



### EDITORIAL

The last few months have been the most difficult, not just for your Society but for the whole world. The COVID-19 pandemic has brought the human race, its arrogance and its economies to its knees in a span of just 60 days. That is the power of nature. This will surely not be the last virus. There are super monsters in the making, thanks to our absolutely careless approach in dealing with nature and climate change.

BNHS remained closed since March 15, and we are still uncertain when we will reopen our operations. Working from home has provided us a good time to analyze data and write scientific papers. During the lockdown, the BNHS CECs (Mumbai and Delhi) have been organizing a series of webinars on nature and environment for amateurs. So far, they have had over 5000 participants.

Managing four vulture conservation breeding centres with over 700 vultures in captivity has been the toughest among all administration matters. Dr Vibhu Prakash and his team deserve special appreciation for working amidst great adversities to ensure all our vultures and the vulture team members are safe and sound.

The period before the lockdown was extremely busy. The Wetlands Conference in November saw the participation of 280 delegates from 18 countries and was a grand success. On the last day of the conference, 5 illustrious personalities were conferred with Sálím Ali and J.C. Daniel conservation awards. This conference was followed by our active participation in CMS COP 13. BNHS played a pivotal role in Central Asian Flyway and many other key deliberations.

Gwendy Butler, the daughter of Stanley Henry Prater, one of the most cherished stalwarts of BNHS, came down from England with her family to



reconnect with her father's past and relive her memories of the Society. It was a pleasure to show her around and answer her many questions.

We are delighted to tell you that BNHS is now formally designated as a Fauna Repository by the Ministry of Environment, Forest and Climate Change under Biodiversity Act, 2000. We are the only NGO with such a distinct recognition.

BNHS strongly opposed many destructive projects such as Human River project in Chandrapur, Dibang-Etalin, Demwe, Talong Londa hydropower projects in Arunachal, and the exploration of Uranium across 83 sq. km in Nidgul and 76 sq. km in Amrabad Tiger Reserve to name a few. We persuaded EAC to reject out rightly a four four-lane highway starting from Bhitarkanika passing all the way through Balukhand Konark Wildlife Sanctuary, Chilika Wildlife Sanctuary, 13 rivers (including Rushikulya, Devi and Gahirmatha) and floodplains. We asked for a completely new alignment to be developed, away from these areas. We wrote strongly against lagoon villas in Lakshadweep. We also wrote to the Government of Maharashtra to protect Panje, NRI and TSC Chanakya wetlands in Navi Mumbai. We strongly opposed the idea of captive port at Ambolgad in Ratnagiri district that will destroy some excellent marine biodiversity areas of Konkan. The Maharashtra Government has given a stay to the project. We continue to follow-up on these conservation issues. BNHS research and community work in Lakshadweep, started in 2004, served as a model for the declaration of three conservation reserves in the archipelago, totaling 685 sq. km. This newsletter provides a comprehensive overview of our research and conservation work. Hope you enjoy reading our progress. Wish you a safe stay indoors during these difficult days. ■

Director, BNHS

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Great Hornbill Mascot: DEBORSHEE GOGOI

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## Wetlands Conference @ Lonavala

**B**NHS organized an International Conference on Wetlands and Migratory Waterbirds of the Asian Flyways, jointly with the Ministry of Environment, Forest and Climate Change (MoEFCC) and Birdlife International, at Lonavala in Maharashtra, India from November 18 to 22, 2019.

It was financially supported by the MoEFCC and Mangrove and Marine Biodiversity Conservation Foundation of Maharashtra, Government of Maharashtra, with contributions from City and Industrial Development Corporation (CIDCO), Mumbai Metropolitan Region Development Authority (MMRDA), Welspun, Godrej and Boyce, TVS Motors Ltd, National Biodiversity Authority, Hot Stuffs Pvt Ltd., GMR Hyderabad International Airport Ltd, Microtech Developers Ltd and the Lodha group. The conference was inaugurated by Ms Patricia Zurita, CEO, Birdlife International.

The threats to wetlands and migratory waterbirds, the required conservation initiatives and sustainable ways of addressing the problems that arise from increasing human dependence on the earth's natural resources formed the focus of the conference.

The conference provided a platform for 280 delegates from 18 countries, including scientists, conservationists, forest officials, decision makers, corporate sector, defence forces and academia to share information and review the current status of the wetlands and migratory waterbirds occurring along the Central Asian Flyway (CAF) and the neighbouring African-Eurasian Flyway and East Asian-Australasian Flyway.

A parallel session on Central Asian Flyway Range States, organized by MoEFCC along with BNHS, was inaugurated by Mr Babul Supriyo, Minister of State, Environment, Forest and Climate Change, Government of India.



INTERNATIONAL CONFERENCE ON  
**WETLAND AND MIGRATORY  
WATERBIRDS**  
OF THE ASIAN FLYWAYS



SUPPORTED BY



**Ms Patricia Zurita, Birdlife International CEO, addresses the Wetlands Conference delegates during the inaugural ceremony at Lonavala, Maharashtra on November 18, 2019**

## BNHS awards ceremony

November 22, the last day of the Wetlands Conference, marked the time to honour four nature conservationists.

Alexander Peal, a former goalie of the Liberian national soccer team, was conferred with Sálím Ali International Award for Nature Conservation in recognition of his efforts to sustain the conservation movement in Liberia. Peal helped to create Sapo National Park and founded the country's first environmental NGO – Society for the Conservation of Nature of Liberia – in 1986.

Prof Madhav Gadgil, known for his stalwart contribution to the preservation of India's ecology and biodiversity, was conferred with Sálím Ali National Award for Nature Conservation. Mr Tsuseki and Mr Limthure Yimchunger, founders of Bhutan Glory Eco Club in remote Nagaland, who not only influenced the locals to give up hunting and focus on conservation but also steered the youth towards sustainable alternatives were conferred with Sálím Ali Community Conservation Award. BNHS introduced two new awards this year: J.C. Daniel Conservation Leader Award for Young Women and Young Men. Sonali Garg, who has carried out extensive studies on frog species of the Western Ghats and Sri Lanka, was chosen for the former. Garg has identified 40 new species and two new genera of frogs, and her research has generated data that has conservation implications for several Indian frog species, especially those found in the Western Ghats. The award for Young Men category went to Anant Pande, who has been active in the field of wildlife conservation for over ten years. A trained biologist, he has worked on a range of fauna including zooplankton, seabirds, tigers, dugongs and whales.

On the occasion, Mr Homi Khusrokhhan, Chief Guest and President BNHS, addressing the audience, said he was humbled to see the achievements of the awardees and their dedication towards conservation. He also recalled his experience working with J.C. Daniel, one of India's best-known naturalists, who fostered the BNHS in various capacities.

Ms Patricia Zurita, BirdLife International CEO and Guest of Honour at the ceremony, said she was delighted to know about such wonderful work done in the remotest corners of India and the world.

Dr Deepak Apte, BNHS Director, thanked everyone, especially the families of the awardees for their unstinted support. ■



**BNHS President Mr Homi Khusrokhhan presents Sálím Ali National Award for Nature Conservation to Dr Madhav Gadgil.**

**The awards ceremony was held on the last day of the Wetlands Conference at Lonavala in November 2019**



**Recipients of BNHS awards (from left) Ms Sonali Garg, Mr Alexander Peal, Dr Madhav Gadgil, Mr Anant Pande, Mr Tsuseki Yimchunger and Mr Limthure Yimchunger at the Wetlands Conference venue in Lonavala.**

**The awards were in recognition of their contributions to the conservation of nature**



**Poster presentation at the International Conference venue on Day 4**



## CMS COP 13 proceedings

'Migratory species connect the planet and together we welcome them home'. This was the theme for the thirteenth meeting of the Conference of the Parties on the Conservation of Migratory Species of Wild Animals (CMS COP 13), held at Gandhinagar in Gujarat, India from February 15 to 22. It underlined the importance for countries connected by migratory species to come together to protect them and their habitats.

The meet was the largest ever in the history of the CMS, with 2550 people, including 263 delegates representing 82 Parties, 11 delegates from five non-Party countries, 50 from UN agencies, 70 from international NGOs, 127 from national

NGOs and over a 100 members from the national and international media.

The conference kicked off the 'Super Year' for biodiversity, being the first in a series of conferences planned to emphasize the importance of ecological connectivity. It was a chorus that permeated through all the seven days of CMS COP 13.

On the opening day of the conference, the Prime Minister of India Mr Narendra Modi addressed the delegates via a video link and highlighted the many successes in wildlife conservation in India involving species like the Tiger, Snow Leopard and Great Indian Bustard. The Chief Minister of Gujarat, Minister of Environment, Forest and Climate Change (MoEFCC), Minister

of State (MoEFCC), Secretary (MoEFCC), and other dignitaries from the United Nations Environment Programme and CMS drew attention to the importance of coordinated efforts to conserve migratory species and their habitats. During the opening ceremony, the Government of India also issued a special stamp edition featuring the Great Indian Bustard – the mascot of COP13.

Ten new species were added to the CMS Appendices, of which seven species (Asian Elephant, Jaguar, Great Indian Bustard, Bengal Florican, Little Bustard, Antipodean Albatross, Oceanic White-tip Shark) were added under Appendix 1, the category comprising migratory



**BNHS Director Dr Deepak Apte addresses the delegates during a session on the implementation of CAF National Action Plan in India under CAMPA at CMS COP 13 held at Gandhinagar, Gujarat in February 2020**



species that are in danger of extinction throughout all or a significant portion of their range. Three species (Urial Sheep, Smooth Hammerhead Shark, Rope Shark) were added under Appendix II, covering migratory species that have an unfavourable conservation status and require international cooperation for their conservation and management.

One of the important resolutions was to invite the UN General Assembly to consider declaring two dates, the second Saturday in May and second Saturday in October, as World Migratory Bird Days.

The Gandhinagar Declaration affirmed that maintaining and restoring ecological connectivity is one of the top priorities for CMS, and called for the important role of the CMS Family in this regard to be effectively reflected in the post 2020 global biodiversity framework (GBF).

CMS also conferred on India the Champion of Migratory Species award for joining its small grants programme and committing to keep its development

projects wildlife-friendly. India is scheduled to assume the role of COP Presidency for the next three years.

