

India Wilds

Newsletter

Vol 8. Issue VI

June 2016

ISSN 2394 - 6946





Inside this issue:

Killing Fields: India's War against Wildlife	2
Is Spatial Occupancy related to seasonal change in the life of the Gangetic dolphin <i>Platanista gangetica gangetica</i> ?	9
Conservation News	11
Know Your Plants : Curry Leaves	14
Equipment Discussions	19
Wilderness Updates	28
Natural History	41
Wildlife Photography	43

Cover Page Photograph -

Shell by Anil Kumar Verma

Killing Fields: India's War against Wildlife :

When the prehistoric cave man was on its path of evolution, it survived fighting many a battle with wild animals, big and small, for its survival. Aptly termed as the survival of the fittest, man learned use of tools to overpower wild animals who have superior body strength, agility, power and nature given weapons of attack and defence like claws, fangs and canines. A couple of million years later, man evolved into the modern man of today and invented weapons to shoot from a distance and kill wildlife. Later he learnt to build fire weapons and started controlling and exterminating wild life. With such weapons at his disposal man lost the fear of being hunted and soon hunting to kill wildlife turned into a pleasurable avocation.

The human race multiplied its numbers to the present population of more than 7 billion, appropriating all the land and resources for itself and killing and wiping out many species from the face of earth. India too has contributed in this journey significantly with 1.3 billion human population of its own. All these years the wildlife has been on a retreat relinquishing its territory to the continuous onslaught of humans.

The forests have been converted into agricultural fields, drowned by creation of large dams, dug up to mine minerals, cut off to extract timber and firewood, torn apart by canals and river linking and cleared off for industrial projects. So the linkage between the forests have been lost. The forests are now more like islands surrounded by concrete jungle created by human beings. Fortunately, a few statesmen had been wise enough to create protected areas, which have become the last refuge of our wildlife. Else even these areas would have been lost by now.



©Sabyasachi Patra/www.indiawilds.com

A pair of Nilgai or blue bulls (*Boselaphus tragocamelus*), India's largest antelope, alert and ready to run away



Having created these protected areas, people expect that all the animals and other wildlife should be restricted to those areas. For the wildlife stepping out of the man made protected areas is akin to moving to another country without passport. They are captured and banished for life imprisonment or felled by bullets.

Our wildlife is supposed to be protected by law. Unfortunately the Ministry of Environment and Forests is too eager to give out permissions to kill wild animals. The massive scale of recent killings unleashed by the permissions granted by MoEF&CC has resulted in hundreds of nilgai's, wild boars, macaques and even peacocks being killed in various states. The sight of trigger-happy shooters moving in jeeps and firing indiscriminately gives a distinct feeling that India is at war against its wildlife. The visuals beamed across by various news channels was so repulsive that the Union Minister for Women and Child Welfare Mrs. Maneka Gandhi had to hit out against Mr. Prakash Javadekar, Minister for MoEF&CC. Mrs. Maneka Gandhi said "In Bengal they gave permission to kill elephants, in Himachal they gave permission to kill monkeys, in Goa they gave permission to kill peacocks. I don't understand this lust for killing. The environment ministry is here writing to every state asking them which animal they want to kill and they will grant permission".

Press Release by Inspector General Wildlife

This unprecedented controversy and a sitting Cabinet minister hitting against a minister of her own Government forced the MoEF&CC to issue a press release through Inspector General Wildlife, Ministry of Environment, Forest and Climate Change, Dr. S. K Khanduri. The press release reads as follows:

"India is proud of its animal-human coexistence. In some places, animal- human conflicts happen. Last year, more than 500 people lost their lives in human-wildlife conflicts. There are standard operating processes laid down in the Wildlife (Protection) Act 1972. Therefore, the Ministry has not given any permission to kill either Deer, Peacock or Elephant.

There are many complaints from Members of Parliament, People's Representatives, State Governments and Farmers about their crops getting heavily damaged in certain parts of the country. There also, the process has been laid down in the Wildlife (Protection) Act 1972 under section 62. No amendment has been made by the Government to this Act. And nothing has been done beyond the procedure prescribed by law.

As per the provision of law, if there are complaints about the wildlife conflict, then State Government has to submit the proposal. Till date, five states have submitted the proposal. The Ministry examines the proposal in detail and allows scientific management in a specific area for a limited time. There were complaints about wild boar, Blue bull and other animals.

Accordingly, these proposals have been examined and given permission for scientific management for a limited time for a specific area in the three states of Uttarakhand, Bihar and Himachal Pradesh. Proposals of Maharashtra and Gujarat are still being examined.”

This unprecedented killings resulted in petitions in the Supreme Court. The Supreme Court bench led by Justice Adarsh K Goel has said that the Supreme Court will hear next month the petitions filed against the validity of Central Governments notifications for murdering wildlife. The bench also mentioned that animals can't be killed in their home. The Solicitor General Ranjit Kumar informed the Hon'ble Supreme court that wildlife killing is done when the animals venture out of the forest and enter human habitations.

Unfortunately, the contention by the Solicitor General that the killing of wildlife outside protected areas is legal is absolutely wrong. Wildlife not only stay inside the few protected areas that have been created but also thrive outside the protected areas. While denoting certain areas as wildlife sanctuaries, national parks and reserve forests, many other areas have been left out. Some of these areas are not notified as forests but have adequate vegetation for animals, birds, reptiles and other wild species to survive. Many species like leopards, jackals, wolves, hyenas, jungle cats, fishing cats, civets, peacocks, pythons, mongoose etc live in these areas.

With increased human population and real estate boom, large tracts of land is converted to residential purposes. Many urban dwellers these days prefer to own farm house as a status symbol. There is also an influx of refugees in many places who clear the vegetation to set up their dwellings. Most of these people had no prior experience of wildlife and hence are afraid of them. Whenever such sightings occur, the first response is to capture and hunt the animal. These incidents are reported as wildlife entering human habitations. Human mind has an uncanny ability to find probable answers for any question, how-so-ever improbable the answer may be. So people often mistakenly believe that these sightings of wildlife near these human habitations is due to increase in wildlife numbers as a result of which various wildlife species move out of the forest areas.

Myth of Increasing Wildlife numbers:

It is a myth that wildlife numbers have increased. Unfortunately there are a few scientists who continue to perpetrate those myths. Dr. Raman Sukumar, member of National Board of Wildlife have in the past said that elephants near human habitations should be captured. Recently he said *“We have observed a sharp increase in the number of elephants — from 15,000 in 1982 to 30,000 in 2016.* Even the population of tigers, rhinoceros and lions is on the rise. However, considering severe climate change, the government needs a landscaping approach for wildlife rather than a protected area approach”.

Dr. Priya Davidar dismantles this claim in her recent article by writing “Nobody really knew what the Asian elephant population in India was in 1982. As late as 2004, leading elephant researchers Stephen Blake and Simon Hedges were saying “It is not possible to estimate the total elephant population of India or to compare population numbers among sites. Totals cited for India should therefore be regarded as educated guesses.” Dr. Davidar further writes “In 2003, Dr. Sukumar made a “guesstimate” that there were 28,580 elephants in India. However, if the population had indeed doubled from 15,000 elephants in 1982 to 30,000 elephants in 2016, then the population should have been around 23,000 elephants in 2003.

Whether the 2003 “guesstimate” was an overestimation, or whether the suggested population growth rate of around 2 per cent per year is an overestimation, we play with huge uncertainties that make sweeping statements dangerous.



Elephant herd crossing a river in Assam. These traditional migratory corridors are under threat. Locals suggest the herd sizes have reduced

In a model used by Dr. Sukumar in the 1980s and later, it was assumed that elephant populations had reached their maximum numbers in different Indian reserves -- the reserves were effectively saturated with elephants and could sustain no more individuals. But if this were so, then the only way the Indian elephant population could have doubled is if their available habitat had doubled”. (<http://alert-conservation.org/issues-research-highlights/2016/6/13/1qjx5muigu4ne589lsfyq6fnunw7yw>) Since the existing protected areas are being sacrificed for vari-



© Sabyasachi Patra/www.indiawilds.com

Tourists block the path of elephants

ous projects like mines, dams, canals, river linking, power projects etc, the habitat for elephants and other wildlife is shrinking. So obviously, the statement about the rise in elephant population should be taken with a pinch of salt.

