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FEATURES



4

A Day in Nameri Tiger Reserve

Of course you wish to sight a tiger when at a tiger reserve, but learn what you are missing while you are looking for this 'charismatic' cat. **A.J.T. Johnsingh** shares his experiences at a tiger reserve sans a tiger sighting.

Valley of Flowers

The stars of this beautiful meadow are indeed the alpine flowers, but **Asif N. Khan** gives a glimpse of the other wildlife which he and many others look for when in the 'valley of flowers'.



10



16

The 82 Effect

A bat with a radio collar of 82 frequency was hunted for the pot. What followed was a story, but **Bandana Aul Arora** shares much more about bats, besides 'the 82 effect'.

PHOTOFEATURE

26

An Elephant of a Yam

Most of us have eaten a yam, but have we ever got an opportunity to see it flower and fruit? **Swapna Prabhu** and **J.P. Irani** share the life cycle of the Elephant Foot.



Others

Book Reviews	20
Readers' Space	22
Nature Watch	30
Conservation Notes	42
News Briefs	47

Connected Cities, Disconnected Forests

Anyone who has travelled in India would know the pitiable condition of our roads. Even our so-called national highways are narrow and full of potholes, except a few. A journey which would take a few hours in any other country takes 10 to 12 hours here. No country can develop without good infrastructure. We need good roads connecting every city, every town, and every village. Can anyone object to this? But there is a problem. Should we expand and improve the road connectivity at the cost of forests and wildlife? Is there a middle path? With such a low forest cover in our country, can we afford to lose more forests through linear intrusions? It has been proved again and again all over the world that while roads bring prosperity to human communities, they bring destruction to forests by increasing timber smuggling, poaching, road kills, and encroachment. Even if we are able to stop all of this in a few protected areas, fragmentation of forests is the biggest long-term threat for many megavertebrates, and less mobile species such as frogs and lizards.

We all have heard about the highly commendable scheme called *Pradhan Mantri Sadak Yojna*. Who would not agree that villagers have a right to better linear connectivity for easy movement, but the problem is that thousands of villagers are located inside forests and protected areas. Do they not have the right to ask for better roads, or should they remain satisfied with a pot-filled *kutchra* road because the forest around them has been declared a sanctuary or a national park. This is a big dilemma and a subject of conflict between conservationists and civil rights organizations. This is also a big issue of development versus environment, or the larger ethical issue of who pays for environment protection. Rich people who come in their big SUVs on fancy roads and spend thousands of rupees per day to photograph a tiger, or the poor tribal living in a mud hut in a remote village with a narrow forest trail to connect him with the nearest market or doctor.

For the last 15 years, we have heard about the Golden Quadrilateral or GQ scheme that will connect all large cities (Mumbai, Delhi, Chennai, Bengaluru, etc.) and all major ports, with four- or six-lane highways. The total cost estimated in December 2000 was INR 300 billion. The National Highway Authority of India (NHAI) has a new scheme called *Bharat Mala* under which over 5,500 km of roads along the border and coastline in 15 states would be built by 2019. The National Highway Authority of India is an autonomous agency of the central government responsible for management of a network of over 70,000 km of national highways in India. It comes under the purview of the Ministry of Road Transport and Highways.

Interestingly, the logo of NHAI shows a flyway over a double lane, but why can't they construct such flyways over important forests, grasslands, and wetlands? When a 14 km flyover of the Eastern Express Highway in Mumbai can be built at great cost, why can't Mumbai's Trans Harbour Link shift 500–600 m to save one of India's finest sites to see flamingos? Why not build large and effective underpasses at strategic locations for wildlife to cross the road? Whenever we ask for a change in the design of a road/flyover or realignment, the stern answer is that the cost will increase. What about the billion-rupee benefit that an undisturbed forest/wetland/grassland gives to us? Has anyone done a cost-benefit analysis of the impact





of highways on the environment? These are the questions that come to my mind whenever the issue of expansion of roads is raised. An interesting piece of information that I gathered from the official website of NHAI is that in Phase VII, which was approved in December 2007, there is a provision of INR 167 billion to “develop ring-roads, bypasses and flyovers to avoid traffic bottlenecks on selected stretches”. The website is silent on the highways passing through important wildlife corridors and PAs.

A special programme of NHAI in the Northeast is to connect state capitals by two-lane or four-lane roads. It has a long name: Special Accelerated Road Development Programme for North Eastern Region or SARDP-NE. Anyone who has travelled in the Northeast, and I have done this extensively, will agree that roads in that region need improvement. But considering the biological importance of the area as a World Biodiversity Hotspot, will this “special programme” even look at nature conservation while building this connectivity among state capitals?

As I said earlier, we need a good road network in India as even now roads are used to transport over 60% of goods and 85% of the passenger traffic, and this will increase as India develops and becomes a super power. But should it be at the cost of the environment all the time and in all the places? Should we have connected cities and disconnected forests? To protect the environment and rural communities, can't we compromise by developing long bypasses, underpasses, and flyovers that allow animals, both domestic and wild, and rural communities to move freely without being knocked down by an unruly truck transporting goods for rich city-dwellers?

Asad R. Rahmani

A DAY IN NAMERI TIGER RESERVE

Text: A.J.T. Johnsingh



A robust male tiger camera-trapped in Nameri Tiger Reserve

The orange ball of the setting sun was well above the horizon, yet darkness gathered rapidly inside the magnificent forests on the left bank of the Jia Bholeli river. This river, which arises in the Arunachal hills some 200 km upstream of the Nameri river, forms the western boundary of the 200 sq. km core zone of the National Park area of Nameri Tiger Reserve. The entire Tiger Reserve (TR) is 340 sq. km, and is situated in the northern part of Sonitpur district of Assam, along the foothills of Arunachal Pradesh and adjacent to Pakke TR. The Bordikorai river marks the eastern boundary of the core area.

We hurried from the Morisuti anti-poaching camp to Potasali anti-poaching camp, alert to the possibility of encountering wild elephants that often emerge from the forest to drink and bathe at the river at dusk. Two years ago, just outside the core, a *makhna* (tuskless bull elephant) attacked four persons travelling on a bike. One was injured while another escaped, but tragically a mother and child were killed. The Nameri elephants, forced to raid crops as a result of loss of habitat due to encroachments and incessant harassment by people, have become irritable and aggressive.

When we were trekking between the Morisuti and Oubari camps, Minaram Gogoi, the best birdwatcher among the Forest Department staff, pointed to the furthest end of the long *beel* (wetland) that stretched from the forest road to an island of dense vegetation. Through the faint evening mist, we could see three White-winged Ducks *Asarcornis scutulata*. I was told it is rare to see this duck even in Nameri TR, which with its many *beels* between the two rivers and their many tributaries, is reported to be one of the better protected habitats for the species. Asad R. Rahmani, renowned conservationist and Director of BNHS, in his acclaimed book *THREATENED BIRDS OF INDIA: THEIR CONSERVATION REQUIREMENTS* writes that this species, an inhabitant of thickly vegetated waterbodies, has a wide distribution from India to Bangladesh and eastward to Indonesia. The species, however, is now endangered, with possibly fewer than 1,000 birds left in the world, its fragmented population threatened due to habitat loss and enormous biotic disturbances.

My visit to Nameri TR on 6th February, 2014, was in the company of Rajendra Garawad, Field Director of the Reserve, and who was a wildlife management trainee at the Wildlife Institute of India in 2005–06. He has brought enormous vigour into the management of Nameri by establishing new anti-poaching camps, building new roads, and boosting the morale of the staff by staying in the camps and joining in patrols with them. There are now 20 anti-poaching camps and 50 staff in Nameri. Garawad's expertise in collecting and analysing camera trap data of the tiger monitoring programme is as good as any top class trained wildlife biologist. He has collected and analysed data for Phase IV monitoring of tigers in the Reserve without any external assistance.

In the forenoon, as we boarded a boat to cross the Jia Bhoreli river, he showed me the site on the river bank where picnickers, largely during the December-January holidays, come in large numbers, cook food, drink, and leave enormous amounts of garbage, with least regard for Nature. The garbage is eventually burnt either with the help of the nearby Nameri eco-camp staff or by the wildlife staff. He mentioned that the visitors are unruly and it is difficult for his small team to control them, and the staff occasionally get manhandled while trying to control them. I wonder why we Indians do not take cooked food on a picnic and carry back our garbage instead of leaving the garbage behind in the forest. "Leave nothing but footprints and take back nothing but photographs and memories" should be the message every Indian should follow while visiting such places.

As we drifted across the river, we saw a flock of nearly 100 Small Pratincole *Glareola lactea* rising from the sandy,



A giant *Tetrameles nudiflora* tree killed by age and fire

A.J.T. JOHNSINGH



The fallen flowers of Semal are consumed by ungulates

A.J.T. JOHNSINGH



A.J.T. JOHNSINGH

Signs of excessive picnicking, with use of firewood on the right bank of Jia Bhoreli river

stone-littered shore and flying across the river. There were also Mallards *Anas platyrhynchos*, Ruddy Shelducks *Tadorna ferruginea*, and Large Cormorants *Phalacrocorax carbo* in the river. The Jia Bhoreli was once famous for its Golden Mahseer *Tor putitora*, the king among freshwater fishes of India. Its population over the decades, however, has declined sharply as a result of uncontrolled and unethical means of fishing, most frequently by exploding dynamite sticks and poisoning when, with the onset of monsoon, the fish ascends the streams from the main river to spawn.

The priority should be on banning the use of destructive fishing methods, instead of establishing hatcheries for reintroduction. Reintroduction could be successful only when the conservation problems that led to the decline of the species are addressed in the first place. Any amount of reintroduction will be futile if people continue to poison and dynamite the river indiscriminately. Moreover, in reintroduction programmes, adult fish that are caught from the rivers for egg and milt collection are rarely released back into the river. The absence of protection to the free-ranging wild populations only leads to further depletion of the wild stock.

In the Potasali anti-poaching camp, we were greeted by a captive and tethered Sambar doe, possibly to get food from

us. I plucked a few twigs of a flowering *Ageratum conyzoides*, a weed native to North America, and offered them to her, but she did not eat. Surprisingly, she did eat some twigs of a non-flowering *Ageratum* that was offered as flowering possibly depletes the nutrients from the plant. She also readily ate the fruit and terminal branches of a nearby *Ziziphus mauritiana* tree we offered. The staff had been instructed to provide the doe with cuttings of different plant species from the forest and to record those she ate/preferred (and did not eat) so as to obtain a checklist of the Sambar's food plants. This is a much easier way of knowing the food habits of an ungulate, as it is difficult to follow a wild ungulate and collect this information.

Soon after the meeting with the doe, Rajendra took me on an 11 km walk – 5 km along a nature trail – and thereafter to Morisuti camp and back to Potasali. We had lunch with the staff in Morisuti camp. The entire trail passes through one of the finest Eastern Himalayan moist mixed deciduous and seasonal swamp forests. The swamp was dominated by *Alpinia allugas*, which is liked by elephants, and an abundance of *Eupatorium odoratissima*, an exotic weed whose genus is native to temperate regions of the northern hemisphere. There were only a few *Lantana camara* and practically no *Parthenium hysterophorus*, both



A.J.T. JOHNSINGH

Dysoxylum binectariferum, an important food tree of Great Pied Hornbills



A.J.T. JOHNSINGH

Dillenia indica fruit, fondly eaten by elephants, are used by locals in their dal and fish curry



A.J.T. JOHNSINGH

Echinocarpus assamicus fruit look like a miniature red hedgehog



A.J.T. JOHNSINGH

Aesculus assamicus is known for its attractive leaf arrangement

exotic weeds from the New World, which are a scourge in many of our protected areas.

