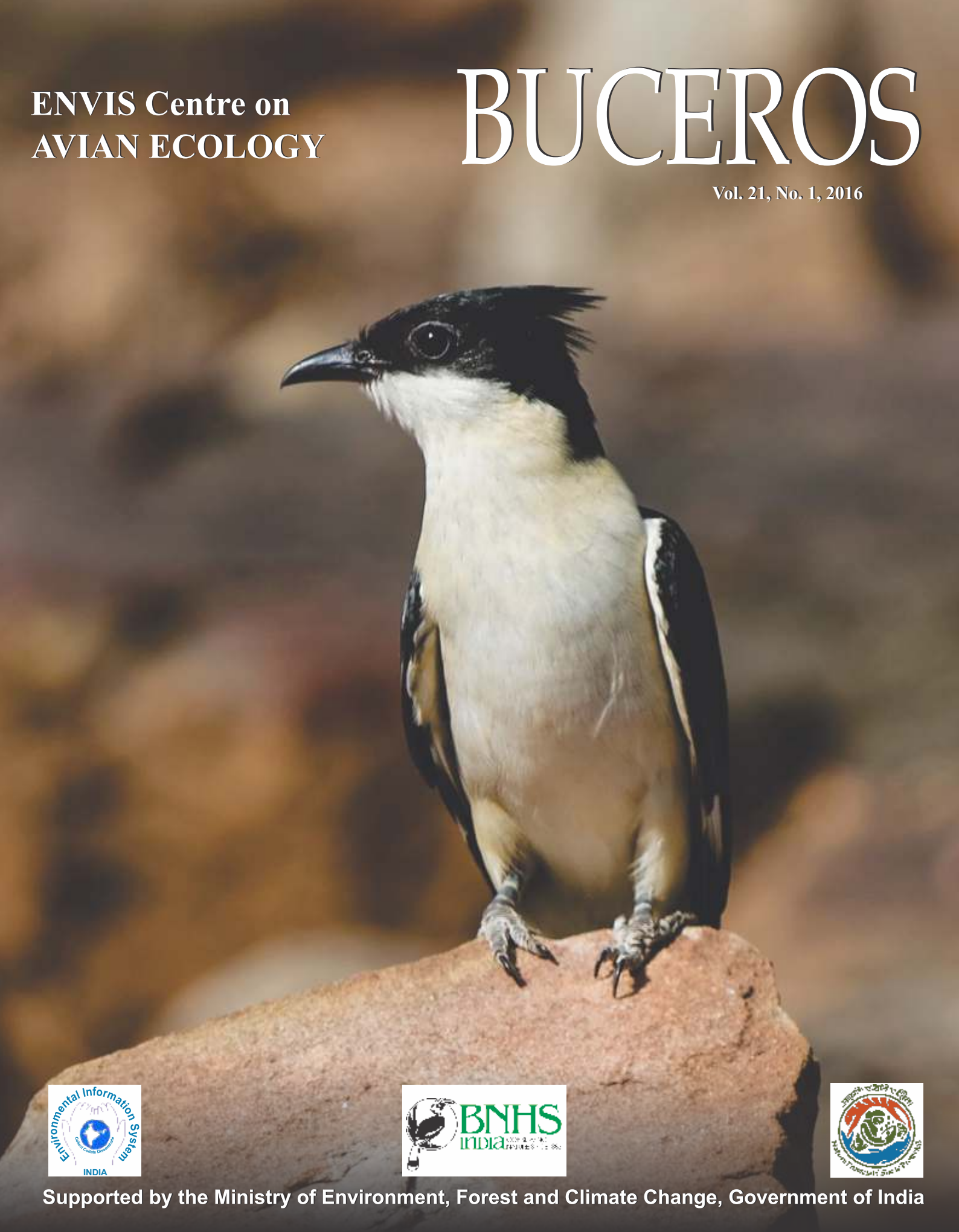
ENVIS Centre on
AVIAN ECOLOGY

BUCEROS

Vol. 21, No. 1, 2016



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ABOUT ENVIS

ENVIS (Environmental Information System) is a network of subject-specific centres located in various institutions throughout India. The focal point of the present 66 ENVIS centres in India is at the Ministry of Environment, Forest and Climate Change, New Delhi, which further serves as the Regional Service Centre (RSC) for INFOTERRA, the global information network of the United Nations Environment Programme (UNEP) to cater to environment information needs in the South Asian subregion. 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.

