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Published and printed quarterly by Ms. Sumaira Abdulali for the Bombay Natural History Society, Printed at Purva Creation, Ghatkopar, Mumbai.

Reg. No. RN 35749/79, ISSN 0441-2370.

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Open spaces in crowded cities

I live in Chembur, once a leafy suburb famous for RK Studio, but now a crowded part of Mumbai. There is a small park named Diamond Garden, maintained by Rashtriya Chemicals & Fertilizers (RCF) for the last 10 years, with tall shade trees, manicured small lawns, playgrounds for children, benches and a well-laid out walkway for citizens. The huge crowd that uses this small garden, particularly families with young children who come to play, and elderly people who spend some quality time sitting on the comfortable benches, shows the importance of having such open spaces dotted all over our cities. Less than half a kilometre away from Diamond Garden is a large golf course, where we see pot-bellied doddering old gentlemen pretending to act like Tiger Woods. The contrast cannot be more obvious. Here, we have a small garden where sometimes you cannot even walk due to happy children running all around, and mostly poor to middle class families trying to spend some time outside their hovel-like dwellings. The laughter of children enjoying slides or swings will enliven any jaded mind. The sight of young married couples, coaxing their first child to tentatively walk on the lawn, or young friends enjoying each others' company delights me whenever I go for an evening walk. In contrast, the death-like silence of the golf course with insipid players makes me run away from the supposedly green vista.

For your information, golf courses despite their large sizes and some tree cover are bereft of biodiversity. The lawns look green but they are dead, thanks to the heavy use of weedicides and pesticides to keep the grass to a particular height and density. Such lawns do not provide insects and earthworms to birds as these animals are long dead, thanks to a concoction of pesticides. The trees are trimmed to provide symmetry and leaf litter is removed before it becomes soil again, as fallen leaves do not appeal to some golfers' aesthetic sense.

'Open Mumbai', an organization working for open spaces has calculated that Mumbai has just 1.1 square metres of open space – gardens, parks, recreation grounds (RG) and playgrounds (PG) – per person. The city has 2.5 sq. km of gardens and parks, 4 sq. km of PG and 7.7 sq. km of RG. This adds up to just over 14 sq. km of open space for 12.4 million people, or 1.1 sq. m per person. This corresponds to the oft repeated statistic that Mumbai has a poor 0.03 acre of open space per 1,000 people. Compare this to London's 31.68 sq. m per person or New York's 26.4 sq. m per person. In Mumbai, if we exclude from the statistics the elite open spaces that are not available to the general public, the figure of 1.1 sq. m per person will come down further.

Admittedly, we have a huge burgeoning urban population that need houses, schools, hospitals, and efficient infrastructure to cater for human welfare. Therefore, leaving space for gardens, parks, and some areas undeveloped for wildlife does not come in the mind of town planners.



There are many ways to create/protect open spaces in urban areas. An idea which may seem heretical to some is to convert cemeteries and graveyards that at one time were outside human settlements but are now surrounded on all sides by colonies, into better open spaces, not for recreation but at least to provide some greenery. I have seen such graveyards in many towns such as Solapur, Aurangabad, Meerut, Vadodara, etc. They are mostly illegally occupied, or the land has been sold surreptitiously by caretakers. Similarly, many religious trusts occupy huge tracts of prime land in cities – this can become a part of open space for the public and for biodiversity. I am sure our departed souls will be happy to lie beneath a shaded tree, and our deities will be happy to hear the laughter of children or the buzzing of bees.

Every city was built near a waterbody or river. In most cases, riverfronts are either used for dumping garbage or are encroached upon. These riverfronts can be developed into gardens and some left alone for wildlife. Urban or semi-urban wetlands should not be touched at any cost as they not only recharge our groundwater sources, but also provide habitats for birds and animals. Instead of converting these waterbodies into a housing colony or a mall, let us make them a haven for our urban wildlife. In coastal cities like Mumbai and Chennai, mangroves, mudflats, and old disused salt pans should be a part of open spaces that we all need.

Open spaces have recreational, ecological, aesthetic, health, cultural, and spiritual value. They also help in maintaining some urban biodiversity. It is very important to involve people in planning, developing, identifying, and maintaining open spaces. For me, open spaces in whichever form they occur should provide benefit to the maximum number of people and some sections should be reserved for urban wildlife.

Urbanisation and concretisation create urban heat that we all realise when we leave the city and find that the countryside is cooler. Urban areas are significantly warmer than the surrounding countryside and many increase health risks for city residents. A recent study in 65 cities in the world, published in the prestigious journal *Nature*, shows that urban heat is a major cause of concern for public health. Urban areas release heat back into the lower atmosphere – through the process of convection – and create urban heat islands, resulting in a 3 °C rise in average daytime temperatures. This is mainly seen in wet climate. Along with climate change, urban heat “will exacerbate heat wave stress on human health in wet climates where temperature effects are already compounded by high humidity. This is a huge concern from a public health perspective”, the study concludes. Natural and semi-natural open spaces in our cities can greatly help in tackling this problem.

Mumbai is notorious for its high density population and abysmal human-space ratio. But are we really lacking open spaces or are open areas not available to a large majority of the people? There is a demand by some people that the 225-acre racecourse in Mumbai should be converted into a public park on the lines of Central Park of New York. If that is done, we can say that we are building a smart city for every citizen, not only for a lucky few.



Borneo Rainforests: as old as the hills

Text and Photographs: C. Gangadharan Menon

The oldest rainforests on this planet are not to be found along the banks of the Amazon in Brazil, but along the meandering rivers of Malaysia. They are home to more than 20% of the animal species in the world, many of them being endemic to these forests. The flora too is extremely diverse. To give an idea of this diversity, the mountain ranges of Kampung Bako alone have over 400 varieties just of palm.

We started our exploration of Borneo from Kuching, the capital of Sarawak state. It was here in our hotel that we met Rives Puon, the finest forest guide I have come across in my three decades of travel. Born into the Bidayu tribe, he was educated in Kuching. He is extremely knowledgeable about the flora and fauna of the rainforests, and also about the various indigenous tribes of Sarawak. He spoke fluently, clearly, and had a tremendous sense of humour.

Semenggoh, the Orangutan Reserve

Three decades ago, a journalist named Ritchie rescued an orangutan held captive on the Indonesian border and brought him to the jungles of Semenggoh. Here he was nursed back to his wild ways and released into the forest. He was named Ritchie after his rescuer, and soon he inspired many such rescues. Today he is all of 40, and Semenggoh is a world-renowned rehabilitation centre where you can study the behaviour of endangered orangutans in the wild. As the oldest member of the 27 orangutans living here, he is the master of all he surveys from the treetops, and is their alpha male.

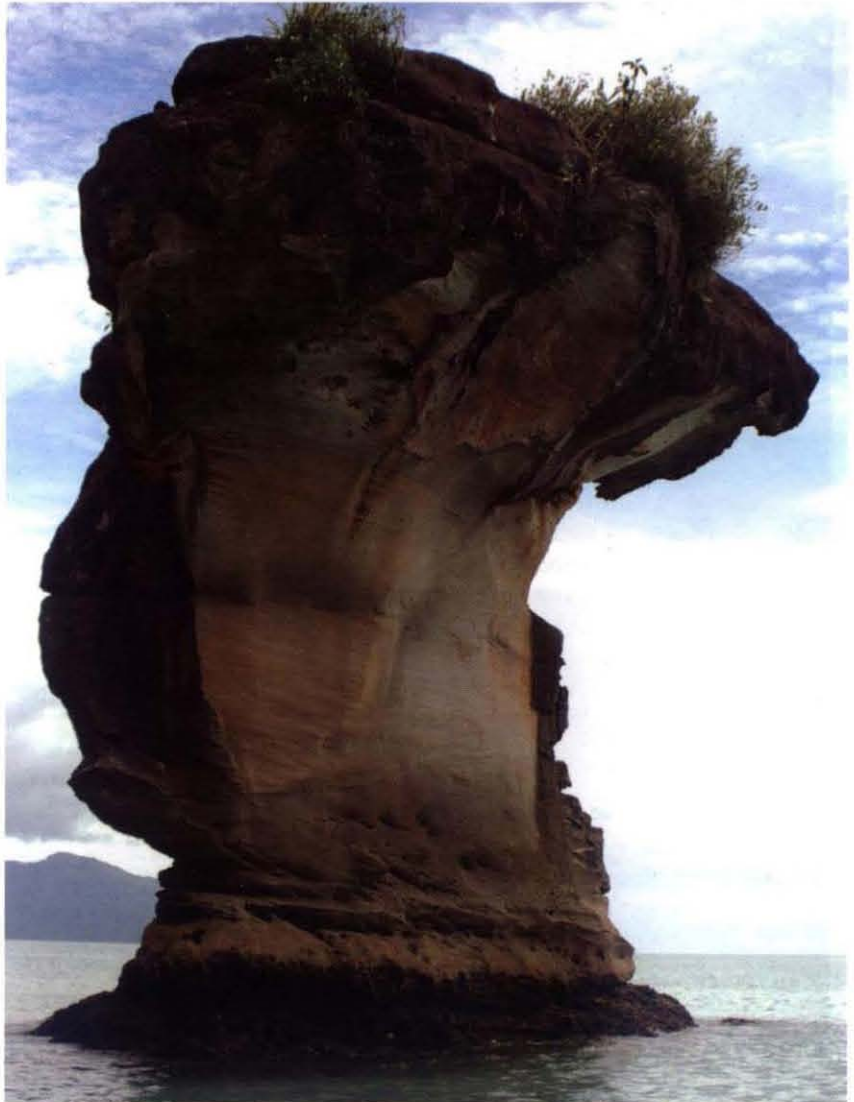
My first glimpse of Ritchie was when he was swinging on a Tarzan Vine like a consummate trapeze artist, his orange fur lit up by the sunlight peeping through the morning mist. He then plunged headlong through the branches, bringing a huge branch down with him, and walked towards us with the nonchalance of a king. Indeed, he had a tremendous presence. He was five feet tall, weighed a hundred kilos, and had an arm span of eight feet! The guides asked us to make way for the king, and warned us of his lethal 'love bite'. We all quickly moved aside, but not before I managed a shot of his captivating face, up close and personal.

Strictly speaking, these orangutans are semi-wild, because even after their release into the wild, they keep coming back to the centre for food. Initially, every day and once they learn to gather food in the wild, infrequently. But during the fruiting season, never! The second reason is that Semenggoh is a small patch of rainforest, measuring just 650 hectares, floating in a sea of human settlement, just 24 km from the bustling city of Kuching. Cut off from any other rainforest, these primates are actually living in open captivity.

Orangutans have a lifespan of around



Orangutan in Malay means 'People of the Forest'



One can see nature's sculptures all along the way to Bako



Amorphophallus: the tallest flower in the world



This *Nepenthes* sp. is content with dew and dead leaves as diet

50 years. But the tragic biological truth about them is that females can only give birth to one offspring, that too once in eight years! This low fertility, combined with the destruction of habitat, probably explains why they are Critically Endangered. These primates are extremely territorial and every individual needs a large tract of forest that has the choicest of fruit trees, in great abundance. Orangutans have a peculiar habit of moving house every day. They are known to abandon their nest-like resting place of the previous night, and painstakingly build a new one on a different tree, every day!

Orangutan in Malay means 'People of the Forest'. The tribals here believe that once upon a time the orangutans lived with humans. But being non-communicative and solitary in nature, they preferred to be left alone. And one day, they eventually moved deep into the forest, thereby earning the sobriquet 'People of the Forest'. But the tribals never let them go completely out of sight, as it is the orangutans who teach them all about the ways of the forest, including which fruits to eat and which ones to avoid.

On our return that day, we saw a cluster of pitcher plants. Slender and elegant, with a beautiful lid that is open – it looks like anything but a carnivorous plant. This open pitcher emanates a smell which has a fatal attraction for insects. Once an unsuspecting insect (it's been happening for millennia; and at least by now they should have caught on!) lands on the slimy insides of the pitcher, it falls into the trap. The insect is then slowly dissolved by enzymes and is absorbed by the plant. Rives told us about a glorious exception: the vegetarian pitcher plant *Nepenthes* sp. It too keeps its lid open, but when a few dew drops fall into it in the wee hours of the morning, it closes its lid in bliss and remains happy and content, drawing its nutrition from the



The beach at Bako National Park

dew and dead leaves and other matter falling from the canopy.

blue, brown, red, yellow, green, and white – created by nature on volcanic rocks,

and a few sculptures floating in the ultramarine sea to match. It was nature's own art gallery.

Bako National Park

The oldest National Park in Malaysia is also one of South Asia's smallest. But amazingly, in just 2,700 hectares of forest, Bako National Park holds a very wide range of habitats. And you will realise this the moment you reach Bako jetty. As your eyes pan from one side to the other, you will see beach vegetation, mangroves, marshes, grasslands, dipterocarp forests and even cliff vegetation – each habitat holding in its bosom its own distinctive wildlife.

It just took us a 30-minute drive and a 30-minute boat-ride to reach here from the city of Kuching. En route, we saw some awesome paintings – in



The habitat of the Silvery Lutung is heavily threatened throughout its range

On our way to the guest house, we were welcomed by a strange-looking creature: a Bornean Bearded Pig loitering on the beach! After freshening up, we headed to one of the 18 colour-coded trails. The colours were marked on the trees that lined the paths that were paved with wooden planks all along. The idea is to prevent the uninitiated from walking into the dangers lurking in the unknown. And right enough, even my trained eyes could not spot the perfectly camouflaged venomous Wagler's Pit Viper that was just an arm's length away. Sometimes in nature, it makes sense to walk the trodden path.