Among the magnificent tree species we saw, many festooned with climbers and orchids, were *Aesculus assamicus* with its attractive leaf arrangement; *Alstonia scholaris*, the fragrance of whose flowers is said to be capable of making people go mad; *Bischofia javanica*, large trees along the trails which often bore the claw marks of tigers; *Bombax ceiba* or Semal, with its abundant red flowers that attract nectar-drinking birds and are eaten by ungulates when they fall to the ground; *Dillenia indica*, whose large sour fruit is liked by elephants and also by the locals who add it to their dal and fish curry; *Dillenia pentagyna*, with much smaller fruit that is avidly eaten by ungulates when it falls to the ground; *Dysoxylum binectariferum*, its fruit favoured by hornbills; *Echinocarpus assamicus*, whose fruit looks like a miniature red

hedgehog; *Pterospermum acerifolium*, an attractive tree with large roundish leaves with toothed margins; and *Tetrameles nudiflora*, a striking emergent tree with impressive buttresses and a soft trunk amenable to the creation of nest-holes by various animals and birds.

The forest floor was carpeted with fallen leaves of different colours, and conspicuous among them were the bright red, fallen flowers of the Semal trees. At two places we saw the Malayan Giant Squirrel hurrying through the canopy. Once, a flock of Great Pied Hornbills *Buceros bicornis* noisily took off from the canopy, and a small pugmark along our path indicated that a Clouded Leopard had possibly walked by. Near a salt lick, we saw a few Gaur tracks, and below a Semal tree, a Barking Deer, possibly feeding on the fallen flowers and disturbed at our approach, stood stockstill for a few moments before fleeing. Further on the path, a



CHRISTY A. WILLIAMS

Nameri Tiger Reserve is reported to be one of the better protected habitats for the White-winged Duck

group of feral buffaloes stood watching us for a while, and then fled into the forest.

Nameri TR was once part of the much larger forested landscape that extended all along the Himalayan foothills. The area was declared a Tiger Reserve in 2000. Besides the core zone that we had trekked, it has an eastern buffer zone of 80 sq. km, with five villages, and a western buffer area of 64 sq. km with four villages. South of the Reserve, there are 18 revenue villages. The core remains well-protected but, unfortunately, the buffer, which is not under the control of the Reserve management, is lost. Most of the villagers depend upon agriculture and exist below the poverty line. Their dependency on the surrounding forest is enormous, often leading to encroachment. Insurgents, armed with weapons much superior to the ones that the wildlife staff carry, are also a great threat to conservation in the landscape. The wildlife staff cannot be provided with sophisticated weapons because of the fear that these will be forcefully taken away by the insurgents.

The buffer areas, particularly the eastern and large parts of the western, were systematically encroached by the

Bodo tribal community during the violent insurgency that began in the late 1990s. The Bodos want to live in one place together to fortify and safeguard themselves in the future from the uncontrolled and ongoing immigration from Bangladesh. This is often cited as a major reason for the encroachment of forest areas of the districts on the north bank of the Brahmaputra, including Sonitpur. Every time a disturbance breaks out, the law and order situation in the area leads to tense situations and forces the administration to withdraw, so the forests become free for encroachment. The goal of these tribals is to have a Bodo State, separate from Assam.

The aforesaid reasons have reduced Nameri to a threatened island of wildlife habitat in the North Bank of Assam. The Rhino, Wild Buffalo, and Swamp Deer, which were once very much a part of the Nameri landscape, have gone forever – the Rhino possibly 200 years ago, and the other two, a few decades back. Sambar do well in hilly terrain, as in the adjacent Pakke TR of Arunachal Pradesh, but the rarity of hilly terrain in Nameri makes the status of this species here very precarious. In the Nameri-Pakke landscape,



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Large gatherings of the Great Pied Hornbill can be seen at abundantly fruiting trees

8–15 tigers are reported. Within Nameri TR specifically, seven tigers have been photographed, but, given the pressures, it will be difficult for the area to remain a breeding habitat. Of course, tigers will continue to occur for years to come as Nameri is connected to Pakke TR. Tigers also would continue to occur in Arunachal Pradesh, which has extensive tiger habitats, though precariously (due to heavy poaching pressures), preying on Barking Deer, Wild Pig, Mithun, Takin, and the occasional Sambar. The protection efforts in Nameri have significantly contributed to the protection of Pakke TR and therefore the Pakke-Nameri landscape has the opportunity and capability to withstand the challenges facing conservation initiatives for several more decades to come. However, the wholehearted support of the Bodo people in saving Nameri as a Tiger Reserve will be extremely valuable. ■



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A.J.T. JOHNSINGH

A captive Sambar doe in Potasali anti-poaching camp. Note the sore patch at the base of the neck. Rajendra in green jacket



Valley of Flowers

Text: Asif N. Khan

In 1931, a group of six British mountaineers, after the conquest of Mt Kamet, decided to explore the sources of two tributaries of Ganga – Alaknanda and Gangotri. Battling the cold and snow, while crossing the Bhyundar Pass (16,688 ft), they decided to descend into the Bhyundar Valley. Climbing down, and uncertain of their location, they descended out of the bitter wind and wet snow and into the rain ... they stumbled upon a valley filled with flowers, which they aptly named 'Valley of Flowers'.

The Valley of Flowers – Frank Smythe

The clip clop of horses' hooves and holy chanting of pilgrims are constant company along the cobbled paths from Govindghat, a bustling town on the bank of the River Alaknanda. The 13 kilometre long walk to Ghangaria is a scenic climb along the Bhyundar tributary of the Alaknanda, taking us through small hamlets amidst the forested hills of the Himalaya. One can't help but stop along the way to appreciate the beauty of the Himalayan foothills and to catch a few feathered jewels, like Streaked Laughingthrush *Trochalopteron lineatum*, Verditer Flycatcher *Eumyias thalassinus*, Yellow-billed Blue Magpie *Urocissa flavirostris*, and if you are really lucky, the Yellow-rumped Honeyguide *Indicator xanthonotus*, which can be spotted perched close to hives to feed on any unwary bee. One can also find the Himalayan Birch *Betula utilis* along

this route, the bark of which was used as paper in ancient India till the 13th century, after which the manufacture of paper was introduced into India by Arab merchants. However, birch bark with religious inscriptions is still used for amulets.

After a long walk from Govindghat, one reaches the last halt before the final climb to our base camp at Ghangaria. The small makeshift wood structure on the rocky banks of the river, a small bridge across the river and the backdrop of pine forest covered slopes of the Himalaya, are sights that are etched in our memories. We stop here for a nice hot cup of tea. It is here you will find yourself in the company of Blue Whistling-Thrush *Myophonus caeruleus*, which can be seen hopping on the rocks close to your table, and Plumbeous Water-redstart *Rhyacornis fuliginosa* perched on rocks right in the middle of the raging river, striking

poses for any passing photographer.

After this point, you must hurry because if you are a wildlife enthusiast and with all the sightings along the way, the sun will be fast setting and you still have a good two hours of climb before you reach Ghangaria. The lush and beautiful forest during the day becomes quiet and eerie as darkness sets in, one can't help but remember Robert Frost's famous lines "The woods are lovely dark and deep, but I have promises to keep, and miles to go before I sleep", and sleep is what you will do, after the day-long walk, and even the insomniacs will not find it difficult to fall asleep.

The next morning you will need to rise before the chirping birds if you hope to explore even a fraction of the Valley of Flowers, reached after a four odd kilometre trek from Ghangaria. Early morning is a good time to spot rosefinches, which can be seen around our hotel. It is strange where birds can

▼ Himalayan Fleeceflower *Bistorta affinis* found at altitudes above 3,000 m, is common around Hemkund lake





ASIF N. KHAN

Himalayan Balsam *Impatiens sulcata*



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Primrose Rock Jasmine *Androsace studiosarum*



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Himalayan Marsh Orchid *Dactylorhiza hatagirea*



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Ruby Cinquefoil *Potentilla atrosanguinea*



ASIF N. KHAN

Wallich's Geranium *Geranium wallichianum*



ASIF N. KHAN

Himalayan Rose *Rosa macrophylla*

be found; the best place for birding around our hotel in Ghangaria was not the small beautiful flower garden in the compound, but the back of the hotel which had a small pool of water collected from an overflowing septic tank. You can spot birds like White-browed Rosefinch *Carpodacus thura*, Oriental Turtle Dove *Streptopelia orientalis*, Rufous Sibia *Heterophasia capistrata*, and Yellow-billed Blue Magpie here.

Ghangaria town comes alive from May till September. During the rest of the months, all the denizens move down to villages in the lower altitudes or to Govindghat, since the whole town gets covered under a few feet of snow during winter. Ghangaria is situated on the confluence of River Bhyundar, which originates in Hemkund lake, with the Pushpavati that flows through

the Valley of Flowers. Once you have walked through the narrow lanes of this town to the other end, you will reach a road that bifurcates – one follows the Bhyundar river and leads to the holy lake of Hemkund, and the other follows the Pushpavati and leads to the Valley of Flowers.

A left turn on the bifurcation in the road will take you through a thick coniferous forest trail, lined with flowers like the Forget-me-not *Hackelia uncinata*, Fading Himalayan Aster *Aster albescens*, Brown's Saxifrage *Saxifraga brunonis*, Himalayan Whorlflower *Morina longifolia*, and Meadow Geranium *Geranium pratense*. After about half a kilometre, the trail climbs down about 60 metres to a bridge across the river and then makes its way up on the other side, climbing beyond the tree line to

open terrain. After this, the trail winds up to an open grassy slope and a small glacier, partly thawed in summer. The river cuts through the glacier, forming a tunnel through which the sound of the river resonates to give a continuous whistling roar. You can take a break here to enjoy the orchestra of the river and wheezing winds. Along the way, you will sometimes be accompanied by curious birds. A few crumbs of bread dropped from our sandwiches quickly attracted a pair of Streaked Laughingthrushes; the birds seemed all too familiar with trekkers as they were not the least hesitant to pick crumbs from right next to our feet. Leaving the crumbs and the laughingthrushes behind, we made our way across the glaciers by a well trodden path, a contrasting black from the white snow



BNHS members stroll through the Himalayan blossoms



Brahma Kamal *Saussurea obvallata*



Bladder Campion *Silene vulgaris*



River Anemone *Anemone rivularis*



Forget-me-not *Hackelia uncinata*

around it. The landscape at this point changes to open meadows with blooms of hogweed, with a few leaf-warblers flitting around looking for insects. The famous Shepherd's Rock which marks the beginning of the Valley of Flowers can be seen from here. It is here we need to cross over the last makeshift bridge, nothing but a tin sheet fixed to two logs by a few rusty nails, to reach our destination.

A quick break below Shepherd's Rock and you can start exploring the Valley of Flowers, with flowers like Meadow Geranium, River Anemone *Anemone rivularis*, Trailing Bellflower *Cyananthus lobatus*, Large Bellflower *Campanula latifolia*, River Beauty *Epilobium latifolium*, and Himalayan Jacob's Ladder *Polemonium caeruleum*. One plant, the tall Himalayan Knotweed

Polygonum polystachium has overtaken extensive areas of the Valley being an aggressive weed. Its unchecked rapid growth has smothered and suffocated other species of plants. Being aware of this threat, the Forest Department has implemented several measures to control the Knotweed, besides manual removal. But the flowers in the Valley continue to get smothered in the Knotweed's strangle-hold.

The variety of flowers makes it difficult for one to venture far inside the park, as the going is slow with frequent stops to see and photograph flowers. Afternoon brings in clouds and prospects of rain – late afternoon rains are common in the Himalaya during this season. The darkening of the sky is an indication to start back for Ghangaria because the rain in the

mountains is unpredictable and even a short heavy downpour can leave you stranded on the mountain.

If you take the other bifurcation near Ghangaria and follow the Bhyundar river, the trail will take you on a steep seven kilometre climb to the high altitude lake of Hemkund. The climb is tough and it is recommended to take a pony to the top. En route, one can stop at numerous small makeshift huts serving hot tea, these huts almost seem to be strategically placed and one will always appear as if by magic on the turn when you are most tired and in need of a break and a hot cup of tea. In these huts, you could find the Spot-winged Rosefinch, popularly known as the Pink-browed Rosefinch *Carpodacus rodchroa*, pecking through a hole in gunny bags full of grains. This is also a



Azure Sapphire *Heliophorus moorei*

Variegated Laughingthrush *Trochalopteron variegatum*



River Pushpavati is believed to have been christened so because of flowers floating along in its flow

good place to look for flowers, the Blue Poppy *Meconopsis aculeata*, Himalayan Rose *Rosa macrophylla*, and Kashmir Corydalis *Corydalis cashmeriana*, which grow around the huts.