Objectives of the ENVIS Centre at BNHS

✍To create a bibliographic database of published literature related to avian ecology study

✍To publish and distribute BUCEROS newsletter on avian ecology to its members

✍ To create and upload databases on avian ecology on ENVIS website www.bnhsenvis.nic.in

✍ To reply to queries related to birds

BNHS India CONSERVING NATURE SINCE 1883

BUCEROS

ENVIS Newsletter
Avian Ecology
Vol. 21, No. 1, 2016

Cover
Jacobin Cuckoo *Clamator jacobinus*
by Sunil Singhal

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EDITORIAL

This issue highlights two important programmes of the BNHS.

Decline of the Gyps vulture species has been the cause of global concern for long. BNHS began breeding vultures in captivity in 1998 through its Vulture Conservation Breeding Programme at Pinjore, Haryana. Subsequently, three more centres were established, one each in West Bengal, Assam, and Bhopal. After almost two decades of captive breeding, the Vulture Breeding Centres of BNHS are all set to release their first batch of 15 birds into their natural habitat. The vultures will be released in 'vulture safe zones' created by BNHS through its advocacy efforts.

Another interesting programme recently launched by the BNHS is 'Internet of birds' (IoB) – a citizen science platform that has been created by Accenture Labs in collaboration with BNHS. The first-of-its-kind in India, this software helps to identify birds seen in India. IoB is an image recognition platform that uses artificial intelligence technology to identify birds in the photograph uploaded by the user. As part of its broader corporate citizenship focus on using technology, Accenture Labs, Bengaluru, provided *pro-bono* services to design and build the platform that leverages data from BNHS.

We hope this programme will assist amateur birdwatchers to identify birds with ease.

Deepak Apte, Ph.D.
Director

ENVIS News

BUCEROS newsletter available at Wikipedia List of Ornithology Journals

BUCEROS – the newsletter of BNHS-ENVIS has been added in Wikipedia under List of Ornithology Journals. The link of ENVIS webpage has also been provided, thus broadening the outreach scope of the website.

https://en.wikipedia.org/wiki/List_of_ornithology_journals

Forktail	Oriental Bird Club	Asia		1986	2014	NA	
Gli Uccelli d'Italia		Europe	Italy	1976	present	NA	
Hirundo	Estonian Ornithological Society	Europe	Estonia	1993	present	NA	
Huitzil, Revista Mexicana de Ornitología	Sociedad para el Estudio y Conservación de las Aves en México	North America	Mexico	2000	present	NA	
Ibis	British Ornithologists' Union	Europe	UK	1859	present	Yes	
Buceros	Bombay Natural History Society	Asia	India	1996	Present	NA	www.bnhsenvis.nic.in/PublicationArchive.aspx?Limit=75&gl
Indian Birds	New Omis Foundation	Asia	India	2004	present	NA	
Irish Birding News		Europe	Ireland		defunct	NA	
Irish Birds	BirdWatch Ireland	Europe	Ireland	1977	present	NA	
Japanese Journal of Ornithology		Asia	Japan			NA	
Journal of Avian Biology		Europe	Sweden	1970	present	Yes	
Journal of Field	Association of Field	North					

Organizational News

Fly Away Home

This year the conservation breeding centre in Pinjore, Haryana, will release eight vultures back into the wild – a small but significant effort in the rehabilitation of the endangered species.

It was a high-profile but an anti-climactic release. Last June, at the Bir Shikargah Wildlife Sanctuary in Pinjore, Haryana, the then Union environment minister, Prakash Javadekar, tugged at the pulley – but the vultures did not fly. About 24 hours later, A20, a male Himalayan Griffon, took off first, but the female, A19, stayed back – unsure, apprehensive. She wasn't ready for freedom, as yet, but for the folks at the Jatayu Conservation Breeding Centre (JCBC) at the sanctuary, a lot was hinging on that single flight.