The Green Pit Viper is a venomous arboreal that feeds on rodents, lizards, amphibians, and birds

On one of the trees nearby, we spotted the clown of the Malaysian forest: the Proboscis Monkey. With an over-sized nose, it looked as if it had just

walked out of a Pinocchio comic. Close by were Silver Leaf-monkeys or Silvery Lutung with their silvery fur glistening in the sun. Though both these monkeys

are leaf-eating, they don't get into a territorial fight, as their choice of trees is completely different from each other. To each his own leaf!



The creek at Bako with South China Sea in the background

Rives, a master in seeking out wildlife, spotted the elusive Malayan Flying Lemur on a treetop. It had its face turned towards the trunk, and it was after 15 minutes of our patience that it turned and glanced at us, giving us a great photo opportunity.

In the evening, we walked along the mangroves. Male fiddler crabs were flaunting their colourful and abnormally large claws to attract the females. But unfortunately, this also attracted the unwanted attention of Crab-eating Macaques, and some of the unfortunate crabs ended up on their dining table.

It was becoming dark, and Rives knew exactly where the fireflies would be. Each species of firefly has a different timing for flashing their 'torchlights'. But sometimes females of a species imitate the timing of another species, just to attract their males. And when these males get attracted and land in the waiting arms of the femme fatale, they are killed and devoured.

And as the new moon started rising, Rives showed us the breadfruit tree. On the third crescent of the new moon, tribals in Sarawak peel off the bark of this tree (when it is at its softest and most flexible) and make their costumes with it.

Another interesting plant we saw was a fern that has a symbiotic relationship with a frog. A group of these ferns grows in a circle, forming a large bowl that traps rainwater. The frog lays its eggs here, and in turn gives the fern nutrients in the form of its droppings.

Gunung Gading National Park

Here's where you will find the largest flower in the world: the Rafflesia. It is rare, endemic, and endangered. It takes all of nine months for the bud to blossom, but the flower lasts for only seven days. And the flowering can occur anywhere in the 5,000 hectares of forest. At the park gate, we were told that our prayers had been answered, and just a day earlier, one had flowered very close



Rafflesia: the largest flower in the wild

to the jungle path. This flower is at its most colourful on the second day, after which it starts turning black till it becomes as black as coal on the seventh day.

Rafflesia is a parasite, with all its organs in a defunct state, except for the flower. In fact, all that you see with your naked eye is a huge flower clinging on for dear life to its host liana or the Tarzan Vine. The vine itself is an incredible specimen; and one single plant is recorded to have travelled as many as 5 km in the rainforest here.

The flower is blood red in colour, much like flesh that is freshly cut. And it smells of rotten flesh to match. This is only to attract the attention of the blowflies that pollinate it. Despite these desperate measures, pollination is rare, and that makes this plant endangered. The Rafflesia we saw was small: just two feet in diameter, rather small compared to the largest one recorded here, which was close to four feet in diameter.

As a double delight, we also saw the tallest flower in the world: the *Amorphophallus*. It was about two feet in height, whereas the bigger ones are

known to grow up to about eight feet.

At Gading, I also met the exuberant Anthonia, a forest guard. When she saw me clicking pictures, she came up to me and took me to see a lantern fly, and then a flying lizard on a tree nearby. She even showed me a few hundred amazing photos she had taken of the flora and fauna there. Ever since someone gifted her a camera five years ago, she has been recording the life in these forests from dawn to dusk, and round the year. That's when I realised the difference between being there for a day and being there for every day of the year! On most days, she goes into the forest at five in the morning and spends close to three hours in the lap of nature. Anthonia was born in a village near the forest, grew up in the forest, and now works in the forest. Truly, she is a daughter of the forest. ■



Gangadharan Menon made a documentary on Silent Valley, referring to the impending disaster of a hydel project coming up there, which played a small part in Silent Valley being declared a national park in 1981.

Brown Kites and White Crows: Understanding colour aberrations in birds

**Text: Pankaj Koparde, Priti Bangal, and
Hein van Grouw**

I (PK) saw my first colour aberrant bird in 2008. It was an 'albino' Large-billed Crow. In 2012, I saw another black and white Large-billed Crow, which I called a 'Pied Crow'. According to my knowledge at that time, I knew only two colour aberration types – albinism and leucism. However, the 'Pied Crow' did not fit any of these models! After going through some literature, I realised that the 'Pied Crow' that I had observed was not colour aberrant, but a case of infection. I felt frustrated that even after so many years into birding, I could not recognise it!

We thought that if this is the case with us, then what about others? We decided to carry out a small experiment. We were interested in finding out where the Indian birdwatcher community stands when it comes to colour aberration in birds. We carried out an online survey and found out forums that are highly accessed by birdwatchers, namely India Nature Watch (INW), and Indian Birds (IB), a group on Facebook. We extracted all the posts published between 2007 and 2013, containing colour aberrant and non-colour aberrant bird images posted by the same user on the same date and forum to see how people respond to such posts. We gathered details such as likes, views, and number of comments. We subdivided the comments into three categories – informative, informative but misleading, and others. We extracted

a total of 88 colour aberrant bird images, which represented 32 bird species, and analysed 2,098 comments from INW and 448 comments from IB. Our analysis suggests that a larger number of people put up informative but misleading comments on colour aberrant bird images than on non-colour aberrant bird images. This trend was consistent in both the forums. However, people were more eager to see colour aberrant bird images and discuss them rather than non-colour aberrant bird images; which we could detect using difference in views and likes. Our experiment worked well. We realised that not only us, but the birdwatching community in India needs some classroom teaching! Let us talk about the different colour aberrations that one can observe in birds using a few case studies.

Plumage colours in birds are based on two major factors – pigments and their structural arrangement. In birds, two major types of pigments are found – melanins and carotenoids. Two types of melanins, eumelanin and pheomelanin, commonly occur in birds. Eumelanin is responsible for grey, black, and/or dark brown coloration, whereas pheomelanin produces reddish brown, yellow, and/or white coloration. Coloration produced by carotenoids varies from pale yellow to scarlet. In combination, both the melanins can produce a wide range of greyish-brown colours. Not all birds produce all the pigments. There are no known species in which only pheomelanin occurs. Changes in carotenoid based pigments caused by mutations are rare. Carotenoid pigmentation is usually not affected by melanin mutations and therefore yellow or red remains clearly present. Depending on the species, the skin and eyes are coloured by eumelanin, carotenoids, or a combination of both.

Phaeomelanin does not occur in the bare parts and eyes.

Abnormalities in plumage pigmentation produce colour aberrant phenotypes in birds. Colour aberrations are caused mainly by genetic mutations. However, they may also occur due to certain physiological conditions. The inheritable causes of colour aberrations in birds are absence of the enzyme tyrosinase, failure of pigment producing cells to get transferred to certain areas on the skin, and incomplete oxidation of melanin. Apart from this, aberrations may also occur due to shock or injury, or certain unusual eating habits.

Albinism is the total lack of both the melanins caused by the absence of enzyme tyrosinase. The individual appears completely white with only the carotenoid based pigments being present normally. The skin and horny bare parts are colourless in these individuals, though eyes may appear red due to reflectance of blood in the capillaries (see image of Red-whiskered bulbul by Jayprakash Narayan). 'Partial albinism' is a misnomer which is generally wrongly applied to different colour aberration types (CATs). Ino individuals appear exactly like those of albino, except that unlike albino they have normal eyesight. Due to normal eyesight, their chances of predation and/or accidents during flight are less. The disorder occurs due to incomplete synthesis of both the melanins. Most adult birds which appear to be albino in the field are ino. Ino is often confused with albino (see image of Ashy Prinia by Arun Venkatapura). In fact the 'albino' Large-billed Crow that I (PK) saw in 2008 was an ino, which I realised after four years!

In leucism, there is partial or total lack of both the melanins due to inherited absence of pigment transfer. Feathers may appear partially or completely white, but the eye colour is always normal. In leucistic individuals, the aberrant feathers are more or less symmetrically distributed (see image of Ashy-crowned Sparrow-Lark). Leucism is hard to judge from photographs, as the extent of aberrations can vary a lot. Skin and horny bare parts may or may not lose colour, depending on the degree of disorder.

Brown is a recessive sex linked disorder, where qualitative reduction of eumelanin occurs and such feathers become very sensitive to sunlight, i.e. they get easily bleached. Birds with mainly eumelanin-based plumage, such as Large-billed Crow, are good subjects to study 'brown' phenomenon (see image of



JAYPRAKASH NARAYAN

A rescued juvenile albino Red-whiskered Bulbul. The yellow tinge on the wings is nothing but carotenoid based colour, which is unaffected



ARUN VENKATAPURA

Ino Ashy Prinia: Unlike albino, Ino have normal eye sight



TAPAS CHATTOPADHYAY

A leucistic Ashy-crowned Sparrow-Lark female. The distribution of aberrant feathers is somewhat symmetrical

PANKAJ KOPARDE



Birds with mainly eumelanin based plumage, such as Large-billed Crow, are good subjects to study 'brown' phenomenon

VINAY K.



A brown Large-billed Crow, showing a few white feathers in plumage due to bleaching

ASHWIN GOKHALE



The Red-whiskered Bulbul shows a single white feather in its tail. This might be because of accidental injury, wherein the cells producing pigments are lost

Large-billed Crow by Pankaj Koparde). Bleaching due to sunlight poses a real problem in categorising CATs in the field. Faded feathers are highly prone to bleaching and they may become completely white. In such cases, the phenotype can resemble a totally different CAT. For instance, the Large-billed Crow (see image by Vinay K.) looks much more similar to a leucistic phenotype than brown. In fact, it is a heavily bleached brown individual.

In progressive greying, white feathers start appearing in the plumage after a certain age. After every moult the proportion of white feathers in the plumage increases, and the colour of the bird becomes grey progressively (see image of Lesser Sand Plover by Parag Damle). Another such case is the Red-whiskered Bulbul photographed by Ashok Mansur. In 'dilution', quantitative reduction of eumelanin occurs, i.e. the pigment is normal, but the quantity of pigment is reduced, which is why the colour appears paler. In melanism, the amount of melanin increases, resulting in an individual with darker plumage.

Not all colour aberrations have a definite pattern that one can observe in the field, especially those caused by inappropriate diet, accidental injuries, or stress (see image of Red-whiskered Bulbul by Ashwin Gokhale). Many a times two or more factors cause aberration in colours. The colour aberrant bird might even get infection, so don't be shocked if you find semi-white bald Common Mynas.

In all of the above colour aberration types, the carotenoid based colours in individuals are not affected. Moulting, the process of replacement of old feathers by new ones, which usually occurs annually, is important as far as colour aberrations in birds are concerned. Especially, in certain types of aberrations (e.g., brown), further bleaching due to sunlight occurs prominently and the feathers finally appear to be faded or white. However, in such birds, the faded feathers get replaced after moulting and the plumage shows the true aberrant colour again. Identifying CATs in the field is more difficult than identifying them when the bird is in the hand. Observations such as the colour of skin and horny bare parts, eye colour, pattern of aberration may help in identifying the correct CATs in the field. It is hard to categorise all CATs in discrete categories so as to compile a dichotomous key, especially if the effect of bleaching is considered. However, descriptions given in this article as well as in the reading list may help resolve this issue.

Colour aberrant birds usually appear distinctly different from normal plumage birds. This may threaten their chance of survival in the population. Albino birds are said not to survive to adulthood due to the aberration, which also affects their eyesight. Though other aberration types may not impact eyesight, they do make the individuals stand out among the population, which may increase their chances of being preyed on. Aberration types that arise due to infections can affect an entire population; such aberrations are in fact indicators to detect and thereby contain an infection before it spreads. Colour aberrant birds may also face problems when it comes to sexual selection. However, studies on this subject are rare due to the rarity of CATs themselves. In our study, we extracted cases of colour aberration from 32 bird species, including birds from wetland, scrubland, forest, and urban habitats. This dilutes the fact that colour aberrant birds are rare. Although they may not be abundant, it is not impossible to find them in the wild.

We hope this article will help resolve ambiguities in classifying and identifying colour aberrant bird species in the field and/or create awareness among Indian birdwatchers on this interesting phenomenon.

Acknowledgements

We are thankful to Harish Dixit, Richard Lilywhite, and Ragoo Rao for contributing their data and photographs. We are thankful to all the interviewees for their contribution to the data. ■



PARAG DAMLE

Apparently similar looking Lesser Sand Plover has been photographed by the same photographer in three consecutive years (2010–2012) at the same place. Perhaps it is a single individual migrating to Alibaug each year



ASHOK MANSUR

Red-whiskered Bulbul: In progressive greying, after each moult the number of white feathers in the plumage increases

More reading...

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The Vanishing Grasslands of Naliya

Text and Photographs: Jugal Tiwari

My Tryst with Kachchh

Many wildlifers tend to develop a strong sense of attachment to the place where they work, as it happened with me during my stay in Kachchh (Kutch). I got my first glimpse of Kachchh in January 1990 when I joined BNHS as a researcher under its US Fish and Wildlife Service sponsored Grassland Ecology Project. It was love at first sight for me – the landscape, people, and the wildlife. I worked there for six years, and after the project ended, spent another five years working as the Manager for Eco-restoration with Sanghi Cements. After that, fate took me to the Red Sea coast area of Massawa in Eritrea in northeast Africa, working as an Ecologist in a challenging project of Seawater Foundation on the use of untreated sea water for an integrated sea water farming, mangrove, and halophyte afforestation programme. After saving sufficiently from my job, I decided to return and settle in Kachchh. Contra to looking for employment as most do, I decided to start my own initiative in 2005 – a registered trust called the Centre for Desert and Ocean, located at Moti Virani, 53 km from Bhuj. This endeavour has allowed me to be amidst nature in Kachchh, and I have been involved in bird-focused nature tourism

(the main source of my livelihood), besides taking up (native) tree plantation, nature education, and providing safe drinking water for village schools.