## BNHS role

BNHS was one of the important NGOs that played a crucial role in the CMS COP 13 proceedings. It effectively contributed towards the Avian Working Group in partnership with RSPB/BirdLife International, mainly in relation to draft resolution on the Central Asian Flyway, decline of insects, poisoning of migratory bird species, use of pesticides, vulture conservation and ban on NSAIDs that affect vultures. The BNHS team also worked with Wetlands International stakeholders to develop a single species action plan for the Indian Skimmer for inclusion in CMS COP 14. It networked with members of the Terrestrial Working Group, and worked closely with International/ national NGOs (ICF, WWF, BirdLife international, WTI), IUCN/SSC scientists, and officials from Bangladesh, Saudi Arabia, Abu Dhabi, Uganda and Tanzania Governments.

The BNHS team prepared a brochure for the event titled *Glimpses of India's Wildlife Conservation*, which showcased some interesting fauna of India like Asiatic Lion, Whale Shark, Bengal Tiger and ecosystems like grassland, desert, marine and forest. The brochure also covered interesting conservation stories on the species and habitats. The team comprising Dr Dishant Parasharya and Dr Bhavik Patel were deputed to CMS-COP cell of the Gujarat Government to provide technical guidance and help in developing various materials for the event in Gandhinagar. The team played a key role in education and awareness programmes by delivering talks on CAF's National Action Plan and Bird Migration Studies.

Apart from this, the BNHS team developed 20 digital copies of a large-sized pictorial book for the Gujarat Forest Department titled *Conservation India* to be distributed at CMS COP 13. The book showcases some key landscapes, seascapes and species of India with the conservation measures/actions of the Government of India. ■

## A new high

- BNHS and Manipal Academy of Higher Education (MAHE) tie-up for PhD finalized. The MoU was signed on March 03 at MAHE in the presence of its Vice Chancellor. BNHS scientists can now register as PhD guides, paving the way to enhance the academic footprint of BNHS. MAHE has also allocated laboratory space for BNHS at its campus in Manipal.
- On January 21, 2020 BNHS was formally designated as a 'National repository for Fauna (terrestrial, freshwater and marine)' under National Biodiversity Act 2002 by MoEFCC, Government of India.
- After the revival of Central Asian Flyway programme by BNHS, BirdLife International decided to form a coalition called Central Asian Flyway Initiative (CAFI) to facilitate co-operation across Central Asian Flyway countries.
- A part of Arctic Migratory Bird Initiative, BNHS will be working closely with Bird Russia and Arctic Council to understand arctic breeding birds and their wintering habitats in India and their conservation.
- BNHS has been designated to play a crucial role in helping the MoEFCC to establish the CAF Secretariat in the country.
- Two MoUs were signed during the CMS COP 13. One with the State Forest Department, Government of Bihar, to establish a regional centre for ringing and monitoring of migratory birds along the CAF, develop a State CAF Action Plan and promote the associated extension, education and outreach activities in the State of Bihar. The second MoU was signed with the State Forest Department of Government of Andhra Pradesh to carry out bird and wetland studies in Andhra Pradesh. ■



The BNHS team at CMS COP 13 held in Gandhinagar, Gujarat

## Policy and advocacy

1. BNHS research and community work in Lakshadweep since 2004 paved the way for the declaration of three conservation reserves in Lakshadweep totaling 685 sq. km: Cheriyaipani Sea Cucumber Conservation Reserve (239 sq. km), Pitti Conservation Reserve (344 sq. km) and Valiyapani Marine Bird Conservation Reserve (62 sq. km). It may be recalled that the first ever marine conservation reserve model was proposed by the BNHS in 2004 as Agatti Conservation Reserve in Lakshadweep.
2. Contributed in a major way to the draft of the Revised Vulture Conservation Action Plan 2020-2025.
3. Taking into consideration the remarks submitted by BNHS on the Etalin Hydro Electric Project (3097 Mw) in Dibang Valley district, the Forest Advisory Committee (FAC) members had expressed their decision to defer the project. BNHS had placed strong objections to the project, underlining the need to reject it out rightly. In the meeting of March 2020, however, the FAC adopted a position in favour of the project. BNHS will launch a campaign against this destructive project. It has already written to the FAC to withdraw the clearance.
4. The Dubna-Sakradihi Iron and Manganese Ore Mines proposal was similarly deferred. The minutes of the FAC specifically mentioned that it took note of the representations made by BNHS, and also the villagers of Hadibhanga, Dubna, Sakradihi, Jamupani, Pidhipokhari.
5. Talong Londa Hydro Electric Project has been proposed inside Lado National Park and Wildlife Sanctuary in East Kameng district, one of the unexplored areas of Arunachal Pradesh. The BNHS submission made on this proposal was taken into consideration. It was mentioned in the minutes of the FAC meeting that considering the presence of areas of Very High Conservation Value in the proposed site and the concerns raised by BNHS on the presence of rich floral and faunal elements, there is a need to first undertake a biodiversity study of the region before going ahead with the project. ■



## Conservation Research (Species)

### Bengal Florican

As part of our focus on the Bengal Florican in some areas of Northeast India under the ZSL EDGE project, we carried out a pilot survey at Bosa gaon near the Brahmaputra River at Sadiya (Assam). The purpose was to understand the dependence of cattle grazers on the Bengal Florican habitat. We also held an awareness programme at Ujani Sadiya Higher Secondary School in Sadiya, attended by nearly hundred students and their teachers.

Earlier in January, we organized a capacity-building and training workshop for frontline forest staff on Bengal Florican monitoring and conservation at Orang National Park, Assam. Mr B.V. Sandeep, DFO, Mangaldoi Wildlife Division and about 25 forest staff of Orang National Park participated in the workshop. An evaluation of forest staff was also done pre- and post-training workshop. Subsequently, an article on Bengal Florican was published in an Assamese newspaper to create awareness among



DHRIITMAN MUKHERJEE

**Bengal Florican**

people. In the second week of January, we participated in the 2nd Waterfowl Count of Kaziranga Tiger Reserve organized by Eastern Assam Wildlife Division, Bokakhat.

BNHS scientist Biswajit Chakdar delivered a lecture on bird watching techniques in a workshop organized by Biswanath Wildlife Division in collaboration with Biswanath College and other NGOs on February 13, 2020. In the last week of February, we organized a Bengal Florican drawing competition at Bagori as part of the 13th Nature Orientation Initiative by Kaziranga Tiger Reserve. About 40 students from 29 fringe villages of Kaziranga National Park participated in the same. The winners were felicitated by Minister of Water Resource, Science & Technology of Assam Mr Keshab Mahanta.

The Bengal Florican Survey was initiated in chapories (river islands) of Majuli and grasslands outside Kaziranga National Park during March 2020. ■



ZSL BENGAL FLORICAN PROJECT

**Forest Department staff receive hands-on training in monitoring and conserving Bengal Florican at Orang National Park, Assam**



ZSL BENGAL FLORICAN PROJECT

**Frontline Forest Department staff at the capacity-building workshop conducted by the BNHS team**

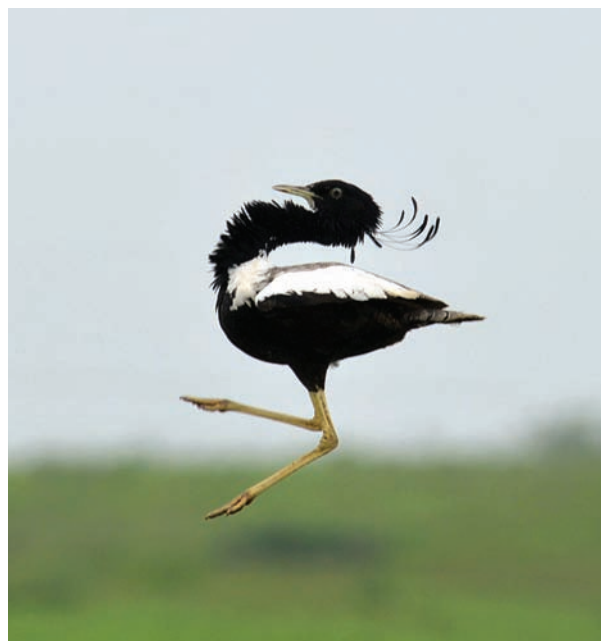
## Lesser Florican

The BNHS team, in collaboration with Forest Department, Ajmer division and Rajasthan Biodiversity Board, organized Kharmor Samrakshan – Kisan Choupal, a farmers' meet focussing on the awareness and conservation of Lesser Florican at Madhopura village in Shokaliya gram panchayat on February 19, 2020. It was attended by more than 300 farmers, 70 forest department staff and 50 students. Dr G.V. Reddy, Head of Forest Force (HoFF), Rajasthan and Mrs Sudeep Kaur Sharma, DFO, Ajmer were instrumental in the conceptualizing the event.

Programmes like street plays, songs including bhajans, talks showcasing the various aspects of ecology and conservation of Lesser Florican marked the day's event. A book in Hindi giving out general information about Lesser Florican was launched for the benefit of the local people. As a run up to the farmers' meet, a series of events including competitions were organized in the schools of Shokaliya under nature education programme. The winners were felicitated at the meet.

Forest Officers including Mr Arijeet Banerji, Ajmer PCCF (Forest Protection); Mrs Shruti Sharma, Ajmer PCCF (Tendu Patta); Mr C.R. Meena, Ajmer CF; Mr Rajendra Sharma, Ajmer ACF and Mr Lokesh Sharma, Ajmer ACF addressed the event. Dr Raghvendra from Krishi Vigyan Kendra, Ajmer and Dr Manoj Mathur, Deputy Director, Cattle Breeding Farm spoke on the occasion.

Local leaders and farmers pledged their active support for the conservation of Lesser Florican. ■



MUKESH BHATT

Lesser Florican



AJMER FOREST DIVISION

A village elder keenly sifts through a booklet prepared by BNHS and Ajmer Forest Division



AJMER FOREST DIVISION

Students of the local Gaynadata School in Madhopura perform a street play, ringing in the message of conservation



AJMER FOREST DIVISION

Members of a local Bhajan Mandal seen performing at the Farmers' Meet



## Flamingos and other waders

We carried out monthly surveys of Thane Creek and Sewri mudflats, with special focus on the wintering visitors. The programme is part of the project to monitor and mitigate the impacts of MTHL (Mumbai Trans-harbour Link) on Flamingos and other avifauna and formulate a conservation blueprint for Sewri-Nhava Seascape.

Unlike last year, the mudflats of Mumbai and Navi Mumbai showed low numbers of Flamingos, but interestingly, in January, the Lesser Flamingo population had a good number of juveniles.