It's been 11 years since India banned the use of diclofenac, a painkiller administered to cattle, following the catastrophic decline in vulture populations. "Vultures develop visceral gout (a white crust that arrests the kidneys causing a quick death) after feeding on cattle treated with diclofenac," says Ms Nikita Prakash, who, along with her husband Dr Vibhu Prakash, runs JCBC – a joint effort of the Bombay Natural History Society and the Haryana Forest Department. But, the last census done in 2015 brought some palatable news: the population is not declining. "It's either stable or going up a bit but we can't be complacent about it," says Dr Prakash.

A19 and A20, who had come to the JCBC as rescued birds nearly a decade ago, were "test birds". The duo had lived among *Gyps* vultures in a concrete aviary on a five-acre plot. The centre houses 226 *Gyps* species vultures, including White-backs, Slender-bills and Long-bills – all three are critically endangered in India.

The birds do everything they could in the wild – perch on jute platforms, concrete ledges, or poles mimicking branches, and feed on goat carcasses – except soar to great heights. The aviaries, five in all, are open to the sky except for protective netting.

When A19 finally took flight, 10 teams tracked her for 45 days. Earlier, they had distributed flyers in the surrounding villages alerting the villagers to the bright orange wing tags on the birds. They watched the bird hop across the walls of the aviary that was her home for eight years. Then 10 days later, she flew to the nearest village. The villagers, who thought the birds had escaped, phoned to say, "The bird is sitting here, '*aa jana* (come here)'". The watchers slept when she slept, they woke up before she did at the break of dawn. And then, it was time to say goodbye. The Himalayan Griffon flew towards the Morni hills, never to be seen again.

The team could have stayed in touch with A19 if there had been a Platform Terminal Transmitter (PTT) on her. She would have worn it like a backpack with an antenna sticking out and the team could have monitored the bird via GPS coordinates for three years, till the device went dead. But permission was tangled in bureaucracy over 250 km away in New Delhi. Today, the husband and wife's hopes revolve around eight White-backs, which they are on the cusp of releasing. Six of those are two-year-old juveniles bred at the facility. All that is left to do is to wait for cooler months and for the elusive PTT to arrive.

They are eyeing November 2017 as a target to release the eight birds into the wild in Haryana. "It will make us happy if we keep breeding them in good numbers, and we release them so that they establish themselves and breed in the wild," Dr Prakash says. But this time, getting permission to put transmitters on the birds is a crucial step. "We will monitor them over a couple of years and then make plans to release more, based on what we learn from them, and how they survive in the wild," he says. A successful release programme will see the doors open to the sky for 20–25 vultures each year.

"We will also wait for winter when the Himalayan Griffon returns to India. Those birds will act as a guide and tell these juveniles where to eat. It will be a 'soft release'", says Ms Nikita, walking around the facility that houses the "pre-release aviary" where the eight birds have been moved into. "The idea is for the captive birds to interact with the wild ones, and hopefully, when we release them, they will form a flock with their wild friends, and will be guided towards the food," she says.

Carcasses are placed both inside and outside the aviary with a thin mesh separating the birds. Ms Nikita shows videos of what she means when she says vultures are "social birds". They hop and waddle towards each other and feed together. "It has to be a gradual process so they get used to the dangers. Otherwise, if we just open the gate, they will escape and keep flying till they are exhausted, and put themselves in danger," she says.

Dr Prakash, who wheezes severely around birds, never imagined dedicating his life to the famed scavengers: the bald, ugly, uncharismatic raptor that vomits when threatened. He had spent much of the 1980s studying bird populations in Keoladeo National Park (formerly Bharatpur Bird Sanctuary), where in 1984, he first documented over 350 nesting pairs of vultures. "They were the commonest birds of prey in the world. But then, it was the fastest, steepest decline, across the world, across any species," he says.