Kachchh

The Kachchh region is a land of great antiquity, which takes its name from its geographical characteristics and topographical features resembling a tortoise. Kachchh, described in the *Mahabharata* as Abhir, was probably named after its original inhabitants, the Ahirs. Kachchh district is separated from Kathiawad by the Gulf of Kachchh, a narrow arm of the sea; from Sindh, Pakistan, by the easternmost branch of the Indus; and from Marwar, Rajasthan by the Rann, a marshy saline plain in which the river Luni empties. The Arabian Sea washes its western border. Kachchh is the second largest district of India, and constitutes about 24% of the total area of Gujarat State. The desert area covers 3,855 sq. km and it has a coastline of 352 km, so it has a good mix of desert and the sea – the basis for naming my trust as the Centre for Desert and Ocean. The northern and eastern parts of Kachchh comprise the ecologically important Great Rann and Little Rann, which submerge in water during the rainy season and become dry during other seasons, and are the breeding grounds of our

flamingos. Kachchh is a semi-arid landscape having 948 villages with a low population density of 23 persons/sq. km.

The Naliya Grasslands – their Fauna and Flora

Gujarat is known for its grasslands, locally called *donars* in Kachchh and *vidis* in other parts of Gujarat. About 1,400 sq. km of the grasslands of the state are administered by the Gujarat State Forest Department. Besides these, there are also large tracts of grasslands that are open to free grazing. Most of



Above: With rains, the *donars* of Naliya are flushed with greenery of its grasslands. **Below:** The landscapes of Kachchh

these grasslands occur in the arid and semi-arid tracts of Saurashtra and Kachchh. Some of the well-known ones, which are important habitats for wildlife in Gujarat are Velavadar, Rampur, Banni, and Naliya grasslands.

The grasslands of Naliya in Abdasa taluka of Kachchh, which I dwell on in this article, are known as *donars*. The Naliya grasslands constitute several fragmented *donars*, or of contiguous patches of pristine grasslands, covering about 500 sq. km. Due to the occurrence of the Critically Endangered Great Indian Bustard in these grasslands, a





Desert Cat – a grassland predator struggling to survive



A male Black Francolin calling in the Naliya Grassland

sanctuary of about 2 sq. km, the Kachchh Great Indian Bustard Sanctuary (also known as Lala Bustard Sanctuary) was established near Jakhau in 1992. Other than the Great Indian Bustard (GIB), the grasslands of Naliya support a rich diversity of flora and fauna.

The area is drought prone, but when the monsoon rains are normal or bountiful, the grasslands come to life and the entire ecosystem is at its best to support life. A combination of the spear grass Lamb *Aristida* and Puyad *Cymbopogon martini*, along with other species, provide excellent habitat for three species of bustards. From June to September, Lesser Florican appears to breed in the Naliya grasslands. The GIB can also be seen displaying during



Indian Wolf – On the verge of extinction due to persecution

this time. The migratory MacQueen's Bustard is seen from late October to early March. Other common bird species are the Chestnut-bellied Sandgrouse and Indian Courser – my birding in the area has resulted in a checklist of 80 bird species. The Spiny-tailed Lizard is the main prey-base for raptors, such as Short-toed Snake-Eagle, Red-headed Falcon, Laggar Falcon, Tawny Eagle, Steppe Eagle, Imperial Eagle, and Common Kestrel. The large roost of three species of harriers in Bhanada grassland must be seen to be believed. I have counted up to 1,500 harriers (Montagu's, Marsh, and Pallid) flying there in the evenings to roost.

Among the cats are the Desert Cat and Jungle Cat. Often I used to see the



Stoliczka's Bushchat – A near-endemic to the semi-arid regions of east Rajasthan and Gujarat



Dhaberias, the nomadic shepherds of Kachchh



Unlike most parts of India (and the world), the Dromedary constitutes a livestock species of Kachchh



Pastoralism is the way of life for the people of the grassland areas

Indian Fox in the Kunathia area close to a big Euphorbia thicket, but they are not seen anymore as the area is now under cultivation. The Indian Wolf is rarely seen in the Naliya grasslands. In Gujarat, it occurs in the Paat riverbed area in Banni, Little Rann of Kachchh, and in the Velavadar grasslands. The Chinkara or Indian Gazelle is an inhabitant of Naliya, with around 60 of them frequenting the Bhanada, Prajau, Lala, and Kunathia areas. Two species of hedgehog, the Long-eared and the Pale, are found in Naliya. The Small Indian Civet and Ratel are also seen in the vicinity of the grasslands.

Along with the wildlife which

survives in this stark, demanding, yet beautiful landscape, a large population of pastoral and agri-pastoral communities finds sustenance on these grasslands. The livestock includes the one-humped camel or Dromedary, which to newcomers is like sighting a wild animal! It is suited to the harsh environment: no wonder it is called 'the ship of the desert'. During the monsoon, there is an influx of nomadic livestock herders, the Dhaberias, from Bhachau, Anjar, and the Vagad regions of Kachchh, the men with their fine turbans and the women in their beautiful, embroidered clothes.

Conservation Issues

Sadly, with the years, some of the former grasslands have been brought under cultivation. Farmers seek more land from the Government, citing the increase in numbers in their families and the need for more land to cultivate and feed their families. This loss of habitat is responsible for the destruction of thousands of burrows of the Spiny-tailed Lizard, and I have observed a significant decline in the density of predator species that had depended largely on the Spiny-tailed for food. As

recounted earlier, the fox family that I used to see in the Kunathia area had disappeared with crop fields invading its den and habitat. Slowly, pace by pace and year after year, the prime grassland habitats and their wildlife are disappearing.

Overgrazing is another major factor that causes loss or degradation of grasslands. Nomadic cattle herders and shepherds camp in the grassland till the grasses are overgrazed, trampled upon, and denuded, as there is practically no control on grazing. This practice is not new, it has been going on for ages. But the extent of grasslands was greater in the past, the people were fewer, and the

demand on the land for cultivation or other reasons was much less. The earthquake in January 2001 resulted in the ‘opening up’ of land to set up industries and windmills, and there was a corresponding increase in the price of land. The dry-land farmers found that there was good money to be made from the sale of land, and so they started selling their land and some also encroached on adjacent land. This also gave rise to mafias who would encroach on large tracts of grassland – the price of land which was difficult to sell earlier is now around two to five lakh rupees per acre. There was also increased demand on the Government to allot land on various grounds. The definition of a grassland by the Revenue Department is unique. For them, it is largely a wasteland! I have often heard people say “Nothing grows in the Kachchh, the grasslands and thorn scrub are just growing unproductively, but still some people are opposing industrialisation in this dry desert of Kachchh”. The ecological importance of this ecosystem is not realised, or ignored for various reasons.

Is There Hope?

Naliya grasslands support the second largest surviving population of the GIB (30) in the world. Is there any hope for this Critically Endangered species with all the changes happening in Naliya and the Kachchh landscape? I had attended some very meaningful meetings and heard the Chief Minister of Gujarat talking about the conservation of the GIB. The same CM is now India’s Prime Minister, with more power to act. Will he take up this issue along with all the problems facing India?

Yet I have hope, especially since the present Forest Department officers are very keen on the conservation of the GIB in Kachchh and in the rest of Gujarat. In fact, the Department has already obtained over 1,900 ha



The stark, yet beautiful, landscape of Kachchh

grasslands from the Government and a very good conservation plan is already underway. This includes an *in situ* breeding habitat conservation and monitoring programme. On the basis of my two decades stay in Kachchh, and having visited Naliya over 500 times for birding, I have some suggestions:

1. There is a need to identify and establish core conservation zones for the GIB in Naliya. One is in the Bhanada complex of grasslands, including the Prajau and Vingaber patches. A second core area could be the Kunathia-Bitta and Rava Bitiyari patch of grasslands.
2. The approach roads to the core zones should be diverted to reduce disturbance to the grasslands.
3. Planting of trees and ploughing in the name of improving the habitat should not be allowed.
4. Grazing, especially the movements of nomadic graziers, should be strictly regulated in all the grasslands of Naliya.
5. The entry of dogs – which prey on grassland fauna – has to be checked.
6. No direct nest monitoring should be done, as it disturbs the birds and affects nesting success. Breeding may be monitored by observations from watch-towers through telescopes.
7. A few water-holes could be created in the core zones.
8. A few scattered *Ziziphus nummularia* bushes could be planted in the grasslands (the berries are food for the GIB).
9. Tourism should be strictly banned during the breeding season, and the MoEF and CC’s ban on visitors from April to October (the breeding season) should be applicable for all.
10. Another conservation initiative that needs to be taken up is ‘Project Bustards’ as advocated by Dr. Asad R. Rahmani, Director, BNHS, for conservation of Indian grasslands – on the lines of Project Tiger and Project Elephant. The GIB is an ideal flagship species for the dry grasslands of the Indian plains (like the Tiger and Asian Elephant are for forests), and by protecting the grassland habitat of the GIB, we safeguard an entire ecosystem and the biodiversity that is part of it. ■



Jugal Tiwari worked on the Grasslands and Wetland Ecology Projects of the BNHS from 1989 to 1995. He is currently based in Kachchh where he runs a trust — Centre for Desert and Ocean — for wildlife conservation, native flora afforestation, and bird-focused nature tourism.

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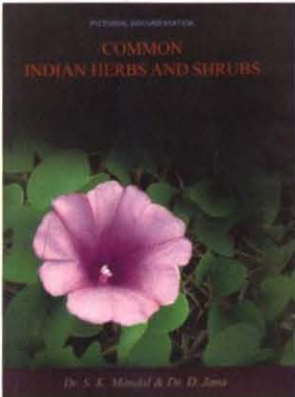


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Common Indian Herbs and Shrubs

by Suniti Kumar Mandal and Debasis Jana
 Published by: Boikarigar, West Bengal. 2012
 Size: 28 x 21 cm
 Pages: 150
 Price: Rs. 800/-
 Hardbound

Reviewed by: Isaac Kehimkar

This well-illustrated book provides good information on flowering herbs and shrubs, both common as well as lesser-known species. The book is divided into two parts. The first part deals with the flowering plants of the hills and the second part the flowers of the plains. In both the sections, the plants are grouped in their respective families, which are alphabetically arranged. Featuring more than 600 colour photographs, in a large-sized format, the book delves into brief narratives of each species, which is good enough to introduce and identify it. Colour photographs help in confirming the identity of the plants as well. These features make this book an ideal reference for readers of all levels of expertise – from seasoned botanists to armchair naturalists.

This book is recommended for teachers, naturalists, and all plant enthusiasts wanting to enjoy wild flowers in India. The information on plant profiles is interesting and easy-to-read for the general audience. The authors have conceptualised the book such that it helps students “cross the hurdles of University exams”.

The authors, being Professors of Botany themselves, have seen how wasteful college botanical excursions can be where bagfuls of unnecessary plant specimens and often some rare and endangered plants are collected. Here, they expect that this book will help students to identify plants in the field itself, so that needless collection of such endangered plants could be avoided.

Both authors have a good background in being writers, naturalists, and educators. And they have very wisely provided the keys to identify plants that occur in the Subcontinent. Though their actual field work for the book is confined in and around West Bengal, most plants included in the book occur in other parts of India too. The authors being amateur photographers, some photographs do lack finesse, but in general the effort is good.

Students used to carrying journals may not find it odd to carry this large format book in the field, and the hardbound cover will certainly stand the rigours of the outdoors.

The book is certainly recommended for additional reading for those doing courses in field botany, plant taxonomy, and general natural history while on a trek or just nature walk, and certainly deserves a place on the bookshelf of anyone who loves to explore outdoors in search of these wonderful plants. ■

We are grateful to

SETH PURSHOTAMDAS THAKURDAS & DIVALIBA CHARITABLE TRUST

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 to support the publication of *Hornbill*

Rendezvous with a Roller family

One evening while returning home after photographing birds, I saw some movement in the distance in dull light. I marked the spot in my mind and returned the following morning. A burnt Date palm lay fallen at the spot; it had a narrow hollow, convenient for birds to nest in, besides the hollow was at a safe height. An Indian Roller family occupied this hollow, which was close to a Castor plantation. I returned to the tree for about a week to observe the roller family. The male and female would frequently fly back to the nest with different prey, mostly small insects like bees, moths, dragonflies initially, and later with big prey like grasshoppers, to feed the hungry chicks. The parent would put the prey into the chick's mouth head first.

On one occasion, I saw the parents return with a small Fan-throated Lizard. As always, the bird first landed on a stone wall and then flew to the nest with the prey. It deposited the lizard into the nest



and continued with its routine of procuring food, flying back to the chicks, and feeding them. After about 25 minutes, I saw the Roller leave the nest with the lizard it had deposited earlier. I found this quite unusual, as all this time the bird was bringing prey to the nest and now it was leaving with prey it had brought in a short while ago. The bird flew away from the nest towards vegetation and landed on a wire. It then began hammering the lizard on the wire

just like a bee-eater. Satisfied that the prey had been "butchered", it deposited the lizard back into the nest!

I visited the nest site almost everyday as I was now eager to get a glimpse of the chicks. The nest was at a height of \approx 16 feet, and the parents would land in such a way that the chicks would not be visible. I finally began sitting on the roof of my car to get one look inside the nest (in the process I dented the car!). My patience was finally rewarded, and one day I saw the three chicks demanding food from their parents. They were very beautiful, just like the adult rollers. The chicks were soon big enough to step out of the nest and were finally off one day to chart their own journey. I was able to record this life event of the rollers on camera, and couldn't resist sharing it with the readers of *Hornbill*. ■

Jaysukh Parekh
Bhuj, Gujarat

Unusual nesting site of Red-vented Bulbul

Birds are known to be very selective about choosing their nest site, safety and security of the nest being the two most important factors. They rarely choose trees like the Papaya or Banana that are not strong or lack the needed security. But is it so always?

On May 18, 2014, at about 10:00 a.m., I saw a pair of resident Red-vented Bulbul bring nest material to a rather tall and thin papaya tree in my garden. The stem of the tree was slender and it swung vigorously even in the slightest gust of wind. On close observation, I was surprised to see the pair busy giving final touches to a cup-shaped nest at the top end among the leaf stalks.