The Lesser and Greater Flamingos together numbered about thirty thousand, which is just 25 percent of our last year's count in the same month. Total count of Lesser Flamingo was 18837 individuals, out of which the juvenile population constituted twenty-five per cent. We anticipated these numbers as 2019 saw prolonged and good monsoon in Gujarat and the adjoining States, resulting in good nesting success and ample feeding sites. In the February 2020 census surveys, we recorded a total population of 72500 flamingos, of which 47000 were Lesser Flamingo and 25500 were Greater Flamingo.

With the feeding sites in the adjacent States drying up and the juvenile population eventually joining the wintering grounds in Mumbai and Navi-Mumbai areas, it is hoped that there will be a surge in Flamingo population in the coming months. From October 2019 to February 2020, twelve Flamingo census surveys were carried out along Thane creek and Sewri-Nhava mudflat areas.

We undertook bird ringing and tagging studies at high-tide roosting sites of T.S. Chanakya in Nerul and Bhandup Pumping Station, off Eastern Express Highway. They were successful in trapping 4742 birds across 33 species from October 2019 to February 2020, of which 4700 were small waders and 42 Flamingos. Wader nets were used to trap small birds and noose traps for larger birds like Flamingos.

As part of our macro-benthic studies from October 2019 to January 2020, we collected 1769 samples from Thane Creek, Sewri and Nhava locations, along with 144 macro benthic samples from the wetlands. Total 36 plankton samples were collected from Thane Creek. The analysis of plankton samples has been completed until December. Macrobenthic samples collected in February 2020 are under process. ■



AMOL S. LOKHANDE

Lesser Flamingos and Greater Flamingos at Thane Creek in February 2020



## Pheasants & Finches

In January 2020, our Himalayas and Climate Change team carried out surveys at Uttarey, Yuksam and Namchi locations in Sikkim. Target species such as Red-headed Bullfinch, Dark-breasted Rosefinch, Scarlet Finch and Kalij Pheasant were recorded from multiple locations.

Similar field work was carried out at Phodong, North Sikkim, in February 2020. During this survey, two educational workshops were conducted in two government schools, Namokh Junior High School and JawaharNavodayaVidyalaya. An awareness workshop was held for the monks at the Labrang Monastery, Phodong, North Sikkim, which received a good response.

Next on the cards is a high altitude survey of North Sikkim, to explore other potential sites for the target species. ■



HIMADRI SEKHAR MONDAL

**Kalij Pheasant (Female) recorded during the field surveys at Lachen, North Sikkim**



ATHARVA SINGH

**Participants of the Interactive Meet at Lachen Forest Department. BNHS conducted the event to raise awareness about the issues of climate change**



## Green Avadavat

As part of our Green Avadavat ecological studies, we conducted three surveys at Mount Abu Wildlife Sanctuary in Sirohi District, Rajasthan, which houses a sizeable unbroken population of the bird species. The surveys were spread over 7 to 10 days each and held in the first week of June 2019, October 2019 and January 2020. They were aided by the local forest department staff, nature guides and birdwatchers. Based on these surveys and interviews with different stakeholders, the population of Green Avadavat in Mount Abu is estimated to be about 1,200 to 1,500.

Our study so far negates the existing notion that the Green Avadavat is absent in Mount Abu WLS from end September to November and that it probably migrates to the lower altitudes for breeding. The species indeed breeds in Mount Abu but remains invisible during the period as it is non-vocal and mainly resides in pairs, with the female confined to the nest. The chick, numbering two to four, can be seen with the parents from December onwards.

We located the sites in Mount Abu where the Green Avadavat pairs are seen with their new fledglings. Our team counted a minimum of 50-60 chicks in these areas among a flock of 150 birds in January 2020.

Another major initiative was the one-week nature guide training workshop in October 2019, with Green Avadavat as the focus, for the members of the Eco Development Committee, funded and sponsored through Mount Abu Forest Department. The workshop, held as part of the 65<sup>th</sup> Wildlife Week Celebrations, was geared towards making the participants understand the need to conserve Green Avadavat and to adopt ethical tourism practices in their nature trails. A total of 45 local youth including three women

were trained and presented with certificates carrying the Green Avadavat as the mascot of Mount Abu WLS. Mount Abu DCF Mr Balaji Kari, Rajasthan Forest Department ACF Mr Subhash Chandra and nature guide Mr Mahendra Dhan deserve special mention for organizing this workshop and raising funds. A unit containing a special cap and jacket was given to the trainees with Green Avadavat as the logo to showcase the species as a special bird for Mount Abu and promote nature tourism.



RAJAT BHARGAVA

**Green Avadavat**

In our earlier newsletter Vol 2 (2), we had informed you about the Green Avadavat conservation breeding project at Gulab Bagh, Udaipur undertaken by Udaipur Forest Department, with BNHS as the knowledge partner. The large aviary built in the park for the purpose has been enriched with native plants. ■



RAJAT BHARGAVA

**Mount Abu DCF Mr Balaji Kari addresses the participants of Green Avadavat Nature Guide Training Workshop at Mount Abu in October 2019**



GREEN AVADAVAT PROJECT

**Green Avadavat Nature Guide Training participants during the concluding session of the workshop**



## Great Indian Bustard

We have been working actively with the Bishnoi community youth to develop a village-level management plan to save the Great Indian Bustard (GIB). A network of skilled youth from villages located in key GIB distribution areas is under preparation to monitor the birds effectively.

Dr Anuj Jain, Prevention Extinction Programme, Asia Coordinator, BirdLife International, visited Thar Desert to understand the ground situation.

Around 30 Ha area was restored as GIB habitat near Khetolai lake by removing the exotic invasive *Prosopis juliflora*. LED torches and shoes were distributed to farmers in the areas where the BNHS team regularly visits for surveys.

We plan to undertake conservation research in the coming months to reduce the existing threats to GIB population in the region, with focus on land use changes and expanding energy sector. Field surveys, literature reviews and GIS-based assessments have been lined up for the same. ■



SUJIT NARWADE

Great Indian Bustards roam the Khetolai area in Rajasthan freely, unafraid of humans

## Finn's Weaver

The BNHS project involving the conservation breeding of Finn's Weaver at Hastinapur Wildlife Sanctuary in Meerut is in progress, aided by Uttar Pradesh Forest Department, under the guidance of UP Forest Department and Central Zoo Authority.

The aviary design has been sent to Central Zoo Authority. Once the No Objection Certificate is granted for conservation breeding, an aviary will be constructed at the Forest Training Institute in Hastinapur. Meanwhile the task is on to collect a founder population for the aviary. We hope to trap a few weaver birds at Harewali Barrage and Bhagwanpur Raini in Bijnor District, Uttar Pradesh, bordering Uttarakhand. As a preparatory exercise, in the winter months, a two-day survey was conducted at Hastinapur, Bijnor Barrage and other known sites to search for the resident weaver birds. ■



RAJAT BHARGAVA

Finn's Weaver



## Savitri Mahseer Monitoring Program

Since 2011, BNHS has been monitoring the rivers of Raigad district in northern Western Ghats. A comprehensive review on freshwater fishes of six different river systems of this region was published in 2012. During the surveys of the fishes of the west-flowing rivers along the Sahyadri-Konkan Corridor, our team recorded a big-sized Mahseer population from two sub-catchment areas of the Savitri River, and found that it was the only river in the region with a viable Mahseer population. The population, however, was found fragmented as the river was affected by industrial pollution in the downstream region.



FRESHWATER RESEARCH UNIT

**Walan Kund gorge in upstream catchment area of the Savitri, where Mahseer is considered sacred and receives natural protection. Fishing is taboo in this stretch**



FRESHWATER RESEARCH UNIT

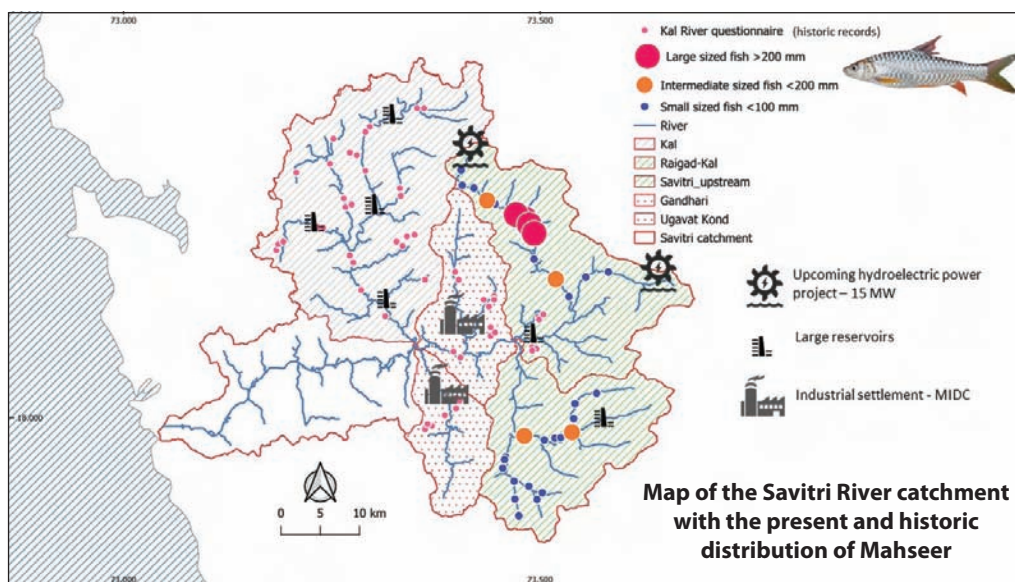
**A Katkari family fish by the Savitri basin. The community is heavily dependent on the riverine habitat as it provides them their only source of protein. The involvement of indigenous community members, including fishermen, has strengthened this long-term project**



FRESHWATER RESEARCH UNIT

**The Savitri River Catchment Area has an encouraging Mahseer population**





Mahseer, considered a flagship species for river conservation, is greatly threatened by pollution, overfishing and habitat degradation. Being migratory and highly dependent on free-flowing rivers, its movement is interrupted by dams or walls along the river blocks. There are two hydropower dams proposed on Savitri River basin, which will be soon functional. We visited the region to understand the phase of construction and monitor the Mahseer population and found a good population of Mahseer at Walan Kund, where the fish species is protected by the locals as God's fish. The proposed dams could impact the fish species in near future. We hope to carry forward the research as 'Savitri Mahseer Monitoring Program', through citizen science initiatives involving various stakeholders. We are already working in association with Maharashtra Forest Department and local governing bodies like the gram panchayat towards declaring the Savitri basin at Walan Kund as Mahseer Protected Area, thus providing the Savitri basin and the Western Ghats in general the first Native Fish Conservation Area (NFCA). In case any of you are interested to get involved in this participatory project, contact BNHS scientist Dr Unmesh Katwate at [u.katwate@bnhs.org](mailto:u.katwate@bnhs.org). ■

## Project GobFish

The team of ichthyologists of the Freshwater Research Unit (FRU) at BNHS is all set to explore the less-known world of Gobies of coastal Maharashtra. The new venture is an integrative taxonomic initiative to study Gobiid fish diversity of freshwater and marine ecosystems, strengthen the conservation efforts towards mangrove ecosystem and achieve capacity building of local fishing communities through education, awareness and better livelihood opportunities. The project is supported by Mangrove Foundation.