The perception of increase in wildlife numbers is because the human-wildlife interface has increased due to more roads constructed through the

wildlife habitat and increased number of vehicles plying in these roads. “Even the once obscure forest roads now have many visitors and the forest boundaries have been filled up with tourist resorts, industries and housing colonies. Wildlife habitats continue to suffer from shrinkage and fragmentation. These days an elephant or any wildlife for that matter may have to encounter human beings several times a day during its daily movement within its range. A decade ago elephant herds might have peacefully crossed the Mettupalayam to Ooty road in the cover of the darkness. This is just not possible today with over 3000 vehicles on an average plying in this road day and night. Elephant herds stay baffled in the road side awaiting a lull in the traffic to cross the road. They stand exposed being watched by hundreds of people most of who think that the elephant numbers have increased just because they saw them! Mere increase in the sighting rate within or outside the habitat does not mean that there is a true increase in the wildlife population”. (N. Lakshminarayanan, 2012, <http://www.indiawilds.com/diary/wildlife-on-the-rise/>)

Culling or killing in the name of Scientific Management:

Human population has increased to 7 billion whereas the earth can only accommodate 5 billion population. Even this 7 billion plus human population on earth is projected to increase to 9 billion. When we human beings are not able to control our own population, thinking of controlling population of other wildlife species is laughable.

“Billy” Arjan Singh’s stinging rebuke to the proponents of Culling or killing wildlife in the name of scientific management from his book “The Legend of the Maneater”:

“A wildlife management ploy, which is of immense harm to wildlife, is culling. Managers maintain this is essential in certain cases to maintain the biomass population in relation to the habitat available, and in preventing population pressures from



A angry male wild tiger partly hidden in grass snarls at the tourists blocking its path.

degrading the habitat. In other words, the human has arrogated to himself the task of adjusting the wildlife population to the forage available in a given area. In these days of habitat reclamation for human use, this places an unwarranted onus on the human species, which, as we have already seen, is singularly unqualified to deal with population control”.

“Wild animals are eminently adaptable, and if certain ungulates overgraze the forage they have been used to, they will opt for other forms of life maintenance. Browsers may become grazers, and other sources may be discovered. The hardground swampdeer of Madhya Pradesh are genetically the same as the marsh inhabitants of Kaziranga. The sambhar, supposed to be solitary inhabitants of dense forest, now gregariously feed on water plants in Ranthambore, like the barasingha. Wild elephants propagate trees from the seed pods they ingest. When they cannot strip bark from trees, they switch to a diet of grass. Yet in Africa it is maintained that they have destroyed and are destroying their habitat, and should be culled for their own good. This reprehensible idea is implemented by the slaughter of entire herds of Zimbabwe, and is a crime against laws of the universe as ordained by nature. These insensate massacres are a greater offence than that of a country like Japan, which may illegally smuggle ivory, but those artisans have never seen an elephant”. (<http://www.indiawilds.com/diary/indiawilds-newsletter-vol-2-issue-i/>)

Recent research suggests that culling has a huge negative impact on the wildlife. The errant behavior of adolescent elephants in killing rhinos, tearing down huge trees etc in Africa was found to be due to the trauma they suffered when adult elephants from their herd were shot dead. In the US it has been reported that when adult cougars were killed, their place is taken by young cougars. Whereas the adults had lived in close proximity of humans and have rarely been observed, the young ones have been attacking humans. Perhaps, the young ones need a calming influence and guidance of the adults in their growth stage as we certainly do.

There are many people who still harbour atavistic fears of wildlife. To these people any and every possible reason to kill wildlife is welcome.

Lack of Scientific Studies:

Not many of our wildlife reserves have got qualified scientists who can take a holistic view and recommend actions that are in sync with long-term management of wilderness areas in an ecologically viable manner.

Our forests have lost a lot of bio-diversity. In most of the areas exotic weed infestations have resulted in lack of food for herbivore species. Coupled with the fact that human habitations around the forest areas continue to cultivate crops that are preferred by the wild herbivores. There are forests where tourists often complain that they can't even sight a spotted deer. However, the farmers in the outskirts of the forests complain of crop depredations by herds of spotted deers, nilgais and sounders of wild boars etc. (<http://www.indiawilds.com/diary/indiawilds-newsletter-vol-7-issue-vii/>)

In many of these forests the carnivores have been locally exterminated. Carnivores limit the number of their prey and help alter the structure and function of the ecosystem (Schaller 1972). Our Government's, both local and central, don't think in terms of long-term solutions. They want to immediately bow down to local pressures and allow shooting of wild herbivores. No scientific studies have been conducted to ascertain the reasons of the local man-wildlife conflict. This gives an impres-

sion that the MoEF&CC instead of making all attempts at preserving our natural heritage is actually in a mission to exterminate India's wildlife and wilderness areas.



Jackals are fast disappearing from rural landscapes

India's wildlife is intricately linked with our culture. When we decimate our wildlife and wilderness areas, we strike at the core of our values, beliefs and our cultural ethos. On the occasion of World Environment Day in 2014, our **Prime Minister Mr. Narendra Modi** had said "We are blessed to be a part of a culture where living in complete harmony with the environment is central to our ethos. Let us serve as trustees, where we utilise our natural resources for the present and at the same time ensure happiness of our future generations. Let us ensure that even the smallest step we take in our daily lives will be an effort towards conserving nature and natural resources". (<http://www.indiawilds.com/diary/indiawilds-newsletter-vol-6-issue-vi/>)

It is strange that when the members of the ruling party are talking non-stop about our ancient civilisation and frown upon anything foreign, MoEF&CC is presiding over mass murders of our wildlife without taking into account our cultural, ethical and scientific reasons for not killing wildlife. The Hon'ble Minister for MoEF&CC may just need to be reminded what his own Prime Minister had stated two years ago. It is time that our Government realises its fallacy and engages in preserving our wilderness areas and wildlife on ecologically sound principles.

This Killing of Wildlife has to stop.

Is Spatial Occupancy related to seasonal change in the life of the Gangetic dolphin *Platanista gangetica gangetica*?

By Shah Nawaz Jelil

Gangetic dolphins *Platanista gangetica gangetica* are mobile freshwater predators. It is the national aquatic animal of India and the state aquatic animal of Assam. In spite of being a 'flagship' species, representing an ecosystem in need of conservation, its status has become a matter of grave concern over the past few decades (Behera, 2002). Dolphin is to a river, as tiger is to a forest (Jelil, 2016). The condition of the Gangetic dolphin is probably worse than that of the tiger as less attention has been paid to its conservation and management (Bashir et al. 2010 b).

River Kulsi, a southern tributary of the Brahmaputra, is considered as one of the last refuges of the Gangetic dolphins in Assam (Jelil, 2016). While conducting regular surveys in Kulsi, a spatial occupancy trend among Gangetic dolphins was observed. It is known that animals have habitat preferences; these preferred sites provide resources and conditions that are important drivers of fitness, and by extension distributions and population dynamics. Habitat has a temporal component and is scale dependent for e.g. a forest may be habitat for a squirrel but at a finer scale certain trees may not. To understand this aspect in river dolphins, the relationship between spatial occupancy trend and seasonal change was investigated. This is a part of a larger study which was carried out in Kulsi from 2013 to 2015 to understand the status of dolphins in Kulsi.

Geographically Kulsi originates in the state of Meghalaya (25°38' N, 91°38' E) in Assam. It provides an ideal habitat for the Gangetic dolphin with ample tributaries and is surrounded by a number of wetlands which play a pivotal role in providing a healthy prey base for the dolphin. After reconnaissance survey, we concentrated on five sample sites namely Satpakeli, Kukurmara, Gumi, Samaria and Nagarbera to observe the spatial occurrence trends. Land based surveys were conducted following Aragones et al. (1997) in two seasons, pre-monsoon and monsoon. In the pre-monsoon season, dolphins were observed in only one (Kukurmara) out of the five sampled sites while in the monsoon, dolphins were recorded in four (Satpakeli, Kukurmara, Samaria, Nagarbera) of the five sampled sites. Study reveals that there is a correlation between seasonal change and spatial occupancy of dolphins in Kulsi. The inference is that during pre-monsoon season, since the river depth and width decreases, the dolphins seek refuge in segments of the river Kulsi which are comparatively deeper.