I was excited as well as worried about this unusual nesting site of the bulbuls. A few days later on May 23, 2014, my apprehensions became a reality. I was shocked to find the nest lying on the ground under the Papaya tree. I do not know what brought the nest down. It may have been dislodged by a strong gust of wind, or by the force of new sprouting leaves, or by an inquisitive nest robber?



I collected the beautiful but ill-fated nest. I still have it with me, but what I do not have is the answer to my question. What prompted the bulbuls to choose a Papaya plant instead of the many other shrubs and trees available in good numbers in my garden? This pair had successfully raised a brood two years before, when the nest was made in a *Bougainvillea* shrub.

At times we marvel at the wits of birds, yet at other times their unusual behaviour leaves us perplexed. ■

Ashish Shukla
Jharsuguda, Odisha

July-September, 2014

'Individually Clean, Collectively Dirty'

I love the editorials by Dr. Asad R. Rahmani in *Hornbill*, especially the articulation of simple responsibilities one can take towards conservation, with common examples that anyone can understand and connect to, is awesome.

Recently, I had an opportunity to participate as a volunteer for the All India Tiger Estimation 2013–14 at Dandeli-Anshi Tiger Reserve (DATR). I was recording what I learnt and some special moments in my diary 'Nature Shepherds', when I received the October-December 2013 issue of *Hornbill*. The editorial titled 'Individually Clean, Collectively Dirty' spoke about the impact of littering on wildlife.

I remembered an experience I had in Dandeli-Anshi Tiger Reserve. Protected Areas (PAs) in DATR have human settlements in small pockets and a large number of small villages inside the reserve, thus the disturbance to wildlife is high. Surprisingly, the sighting of wild ungulates is more frequent near human settlements, which are littered



with carelessly discarded chips or biscuit packets, and other plastics.

This time I wanted to act on this menace. I had a team of volunteers and the Forest Department staff with me. We discussed this issue and drew up a plan to initiate an awareness campaign – "Plastic Free Zone" – in the human settlements within the PA. After our routine protocol each morning, we would pick one human settlement within

our range and collect all the plastic litter, and also talk to the public to educate them on the impact of littering in the wild.

For an amateur conservationist like me, each moment I spend in nature is an opportunity to learn and contribute to its conservation. ■

Praveen B. Bhagoji
Belgaum, Karnataka

ABOUT THE POSTER



Stripe-necked Mongoose *Herpestes vitticollis*

This is the largest of all Asiatic mongooses attaining a length of about a metre and weighing around 3 kg. It is found in the Western Ghats from North Kanara, southwards to some adjoining hill ranges in southern India to Sri Lanka. The Stripe-necked Mongoose is more common in the hills than in the lowlands, and has been found up to 2,200 m. The black neck-stripe running down from the ear to the shoulder is distinctive in this species. Its coat is grizzled grey, tipped with chestnut-red, the red

increasing in intensity on the hindquarters. The relatively short tail is mostly black, with grey at the base.

This diurnal mongoose is typically a forest animal and is less commonly seen around human habitation, though it enters cultivation and is frequently seen hunting in rice fields. Unlike other mongooses, it is little attracted by rats, poultry, and other food to be had in and around human dwellings. It is recorded to prey on mouse-deer, hares, bandicoots, field rats, birds, and reptiles. Its habit of hunting by the banks of rivers and frequenting swamps and flooded rice fields suggests that frogs, fishes, and land crabs may be part of its diet. Fruit and roots also enter its bill of fare.

The Stripe-necked Mongoose is listed as a species of Least Concern by IUCN due to its wide distribution, presumed large population, occurrence in a number of protected areas, tolerance to some degree of habitat modification, and because it is unlikely to be declining at nearly the rate required to qualify for listing in a threatened category. It is listed in Schedule IV of the Indian Wildlife (Protection) Act, 1972. ■



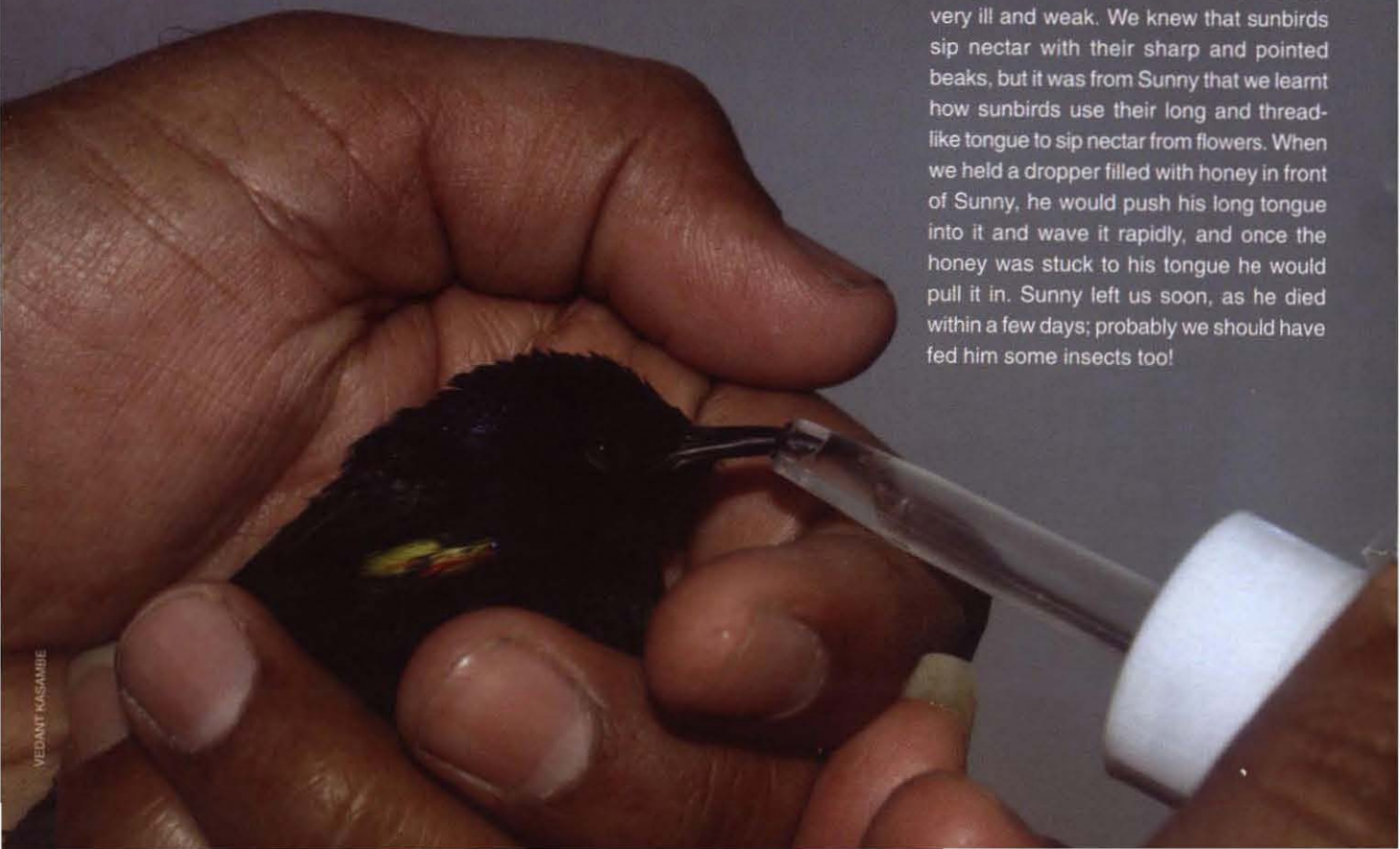
Feathered Guests at our Home

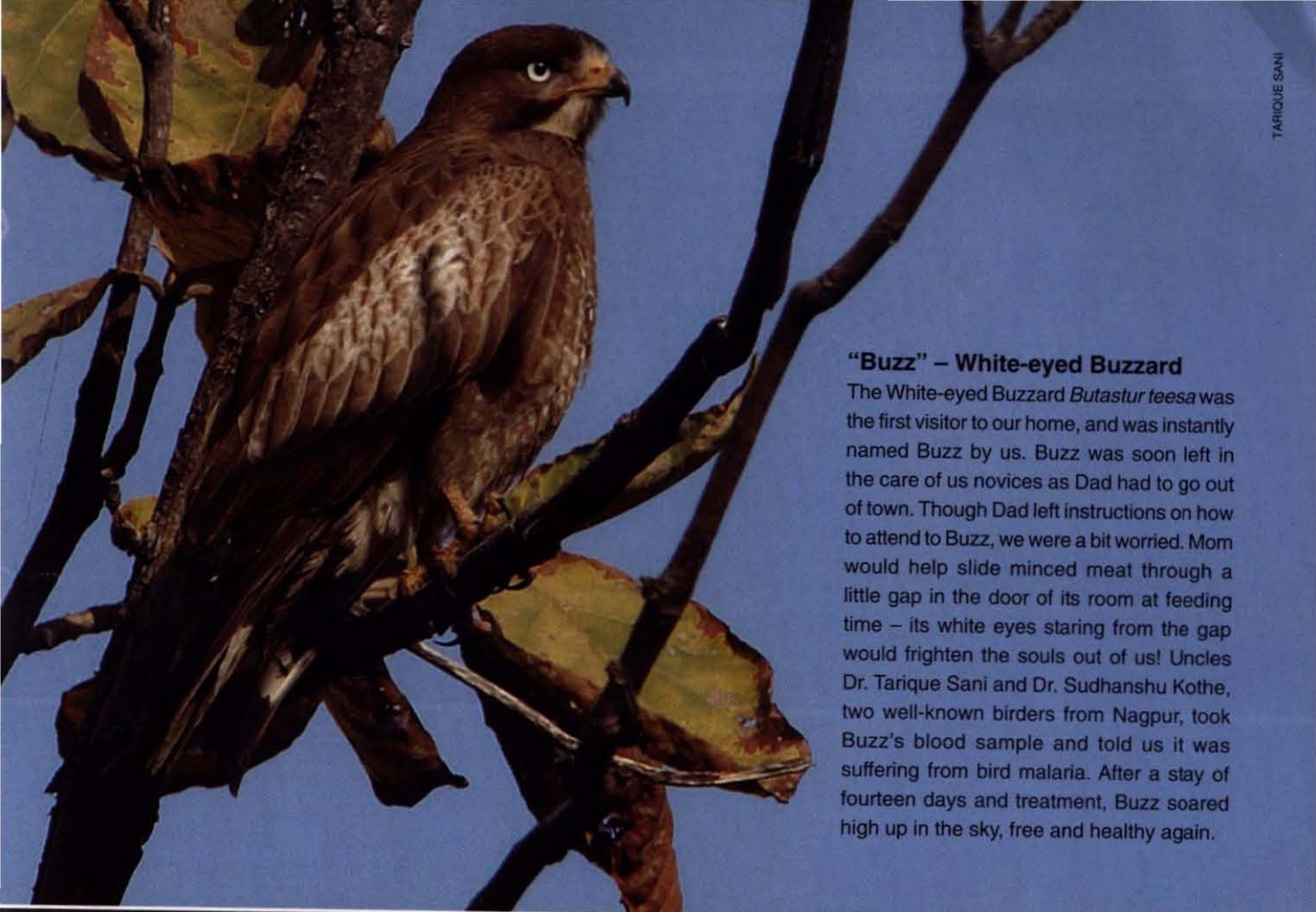
Text: Pranjali and Vedant Kasambe

We have had different kinds of birds like swifts, mynas, parakeets, buzzards, kites, hornbills, kingfishers, sunbirds, and owls, as guests at our home. How? That's because our father, Dr. Raju Kasambe, an ornithologist, attends to rescued injured birds in our area. In fact, rescuing birds, attending to them, and then releasing them into the wild has become our hobby too. We enjoy watching the birds fly back to their home once they are well. However, if some rescues left us happy, some have left us sad. We wish to share some of our best experiences of the days we spent with our feathered friends.

"Sunny"– Purple Sunbird

When little Sunny, a Purple Sunbird *Cinnyris asiaticus*, came home, he was very ill and weak. We knew that sunbirds sip nectar with their sharp and pointed beaks, but it was from Sunny that we learnt how sunbirds use their long and thread-like tongue to sip nectar from flowers. When we held a dropper filled with honey in front of Sunny, he would push his long tongue into it and wave it rapidly, and once the honey was stuck to his tongue he would pull it in. Sunny left us soon, as he died within a few days; probably we should have fed him some insects too!



