Bohadschia atra* Massin, et al., 1999; Tunicate *Pyrostremma spinosum* (Herdman, 1888); Fish *Myersina yangii* (Chen 1960) were found as new record to India. Structural details of spider mites (Acari: Tetranychidae) *Eotetranychus kankitus* and *K. sexmaculatus* provided to Dr. Jenny Beard, Queensland Museum, Australia. The wildlife confiscated material, Mongoose hair brushes and hair of wild boar received for identification from Forest department, Kolkata and Tamil Nadu and a frigate bird received from Deputy Conservator of Forest, Wildlife (HQ), West Bengal were identified. Besides slug specimen for Gorakhpur University and bivalve for University of Calcutta were also been identified on request. Sustainable Development Goal (SDG) 15, Target 15.8, Indicator 15.8.1 on Invasive Alien Species in India has been prepared and submitted to MoEF&CC. World Environment Day 2020 was organized wherein Dr. Kailash Chandra, Director, ZSI made an inaugural address, Dr. C. Raghunathan delivered a talk on Biodiversity distribution and its conservation, Dr. Basudev Tripathy made a presentation on an overview of Sea Turtle Research, Conservation and Management in India with special reference to Odisha and Dr. Lalit Sharma presented the impact of forest fire on faunal resources for conservation and management during the programme. An online Painting Contest and Essay Writing Contest on the theme "Biodiversity" were conducted for the school children. More than 80 students from 9 different states of India participated in this competition. Scientists reviewed 5 manuscripts for different journals, adjudicated Ph.D. thesis for Bharathidasan University, Tiruchirappalli, Tamil Nadu and evaluated three proposals for DST-SERB PDF..



Black banded Trinket Snake
Oreocryptophis porphyraceus
(Cantor, 1839)

NORTH EASTERN REGIONAL CENTRE, SHILLONG, MEGHALAYA

Two hundred and seventy-two specimens belonging to 99 species of fauna including 4 spp. of Odonata, 42 spp. of Lepidoptera, 5 spp. of Coleoptera, 4 spp. of Crustacea, 23 spp. of Pisces, 12 spp. of Amphibia, 4 spp. of Reptilia and 5 spp. of Mammals have been identified. Detailed

information on Endemic and Threatened fauna of North-east India was provided to the Deputy Inspector General of Forest, MoEF&CC, Regional Office, Shillong. Identified a confiscated sample of lizard for DFO,

Wildlife Division, Jaintia Hills, Jowai, Meghalaya. A manuscript for the Journal of Threatened Taxa, India reviewed by the Scientist of the Centre. Dr Uttam Saikia, Scientist - C was nominated as a member of the Expert Committee constituted by the Govt. of Meghalaya

for the identification of Critical Wildlife Habitat in respect of Narpuh Wildlife Sanctuary, Meghalaya. World Environment Day was observed with a cleaning drive on 5th June, 2020 and International Yoga Day was celebrated in the Centre on 21st June 2020.

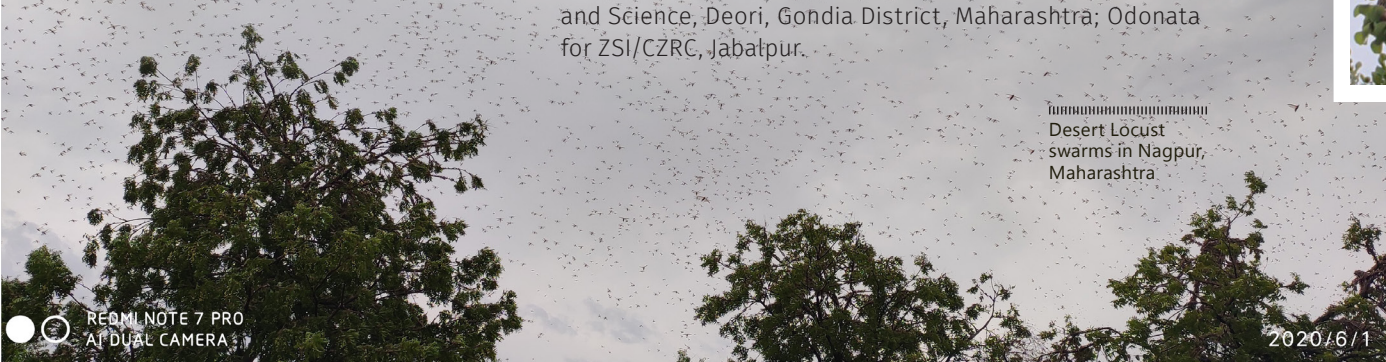
International Yoga
Day Celebration



WESTERN REGIONAL CENTRE, PUNE, MAHARASHTRA

Survey of desert locust *Schistocerca gregaria* Forsskål, 1775 swarms around Nagpur, Maharashtra has been conducted during 31st May to 03rd June 2020. A total of 357 specimens comprising 1 spp. of Orthoptera, 5 spp. of Coleoptera, 4 spp. of Mollusca, 11 spp. of Amphibia and 3 spp. of Rodentia were identified. Advisory services rendered to Maharashtra State Biodiversity Board on Indian Dancing Frogs (Genus: *Micrixalus*), and identified a bird image Asian Openbill Stork *Anastomus oscitans* (Boddaert, 1783) for the Wildlife Crime Control Bureau, Cochin regional office, Kerala; one bat specimen for Manoharbhay Patel College of Arts, Commerce and Science, Deori, Gondia District, Maharashtra; Odonata for ZSI/CZRC, Jabalpur.