At the interpretation centre, the only part of the Pinjore facility that's open to the public, the birds can be seen

via closed-circuit television. Outside, a board announces the names of the vultures christened by visiting dignitaries. There is the first nestling that was hatched at the centre, Dr Vibhu, who is now seven, and looking for a partner. Then there is Plum, Safal and Sambhav named by Indian bureaucrats, and George and Jurgen after German visitors. "In 1998, I held a sick vulture in Keoladeo National Park for the very first time. We have 226 birds here now, so clearly, I have fallen in love with the entire species," says Ms Nikita.

Source: http://indianexpress.com/article/india/fly-away-home-vulture-conservation-wildlife-pinjore-4665889/

National News

Safari treat for bird-watchers in monsoon

Here's some good news for birdwatchers: UP forest corporation plans to start bird safari at Nawabganj Bird Sanctuary and Lucknow Zoo under its eco-tourism policy. Bookings for the 125 km-long weekend tour can be made on the corporation's website.

"This is the time when we have a lot of indigenous birds and their babies in the sanctuary," said divisional manager of eco-tourism, Lucknow, Davinder Singh. The tour is likely to be launched mid-July during monsoon. Lucknow Zoo may be the pickup point along with 1090 Crossing and Kukrail. The cost of the package is yet to be decided.

The trip would be conducted as early as six in the morning. Trained guides would accompany visitors. Other spots in the city where there is ample scope for bird-sighting may also be included in the itinerary—like a spot at Gosainganj near Indira canal that has several Sarus cranes present.

Similar safaris would be planned for Sandi Bird Sanctuary in Hardoi and Sur Sarovar Sanctuary in Agra.

Source: http://timesofindia.indiatimes.com/city/lucknow/safari-treat-for-bird-watchers-in-monsoon/articleshow/59360753.cms

Shape of bird egg related to flight ability

In what could perhaps crack the long-term mystery behind the astonishing variety of bird egg shapes, an international team of researchers has found that the egg shape is related to flight ability, with good fliers tending to lay pointed or elliptical eggs.

Avian eggs have fascinated humans for millennia because they come in different shapes — elliptical in hummingbirds, spherical in owls, pointed ovoids in shorebirds and almost everything in between. But we still lack the answer to this simple question — why did different egg shapes evolve, and how?

The new study published in the journal *Science* suggests that egg shape is related to flight ability, and that the egg membrane may play a critical role in determining shape.

"In contrast to classic hypotheses, we discovered that flight may influence egg shape. Birds that are good fliers tend to lay asymmetric or elliptical eggs," said the study's lead author Mary Caswell Stoddard of Princeton University in New Jersey, USA.

"In addition, we propose that the stretchy egg membrane, not the hard shell, is responsible for generating the diversity of egg shapes we see in nature," Caswell said.

To unravel the mystery of egg shape, the researchers used a multi-step, multidisciplinary process, applying tools from computer science, comparative biology, mathematics and biophysics.

First, the team used photographs to analyse the shapes of nearly 50,000 eggs representing 1,400 species.

The eggs, from the online database of The Museum of Vertebrate Zoology at Berkeley, came from across the globe and were largely collected by naturalists in the late 19th and early 20th centuries.

Using computer code, the researchers quantified each egg's asymmetry and ellipticity.

By combining the power of high-throughput digital image analysis with the wealth of data in the museum egg collection, the team was able to map the world of egg shapes.

The team then developed a biophysical model to explain how processes in the bird's oviduct might generate different egg shapes.

The team also used an evolutionary framework to test hypotheses about egg shape.

Using a recently constructed phylogeny, or family tree, of birds the researchers compared egg shapes across different bird lineages. In this analysis, they included details about nest type and location, clutch size, diet and

flight ability.

The analysis revealed that birds tend to lay eggs that are more asymmetric and more elliptical if they are better fliers.

The researchers suggest that as birds' bodies became adapted for powered flight, this resulted in morphological changes like reduced body size and a reduced abdominal cavity.

The discovery that morphological constraints associated with flight may contribute to egg shape challenges the conventional wisdom that egg shape is largely influenced by clutch size or nest location.