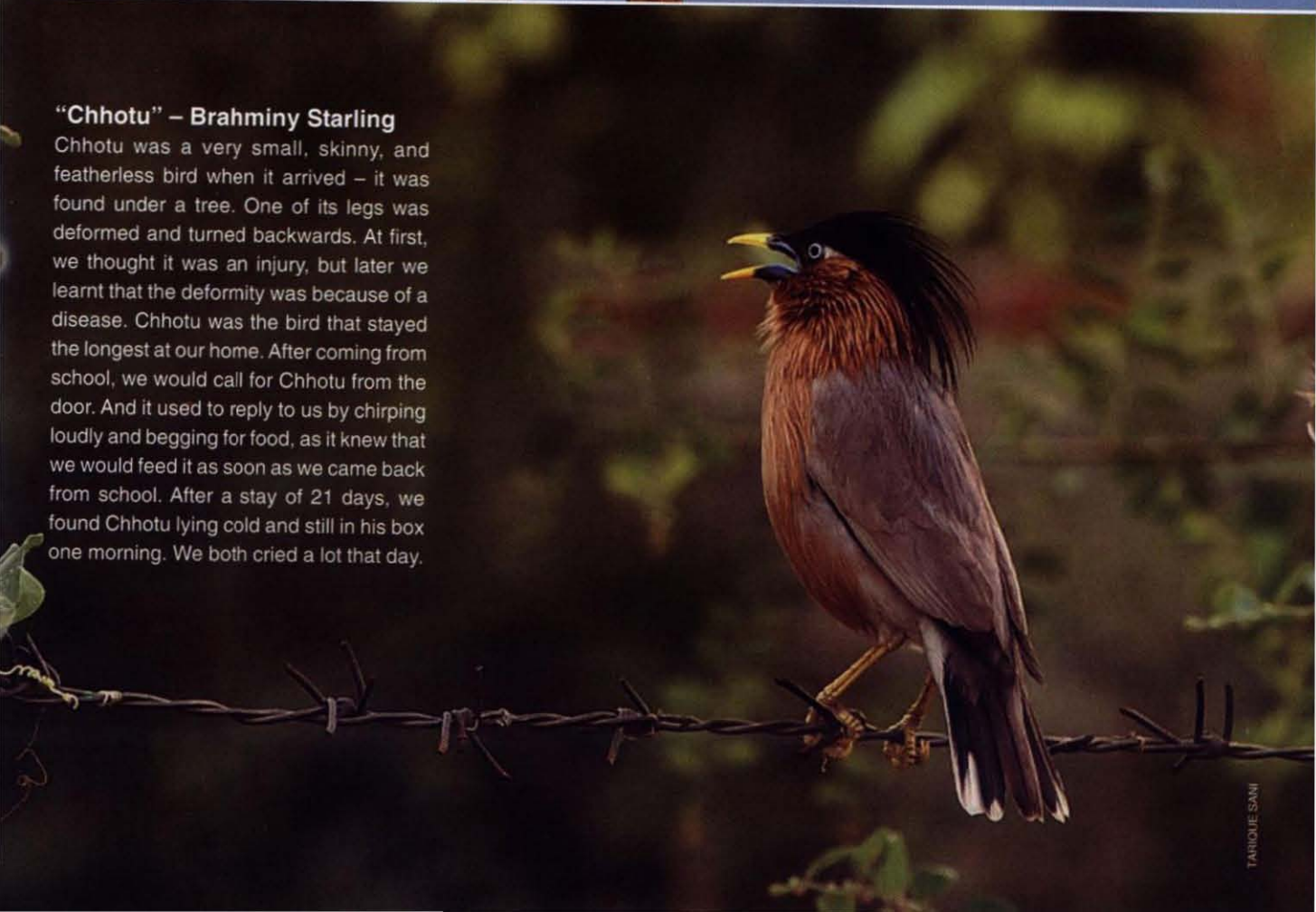


“Buzz” – White-eyed Buzzard

The White-eyed Buzzard *Butastur teesa* was the first visitor to our home, and was instantly named Buzz by us. Buzz was soon left in the care of us novices as Dad had to go out of town. Though Dad left instructions on how to attend to Buzz, we were a bit worried. Mom would help slide minced meat through a little gap in the door of its room at feeding time – its white eyes staring from the gap would frighten the souls out of us! Uncles Dr. Tarique Sani and Dr. Sudhanshu Kothe, two well-known birders from Nagpur, took Buzz’s blood sample and told us it was suffering from bird malaria. After a stay of fourteen days and treatment, Buzz soared high up in the sky, free and healthy again.

“Chhotu” – Brahminy Starling

Chhotu was a very small, skinny, and featherless bird when it arrived – it was found under a tree. One of its legs was deformed and turned backwards. At first, we thought it was an injury, but later we learnt that the deformity was because of a disease. Chhotu was the bird that stayed the longest at our home. After coming from school, we would call for Chhotu from the door. And it used to reply to us by chirping loudly and begging for food, as it knew that we would feed it as soon as we came back from school. After a stay of 21 days, we found Chhotu lying cold and still in his box one morning. We both cried a lot that day.



“Mitthu” – Rose-ringed Parakeet

Someone had brought an injured Mitthu *Psittacula krameri* to my father. Mitthu was free to move in our house, we never caged it. We used to feed it *Pithecolobium dulce* or *Vilayati Chinch* as it is called in Marathi. One day, as it sat perched on a window grill, there was a sudden thumping sound somewhere outside, which made it fly away. We wished it had stayed longer, as before we realised what had happened, it was gone!

MANDAKSHOR DUDHE

Indian Grey Hornbill

We did not have to name this baby Hornbill, as dad was talking about hornbills everyday in those days! It was being mobbed by House Crows when a birdwatcher found it. We noticed that the chick, unlike the adults, had no casque on its beak. Our gallery was its temporary home for some time; a bike tyre hanging from a nail was its favourite perch. It would stare at us silently, as if meditating! We fed it ripe fruits like Jamun *Syzygium cumini*, Pipal *Ficus religiosa*, Banyan *Ficus benghalensis*, and other figs. While releasing it, my father decided that it should be re-united with its parents. He and some other birder friends would keep the bird on a fruiting Banyan tree at a fixed time for two hours each day. After a few days, a pair of adults, probably its parents, arrived and started feeding it. Later, the threesome flew away happily. The news of this successful reunion was flashed in the local newspapers!

ADITYA JOSHI

“Snowy” – Barn Owl

We have had many Barn Owls *Tyto alba* as our guests at home. They were all named Snowy, as their plumage was as white as snow. This species has a disc-like face with a heart-shaped outline, with both eyes on the front like us humans! All the birds had either a broken or injured shoulder bone – mostly cuts by *manja* of kites. Many had serious injuries and never recovered; those that recovered were released at night. Dad told us that Barn Owls are worshipped in West Bengal as the carrier of Goddess Durga, and it's sad that they are killed in other parts of India by superstitious people for witchcraft.

MANDAKSHOR DUDHE

Indian Scops-Owl

This was a very small and cute owl. It was so small that if it sat at some place, it would have been very difficult to locate it and so we kept it in a box. It had a habit of biting hard; it had pecked Dad's finger on several occasions! Once we decided to take a peek and opened the door of the room a bit, as we were afraid that it would fly out. When we looked around, we could not see it despite searching the whole room, till we spotted something on the fan. When we looked there, we saw it turning its neck at nearly 180 degrees to face us, which got us so afraid that we ran out screaming. But it was a good sign that it could fly, and Dad decided it was time to release it near its home at night.



TARHQUE SANHI

"Kite" – Black-shouldered Kite

We named it Kite due to its mastery of hovering in the air like a flying paper kite. This small bird of prey had blood-red eyes just like the ones you see in horror movies! It was injured by kite *manja*, but could still manage to fly around in the house. One afternoon, Mom was alone at home, washing clothes, when she felt sharp talons pinching her back and pinning her down. She was surprised to find our feathered guest resting on her back. We realised that it was time to release our friend. Kite rose directly up in the air like a helicopter, and did not dash away like the other birds. It soared high into the air, to our amusement and joy!



VEDANT KASAMBE

SIMPLE RULES OF BIRD RESCUE

- Decide whether the bird really needs your help. Do not pick up chicks just because you can't see their parents around.
- While rescuing a trapped bird, release it immediately after confirming its well-being.
- Do not feed a rescued bird anything till you know what its natural diet is.
- Keep the bird in a box big enough for it to stand without bending its tail or having to duck its head.
- Learn how to handle a bird. Handle a bird only when needed.
- If the bird is injured and cannot be managed by you take it to a veterinarian. Do not administer medicines to a rescued bird without consulting a vet.
- Release the bird as soon as it can fly. Release diurnal birds during daytime and nocturnal birds like owls and owlets during night time. Try to release the bird near the place from where it was rescued.
- If you have little time for its care, hand it over to some bird rescue centre or zoo nearest to you.
- Inform the Forest Department if it is a threatened species.



Pranjali and Vedant Kasambe are schooling at I.E.S. Chandrakant Patkar Vidyalaya at Dombivli (Maharashtra). Vedant loves photographing birds and butterflies, and Pranjali loves sketching birds. Pranjali is in Std. 10, and Vedant in Std. 8.



Faceoff in the Wild

Text and Photographs: **Yogesh Chavan**



Matheran, an eco-sensitive zone, is a well-known hill station near Mumbai. Discovered and developed by the British, it is probably one of the smallest hill stations in our country. Since no motor vehicles are allowed to ply in Matheran, this hill station has been able to maintain its forests, which are rich and well-known for their biodiversity. A large variety of insects, arachnids, reptiles, amphibians, birds, and mammals, along with an abundance of flora, can be seen here.

Increasing awareness for preserving and conserving nature in its pristine form has resulted in favourable changes for Matheran. The Indian Giant Squirrel *Ratufa indica* is now frequently seen in Matheran. It reaches 35–51 cm in size (approximately the size of our domestic cat). It is a diurnal and arboreal mammal found mostly in evergreen forests, its food being mainly fruit, nuts, and leaves. The nest, made of medium sized twigs, is usually built high up in trees, mostly above 10–16 m from ground level.

Another mammal, very prominently seen and linked with Matheran, is the Bonnet Macaque *Macaca radiata*. Bonnets move around in family groups. The monkeys at Matheran, as on most hill stations, seem to be a perpetually hungry lot. They are capable of snatching food or a cold drink bottle, straight out of a tourist's hand. The alpha male is the most fearsome of the lot and may display his ferocious 5 cm long canines when in an aggressive mood. He makes sure he gets what he wants!

During one of my regular trips to Matheran (I have been going there nearly every alternate

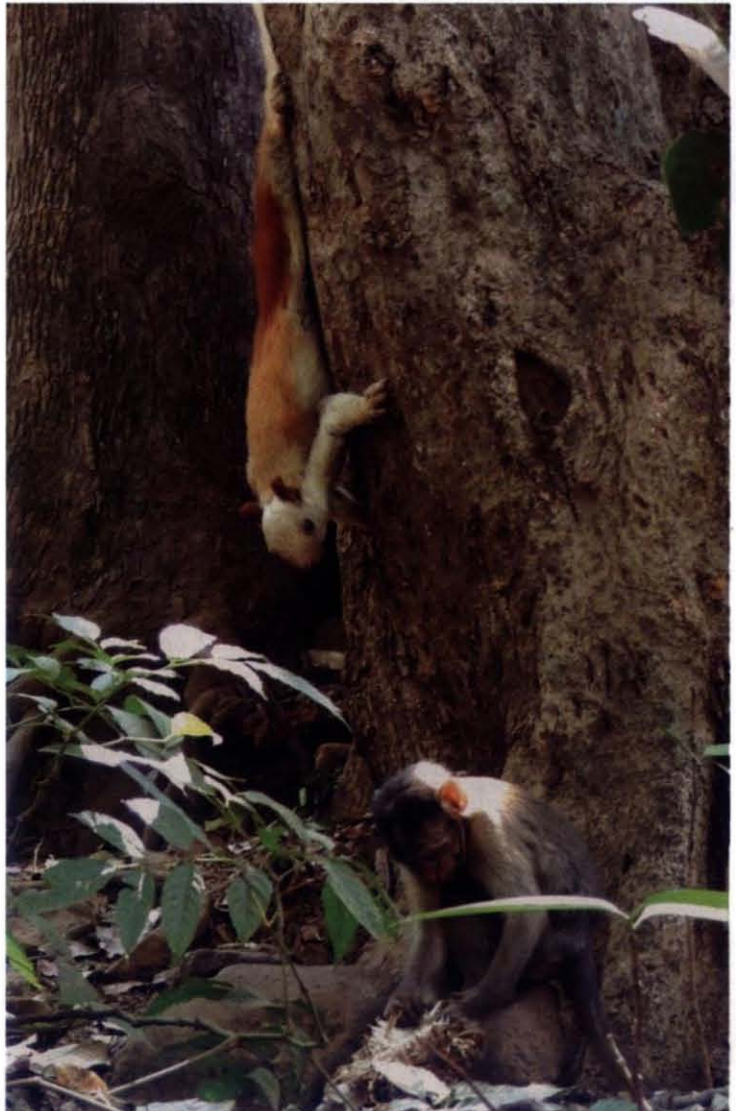




weekend for the past two years), I happened to witness a rather interesting incident. A subadult of an Indian Giant Squirrel was enjoying a delicious fleshy treat – a piece of jackfruit. Two Bonnet Macaques passing by saw this and decided to grab it from the squirrel. The smaller of the two monkeys approached the squirrel from the front, while the larger crouched from behind. The squirrel, a bit surprised and afraid, stood still. Realising that it had been cornered, the alert and agile squirrel sprang successfully to one side and hid between two trees. Once safe, it reached for its piece of jackfruit and was about to resume eating it when the smaller monkey (who appeared to be the bolder of the two) came around the tree. Finding itself in a faceoff situation with the monkey, and this time really close at about a foot apart, it stood still for nearly 10–15 seconds unable to decide whether to opt for a fight or take flight. It finally chose to give up both, the fight and the food, and fled up a tree. All that the squirrel could do was wait at a safe distance and watch the monkeys play with and eat the jackfruit. The bigger monkey soon managed to chase off the squirrel, while the smaller ate in peace. The show seemed to be over and I moved on to my mini train, which was about to leave shortly. ■



Yogesh Chavan is a graduate from J.J. School of Arts, Mumbai. He is a passionate wildlife photographer and author of MATHERAN - A PRACTICAL GUIDE.





Tracking the Ibisbill in Tigerland

Text and Photographs: **Sanjay Kumar**

In the early winter of 2012, on a light smoggy morning a day after Deepawali, I was at home, entertaining a friend's family from Lucknow. "The Ibisbill has been spotted yesterday morning near the Garjia Temple", said my friend Mr. A.G. Ansari, who is a keen wildlifer and conservationist. I was thrilled with the news, and after a quick breakfast, I set off to 'capture' the rarely seen winter visitor to this part of the lower Shiwaliks, where thousands of tourists throng to see the majestic tigers and elephants. Very few people know that Jim Corbett country, which is known for its tigers, also hosts a few pairs of these shy birds in the cobbled bed of the River Kosi. They migrate from high

altitudes of 3,000 metres and above in the Himalaya during the winter, and stay on till mid March.