After a few rest stops and the long seven kilometre climb, you will reach the *Langar*, the kitchen of Gurudwara Hemkund Sahib, where devotees and the few nature lovers like us are served tea and snacks. One cannot help but admire the devotion to religion – people climbing all the way up to cook and serve refreshments for the pilgrims. Beyond the *Langar*, you can see the gurudwara which is situated on the edge of the holy Hemkund Lake. Hemkund means a Bowl of Snow – it is a glacial lake, cradled among seven mountain peaks that seem to watch over the lake and the gurudwara. The mist that comes down late morning covers the whole lake, but if you are lucky, a gust of wind could lift the mist just for a few seconds to give you a view of the lake before the mist reclaims it. At 4,630 m, the temperature is close to freezing, and with the wind blowing down the snow peaks making it even colder, dipping even a single finger in the frigid lake will stop your breath, let alone the thought of taking a full dip. This, however, is no reason to stop the many pilgrims and their children taking a few dips in the holy lake, which is regarded as one of the holiest places for Sikhs.



ASIF N. KHAN

Plumbeous Water-redstart *Rhyacornis fuliginosa* (male)



VANDAN JHAVERI

Locals harvest *Polygonum* – an invasive species in the Valley

Leaving the pilgrims alone, we made our way to the other side of the gurudwara in search of the rare Brahma Kamal *Saussurea obvallata* that grows only between c. 3,000 to 4,800 m above mean sea level. One has to make the effort of climbing and reaching this height to appreciate this unique flower. The flower is uniquely adapted to its habitat, with large bracts that cover the true flower and provide a warm space to allow it to bloom at this altitude. It is a popular belief that inhaling the fragrance of the flower can cause dizziness, but it could very well be that the person could be suffering from altitude sickness. After photographing the flowers and the beautiful lake, we made our way back down to Ghangaria.

On the last day, one always feels like a child being rushed out of a toy store by its mother. Having witnessed just one of the many spectacles of the Himalaya, you can't help but wonder how many "Valley of Flowers" the Himalaya has still hidden. Some waiting to be stumbled upon by explorers in the future, others to remain hidden from us forever.

I would like to thank Mr. Vandan Jhaveri for identifying the flower photographs in this article. ■



Asif N. Khan, a nature enthusiast, presently works in the Programmes Department of the Bombay Natural History Society.



VANDAN JHAVERI

BNHS members under the Shepherd's Rock – gate to the Valley of Flowers

The 82 Effect

Text and Photographs: **Bandana Aul Arora**

*"On the bat's back I do fly."
- The Tempest, Act V, Scene 1*

The bat, immortalized by Shakespeare as the "delicate Ariel's" steed.

My journey with bats began a decade ago and even presently I am often asked "Why bats?" My prompt reply is "Bats look at life in the right perspective!" Like most nocturnal and elusive creatures, bats have been surrounded by a myriad of fears and fallacies down the ages. After a long association with these elusive flying mammals, I have grown to understand and respect them, and love them for what they are. I feel that people need to know more about these shy and elusive creatures and understand the simplicity of these mammals, which is never portrayed.

In our country, bat diversity has definitely scored a little more than a century, with approximately 119 species recorded throughout the subcontinent till date. Among the species listed in the country, the largest and most conspicuous is the Indian Flying Fox *Pteropus giganteus*. There are five different species of *Pteropus* in India, of which only *P. giganteus* is found on the mainland. *Pteropus giganteus* is the largest



A pet *Pteropus melanotus* with a broken forearm, in Katchal Island, to prevent it from flying away



Schedule I species like turtles too are killed by the tribals in the islands



Two young hunters with a recently killed *Pteropus* in Kamorta Island

species of *Pteropus* and can weigh up to a kilogram, with a wingspan of 1.5 metres from tip to tip. This species is abundant around human settlements and is gregarious, mainly living in large

conspicuous colonies. The other four *Pteropus* species found in India are mostly restricted in distribution to the Andaman & Nicobar Islands. These are the Nicobar Flying Fox *Pteropus faunulus*

– endemic to the Central Nicobar Group of Islands; Large Flying Fox *Pteropus vampyrus* – a seasonal migrant to the Andaman & Nicobar Islands; Island Flying Fox *Pteropus hypomelanus*



Remains of *Pteropus* in Great Nicobar Island; bats are eaten by the tribals



After hunting, death due to electrocution is another serious threat to bats



Post Tsunami deforestation for new settlements is destroying pristine bat habitats



Deliberate efforts led to the release of a *Pteropus* back into the forest

– restricted to Narcondam and Barren Island; and Blyth's Flying Fox *Pteropus melanotus* – can be seen throughout the Andaman & Nicobar Islands.

Though my association with these flying mammals has been long, I was not able to identify the threats to these large and conspicuous species. But during the course of our project in the Nicobars on the Nicobar Flying Fox, we came across the first threat to these species, which is Humans! This

incident I felt was worth sharing and here I define the 82 effect.

A radio collared individual with a radio collar of 82 frequency was lost in the forest immediately after release. It was later traced to a hunter's hut in Kamorta Island! This hunter had caught and eaten the bat and chucked the radio collar outside his hut. When we knocked at his door in the middle of the night and enquired about his deed, he was aghast and petrified, as

he was unable to fathom how we knew this! After this incident, we did not have any hunting incidents in our study area, which we attribute to the “82 effect”. Till date, the islanders are a bit scared of hunting this species because of the fear that we would come to know! We are very optimistic in hoping that at least 82 more hunters will not hunt bats and the numbers of these bats will increase. Fortunately, the picture was not so grim in the Andamans, where the indigenous and still hunter-gatherer Onge tribesmen do not hunt bats, and I was able to map the largest colony of *Pteropus* in the mangroves in Dugong Creek in Little Andaman Island, where the Onges dwell.

After the 82 effect, we continued our quest to determine the threats to these conspicuous mammals, and we recorded them. The most obvious threat to them is from superstition and fallacies, and lack of legal protection to the species. The Indian Flying Fox and most bat species are listed under the category of Vermin in the Indian Wildlife (Protection) Act, primarily because farmers feel they are responsible for damage to fruits in orchards. To prevent bats from damaging fruits, the owners put up a barricade of nylon nets around the fruit trees and install heavy duty floodlights to deter them. The unfortunate ones that get entangled in the nets die a slow death, and are at the mercy of the farmer. Bats, according to my observations, especially fruit bats, are drawn by the strong smell of overripe fruits, and hence, the damage by these bats to orchards is not much, compared to diurnal frugivorous species.

Lack of complete information on its role as an important pollinator and seed disperser of our fast degrading forests is also a reason for its decline. I was amazed to know that the Flying Fox can travel as far as 25 to 30 km in a night to feed across its foraging area. During

the day, it spends the entire day hanging upside down in its roosting site on a tree. Its diet is quite simple, generally seasonal fruits (most of which are sweet and highly aromatic), nectar (e.g., Indian Silk Cotton), and sometimes on leaves. It is known to be an important pollinator and seed disperser of the Rudraksh *Elaeocarpus ganitrus* tree, and in Bihar and Jharkhand, bats are considered as the vehicle of Goddess Lakshmi. Even the smaller bats or the insectivorous bats have a big role to play as important agents of biological control of insects. A single individual can consume innumerable insects in one night. Most of the smaller species are considered evil, especially if they enter a room and fly around, but the truth is that the bat is caught in an alien habitat and is frantically trying to find a way out!

In some states, flying foxes are consumed to cure asthma! But all these beliefs have never been proved. Fallacies like these and superstitions are a reason for the decline of flying fox populations all through their range. As is apparent, the top species [evidently humans] in the food chain is responsible for the declining numbers of many species, including bats, throughout the world. Fruit bats are directly hunted for meat, and indirectly affected, mainly through clearing of forests, which has led to the disappearance of a large number of their colonies throughout the country. But to every dark cloud there is a silver lining, and in some remote island, the people did not hunt bats if there was a pregnant woman in the house, as they believed that killing a bat would cause deformities in the unborn child.

The tribals of the Nicobar Islands, unfortunately, hunt bats for fun and food, and this has resulted in the decline of the population of *Pteropus* throughout its range. The hunting of most of the flying foxes either



Airguns and hunting are gaining popularity at a young age

happens when it is roosting in the day time or when it comes out in the evenings to feed on fruit trees close to human settlements. Hunters armed with airguns and catapults patrol the village fringes where the bats come to feed, and then shoot them when they sit to feed on a fruit. An airgun pellet is never enough to bring down this huge bat and its grip is so strong that even after being shot, it does not fall to the ground like a bird. Often, the injured bat dies on the tree, and the hunter moves to the next victim. In many places, the hunter doesn't even consider the fact that the bat has a baby along with it, and when a mother with a baby clinging to her is killed, the baby is mostly kept by the hunter as a pet and fed a diet alien to it. I have seen such pets being fed with rice and coconut. In some cases, the forearm of the bat is broken and it is then left inside the huts to roam about. With a broken forearm, the bat is absolutely incapable of flying ever again.

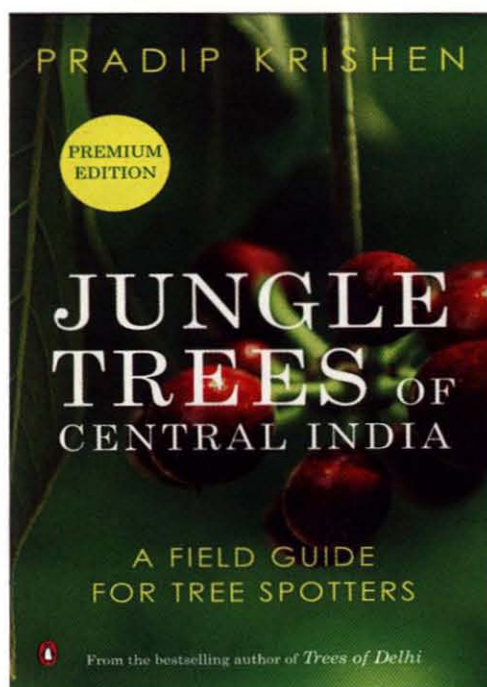
Besides hunting, another threat to these species is the increasing presence of electric cables, with growth in human population and development. We have seen a number of electrocution cases

on these cables, involving the flying fox. Flying foxes fly to a fruiting tree, pick up a fruit, and at times fly to another spot carrying the fruit to eat it at leisure, sometimes selecting an electric cable that results in death. There is a basic question here. Why do bats and not birds get electrocuted on electricity cables? This is because birds do not sit in a way that they touch two wires/cables, while the bat hangs upside down and the wing or the head is bound to touch the other cable, causing the electric current to flow through it, and resulting in electrocution. In UK, the government has just implemented a decision to increase the distance between two cables so that even if the bat or bird sits on it, it does not get electrocuted, as the possibility of contact with two wires at the same time is remote.

Even as I complete this article, I can hear the cackle of numerous bats in the enormous *Pteropus* colony close to Hornbill House, and it puts a smile on my face! ■



Bandana Aul Arora specializes on bats and their habitats. Currently with Conservation Leadership Programme, she coordinates research activities in South East Asian region.



Reviewed by: **Isaac Kehimkar**

Never before have I felt such a sense of warmth and involvement from an author on books written on the flora of India. So far, books, especially on the flora, have been very formal and often devoid of any deeper feeling. Reading this book is a totally new experience for me, as I could feel myself being brought closer to those trees that the author has described with so much affection and understanding. No wonder this has been aptly described as first of its kind and a work that no botanist could have achieved.

The author, Pradip Krishen, is well-known for his earlier bestseller *Trees of Delhi*. Here also he succeeds in getting us familiar with the trees of the Indian forest in his unmistakable style. The best part of the book is that the regional names by which the trees are locally known are highlighted and given due importance. I am truly delighted to discover so much about the trees from India's heartland. In all, 165 species of trees native to the central Indian region are described in the book.