Source: http://www.india.com/news/agencies/shape-of-bird-egg-related-to-flight-ability-2264456/

Asif N. Khan

Eggs in different shape and size: 1 - Ashy Prinia, 2 - Tailor Bird, 3 - Whit-browed Bulbul, 4 - Golden Oriole, 5 - Himalayan Starling, 6 - Great Pied Hornbill, 7 - Golden Eagle, 8 - Sarus Crane
(Photo from BNHS Collection)

Identify birds at a click with 'Internet of Birds'

Text: Bilwada Kale

India is a biodiversity hotspot and home to almost 12.5% of the world's avifauna, consisting of over 1,300 species. "Birds are excellent indicators of their environment, providing ecological information based on when and where they are located," said Dr Deepak Apte, Director, Bombay Natural History Society (BNHS), Mumbai. "With the rise in amateur birdwatchers across India, we are happy to have Accenture Labs help us capitalize on all the information they can capture, and also helps us to promote our citizen science activities by involving more people in nature conservation." he added.

BNHS in collaboration with Accenture Labs has developed a first-of-its-kind citizen science platform 'Internet of Birds' which helps identify images of bird species found in India. An image recognition platform, IoB identifies birds based on the user uploaded images using artificial intelligence technology. IoB makes bird identification easy, interesting, and accessible through its website www.internetofbirds.com.

The IoB platform is available to anyone, from anywhere for free. It uses a unique citizen crowd sourcing approach to engage more people in birdwatching by identifying key species of birds and inspiring an interest in nature conservation. The IoB platform can identify about 365 species for now, but will eventually support all species in India.

This portal can be the ideal tool for bird identification if it has a rich database of bird photographs. Any person desiring to contribute bird photographs can email the images saved with the bird's name along with the photographer's name to bnhsenv@gmail.com. The copyright of photographs remain with the photographer who will be acknowledged on the portal in the contributor's section.

The photographs need to be in the following specifications:

1. Photograph should be in JPG format
2. It should not have any watermark or copyright mark on it
3. Photograph should contain a single bird, and not flocks
4. Photograph should be sharp, about 5–6 MB, but not less than 2 MB.

गोष्ट चातकाच्या सुटकेची

लेखन: राजेंद्र गाडगीळ आणि शिल्पा गाडगीळ

Vivek Vegda

शिल्पा आणि मला पक्षीनिरीक्षणाचा छंद आहे, त्यामुळे आम्ही पक्ष्यांच्या शोधात अनेक ठिकाणांना भेटी दिल्या आहेत. हल्लीच आम्ही महाराष्ट्राच्या नंदुरबार जिल्ह्यातील शहादा - धडगाव रस्त्यावर असलेल्या सातपुड्याच्या जंगलास भेट दिली. पावसाळयात जरूर जावे असे हे ठिकाण आहे.

धडगावच्या पायथ्याशी छोट्या टेकड्यांचा समूह आहे. तो संपूर्ण विभाग पळसाच्या झाडांनी (Flame-of-the-forest) व्यापलेला आहे, जणू पळसवनच. वर्षाऋतूमुळे सर्व वृक्षांना नवी पालवी फुटली होती. पाऊस नुकताच थांबल्याने विविध किडे - कीटकांचे दर्शन होत होते. बुलबुल (Red–vented Bulbul), ब्राह्मणी मैना (Brahminy Starling), राखी वटवटया (Ashy Prinia), सूर्यपक्षी (Sunbird) अशा किटकभक्षी पक्ष्यांची भक्ष पकडण्याची लगबग सुरु होती. झाडांवर विविध पक्ष्यांची घरटी होती. काही घरट्यांमध्ये अंडी देखील होती. सर्वत्र अळया, कीटक, पतंग यांची रेलचेल असल्याने नवजात पक्ष्यांसाठी मुबलक अन्न उपलब्ध होते.