The team collected samples from Mumbai coast, including the Thane Creek, and stumbled upon a good diversity of fish even in the dirtiest, plastic-strewn brackish waters punctuated by mangrove forest. The process of identifying the samples is in progress. ■



The BNHS team scans for GobFish in a Mangrove ecosystem



## Conservation Research (Landscapes)

### Bird Ringing in three States

State	Site	Total	Total species
Andhra Pradesh	Pulicat Bird Sanctuary	276	10
	Kolleru Wildlife Sanctuary	13	5
Kerala	Kadalundi	24	6
	Kole Wetland	104	10
	Karumaloor	8	5
	Pedannappuram, Kannur	5	5
Gujarat	Khijadiya Sanctuary and neighbouring sites	380	44



**A Common Redshank is fitted with a colour flag at Khijadiya Bird Sanctuary**

Our Wetlands Team ringed 810 bird species, including migratory birds, in three States between October 2019 and January 2020. ■

### UP Wetland Survey

The State of Uttar Pradesh has a teeming bird life, with more than 500 species. BNHS and BirdLife International have identified 31 Important Bird Areas (IBAs) for the State. Of them, 24 are wetlands, supporting thousands of migratory waterbirds. Our Wetlands team conducted surveys at five of these wetlands namely Saman Bird Sanctuary, Kurra Zheel, Sauj lake, Kudaiyya Marshland and Sarsai Nawar lake in January and February 2020, recording 113 species during the two surveys. Of them, 37 were migratory to the locations, and six were globally threatened (Sarus Crane, Woolly-necked Stork, Common Pochard, Indian Spotted Eagle, Greater Spotted Eagle and Steppe Eagle).

A congregation of 8000 ducks was observed at Saman Bird Sanctuary and 5000 at Sarsai Nawar. The two locations were declared Ramsar sites in February 2020. Sarsai Nawar probably holds the largest population of Sarus Crane in the world. During our surveys, about 83 Sarus Cranes were recorded. ■



**A Sarus Crane pair seen along with other waders at Sarsai Nawar wetland during our surveys**



# Community Conserved Area at Doimara

In January 2020, BNHS signed an MoU with Doimara Biodiversity Management Committee in West Kameng, Arunachal Pradesh, for the construction of a camp site. Seven youths from Doimara village were selected for the hospitality and tourism training. An exposure visit-cum-training was carried out for the youth of Doimara and Khonoma regions in Nagaland and Kaziranga National Park in Assam.

Our team has completed the data entry work for Doimara's People's Biodiversity Register (PBR) and it is ready for review process. In February, our team participated in Losser Festival celebrated by Sherdukpen community and also carried out a discussion with the community members about the next phase of PBR data validation. It undertook a reeve survey of Doimara-Khellong Road, which is essential from the tourism point-of-view. The community members have constructed a kitchen at the campsite.

In the first week of March, a biodiversity assessment survey was carried out at another site near Khellong. The demarcation of Community Conserved Area (CCA) boundary was done in consultation with the community members. Our team also carried out a survey of Khellong area for the transit campsite, which will be crucial for bird tourism. ■



**Khellong-Eaglenest boundary**



**An eco-camp kitchen built by the members of Sherdukpen community**



**Students of Khonoma in Nagaland at the BNHS training camp held in January 2020**

HIMALAYA AND CLIMATE CHANGE PROGRAMME

HIMALAYA AND CLIMATE CHANGE PROGRAMME

HIMALAYA AND CLIMATE CHANGE PROGRAMME



## Surveys at Sambhar lake

As reports of birds dying in huge numbers at the Sambhar Salt Lake started coming in from November 11, 2019, the Rajasthan State Forest Department approached BNHS to conduct a preliminary site visit. Sick/dead birds were found mainly in two zones, near Shakambhari Mata Temple in Jaipur Division and Nava area of Naguar division. Some of the carcasses, mostly belonging to Northern Shoveler, were over 15 days old. Some, which were alive, were weak, unable to fly, partially paralyzed,

unable to hold their head erect. The BNHS team assisted the Forest Department in identifying the bird species and recommended measures to attend to the sick birds, maintain the habitat clean and conduct the required investigations. Sick birds of 13 species were collected, treated and kept in enclosures by the Forest Department for further observations. The Indian Veterinary Research Institute in Bareilly confirmed the cause to be Avian Botulism. ■

## Bird Hazard Studies

**INS Rajali:** In the final report of the one-year bird hazard study at INS Rajali submitted in October 2019, the BNHS team provided a comprehensive bird hazard management plan to tackle bird hits to aircrafts. During the study period, a total of 25 bird species were recorded. In the off-field surveys involving wetlands within a radius of 15 km, 22 species of waterbirds were recorded. The two major bird-hit species in the air station were found to be Red-wattled Lapwing and Yellow-wattled Lapwing. Hits were also reported for 13 other species between the years 2015 to 2019. After assessing the work done by BNHS, the Indian Navy has extended the project for an additional year.

**Chhatrapathi Shivaji Maharaj International Airport (CSMIA):** Field work on bird hazard to aircraft at CSMIA in Mumbai came to an end in November 2019. A total of 23 species of land birds and 10 species of waterbirds were recorded in the runway shoulders, 7 species in the hangars, and 3 species were seen using a grounded plane. The major bird hazard species in the airport were the Black Kite, Rock Pigeon, Cattle Egret and Common Barn-Owl. ■



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BNHS PHOTO LIBRARY



## Flora and Fauna Study at ISRO

The IPRC complex at Mahendragiri in Tamil Nadu, abutting the western slopes, foothills and plains of the southern Western Ghats 20 km north of Kanyakumari, is endowed with a rich biodiversity. The BNHS study of its flora and fauna, commissioned by ISRO, came to a close in 2019, and the final separate reports on the same were submitted in January 2020. Totally, 327 species of plants, 8 species of mammals, 63 species of birds, 17 species of reptiles, 7 species of amphibians and 35 species of butterflies were recorded in the complex during the study.

Among the recommendations suggested by us were the establishment of a Conservation Education Centre at IPRC to impart nature education and conservation awareness and the development of the waterbody near Sashta Temple, which could be named as IPRC Sashta Temple Wetland. ■



RANJIT MANAKADAN

**The natural forests in IPRC are mostly seen in the hills . BNHS has recommended that such areas be preserved**



IPRC

**BNHS team occasionally came across scats of the Dhole during the field trips. Its closest relative is the African Wild Dog**



IPRC

**The Brahminy Skink is often found basking on large rocks, compound walls and trees in IPRC in the morning hours**



IPRC

**Sambar, a common species in IPRC, roams freely even in the office areas. It is the primary prey of leopards and dholes that frequent the campus**



## Long-term avifauna study at NMIA

**R**ock Dove, Common Myna and House Crow are the common species in human settlements. Red-vented Bulbul, Red-whiskered Bulbul and Scaly-breasted Munia are abundant in mangrove areas. In agricultural areas, Black Drongo, Long-tailed Shrike and India Baya Weaver are the commoners. Indian Robin, Oriental Magpie-robin and Ashy Prinia are frequently seen in degraded areas. The forested patches are preferred by Plum-headed Parakeet, Loten's Sunbird, Yellow-footed Green Pigeon and White-eared Bulbul. These observations are part of the long-term monitoring of Navi Mumbai International Airport (NMIA) area undertaken by BNHS following a recommendation by the Ministry of Environment, Forest and Climate Change (MoEFCC).

It is a five-year construction phase study of the bird species found in the NMIA area. The focus is to assess the bird fauna (terrestrial and aquatic) in a 10-km radius in and around NMIA site during the construction phase for long-term monitoring of their ecology and habitat preferences, which will help minimize aircraft-bird collisions.

We carried out the land use/land cover (LULC) classification of NMIA and its associated region for the period 2017–2018 using satellite data, which showed heterogeneous habitat types – human settlements, creek, agriculture land, degraded land, forest and scrubland, mangroves, and inland water bodies.

For aquatic bird surveys in creeks and wetlands, waterbird species were counted at each site following total count methodology one hour before and one hour after high tide.



BNHS PHOTO LIBRARY

**Pacific Golden Plover at Kamothe Creek**

We covered 207 sampling points during the post-monsoon session (October 2019 to December 2019), across all the habitat types. So far, we have observed 160 species.

During our survey in Belapur-Panvel Creek, along with various waterbirds, we observed a congregation of about 500–600 individuals of Common Teal and 12 individuals of Woolly-necked Stork that are categorized as Vulnerable in IUCN Red List.

Some of the bird species observed at the NMIA construction site and its adjacent areas include Greater Spotted Eagle, Indian Spotted Eagle, Blue-rock Thrush, Ashy-crowned Sparrow-lark, Rufous-tailed Lark, Common Stonechat, Zitting Cisticola, and various other water birds like ibises, gulls, terns, shanks, godwits and sandpipers.

An analysis of this and similar data in the future will help to better understand the interplay of various factors that shape the ecology of the bird communities in the study area. ■

## Human-wildlife coexistence in Central India Landscape

**A** part of our Central India Landscape Programme's mandate is to understand the pattern of resource collection at spatio-temporal scale and analyze the causes, context and circumstances of human-animal conflict. For the purpose, a village survey tool has been developed under the guidance of Mumbai's Tata Institute of Social Sciences, which is ready for testing. The focus will be on issues like patterns of animal movement, crop depredation, and human casualties. It will be conducted in and around the villages of Tadoba–Andhari Tiger Reserve, Pench Tiger Reserve, Bor Tiger Reserve, Nawegaon–Nagzira Tiger Reserve, Umred–Karhandla Wildlife Sanctuary and Brahmapuri forest division. As many as 230 villages from 5 districts including 11 forest divisions have been selected for the study. A pilot survey was conducted in 15 villages to test the tool. ■



CENTRAL INDIA LANDSCAPE PROGRAMME TEAM

**Data collection in progress at a village in Bor Tiger Landscape under the Central India Landscape Programme**



## Conservation Research (Seascapes)

### Studies on the islands & across coastlines

We resumed field work at the Andaman and Nicobar Islands and Lakshadweep archipelago in February 2020. During the survey, some interesting cones were found that could be new records to India. The surveys on Giant Clams at South and North Andaman came to a halt with the Covid 19 situation. At Lakshadweep, considering that bleaching is expected this year, repeat surveys had been planned for April and May 2020, but will now be resumed only after the lockdown impasse.