The Overview section has some very interesting chapters on understanding the different aspects of the region where these trees grow. From geography to geology, the

**JUNGLE TREES OF CENTRAL INDIA
– A Field Guide for Tree Spotters**

Author: Pradip Krishen

Published by: Penguin Books India Pvt. Ltd,
New Delhi. 2013.

Size: 26.5 x 17 cm

Pages: 400

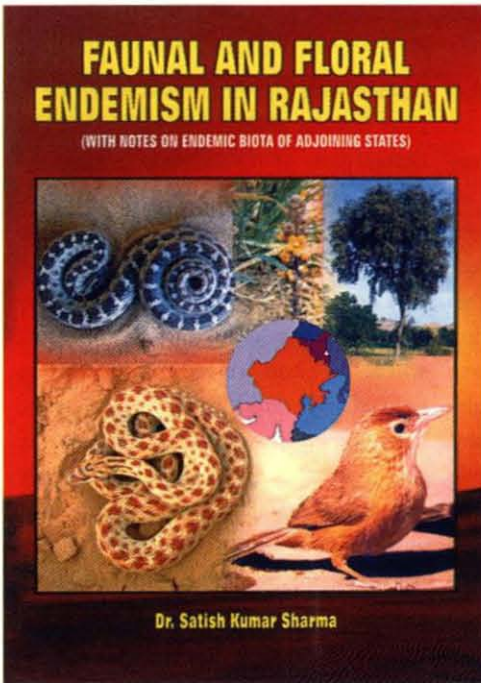
Price: Rs. 1,499/-

Hardbound

author gives us the background on the land, and in the next, the character of the central Indian jungles is explained with forest types. The best chapter which I enjoyed reading is “Seasons in the Jungle”. Here he explains the changing colours of the forest with changing seasons and how trees have adapted to survive in this rather tough terrain of extreme temperatures. He effectively stresses here that trees are not just ornamental props, but are active players in shaping our planet. The history of forestry is portrayed in equally eventful narration by the author from the colonial period to the present day, and concludes with a hope for the future. Tips on where to go for tree-spotting should be useful to readers.

The author has worked hard to simplify technical jargon and has provided good identification keys based on leaves, bark, flowers, and fruits. Trees are grouped according to their leaf shapes, with six such leaf groups. Each species is described at length on a spread of two pages with large colour images. The designer, Ms Kadambari Misra, has made this book come alive with generous layouts of clear, crisp, and colourful images that make the book a sheer delight to use in the field. Another lively section at the end is on tree names, and how naming and taxonomic reclassification has led to a “war” among taxonomists. Here, the listing of “synonyms” or discarded names with added notes is very useful.

With all this woven together, it is an enjoyable book and a sure guarantee to enhance your pursuit in bringing you closer to trees as never before. ■



FAUNAL AND FLORAL ENDEMISM IN RAJASTHAN

Author: Satish Kumar Sharma
 Published by: Himanshu Publications, Udaipur,
 New Delhi. 2014.
 Size: 24 x 18 cm
 Pages: 144
 Price: Rs. 995/-
 Hardbound

Reviewed by: **Atul Sathe**

India is a land of diverse natural habitats and species, all nicely packed within the vast confines of the landscape between the Himalaya and the Indian Ocean. While the biodiversity of habitats such as tropical forests is well-known, the assemblage of species and high endemism (species not found elsewhere) in the low rainfall state of Rajasthan and its surrounding areas often goes unnoticed. This book highlights that there is much more to this challenging landscape than mere sand dunes, camel caravans, and the colourful attire of the locals.

The foreword by Dr. Asad R. Rahmani, Director, BNHS, points out an interesting fact that despite the absence of any major physical and ecological barriers, there are many species, subspecies, and varieties of fauna and flora that are endemic to Rajasthan.

Based on the extensive field experience of the author over the years, the book covers the

myriad habitats of Rajasthan and some parts of the surrounding states, such as desert, salt flats, streams, hills, valleys, dry deciduous and thorn forests, and grasslands. An exhaustive array of endemic taxa, ranging from simple non-chordate phyla to evolved mammals, and from simple algae to flowering plants, has been covered in the book. It also includes the biodiversity of domesticated plant and animal species. High endemism locations such as Mount Abu and Sambhar Lake have been separately discussed.

The district-wise map and general introduction will be of help to readers who are not familiar with the geography of the region. Distribution maps, charts, and illustrations for various species, and the appendices are additional useful inputs. The cover page and the layout could have been designed better to avoid the text-bookish appearance. Better editing could have prevented the various grammatical and typographical mistakes. Besides, the book is priced high for its size.

Nevertheless, it would make useful reading for students of zoology, botany, and environment science, besides government staff, researchers, naturalists, farmers, NGOs, and the lay person interested in understanding the biodiversity of India's arid north-western region. ■

We are grateful to

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Meeting the King

It was the 30th day of November 2010, when our group of eight women set out at dawn to explore the beauty of Kaziranga National Park in Assam.

In the early mist of the day, we moved through tall grasses on elephant back. A baby elephant swayed along, staying close to its mom, stopping to suckle briefly and then sauntering off playfully. Other than rhinos and deer, we came upon few animals and it was with a catch in the back that I got off the jumbo, rather relieved to touch ground again. After breakfast we huddled into an open safari jeep, accompanied by Sunil, a conservationist from Kaziranga National Park. We bumped along the forest track, feasting our eyes on birds and butterflies of various shapes and colours. At some distance, a bull elephant was seen bringing down branches for his midday meal. A herd of wild buffaloes paused briefly to stare at us, and then shaking their large horned heads, continued to graze.

It was nearly nine by now, and we had only a couple of hours left at the Park.

I had come all the way from Mumbai because this place held promises of exciting wildlife sightings. It was then that it happened. The jeep came to an abrupt and creaky halt. Sunil pointed his finger to a motionless blob of black on the muddy track. As flashlights blind the eyes of an onlooker, sighting an apparition unexpectedly can leave one numb and senseless. He lay quite unconcerned, less than 2 m away, basking in the warm glory of a gentle winter. "That's the King," whispered Sunil, "the King Cobra." I took a deep breath and forgot to exhale, gaping mesmerized, drinking in his majestic grace and beauty with my eyes.

The siesta of His Majesty was indeed disturbed. He lifted his hood very slightly, and from his position looked straight up at our vehicle, his gaze so powerful and yet so full of peace and gentleness. There was no malevolence in his eyes.

When the flashes and camera clicks became too intrusive, the King decided to move on. He raised his hood gently and slightly, heading towards the

bushes with the unhurried grace of a river turning a bend. As he did so, the orange glow of his sliding belly gleamed in the sunlight, creating a golden hue too brilliant to be captured by any lens, except that of an awestruck human eye.

Long after his disappearance, our group continued to stare at the track where he had rested. The women ganged up around Sunil excitedly, listening in wonder to his details of this rare, "dangerous" and "highly venomous" species. Many comments and opinions poured forth. It hurt to hear snakes being spoken of in disrespectful and derogatory terms.

A far cry from the poisons that assail us urban dwellers, this uncrowned King personified an urge for love and life, blending harmoniously with the creatures around it. Epitomizing nature in all its glory, he carried the air of being a monarch. Of the much maligned venom there was no trace. It was only peace and calm in his estate. I thought of my own hurried, rushed life, and envied him his empire. ■

Brinda Upadhyaya, *Maharashtra*

Munias in My Home

While entering a temple near Karwar in Uttara Kannada district, Karnataka, I heard the chirpings of birds. I looked for them and thought "Oh, sparrows ... in such a huge number ... great!". In my childhood, the House Sparrow *Passer domesticus* nested in houses and occurred in good numbers, but now they have declined considerably with 'modernization'. We must thank the temple management for their good numbers (about a hundred birds) there! They had put up a number of nest boxes and all of them were occupied by sparrows. Seeing this, a question came to my mind "Would sparrows nest in the balcony of our eight floor apartment, if I put up nest boxes?"

Within a week, a cardboard box with a 10 cm diameter opening was fixed to the ceiling of our balcony. Sparrows started to visit our balcony for food, but never ventured to the nest box, disappointing us. However, after about five months, as I entered the house at 8 a.m. after a night shift, I heard a bird call *cheev...cheev*. On looking in the balcony, I



saw a small brown bird sitting on the grills, which flew away on seeing me. I waited and watched, and after some time, it returned and entered the nest box carrying some *tulsi* leaves. Wow, it is building the nest! Another bird arrived and entered the box with some nest material. So, I was instrumental in helping them find a safe site for their nest! That day, the birds were busy in nest-building – and keeping an eye on me also! I recorded them carrying *tulsi* and curry leaves, *tulsi* flowers, and the dried leaves of other species. Seeing all this, a number of questions came to my mind – “Why *tulsi* leaves, why curry leaves, and did the birds know of the medicinal values of these plants?”

I started searching the internet for information on the bird, identified as the Black-throated Munia *Lonchura kelaarti*. I learnt that the species is distributed in the Western Ghats from Uttara Kannada southwards, the northern parts of the Eastern Ghats in Odisha and north Andhra, also hills of Sri Lanka. Grasslands and cultivated areas are its usual habitat, and the species builds a dome-shaped nest of grass and leaves. Note how it had adapted to city life, nesting in a cardboard box in an apartment!

Within the next three days, the nest was ready and the birds' activity was down to almost nil. But a surprise awaited me when I came back home after a gap of 20 days. The eggs that were laid meanwhile had hatched into chicks! The birds were busy feeding and caring for their young. The chicks were fed every 20–30 mins. It took almost 15 days for them to

leave the nest. One fine day, I saw the parents guiding all three chicks to the nearby jungle.

The story does not end here. After a week, a pair started nesting in the same nest box, bringing *tulsi* and curry leaves as nest material. Could there be a reason for selectively bringing the leaves of these two species again, when the dense forest outside offered a variety of other plant species? This time the nest was built or repaired with minimum effort. Within a month, another batch of two chicks emerged and flew off into the jungle. After three breeding episodes, the fourth breeding pair tried their best to clean up the box, but they gave up. After a few days I replaced the box, and the very next day, the birds occupied the new nest box and started nest building again.

The process continued, totalling six clutches, of which one was unsuccessful. Altogether, 12 chicks have fledged in my balcony. Once, I witnessed a fight by another munia pair for the nest box. The fighting ended when one of the pairs left in search of some other nesting site. It was a great experience to watch the birds and their breeding activity from so close. Normally, nests are hard to find in the jungle, and birds get disturbed by our presence.

The birds have become very confiding, and they are almost like pets in our home. I am still to get a House Sparrow to nest in the nest box. Hence, I have now placed another nest box with a 5 cm diameter opening in the balcony, and hope my home will also host a House Sparrow family. ■

Nagaraja Adiga, *Karnataka*

ABOUT THE POSTER



Nicobar Treeshrew *Tupaia nicobarica*

The Nicobar Treeshrew *Tupaia nicobarica* belongs to the Family Tupaiidae. It is endemic to the Indian islands of Great Nicobar and Little Nicobar, where it inhabits rainforests up to 600 m. This diurnal species occupies the lower and middle canopy of rainforest areas, and is probably the most arboreal among all tupaids.

The word *tupaia* is a Malay name for squirrel. In appearance, a treeshrew is a combination of shrew and squirrel. Its long snout is shrew-like, but its rounded ears, body, limbs, and tail suggest a squirrel. The feet again are like a squirrel's, well-fitted for climbing, the soles naked, toes long and supple, and claws sharp and moderately curved.

The Nicobar Treeshrew forages singly or in pairs.

Insects gleaned from fresh and dry twigs, climbers, and bark form the major proportion of the diet. Fruit and flowers are fed on rarely and opportunistically. It is known to be active during the day, and takes short breaks mostly after feeding or mating sessions.

The Nicobar Treeshrew is listed as Endangered by IUCN as it is entirely confined to Great and Little Nicobar Islands (c. 1,000 and 150 sq. km respectively), where it is subject to a continuing decline in quality and area of available habitat. The major threats to this species are forest loss and fragmentation, and predation by domestic dogs and cats. ■

Nicobar Treeshrew *Tupaia nicobarica*





AN ELEPHANT OF A YAM!