आमचे पक्षीमित्र आणि 'जनार्थ' संस्थेचे कार्यकर्ते करमसिंग व बारसिंग आणि आम्ही झुंजूमुंजू होताच रानाची वाट धरली. दूरून पावश्याची (Common Hawk-cuckoo) टिपेला जाणारी साद ऐकू यायला लागली. पावशा आहे म्हणजे आजूबाजूला कुठेतरी चातक असणार याचा अंदाज आम्हाला आला. पण चातकाची भेट अनपेक्षित आणि त्याच्या सुटकेसाठी होईल असे वाटलेही नव्हते.

सकाळी साधारणत: अडीच तीन तास आम्ही जंगल भ्रमण करत होतो. साधारण साडे आठच्या सुमारास डोंगराला वळसा घालून आम्ही पुढे निघालो. रस्त्यात भेटलेल्या ढोरक्याशी पक्ष्यांविषयी बोलत असतांना त्याने माहिती दिली, साहेब घरट्यात पक्ष्यांना पकडण्यासाठी सापळे लावले आहेत. आमचा सारा आनंद क्षणात मावळला आणि मग आम्ही घरटी शोधत निघालो. अचानक पळसाच्या दाट पानातून साधारण १५–२० फुटावरून पंखांच्या फडफडण्याचा आवाज कानावर पडला. आम्ही सर्व झाडाकडे पाहू लागलो तेवढ्यात करमसिंग झटकन झाडावर चढला. तेथे 'मोठा राखी सातभाई' (Large Grey Babbler) या पक्ष्याचे घरटे होते. करमसिंगने त्या घरट्यात

फास आहे आणि फासात पक्ष्याची मान अडकलेली आहे असे सांगितले. त्याने चटकन तो फास कापला व पक्ष्याला बाहेर काढून खाली उतरवले. तो होता 'चातक' (Jacobin Cuckoo) अनपेक्षित भेटला पण मरणाच्या दारात असताना. थोडा जरी उशीर झाला असता तरी त्याचे प्राण वाचणे कठीण झाले असते. खाली उतरल्यावर बारसिंगने त्याच्या गळयाला आवळलेला फासाचा बारीक दोरा हलक्या हाताने सोडविला. त्याची चोच वासलेली होती, छाती धडधडत होती. चातक पक्षी चांगलाच भेदरलेला होता. आम्ही त्याला थोपटले व मुक्त केले. क्षणार्धात तो भरारी घेत पळस वनात दिसेनासा झाला. प्राणसंकटातून त्याला सोडविता आले यामुळे आम्ही सारेच आनंदून गेलो.

चातकाला यमसदनास पाठविणारा हा फास बनवतात तरी कसा असा मला आणि शिल्पाला प्रश्न पडला. करमसिंगनी त्या ढोरक्याला फास बनविण्यास सांगितले. त्याने काही सेकंदात फास तयार केला. यात पक्षी कसा अडकतो याचे प्रात्यक्षिक दाखविण्यासाठी त्याने जवळच असलेल्या झोपडीच्या अंगणात हा फास उभा केला आणि तांदूळ टाकले. लगेच कोंबड्या त्या फासाजवळ दाणे खाण्यास आल्या आणि त्यातील एका कोंबड्याचा पाय फासात अडकला. लगेचच आम्ही त्याची मुक्तता केली, पण हे दृश्य पाहून प्रचंड शहारे आले. सोबतच हा फास झाडातील घरट्यावर कसा बांधतात याचेही प्रात्यक्षिक त्याने करून दाखविले.

आज आफ्रिकेतून येथे आलेल्या पाहूण्या चातकाचा प्राण वाचला पण रोज किती पक्षी या फासात अडकून मरत असतील? असा विचार करताना फास लावण्याविरूद्ध पाड्यांवर जाऊन जनजागृती करणे गरजेचे आहे हे आमच्या लक्षात आले. लगेच करमसिंगला सांगून जंगल परिसरातील ढोरक्यांना आम्ही बोलावून घेतले. त्यांच्याशी शिल्पांनी व मी या विषयी संवाद साधला. या पक्ष्यांना मारून आपल्याला काय मिळणार आहे, उलट पर्यावरणाच्या विनाशात आपण सहभागी होत आहोत हे त्यांना आम्ही समजावले. पक्ष्यांचे आपल्या जीवनातील महत्त्वही आम्ही सोप्या शब्दात सांगितले. आपल्या हातून पाहूणा मरावा ही चांगली गोष्ट आहे का? त्यावर सगळयांनीच खेद व्यक्त केला. जंगलात फिरत असतांना आम्हाला फास दिसल्यास तो आम्ही काढून टाकू. कोणी फास लाऊ नका असे इतरांनाही सांगायचे त्यांनी कबूल केले. फास लावण्याविरूद्ध पाड्यांवर जागृती करण्याच्या दृष्टीने प्रयत्न करण्याचा आमचा मानस आहे.