In Maharashtra, collection of data is ongoing under the project to monitor selected sites of the Konkan coast (Undi to Ambolgad in Ratnagiri; Tambaldeg, Vijaydurg in Sindhudurg). The purpose is to monitor the coastal health of these sites for a long duration and prepare a baseline dataset for rocky coastline. Surveys were initiated from February to March 2020, but had to be wrapped up owing to the lockdown.

In Gujarat, a field visit under Taxonomy Project was made in January 2020 at three locations of Gulf of Kachchh. ■



SUMANTHA NARAYANA

*Tridacna squamosa* (above) and *Tridacna maxima* (below)



SUMANTHA NARAYANA

Giant Clam work in progress at the Andaman and Nicobar Islands before the lockdown in March 2020



## Sea Fans hold the mirror

**W**e conducted a study to monitor El Niño and climate change implications in the Lakshadweep archipelago using Gorgonians, more commonly known as Sea Fans, as the surrogates. The surveys were carried out across the depth gradient in Agatti, Kavaratti and Bangaram-Tinnakara islands. It yielded around 20 species of gorgonians belonging to 11 genera. During the course of the study, while discussing with local divers, we learnt that a lot of gorgonians were damaged during the Okhi cyclone in 2017. Several shallow regions (gentle slope along the reef flat) rich in gorgonians, like those in Agatti, Bangaram-Tinnakara and the eastern-south eastern areas of Kavaratti, were rendered barren. It is known that thermal anomalies associated with El Niño events impact gorgonians directly



SUMANATHA NARAYANA

**Gorgonians in the deep waters of Lakshadweep**

or indirectly. Increased seawater temperature can lead to physiological stress, starvation and microbial infections among gorgonians, triggering animal mortality. During the survey, diseased (necrotic patch disease) and/or infested gorgonians (especially by filamentous cyanobacteria) were observed across the study area. Our study proves that gorgonians can serve as excellent surrogates to study climate change impacts in deeper waters. ■

## Coastal Sand Dune plants of Odisha



AMRIT KUMAR MISHRA

**The two men in the image serve as scales. The one below represents the extent of beach erosion and the two combined give an idea of the total height of the beach**

**T**he Coastal Sand Dune (CSD) plants of Odisha face erosion from natural and anthropogenic disturbances. The Casuarina trees that line the coastal belt do not help to protect salt water intrusion and loss of life during severe cyclones and storms. In fact, they are planted by destroying the CSD plants.

In 2019, we took up the study to evaluate the population structure of three keystone CSD plant species (Beach Morning Glory, Ravan's Moustache, East Indian Water Bullet). Our study focuses on their reproductive ecology. An estimation of their ecological index would help to understand and detect the effects of various coastal disturbances on the CSD plants. Through this, we hope to reinvent the role of CSD plants in preventing salt water intrusion and protecting the coasts from erosion during storms and cyclones that frequently visit the coast of Odisha.

Our study locations are at Chandipur in Balasore district and Rushikulya in Ganjam district. These are ecologically important nesting sites of both the endangered Horse-Shoe Crabs and Olive Ridley Turtles. ■

## Conservation Education Centres



**Visitors take part in a natural colour-making workshop at CEC Mumbai in March 2020**



**BNHS staff Mr Dilip Giri takes students of Bombay Vigilance Association school on a nature trail at the Conservation Education Centre premises. The trail was conducted under Ms Ira Smith project**



**BNHS staff with WWF-India and Mid-Day teams at the Conservation Education Centre in Mumbai, where they together conducted a Butterfly Festival in October 2019**

### CEC Mumbai

The Conservation Education Centre at Mumbai (CEC Mumbai), in association with World Wide Fund for Nature-India, organized a Butterfly Festival at BNHS Nature Reserve at Goregaon on two weekends (October 12–13 and October 19–20). More than 500 people participated in exciting activities like butterfly trail, stencil colouring, pebble painting, butterfly tattoo, philately exhibition, and screening of short documentaries on butterflies. A butterfly photography competition was also organized, which got entries from across India. Mid-Day newspaper was the media partner for the event.

CEC Mumbai team attended the 33<sup>rd</sup> Maharashtra Pakshimitra Sammelan at Revdanda village in Raigad district from January 11 to 12, 2020. Dr Raju Kasambe, CEC Mumbai Head and Assistant Director who presided over the meet, spoke about the research done by BNHS for the conservation of birds, and the need to declare Ramsar Sites in Maharashtra. He also gave a presentation on “bird flowers and flower birds”. Mr Sagar Mahajan, BNHS Education Officer, spoke about the “Internet of Birds” application launched by BNHS for the identification of birds in India birds in India.

CEC Mumbai witnessed a footfall of over 16,000 from October 2019 and February 2020, with schools, followed by colleges, being the major visitors at the specialized events. ■

List of participants:

Month	School	College	Specialized events	Family Groups	Corporate	Outreach (CEC Visitors)	Course	TML Project	IRA Smith Project	Total
October 2019	0	0	526	92	0	75	42	503	0	1238
November 2019	189	0	109	35	0	42	96	1523	125	2119
December 2019	111	127	0	27	0	57	62	998	0	1382
January 2020	191	33	23	25	0	61	28	1590	0	1941
February 2020	347	207	0	110	0	51	0	983	0	1647



## CEC Nagpur

The BNHS Conservation Education Centre of Nagpur (CEC Nagpur), located in the lap of nature in Rajbhavan Biodiversity Park, catered to 2613 students and 98 teachers between October 2019 and January 2020. This also included special visits by underprivileged students from Nagpur Municipal Corporation schools. Besides, 60 trainees of Vasantrao Agriculture Extension and Management Training, Nagpur also visited the centre.

The fifth edition of Inter-school Nisarg Mela (Nature Fete) held on the Park premises in January 2020 had yet another successful run with over 120 students from 12 schools of Nagpur taking part in various competitions and other activities.

In a camera trap exercise on the premises, lesser mammals like the Indian Palm Civet and Grey Mongoose and wild birds like Grey Junglefowl were recorded, underlining the coexistence of these wild animals with humans.

Programmes at the PA fringes: BNHS continued to reach out to the students residing in the fringes of the Protected Areas (PAs). Apart from the regular programmes conducted in 82 schools of 6 PAs on the occasion of wildlife week, drawing competitions were organized focussing on the topics 'human-animal conflict' and 'jungle safari in a tiger reserve'.

On the invitation of Pench Tiger Reserve Conservation Foundation and Tadoba-Andhari Tiger Reserve Conservation Foundation, the BNHS team conducted 43 one-day camps, attended by 1657 students and 107 teachers residing in the periphery of the PAs. Slideshows, exhibits and nature games marked the camp activities. The participants were also taken on a jungle safari. Admission to the camps was free. ■

List of participants:

Nagpur Rajbhavan Biodiversity Park (CEC site)		Conservation education programme in fringe villages of PAs	
Students	Teachers	Students	Teachers
2613	98	2687	145



A student displays her tile painting at the Nisarg Mela



A nature game in progress during an awareness programme conducted by BNHS for the students of a peripheral school at Bor Tiger Reserve in December 2019



## CEC Delhi

The Conservation Education Centre at Delhi (CEC Delhi) reached out to a wide section of people in Delhi NCR through a plethora of nature-related activities at Asola Bhatti Wildlife Sanctuary and the neighbouring green zones.

The CEC team organized a Wildlife Week event at the Wildlife Sanctuary from October 2 to 7, 2019, in collaboration with the Department of Forests and Wildlife, Government of NCT of Delhi. Various nature education activities like native tree plantation drive, tree walk, cleaning drive, painting competition and mobile photography walk were conducted for children. Workshops on nest-making and wildlife awareness were conducted for the forest staff. The valedictory function, held on October 10, was graced by Mr Sanjeev Khirwar, Principal Secretary (Environment & Forests). More than 450 school students attended the event.

Like every year, raptor surveys were conducted at Asola Bhatti Wildlife Sanctuary from October to December 2019 to

estimate the population of birds of prey that arrive during winter. The surveys provided an enjoyable citizen science experience to the participants.

Field Guide to Mitraon City Forest, prepared by the BNHS with support from the Department of Forests and Wildlife, Government of NCT of Delhi, was released by the Minister of Forest and Wildlife Mr Kailash Gahlot on the occasion of Mitraon City Forest Phase 2 event in December 2019.

The team attended a conference organized by the US Forest Service to create Delhi Urban Network with various NGOs of Delhi from January 30 to February 02, 2020. Some of the other activities included bird survey and talk on butterfly conservation at Madhya Pradesh's Kuno National Park, bird walks at Uttarakhand Bird Fair, and walks around the Yamuna River floodplains in collaboration with Amaltash Nature Walks, under the guidance of Yamuna monitoring committee. ■

List of participants:

October 01 to February 17	SCHOOLS	COLLEGES	SPECIAL EVENTS	FAMILY GROUPS	CORPORATES	Walks	WORKSHOP	OUTREACH	TOTAL
OCTOBER	945	63	277	14	60	66	-	-	1425
NOVEMBER	144	119	50	33	-	18	50	-	414
DECEMBER	156	-	65	120	-	120	-	1135	1596
JANUARY	339	99	172	141	48	70	-	440	1309
FEBRUARY	130	6	53	9	-	45	-	174	417
Total	1714	287	617	317	108	319	50	1749	5161



CEC DELHI

**CEC Delhi Head Mr Sohail Madan conducts a butterfly photography workshop at Pawalgarh, Uttarakhand**



CEC DELHI

**A child learns how to make a bird feeder at the BNHS stall during the Annual Christmas Fair in Saket Mall, Delhi in December 2019**



## @ Hornbill House

### Collections



BNHS PHOTO LIBRARY

**BNHS Assistant Director Mr Rahul Khot addresses college students during their visit to Hornbill House to see the natural history collection**

The Bombay Natural History Society is the first and only NGO designated as a faunal repository in the country under Biodiversity Act, 2002. The general mandate of the Designated Repository (DR) is the safe deposit of any fauna species with particular focus on holotypes/isotypes/ paratypes of new taxa discovered in India and samples of biological resources accessed by foreign citizens/entities for research or sent/ carried abroad by Indian citizens/institutions for research.