When we reached the Garjia Police Chowki, Ansari, with his family, and an experienced naturalist and guide Mr. Dhanu were waiting for us. We parked the vehicle in the temple parking area and walked across the bridge leading to the temple. "Sir, you can see them right under the bridge, if you come in the morning before sunrise at 5:30 a.m., when there is no one to disturb them," exclaimed Dhanu. He confided that he had been locating these solitary and rarely seen birds since 1995 and that the best year was 2010, when he spotted six pairs of these extremely shy but eloquent birds. It was already one in the afternoon and we could see some people bathing and loitering in the chilly but gently moving

waters of Kosi under the mild afternoon sun. I walked past a few shops selling pooja items upstream of the River Kosi. A lone Common Kingfisher was busy fishing in the river alongside White-capped Redstarts, Plumbeous Redstarts, and White-browed Wagtails. We moved more than a kilometre away from the temple on the dry part of the bed of Kosi towards Sunderkhal village. Dhanu was desperately scanning the area through his binoculars, but could not spot the Ibisbills. He murmured that they might have been disturbed by the loud and disruptive activities of the people.

After walking along the expansive and beautiful white cobbled Kosi river valley for 15 minutes, with Corbett National Park to the left and Ramnagar forest division to the right, Dhanu stumbled upon a pair sitting in the shinglebed. He shouted, "Sir! there they are on the left of the big, white, shining stone". He gave me the binoculars and it took me more than 30 seconds to locate them, as their grey and white bodies were perfectly camouflaged against the surroundings. We approached this elusive, shy bird cautiously, capturing a few pictures. I almost slipped off a pile of loosely assembled pebbles, as I could not take my eyes away from the birds. I was almost 50 m away, when a pair of River Lapwing alerted them. The birds froze for a few seconds, but once assured that we meant no harm, they began to feed in the frothy knee-deep water. The pair was busy feeding on aquatic larvae, insects, and fishes. Sometimes they immersed their heads in water, looking for insects under the pebbles with their curved bills. They kept feeding but would check on each other once in a while. When they moved away from us, I decided to cross the shallow but rather swift stream, take a long U-turn and gradually go closer to where they were feeding. After crossing the stream, I made a long detour and gradually came as close as 20 m. One of the Ibisbills was resting on one leg like a River Lapwing in the matrix of white, grey, and brown pebbles, with its back towards me. The other kept feeding despite my presence, but would occasionally look up to check on me. I sat observing it feed with its bright glossy curved beak. The Ibisbill would sometimes go neckdeep in water looking for grubs, but would quickly come out and check for any lurking danger. It would raise and nod its head with a low chirp, alerting the other resting Ibisbill. My friends waited



Ibisbills are waders belonging to the family Recurvirostridae, which includes stilts and avocets. They are light brown in colour with a white belly, red legs, and a long downcurved bill. They have a black breast band and black mark on the face around the eyes. The birds are around 41 cm long, and the bill is 6.8–8 cm. The females have a slightly longer bill and also weigh more than males. Globally, they are found in the southern part of Central Asia over a large mountainous area, at altitudes between 1,500–4,000 m. They are found in shinglebed river valleys near slow-flowing streams. Ibisbills are monomorphic (the sexes are similar) and are good swimmers.

on the other side of the river, expecting the pair to gradually come near them. A Spotted Forktail and a pair of Large Pied Wagtail too joined the Ibisbill. I had a close look at the pair for about ten minutes, before they flew away to a new spot in the stream just 300 m away. I decided to leave them in peace and returned with the bagful of close-up pictures of the rarely photographed Ibisbill.

I could not believe my luck that a usually shy and elusive bird had allowed me to observe it so closely and for so long. It not only made my day, but I shall remember this adventurous and scintillating experience, no less exciting than spotting a tiger in the streams of Kosi, in the very heart of Tiger country. ■

Sanjay Kumar is an IAS officer of UP Cadre, with an extraordinary allegiance to the cause of conservation of



wildlife and environment. He has published several articles and books on wildlife and won numerous awards for wildlife photography.

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NIMESH VED

GARO HILLS: Gone With the Coal?

Text: **Nimesh Ved**

I visited the Siju Eco Camp, located on the banks of the Simsang river across the Siju Wildlife Sanctuary, Meghalaya, during the first week of February 2013, with colleagues. A part of Samrakshan's ecotourism initiative, our objectives were to organise an in-house workshop for team members and allot time to look for birds. Samrakshan has taken up interesting and unique initiatives to conserve the environment. These range from participatory elephant monitoring programmes to community conserved areas.

First the birds...

A Blue Whistling-Thrush *Myophonus caeruleus* had made the Siju Eco Camp its home. One day we heard its call, and on another, it revealed itself, even as we wondered if a fowl had caused the crackling sound of dry leaves and twigs! Next, we saw it playfully moving around near the kitchen door. I got to know from my colleagues, who frequently visited this campus, that it has even been seen inside the kitchen, eyeing and many-a-times picking up the left-overs!

Samrakshan, an NGO registered as a Charitable Trust, works towards conserving biodiversity values in an equitable and just manner. Its Baghmara field-base office was initiated in 2004.

The campsite allowed me to see birds fly over Simsang. I was reminded of the 'V formation' of egrets as they flew under the bridge over the river towards Bangladesh. Each evening, we would be amazed at their flight (along the curve of the river!) and fascinated by their stark white plumage. More often than not, their elegance was underscored by the greenish-blue (or is it bluish-

green!) waters of the Simsang flowing below. On this trip, I saw a River Lapwing *Vanellus duvaucelii* fly gently over the river, while on the bank wagtails 'jumped off-the-air' as only wagtails do.

I saw the Black Drongo *Dicrurus macrocerus* and Greater Racquet-tailed Drongo *Dicrurus paradiseus* on a late morning, and as I lazed in a chair after lunch, I saw the Ashy Drongo *Dicrurus leucophaeus*. This Drongo went back and forth between two trees standing about 30 m (100 feet) apart from each other; the take off 'drongo-style' – a small jerky air-lift about 3 m (10 feet) prior to moving aside. As I focused my binoculars, I saw the angry red of its eyes! This was a contrast to its otherwise peaceful demeanour.

On another afternoon, as we chatted after lunch, a flock of Chestnut-headed Bee-eaters *Merops leschenaulti* made their presence felt on the campus. The afternoon sun brought out the splendour of their colours, with the black gorget taking the form of a bow-tie worn by a colourful gentleman! Four on one tree, one on another to my front, besides at least a couple of others not in the immediate vicinity. No sooner had their calls subsided, than a solitary Golden-fronted Leafbird *Chloropsis aurifrons* decided it had to be heard. However, unlike the bee-eaters, it selected the topmost branch of a tree, one that still bore leaves. As I saw it, from almost underneath, the black throat appeared prominent.

The short flights of the Scarlet Minivet *Pericrocotus flammeus* and Black-hooded Oriole *Oriolus xanthornus* amidst the leafy branches appeared like a game of Catch-me-if-you-can between the trees and birds. The Oriental Turtle-Doves *Streptopelia orientalis* gave the Red-vented Bulbuls *Pycnonotus cafer* a run for their money, when it boiled down to numbers – a surprise for me.

One morning, an Oriental Pied Hornbill *Anthracoceros albirostris*, appeared



NIMESH VED

Once popular for its elephants, the region is now famous for its coal mines



SALONI BHATIA

clearance for this activity

near the kitchen, and I was told that a noisy flock pays a visit each day on its way to the Siju Wildlife Sanctuary. Unlike my colleagues, I was not able to identify its call the next day! I wondered where their nests would be if they flew into the Sanctuary each morning. During our walk in the Sanctuary, we saw four fiery-red Red Junglefowl *Gallus gallus*. Unlike earlier occasions, there was no scuffle among them, and the birds were trying to fly off, probably due to our presence. They flew for about 7 m (25 feet) at a height of about 1 m (4 feet). A little further, we heard and then saw the Crested Serpent-Eagle *Spilornis cheela* calling out loudly from a treetop, and then another.

At the small stream adjacent to the opening of Siju Cave's, I saw the Black-backed Forktail *Enicurus immaculatus* and White-capped River-Chat *Chaimarrornis leucocephalus*. There were others like the Asian Fairy-Bluebird *Irena puella* and Oriental Broad-billed Roller *Eurystomus orientalis*, and I wished we had more occasions to loiter around with our binoculars.

Now the Plans ...

The Planning Workshop did not move as we had envisaged. Coal mining threatens the landscape in no small measure and this featured in every other discussion. While this is not new to the region, the scale (and impact) of mining operations today snarl like an angry fire-spitting dragon on the landscape, threatening its ecological and cultural diversity.

A few years ago, we used to go from Baghmara to Siju on bikes to enjoy a trip to the caves (the Siju cave system is one of the longest in the country, and besides other species, hosts millions of Fulvous Fruit Bats *Rousettus leschenaultii*) and afterwards, plunge ourselves into the crystal clear, cool waters of the Simsang. This trip took us in excess of two hours on account of the coal truck traffic. The



RAJKAMAL GOSWAMI

Coal mining threatens the biodiversity of Garo hills

banks of the river had an over-generous sprinkling of coal, and I was told that people collect coal by filtering the sand! On our way back, we came across coal piled beneath a board, which proclaimed it to be the Siju-Rewak corridor – an elephant crossing zone.

The majority of existing coal mines in Garo Hills are operated by individuals who have not sought any clearance. This unregulated private mining is justified on the grounds that the laws governing mining do not apply to the state, owing to the prevalence of the 6th Schedule throughout the state. The applicability of

all national mining regulations has, however, since been clarified through Right to Information petitions filed by the Chitlang Hills Anti Mining Forum with the Directorate of Mineral Resources (DMR), Government of Meghalaya, and the Union Ministry of Coal. Like in other cases, we do have laws but we have not been able to impose them! Multiple laws are pushed under the carpet by the coal mining cartel in Garo Hills. This includes turning a blind eye to child labour in the mines (*contra* their playing football with friends in school!). I also wonder how the illegal coal is allowed to be legally exported to Bangladesh!

The meeting ended on a sombre note, as we sat around the fire at night on the final evening, listening to the Giant Flying Squirrel *Petaurista petaurista* from across the river. We discussed issues to which we had no answers. We wondered if the mining problem was not discussed, it would render our presence redundant, and also whether we were in a position to take it up! Whether community of scientists would be willing to take up research/conservation work here? Work that would help in litigation against the mining lobby, and raising the public voice against this massacre of biodiversity, and conservation action?

Major Coal Mining Areas in Garo Hills:

South Garo Hills

- Nongal Bibra (oldest mines with reserves significantly depleted)
- Chokpot
- Siju

East Garo Hills

- Dobu
- Rongbinggre
- Songmagre

West Garo Hills

- Balupara
- Sillongranggre
- DamalA'sin

A report on illegal private coal mines around Balpakram National Park in the South Garo Hills, Maghalaya, by Dr. Asad R. Rahmani, Director of BNHS, submitted to the National Board for Wildlife in 2010, had recommended that the Centre take up the issue of private mining (both coal and limestone) with the State Government. "Such mining is going on at a massive scale throughout the state and has severe implications for the social fabric of the state. The state and district council must ensure that no new illegal mine is opened anywhere," the report had stated. (www.telegraphindia.com)

Does notification of wildlife areas help? Siju is a Wildlife Sanctuary, and Balpakram (which abuts Siju) is a National Park, and both of them put together, an IBA as also part of the Garo Hills Elephant Reserve. Yet the situation on the ground is bleak.

Siju-Balpakram Complex is recognised as an Important Bird Area (IBA). The Birdlife International website lists three species as "IBA trigger species": White-winged Duck *Asarcornis scutulata*, White-rumped Vulture *Gyps bengalensis*, and Grey Sibia *Heterophasia gracilis*.

As I checked out of the hotel at Guwahati, and wrote Baghmara in the 'arrived from' column, I was asked "The place of coal?" Not very long ago, at a hotel in this very city, I had been asked of Baghmara "The place of elephants?" Mining today is on its way to ruining the landscape and unless we join hands we will lose Garo Hills. The whistling of the thrushes may be lost forever in the rumble of mining trucks! ■



Nimesh loves walking in open spaces and getting lost in books. He likes to pen his thoughts and blogs at <http://nimesh-ved.blogspot.in/>

Stop Nailing into Trees

Text and Photographs: Dipanjan Ghosh

Plants are among the weaker creations of nature. In every stage of its life, a plant proves this. Even a robust tree faces more assaults throughout its lifetime than an animal counterpart. Attacks on trees consequently cause damages to them. Damage to trees may occur naturally or, in most cases, through human actions. Natural incidents of impairment include



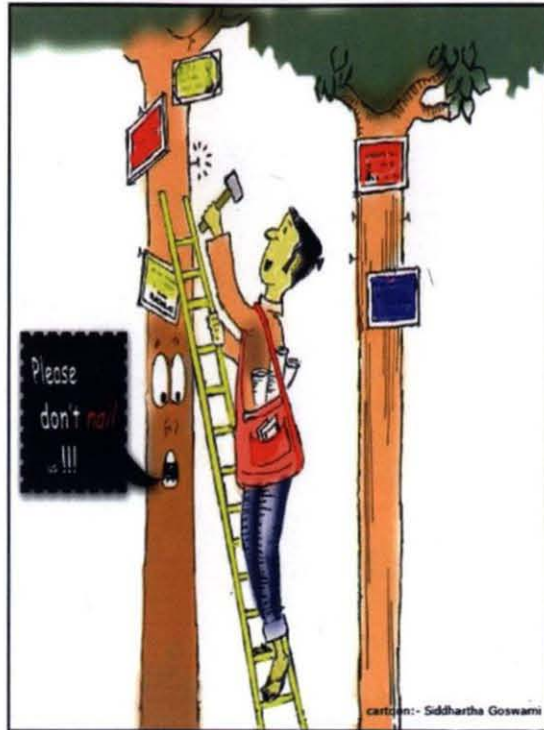
Ecocampers remove the banners, flex, posters nailed to trees

weather-related injuries to tree bark, diseases caused by insect pests and microbes, viral attacks, and too much or too little water in the soil. Other threats by anthropogenic activities include lawn mower and string trimmer damage to tree bark, lopping and improper pruning, soil compaction, damage during construction work, and so on.