Text: Swapna Prabhu, Photographs: J.P. Irani

"On my small farm at Karjat, my mali Kaluram planted four small tubers of suran (Elephant Foot / Amorphophallus). That was about three years ago. When they were removed after last monsoon, we consumed one and the three were left in his house. Then in March 2013, we noticed a pink sprout growing from the centre, and thought it would grow into a leaf. But to our utter surprise, two of them opened into the most beautiful flowers. Such an amazing flower I had never seen anywhere in my life or in nature calendars, magazines, or books. I invited my farm owner friends to have a look. They too said this was the first time they saw such a wonderful flower like this. The flower from the big tuber which weighed over 3 kg was 12" high and over 6" across!" - J.P. Irani



Botanically known as *Amorphophallus paeoniifolius*, the Elephant Foot Yam belongs to the Arum family, which it shares with other well-known members like Taro (*Colocasia*), Money Plant, *Anthurium*, and Water Cabbage. Elephant Foot Yam is known to have hysteranthous flowering (i.e., leaves appear only after flowering) before the onset of the monsoon. The floral bud emerging from the tuber sheds off its bracts to give rise to a successively unfolding spadix. It grows out of a beautiful vase-shaped or funnel-shaped spathe that is usually bright maroon at the fringes and greenish-mottled at the base. The main flowering stalk of the spadix is short and stout having female flowers at the base and male flowers above them. The upper region of the spadix is a bulbous knob-like structure, maroon in colour and usually without any flowers. It resembles the False Morel Mushroom. The male and female flowers are numerous, closely packed and devoid of petals. Individual male and female flowers are represented by a single stamen or pistil respectively. The spadix once fully open gives out a foul odour, smelling like putrefying meat that lasts for a few hours. Reportedly, the inflorescence simultaneously emits heat during these hours. This, along with the foul smell, attracts several species of flies and beetles, which act as the pollinators for the plant.



On fertilization, the female flowers on the spadix transform into small fruits, while the upper region of the inflorescence dries out. The fruits turn from green to orange and then red consecutively. Although wild species flower and set seeds profusely, cultivated species fail to set seeds under normal condition due to the extreme delay in opening of the spathe and differential maturation time for male and female flowers. Once the flowering and fruiting phases get over, the aerial shoot makes its presence again and continues for the next seven or eight months.

Elephant Foot Yam is a native of Southeast Asia and can be found in the wild in India, Sri Lanka, Philippines, Malaysia, and Indonesia. It is also cultivated as a crop in many Indian states including Bihar, West Bengal, Kerala, Karnataka, Andhra Pradesh, Maharashtra, and Odisha. It has an underground stem in the form of a tuber. The tuber gives rise to an aerial shoot at the onset of monsoon every year. This shoot represents a single leaf with long stalk bearing a dense canopy of numerous leaflets. The entire shoot may grow from one to two metres. The aerial part dies off at the end of the rainy season leaving the underground tuber in dormancy. Thus, the rainy season is the only growing period for the plant, during which the food prepared by the aerial shoot is stored in the underground tuber. The tuber grows in size, weighing anywhere from 3 to 25 kg, and in turn gives rise to an aerial shoot during the next year using the same food reserve.



The common trait of the members of this family is the presence of spadix: the flower stalk with distinct layers of male and female flowers arranged compactly on it, enveloped by a leaf-like structure called spathe. There are around 110 genera and 2,500 species of Aroids (Arum family members) across the world. India has around 25 genera with 138 species under this family. The genus *Amorphophallus* alone has 100 species, of which 10 are found in the Western Ghats. These typical lowland plants grow in tropical/subtropical and sometimes even temperate zones of the Palaeotropics, from West Africa to Pacific islands. Most species are endemic, and prefer disturbed habitats, such as secondary forests. The genus got its name *Amorphophallus* due to the peculiar shape of its spadix, which originates from ancient Greek *amorphos* (without form / shapeless), and *phallus* (meaning penis, referring to the shape of the prominent spadix).



Elephant Foot Yam or Elephant Yam or Suran as it is popularly known in Indian vegetable markets, is certainly a not so uncommon plant in the province. The large tubers are known for their food value and also for their medicinal properties. The tubers have been used in ayurvedic and traditional treatment for several ailments. A word of caution – the tuber contains needle-like crystals of calcium oxalate, which sometimes cause skin and throat irritation. The foliage, which appears in the monsoon, is so conspicuous that you can't miss it. But what makes it an interesting species is that it flowers only once in two or three years, and that too only for a week or so! Obviously it is one of the lesser known/ photographed/ talked about flowers compared to the plant as such. If you look for information on the plant, literature describes it as variedly as the most spectacular to the ugliest flower of the world!

So, if you are on a trek to a secondary forest next late summer, do keep a lookout for this interesting and spectacular species. It's definitely not ugly, and quite an elephant of a yam for me! ■



Swapna Prabhu is the Senior Botanist/ Ecologist at BNHS engaged with research and education programmes.



J.P. Irani has painted birds for Dr. Sâlim Ali, designed 32 postal stamps, and painted many portraits. His latest hobby is wood and emu egg carving.

The Avian DAREDEVIL

Text and Photographs: Gobind Sagar Bhardwaj

Jeeeps lined up along the shore of Lake Rajbag for tourists to get a glimpse of this picturesque waterbody, nestled amidst the undulating, well-wooded hillocks of Ranthambhore. They watched herds of Chital *Axis axis* grazing on the grassy shore of the lake, and the Sambar *Rusa unicolor* nibbling on water plants. Wild Pigs *Sus scrofa* with scores of piglets wallowing and foraging in the mud brought smiles to their faces. The lake is also a haven for waterbirds, especially winter migrants.

The moment a tourist vehicle stops, a few Rufous Treepies *Dendrocitta vagabunda* fly across from the forest and perch on the Dhonk *Anogeissus pendula* trees nearby. They wait for the moment when people open a packet of biscuits or chips, and down they dive to perch on the vehicle and claim their share. They are bold enough to perch on a person's hand or palm to pick up the morsels. This is now the general scenario near all the Forest Department chowkis or check-posts, where tourists take a short break during the long and tiring jungle safaris.

The Rufous Treepie of the family Corvidae has the reputation of being a cunning bird. It is known to be the first to locate hidden kills of the larger cats. In fact, in most of the tiger reserves where tourists scour the wild trails for clues like pugmarks and alarm calls to track a tiger, the peculiar call of this treepie is a truly authentic means to locate the kill made by a big cat. Treepies are omnivores and feed upon almost everything they manage to find, like insects, fruits, leftover of kills of carnivores, and even food available near human settlements.





A Rufous Treepie appeared from nowhere and began attacking the Checkered Keelback



The Treepie continuously pecked at the head of the Keelback, leaving it completely exhausted



The Jungle Babblers soon joined the attack to probably get a share of the prey

Since my very first visit to Ranthambhore Tiger Reserve, I have seen them swooping on unattended food on the terrace of Jogi Mahal (an old heritage building in the heart of the forest, that serves as the Forest Department rest house), and also pilfering meat from the kill of a tiger in its absence. Hitherto, I had looked upon this species as a real Corvid that steals food or scavenges like an ordinary crow, but one incident transformed my perception and introduced me to a different facet of this bird that revealed it to be a daredevil predator.

It was the Christmas Eve of 2013. I was in Ranthambhore on invitation from the Wildlife Institute of India (WII) as a guest faculty for the students of North Carolina State University (NCSU), who were on an exchange visit programme jointly conducted by WII and NCSU. I reached Sawai Madhopur in the afternoon and after checking in at my hotel, rushed with my friend and colleague Dr. P.K. Mallik of WII for the evening safari at Ranthambhore. As usual, the Park Director was kind enough to provide us with a vehicle, and driver Abhey Singh whom I was acquainted with for more than a decade when I was in charge of the Reserve. As I was already late, I was eager to reach Gazelle Hill well in time before sunset to get a panoramic view of the vast expanse of the lake from that point. We were hurrying towards the Jogi Mahal gate entry point, but the repair work of the road prevented a smooth and quick drive.

Just a kilometre before the Jogi Mahal gate, near Morkund *Baori* (step-

well), Abhey Singh stopped the vehicle and pointed towards a snake moving on the road with a few shrieking Jungle Babblers *Turdoides striata* following it. It was a Checkered Keelback *Xenochrophis piscator*, an aquatic snake that may have come onto the road from the adjoining stream. The sight of babblers in pursuit of a snake was quite normal, as birds generally get alarmed on seeing a snake and mob it, making their shrieking, alarm calls. However, suddenly a Rufous Treepie joined the flock of Jungle Babblers, and to my surprise, it started attacking the snake.

The show had taken an interesting twist. The babblers were also intermittently swooping upon the snake. I got down from the vehicle with my Canon 7D camera and 70–200 mm lens to shoot this astonishing scene. The treepie was continuously pecking at the head of the snake, which was trying its best to evade the attack. This whole incident was happening on the busy Ranthambhore road, so every time a vehicle passed by, the birds had to leave the scene, only to return again. I once thought of helping the snake out, but being a forest officer, I was not to interfere with natural processes, and knew that a predator is born to predate and that survival of the fittest is the prime rule of the jungle.

After some time, the snake was too exhausted to save itself from the continuous pecking of the treepie. The

Jungle Babblers too were determined to be a part of this attack, probably to get their share of the spoils. However, the treepie was not at all in a mood to share its soon to be prey, and intermittently attacked the babblers to chase them away. More than half an hour passed in this strife, and so did the life of the snake. The treepie now took the snake away from the road to avoid the vehicular disturbance and started feeding on it. Tearing the hard scaly body was not possible as its beak has no such adaptation and strength, so it started from the mouth parts of the snake which were softer.

Through my camera lens I was documenting every inch of this rare natural history moment, but I was not the only spectator to this show. A peafowl was also keeping an eye from a distance. Perhaps our close proximity to the incident site was deterring it from inching closer. I asked Abhey to take the vehicle a bit away from the spot to facilitate this new character to step into the arena, which it did. Within a few seconds of our withdrawal, the peafowl mustered enough courage to approach close to the treepie, but it decided to slip away to avoid conflict, probably knowing that the bird was a daredevil and would not get deterred by the peacock's size. With this, we also got a hint to move on and let the bird enjoy its meal in privacy. ■



Gobind Sagar Bhardwaj, Indian Forest Service, is a keen traveller and wildlife photographer. Currently, he is Chief Conservator of Forests, managing the wildlife resources of Western Rajasthan.

