

ENVIS Centre
AVIAN ECOLOGY

ENVIS Newsletter Vol. 15, No.1

BUCEROS

April-July (2010)



Supported by Ministry of Environment & Forests, Govt. Of India



BUCEROS

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Avian Ecology
Vol. 15, No. 1, April- July (2010)

ENVIS

ENVIS (Environmental Information System) is a network of subject specific centers located in various institutions throughout India. The focal point of the present 78 ENVIS centres in India is at the Ministry of Environment and Forests, New Delhi, which further serves as the Regional Service Centre (RCS) for INFOTERRA, the global information network of the United Nations Environment Programme (UNEP) to cater to environment information needs in the South Asian sub-region. The primary objective of all ENVIS centres is to collect, collate, store and disseminate environment related information to various user groups, including researchers, policy planners and decision makers.

The ENVIS Centre at the Bombay Natural History Society was set up in June 1996 to serve as a source of information on Avian Ecology and Inland Wetlands.

ENVIS TEAM AT THE BNHS

- Centre-in-Charge : Mr. J.C. Daniel
- Project Coordinator : Dr. Asad R. Rahmani
- Scientist-in-Charge : Mr. Sujit S. Narwade
- Information Officer : Mr. Sagar B. Satpute
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Cover: Forest Owlet *Heteroglaux blewitti* by Dr. Tarique Sani

Other photo credits: Lesser Florican & Great Indian Bustard by Dr. Asad R. Rahmani
Houbara Bustard by Mr. M. Zafar-ul Islam
Bengal Florican from BNHS Library

Cover design and Page layout: Sagar Satpute & Divya Varier ENVIS, BNHS.

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National Evaluation Workshop of ENVIS Centres 2010

Mr. Sujit Narwade, Scientist-In-Charge, ENVIS Centre participated in National Evaluation Workshop of ENVIS Centres organized by the Ministry of Environment and Forests (MoEF) on 5-6th April 2010 at Gangtok, Sikkim.

Visit to Important Bird Areas (IBAs) of Sikkim

Scientist-In-Charge, ENVIS Centre visited IBAs of Sikkim with the help of Mrs. Usha Lachungpa, Sr. Research Officer, (WL), Sikkim Forest Department and Indian Bird Conservation Network (IBCN) state coordinator of Sikkim. (Photos: Sujit Narwade)



Blue Whistling-thrush *Myophonus caeruleus* one of the common birds of Sikkim



The dense vegetation at Fambong Loh Wildlife Sanctuary made sighting of birds challenging



Flock of Snow Pigeons *Columba leuconota* in Yumthang - Shingba Rhododendron Wildlife Sanctuary



Red-billed Chough *Pyrrhocorax pyrrhocorax* searching food under dried dung at Yumthang - Shingba Rhododendron Wildlife Sanctuary

Visit to Vulture Conservation Breeding Centre (VCBC), Raja Bhatkhawa

Scientist-In-Charge, ENVIS Centre visited VCBC and Buxa Tiger Reserve, West Bengal on 12-13th April 2010. Mr. Sachin Ranade, Centre Manager, VCBC, Raja Bhatkhawa provided all technical and scientific information about the functioning of VCBC.

Global Biodiversity Information Facility (GBIF) Workshop on Biodiversity Data Discovery and Publishing, WII, Dehradun

Scientist-In-Charge, ENVIS Centre participated in GBIF workshop on Biodiversity Data Discovery and Publishing, held at Wildlife Institute of India (WII), Dehradun. Dr. Gautam Talukdar from WII coordinated the Workshop and he mentioned that the motivation for this workshop was to develop pool of trainers in the area of biodiversity data discovery and publishing, especially metadata authoring, and use of GBIF Integrated Publishing Toolkit (IPT) to train a selected group of technically capable people with extensive knowledge on the GBIF IPT. GBIF was established in March 2001, as an open ended international





coordinating body to promote compilation, linking, standardization, digitization and dissemination of world's biodiversity data in the form of distributed open access system, within an appropriate framework for property rights and due attribution.