Desert Locust
swarms in Nagpur,
Maharashtra



REDMI NOTE 7 PRO
AI DUAL CAMERA

2020/6/1 0

CENTRAL ZONE REGIONAL CENTRE, JABALPUR, MADHYA PRADESH



Meimuna duffelsi
Boulard 2005



Fejervarya orissaensis
Dutta 1997

Survey of Locust swarm in Madhya Pradesh and Chhattisgarh conducted during 31st May to 1st June 2020 and 5th to 11th June 2020. Altogether 79 specimens comprising 46 species including 34 spp. of Lepidoptera (18 spp. of moths, 16 spp. of butterflies), 4 spp. of Amphibia, 7 spp. of Reptilia, 1 sp. of Mammalia were identified from districts, Panna and Sidhi in Madhya Pradesh. The settling and feeding behavior of locusts have been studied and data collected.

DESERT REGIONAL CENTRE, JODHPUR, RAJASTHAN

Surveys conducted at Jodhpur district, Rajasthan to assess population structure of recent attack of locust swarm on 16th and 17th June 2020. Altogether 249 specimens of fauna including 1 spp. of Orthoptera, 06 species of Lepidoptera, 8 spp. of Coleoptera and 13 spp. of Hymenoptera, 11 spp. of fishes and 4 spp. of mammals have been identified. The Centre celebrated World Environment Day on 5th June 2020, organized

quarterly Workshop in official language Hindi at the Centre on 12th June 2020 and World Day to Combat Desertification and Drought 2020 on 17th June 2020, and observed International Yoga Day on 21st June 2020. Advisory services rendered to the Assistant Professor & Head, Dept. of Zoology, PG College, Kurud, Chhattisgarh on collection, preservation and identification of butterfly fauna, Central Ground Water Board, Jhalana Doongri, Jaipur, Rajasthan on the conservation (IWPA, 1972/IUCN) and pest status of *Papilio demoleus* Linnaeus, 1758 in India, and identified three bumble bees for Dept. of Entomology, YSP University of Horticulture and Forestry Nauni, Solan, Himachal Pradesh. Scientist of the Centre has reviewed one manuscript for in-house journal.

Gazella bennettii
(Syks, 1831)



Plantation during
World Environment
Day



NORTHERN REGIONAL CENTRE, DEHRADUN, UTTARAKHAND

~~~~~  
Giant golden orb weaver  
Spider, *Nephila pilipes*  
(Fabricius, 1793)



~~~~~  
Common Map Butterfly,
Cyrestis thyodamas
Boisduval, 1836

SOUTHERN REGIONAL CENTRE, CHENNAI, TAMIL NADU

The Centre discovered one new species of *Ephemeroptera*, 2 new species of *Odonata* and 1 new genus of *Psocoptera*. Identified 5 species of zooplankton for Department of Life Sciences, Tikaram Yadav Smriti P.G. College, Moth, Jhansi, Uttar Pradesh, 7 species of *Odonata* identified from photos for Horticulture Farm, TNAU, Thadiankudisai, Kodaikanal, Tamil Nadu and 5 species of *Odonata* identified from photos for ANRC, ZSI, Port Blair: one species of bird was identified from photo for Wildlife Crime Control Bureau, Kochi, Kerala. Ph.D. thesis was reviewed for the Department of Zoology, Barhampur University, Odisha. A total of 28 DNA Barcodes submitted to NCBI belonging to 9 species of marine fishes and 1 species of butterfly.

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Rock Agama  
*Psammodromus dorsalis*  
(GRAY, 1831)





Indian Pond Heron  
*Ardeola grayii* (Sykes 1832)

## GANGETIC PLAINS REGIONAL CENTRE, PATNA, BIHAR

One hundred and fifty-seven specimens were identified as 35 spp. of Lepidoptera and 20 spp. of Mollusca. Scientist of the Centre reviewed three manuscripts for in-house journal.



*Haitia  
mexicana*  
Philippi  
1841

## HIGH ALTITUDE REGIONAL CENTRE, SOLAN, HIMACHAL PRADESH



Royle's Pika  
*Ochotona roylei*  
(Oglibi, 1893)

Faunistic identification from the Centre includes 219 specimens comprising 32 spp. of Lepidoptera from Grasslands of Himachal Pradesh, Sirmour district of HP and UT of Jammu & Kashmir; 06 spp. of Ephemeroptera from Himachal Pradesh and UT of Jammu & Kashmir; 01 spp. of Orthoptera from cold desert of Spiti valley, Himachal Pradesh, and 05 spp. of Herpetofauna from Himachal Pradesh. The World Environment Day was celebrated at the Centre on 05.06.2020 by planting saplings in the Office premises and International Yoga Day observed on 21<sup>st</sup> June 2020 from respective homes of the officers and staff. Activities of the Centre has been telecasted by Himachal Dastak TV on 26<sup>th</sup> June 2020. A paper on Lepidoptera has been reviewed by the Scientist of the Centre.