Presence of dolphins indicates the health of a river. It is now understood that some particular stretches of river Kulsi are significant for dolphin conservation. Further investigation into this trend might provide invaluable insights into the habitat ecology of river dolphins. Studies have speculated that various factors influence the Gangetic dolphin habitat use, including water depth, channel width, direction and velocity of flow, water quality, confluence areas, geomorphic complexities, substrate type, sediment load, hydraulic refuges, eddies and mid-channel island habitats (Kelkar, 2008). Along with these, prey availability is another important factor that can affect dolphin population size and drive its habitat selection (Bashir et al. 2010 b). Similar studies carried out in Kulsi will provide quintessential information to come up with strategies to manage the surviving population of the Gangetic dolphin and its habitat.

References:

Bashir, T., A. Khan, S. K. Behera & P. Gautam (2010 b). Abundance and prey availability assessment of Ganges river dolphin (*Platanista gangetica gangetica*) in a stretch of upper Ganges river, India. *Aquatic Mammals* 36: 19–26.

Behera, S. K. (2002). *Ganges River dolphin—Wanted alive!* (Status report submitted to WWF-Sweden). New Delhi. Ganges River dolphin Conservation Project, World Wide Fund for Nature-India.

Jelil, S. N. (2016). Rich biodiversity of River Kulsi. *Current Science* 110(10):1882.

Aragones, L. V., T. A. Jefferson, & H. Marsh (1997). Marine mammal survey techniques applicable in developing countries. *Asian Marine Biology* 14: 15–39.

Author details:

Name: Shah Nawaz Jelil

Affiliation: Division of Wildlife Management and Biodiversity Conservation, ENVIRON, 60, LNB Road, Hatigaon, Guwahati-781006, Assam, India

Email: shahnawazjelil@gmail.com

Conservation News

Gharials breeding in Gandak river in Bihar

Amidst all the bad news emanating from our wilderness areas, one news by PTI has brought out smile in the faces of conservationists. Gandak river in Bihar has now seen successful breeding of wild gharials. The Bihar forest departments Gharial Conservation Programme with WTI had released captive-bred gharials (*Gavialis gangeticus*) into the Gandak river. Monitoring revealed six nests on the river bank along a 700meter stretch. Continuous monitoring along with local villagers revealed that about 7-8 hatchlings hatched from the eggs.



"This is the first record of wild bred gharials in the river. Decades ago there used to be a good number of gharials but gradually the number depleted. Now breeding has once again begun," Samir Kumar Sinha, head of the Gharial conservation project told PTI from Patna.

A 2010 study had estimated 15 gharials in the Gandak river before the conservation project started. Now it is estimated a minimum of 54 gharials are present with 26 adults among them.

These fish eating gharials were once present in large numbers in many of our rivers. Poaching for skin, killing by local villagers due to ignorance, pollution, loss of habitat etc resulted in the local extermination of these gharials. Hopefully soon they will spread and occupy more areas.

Lioness dies in Gujarat after being trapped in barbed wire

The lions of Gujarat have moved far and wide to carve a space for themselves. Many of these lions face an uncertain future when they move out of the protected areas. They are either killed in accidents in train lines, road accidents or even get elec-

Conservation News

trocuted and killed in barbed wire fencing.

Recently a lioness was killed in Junagadh district of Gujarat when it got trapped in a barbed wire fencing of a farm house.

The lioness was reported to have died in Vokala village in Dungar (north) range of Junagadh forest area on 9th June. According to the Chief Conservator of Forest Junagadh Mr. S. K. Mehta the lioness badly hurt her abdomen and died. The forest officials were informed by a nearby farm owner.

The farm owners in the area set up barbed wire fencing to avoid Nilgais (blue bull), wild boar and other herbivores to protect their crops. They illegally connect electricity to the wire fencing and when the animals touch the wire, they violently shake and die. During the struggle their abdomen and other body parts get lacerated by the wire fencing.

Despite warnings nothing has been done in the past to stop the illegal electrocution of wildlife and farm owners continue to connect live wires to the wire fencing.

Narendra Modi's Cabinet approves MoU between USA and India to enhance cooperation in wildlife conservation

India will sign a MoU with the USA for increasing the cooperation between the two countries for Wildlife Conservation and checking wildlife trafficking. India is likely to benefit a lot from the expertise of various American institutions for Wildlife conservation, management of wilderness areas and to fight illegal trade in wildlife.

Every year a lot of charismatic species get poached from our forests. According to WPSI statistics 30 tiger deaths in 2016 is due to poaching. According to conventional logic, for every one seizure another nine go unnoticed. So from that logic about 300 tiger deaths could have taken place in 2016 due to poaching. It is more than 10% of our claimed wild tiger population. The cooperation in wildlife forensics will help a lot in the collecting evidence to nail wildlife crimes. The species conservation efforts will also likely get a boost from the cooperation in conservation genetics. The actual details of cooperation is yet to be known.

The cooperation will also help in institutional capacity building of the UNESCO Category -2 - centre at WII (Wildlife Institute of India).

The use of IT in strengthening the interface of protected area managers with the local people for sensitizing them about Nature Interpretation and Conservation Awareness: Use of information technology in strengthening interface of forest managers with the people will help in sensitising people, especially the youth and children, in making them understand the intricate relationships between various species and complex issues related to the conservation of the incredible bio-diversity of this country.

Conservation News

239 Projects cleared by NDA Govt. in Two Years

India's Environment Ministry has selectively shared some data about the environment approvals given till date by the Modi Government at the Centre. On June 7th the Government said that a total of 239 projects have been granted environment approval by the Modi Government. It said that cumulatively these projects are worth over 5 lakh crores of rupees with an employment generation potential of 1.64 lakh jobs. However, the Government remained silent on the total number of forest areas diverted for these projects.

The Modi Government had come to power promising industrial development. The unprecedented campaign for the 2014 Parliamentary elections was estimated to have cost a minimum of 10,000 crores of rupees. Some estimates suggest at least double that amount was spent. So the focus of the Government from day 1 of assuming power was to clear projects. So the Government releasing data about project cost and employment potential is like a sales pitch and talks volumes about its lack of focus in saving India's environment and wildlife.

The detailed state-wise data of public utility projects given environment clearance between May 2014- April 2016 released by the MoEF&CC reveals that Rs.503,750 crore worth of projects were cleared across all states which together have a said potential of creating 164,239 jobs.

Among the states, Maharashtra had a maximum of 35 projects cleared which is worth Rs.135,634 crore and having a potential of 11,030 jobs.

Know Your Plants

CURRY LEAF : A GEM OF INDIAN COOKING

By Dr. Rashmi Rekha Patra

Curry leaf is synonymous with hot and mouth watering South Indian cuisine. Once it is added to a curry, it gives a distinct aroma. Today this wonderful flavoured leaf is widely used in various parts of India not only for amazing taste and smell it brings to the dishes, but also for the wonderful health benefits it offers, externally and internally as well as for its easy availability. Curry leaf or *kadi patta*'s essence is so refreshing that it instantly tantalizes the taste buds. This plant is quite ornamental due to its compound leaves. It is sometimes used as a hedge and an ornamental plant.



NAME

The scientific name of curry leaf is *Murraya koenigii* (L.) Spreng and it belongs to the family Rutaceae. Curry leaves resemble the leaves of 'neem' or Indian Lilac, hence it is called "sweet neem" or "kadi patta" in Hindi, *surabhinimba*, *kalasaka*, *mahanimb* in Sanskrit, *bhrusanga patra* in Odia, *Karepaku* in Telugu, *barsanga*, *kartaphuli* in Bengali, *karivempu* or *karuveppilei* in Tamil. The scientific name of curry leaf *Murraya koenigii*, is derived from the names of two botanists of 18th century, the Swedish Johann Andreas Murray (1740-91) and the German Johann Gerhard Konig (1728-85).

Know Your Plants

ORIGIN

Murraya Koenigii (L.) Spreng is native to India and Sri Lanka. It is commonly found in the outer Himalayas, from Ravi eastwards ascending to 5,000 ft. in Assam, Bangladesh and Myanmar. In the evergreen and deciduous forests of peninsular India, curry leaf plant is often found as underwood (Brandis, 1906). It is cultivated in various other countries such as China, Australia, Nigeria and Sri Lanka.

SCIENTIFIC CLASSIFICATION

Kingdom : Plantae – Plants

Subkingdom : Tracheobionta – Vascular plants

Superdivision : Spermatophyta – Seed plants

Division : Magnoliophyta – Flowering plants

Classification : Dicotyledons

Subclass : Rosidae

Order : Sapindales

Family : Rutaceae – Rue family

Genus : *Murraya* J. Koenig ex L. – *Murraya*

Species : *Koenigii* (L.) Spreng. - *Koenigii*.