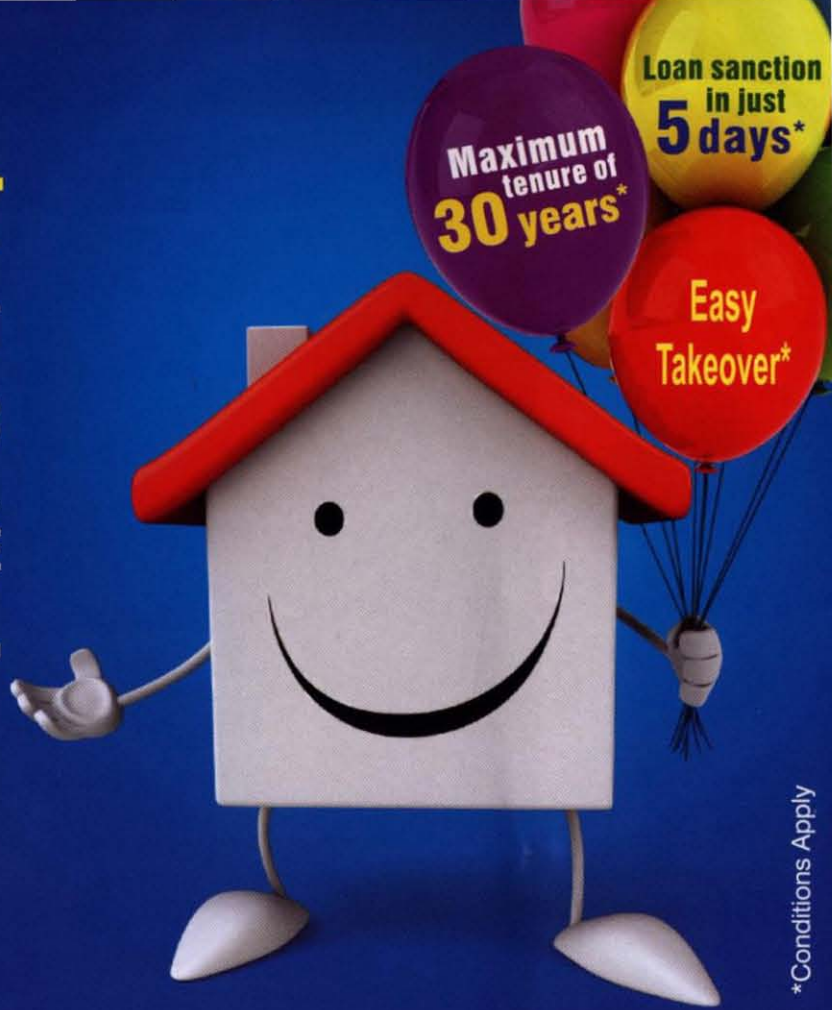
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– David Attenborough

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A Trek in Tahr Country

Text: **Dhanapal G.**
Photographs: **Ilan Kumaran**

Trekking in the mountains involves a love for nature and keenness to travel and explore. In the Western Ghats and the Himalaya, there are several trek routes that climb up the hills through forests, valley, and rivers. Being a naturalist and a wildlife biologist by profession, it is hard for me to let go of any trekking opportunity that comes my way, especially trekking in the Tahr country.

From a hilltop, sholas appear as closely packed shades of green

It was after a long time that our trekking group planned a trek to Mukurthi Peak in Mukurthi National Park in the Nilgiris district of Tamil Nadu. Though the best time to trek there is from December to May, constraints in individual professions made us plan this trek in September. Yet, we were excited as this would be our first trek to the peak during the monsoon. A friend of mine, who is a professional wildlife biologist, said that it was the best time to see flowering orchids, and also the beginning of the breeding season of the Nilgiri Tahr *Nilgiritragus hylocrius*.

Mukurthi Peak is one of the highest points in the Western Ghats. It is part of the Nilgiri Biosphere Reserve. The

ecosystem here is tropical montane forest type, comprising evergreen shola forest and grassland. The region is rich in wildlife that includes sambar, tiger, leopard and dhole. Mukurthi National Park was declared a Protected Area mainly for the conservation of the endangered mountain goat Nilgiri Tahr. The Park is about 21 km from Ooty, and is surrounded by tea estates on two sides and extends into Silent Valley National Park in Kerala to one side, and to reserve forests in Tamil Nadu on the other. Several streams draining into Silent Valley, the Upper Bhavani Dam and Avalanche Dam, have their origin in the patches of shola forest in the Park. The streams grow into rivers, before finally draining



The streams grow into rivers before finally draining into reservoirs

into the huge reservoirs of many hydel power plants, and irrigate several thousand hectares of land in Nilgiris district and the plains. Thus, the importance of the shola grassland ecosystem is high, with millions of lives in the plains dependent on the water resources derived from it.

We started in the afternoon on September 19, 2009, from Ooty on a 21 km drive to Porthimund Dam, and started our trek to Mukurthi Fishing Hut, our halt for the night. Mukurthi Fishing Hut, constructed by the British during the late 1890s, is a small shed constructed in western style with wooden flooring, slanting roof, and with a fireplace in each room. It is called a fishing hut because it was used as a base camp for angling in the rivers of Mukurthi National Park, famous for Rainbow Trout, a freshwater fish introduced by the British during 1876, and Mirror Carp.

Our trek from Porthimund to the Fishing Hut was easy and actually a warm up for the trek next day, but rain caused some inconvenience. The short trek was memorable, with a couple of sightings of Sambar, and birds like Black-and-Orange Flycatcher, Grey-headed Canary-Flycatcher and Black-chinned Laughingthrush which greeted us by making loud cackling calls. We reached the hut before dark, and were soothed by a hot cup of tea and warming up near the fireplace. The night passed soon as we were tired, and according to our plans, all three of us were ready and out

before the rising sun the next day. With some bread, biscuits, water bottles, a pair of binoculars and cameras, we set off on a 7 km trek from Mukurthi Fishing Hut to Mukurthi Peak. Trekking with light luggage is always best, and as it had rained the day before, our raincoats were already on us and we were prepared to trek in the rain. One of my friends had found himself a new hobby of wildlife photography and was keen to get some Tahr pictures, so we decided to make this trek especially for the Tahr.

We started walking as dawn broke, and headed for the top waters, the place where several streams originating from the sholas drain into the Mukurthi Reservoir. This is also the spot where trout congregate to feed on insects and larvae brought down by the streams. It took us nearly two hours to reach the top waters. We walked quickly, experiencing the beauty of the early morning which is wonderful near the top waters, from where there is a beautiful view of the Mukurthi Reservoir. Our arrival at the top waters was acknowledged by a Sambar doe, which immediately dashed into the patch of shola.

As we trekked on to reach the peak, our keenness to look out for the Nilgiri Tahr increased, as it uses the high peaks for foraging and the steep cliffs as refuge from predators. It seldom comes down the hills and ridges, and the best way to spot it is to scan the shoulders and ridges of the

mountain, especially along the horizon. Being accustomed to a quiet undisturbed habitat, the Nilgiri Tahr prefers to avoid humans. It lives in herds like many ungulates, and the group is generally composed of saddleback males, dark brown males, females and kids. The saddleback males are the older males which develop a saddle-shaped white patch on their black coat over the shoulders, and have white patches on their knees. The younger males are dark brown; females and kids are brownish.

As we reached the shoulder of the peak, we stopped for a break not just to prepare ourselves for the final steep climb up the hill, but to scan the peak and surrounding hills for

tahr, and of course, to enjoy the scenic beauty of the matrix of sholas and grasslands. Before the peak, there is a small stretch under the dense canopy of sholas. Sholas are thickly clustered evergreen trees, and from a hilltop they appear as closely packed shades of green. Sunlight seldom reaches the ground in these sholas, so the ground is moist and supports the growth of ferns, mosses and lichens. Orchids can be found from the ground to high up on the trunk and branches of trees.

As the climb progressed, there were no more sholas ahead, only pure grasslands. While trekking up the peak and on reaching the summit, we were completely enveloped in mist, as often happens in the hills of the Western Ghats. Poetic as this may seem, it was extremely frustrating. The visibility was so bad that one could hardly see the person walking a few metres ahead. We waited patiently, and gradually the sunlight shone on the hilltops as the wind blew away the clouds, presenting the scenic beauty of evergreen sholas, grasslands, valleys, waterfalls, and passing clouds and mist.

After enjoying all the scenic beauty at the summit, it was time to look for the Tahrs, and soon we spotted three saddleback males emerging from a cliff and coming towards us. It is rare to see a group of three saddleback males together, and immediately, they locked horns to decide the hierarchy, as this was their breeding season. One among them clearly had the upper hand. We were eager to see the



The shola forest supports the growth of innumerable species

blooming of orchids. On our way to the peak, we did not give much attention to orchids, and so we devoted our time to look for them while trekking back from the peak to the fishing hut. Orchids in bloom easily catch the attention of a passerby with their brightly coloured flowers against their green leaves. Orchids were in bloom in various stages, some fully in flower and some starting to flower. Soon we were back at the hut, and started packing our bags, to get back to the busy world of our busy lives and tight schedules.

With rapid industrialization and the growing human population, the pressure on the Nilgiri Tahr and its habitat is high, and day by day, its habitat is shrinking and getting degraded. Einstein said in *THE WORLD AS I SEE IT* "The life of every individual has meaning only in so far as it aids in making the life of every living thing nobler and more beautiful." The survival of Nilgiri Tahr will depend on support from our younger generation, who should develop an interest in exploring the wilderness, so as to understand that wildlife and their habitats are integrated with the survival of humankind, and that their destruction will eventually be a threat to human survival itself. ■



Dhanapal G. is a wildlife biologist working as Research Associate with the Wildlife Conservation Society-India program in Bengaluru. His interest is in large mammal ecology, and conservation issues. His hobbies are trekking and birdwatching.

Balcony Birding

Text and Photographs: **Subba Rao**



Common Tailorbird *Orthotomus sutorius*



Indian Golden Oriole *Oriolus kundoo*



Black-naped Monarch *Hypothymis azurea* (male)



White-throated Kingfisher *Halcyon smyrnensis*

I live in a built-up area in Bengaluru, but fortunately with a few mature coconut, mango, neem, jackfruit, drumstick, figs and some flowering trees like Tabebuia, not very far from my balcony that overlooks a vacant site. This site is overgrown with bushes and castor shrubs. During spring and the rainy season, all kinds of wild creepers, some flowering and some not, come up. Birdwatching and photography became a hobby for me in early 2000 with the acquisition of a digital camera.

Soon I was able to record a variety of birds visiting or nesting in the trees and shrubs around my balcony. Common Tailorbird, Purple-rumped Sunbird, Eurasian Golden Oriole, White-checked Barbet, White-throated Kingfisher, Indian Pond-Heron, Black Kite and Brahminy Kite are common sightings. In fact, I wonder whether warblers and sunbirds have replaced the House Sparrow! The House Crow and mynas are still in good numbers, Asian Koel and White-checked Barbet make such a din early in the morning that it is difficult to continue sleeping!

I have been able to spot and capture photographs of some not so common species too, namely White-breasted Waterhen, Blue-capped Rock-Thrush, Black Drongo, Drongo-Cuckoo, Greater Coucal, Shikra, Scaly-breasted Munia, Nilgiri Flycatcher and Spotted Dove. I was surprised to see the White-breasted Waterhen in the vacant plot because it was full of dumped building material, debris, plastic bags and styrofoam packaging. At that time, there were not many bushes or foliage – these have come up since then.

Late one evening, I saw a small greyish bird on a Drumstick tree. I got a picture before it flew away. The picture was blurred and dull, but I managed to get a reasonable image after editing it. But the picture stayed in the 'Which Bird' folder for almost a year. Later, when I was able to get a good picture with great difficulty (as the bird does not sit still and flits about in the branches catching insects), I was able to identify it as a Black-naped Monarch. It became a regular visitor to a mango tree and appeared almost at the same time every morning at sunrise, so I was able to get some very good pictures.

In another instance, initially I thought I was looking at a Tickell's Flycatcher on an electrical cable, but when I got a side view, I knew it was different and could identify it as the Blue-capped Rock-Thrush. I saw it once more and managed to photograph it. One evening two drongos visited the trees around the balcony, and it was a treat to watch them diving to catch insects that were flying about. The same evening, at dusk, I took a picture of what I presumed was a drongo as it was rather dark. When I downloaded the picture, I noticed that it was not a drongo but a dark blue bird and smaller, which turned out to be a Nilgiri Flycatcher.

Asian Koels are frequent visitors around our house. Once when I saw the banded tail of a bird, I assumed it was a female Koel, but when the whole bird became visible, it turned out to be a Drongo-Cuckoo! A pair of Greater Coucals has made the area their home and I often see them sunning themselves early in the morning. One can hear their typical low pitched booming 'coop coop' call at times. Spotted Doves were not seen at my site for a couple of years, but I now see them almost every day, perched in the morning sunshine in pairs!

My experiences with birding and bird photography from my balcony in Bengaluru reveals that if one looks closely, and provided there are trees and suitable habitats around, birding from the balcony can be a worthwhile and enjoyable pastime. ■



Subba Rao is a practicing Senior Cardiac Surgeon, who loves to spend time outdoors in the lap of nature as much as in the operation theatres.