*Argynnis hyperbius*  
(Linnaeus, 1763)

# MARINE BIOLOGY REGIONAL CENTRE, CHENNAI, TAMIL NADU

The summer internship programme on 'Collection, Preservation and Identification of Marine Fauna' organized every year for the benefit of Master's level Zoology Students was organized on-line this year, from 22 May 2020 to 05 June 2020, for a duration of 15 days. Besides the in-house expertise, Scientists and Researchers from other Institutions in India and abroad were also enrolled to deliver lectures on specific topics. 243 students and research scholars from four Universities and 12 Colleges from across India registered and participated in the programme. A new species of praying mantid described and a gastropod *Cantharus melanostoma* (Sowerby, 1825) first record to the Andhra Pradesh coast were published, and a marine sponge *Phakellia tropicalis* Alvarez & Hooper 2009, a new record to Indian waters, was identified from Lakshadweep atolls. In addition, a total of 38 species from 114 examples which includes Testate amoebae 12 species, Marine Sponges 10 species, Mollusca 04 species, Pisces 12 species were identified by the scientists and staff of this Centre. Identified 13 species of corals from Gulf of Kachchh, for the Marine National Park authorities, Gujarat and four adult *Lepidochelys olivacea* (Eschscholtz, 1829), for the Range Forest Officer, Tutthookudi Range of the Gulf of Mannar Biosphere Reserve.

|||||  
*Gymnothorax*  
*favageneous* Bloch and  
Schneider 1801

|||||  
Bleached  
*Acropora* at  
Kavaratti Island

# ANDAMAN AND NICOBAR REGIONAL CENTRE, PORT BLAIR

|||||  
Tytlers  
*Mabuya*  
*Eutropia*  
*tytleri*  
Theobald  
1868

|||||  
Stork billed  
Kingfisher  
*Pelargopsis*  
*capensis*  
*osmastonii*  
Baker 1934



Three local field surveys have been carried out in south Andaman to assess the wetland birds during 20<sup>th</sup>, 27<sup>th</sup> and 28<sup>th</sup> June 2020. A total of 359 species were identified comprising 74 species of scleractinian corals, 63 spp. of molluscs, 5 spp. of heterobranch, 30 spp. of fishes, 3 spp. of crustacean from the marine environment and 76 spp. of lepidoptera, 7 spp. of odonata, 31 spp. of arachnida, 2 spp. of hymenoptera, 3 spp. of hemiptera, 2 spp. of coleoptera, 26 spp. of reptiles, 5 spp. of amphibians and 32 spp. of birds from terrestrial environment. Meta data for 1000 registered specimens has been prepared. Of which, 650 specimens belong to marine ecosystem while 350 specimens under terrestrial ecosystem. Provided display materials of fauna of A & N Islands to the Deputy Commissioner, South Andaman and Sub-Divisional Magistrate on request while information on the marine faunal diversity to the students provided to Navy Children School, Port Blair.





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*Ostracion meleagris*  
Shaw 1796

Identified the underwater photographs of 32 species of coral reef fishes under 18 genera belonging to 8 families which are recorded during field trip to Lakshadweep. Two species of snakes *Xenochrophis piscator* (Schneider 1799) and *Lycodon aulicus* (Linnaeus 1758) have been identified for RPF Inspector, Canning. The answer books of M.Sc. Marine Biology students of Berhampur University were examined upon request from the Controller of Examinations, Berhampur university.

## SUNDERBAN REGIONAL CENTRE, CANNING, WEST BENGAL

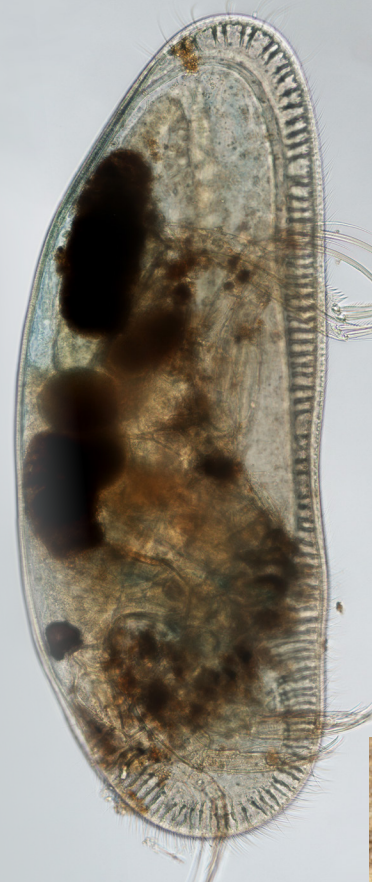
|||||  
*Acanthurus  
leucosternon*  
Bennett 1833



Scientists of the Centre examined 1220 specimens from Thatiguda waterfall, Penna River and Visakhapatnam, East Godavari districts, Andhra Pradesh; Kandaman district and Rabandhara waterfall Odisha; Adilabad and Nirmal district, Telangana; Amrabad and Kawal Tiger Reserve, Telangana; Godavari River, Andhra Pradesh and Telangana; Nasik district, Maharashtra: These specimens comprised of 15 species of Molluscs, 6 species of decapods, 14 species of aquatic insects, 26 species of butterfly, 11 species of Ostracoda, 14 species of fishes from Amrabad & Kawal Tiger Reserve; 17 species of fishes from East Godavari district. Two research papers reviewed for peer reviewed journal. Sixteen sequences of fishes have been submitted to NCBI and BOLD.