The Collections department added several new specimens including type specimens of crabs, fish, arachnids, amphibians and reptiles from various researchers from various parts of the country. It has received a generous grant of Rs 10 lakh from SBICAP Securities Ltd to replace old plastic trays used in the bird and mammal storage cabinets.

During the last six months, 13 scientists from various institutes and 100 students visited the department.

#### Going digital

We are happy to inform you that the digitization work of the natural history collection is making good progress. Last year, we completed photographing and stacking all the bird egg specimens as well as finished photographing all reptile types in the collection. These images are being processed and cleaned to be displayed later on the web portal.

There are 5,936 bird egg specimens belonging to over 536 different species (excluding unnamed specimens), from localities all in India and the neighboring Bhutan, Sri Lanka

and Myanmar. Some are very rare, belonging to endangered species like the Jerdon's Courser, Bengal Florian and *Gyps* Vulture species.

About 2,957 stacks have been prepared using the raw images of the specimen. Most of the specimens have labels or collector's notes, with information regarding location of the collection site, clutch size, date of collection, name of collector and altitude details about parent birds. Post digitization, a high definition image to the scale of the original specimen, along with its associated data, will be available for researchers.

The BNHS wet collection includes almost 15,000 reptile and amphibian specimens along with type specimens, and this collection is growing rapidly with expanding research and new discoveries in India. These specimens are frequently handled for research and education activities, which may reduce their cabinet life. Once digitized, the stack images of the specimen will be available along with the associated metadata. To preserve the information in hand-written registers, some very old, we photographed each page of the available specimen registers. So far, 7100 pages of 32 registers and files, with information on specimens like insects, lizards, snakes and bird eggs, have been digitized.



BNHS PHOTO LIBRARY

**BNHS digitization team get hands-on training at the workshop on specimen photography and digital post-processing, conducted by wildlife photographer Mr Kedar Bhat at Hornbill House in December 2019**

#### Digitizing Bird Ringing Data Sheets

BNHS has been involved in Bird Migration studies across India through bird ringing for more than nine decades, ringing over seven lakh birds. This data is of much relevance even today. The Collections team along with the Wetlands team has started digitization these data sheets.



A workshop was conducted by renowned nature and wildlife photographer Kedar Bhat on December 3 and 4, 2019 to provide hands-on training to the digitization team in the art of specimen photography and digital post-processing. ■

### Addressing shortfalls in research using specimen data

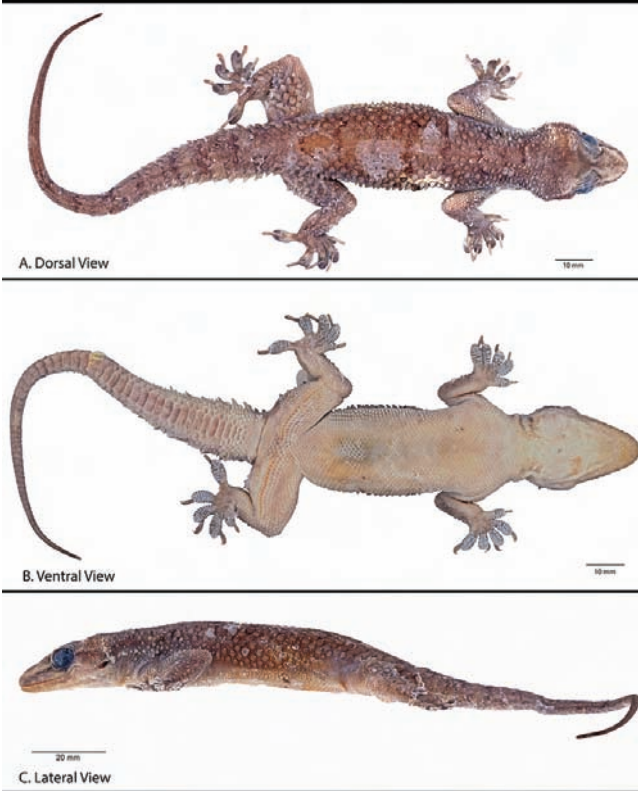
The team is working on a project titled 'Addressing the taxonomic and geographical shortfall for amphibians and reptiles using specimen data from the collection of Bombay Natural History Society, Mumbai, India', funded by the Biodiversity Information Fund for Asia (BIFA).

The aim is to digitize the diversity and occurrence of reptiles and amphibians using preserved specimens and associated metadata at BNHS, which will help to address the gap in taxonomy and distribution of Indian herpetofauna and to make the information readily available for conservation assessments, policy makers and other stakeholders.

Over 5000 records of the occurrence of reptiles and amphibians have been digitized; cleaning, correction and georeferencing for the same is in progress. The Global Biodiversity Information Facility has published a catalogue listing 235 occurrence records for 30 species of sea snakes belonging to three families. Another catalogue of reptile type specimens, including 226 occurrence records, has also been published. Presently, we are cataloguing type specimens of reptiles and amphibians into excel sheets, with information about their type locality, date of collection, collectors etc. For

### *Hemidactylus kangerensis*

**Holotype** BNHS 2484, adult male, in a forest rest house near Kailash caves, Kanger Valley National Park, Bastar District, Chhattisgarh, India (18.8411708, 81.9973108, 464 m). Collected on 2 December 2016 by Harshal Bhosale and Zeeshan Mirza.



BNHS PHOTO LIBRARY

### A sample of Reptile Type Digitization Layout

ready reference, we are also preparing a library of research papers in which the species were described and other associated research papers. ■

## ENVIS

ENVIS Resource Partner on Avian Ecology at BNHS (BNHS-ENVIS) contributed in myriad ways to disseminate information and awareness about avian ecology. A highlight of the department's activities was the Green Skill Development Programme, under which it conducted short-term certificate courses in Bird Trapping, Bird Ringing, People's Biodiversity Register (PBR) and Key Biodiversity Areas (KBAs) in January and February 2020. The former two courses, focussing mainly on bird migration studies, were conducted in Phaltan (Maharashtra) and Point Calimere (Tamil Nadu). The PBR and KBA courses were conducted at Pench National Park, Maharashtra. While the former was designed for the rural youth to equip them with skills needed for developing a comprehensive



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**Participants of the Certificate Course in Bird Ringing and Bird Migration Studies learn to erect mesh net for waders at Point Calimere in Tamil Nadu**



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**Students of Shishuvan School in Matunga, Mumbai at a nature workshop conducted by the BNHS-ENVIS team on the occasion of Wildlife Week**

BNHS PHOTO LIBRARY



**Students of Zilla Parishad School at Piwali in Thane district hold out the drawings they made to mark the Forest Owlet Conservation Day celebrations**

PBR at the village panchayat level, the latter focussed on the KBA concept and its utilization for preparing PBR.

Other activities conducted by ENVIS included nature workshops in two Mumbai schools – Don Bosco International School (DBIS) and Shishuvan School in Matunga. Over 150 students attended the workshop conducted by the ENVIS team, BNHS volunteer Ms Manasi Wardhe and Children's writer Ms Katie Bagli.

BNHS-ENVIS collaborated with the Maharashtra Forest Department and Owl Foundation to celebrate the Forest Owlet Conservation Day at the Zilla Parishad School at Piwali in Thane district on October 24, 2019. The programme was conducted along with the Forest Department of Tansa Wildlife Sanctuary, Mr Rohidas Dagale and Mr Sunil Lad of Owl Conservation Foundation. ■

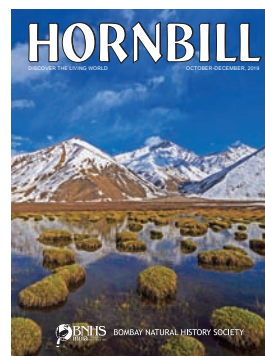
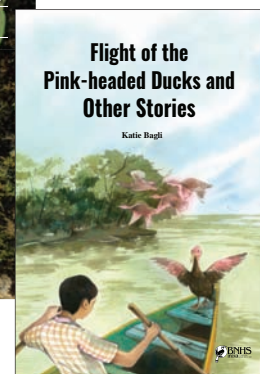
## Publications

The department worked on a range of publications related to nature conservation research, advocacy and education that catered to different audiences of BNHS.

Work on the *Journal of Natural History Society (JBNHS)* Vol 116 and Vol 117 is in progress.

The October-December 2019 issue of *Hornbill* highlighted the role of wetlands, one of the most crucial but threatened ecosystems, through a series of articles. It was published in time for the BNHS Wetlands Conference held in November.

Keeping in tune with the focus of CMS COP 13 held in Gandhinagar in February 2020, the January-March 2020 *Hornbill* issue focussed on some of the on-going work on migratory species listed under Central Asian Flyway, of which India is one of the core countries. The team pitched in to help with various publications from posters to brochures and a book (*Conservation India*) for the CMS COP 13. It contributed to the concept development, content writing, and design of *Conservation India*. The team coordinated with the contributors for content and images and printed 20 digital copies for release at CMS COP 13. *Flight of the Pink-headed Ducks and Other Stories*, a book for children by Katie Bagli, is ready for publication and will be available soon after lockdown. ■





## Library

BNHS has had a valuable addition to its repository. On learning that the preservation copy of Sálím Ali's films was available at the Smithsonian Institution, USA, the librarian Mrs Nirmala Barure wrote to the Human Studies Film Archive where it was catalogued, requesting for a digitized copy to be sent to BNHS. The soft copies of total 36 films arrived in November 2019. BNHS is thankful to Mr Pam Wintel Senior Film Archivist at the institute's National Anthropological Film Collection who promptly coordinated the digitization process, and Mr Joe Gardner of NorthEast Historic Film, the nonprofit organization that carried out the digitization of the films.

The library team also managed to successfully convert the audio cassettes with interviews of Dr Sálím Ali by Mr Peter Jackson into DVDs, ensuring very good voice quality. Official and personal records of personalities like that of Dr Sálím Ali, Lok Won Tho, and M. Krishnan were categorized and scanned to be archived.



BNHS PHOTO LIBRARY

To digitize and manage rare and important documents, and make them easily accessible, a Document Management Software was purchased. This has already benefited many users. To access the archives, send in your request to the director at [director@bnhs.org](mailto:director@bnhs.org) ■

## Central Marketing Department

The Central Marketing Department (CMD) played a crucial role, as always, in contributing to the conservation efforts of BNHS. Its eye-catching wall and desk calendars for 2020, on wildlife paintings and waders respectively, won the patronage of the people. The new T-shirt designs featuring species like the turtle, leopard, and owl were an instant hit with the buyers.