Visit to Rajaji National Park

Scientist-In-Charge, ENVIS Centre visited Rajaji National Park along with GBIF workshop participants on 8th May 2010. The trip was arranged by Dr. Gautam Talukdar from WII. (Photos: Sujit Narwade)



Three vulture species on a tree at Rajaji NP (Himalayan Vulture, Red-headed Vulture and White-rumped Vulture)



Black-necked Storks
Ephippiorhynchus asiaticus
at Rajaji National Park



Painted Storks
Mycteria leucocephala
near Haridwar

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Use of advanced Information Technology (IT) tools for compilation of bird data

eBird - A real-time, online checklist program

Launched in 2002 by the Cornell Lab of Ornithology and National Audubon Society, eBird provides rich data sources for basic information on bird abundance and distribution at a variety of spatial and temporal scales. eBird's goal is to maximize the utility and accessibility of the vast numbers of bird observations made each year by recreational and professional bird watchers.

The observations of each participant join those of others in an international network of eBird users. eBird then shares these observations with a global community of educators, land managers, ornithologists, and conservation biologists. In time these data will become the foundation for a better understanding of bird distribution across the Western Hemisphere and beyond.

How does it work?

eBird documents the presence or absence of species, as well as bird abundance through checklist data. A simple and intuitive web-interface engages participants to submit their observations or view results via interactive queries into the eBird database. eBird encourages users to participate by providing Internet tools that maintain their personal bird records and enable them to visualize data with interactive maps, graphs, and bar charts. A birder simply enters when, where, and how they went birding, then fills out a checklist of all the birds seen and heard during the outing. eBird provides various options for data gathering including point counts, transects, and area searches. Automated data quality filters developed by regional bird experts review all submissions before they enter the database. Local experts review unusual records that are flagged by the filters.

Data accessibility

eBird data are stored in a secure facility and archived daily, and are accessible to anyone via the eBird web site and other applications developed by the global biodiversity information community. For example, eBird data are part of the Avian Knowledge Network (AKN), which integrates observational data on bird populations across the Western Hemisphere. In turn, the AKN feeds eBird data to international biodiversity data systems, such as the Global Biodiversity Information Facility (GBIF). In this way any contribution made to eBird increases our understanding of the distribution, richness, and uniqueness of the biodiversity of our planet. **Source:** <http://ebird.org/>



A house for the friendly House Sparrow

The BNHS pioneered “Save Sparrow” project has turned out to be instrumental in spreading awareness among common people regarding the dwindling population of House Sparrow *Passer domesticus*.

Mr. Sadanand Shirsat, Library Attendant, BNHS, has found a novel way to help the bird’s cause. He built a nest for House Sparrow from the discarded box of a printer cartridge. The broken nest of a sparrow near his house incited the conservationist in him to experiment and build a box-nest for the bird. The scientific information on House Sparrow was provided by the ENVIS Centre, BNHS. His ingenuity was rewarded when a pair of sparrows actually made the nest their home.

Two similar nests were installed at the houses of ENVIS staff and got 100% success. Right now people use wooden nest boxes that can be placed in gardens, on tree branches, near windows or inside houses. It is true that the cardboard nest-boxes will have to be sheltered in high rainfall areas like Mumbai. Nevertheless, this ingenious idea of using discarded material instead of wood to prepare a bird nest promotes “recycle and reuse of waste”.



The female sparrow perching outside the box-nest



The female sparrow inspecting the new nest



The male sparrow helping in nest building



The House Sparrow pair finally settles in their new home

Information and photos by: Mr. Sadanand Shirsat and Mr. Prakash Mandavkar, Dombivli, Thane.



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Green Avadavat *Amandava formosa*
- a Vulnerable species
(Credit: Rajat Bhargav)

State scheme to save Green Munias in Mount Abu

For the threatened Green Avadavat or Munia *Amandava formosa* found at Mount Abu, it may be a fresh lease of life with the state forest department embarking on a project to maintain the moist ambience of hill station. The environment of Mount Abu has been degrading and these birds may not survive if prompt attention is not given. The forest department is trying to restrict water from flowing off the hills by constructing small annicuts and dams on the nullahs there. This will induce a moist ambience at Mount Abu. Of the seven species of munias found in India, five occur in Rajasthan. This includes the Green Munia, listed as Vulnerable by IUCN, which is resident only in central India. Rapid urbanisation and extensive trapping of wild

birds for trade has taken a toll on their numbers and except for Mount Abu only a few were spotted at Kumbhalgarh. For more details: <http://timesofindia.indiatimes.com/city/jaipur/-State-scheme-to-save-Green-Munias-in-Mt-Abu/articleshow/5904605.cms>