## FRESHWATER BIOLOGY REGIONAL CENTRE, HYDERABAD, TELANGANA

|||||  
*Charaxes  
bernardus*  
(Fabricius, 1793)



|||||  
*Stenocypris malayica*  
(Victor and  
Fernando 1981)



Caliris  
keralensis

## WESTERN GHATS REGIONAL CENTRE, KOZHIKODE, KERALA

The centre identified 2 sp. of preying mantids (Insecta: Mantodea), 13 sp. of spiders (Arachnida: Araneae) and 16 sp. of wasps (Hymenoptera: Pteromalidae, Vespidae, Scoliidae, Sphecidae & Crabronidae) collected from Agasthyamalai Biosphere Reserve and other parts of southern Western Ghats. Observed the World Environment Day on 5th June 2020 by planting tree saplings in the office campus. Scientist of the Centre reviewed one research manuscript on Hymenoptera for the journal and identified photographic images of eleven spiders and two hundred wasp specimens received from different institutes/NGOs and one species of freshwater turtle and snake based on the image send by Range Forest Officer, Nashik district, Maharashtra

Heterometrus  
flavimanus



Pied Kingfisher  
*Ceryle rudis*  
(Linnaeus, 1758)



A total of 354 specimens belonging to 91 species were identified which includes fishes, molluscs, lice, crabs, aquatic insects etc. First International Horseshoe Crab Day was celebrated on 20<sup>th</sup> June, 2020 by a webinar. The webinar was inaugurated with the message from Dr. Kailash Chandra, Director, Zoological Survey of India, followed by introduction and back ground of horseshoe crab research in Odisha by eminent herpetologist, Prof. Sushil Kumar Dutta. In the webinar Dr. Basudev Tripathy, Scientist-E, Zoological Survey of India, presented the key note address on "Distress call of a living fossil Horseshoe crab of Odisha coast". In the webinar 274 participants from 42 institutions from India and abroad were participated.

## ESTUARINE BIOLOGY REGIONAL CENTRE, GOPALPUR, ODISHA



Indian grey hornbill  
*Ocyrceros birostris*  
(Scopoli, 1786)



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*Keratella serrulata*  
Ehrenberg 1838

## ARUNACHAL PRADESH REGIONAL CENTRE, ITANAGAR



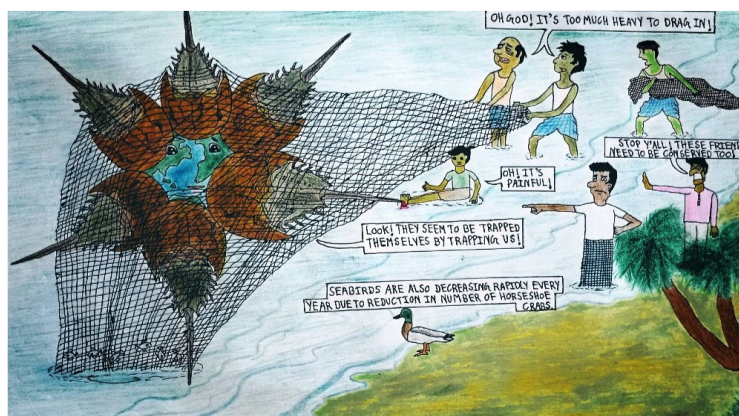
.....  
*Bangana  
dero*  
Hamilton  
1822

Two local surveys were conducted to Itanagar Wildlife Sanctuary. Thirty species of Rhopalocera, from Ganga Lake, Itanagar Wildlife Sanctuary, 8 spp. of Pisces, 13 spp. of Rotifera from Pange & Tale, TWS, L. Subansiri; Roing, L. Dibang Valley and Pasighat, East Siang and one species of Diplopoda were identified from 157 specimens. The Centre celebrated the World Environment Day, 2020 and organized an online video speech contest among school children on the topic Biodiversity. There were altogether 26 participants sent their video clips from different parts of India including Assam, Bihar, Chhattisgarh, Maharashtra, Manipur, Nagaland, Uttar Pradesh, and Arunachal Pradesh. The Centre also observed the International Yoga Day on 21<sup>st</sup> June 2020. Scientist of the Centre reviewed one manuscript for in-house journal.

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

The carcass of 40ft long female whale was washed ashore in Mandarmoni coast near Digha on 29th June 2020. It was identified as Bryde's Whale, *Balaenoptera edeni* Anderson, 1879. A total of 458 samples comprising 66 species including 7 spp. of Cnidaria, 49 spp. of Mollusca, 1 spp. of Echinodermata, 3 spp. of Arthropoda, 1 spp. of Brachiopoda and 5 spp. of Chordata were identified and digitized. The physico-chemical parameters of the aquarium water were analyzed by collecting 86 samples. A webinar entitled "Renaissance of Mother Earth" on 04th June 2020 was organized for school and college students. On the 1st International Horseshoe Crab Day, 20th June 2020 a webinar entitled "The Mysteries of the Living Fossil-Horseshoe Crab" was organized in which Dr. Basudev Tripathy, Scientist-E, ZSI, Kolkata delivered a lecture on the topic followed by interactive session with

students. Total 166 participants registered for the Webinar from all parts of India. An online Poster Campaign Competition was also organized on the said theme in which 58 posters were received from students. Best 15 posters will be displayed in Marine Aquarium for public viewing. On 21st June 2020, International Yoga Day, a webinar was also organized by the Centre. One manuscript has been reviewed by the Scientist of the Centre. Provided general information on distribution, taxonomy and conservation of Horse shoe crabs in India to the Principal, B.B. Memorial Public School, Tinsukia, Assam and about Marine fauna pertaining to Dugong, Horse shoe crab and Hawksbill turtle to the Principal, The Ryan International School, Masdar City, Abu Dhabi on World Ocean's Day.