In an effort to support other causes, the team procured products from other NGOs for sale at its counter. An attractive discount was attached to the steel bottle as a way of promoting the motto 'Refuse single use, reuse'. The team channelized the sale of BNHS publications *Bird Business: Illustrated peeks into the daily lives of Indian Birds* (written and illustrated by Rohan Chakravathy), *So long, Amur Falcon* (written by Prabha Nair, illustrated by Deborshee Gogoi) and *Bharathna Pakshiyo* (translated to Gujarati by Dr Ashok Kothari) successfully.

As part of the environment day celebrations, the department held exhibitions at various corporate set-ups, and created awareness about global warming and its impact on earth. CMD took part in various exhibitions like Udaipur Bird Festival, UP Bird Fair, Goa Bird Fair and Maharashtra Pakshi Mitra Sammelan. The Kalaghoda art festival at Mumbai, held from February 1 to 9, 2020, as always provided an opportunity to meet various people young to old, nature lovers and curious onlookers, and create awareness about nature, besides raise funds for conservation work.



BNHS PHOTO LIBRARY

**Tata Mumbai Marathon:** Like every year, BNHS took part in Tata Mumbai Marathon 2020, in which 25 people ran with BNHS t-shirts. This event was supported by Mr Hans Sigg (who sponsored four runners for the marathon), Mr Anand Verghese, Mr Divyesh Parikh, Mr Amol Deshpande, Mr Anil Patel, Mr Gopal Amin, Mr Navaz Patuck, M/s. Tainwala Personal Care Products Pvt. Ltd and Dream runners from M/s. Mahimtura Consultants Pvt. Ltd.

The team pitched in to procure support from SBICAP Securities Ltd, which contributed towards a new storage tray for the Collections Department to store the precious natural history collections. It was mainly supported by Mr Naresh Yadav, Managing Director and Ms Dhanashri Kenkre, Company Secretary. ■



**Plant diversity of Bharat Bijlee:** A documentation of plant diversity on Bharat Bijlee's campus was carried out in December 2019 by the Botanist Dr Rajdeo Singh as part of BNHS project.

A total of 79 species belonging to 39 families were recorded. As per habitat-wise distribution, trees were represented by 56 species, shrubs by 16 species, palms by 6 species and climbers by one species. Gulmohar, Coconut, Banyan and Guava were the predominant species.

Established in 1946, Bharat Bijlee is a listed electrical engineering company headquartered in Mumbai. Its manufacturing facilities are located in Airoli, Navi Mumbai, on a sprawling campus with a working area of approximately 50,000 sq. m. Bharat Bijlee was among the first to occupy MIDC Industrial Area on Thane Belapur Road in Airoli in 1963. About two-thirds of the factory still has a green cover. ■



BHARAT BIJLEE

**A view of Bharat Bijlee plant at Airoli in Navi Mumbai, which still retains a prominent green cover. BNHS was offered a project to document the plant diversity on the campus**

## Gallery view of events & achievements



**From left: Mrs Varsha Chalke, Deputy Director (Finance), Capt. Mandar Salaye, Deputy Director (Administration) and Dr Raju Kasambe, Assistant Director (Education) of BNHS lend a hand at the beach clean-up drive, organized by the Indian Navy and Indian Coast Guard in Mumbai**

## Beach clean-up @Mumbai

Capt. Mandar Salaye, Mrs Varsha Chalke (BNHS Deputy Directors) and Raju Kasambe (BNHS Assistant Director) participated in a mega clean-up drive at Girgaon Choupaty on the occasion of International Coastal Clean-up Day, organized by the Indian Navy and Indian Coast Guard on September 21, 2019. Around 1000 volunteers including coast guards, corporates, college students and the public collected huge amounts of non-biodegradable waste, also including the one generated after the immersion of Lord Ganesh idols, and handed it over to the municipal authorities for proper disposal. Dr Kasambe gave a short talk about the importance of oceans and appreciated the clean-up drive. ■



## Beach clean-up @ Gujarat

In a more extensive beach clean-up project held in Gujarat during November and December 2019 and funded by ONGC Delhi, the BNHS team successfully conducted four clean-up drives and four awareness programmes. Total 545 people were mobilized and 646 man-hours were invested during the programmes. Total 710 kg waste was collected from four sites of southern Gujarat and disposed as per standard procedure. ■



BHAVIK PATEL

Volunteers collect waste on a Gujarat beach during a clean-up drive funded by ONGC and conducted by BNHS in December 2019

## Bamboo craft



BNHS Bamboo Craft artisans, with support from Maharashtra Bamboo Development Board, took part in the four-day Agrovision National Expo held in Nagpur, Maharashtra in November 2019. Union Minister Nitin Gadkari (second from right) visited the BNHS stall and appreciated the products on display



## International delegation at Hornbill House

Dr Bruce A. McPheron, Executive Vice President and Provost of the Ohio State University, USA visited the BNHS Collections department on January 7, 2020 along with Dr Gil Latz, Vice Provost, Global Strategies and International Affairs, Dr Anil Makhija, Dean and John W. Berry, Sr. Chair in Business, Fisher College of Business, and Dr Nikhil Tambe, Director, India Gateway OSU.

A professor of entomology, Dr McPheron has taught undergraduate and graduate courses, including courses in international agriculture. His research has focused on the use of genetic tools to examine population structure in pest insects of global quarantine significance and resulted in extensive field-work on multiple continents. His work is widely published in peer-reviewed publications. He is an elected Fellow of the American Association for the Advancement of Science. As an academic leader, he has been instrumental in



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**Dr Bruce A. McPheron, Executive Vice President and Provost of the Ohio State University, USA, delivers a talk on 'Evolution of the field of entomology from the 20th to 21st century' during his visit to the Hornbill House in January 2020**

connecting faculty and other researchers in innovative collaborations across disciplines.

Mr Rahul Khot, BNHS Assistant Director, gave a tour of the specimens, and the delegates were impressed by the collections, especially the way they had been maintained in good condition.

Dr McPheron also delivered a lecture on 'Evolution of the field of entomology from the 20th to 21st century' at BNHS auditorium, which was attended by students of K.J. Somaiya College, Ramnarain Ruia Autonomous College, Institute of Science and the BNHS staff. ■

## Wildlife Week celebration



YEOLA FOREST DEPARTMENT

**BNHS scientist Mr Rohan Bhagat (seated second from right) with Yeola Forest Department staff at Yeola in October 2019. Mr Bhagat was invited to deliver a lecture and train the forest guards in Wildlife Management on the occasion of Wildlife Week. The forest guards were trained to use different sampling and animal identification techniques. They were also given an idea about MSTripES (Monitoring System for Tigers: Intensive Patrolling and Ecological Status) protocol, especially the process of data collection.**



## Workshop attended



BNHS staff Mr Rohan Bhagat and Mr Vinod Patil attended an international workshop on Techniques for Bat Taxonomy, Ecology and Conservation at Osmania University in Hyderabad from January 13 to 17, 2020. The workshop was jointly organized by Department of Zoology and Centre for Biodiversity and Conservation Studies at Osmania University, Hyderabad, India and School of Biological Sciences, University of Bristol, United Kingdom. Besides theoretical sessions, the workshop also consisted field sessions, which were conducted inside Osmania University Campus as well as in Golconda Fort. Taxonomy of bats, bat acoustics, biostatistics and conservation practices were the focus of the workshop.

## Vadhwana Waterbird Estimation 2020



Dr Nita Shah, Head of Advocacy, BNHS, peers through a spotting scope while Dr Dishant Parasharya, Head, BNHS Gujarat Office, uses a pair of binoculars to estimate the bird species in a Gujarat wetland. They were part of the annual estimation held at Vadhwana Wetland on January 04, 2020, where BNHS participated as the technical/knowledge partner for the Vadodara Wildlife Division. BNHS helped in designing the methodology and in data compilation and validation of the species.

## Internship grant!

BNHS scientist Ms Monisha Bharate has been selected for an internship at the University of Bergen, Norway for seven months in connection with her PhD studies and has received a grant from the Natural History Museum of Bergen, University of Bergen to attend the same. ■



## New discoveries

### New species of Slender geckos

**B**NHS scientist Mr Saunak Pal was part of a recent study, along with scientists from the National Centre for Biological Sciences and Centre for Ecological Sciences, IISc, Bangalore, that led to the discovery of two new species of Slender geckos from the forests of Nilgiri and Agasthyamalai Hills in the Western Ghats of Tamil Nadu.

Belonging to the genus *Hemiphyllodactylus* and commonly known as Slender geckos or Worm geckos, they are small, nocturnal geckos with predominant climbing habits. Until recently, the genus was represented in peninsular India by the *Hemiphyllodactylus aurantiacus* species complex, disjunctly distributed in montane habitats in and around the Eastern Ghats in south India. The two new species described in this recent study are the first *Hemiphyllodactylus* to be discovered from the Western Ghats. *Hemiphyllodactylus nilgiriensis* or the Nilgiris slender gecko has been named after the Nilgiri mountain range, to which the new species is restricted. This gecko is currently known from the eastern slopes of the Nilgiri hills, Nilgiris district, Tamil Nadu. The habitat comprises mixed deciduous forests and open scrub patches. *Hemiphyllodactylus peninsularis* or the KMTR slender gecko was discovered in the isolated montane forests of the Agasthyamalai hills in Tamil Nadu. The species name *peninsularis* is derived from the Latin word *paene* meaning 'almost' and *insula* for 'island' referring to the isolated habitat of the new species at the southern extreme of the Indian peninsula. This species is currently known from a single location in the high elevation forests of Agasthyamalai Hills, Tamil Nadu.