GENERAL DESCRIPTION

The curry leaf tree is a shrub or tree that grows up to 13 to 20 feet in height. The main stem is dark green to brownish with numerous dots on it. The foliage is the real standout. Leaves are bipinnately compound, about 30-35 cm long, each bearing around 21-24 leaflets, having reticulate venation; 5 cm. long, broad lanceolate leaflets with 1cm long petiole. Each flower is a white, funnel shaped, stalked, sweetly scented. Around 60-90 flowers are borne in a terminal cymose inflorescence. These flowers can self pollinate to produce small shiny black berries containing a large viable spinach green seed. Neither the berry pulp nor the seed is used for culinary purposes (Henry and Trimen, 1893).

PROPAGATION

Growing curry leaf tree from seeds is not an easy job. But it can be grown from stem cuttings. Take a 5 inch piece long stem from the curry leaf tree that has several leaves. Remove the bottom 1 inch of leaves. Immerse the bare stem into the soil and moist thoroughly. It will root in about three weeks if kept in warm and moist condition. Growing curry leaf plant indoors in a well drained pot with good potting mix and keeping it in a sunny area is a healthy option. Feed it regularly with a dilute solution of seaweed fertilizer and trim the leaves periodically to make it bushy and small in size. Curry leaf plant starts flowering from the middle of April and ends in the middle of May. The fruiting season continues from middle of July to the end of August.

NUTRITIONAL VALUE OF CURRY LEAVES

The nutritional value of curry leaves show 66.3% moisture content as well as 6.1% protein, nearly zero fat (0.1g per 100g leaves) and other carbohydrates present in addition to the 6.45 % fibre content. Curry leaves are also highly valued for the fact that they have high quantities of iron, phosphorous, vitamin A, vitamin B, vitamin C, nicotinic acids, antioxidants, amino acids, glycosides and flavonoids. Some of the other chemical constituents present in curry leaves include carbazole alkaloids. Research studies by the department of Home economics of Kenmei Women's Junior College in Hyogo, Japan showed that alkaloids found in curry leaves possess antioxidant properties. An alkaloid, murrayacinine, is also found in the leaves (Chakrabarty et al., 1974). Curry leaves are the best when used fresh, they have a short life span and hence they should be stored in a refrigerator for future use. However, make sure that you do not take them off the refrigerator for a long time, as this will make them lose their flavour.

HEALTH BENEFITS OF CURRY LEAVES

Most of us remove the curry leaf from the curry without knowing its health benefits, some of which are as follows:

Cures Diarrhoea: Studies revealed that the carbazole alkaloid present in the curry leaves has anti-diarrhoea properties. The paste of curry leaves or its juice can be effective for this purpose (Harish Pagariya and Maithili, V. 2014).

Antioxidant properties: Leaves of *Murraya koenigii* have antioxidant properties (Mylarappa B. and Ningappa, 2008). The presence of various vitamins like vitamin A, B, C and E help in reducing oxidative stress and free radical scavenging activity.

Cures Indigestion: Curry leaves are effective in indigestion. The juice of curry leaves and lime juice can be consumed together for indigestion or a paste made from the leaves can be added to buttermilk and taken every morning in an empty stomach.

Curry Leaves for Diabetes: One of the biggest health benefits of curry leaves is that regular consumption of it has proven to lower blood sugar levels. *M. koenigii* treatment exerts a therapeutic protective nature in diabetes by decreasing oxidative stress and pancreatic β -cell damage in rats (Palanisamy A. and Subramanian, S.P., 2007).

Curry Leaves for Anemia: Being rich in iron, curry leaf is easily absorbed by the body, approximately 100 gm of curry leaves contain around 0.930 mg of iron. So daily intake of a handful of curry leaves along with a tsp of methi seeds in little bit of fresh yogurt after keeping for ½ an hour early in the morning is a good relief from anemia.

Lowers Cholesterol levels: Curry leaves are known to reduce bad cholesterol level. Studies conducted at the Department of Biochemistry, University of Kerala, India have shown that curry leaves have the potential to reduce LDL cholesterol levels.

Protective against Pathogen attacks: Chemical examination of the strong odiferous oil present in the leaves and seeds of *Murraya koenigii* (L.) Spreng by Nigam and Purohit (1961) and Goutam and Purohit (1974) reported that

this essential oil exhibited a strong antibacterial and antifungal activity.

Helps during Pregnancy: Morning sickness, vomiting tendency etc. are some of the discomforts faced by many pregnant women. If one can consume the water that has boiled curry leaves, it will reduce morning discomfort and nausea.

Cytotoxic activity: Carbazole alkaloids from the stem of the curry leaf plant are said to inhibit the growth of human leukemia cell lines. They are said to be active against leukemia and colon cancer cell lines. This plant has also significant anti-tumor activity.

Protects the Liver: Research on curry leaves has shown that the tannins and carbazole alkaloids present in them exhibited good hepato-protective properties. They are also helpful in protecting the liver from hepatitis and cirrhosis.

Good for Eyesight: Deficiency of vitamin A may cause night blindness, cloud formations in front of the eye and even the loss of vision in some cases. Vitamin A present in curry leaves contains carotenoids which protect the cornea of the eye.

Good for Hair: Vitamin B6 (pyridoxine) present in curry leaves act as the hormone regulators for preventing hair loss. With high nutritional value, curry leaves strengthen hair shaft and hair roots. Curry leaves constitute a combination of essential nutrients required for the growth of hair. They are rich in antioxidants and amino acids which help to reduce hair fall, stimulate hair growth and strengthen the hair follicles. Curry leaves are also a rich source of beta-carotene and proteins. Beta carotene limits hair loss while presence of proteins prevents hair thinning.

How to use it for hair : A hair mask made by mixing a handful each of curry leaves and neem leaves along with 2-3 tsp of yogurt restores damaged hair and makes it smooth, shiny and healthy. One can make a hair oil by mixing sun-dried and powdered curry leaves in coconut oil and boiling it for 2-3 minutes. Then strain it and massage this oil on the scalp and hair to get rid of prematurely graying of hair. The growth of new hair strands also makes it to fight against alopecia.

It can thus be concluded that due to its great health benefits and for adding taste and flavour to the dish, the curry leaf plant is truly the 'Gem of Indian Cooking'. We should make a habit to include it in our diet and encourage the children to eat it along with the curry in order to remain healthy and fit throughout their life.

Author details:

Dr. Rashmi Rekha Patra

M.Sc., M.Phil, PhD (Botany)

Qr. No. 62, Type-IV, IVRI Campus,

Izatnagar-243122, Bareilly, Uttar Pradesh

E-mail: rashmirekharrrp@gmail.com

IndiaWilds App for Android Mobile

In India most of the internet penetration is happening through mobile phones. And the existing users who have access to desktops and laptops are becoming much more mobile than they used to be a few years ago. So to raise awareness and reach out to more people we need to adapt ourselves and make IndiaWilds easily accessed through a mobile phone using android OS.

Today, I am pleased to announce that we have created a mobile phone app so that people can access IndiaWilds anytime, anywhere without being tied to a computer. No need to type. One can access at the click of a button.

We have developed this app through Business Compass LLC a company based in Randolph, New Jersey, United States so that we create a good app.

Awareness is the first step before a person can become a champion of wildlife. I hope this will help us in reaching out to more people to raise awareness and make a real impact on the conservation landscape. If you have an android device then please download the app from this link:

<https://play.google.com/store/apps/details?id=com.businesscompassllc.indiawilds>

Equipment Discussions -

Hasselblad launches X1D-50C – Worlds first mirrorless digital Medium Format Camera

Hasselblad has announced the X1D-50C which is worlds first mirrorless digital medium format camera. The X1D-50C has got 50 Megapixels. The CMOS sensor is 43.9x32.9mm which is present in medium format cameras.



The mirrorless camera makes it very compact for travel. This is not for the regular wildlife with tele-lens crowd but would be good for landscape, travel, architecture, product, promotions etc. Following are the salient features of the Hasselblad X1D-50C mirrorless camera:

Sensor: CMOS 50 Megapixels

Sensor size: 43.9x32.9mm

Colour depth: 16 bit

Dynamic range: 14 stops

ISO: 100-25600

Photo burst rate: 2.3fps

Shutter speeds: 60 minutes to 1/2000 second. So if you are shooting in a cave with very low light, you can place this camera on tripod and keep the shutter open for upto 60 minutes. There is no vibrations at long exposures.