.....  
Paintings made by school students during 1<sup>st</sup>  
International Horse-shoe Crab Day



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## BOOK CHAPTER

1. Husain, A. and Ahmad, J. 2020. Occurrence of *Spodoptera litura* (Fabricius, 1775): An Invasive Moth in Residential Area of Dehradun (Uttarakhand) with Host Plants. In: Integrated Pest Management, Chapter 16: 283- 292. Published by Biotech Books, New Delhi, India, 311 pp

## POPULAR ARTICLES

1. Muhamed Jafer Palot. 2020. Endemic Reptiles of Western Ghats (In Malayalam) *Aranyam*- A magazine of Kerala Forests & Wildlife Department. Vol. 40 (10): 23-25.
2. Muhamed Jafer Palot. 2020. Endemic Freshwater Crabs of Western Ghats (In Malayalam) *Aranyam*- A magazine of Kerala Forests & Wildlife Department. Vol. 40 (10): 18-19.
3. Muhamed Jafer Palot. 2020. Endemic Odonata of Western Ghats (In Malayalam) *Aranyam*- A magazine of Kerala Forests & Wildlife Department. Vol. 40 (10): 34-36.
4. An article, 'Don't blame them for our plight' was published on the 29th June, 2020 edition of the English Daily, The Shillong Times. The article shed light on the current evidence regarding bat and COVID-19 and also highlights the ecological roles of bats prepared by ZSI/NERC, Shillong.

## CONFERENCE/SYMPOSIUM/ WORKSHOP/TRAINING/ MEETING ATTENDED

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| <p><b>1.</b> Dr. Kailash Chandra, Director, ZSI organized RAMC meeting through video conferencing on 19th June 2020, chaired by Dr. S.C. Gairola, IFS, Head of Forest, Govt. of Maharashtra; attended a meeting through video conferencing on 26 June 2020, chaired by Mr Ravi Agarwal, IAS, Additional Secretary, MOEF&amp;CC, Govt. of India; organized Monthly Consultative Meeting for the month of June, 2020 for the Officers of Head Quarters and Regional Centres through video conferencing on 29 June 2020.</p> <p><b>2.</b> Dr. C Rahunathan, Scientist-E delivered a lecture on World Environment Day on the topic of Biodiversity on 5<sup>th</sup> June 2020; Attended the scientific consultative committee meeting of ZSI HQ on 1<sup>st</sup> June 2020, Regional Centres on 2<sup>nd</sup> June 2020 and the meeting with RCs for Vision 2030 on 9<sup>th</sup> June 2020 through video conferencing; attended Eco-Sensitive Zone (ESZ) Expert Committee Meeting on 22<sup>nd</sup> and 23<sup>rd</sup> June 2020 at MoEFCC through video conferencing; attended RAMC meeting on 19<sup>th</sup> June 2020 at ZSI through online</p> | <p>and made a presentation of Vision 2030 of ZSI and Annual Programme Research proposals for 2020-2021; attended meeting with Additional Secretary, MoEFCC on 26<sup>th</sup> June 2020 through video conference regarding the proposal on Pool Scientists programme in ZSI.</p> <p><b>3.</b> Dr. M. E. Hassan, Scientist-E, has participated in national webinar on “World Ozone Day”, “Prevention &amp; Control of Vector Borne Diseases amidst COVID-19” and “Locust attack- Ecological speaking” organized by different organizations during the month.</p> <p><b>4.</b> Dr. Basudev Tripathy, Scientist-E delivered a talk on ‘Faunal Diversity and Conservation’ on 5<sup>th</sup> June 2020 through free online webinar on the occasion of World Environment Day Celebration-2020 organised by the Indian Institute of Engineering Science and Technology, Shibpur (Formerly Bengal Engineering and Science University, Shibpur) Howrah, West Bengal; ‘Mysterious life of the Ridley Turtles: conservation and way forward’ on 7<sup>th</sup> June 2020</p> | <p>through free online webinar Nature Classrooms: Weekend Talk Series on Biodiversity &amp; Conservation organized by Regional Museum of Natural History, Bhubaneswar, Odisha; “Distress Call of Living Fossil Horseshoe Crab of Odisha Coast” on the occasion of the First International Horseshoe Crab Day on 20<sup>th</sup> June, 2020 (12 Noon – 02 PM) Organized by Estuarine Biology Regional Centre, Zoological Survey of India, Gopalpur-on-Sea, Odisha; participated in the Meeting with Additional Secretary, MoEFCC held through video conference on 26<sup>th</sup> June 2020 on Pool Scientists Schemes proposal at ZSI, Kolkata.</p> <p><b>5.</b> Dr. Anjum N. Rizvi, Scientist-E, and Smt. Anindita Ghosh , Asstt. Zoologist attended two Webinars on “The Generation and Distribution of Biodiversity in the East Himalaya from Trees to Birds” (18<sup>th</sup> June 2020) and “The origins of complexity and the complexity of origins “(26<sup>th</sup> June 2020) organized by Punjabi University Patiala.</p> <p><b>6.</b> Dr. Chitra, J Scientist C, participated in webinar INYAS-</p> |
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CUPB Lecture Workshop 'tangled bank' encompassing 15 lectures, Transmission Electron Microscopy for Nano materials, Renaissance of Mother Earth – 2020, Biodiversity and Its Conservation, Commemoration of World Oceans Day, Impact of Covid-19 on Lifestyle and Quality of Life and Coping Strategies, and Freshwater Biodiversity Conservation in Western Ghats organized by different institutions in different dates