Asian Paradise Flycatcher *Terpsiphone paradisi* (Juvenile male)



Spotted Dove *Spilopelia chinensis*



Greater Coucal *Centropus sinensis*



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*A hole we need to bore,
For a house, that's got a door.*

*Our meat is no medicine, no magic,
It's a rumour, that's very tragic.*

*Our population is very stunted,
Many of us are getting hunted.*

A road cuts through

Text: Neha Sinha

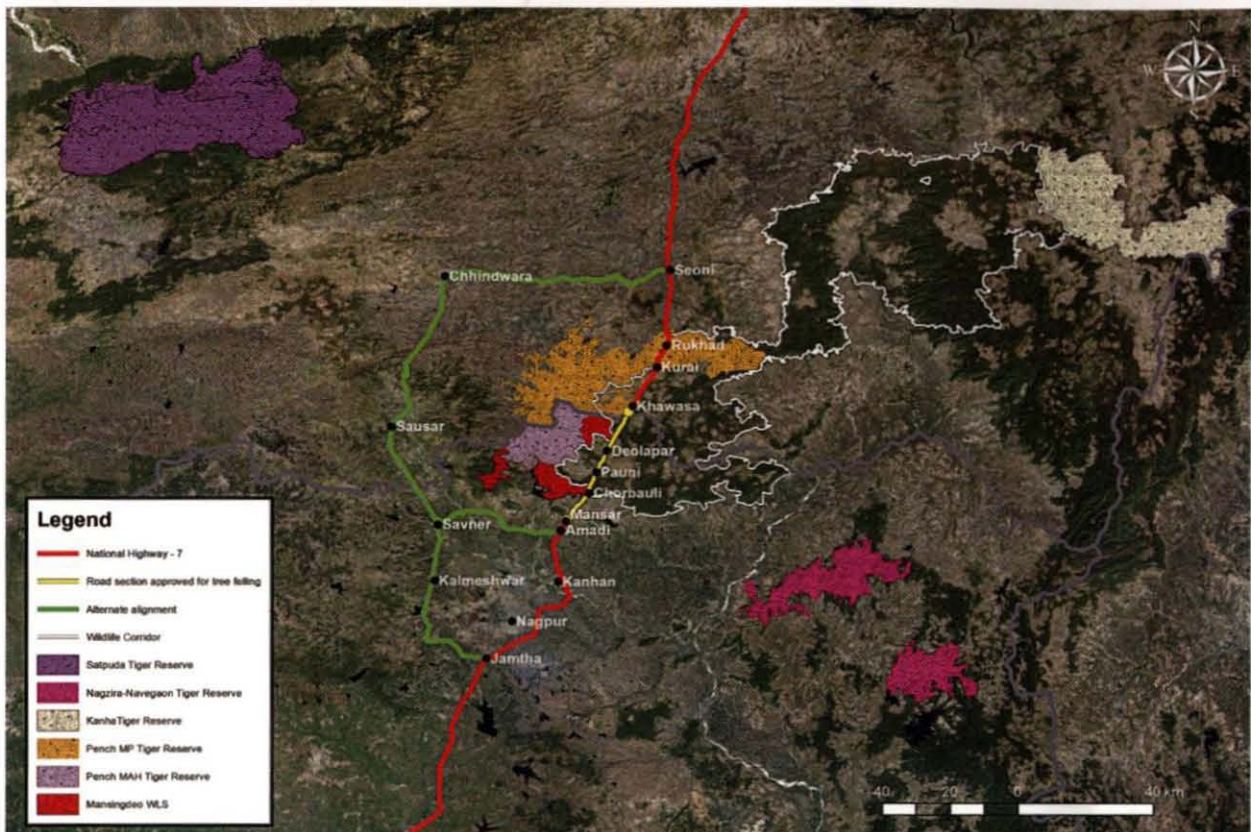
The Kanha-Pench corridor, one of the best known forest corridors in India, is under threat from a road.

A proposal for widening National Highway 7, which passes through the Pench-Nagzira Tiger Reserve corridor (Maharashtra) and the Pench-Kanha corridor (Madhya Pradesh) has received Stage II environmental clearance from the Central government. This will involve cutting down thousands of trees and widening an approximately 38 kilometre stretch that passes through these forests. The project has been pushed forward by Shri Nitin Gadkari, Transport Minister, and several governmental voices have endorsed the project. Even without getting the final clearance, about 3,000 trees have already been felled for the proposed roadwork.

National Highway 7 passes through one of the best forests of India. In a report in 2009, the Supreme Court's Centrally Empowered Committee calls this one of the "most critical" forest habitats in the country. Thousands of animals die on highways each year in India, and several deaths have been documented on NH 7. Other than this, roads have 'edge effects': they impact the habitat all the way along the road through the resulting vehicular traffic, and they also add in the introduction of invasive species. The impact of roads is both horizontal and vertical (cutting into the forest perpendicular to the road), and thus, the edge impacts are seen across several hundred kilometres in the case of highways. In this case, about a 38 km stretch will be widened, leading to cutting down of thousands of trees, and impacting many more kilometres through edge impacts. Several animals have already become victims of roadkills on this stretch (see image).



Roadkills are a direct result of increased vehicular traffic on NH7



The proposed map for widening of NH7 and suggested alternative alignment

The Wildlife Institute of India has said that the Panch-Nagzira corridors and Panch-Kanha corridors are crucial for tiger dispersal and survival. In the latest All India Tiger Estimation, corridors have been stated as the reason for persistence of growth in tiger numbers. Independent genetic studies have shown that these two corridors are actively dispersing genes of large carnivores like leopards and tigers. In fact, genetic studies also show that if these corridors are further fragmented, then not only are there chances that tiger numbers would go down, but genetic flow would be seriously hampered. The Centrally Empowered Committee (CEC) has turned down the widening proposal. The CEC, endorsed by the Supreme Court, also suggested that NH 7 be closed completely through the forest stretch. In its report, the CEC said: "The CEC is of the considered view that the proposed widening and upgradation

of the National Highway No.7 through the Panch Tiger Reserve, the South Seoni Forest Division, and the Nagpur Forest Division will cause irreparable damage, fragmentation and destruction to one of the most important and critical wildlife habitats in the country. The experts were also of the view that the existing National Highway passing through the Panch Tiger Reserve and the adjoining buffer zone should simultaneously be closed. If this is not done the alternative alignment via Chhindwara will be meaningless – in fact may prove to be counterproductive." In a recent order, The National Green Tribunal held that non-forest activities should not be undertaken in forests without clearance. However, in this case, many trees were cut even before final forest clearance came. The NGT in its order observed: "No non-forest activity in the Forest Area that is covered under Section 2 of the Forest Conservation Act, 1980

would be permitted and carried on in any manner whatsoever unless an order has been passed by the competent authority of that State Government and put it in the public domain by putting it on its website and complying with the other requirements in accordance with law." (Original Appl. No. 52 of 2015), (M.A. No. 156 of 2015), March 2015.

Options

Instead of widening NH 7, considered the most important tiger corridor in Central India, the option would be for the traffic to use NH 69, which passes through Nagpur and Chhindwara. This road was recently upgraded from a state highway to a national highway. Taking NH 69 will mean a commute of 70 kilometres more, but this will ensure a balance between transport requirements and protecting a priceless landscape from getting cut up into pieces. ■

International days for Nature

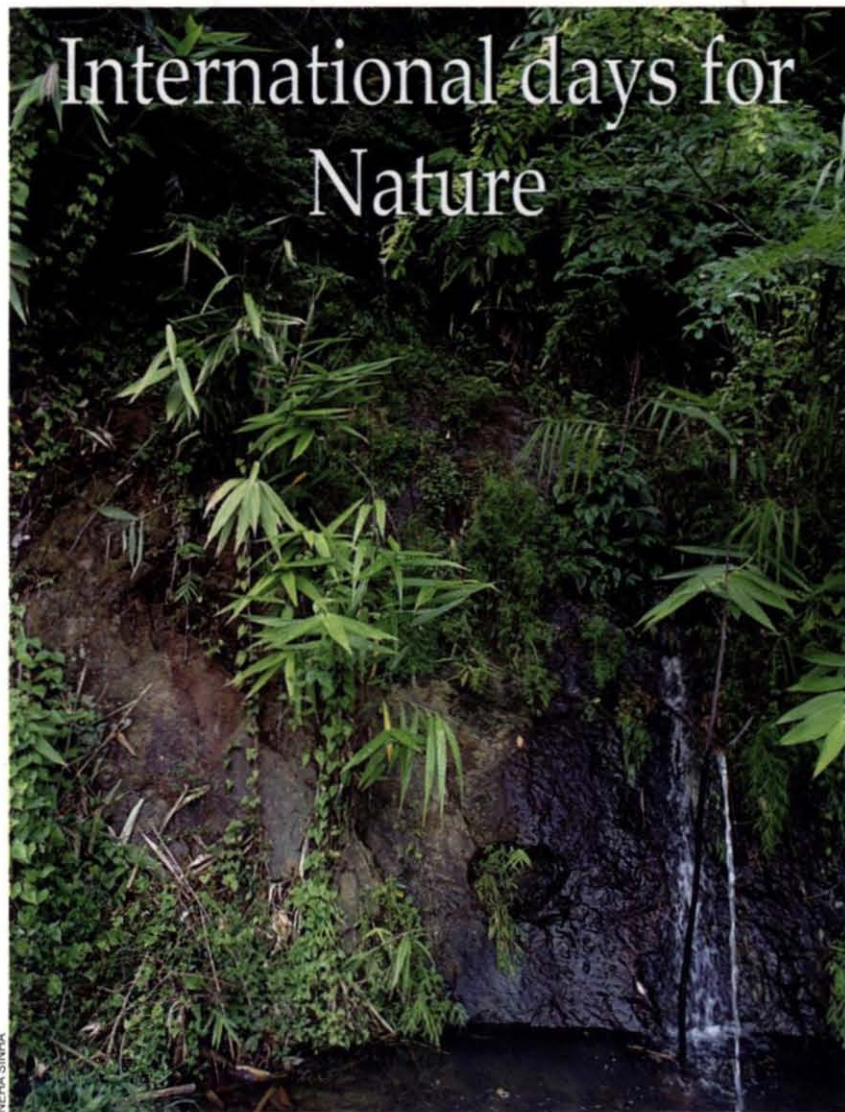
The United Nations has announced May 22 as the International Day of Biodiversity. This adds to a gamut of days announced as tributes to nature. June 5 is World Environment Day, and the International Day of Forests is on March 21. But do these days mean anything to us, or do they pass us in a blur like so many national or other holidays?

These days were announced chiefly as an advocacy and outreach activity to raise awareness. We must make sure that these days are celebrated to mean something, and better still, their messages get carried over to the rest of the days of the year. The last thing nature needs is for these days to become yet another bureaucratic exercise. On June 5 each year – one of the hottest days in India – several state forest departments plant saplings in large numbers. Many of these saplings do not get eventual care, and in the intense heat they die out. All this makes the event a farce.

At an individual level, we should ensure that such days lead us to meaningful and region-appropriate activity for nature conservation. We should, for instance, plant native saplings, albeit not forget about them after that, as happens quite often a day after June 5 in India! World Migratory Bird Day is May 9, which is not suitable for India. By May, many migratory birds have already left India. India should join hands with the rest of the region to get a more appropriate date allotted for this occasion. Let us all join hands to celebrate and restore biodiversity, forests, and wild nature each day of the year, in personal and meaningful ways. ■

NEHA SINHA

NEHA SINHA



A photograph of a Narcondam Hornbill perched on a tree branch. The bird has a large, curved, reddish-brown beak and a blue-grey body. It is surrounded by green leaves and small, round fruits. The background is a clear blue sky.

Narcondam under threat again

ASSAD R. RAHMAN

The Narcondam Hornbill is only found in the tiny volcanic island of Narcondam in North Andamans. This island is less than seven square kilometres in size and is covered with primary evergreen and moist deciduous forest. For many years, the government had a proposal to build a radar and a power station on the island, imperilling this tiny, unique habitat. Despite radars being present in several areas on the Andaman islands, this proposal has been repeatedly coming up. Under advice from the National Board for Wildlife, the earlier UPA government had rejected the proposal, and the former Environment Minister, Smt Jayanthi Natarajan, had suggested having an off-shore radar or other alternative sites, a proposal which should be seriously perceived. But the NDA government, which has said that it will fast-track all defence projects, has now granted approval for the project.