Eleven percent migratory birds under threat: BNHS

The World Migratory Bird Day was celebrated on 8th May 2010 with a call to take urgent steps to protect migratory birds. With increasing human-driven threats and decreasing natural habitats, over 12.4 percent of the total bird species worldwide are threatened, quoted Dr. Asad Rahmani, Director, Bombay Natural History Society (BNHS). According to a report of BirdLife International, only 19 percent of all bird species are migratory and among them 11 percent are threatened. Out of the 1,200+ species of birds reported from India, 350 are migratory. Being the largest country on the South-Asia migratory route, India is very important for migratory species during their winter sojourn. The location of the Indian peninsula is unique because other than Sri Lanka there is no major landmass



Sociable Plover *Vanellus gregarius*, a winter migrant, was uplisted from Vulnerable to Critically Endangered category in 2004 (Credit: Dr. Tarique Sani)

further south where the birds can go. The newly established Bird Migration Study Centre at Point Calimere in Tamil Nadu and activities like Flamingo Festival by the BNHS have been creating awareness about migratory birds. For more details: <http://www.newkerala.com/news/fullnews-104175.html>

Threatened bird species in India rise to 156

The number of threatened bird species in the country has risen to 156 from 149 in just two years, a recent study has said. A joint study by BirdLife International and Bombay Natural History Society (BNHS) attributes the rapid decline in the bird population to habitat destruction. Dr. Asad Rahmani, Director, BNHS, quoted destruction of habitat as the prime reason behind the fall in their numbers. According to studies, the condition of Great Slaty Woodpecker *Mulleripicus pulverulentus* has deteriorated from 'Least Concern' to 'Vulnerable' primarily due to habitat loss. The supposedly common species in India like Nilgiri Blue Robin *Myiomela major* and White-bellied Blue Robin *Myiomela albiventris* have also been included in the 'Endangered' category. In light of the alarming situation, the BNHS strongly urges the government to start special programmes for protection of birds and their habitats. The BNHS and BirdLife International have also identified 466 Important Bird Areas (IBAs) across India, of which 200 are not officially protected. For more details: <http://www.hindustantimes.com/Threatened-bird-species-in-India-rise-to-154/Article1-548897.aspx>



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Farmers find flooded fields can help birds, crops

For the past three years, Dave Hedlin, a third-generation farmer, has taken part in an experiment that contradicts everything he's known about farming. For a fee, he agreed to flood about 20 acres of his farm, near northern Washington's Skagit Bay, to provide wetland habitat for migratory shorebirds. According to a team of researchers this effort, called Farming for Wildlife would result in more productive farmland. Hundreds of shorebirds fattened up in the flooded field during spring and fall migrations, and the farmers noted an increase in nitrogen, a key plant fertilizer, in their fields. The Skagit River Delta was once covered in estuarine and freshwater wetlands, providing rich habitat for birds and other wildlife. Over the past century, much of it was converted into farmland. Despite the habitat loss, about 35,000 migratory birds stop in the Skagit delta on the Pacific Flyway. Though no studies have quantified benefits, the farmers have reported higher crop yields, better control of weeds and pests and reduced need for fertilizers and fumigants. For more details: <http://www.google.com/hostednews/ap/article/ALeqM5hoCDIYed8m8eg59TE9skH7eUjTmAD9FOFCT80>

Even small patches of urban woods are valuable for migrating birds

A new research has found that even tiny patches of woods in urban areas seem to provide adequate food and protection for some species of migrating birds as they fly between wintering and breeding grounds. The study involved the Swainson's Thrush *Catharus ustulatus*, a secretive relative of the American Robin *Turdus migratorius*. The researchers captured up to 91 Swainson's Thrushes at a woodlot on the Ohio State University campus while they were migrating through Columbus in May or early June from 2004 to 2007. They then fitted them with tiny radio transmitters and released them at one of seven wooded sites in the Columbus area. They tracked how long the thrushes would stay in the woodlots where they were placed. The results are important because, with the expansion of cities worldwide, migrating land birds must increasingly pass through vast urban areas which offer very little of the forest habitats on which many species rely. Though it is impossible to affirm that same results will apply to other species, the fact that the Swainson's Thrush, a rather forest-sensitive species, could make do with even small, fragmented woodlots is encouraging. For more details: <http://www.sciencedaily.com/releases/2010/05/100518131722.htm>

Will birds and wind farms compete?