7. Dr. S.R. Patil and Dr. S.S. Talmale participated in two days National Webinar on "Taxidermy as an Art vis-à-vis Science" on 10<sup>th</sup> & 11<sup>th</sup> June, 2020 organized by College of Veterinary Science & Animal Husbandry, Nanaji Deshmukh Veterinary Science University, Jalalpur, Madhya Pradesh.
8. Mr. Sreejith S. Kumar and Dr. D. Vasanthakumar participated in the webinars on 'Taxidermy as an Art vis-à-vis Science,' Locust swarming in India amidst COVID-19 pandemic; Marine life; Remote Sensing & GIS Technology and Applications; Science Leadership Workshop organized by different organization in different dates during June 2020, while Dr. Vasanthakumar also participated in an insightful overview on environmental issues, challenges and management; Natural Pesticide for the betterment of Eco-System - Present Status and Future Prospects.
9. Dr. Muhamed Jafer Palot, Scientist-B served as a Panelist and delivered a lecture in a Webinar organized by M.S. Swaminathan Research Foundation & Agrobiodiversity Centre, Kalpetta, Wayanad for the school students and teachers on 5<sup>th</sup> June 2020, on the occasion of World Environment Day.

10. Dr. V. D. Hegde, Sci-E & Officer-in-Charge attended a webinar on 13<sup>th</sup> June, 2020 on '*Reflections of Higher Education Scenario – Post COVID-19*' delivered by Sri Tathagatha Roy, Hon'ble Governor of Meghalaya; 16<sup>th</sup> meeting of the governing body of the Meghalaya Zoo Project Implementation Society held at Sylvan House, Lower Lachumiere, Shillong on 23<sup>rd</sup> June, 20; meeting to discuss flora and fauna on development of appropriate apps on People's Biodiversity Register held at Sylvan House, Lower Lachumiere, Shillong on 25<sup>th</sup> June, 2020.
11. Dr. Gaurav Sharma, Scientist-E and Dr. Anil Kumar, Scientist-E served as Team Members for the Evaluation of selected 23 National Parks and Wildlife Sanctuaries through Management Effectiveness Evaluation (MEE) Process during 2020-21 organized by Wildlife Institute of India, Dehradun.
12. Dr. Gaurav Sharma, Scientist-E attended 15<sup>th</sup> Meeting of Uttarakhand State Board of Wildlife" held under the Chairmanship of Sh. Trivendra Singh Rawat, Hon'ble Chief Minister of Uttarakhand at conference hall of Secretariat, Uttarakhand Government, Dehradun on 29<sup>th</sup> June, 2020; delivered a lecture on conservation of environment and biodiversity to the Scientists and staff at ZSI, NRC on 5<sup>th</sup> June, 2020; participated in Lecture presentation on COVID-19: A Pandemic of Mistreated Nature; Creation of National Television series on Gulf of Mannar Biosphere Reserve; Desertification and Drought Day, 2020 organized by MoEFCC/WII in different days during June 2020.

13. Dr. Archana Bahuguna, Scientist-E coordinated web meeting for discussion on "Deforestation, illegal wildlife trade and pandemic".
14. Dr. Kubendran, Scientist-C, Dr. Kamal Saini, Assistant Zoologist and Dr. Priyanka, PDF attended webinars on World Environment Day Celebrations of MoEF&CC
15. Dr. Ch. Satyanarayana, Scientist-D made a lecture "*Paradise lost? – Coral Reefs, the highly productive ecosystems in the Oceans*" at a webinar organized by a Department of Zoology, Loyola College, Chennai on the World Oceans Day, 8 June 2020.
16. Shri C. Surendar and Shri. R. Rajendar Kumar, and Kum. J. Vanishree, Senior Research Fellow, participated various on-line webinars on 'Science Leadership', 'Research Article Writing and Reference Management using Mendeley', 'Popular Science Writing under AWSAR programme', 'Biologically Active Mudflats' and 'Marine Conservation', which were organized during this month.
17. Dr. C. Sivaperuman, Scientist-E attended the State Coordinator meeting of the Asian Waterfowl Census (AWC) on 20<sup>th</sup> June 2020 through skype to discuss about the 2020 waterfowl census and future prospects.
18. Ms. Sudipta Mandal, SRF delivered lecture on "Importance of Biodiversity and Human life" on the occasion of World Environment day programme at FBRC, ZSI, Hyderabad.
19. Dr. Deepa Jaiswal, Scientist-E attended the online World Environment day celebrations on 5<sup>th</sup> June, 2020 conducted by Environmental Protection Training Research Institute, Gachibowli,

Hyderabad and discussed on Role of ZSI in Conservation of Biodiversity.