Flash sync: one of the strong points of this camera is the flash sync at all shutter speeds upto 1/2000 seconds. For the record no DSLR can do this.



Shutter Life: The shutter life of Hasselblad X1D-50C is rated to beyond 1,000,000 exposures.

HD Video: 1080p at 25fps

Viewfinder: 2.36MP XGA electronic viewfinder

LCD: 3.0" 920k-dot touchscreen LCD

Media: dual SD card slots, GPS and WiFi

Connectors: USB 3.0 Type-C connector, Mini HDMI, Audio In/Out

Weather and Dust sealing is present to allow the photographer to use this camera in any conditions.

Bundled software: Phocus 3.1, a free image processing software is bundled with the camera which complements the

X1D's capabilities. With Phocus 3.1 software one can process the raw files, and conduct a range of editing tasks including automatic moiré detection, adjustment layers for applying exposure, white balance, and color corrections etc.

Lenses for X1D-50C: New line of XCD lenses with integral central shutter; 45mm and 90mm available at launch

Price: The X1D is priced at 7,900 EUR / 8,995 USD / 5,990 GBP. All prices stated are exclusive of VAT.

Weight: 725g

Availability: 29th July as per [B&H](#)

Press Release:

Hasselblad announces groundbreaking X1D

The world's first compact mirrorless digital medium format camera

Hasselblad is proud to introduce the groundbreaking X1D – weighing less than half that of a conventional digital medium format camera, the mirrorless 50MP camera is a game changer in the world of photography.

Inspired by the brand's iconic design heritage, the camera is ergonomic and compact, offering a handling experience unlike any other. Handmade in Sweden, the X1D combines Scandinavian sensibility with beautiful performance.

Like the iconic V System, the X1D seamlessly combines portability with excellent optical quality for which the brand is renowned. Hasselblad has ingeniously introduced mirrorless technology to digital medium format for the first time ever, creating a precision performance camera that can sit in the palm of your hand. The 50MP CMOS sensor captures the finest details with true natural colours.

Commenting on the announcement Perry Oosting, Hasselblad CEO noted: *“The X1D marks a pivotal point in Hasselblad's rich 75-year history. This camera makes medium format photography available to a new generation of Hasselblad users, while pushing the existing limits of photography to new heights.”*

A completely new family of dedicated autofocus lenses has been developed to support optical quality and portability, offering a wide range of shutter speeds and full flash synchronisation up to 1/2000th second.

Weighing just 725g and including HD video, Wi-Fi and built-in GPS, the X1D is a trusted partner and ideal travel companion. The robust exterior is dust and weather proof, providing durability to take with you wherever you go.

The X1D has been created with passionate photographers in mind, opening up Hasselblad to a new generation of creatives. Ideal for those who want to create the highest quality medium format images with a straightforward and easy to use camera that can fit in the palm of your hand.

B&H Link: http://www.bhphotovideo.com/c/buy/X1D_50C/Ntt/X1D-50C/N/o/kw/search/BI/19990/KBID/13252/DFP/d10-v1-t12

Equipment Discussions -

How to Shoot Great Photographs

My Shots are good but not great. What do I need to do?

In the past I had written an article on “How to shoot a good photo” <http://www.indiawilds.com/diary/how-to-shoot-a-good-photo/> detailing the various tips and tricks. By now most of you seem to have mastered those rules and want something more. The following tips may seem easy but is actually difficult to master as it may require you to change your behaviour.

Capture the Essence:

Photography, whether still photography or motion pictures, is not just visiting a beautiful location and clicking a shot. Every photo lives and breathes if the elements in it are in harmony. Unlike the oft repeated “say cheese” or “smile” before a person is clicked, a good photo captures the essence of a person or place. A good photographer or cinematographer tells a story through his/her shots. He/she conveys his/her point of view.

If you want to move beyond those picture postcard type photos then think what you like about the scene. Like the headhunters of yore, try to identify and then capture the spirit of the place or person in your shot. One of the most iconic photos of India’s first Prime Minister, Pandit Jawaharlal Nehru is his photo with the rose. That photo remains etched in everybody’s memory and it speaks volumes about him. If you are clicking an artist, then don’t just ask him/her to “say cheese” and click but show him/her engrossed in doing whatever he/she likes the best. If you are shooting wildlife then include the habitat of the bird or animal to establish the relation between the subject and the species.

So if you give a master photographer even a small compact camera and a big DSLR to a novice, the image of the master will outshine.



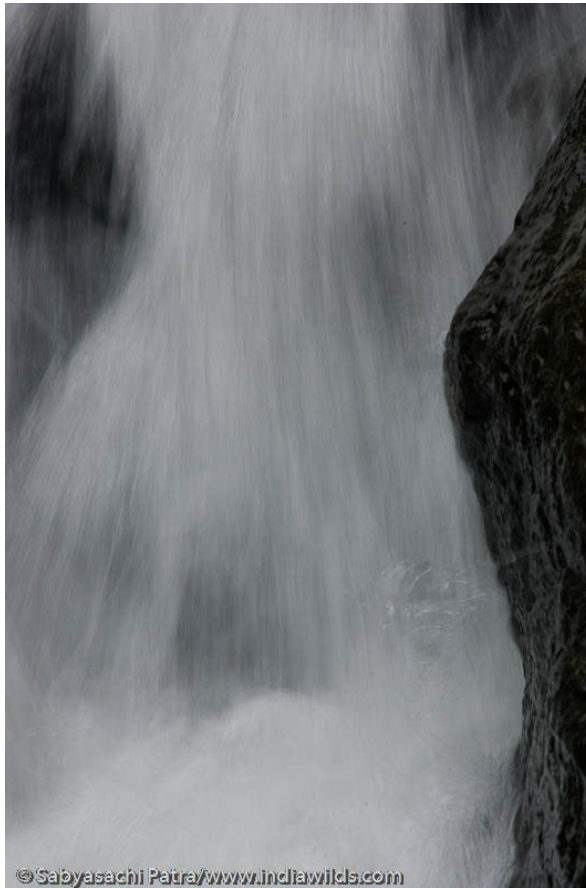
Imagination:

The world is a giant masterpiece. Our eyes can only see a small part of it. We then isolate a tiny portion of it and capture it using our camera. Our minds eye has to first see it so that we can then aim our camera and lens at it.

I was trekking in monsoons many years back and was looking at the waterfalls and not liking those. For record sake I captured some standard compositions as well, however, those shots were not exciting me. The reason was that those compositions were standard compositions, which any one can capture. One of those shots I am sharing here.

Equipment Discussions -

Then I started looking at smaller portions of the waterfall and finally created this image.



If you are receptive, then nature will present itself as a beautiful maiden.

Patience:

Like in many things in life, patience is a key requisite for getting a good shot. For my recent film, I wanted to showcase the



pollution due to immersion of idols. I found these idols of Lord Ganesha lying in the creek for days without disintegrating as those were made of plaster of paris (PoP) which is non-biodegradable. I had got those shots but I was feeling that it is not powerful enough. So I spent many days watching it. Finally I got this image of crows perched on top of the idols.

Equipment Discussions -

If you observe wildlife then you will realise that they show immense level of patience to capture their prey. This crocodile was patiently waiting for a bird chick to fall down from its nest. It had remained still for hours and the bird droppings had fallen all over its head and body. Who says man is the most intelligent creature on earth?



Vision:

Too often we use the word vision in filming and photography. We talk about a directors vision. Some call it Director's point of view and there are a host of other words which are also used. I have seen directors who talk about their vision and realise that they are only using the word "vision" as they have read about it somewhere. So what is it?

Think about a situation, a predator hunting its prey. It can literally be about wildlife or it can also be a human predator look-



ing for one of his victims in a film. Suppose you don't want to show the blood and gore as that has already been shown with all kinds of nauseating details in films and images. The sight of blood often repulses people. So how do you approach it? One way can be to show the intent. One shot of the weapon or even better a predator looking at his prey can be a powerful visual. While creating the following image, I was watching a tigress trying to hunt her prey leaving behind her cubs on a hill top.

Equipment Discussions -

If you understand the behaviour of the tiger, then you would know that the tiger never does a mad dash at its prey. The tiger takes its time to survey its prey and often changes its approach. It is very careful and methodical. In this situation there was an approaching sandstorm and the tigress stalked the deers and moved in closer. Then before the final charge, it slowly stood up to again survey its prey and the distance. That was the time I decided to click this shot showing the tigress and the prey in the background. It shows the intention without the blood and gore.