Researchers have begun the first electronic tracking studies ever done in Maine, USA, to determine whether migrating birds might be disturbed by floating wind turbines off the coast. They have implanted satellite transmitters inside four Common Eiders *Somateria mollissima* in Casco Bay and are keeping tabs on their movements. The transmitters will hopefully show whether they winter with groups of sea ducks farther out to sea, possibly in areas where massive wind farms are contemplated. Migrating seabirds, raptors and songbirds can be put at risk by wind energy, if the projects are located where the birds are likely to collide with blades or towers, or if they must alter their flight paths to avoid them. While the issue has been extensively studied on land, researchers are unsure whether conflicts exist far offshore. They have started with eiders because nearly half the North Atlantic population breeds in Maine and very little is known about how they move about during breeding, migration and wintering. For more details: http://www.pressherald.com/news/will-birds-and-wind-farms-compete_-_2010-05-31.html



Special transmitters have been placed in the abdomens of four Common Eiders *Somateria mollissima* nesting in Casco Bay (Credit: BioDiversity Research Institute, Gorham Maine, USA)



Birds of Thakurli Creek

Divya Varier

Research Officer, ENVIS Centre, BNHS



It has always been a pleasure being part of nature trails and if they involve birding it is even more fun. I became more interested in birding when I joined the Environmental Information Systems (ENVIS) Centre on Avian Ecology at BNHS. On one such birding trip, I had been to the creek near Thakurli railway station, District Thane, Maharashtra on 19th February 2010. This trip was considered as a warm-up to the annual Mumbai 'Bird-race', which my birder friends had actively participated in.

The creek area stretches between the twin cities of Dombivli and Kalyan. A number of farms, apparently owned by the locals, are scattered along the shore. Hence, the best part about this area is that it seems to be an amalgamation of a wetland and farmland, as a result of which birds of both the habitats are found in decent numbers here. With my two cousins, I walked all the way down from the flyover joining Kalyan East and West to reach the place. We started early in the morning but unfortunately miscalculated the tide timings. The birds were a little away from the shore because of low tide.

However, most of the ducks could be identified even without the binoculars. The very beautiful Northern Pintail *Anas acuta* was the first to be identified. The male bird is characterized by the presence of a pointed tail feather and the white coloration of the breast running up as a small strip from behind the curve of its neck. They were present in a flock of 10-12. Our excitement grew even more on spotting a flock of Northern Shovelers *Anas clypeata*. This European migrant can be identified by the brilliant green color of its head and the presence of chestnut-brown flank-patch. On closer look, its flattened beak can also be seen, which distinguishes it from other ducks. There were flocks of about 5-6 Indian Spot-billed Ducks *Anas poecilorhyncha* and the Garganey *Anas querquedula* too. The Spot-billed Ducks are easily identified by the yellow colored spots at the tip of their beaks. The locals call the male bird *Haldi-Kunku* since it appears to have applied turmeric and vermilion on its forehead as is done by women during 'Haldi-Kunku' ceremonies. The Garganey was easily identified by its signature white brows.





Sighting of mixed flock of Northern Pintails, Northern Shovelers and Garganey is common in the creek during winter. (Credit: Abhijit Avalaskar)



Indian Spot-billed Duck *Anas poecilorhyncha*, a resident dabbling of Indian subcontinent (Credit: Nikhil Bhopale)

The wader group was represented by good numbers of sandpipers and plovers. One very easily distinguishable wader was the Black-winged Stilt *Himantopus himantopus* with its black wings. The bird with its extremely long legs is a true representative of wader group. As expected there were other shore birds too like the Little Cormorant *Phalacrocorax niger*, Indian Pond-heron *Ardeola grayii* and White-throated Kingfisher *Halcyon smyrnensis*. The two raptors which I could identify were the Black Kite *Milvus migrans* and the Brahminy Kite *Haliastur indus*. Other raptors that frequent the creek are Osprey *Pandion haliaetus*, Black-winged Kite *Elanus caeruleus* and Western Marsh Harrier *Circus aeruginosus*. A River Tern *Sterna aurantia* was also seen hovering around in search of food.