20. Sk Rehanuma attended Webinar on Foster Biodiversity Nurture Nature organized by Department of Botany, Adikavi Nannaya University on 05.06.2020 through virtual mode.
21. Dr. S. Prabakaran, Scientist-E attended “Past and Future of Dermatobotanicals in Dermatopharmacology” an International webinar conducted by the department of Zoology, Loyola College, Chennai on May 26<sup>th</sup>, 2020 and “Paradise lost?- Coral reefs the highly Productive ecosystems in the oceans” National webinar in connection with World Ocean day -2020 conducted by Environment management division, Entomology Research Institute, Chennai on 8<sup>th</sup> June 2020.
22. Dr. P. M. Sureshan, Scientist E & Officer-in-Charge delivered a talk on ‘Biodiversity and it is time for nature’ in the webinar organized jointly with Kerala State Council for Science & Technology, Centre for Water Resources Development and Management (CWRDSM) Kozhikode.
23. Dr. Anil Mohapatra, Scientist-E delivered a lecture on “Conservation of Marine Fauna: an urgent need – high time to look beyond flagship species” NATURE CLASSROOMS: WEEKEND TALK SERIES on Biodiversity & Conservation in the Webinar organized by Regional Museum of Natural History, Bhubaneswar on 13.06.2020 and delivered a radio talk in Odia language “COVID abasarare Samudra o Samudrika parninka upare paribesa ra sakaratmaka pravaba” which was broadcasted by Akasvani Kendra, All India Radio, Berhampur on 09.06.2020.

## SUPERANNUATION

1. Dr. Rinku Goswami, Scientist-D superannuated on 30<sup>th</sup> June 2020 after rendering 27 years of service to ZSI.
24. Dr. SD Gurumayum attended virtual Seminar Inauguration of INYAS-CUPB Lecture workshop organized by Department of Botany, Central University of Punjab.
25. Dr. J.S. Yogesh Kumar, Scientist-D delivered a lecture entitled “Importance & Conservation of corals” in a webinar “Renaissance of Mother Earth” organized by MARC, ZSI, Digha on 4<sup>th</sup> June 2020.
26. Ms. Debashree Dam, Scientist – B, delivered two lectures online to the students of The Ryan International School, Masdar City, Abu Dhabi, UAE on 14<sup>th</sup> June 2020 on the Blue Planet and The Vast Blue World to spread awareness on Marine Fauna as part of World Ocean day, 2020 celebrations as part of interactive virtual classroom session.
27. Dr. A. Anand Kumar, Scientist – B, delivered an online lecture on “Annelids with special reference to Polychaete-Biodiversity, Importance, collection, preservation and identification” in the National internship on collection, preservation and identification of Marine faunal diversity of India organized by MBRC, ZSI, Chennai, on 4<sup>th</sup> June 2020.
28. Dr. Rahul Joshi attended 6 days INYAS-CUPB online workshop “Tangled Bank” lecture series on Biodiversity, organized by Central university of Punjab, Bathinda from 31<sup>st</sup> May to 05<sup>th</sup> June, 2020.
29. Dr. K.A. Subramnaian, Scientist-E delivered a lecture on odonates during INYAS-CUPB Lecture workshop on 4<sup>th</sup> June, organized by Department of Botany, Central University of Punjab.
30. Dr. Varadaraju, Scientist-D and Praveen, K., participated in a webinar on Marine life-Oceans day celebration on 8<sup>th</sup> June, 2020 organized by Loyola College, Chennai.

Bryde's Whales are the least known of the large baleen whales and are reported from warm temperate, subtropical, and tropical oceans. The carcass of a huge Bryde's whale about 40 ft in length and weighing approximately 50,000 tonnes was washed ashore at Mandarmoni beach, Purba Medinipur District, West Bengal, India on 29th June 2020 (Lat. 21°39'850"N; Long. 87°38'283"E).

# STRANDING OF BRYDE'S WHALE



Bryde's Whale  
*Balaenoptera edeni*  
 Anderson 1879  
 (Cetacea:  
 Balaenopteridae) washed  
 ashore at Mandarmani  
 beach, West Bengal, India



Though an integral component of marine ecosystem, marine mammals, particularly whales, are given little attention by conservation biologists and taxonomists in India because of their habitat in deep waters. The 78 living species currently recognized in the Order Cetacea (Whales, Dolphins and Porpoises) are divided into 2 suborders – Odontoceti (toothed whales) and Mysticeti (Baleen whales). All representatives of a third suborder, Archaeoceti (Ancient whales), are extinct. It is generally agreed that cetaceans are the most derived of all mammals (with the possible exception of bats). Baleen whales are included in the order Artiodactyla (order is Cetacea), family Balaenopteridae and are characterised by the presence of a filtering structure in the mouth called Baleen or Whalebone, flippers representing the forelimbs, a tail with horizontal flukes and nasal openings (double blowholes) on top of the head (Jefferson et al. 1993). In Indian coastal waters this suborder includes the Blue Whale *Balaenoptera musculus*, Fin Whale *B. physalus*, Sei Whale *B. borealis*, Bryde's Whale *B. edeni*, Mink Whale *B. acutorostrata* and the Humpback Whale *Megaptera novaeangliae* (Kumaran 2002; Sathasivam 2004; Jayasankar & Anoop 2010; Bijukumar et al., 2012).