Narcondam is unique. Call it an island paradise, call it a sliver of volcanic rock, not quite like another, it is a site with remarkable evolutionary processes. It has been identified as an Important Bird Area and an Endemic

Bird Area by the BNHS and the Indian Bird Conservation Network. There are two endemic species on this island – the Narcondam Hornbill and Andaman Scops-Owl. However, the Indian Coast Guard has asked for installation of a static radar, power supply stations, housing facilities for staff and ancillary establishments. This will entail making a 2 km wide road by cutting down forests. It will take up a lowland area, which is preferred by the Narcondam Hornbill.

There are an estimated 320 Narcondam Hornbills on the island. These birds are not found anywhere else on earth. They are also identified as 'endangered' on the IUCN Red List. They have the unique distinction of being endangered birds with the smallest range among all Indian birds.

A police post on the island, with about 40–50 policemen has already led to a lot of disturbance. Policemen have cleared about 50 acres of the thick forest on the island for houses, kitchen, and gardens. Goats were also introduced on the island by the policemen, which have run wild. This population has led to major degradation of the island's vegetation by decimating the

understorey of shrubs and herbs. They have also impacted the regeneration of trees, which will have a long-term impact on the Narcondam Hornbill population, as hornbills nest in old trees. The Forest Department has been made to recognize this grave anthropogenic threat, and has been carrying out a goat eradication programme in the island.

The rugged terrain of the island has led to a curious situation wherein nests are accessible to people. Sixty per cent of the Hornbill nests are below 100 m above msl. On the undulating terrain, this means some of the nests can be accessed easily.

BNHS has strongly advocated against the project, but if the project will finally materialise, the Armed Forces need to be educated on the biodiversity wealth and importance of the island, and how attempts could be made to preserve the habitat. It would be a shame to lose millions of years of evolutionary history to human intrusions. ■



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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Sálim Ali Awards – 2014



Award winners with BNHS Office bearers

The bi-annual BNHS Sálim Ali Awards for Nature Conservation, instituted in 1996, recognize the efforts of individuals and groups by felicitating pioneering hands-on work in wildlife research, conservation and nature education. The awards for 2014 were presented on March 18, 2015, at a ceremony held on the lawns of Chhatrapati Shivaji Maharaj Vastu Sangrahalaya in Mumbai. Since the inception of these awards, 10 conservationists and conservation groups have been felicitated under three categories: International, National and Community Conservation.

Professor Ian Newton from United Kingdom was the recipient of the Sálim Ali International Award for Nature Conservation. A

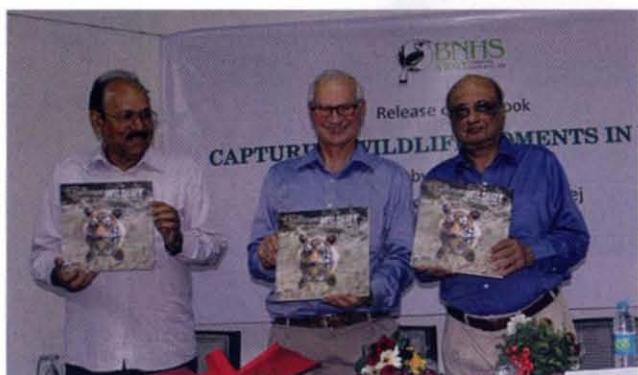
world renowned ornithologist and communicator, Professor Newton has studied a wide range of avian species, including finches and sparrowhawks. Over the years, he has received numerous awards for protection of birds and has also held various important posts. The Sálim Ali National Award for Nature Conservation was presented to Dr. A.J.T. Johnsingh from Bengaluru, India. A former BNHS scientist, he is currently advisor to the Ministry of Environment, Forests and Climate Change, Government of India. Known for his extensive field research on large mammals and vertebrate ecology, Dr. Johnsingh has studied species like the Asiatic Elephant, Asiatic Lion, Tiger and many more. He has published over 70 scientific papers, 80 popular articles and several books, and has been honoured with several prestigious awards, including the Padma Shri.

A coffee shop in Lakshadweep was converted by a group of youngsters into a hub for discussions and education on nature, and it now also serves as a community-based conservation model. Sandy Beach Youth Group received the Sálim Ali Award for Community Conservation, for its efforts in community conservation in the area through marine conservation activities such as protection of sea turtles and cleaning of beaches and lagoons in their locality. ■

‘Capturing Wildlife Moments in India’ released

A book, CAPTURING WILDLIFE MOMENTS IN INDIA, on photographic documentation of Indian wildlife by Mr. Ashok Mahindra, was released by Mr. Jamshyd Godrej, President, WWF-India, in a well-attended ceremony on May 22, 2015 at the Hornbill House auditorium. After a brief introduction and talk by Dr. Asad Rahmani, Director, BNHS, the author Mr. Mahindra addressed the audience about his book. After releasing the book, Mr. Godrej gave an engaging talk about his concerns regarding wildlife issues today. A lively question-answer session followed, and the event was concluded with a vote of thanks by Mr. Atul Sathe. BNHS members, book lovers, nature lovers and the media were present in good numbers for the event.

The book includes 120 photographs and interesting content that depicts the rich natural heritage and wide range of wildlife and habitats across India. It also specifies the continuing threat to wildlife in India and the measures required for its effective conservation. The book will be



(L-R): Dr. Asad Rahmani, Mr. Jamshyd Godrej and Mr. Ashok Mahindra during the release of the book

of interest to people involved in conservation, wildlife photography and wildlife tourism. Mr. Mahindra has worked with several reputed management consulting firms and was also the Treasurer Trustee and Vice President of WWF-India. The book is available for sale at the BNHS. ■

Dr. Pramod Patil receives 'Whitley' Award

On April 29, 2015, HRH Princess Anne presented the Whitley Award 2015 to Dr. Pramod Patil at a ceremony at the Royal Geographical Society, London, in honour of his work to protect the iconic Great Indian Bustard. Dr. Patil is one of the seven individuals to have been awarded this year by Whitley Fund for Nature. This prestigious international nature conservation award is worth £35,000 in the form of a project grant. The award to Dr. Patil was donated by The William Brake Charitable Trust. The ceremony was attended by Sir David Attenborough and Edward Whitley of The Whitley Fund for Nature.

In 2003, after his first sighting of the Great Indian Bustard, Dr. Patil decided to leave his field of medicine and dedicate himself to saving the Great Indian Bustard. By working with communities in the Thar Desert and the state forest department, Dr. Patil and his team from



Dr. Pramod Patil receiving the award

the BNHS will be helping to recreate favourable conditions for the species' survival by developing positive relationships with local stakeholders and enabling better management of the habitat. ■

Conservation workshop held in Solapur



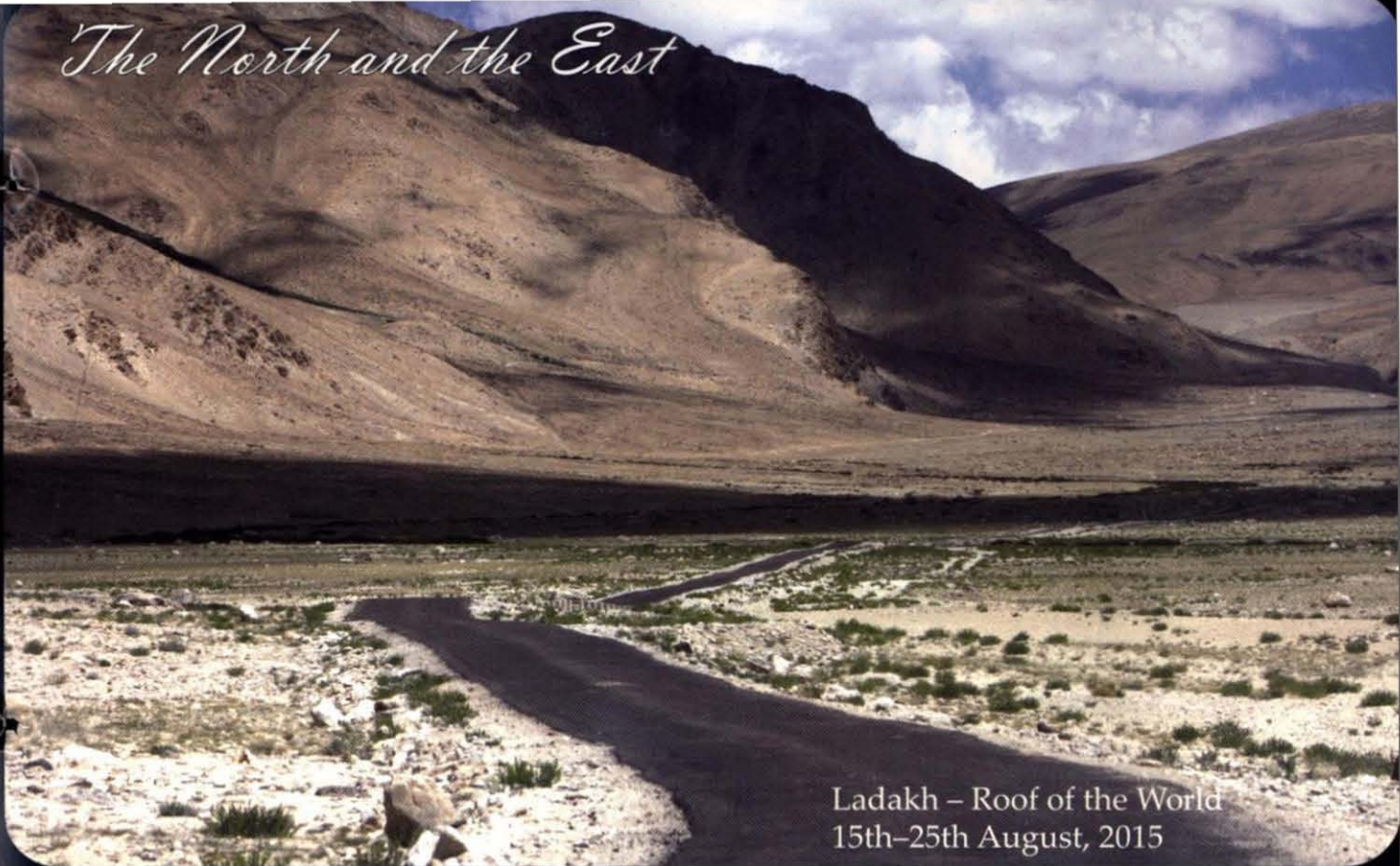
Inauguration of Solapur workshop by watering potted grass

A two-day workshop on 'Conservation of wildlife in Deccan Plateau of Maharashtra—a neglected ecosystem' was organized by BNHS on March 3 and 4, in association with National Thermal Power Corporation (NTPC) and Maharashtra Forest Department. Spanning largely across the southern states of Maharashtra, Karnataka, Telangana and Andhra Pradesh, the Deccan Plateau has an array of

habitats and ecosystems with a diversity of flora and fauna, and has been a focus area of research for the BNHS. The workshop, held on the occasion of World Wildlife Day, addressed a variety of interlinked issues pertaining to the conservation of flora, fauna and habitats of the Deccan plateau. The inauguration ceremony emphasized the importance of grasslands, which was highlighted by symbolic sprinkling of water on potted grass by the dignitaries. Some of the prominent speakers were Shri Sunil Limaye, Chief Conservator of Forests (Wildlife), Pune; Shri Sai Prakash, Chief Conservator of Forests, Kolhapur and Director, Sahyadri Tiger Reserve; and Shri J. Pattabhiraman, Assistant General Manager (Environment), NTPC, Solapur. The workshop provided a platform to develop a network, discuss and chalk out the way forward to conserve the fragile grassland ecosystem and the changing landscape of the Deccan Plateau and its flora and fauna. ■

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The North and the East



Ladakh – Roof of the World
15th–25th August, 2015



Nagaland –
Land of the Amur Falcons
24th–31st October, 2015



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