Small migratory waders like sandpipers and plovers are seen in good numbers. (Credit: Abhijit Avalaskar)



Black-winged Stilts *Himantopus himantopus*. Plastic materials washed ashore make for an unpleasant sight. (Credit: Wasi Azmi)

We watched the birds for a good two hours. A few feet away from the shore, the terrain is part grassland and part farmland. Here one encounters a number of grassland birds too. The members of Prinia group - Plain Prinia *Prinia inornata* and Ashy Prinia *Prinia socialis* are common here. Some other frequently seen birds include the Asian Pied Starling *Gracupica contra*, 'Rufous-backed' Long-tailed Shrike *Lanius schach*, Bay-backed Shrike *Lanius vittatus*, Eastern Cattle Egret *Bubulcus coromandus*, Black Drongo *Dicrurus macrocercus*, Indian Black Robin *Saxicoloides fulicatus* and Oriental Magpie-robin *Copsychus saularis*, Common Stonechat *Saxicola torquatus*, Little Green Bee-eater *Merops orientalis*, Coppersmith Barbet *Megalaima haemacephala*, Laughing Dove *Streptopelia senegalensis*, Red-vented Bulbul *Pycnonotus cafer*, Red-wattled Lapwing *Vanellus indicus* and Common Tailorbird *Orthotomus sutorius*.



ARTICLE



Human activities such as operation of trawlers cause disturbance to the birds
(Credit: Abhijit Avalaskar)



A large fleet of fishing trawlers can be seen harbored near the shore
(Credit: Divya Varier)

The area is constantly disturbed by the movement of fishing trawlers during the high tides. These machines could be seen arranged along the shore towards Kalyan city's limits. A large congregation of gulls was seen near the harbored trawlers from our place of viewing. One of the reasons may be that the trapped fishes in the boats might have attracted them.

The creek being an extension of the mangrove haven of Diva has the potential of being a good place for migratory birds to stopover and feed. The Black-headed Ibis *Threskiornis melanocephalus*, a Near-threatened species, has been spotted here. The numbers of shore-birds were indeed lesser than those generally encountered near hotspots like Sewri or Mahul of Mumbai but nevertheless, it makes an excellent birding spot.

The birds are however not notably safe here. Along with fishing, manufacture of trawlers is also prevalent along the shores. This activity coupled with the rampant dumping of effluent water from nearby industries and the presence of a major dumping ground adjacent to the creek, end up polluting the waters. Some birders have seen the locals using catapults to kill the birds for no reason. Increased human pressure is the major threat to the wetland areas near Mumbai region. We have already had appalling experiences of land filling in the Uran area near Mumbai. Therefore the sanctity of the creek needs to be preserved for the benefit of its winged visitors. This will not only benefit the birds but also the life sustained by the creek.



The grassy terrain near the creek shelters some common migratory birds such as Western Marsh Harrier *Circus aeruginosus*
(Credit: Wasi Azmi)



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Impact of the invasive plant, *Lantana camara*, on bird assemblages at Malé Mahadeshwara Reserve Forest, South India

Aravind, N.A., D. Rao, K.N. Ganeshaiyah, R.U. Shaanker & J.G. Poulsen

Lantana camara is an invasive species that is widespread in India. Using birds as an indicator taxon, we investigated whether *Lantana* invasion was correlated with changes in ecosystem health of the moist and dry deciduous forests at the Malé Mahadeshwara Hills, Karnataka. We studied *Lantana* at four densities, low, medium, and high, and a no-*Lantana* control. Bird species diversity, species richness, and abundance were lower at high densities of *Lantana* in both forest types. Evenness increased with increase in *Lantana* density. To better understand the observed changes in bird community composition, we segregated birds into 2 guild types: microhabitat guilds and foraging guilds. An increase in *Lantana* density was correlated with a decline in canopy birds (of the canopy microhabitat guilds) and insectivores (of the insectivore foraging guilds). Our results suggest that *Lantana* affects the structure of the bird community by decreasing diversity, and that *Lantana* affects certain guilds more than others.