SAUNAK PAL

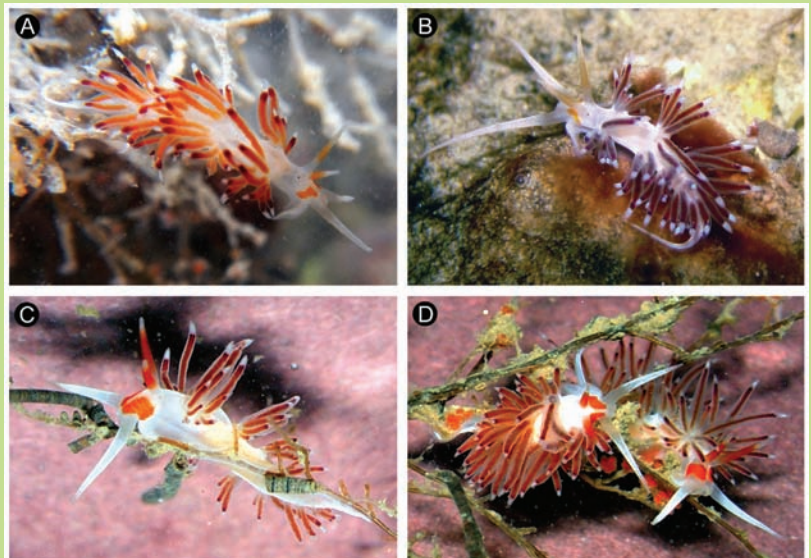


SAUNAK PAL

The discovery of two new Slender geckos from the isolated forests of the Western Ghats highlights the underestimated diversity of these small geckos in peninsular India. These geckos are superficially similar to one another in colouration, overall shape and size; only with the use of genetic information, geographic location and an extensive study of morphological characters, some of the species can be diagnosed. Additional exploration in peninsular India could lead to the discovery of many more Slender geckos. ■

### Nudibranch discoveries

**B**NHS scientists have described two new nudibranchs to India. *Cratena poshitraensis*, named after the type locality Poshitra, is distributed in Porbandar, Dwarka, Okha and Veraval in the State of Gujarat. *Cratena pawarshindeorum*, named after BNHS field officers Rajendra Pawar and Vishwas Shinde, is found in Uran (Raigad), Bandra, Khar Danda (Mumbai) and Waravade, Undi, Purnagad, Kasheli, Ambolgadh (Ratnagiri) in the State of Maharashtra. ■



All pics: DEEPAK APTE

A and B: *Cratena poshitraensis*; C and D: *Cratena pawarshindeorum*



## Of *Trachischium aptei* and *Trimeresurus salazar*

**B**NHS scientist Mr Harshal Bhosale led the team that discovered a new species of fossorial natricid snake of the genus *Trachischium* Gunther, 1858 (Serpentes: Natricidae) from the Himalayas. The team, also comprising Mr Gowrang G. Gowande and Mr Zeeshan A. Mirza, has named the species *Trachischium aptei*, after Dr Deepak Apte, the Director of BNHS. Dedicating the discovery to Dr Apte, Bhosale said, "I extend my humble gratitude to Deepak Sir for giving me the opportunity to work with BNHS and his unwavering support and guidance without which this project would not have been possible." The paper was published in a leading taxonomic journal *Comptes Rendus Biologies*.

Mr Harshal Bhosale was part of yet another discovery together with BNHS scientist Mr. Mandar Sawant and four other researchers (Zeeshan A. Mirza, Pushkar U. Phansalkar, Gaurang G. Gowande, Harshil Patel). They have described a new species of pit viper of the genus *Trimeresurus* Lacépède, 1804, from Arunachal Pradesh. The team has named it *Trimeresurus salazar* (common name: Salazar pit viper), after Salazar Slytherin, the co-founder of Hogwarts School of Witchcraft and Wizardry in the fictional Harry Potter series by J.K. Rowling. The paper was published in *Zoosystematics and Evolution*. According to the team, "The pit vipers of this genus are charismatic venomous snakes with morphologically as well as ecologically diverse species. At least 48 nominate species are known, of which 15 occur in India. Of these, seven occur in northeastern India." ■



*Trachischium aptei*



*Trimeresurus salazar*

## A new Click beetle!

**R**esearchers from BNHS and Somaiya College have discovered a new click beetle species from the lateritic outcrops in Konkan region of Maharashtra. The research was published in the *Journal of Threatened Taxa* in January 2020. Insects in the family Elateridae are commonly called click beetles. The members of this family are found all over the world. They are known so because of their interesting clicking action, which enables them to bounce in the air and land on their legs when turned turtle. There are about 9300 known species worldwide.

Mr Rahul Khot, Assistant Director BNHS and co-author of the paper, stumbled upon the specimen back in 2012. After on-field examination, one specimen was collected for further studies. Dr Amol Patwardhan, Assistant Professor at K J Somaiya College who has worked on click beetles of Maharashtra for his doctorate, collaborated with Mr Rahul on the study. Their findings confirmed that the specimen belongs to the genus *Lampropsephus*.

The only known species from this genus *Lampropsephus cyaneus* was described way back in 1878 from Vietnam. This is the second species described in this genus after 142 years, and has been named *Lampropsephus sulcatus*. ■



*Lampropsephus sulcatus*



## A special moment for BNHS

The Hornbill House had a distinct visitor in January 2020. Ms Gwendy Butler, the daughter of Stanley Henry Prater, one of the most cherished stalwarts of the Bombay Natural History Society, came down from England with her family to reconnect with her father's past and relive her memories of Bombay. BNHS Director Dr Deepak Apte and the Collections Team took her through the natural history specimens at Hornbill House, gathered over a hundred years ago when her father was the Curator.

To recall in brief, S.H. Prater was with the BNHS from 1907 to 1948. He was appointed the Curator in 1923. At that time, the natural history section of Prince of Wales Museum (now Chhatrapati Shivaji Maharaj Vastu Sangrahalaya) was still under the management of the Society. Prater brought in significant changes to the way natural history collections are exhibited in the museum. Guided by the modern museum methods he was witness to in the US and other European countries and the need to be of service to the public, he mingled Science with Art to make the exhibits attractive to the masses. He was part of many natural history expeditions. *The Book of Indian Animals* by Prater, published in 1948, remains a landmark publication till date. Prater was deeply committed to the protection of wildlife in India. When he emigrated to the Great Britain in 1948, he left the BNHS well set to take on the challenges of the future.

Prater's daughter was still a child when they left India. Writing about her visit to the country after 70 years, she takes us down memory lane.



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**BNHS stalwart S.H.Prater's daughter Ms Gwendy Butler holds a specimen as she listens keenly to BNHS Director Dr Deepak Apte**



BNHS PHOTO LIBRARY

**Ms Gwendy Butler and her family with BNHS staff in front of Hornbill House. It was a visit to cherish both for Ms Butler and the BNHS family**



## A daughter remembers

My name is Gwendy and I am the youngest daughter of Stanley Prater. I was born in Mumbai, where I lived with my mother, father and brother and sisters. I left India in my teens to live in England but have always wanted to return to the place of my birth, I recently got that opportunity.

I must admit that I was overwhelmed by the reception I received at both the Bombay Natural History Society (BNHS) and at the Museum. I thank everyone for the effort made in the presentation of my father's work and displays and for all the time taken in explaining what I was shown.

My father was an important person. Curator of the Museum for 26 years and also a Member of the Constituent Assembly of India, a Justice of the Peace and on the Board of Directors for The Cathedral School and the Hospital and the Mint. I am proud that he played a part in the Constituent Assembly ensuring fairness and justice, when Britain was returning India to its People.

My father spent quite a deal of time in Delhi on Government work. His titles included OBE, JP, MLA and CMZS. He was a good artist and enjoyed drawing, particularly Indian wildlife, and his work was very good. When he wrote his books and papers which were published, the drawings and paintings were done by him. His book on Indian Animals is still being published, now in its Third Edition, and I understand from the Museum it is doing extremely well. He was also very much at ease in company and had many friends, a very sociable being.

He encouraged my older sister Betty to get involved as I was still a young child and spent more time with my mother. Betty was in her teens and often accompanied him to Government functions, as my Mother was reluctant to go as she was unfortunately deaf. As a young child, I can remember him bringing me home a glass case furnished with foliage and caterpillars which became chrysalis. He wanted me to see what happened from the caterpillar stage and how the chrysalis eventually become beautiful butterflies. He also showed me the life of bees, which out of interest when I was in school in England I came first in an exam on Bees!

I had a wonderful holiday in Shimla (the Himalayas) with my parents and my brother, also named Stanley, we stayed at a beautiful house called North Bank (originally the Home of a famous author, Rudyard Kipling).

My father was born in southern India; his father was a coffee farmer. I believe the birth was illegitimate and his mother sadly died giving birth to him. He was originally introduced to the Museum by the Jesuit Priests from the orphanage where his father left him. Rev E Blatter was a great influence, he saw the potential in young Stanley and encouraged his love of natural history and found him work at the Museum. Sálím Ali, in his autobiography 'The Fall of the Sparrow' tells of how he used to 'pick up Stanley from his miniature terrace flat at Elphinstone

Circle on the pillion of my little Douglas and dash off to St Xavier's before the zoology class began'. He goes on to say that his 'admiration and regard for Prater's intellectual versatility was profound'. Incidentally, Rev Blatter later officiated at my parent's wedding.

My father's passion and intellect clearly paid off, from lowly beginnings at the museum he worked his way up to become the curator and a leading light at the BNHS. His passion is clear in his 'Book of Indian Animals'. He loved his work and we think he was an excellent Curator. I am told that my father's address at the Golden Jubilee celebration in 1933 on 'The Wild Animals of India and the Problem of their Conservation' marked a real awakening in the interest of preserving India's wildlife.

A story I always remember is that in his younger Museum days he went hunting with a helper, who carried the equipment and the gun. Unfortunately, the helper accidentally triggered the gun and shot my father in the leg and blew half his thigh away. My father was of course unable to walk and the man had to run back to get help leaving my father in agony and bleeding. He told of how terrified he was that an animal might smell the blood and attack him. Thankfully, the helper returned with assistance and all was well but he took some time to get over the injury.

My childhood was a happy one and always interesting. Our parents were very good and enjoyed their children and involved them in their lives. My father was very sad to leave India, he loved the country and the wildlife and was passionate about protecting it. Unfortunately, my mother could not cope and needed stability so we left for England. My father later joined us. He kept up his passions working at the Natural History Museum in London and joining the Labour Party. He had hoped that when he retired, he would carry on with his art work but fate played a cruel trick, he developed Parkinson's Disease and later died of a brain haemorrhage in St Georges Hospital London. He did live long enough to see me married and the birth of my first daughters, Karen and Alison.

Although I left India over 70 years ago, I was surprised at how much I could remember. We visited the apartment where we lived, Ravindra Mansions near the Cricket Club and Marine Drive. It was not that far from the Museum and we met the new occupant who said he had been there for 37 years. Though I was astonished by the amount of traffic and so many people, somehow everything worked perfectly. I was delighted with the Museum and we appreciated all that was done to make our visit so very perfect and enjoyable. We were in Mumbai for a very short time and I was sorry about that because there was so much more that I would have liked to see – Crawford Market, other places where we stayed and to just absorb the whole place. Maybe I will get the chance to do the trip again.

**Gwendy Butler (nee Prater)**



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**Vision:** Premier independent scientific organization with a broad-based constituency, excelling in the conservation of threatened species and habitats.

**Mission:** Conservation of nature, primarily biological diversity, through action based on research, education and public awareness.

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