If planting a sapling is an appreciable job as it is necessary for sustenance of life on earth, then saving the life of a full-grown tree is also equally important. Usually we forget such obligations. Like denudation, extirpation, cutting, lopping, deforestation, and similar global problems related

to plants, nailing into trees is also an offence. Surprisingly, such activity is ignored by a large number of people! Moreover, this kind of offence never gets much importance, unlike the aforesaid activities.

Be it an advertisement board, hoarding, banner, flex, or shaping rods for construction material, streetlight fittings or flags, they appear on trees, securely nailed. Such boards or other items may disappear from the trees after a certain period of time, but the nails or their latest clones, oversized staples, continue to linger on the trees. Something heavy like a garden artifact or someone lying on a hammock hanging from nails impaled on a comparatively young tree, may add weight that can put additional stress to the tree. This ultimately leads to tearing of the bark or injuries that provide inroads for pest attacks. The act of nailing itself becomes ironical when the forest department tacks display boards onto trees to depict their glorious past of conserving forests. Another regular culprit is the central



postal department nailing letter boxes to living trees!

Biologically speaking, bark is the outer covering of a perennial tree species. It works like a blanket, enfolding the exposed surfaces of trunks, branches, and roots. The bark is subdivided into two layers. The outer bark is made up of dead suberised corky cells collectively called phelloderm that serves to protect the tree. The inner bark comprises of living phloem tissues which are engaged in food conduction. The phloem layer encircles the xylem area, which forms the core of a tree trunk.

Perpetrators of nailing argue that the trees are big and their non-living bark is thick, while the nails used are small and hardly one third of their length pierces the bark. So, an object the size

of a nail hammered into the tree would not hurt it, and that trees would be affected only when the nail is inserted into the phloem and/or xylem, plus the possibility of the nail penetrating the cambium (soft meristematic growth tissue) is negligible. The argument still continues that the tree generally compartmentalises the nail-driven zone and heals the wound around it.

This fallacious argument is all too prevalent. However, in a majority of cases, the nails used are sturdy, not small. They are hammered right to the head, and their entire length is embedded in the tree trunk. Obviously the nail reaches beyond the bark and damages the tissue responsible for circulating water and

nutrients throughout the tree. Sometimes the wound leads to discharge of exudates. These breed fungi and insects, and the infection kills the tree gradually.

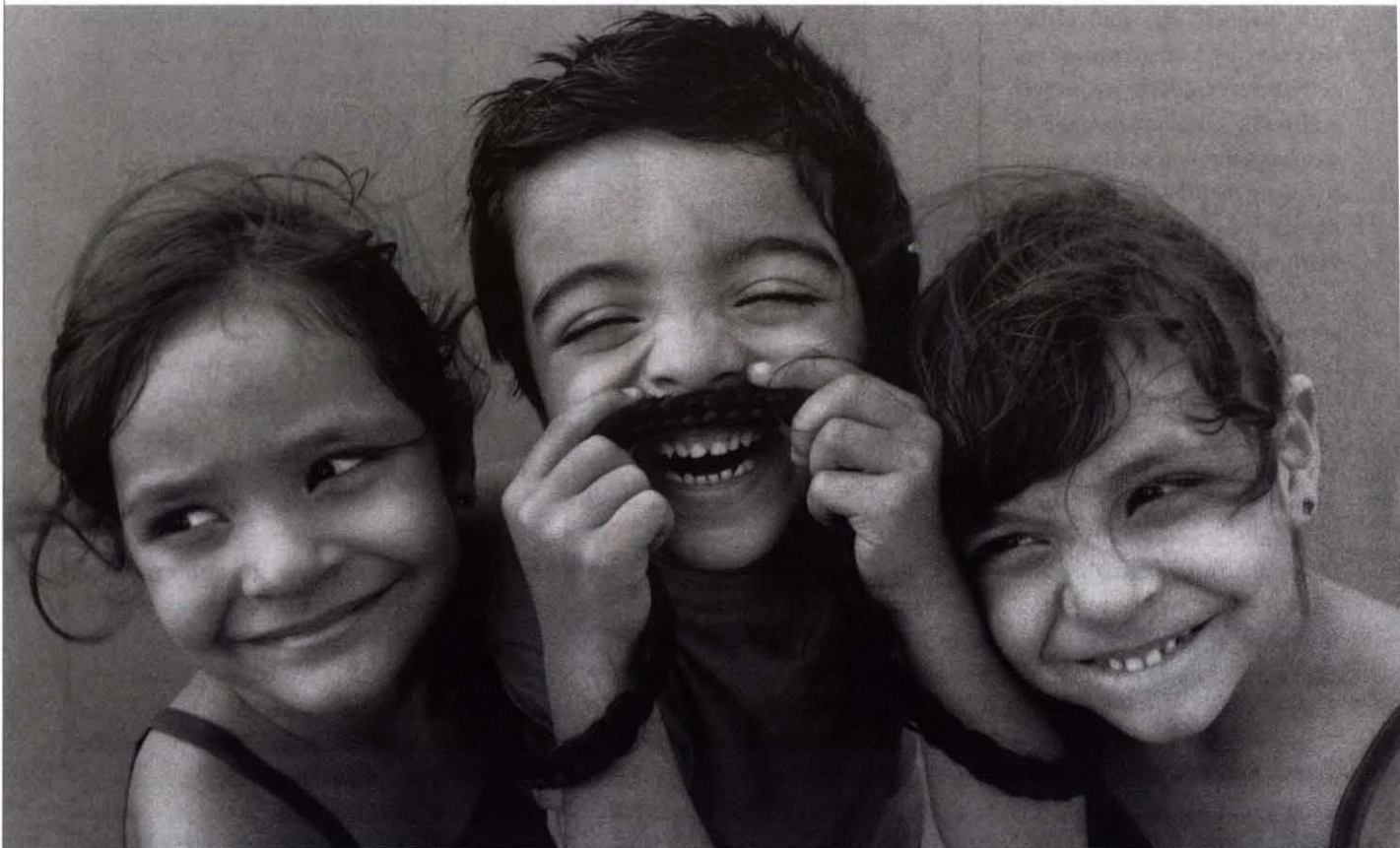
While walking down a street anywhere in our country, we find that every roadside tree in sight is a free publicity medium, i.e., it is reduced to a stump holding up some display boards which are fixed with nails. Nailing into trees should be stopped immediately. Unfortunately, there is no such provision in the Indian judicial system to punish a person for this act. So, as conservation charity begins in the neighbourhood, every conscientious citizen of this country should work to save trees, with the aim that not a single tree in our locality should live with nails on its body. ■



Dipanjan Ghosh is a teacher by profession. He is a well-known popular science writer and an editor of 'Indian Science Cruiser' – a journal published from Kolkata. He is associated with *Ecocampers*, an NGO working on environmental problems and nature conservation.



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Sites and Species: We need more Champions

Text: Neha Sinha

Not so common anymore

The updated IUCN Red List for birds released recently (2014) has some unusual and worrying additions. The Bugun Liocichla, an endemic and recently discovered bird, has been uplisted as Critically Endangered. Found only in a few pockets in Arunachal, and now guarded by the villagers of Bugun, this bird is a new discovery to science. It would be a shame if we allowed this bird to go extinct, at a time when conservation conscience is so high. With its small population and tiny niche habitat, the Red List demonstrates the need to preserve its habitat with passion and commitment.

Another species in danger is the Andaman Teal (uplisted from Least Concern to Vulnerable). The Andaman Green-Pigeon, Ashy-headed Green-Pigeon, Red-necked Falcon, Himalayan Griffon, and Bearded Vulture have all been uplisted from Least Concern to Near Threatened.

The Red List has also uplisted certain once common species, which sadly are not so common anymore. The White-necked Stork has been uplisted to Vulnerable. Several species of parakeets are also on the Red List, which is a sad turnout for birds that are like an Indian

identity in many states. Called *mithu* or *tota*, these birds, with their gregarious and noisy habits, are no longer as plentiful as they once were. The Alexandrine Parakeet, a large parakeet which visits gardens all over India, is now Near Threatened due to persistent losses to the population. Other parakeets, the Grey-headed Parakeet, Blossom-headed Parakeet, and Red-breasted Parakeet have also been uplisted.

The new Red List shows us at least two things. Firstly, endemic birds with small habitats, such as the Bugun



White-necked Stork once common has now been uplisted to Vulnerable

TEJUS NAIK



It would be a shame if birds like the Red-necked Falcon go extinct

Liocichla, the Andaman Teal, and the Andaman Green-Pigeon, need conserving particularly in their respective Important Bird Areas. With small and localised populations, these birds run a real risk of extermination, and populations narrowing down to very low thresholds. But the Red List also shows us that common birds with much more wide ranges are also in serious danger. The threats to these birds are all different, but some are particularly common, and these include habitat loss.

As this government marches on towards double-digit growth, this is the right time to remind our policy makers that small changes in endemic bird areas will surely jeopardise our endemic

RAJNEESH SUVARNA



Bugun Liocichla is a recent discovery to Science

species, which are veritably hanging from frayed threads. But small changes in a variety of large habitats, such as forests, fields, and natural gardens, will also deal blows to our once common birds. The need is thus to protect key sites, such as Important Bird Areas, identified for their constant nurturing of bird populations. There is also a need to protect and conserve a variety of sites with different types of habitat. Can we at least keep our common birds common? The responsibility lies with all of us, and the manner in which we shape rural and urban habitats. If we leave space for birds, we are opening the window to making our natural world a bit richer. ■

National Board for Wildlife

Conservationists and civil society are deeply concerned over the new National Board for Wildlife constituted by the Government of India, which only has three non-official members, as opposed to the mandated fifteen. BNHS has argued that the Board, an apex body for decisions related to protected areas and their eco-sensitive zones, needs to have a diversity of opinions and experts, conservationists, and scientists on it. Several organisations have written to the Prime

Minister asking for an expansion or a reconstitution of the Board. At stake is five percent of our land area, which harbours some of our most stunning forests and grasslands, which serve as carbon sinks. Decisions related to such places should be made with careful deliberation and not in haste. And, just like apex committees on health require doctors, apex bodies on wildlife need scientists, ecologists, and subject experts. ■

Conserving Birds in Tigerland



BNHS PHOTO LIBRARY

IBCN members and media of Madhya Pradesh join hands for a greater and meaningful coverage of birds in the state

The city of lakes, Bhopal, was the chosen venue for a recent workshop on advocacy strategies and communicating conservation. I had a special request from Bhopal Birds, the Indian Bird Conservation Network (IBCN) partner for Madhya Pradesh (MP), to kick off a dialogue on bird conservation. The aim was also to trigger coverage of birds in the press. MP is known as the state of tigers, so focusing on birds and their conservation has been an uphill task for Bhopal Birds. We held a two-day capacity building session, with one full day devoted to sensitising media persons. The idea was to make a persuasive case for bird conservation, covering birds in backyards, birds in Important Bird Areas, in fast shrinking lakes, and in MP's once well known grasslands. Interesting aspects emerged. Several Bhopal based correspondents said that they did not write much on environmental or conservation as these issues lacked 'visibility' – unlike if the focus was directly on the birds themselves. However, causes for bird decline, like loss of habitats, and other threats are not written about when the birds are not visible in the non-migratory season. Connections between various threats in biodiversity decline too are not covered, perhaps because these connections are not well understood. Therefore, there has been an overemphasis on news coverage on the arrival of migratory birds in Madhya Pradesh, and once the birds have left, the coverage of birds, their associated habitats, impending threats, are all forgotten. One of our aims, therefore, was to unlock several other aspects related to bird conservation

and understand the drivers of bird extinction. The biodiversity and birds of Bhopal face local threats, and at the larger state-level scale, birds such as the handsome and iconic Great Indian Bustard are almost extinct.

Currently, the Ministry for Environment, Forests and Climate Change is working to expedite a plan for the Great Indian Bustard (GIB), which includes *in situ* and *ex situ* conservation. A decision for *ex situ* conservation was taken earlier this year. At that time, it was decided that GIB eggs would be taken and incubated to create a captive stock, which would serve as a sort of insurance for this rapidly vanishing bird. Some of the young journalists and other participants in the audience exclaimed that they had not seen the GIB in MP for a long time. Before a generational shift comes in and people completely forget that this bird once called MP its home, public pressure needs to be built up for reviving *in* and *ex situ* conservation strategies. Happily, journalists pledged to do more stories on birds, and on environmental and biodiversity issues. Significantly, many of these correspondents write in Hindi, which has greater currency in Bhopal and in MP. I hope that our dialogues will facilitate greater and meaningful coverage of birds and Important Bird Areas of the state. ■



Neha Sinha is Policy and Advocacy Officer with the Bombay Natural History Society. She works on securing sites with a special emphasis on Important Bird Areas.