Tropical Ecology, 2010, Vol. 51(2), pp. 325-338

Watching sexy displays improves hatching success and offspring growth through maternal allocation

Adeline Loyau and Frédéric Lacroix

Male attractiveness can have tremendous effects on the fitness of his offspring via good genes, but also via enhanced maternal allocation of resources. Yet the proximate mechanisms influencing differential maternal allocation in relation to male sexiness are poorly known. Here, we studied the importance of visual stimulation for maternal allocation in the Houbara Bustard *Chlamydotis undulata*, a vulnerable bird species bred in captivity to support wild populations. Artificial insemination allowed controlling for potential confounding factors, such as a male's territory quality, social interactions or sperm quality/quantity, probably linked to mate attractiveness. We show that artificially inseminated females stimulated by highly displaying males increased their hatching success, owing to increased fertilization success. The females also increased the allocation of maternal androgens in their eggs, leading to an increase of circulating testosterone and growth rate in chicks. Hence, visual stimulation of the females can promote differential maternal allocation and favour offspring fitness. Our results further suggest that using artificial insemination for species conservation without appropriate stimulation of the breeding females probably has negative impacts on their breeding performance and therefore on population viability.

Proceeding of the Royal Society B, 2010, Published online before print, doi: 10.1098/rspb.2010.0473

Are rice paddies suboptimal breeding habitat for Sarus Cranes in Uttar Pradesh, India?

Gopi Sundar, K. S.

The globally threatened Sarus Crane *Grus antigone* has low annual productivity and occurs mostly in landscapes dominated by agriculture; it is therefore vulnerable to extinction caused by human-related disturbance and mortality. The Sarus Crane's increased use of rice paddies as breeding habitat has fueled concerns that the species is being forced to use suboptimal habitats. To assess the issue, I studied nest-site selection and quantified nest and brood survival of Sarus Cranes in Uttar Pradesh, northern India, during 2000 and 2001 and evaluated differences between natural wetlands and rice paddies. The cranes preferred wetlands as nesting habitat at the levels of both the landscape and individual territory. The success (daily survival rate) of nests closer to roads was lower, suggesting that human-related mortality played a role. The effect of habitat on nest success was equivocal, suggesting that rice fields per se are not suboptimal as nesting sites. This result is unique to this area, suggesting that favorable attitudes of farmers still allow Sarus Cranes to nest in rice paddies. Broods hatching later and those in territories with fewer wetlands had a lower probability of survival. Vegetation changes and disturbance during crop harvesting likely decreased brood survival. Maintaining a patchwork of shallow wetlands in rice-dominated landscapes and ensuring that farmers retain a positive attitude toward the species are crucial for survival of Sarus Crane nests and broods.

The Condor, 2009, Vol. 111(4), pp. 611-623



BOMBAY NATURAL HISTORY SOCIETY

Founded in 1883 for the study of natural history, the Bombay Natural History Society (BNHS) is now one of the premier research and conservation organisations in the country. The Society publishes a journal, the *Journal of the Bombay Natural History Society*, devoted to natural history and also has a popular publication, *Hornbill*, for the layman. It has also published a number of books on wildlife and nature. Its library has a large collection of books and scientific journals on wildlife and the environment. The Society's invaluable collection of bird, mammal, reptile, amphibian and insect specimens has been recognised as a National Heritage Collection.

Membership of the Society is open to individuals and institutions within India and abroad. For more details, please write to:

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BUCEROS is an ENVIS (Environmental Information System) newsletter published thrice a year by the ENVIS Centre at the BNHS, sponsored by the Ministry of Environment and Forests, New Delhi. The Centre collects, collates, stores and disseminates information on Avian Ecology.

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DISCLAIMER: The views expressed in this newsletter are not those of the editors' or of the BNHS.

Printed by Bro. Leo at St. Francis Industrial Training Institute, Borivli, Mumbai 400103.
Published by the Hon. Secretary for the Bombay Natural History Society, Shaheed Bhagat Singh Road, Mumbai 400001.