पावसाळयात फिरण्याचा आमचा हट्ट सत्कारणी लागल्याचा आम्हा सर्वांना नक्कीच आनंद आहे.

चातकाच्या सुटकेचा क्षण

सौजन्य: राजेंद्र गाडगीळ

Nitin Srinivasa Murthy

Abstracts

Nepal's National Red List of Birds

Inskipp, C., H. S. Baral, T. Inskipp, A. P. Khatiwada, M. P. Khatiwada, L. P. Poudyal & R. Amin

The main objectives of the Nepal National Bird Red Data Book (RDB) were to provide comprehensive and up-to-date accounts of all the bird species found in Nepal, assess their status applying the IUCN Guidelines at Regional levels, identify threats to all bird species and recommend the most practical measures for their conservation. It is hoped that the Bird RDB will help Nepal achieve the Convention on Biological Diversity target of preventing the extinction of known threatened species and improving their conservation status. As population changes of Nepal's birds have been studied for only a few species, assessments of species' national status were mainly made by assessing changes in distribution. Species distribution maps were produced for all of Nepal's bird species except vagrants and compared to maps that were produced in 1991 using the same mapping system. Of the 878 bird species recorded, 168 species (19%) were assessed as nationally threatened. These comprise 68 (40%) Critically Endangered species, 38 (23%) Endangered species and 62 (37%) Vulnerable species. A total of 62 species was considered Near Threatened and 22 species Data Deficient. Over 55% of the threatened birds are lowland grassland specialists, 25% are wetland birds and 24% tropical and sub-tropical broadleaved forest birds. Larger birds appear to be more threatened than smaller birds with 98 (25%) non–passerine species threatened and 67 (14%) passerine species. Habitat loss, degradation and fragmentation are the most important threats. Other threats include chemical poisoning, overexploitation, climate change, hydropower, invasive species, intensification of agriculture, disturbance, and limited conservation measures and research. Measures to address these threats are described. It was also concluded that re-assessments of the status of certain bird groups carried out every five years and the setting up of a national online system for storing and reporting bird sightings would be useful.

***Journal of Threatened Taxa* (2017) 9(1): 9700–9722**

Timing of breeding in an ecologically trapped bird

Hollander, F. A., N. Titeux, M-J. Holveck and H. V. Dyck

In human-modified environments, organisms may prefer to use habitats where their reproductive performance is lower compared to alternative options. Many such ecological traps occur in seasonally changing environments. Although the timing of breeding has been shown to impact reproductive performance in a variety of organisms, it has never been considered as a potential mechanism underlying ecological traps. We address this issue with a migratory bird, the Red-backed Shrike, breeding in a human-modified, farmland-forest landscape. Shrikes prefer breeding in forest clear–cuts where their reproductive performance is lower than in less attractive farmland. We compared brood size and quality of early (first broods) and delayed breeders (replacement broods) between the two habitats. We found a stronger seasonal decrease in reproductive performance in preferred forest clear-cuts than in farmland. Food resources were slightly more abundant in forest than in farmland at the beginning of the season but depleted more steeply in forest by the end of the breeding season. By contrast, the phenotypic quality of breeders did not decline over the course of the season in either habitat. This is the first report that the timing of breeding relative to the seasonal change in key resources may play a significant role in explaining low reproductive performance in ecological traps.

***The American Naturalist* (2017) 189(5): 515–525**

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