This also brings us to the point that if you don't know your subject, you won't know the behaviour and hence will miss it.

In the following image, I was waiting for the deer to look back as it always does to ward off any danger from behind. I was watching this deer in Sundarbans and had decided on this composition before hand. Finally when it looked back, I had my image.



Isolate point of interest & Frame:

Whether you are following a herd of wild animals or filming a group of people, no two individuals will be doing the same thing. Watch out for one of them engaged in interesting behaviour. While filming for a HBO documentary in a village, I



found these children playing with straw horses. There I found one girl had brought her tiny sibling and she started feeding the toddler. I moved in to frame this through a straw horse, ensuring that the frame results in the eye locks in to this tender moment of bonding between two siblings.

Not often we have a voiceover to help us pull in the attention of our viewers. So using creative framing and using the concept of a frame within a frame, one can

Equipment Discussions -

help direct attention.

Action:

We like a photo when there is action. Unlike actors in a movie you can't dictate action with regular people as well as with wildlife. So one needs to be prepared. If you cannot capture the rare shot when it is unfolding, then no amount of expensive equipment will be enough.



One needs to learn his/her equipment as if it is like an extension of your body. Composing, focusing and capturing the shot should be like an involuntary action of your body.

If a crocodile is running fast to enter water and you want to film it in slow motion, then you better know how to immediately change the setting in your camera. In the video below the opening shot of the crocodile running and entering into water was captured from a rocking motor boat at 4K @50p ie 50 frames per second and immediately after it has entered into water I changed the setting to 4K @25p ie 25 frames per second in 4K resolution. In such moments you should be able to think fast and change your settings in a fraction of a second.

People often think Action photography is all about clicking in a high burst rate as if firing a machine gun. Don't spray and pray that one of your shots is going to come good. Be calm and choose your moment to click, the way Hollywood movies portray a sniper firing a single shot and succeeding. Be ready, take your time and if you like it then click.

The below shot is from my recent film "Jewels of Thane Creek". I had visualised this shot and spent many evenings waiting for the perfect sunset and a flock of flamingos. Once you have visualised a scene, be patient and wait for the scene to unfold. Don't get tensed during this waiting period. When your mind is tensed, you tend to make a lot of mistakes. So just relax and enjoy your passion for photography. Keep on learning and continue honing your art and craft.

Equipment Discussions -

The results will follow.



Wilderness Updates -

Manas National Park Trip Report

By Subhajit Chaudhuri

A day off from office resulted in a long weekend in March— due to combination of Holi & Good Friday. Like most others I took a break to make most of the opportunity. Manas National Park has been in my wish list for a long time. We boarded 12345 Saraighat Express from Howrah. It ran smoothly without any delays and we got down at New Bongaigaon at 6.30am. Our Bansbari lodge had sent one sumo to pick us up.

We took a brief halt at Barpeta Road forest office to collect our permits to stay at Mathangudi Lodge which was pre-booked via phone. Just opposite to that office we saw a roadside eatery and quickly had our breakfast. We checked into Birna Tourist Lodge at Bansbari. After a brief birding session at the opposite tea-garden we set set-off for the safari via gypsy.

Next day morning some of my partners went for Elephant Safari and rest two of us went for brief walk through the trails of Bansbari. The walk turned out more fruitful in terms of sighting. We found one collared Rhino at a very short distance behind fence. After coming back for breakfast we took the gypsy to proceed towards Mathanguri. Overall we stayed one night at Bansbari and two nights on Mathanguri. Though I could get only the dormitory, later I found Lower Bungalow is much more appealing contrary to popular choice of Upper Bungalow available in several online forums/ reviews. We did two full day safari and two half day safaris on gypsy. Manas made my lifer list enriched with brilliant sighting of Bengal Florican male display, Rufous Necked & Wreathed Hornbill, Silver breasted broadbill, Slender billed Babbler, Swamp Francolin, Black Breasted Parrotbill etc.

We could spot/hear and photograph the following bird species – [arranged alphabetically for common English names].

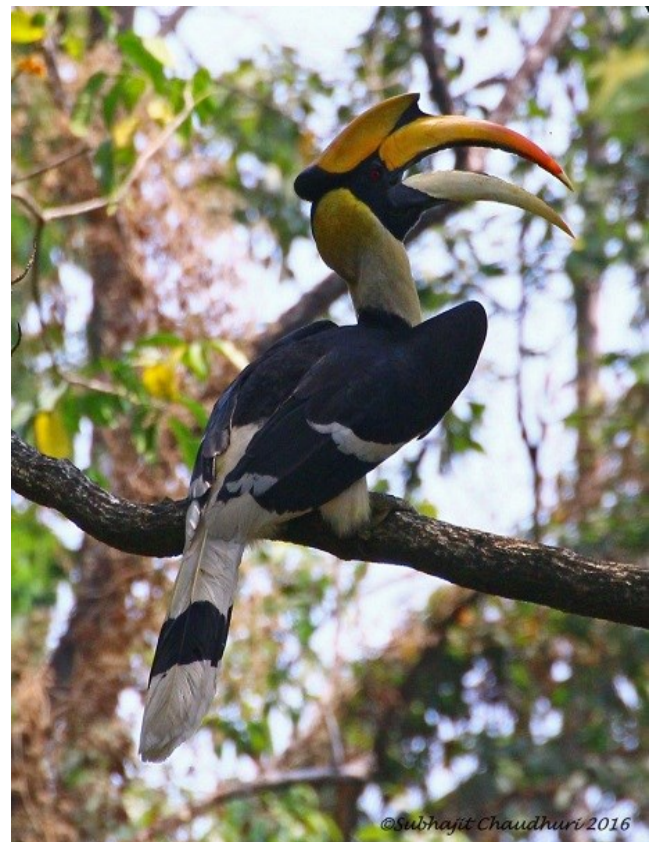
Sl No Species

- 1 Ashy Prinia (*Prinia socialis*)
- 2 Asian Fairy-bluebird (*Irena puella*)
- 3 Asian Pied Starling (*Gracupica contra*)
- 4 Baya Weaver (*Ploceus philippinus*)
- 5 Bengal Florican (*Houbaropsis bengalensis*)



Natural History -

- 6 Bengal Bushlark (*Mirafra assamica*)
- 7 Black Drongo (*Dicrurus macrocercus*)
- 8 Black Kite (*Milvus migrans*)
- 9 Black Redstart (*Phoenicurus ochruros*)
- 10 Black Stork (*Ciconia nigra*)
- 11 Black-backed Forktail (*Enicurus immaculatus*)
- 12 Black-breasted Parrotbill (*Paradoxornis flavirostris*)
- 13 Black-crested Bulbul (*Pycnonotus flaviventris*)
- 14 Black-hooded Oriole (*Oriolus xanthornus*)
- 15 Black-naped Monarch (*Hypothymis azurea*)
- 16 Black-naped Oriole (*Oriolus chinensis*)
- 17 Blue-throated Barbet (*Psilopogon asiaticus*)
- 18 Bronzed Drongo (*Dicrurus aeneus*)
- 19 Changeable Hawk-Eagle (*Nisaetus limnaeetus*)
- 20 Chestnut-backed Laughingthrush (*Ianthocincla nuchalis*)
- 21 Chestnut-bellied Nuthatch (*Sitta cinnamoventris*)
- 22 Chestnut-capped Babbler (*Timalia pileata*)
- 23 Chestnut-headed Bee-eater (*Merops leschenaulti*)
- 24 Chestnut-tailed Starling (*Sturnia malabarica*)
- 25 Collared Falconet (*Microhierax caerulescens*)
- 26 Common Iora (*Aegithina tiphia*)
- 27 Common Kestrel (*Falco tinnunculus*)
- 28 Common Myna (*Acridotheres tristis*)
- 29 Common Rosefinch (*Carpodacus erythrinus*)
- 30 Common Sandpiper (*Actitis hypoleucos*)
- 31 Common Woodshrike (*Tephrodornis pondicerianus*)
- 32 Crested Goshawk (*Accipiter trivirgatus*)
- 33 Crested Serpent-Eagle (*Spilornis cheela*)
- 34 Crimson Sunbird (*Aethopyga siparaja*)
- 35 Dusky Warbler (*Phylloscopus fuscatus*)
- 36 Emerald Dove (*Chalcophaps indica*)
- 37 Eurasian Collared-Dove (*Streptopelia decaocto*)
- 38 Forest Wagtail (*Dendronanthus indicus*)
- 39 Fulvous-breasted Woodpecker (*Dendrocopos macei*)
- 40 Golden-headed Cisticola (*Cisticola exilis*)
- 41 Great Hornbill (*Buceros bicornis*)
- 42 Green Bee-eater (*Merops orientalis*)
- 43 Green Imperial-Pigeon (*Ducula aenea*)
- 44 Green-billed Malkoha (*Phaenicophaeus tristis*)
- 45 Grey-capped Woodpecker (*Dendrocopos canicapillus*)
- 46 Grey-chinned Minivet (*Pericrocotus solaris*)
- 47 Griffon Vulture (*Gyps fulvus*)
- 48 Indian Cormorant (*Phalacrocorax fuscicollis*)
- 49 Indian Peafowl (*Pavo cristatus*)
- 50 Indian Roller (*Coracias benghalensis*)
- 51 Jungle Babbler (*Turdoides striata*)