Stranding of marine mammals occurs frequently in India, yet precise identification is not done in many cases due to lack of local taxonomic expertise and poor condition of specimens (George et al. 2011). Since all cetaceans are important from the conservation point of view, precise documentation of their presence would provide valuable information regarding the distribution and migratory nature of different species. Strandings of cetaceans is probably the result of a sequence of events rather than a simple cause and-effect relationship. In general, stranding of solitary animals are more common than massed and generally thought to be due to severe disease. The stranding of whales mainly caused by the diversion of its course due to undersea earthquake, sonar radiation of submarine, leaving the herd due to sickness, adverse combination of tidal flow, vessel strike etc. One postulated reason for stranding is that it is dependent on instinctive behaviour, deeply located in subcortical areas of the brain, which provokes cetaceans to seek refuge ashore when under stress.

Bryde's Whales are the least known of the large baleen whales and are reported from warm temperate, subtropical, and tropical oceans.

The carcass of a huge Bryde's whale about 40 ft in length and weighing approximately 50,000 tonnes was washed ashore at Mandarmani beach, Purba Medinipur District, West Bengal, India on 29th June 2020 (Lat. 21°39'850"N; Long. 87°38'283"E). The popular beach resort is devoid of tourists because of COVID-19 curbs but a sizable crowd gathered around the carcass, with a rush to take selfies with it. The scientists of the marine Aquarium and Regional Center, Zoological Survey of India, Digha rushed to the field site at about 11.45 AM. To confirm the species several characters of the specimen were examined. After studying all the possible taxonomic characters it has been identified as a female Bryde's whale, *Balaenoptera edeni* Anderson 1879. Tissue sample were collected from the whale for DNA molecular sequencing and analyzing. There were small injury marks in the body of the aquatic giant. The carcass was found to be in a decomposed situation so it was buried under the sand in the same place where it was found. The skeleton of a 42ft male of the same species that was washed ashore in Digha Mohana beach in 2012 is displayed at the Centre.

S. Balakrishnan  
 C. Raghunathan  
 Kailash Chandra

# **FAUNA OF INDO-CHINA BORDER IN LADAKH: PANGONG TSO AND CHISHUL**





Indian Cold Desert in U.T. of Ladakh (UT) situated in North of Himalayas and South of the Karakoram range, boasts the wide variety of distinctive and elite flora and fauna. Extreme weather condition i.e. high Ultraviolet radiation, strong wind, intense cold temperature and oxygen deficient area makes it remote and inaccessible from the rest of the country. The Ladakh is the model of human adaptation in such sensitive environment. Its steep mountainous terrain makes transportation difficult. Except the land lock topography Ladakh possess the Himalaya evolution traces in the form of Pangong Tso a largest brackish water lake near Chushul and Tso Morari is the second largest lake in Ladakh at an altitude of more than 4500 masl.

Chushul area an important entity of the Union territory of Ladakh, because it shares the border with China. In 1962 Indo-china war, Martyr Jalim Singh fought bravely in this area of Ladakh. When we are going from Nyma to Chishul, lot of monuments can be seen on the way of Indian Warriors of Indo-China battle of 1962. In Chushul, brackish water lake Pangong Tso also lies in this area. Only one third part of Pangong tso is in Indian territory and rest is China occupied. From the faunal point of view, this brackish water lake has very low micro vegetation and have no fishes except some small crustaceans. The shoreline of lake i.e. marshy sites provides the breeding of Black Neck Crane and many more water birds like Brahminy duck, bar headed Geese and Gulls etc. Some of the water birds present in it are Bar-headed Goose (*Anser indicus*), Ruddy Shelduck (*Tadorna ferruginea*), Pintail (*Anus acuta*), Common Teal (*Anus crecca*), Mallard (*Anus platyrhynchos*), Gadwall (*Tadorna ferruginea*) and Common Pochard (*Aythya ferina*). The avian diversity of the Chushul area is dominated by the passage migrant and summer visitors. By the onset of summer various migratory birds like Cranes, Mallards, Shovellers, Coots, Mergansers etc. use these wetlands for breeding and feeding purposes. Maximum of Tibetan bird extend their home range up to the eastern Ladakh.





Nearby open pastures provides the habitat of Kiang (Tibetan Ass). Most of the mammalian species in this zone are of Palaearctic origin. Wild ungulates known from the area are Tibetan Antelope (*Panthalops hodgsoni*), Tibetan Gazelle (*Procapra picticaudata*), Wild Yak (*Bos mutus*) and Tibetan Wild Ass or Kiang (*Equus kiang*), Weasels (*Mustela siberica*), Indian Wild Dog (*Cuon alpinus*) and Red Fox (*Vulpes vulpes montanus*) etc. In rodents Royle's Pika, Large-eared Pika, Ladakh Pika is also found in abundance. Lagomorphs like Cape Hare (*Lepus capensis tibetanus*) and Woolly Hare (*Lepus oiostolus oiostolus*) are also abundant in sandy bushes of pastures. Some rare butterflies found near edges of lake are *Aglais ladakensis* and *Papilio machon*.

A.K. Sidhu  
Kailash Chandra