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Studying Pallas's Fish-Eagle

BNHS continues its research on various threatened species in remote corners of the country. The Society is currently working in north-east India, in collaboration with Arkansas University, USA, on a project to study the migration of Pallas's Fish-Eagle. This species is a breeding migrant to India during winter. This bird, which is now on the IUCN threatened list, was earlier quite common in the wetlands of northern and north-eastern India, but its population has crashed. It is now seen in very few areas of its former distribution range in India. After receiving permission from the Forest Department of Assam, BNHS recently put Platform Terminal Transmitters (PTT) on two birds in Kaziranga National Park. In January 2014, the BNHS team, comprising Mr. Sachin Ranade and local trappers along with Ms. Marla Steele of Arkansas University, carried out a survey and trapping. The team was able to put PTTs on two fledglings. The birds were opportunistically monitored for their activities over the next few months. Subsequently, it was observed that both the birds fledged successfully and are currently on their migration journey towards Mongolia. ■



Marla Steele (extreme left), Sachin Ranade (extreme right) and trappers have put PTTs on two Pallas's Fish-Eagle fledglings

Infotainment @ CEC Delhi

After years of successful nature education events at the BNHS Conservation Education Centre (CEC) in Mumbai, BNHS-CEC at Asola Bhatti

Wildlife Sanctuary, Delhi, is also turning into a happening place. The innovative "infotainment" programmes organised by CEC-Delhi are playing a crucial role

in creating environmental awareness among the citizens from different walks of life. CEC-Delhi organised a range of fascinating activities this summer. A Tree Walk at Lodhi Gardens on April 15, kept all the participants enthralled; 57 tree species, including Jacaranda, *Robida*, *Goolar*, *Palash*, *Sirish*, *Saptaparni*, *Shisham*, *Putranjiva*, *Semal*, and *Kasod* were identified. On April 20, students from Manav Rachna School attended a Kitchen Gardening and Composting Workshop in the CEC premises. During May, the nesting season of birds, a walk on breeding and nesting behaviour was conducted at Asola. On the occasion of World Environment Day, a volunteer programme was organised to restore the habitat surrounding CEC. The event evoked enthusiastic participation from nature lovers. The event was covered twice on All India Radio, while the CEC staff was interviewed by Rajya Sabha TV channel. Outreach events were also organised at Najafgarh and Okhla Bird Sanctuary on the same day. ■



School children at a kitchen gardening and composting workshop organised at CEC-Delhi

Hailstorm in Maharashtra

The havoc played by hailstorms on agricultural yield in various parts of peninsular India earlier this year, particularly in Maharashtra, was well publicised. But its fatal impact on the wild fauna of the region mostly went unnoticed. A BNHS team, headed by Sujit Narwade, toured the Deccan region of Maharashtra widely in March 2014 to conduct a first-hand survey of the affected areas. A report of this survey titled “Mass mortality of wildlife due to recent series of hailstorms in Maharashtra” is available in the BNHS library. The published information has been compiled with the help of local birdwatchers and media reporters. The findings are startling: more than 65,000 birds and hundreds of mammals were reported dead. This included 26 species of birds and 9 species of mammals, primarily in western Maharashtra, Marathwada, and Vidarbha regions. Mass mortality of wildlife was observed in 27 areas, particularly in 14 areas of 25 sq. km each. The size of the hailstones in these areas was up to 5 cm. Hailstorms have been reported in Maharashtra since end February this year. Mortality has been particularly high among birds such as Rosy Starling, House Sparrow, Rose-ringed Parakeet, and Red-vented Bulbul. Mammals such as Indian Blackbuck, which inhabit open areas, also died during the hailstorm. ■



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A huge mortality of animals and birds was reported after the hailstorm



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This year on Global Tiger Day kids participated in numerous activities

Global Tiger Day Celebrated

The Tiger Cell unit of BNHS at Nagpur conducts a variety of environment awareness activities in the periphery of six protected areas in Central India all through the year.

On the occasion of Global Tiger Day, July 29, the Tiger Cell organised a *Nisarg Melawa* in Gurukul Ashram Shala – a residential tribal school in Devalapar in the periphery of Pench Tiger Reserve, Maharashtra. BNHS conducted a number of competitions like natural history quiz, drawing, face painting, *vanrangoli*, and mask and collage making in the school. Sanjay Karkare, Assistant Director, BNHS, delivered a lecture on the importance of the Tiger in the ecosystem and the need to celebrate Tiger Day. Senior artist Dhananjay Pathak guided students on making beautiful Tiger masks and bird greetings using handmade paper. A natural history quiz was conducted by Sampada Karkare. Praful Sawarkar, Education Officer, BNHS, organised a film on the Tiger.

Students from Standards 7 to 10 participated in these competitions. Drawing paper, water colours, pencils, and material for collage were provided by the Tiger Cell unit. Winners were honoured with prizes. BNHS staff Charandas Shende and Anil Jambhule, and Prashant Bhayade – a volunteer – provided support for the programme. ■

'Indian Mammals – a Field Guide' launched

As a part of its outreach agenda, BNHS regularly hosts book launches and other events at Hornbill House. On July 18, *INDIAN MAMMALS – A FIELD GUIDE* by Vivek Menon, Executive Director and CEO, Wildlife Trust of India (WTI), was launched at BNHS by actor and producer, Dia Mirza. Also present on the occasion as special guests were Shri Praveen Pardeshi, Principal Secretary (Forests), Department of Revenue and Forests, Government of Maharashtra, and Bittu Sahgal, Editor, *Sanctuary* magazine. This interesting field guide-cum-reference book beautifully portrays the astonishing mammalian diversity in the diverse geographic and climatic zones of



(L-R): Dr. Asad R. Rahmani, Praveensingh Pardeshi, Dia Mirza, Vivek Menon, and Bittu Sahgal at the launch of 'Indian Mammals'

India. The book catalogues all the 400+ mammals of the country. This updated illustrated guide describes key identification features, biometrics, behaviour, social strategies, and habitat and distribution. The launch was followed by a panel discussion on 'India's Mammal Conservation Story:

Success or Failure?' The panel comprised Dia Mirza, Praveensingh Pardeshi, Bittu Sehgal, and Vivek Menon, with Dr. Asad R. Rahmani, Director, BNHS, as the moderator. The event was well-attended by BNHS members, nature lovers, and book lovers from Mumbai. ■

BNHS hosts a book reading event

Continuing with its tradition of promoting informative and interesting wildlife publications, BNHS hosted a reading of *SCENT OF A GAME* by Shri Raghav Chandra, Additional

Secretary and Financial Adviser, Government of India, on August 14. This fact-based mystery novel plunges the reader deep into the captivating world of wildlife, with all its sinister aspects of

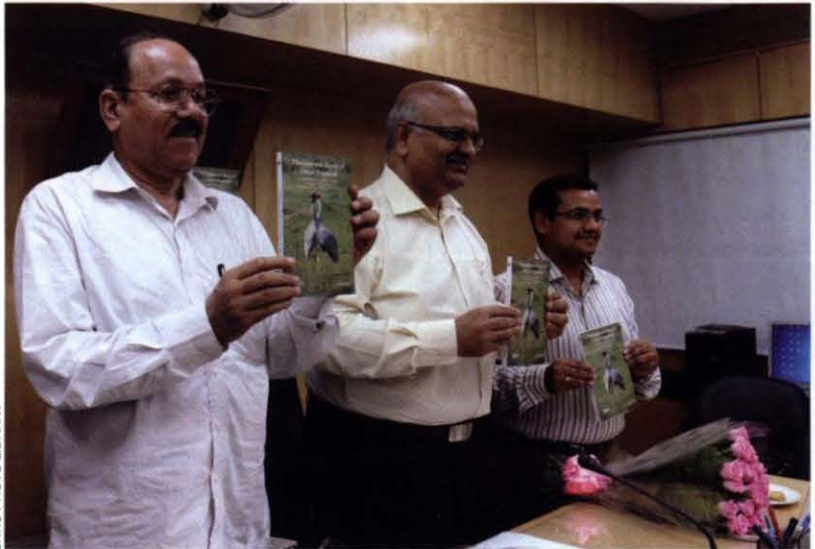
trophy-hunting, tiger-poaching, and wildlife mafia. This intricately woven story spans the lovely jungles of central India, going on to Nepal, Myanmar, Indonesia, USA, and China. It is the tale of a popular tigress that mysteriously vanishes from the high-security Kanha Tiger Reserve. The role of BNHS in conservation finds laudable mention in the book. The graphic presentation made by the author at the venue, on the wildlife of India, traced an entire saga of ruthless big-game hunting during the long years of foreign rule that severely depleted our rich biodiversity. It was followed by a quick synopsis and the captivating book reading session by the author. The event ended with an open discussion between the author, Mr. Bittu Sahgal, Editor, *Sanctuary* magazine, and the audience. There was active participation from the audience, with thought provoking questions, and insightful answers from the author. ■



(L-R): Divyesh Parikh, Raghav Chandra, and Bittu Sahgal at the book reading event of 'Scent of a Game'

‘Threatened Birds of Uttar Pradesh’ released

Nature education and public awareness are among the core areas of activity to fulfil BNHS’s mission. Publication of books is an integral part of the endeavour to reach out to a wider audience. After the release of the sourcebook – THREATENED BIRDS OF INDIA – BNHS has been publishing a series of books pertaining to various states. The most recent – THREATENED BIRDS OF UTTAR PRADESH – was released on July 10 in Lucknow, in the Conference Hall of the Principal Secretary, by Shri Alok Ranjan, Chief Secretary, Government of Uttar Pradesh. The book has been co-authored by Dr. Asad R. Rahmani, Director, BNHS, Sanjay Kumar, District Magistrate, Bareilly, and Neeraj Srivastav, State Coordinator, Indian Bird Conservation Network (IBCN). This insightful resource book-cum-field guide contains findings of years of research on threatened species of

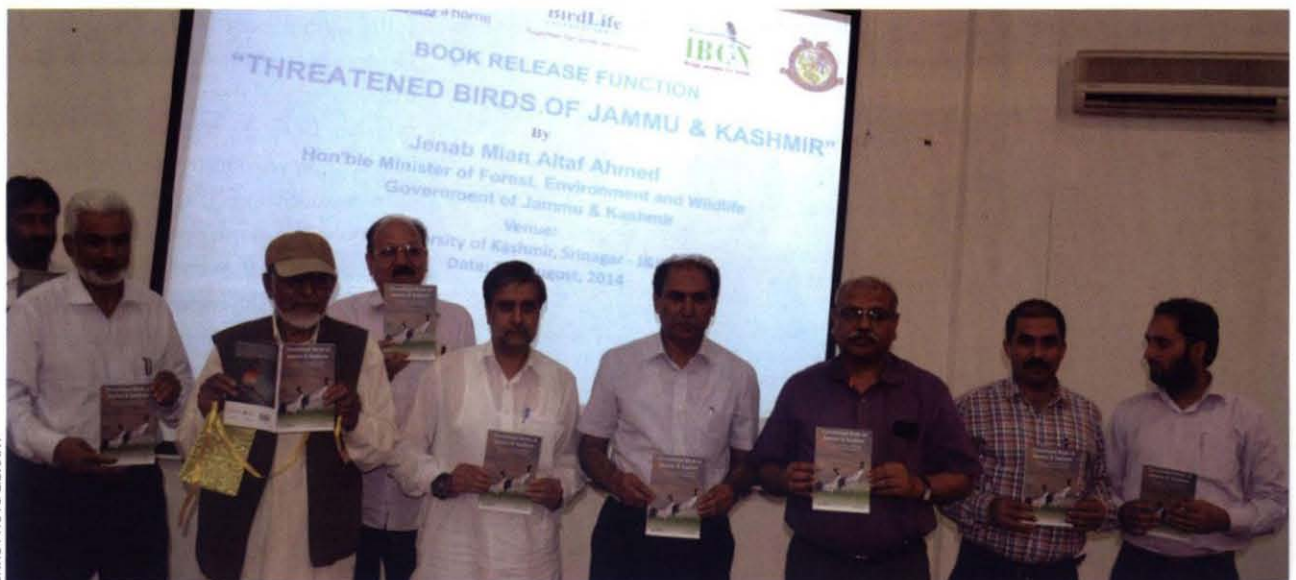


(L–R): Dr. Asad R. Rahmani, Mr. Alok Ranjan, and Mr. Sanjay Kumar at the book release function

the state by BNHS ornithologists. Three species extinct for Uttar Pradesh, namely Siberian Crane, Great Indian Bustard, and Pink-headed Duck have also been included in the book. Various steps to protect the birds in the

state were discussed during the release function, including a ban on the sale of human-use diclofenac for veterinary use, protection of *terai* grasslands and wetlands, and further research on various threatened species. ■

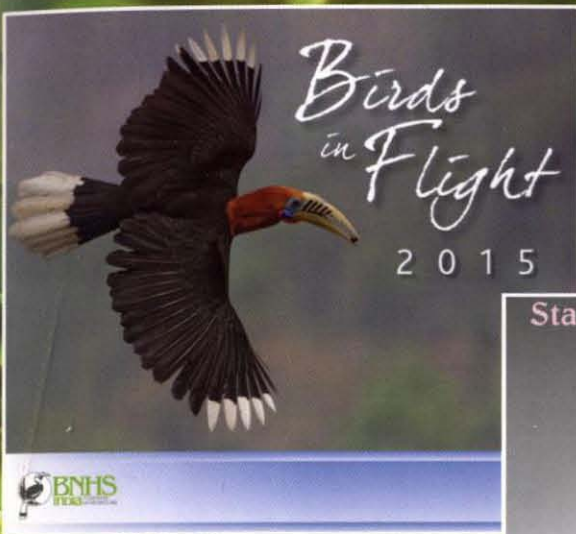
‘Threatened Birds of Jammu & Kashmir’ released



(L–R): Dr. Khurseed Ahmed, Prof. Zafar Ahmed, Mr. M.A Wani, Dr. Asad R. Rahmani, Mian Altaf Ahmed, Prof. G.M. Shah, Mr. A.K. Singh, Dr. Pankaj Chandan, and Dr. Ashfaq Ahmed Zarri at the release function of ‘Threatened Birds of Jammu & Kashmir’

Published on September 03, 2014, by Ms. Sumaira Abdulali for Bombay Natural History Society, Hornbill House, Dr. Sálím Ali Chowk, Shaheed Bhagat Singh Road, Mumbai 400 001, Maharashtra, India.

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