©Subhajit Chaudhuri 2016

- 52 Jungle Myna (*Acridotheres fuscus*)
- 53 Large-tailed Nightjar (*Caprimulgus macrurus*)
- 54 Lesser Adjutant (*Leptoptilos javanicus*)
- 55 Lesser Coucal (*Centropus bengalensis*)
- 56 Lesser Yellownape (*Picus chlorolophus*)
- 57 Lineated Barbet (*Psilopogon lineatus*)
- 58 Little Cormorant (*Phalacrocorax niger*)
- 59 Long-tailed Broadbill (*Psarisomus dalhousiae*)
- 60 Long-tailed Shrike (*Lanius schach*)
- 61 Northern Harrier (*Circus cyaneus*)
- 62 Oriental Honey-buzzard (*Pernis ptilorhynchus*)
- 63 Oriental Magpie-Robin (*Copsychus saularis*)
- 64 Oriental Pied-Hornbill (*Anthracoceros albirostris*)
- 65 Oriental Turtle-Dove (*Streptopelia orientalis*)
- 66 Oriental White-eye (*Zosterops palpebrosus*)
- 67 Osprey (*Pandion haliaetus*)
- 68 Pied Harrier (*Circus melanoleucos*)
- 69 Pin-tailed Pigeon (*Treron apicauda*)
- 70 Plain Flowerpecker (*Dicaeum minullum*)
- 71 Plumbeous Redstart (*Phoenicurus fuliginosus*)
- 72 Red Collared-Dove (*Streptopelia tranquebarica*)
- 73 Red Junglefowl (*Gallus gallus*)
- 74 Red-breasted Parakeet (*Psittacula alexandri*)
- 75 Red-headed Trogon (*Harpactes erythrocephalus*)
- 76 Red-vented Bulbul (*Pycnonotus cafer*)
- 77 Red-wattled Lapwing (*Vanellus indicus*)
- 78 Red-whiskered Bulbul (*Pycnonotus jocosus*)
- 79 River Lapwing (*Vanellus duvaucelii*)
- 80 Ring-necked Parakeet (*Psittacula krameri*)
- 81 Rufous Woodpecker (*Micropternus brachyurus*)
- 82 Rufous-necked Hornbill (*Aceros nipalensis*)
- 83 Rufous-necked Laughingthrush (*Ianthocincla ruficollis*)
- 84 Scarlet Minivet (*Pericrocotus speciosus*)
- 85 Shikra (*Accipiter badius*)
- 86 Siberian Stonechat (*Saxicola maurus*)
- 87 Silver-breasted Broadbill (*Serilophus lunatus*)
- 88 Slender-billed Babbler (*Turdoides longirostris*)
- 89 Small Minivet (*Pericrocotus cinnamomeus*)
- 90 Spotted Dove (*Streptopelia chinensis*)
- 91 Spotted Owlet (*Athene brama*)
- 92 Stork-billed Kingfisher (*Pelargopsis capensis*)
- 93 Streak-throated Woodpecker (*Picus xanthopygaeus*)
- 94 Sultan Tit (*Melanochlora sultanea*)
- 95 Velvet-fronted Nuthatch (*Sitta frontalis*)
- 96 Wedge-tailed Pigeon (*Treron sphenurus*)
- 97 White/Pied Wagtail (*Motacilla alba*)
- 98 White-breasted Waterhen (*Amaurornis phoenicurus*)
- 99 White-rumped Shama (*Copsychus malabaricus*)

- 100 White-tailed Rubythroat (*Calliope pectoralis*)
- 101 White-throated Fantail (*Rhipidura albicollis*)
- 102 White-throated Kingfisher (*Halcyon smyrnensis*)
- 103 Wreathed Hornbill (*Rhyticeros undulatus*)
- 104 Yellow-eyed Babbler (*Chrysomma sinense*)
- 105 Yellow-footed Pigeon (*Treron phoenicopterus*)

We could spot the following mammals during our stay:

1. Capped Langur



2. Asian Elephant



Natural History -

3. One Horned Rhino



4. Black Giant Squirrel



Wilderness Update -

5. Assamese Macaque



6. Sambar Deer

7. Eastern Hog Deer

8. Indian Muntjac

9. Gaur

10. Wild Buffalo

We were not lucky to encounter any wild cats but during our stay people had reportedly seen one big male Tiger, one Leopard and Black Panther.

I was accompanied by Bird guide Rustom Basumatary of Manas Maozigendri Ecotourism Society. His knowledge and experience is highly appreciated.

On return to New Bongaigaon, we took a brief turn towards Kakoijan and were lucky to find a small family of Golden Langur.

Natural History -

Rongmuk: Wilderness in a Tea Garden

By Samrat Sarkar

All around us there is greenery. Wherever the eyes go the green tea gardens attract our attention. In between the series of the tea bushes are the shade trees. At times the sky is covered with gloomy clouds and then suddenly rays of sunlight gleams through the clouds, lighting swathes of green tea gardens in its golden rays. Nature has adorned its prettiest clothes and beckons us to explore its beauty.

As we proceed towards Darjeeling from Siliguri along NH 55 there is a tiny hilly hamlet named Sonada, about 60 km from Siliguri and 8 km away from Ghum. All along the road was our companion, the narrow gauge rail line of the Darjeeling Himalayan Railway. From Sonada it was about 40 minutes' drive down towards the Balasun river. The condition of the road from Sonada downwards was very bad and driving along the road was a nightmare. And we sighed of relief when we arrived the Rongmuk-Cedars Tea Estate at last. We could see series of hill top lines all around. We could see a misty view of the Kurshiang city with the Balasun river below our viewpoint. Here we have come to participate in a 4 day nature camp.



We were aware beforehand that we would have to spend our nights in tents. And that was why I did not bring my favourite tele lens with me. Time was passing by very quickly. There were frequent and unnoticed spell of heavy rains and in the mid-night the rainwater started entering our tent. We had to leave our tent in that cold to excavate trenches to bypass the rainwater away from the tents. After that we left the tents very early in the morning and had a pleasant lesson of nature around the tea garden, of the leisurely livelihood of the small hilly settlements along with the chirping of so many birds and the sound of the water of the busy Balasun River. In between all these I did not forget to click my Olympus camera from time to time. After a long period the haunt for small insects overshadowed the haunt for birds, because I could not bring my tele lens.

Natural History -

Somewhere near the Balasun river I discovered a small Pea Blue sitting on a leaf wet with dewdrops and waiting to drench its wings with the first mellow sunrays of the morning. After a long and overnight spell of rain it was not in a position to fly with its wet and heavy wings. Poor fellow!



Somewhere else is hiding a very small yellow lynx spider with its first prey, a Damshel fly, in its mouth behind a blade of grass. Unknown to anyone a murder was perpetrated and the murderer will not be punished! Because the act has been carried out according to the Law of Nature.



The connection between the settlements on either sides of the river is through a cable suspension bridge only. It is the only means of communication and movements of the people from one side to the other.



At times when the level of water recedes you can cross the river with a motorbike as well! People here have to face tough hardships for their daily livelihoods.



Almost all villagers work as manual labours in the tea garden. Rongmuk Cedar is a very large Tea Estate spanning about 700 hectares of the Kurshiang Sub-Division and is very old and a prestigious one.



Along with tea plantations people here have started beekeeping, livestock production and working in orange plantations. Also, they catch fishes in the Balasun River at times.



Starting from this Balasun River upto Sonada extends the area of the Rongmuk Tea Estate. Rongmuk Tea Estate is a heaven for the insects. Previously I heard that a lot of insecticides are sprayed on the tea plants. But during my four days' trip here I have never **seen** that being done. What I have seen is the safe world of the insects in the rain washed tea plants. The tea gardens are usually good places for observing various birds and insects. In some tea gardens leopards prefer to hide themselves for some possible ambush. The narrow trenches for passing of rainwater or the recesses of the tea plants are very appropriate places for the leopards to wait in hiding for their preys to come. In many tea gardens of the North Bengal the leopards are frequently heard of attacking domestic animals. But there is no evidence of that type of incidence in this tea garden. But the presence of so many colourful insects here has pleasantly surprised me to a large extent. Although, to speak the truth the tea gardens are in no way natural habitats created spontaneously; they are artificially created by the humans for business purposes only and which slowly and gradually have become house to an outstanding biodiversity. The butterflies and the moths lay their eggs on the leaves of the shade trees, if not directly on the tea leaves.



In another place a hunter Assassin bug is lurking in expectation for its prey to come close to him.



Please see the adjoining picture where a larva has been eating a leaf of a shade tree without fear of any danger.



Somewhere I saw a tiny Beetle hiding beneath a tea leaf giving an enticing signal to its opposite companion.



This place is also a delight for birdwatchers. The nostalgic calls of the Indian Cuckoos and Great Barbets orchestrated my trip to this place. On one occasion I saw a rare White-crested laughingthrush hopping around in the premises of a house. I also saw Green Magpie, Chestnut-winged Cuckoo, Blue Whistling Thrush, Spangled Drongo flying over the tea plants with the insectivorous birds playing hide and seek with their prey.

It was still raining when our four day nature camp ended. The amount of annual rainfall in this part of the eastern Himalayan region is quite large. The pre-monsoon rain has started here at the end of May. In this rain bathed Rongmuk one can witness how the hard but simple lives of the hilly people is nicely intertwined and coexisting with the mother nature. Who says that the lesson of the mother nature does not include the humankind?

Rongmuk is always ready to welcome you with its numerous small wild beautiful creatures amidst the calm, serene and green surroundings, where you can take a memorable lesson of the wild in a virgin natural surroundings.

Concept, travel, photography and written in bengali by Samrat Sarkar.

Translation into English by Biswajit Debnath

Equipment used - Olympus OMD EM-1 + Zuiko 12-40mm f2.8 PRO

Month of visit - May

Natural History -

COUNTRY NOTEBOOK: M.Krishnan: 'The White-breasted Kingfisher '

The Sunday Statesman: 30-September-1962 (shared by Shri. Saktipada Panigrahi)

THE WHITE-BREASTED KINGFISHER

" THE White-breasted Kingfisher was not calling harshly and loudly when it was snapped - it was PANTING in the sun of a hot, dry March day.



White Breasted Kingfisher (record image)

Many birds PANT when it is hot or after a spell of exertion, when they are hot. Pigeons gasp with their beaks wide open, the skin beneath their lower mandible pulsating, after a flight, and so do most game birds when they feel hot -- those who keep poultry must have noticed this. In fact most diurnal birds with wide gape pant freely, and it must be a very real relief to them to do so, for when you or I gasp for breath open-mouthed, we are merely gulping air into the lungs faster than we could through the nostrils, BUT WHEN A BIRD PANTS THE AIR GOES NOT ONLY INTO ITS LUNGS BUT ALSO TO THE AIR-SPACES IN ITS BONES.

But I think that few birds pant on less provocation than this kingfisher. I have seen our three commonest kingfishers the Common, the Pied and the White-breasted, at the same stretch of water on a hot summer day and have noticed only the last panting, though it has exerted itself much less than its Pied cousin.

It is an extraordinary bird altogether, having so largely given up its hereditary profession of fishing in rivers and ponds for hunting from a perch. This is only Indian Kingfisher that can be found away from water, sitting atop a low perch in the open and looking for insects and small fry on which it pounces. It is specially fond of hunting like this in puddles, shallow

gutters and irrigation ditches: tadpoles, water insects, land insects like grasshoppers, small frogs and even the small swallowable young of birds and mice are part of its regular diet.

But of course it can fish if it wants to, plunging into the water as boldly as any of its tribe; however, it does not hover over the water searching for prey, as some other kingfishers do. I think that when it has young to feed it brings them up mainly on a diet of fish, tadpoles and other prey taken in the water.

Its nesting hole, like that of most kingfishers, is a deep tunnel driven sideways into a vertical wall of earth, such as a steep bank, and it is specially fond of nesting in wells, making its burrow as low above the surface of water as it can.

Recently, I watched a pair of these birds that had their burrow in the overhanging bank of an artificial pond. The birds had a favourite perch, a tree-root as thick as a finger, which has been cut when the pond has been excavated and was now projecting at right angles to the side of the pond for almost a foot. A weak-stemmed profusely-branched herb grew just above this root, arching over it as it drooped, so that the seated kingfisher was almost completely screened from sight. However, it was keeping a sharp lookout from its hiding place, and I was much impressed by the keenness of the vision.

I never saw the pair perched lovingly side by side on that root, as I have seen these kingfishers on the walls of wells and on trees. Always, while one of the pair sat on this bowered retreat, the other would take up its stand on a telegraph line crossing the pond some 15 ft. above it, and though I am no novice at this game, and tried every trick I knew, however furtively or casually I approached the pond and from whichever angle, the bird on the telegraph line would spot me and fly off to another perch some 20 yards down the line. And the bird on the screened root, which could not have seen me for it was on a much lower level and the bank was between us, would also take alarm and fly away or at times even retreat into its burrow, close by the perch. From the first floor window of the room in which I stayed, I could watch the pond through glasses and at times when I knew that one bird was seated on that root, it would have disappeared by the time I got to the pond, taking the alarm from its partner, and no doubt retreating into its burrow.

Watching these birds from afar, I was again struck by their keenness of sight. No fish or tadpole at the surface of the pond escaped them, though they seemed to be looking the other way; suddenly they would leave their perch, dart straight as an arrow to the water's surface and take their prey, plunging boldly in at times.

The love song of this bird is a neighing call, frequently repeated, very different from its cackling flight-call, and usually uttered from a high perch. The bird is specially given to song soon after sunrise, in summer when it mates. For several summers, a pair of these birds nested in a well only yards from my bedroom window, and I have often heard this rather quavering and weak song. Courting kingfishers look wonderfully beautiful and ridiculous by turns, as they posture with ruffled plumage and half-spread wings, with jerky movements. And their young undergo a sudden and extraordinary transformation, being semi-fledged and callow one day and full-feathered, brilliant kingfishers almost the next day!"

- M. Krishnan

This was published on 30 September 1962 in The Sunday Statesman

Wildlife Photography -
Tiger from Bandhavgarh by Neeraj Prasad



Tigress in Ramganga by Debasis Bose



Wildlife Photography -
Jacobin Cuckoo by Sandipan Ghosh



Common Kestrel by Vipin Sharma



Wildlife Photography -

Northern Pintail Female duo by Samrat Sarkar



Kingfisher with Gecko by Nishith Kumar



Wildlife Photography -

Common Hawk Cuckoo by Shyamala Kumar



Funnel Web Spider by Prajwal Ullal



Wildlife Photography -

Frog by Arun Acharjee



Infrared Shot from Sunderbans by Sabyasachi Patra



Wildlife Photography -



I look forward to your inputs and support in preserving the last tracts of wilderness and wildlife left in our beautiful country. For other interesting articles and images check - <http://www.indiawilds.com/forums/>

To post in the IndiaWilds forums, you can register free of cost using your Full Name as user id at - <http://www.indiawilds.com/forums/register.php>

If you are already a member of IndiaWilds and have forgotten your user id and/or password you can mail administrator@indiawilds.com

Regards,

Sabyasachi Patra

Profile: <http://www.indiawilds.com/about.htm>

Contact: <http://www.indiawilds.com/contact%20us.htm>

Facebook: <http://www.facebook.com/pages/IndiaWilds/132629240481>

Diary: <http://www.indiawilds.com/diary/>

Equipment reviews: <http://www.indiawilds.com/diary/category/equipment/>

Forums: <http://www.indiawilds.com/forums/index.php>

Channel: <http://www.youtube.com/indiawilds>

Publisher's address: - **Plot No. 1, Akarpuri Colony,
Near Vaithal Temple, Old Town,
Bhubaneswar, 751002
Odisha
Mobile - +919910900446**
