

1.6 March '17



PLANET UNTAMED

wild, essence to sense

ENDANGERED

Fishing Cat
Photo Credits: Kathy Newton

A Year Full Of **WILDERNESS**

A Year Full Of **NATURE**

A Year Full Of **ADVENTURE**

A Year with **PLANET UNTAMED**

From the Great Indian Bustard of Nannaj to the Whale Shark of Australian coasts, from secrets of the Nagzira to the landscapes of andamans there is a new experience on our every page.

There is no wonder Planet Untamed Magazine has 5000+ followers

Explore



Photograph



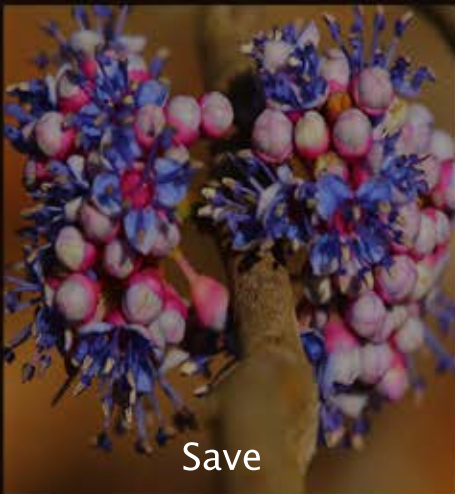
Learn



PLANET
UNTAMED

wild, essence to sense

A DIMENSION BEYOND CONCRETE AT YOUR DOORSTEP



Save



Protect



Conserve



We believe in engaging the common man in our participation for bringing about environmental enlightenment. Team P.U.MA welcomes its readers and patrons to write to us and bring forward all human activities, efforts' and developments directed to preserve wildlife.

Download all Year 1 issues

~~₹3000~~

~~₹1500~~

ABSOLUTELY FREE

BAMBOO PIT VIPER

trimeresurus gramineus

DISTRIBUTION: Western Ghats and Eastern Ghats

LENGTH: 40 Cms

TYPE: Venomous

FOOD: Lizzards, Small Mammals, Small Birds

NESTING PERIOD: June to July

REPRODUCTION METHOD: Viviparus



© dhruv phadke

One of the major reasons why snakes yawn is to get ready for a sumptuous meal, usually when the prey is larger in size. Yawing helps them to relax their jaw muscles and hence make it easy to swallow the large prey. The jaws of snakes are not attached by bone. Instead the lower jaw is attached by ligaments which helps the snake to move its upper or lower jaw individually. This ability helps it to push the prey inside into its body.

12

On the cover

The Fishing cat at the Cincinnati zoo waiting patiently for its prey

Photo Credits

Kathy Newton

22

Facination with the Forest Owlet

The Forest Owlet was declared extinct until it was rediscovered in Melghat

36

Riddle of the Riddleys

The Olive riddley turtle is far more threatened than its considered. Plastic waste is one of the major reasons for its diminishing number

46

Himalayan Bhutan Glory

A chance to know about one of the most beautiful butterflies in the world

50

Forest Jewels

The abundant
The uncommon
The rare

28

Fishing Cat

Destruction of wetlands has a very heavy impact on the Fishing cat. Is it correct to just ignore the wetlands?



EDITORIAL

This month we commemorate the beginning of P. U. MA - a journey of wildlife and environment conservation. It has been a year since its inception and we at P. U. MA have almost sprinted to its anniversary issue.

Throughout the year Team P. U. MA has kept its eyes and ears to the world and mainly India and brought to you its myriad flora and fauna in all its splendor and ruin as well. With each issue we have been exploring the essence of the earth - some randomly and others more topically. Yet all of these need our awareness, attention and effort.

We have brought you stories of personal experiences, institutional work, shed light on specific areas of concern, featured travelogs and opinion essays on different aspects of Mother Nature and its wildlife.

Today we salute all our reader friends and contributors and pat our team for their relentless effort to bring forth every issue of P. U. MA to you. If it weren't for all of them, we wouldn't be celebrating the P. U. MA anniversary. Our reader participation model is important because we believe conservation of wildlife and its sustainability should be an all inclusive effort of all.

P.U.MA will strive to be a responsible voice in wildlife and conservation and bring many important issues to the fore. Our goal post will always be "every living being has the right to be on this planet".

-Chitra V

After every passing day,
mother earth watches in dismay,
as bit and fragments of the earth,
and shredded, torn away.

So many have been lost
Dodo
Mammoth
Passenger Pigeons
The beautiful Bajji White Dolphins.

Oh! Mankind has brought an end to all!

Even more are losing lives today
and soon will be extinct.

But there is still time to protect,
the ones who don't have much time....
with care and caution,
and lots of emotion all will be fine....

-Dev Phadke

COVER PAGE

Kathy Newton

WRITERS

Ashish Nerlekar
Dharmaraj Patil
Amol Pendharkar
Tiasa Adhya
Devi Priyadarshini
Pankaj Koparde

OTHER ARTICLES

Jaya Rane
Snow Leopard Trust (SLT)
Vanya Jeev Sanrakshan Sanstha
(VISS)

PHOTO CONTRIBUTORS

Kathy Newton
Mark Dumont
Tiasa Adhya
Shantanu Ambulgekar
Ashish Nerlekar
Jaya Rane
Ramesh Ganeshan
Pankaj Koparde
Dhruv Phadke
Kaushal Iyer

CO-EDITORS

Dhruv Phadke
Kaushal Iyer
Shantanu Paranjape

TEAM MEMBERS

Avishkar Munje
Dev Phadke
Tejas Gajapolu
Chitra Vaidyeshwaran

GRAPHICAL DESIGNING

Dhruv Phadke

WEB SUPPORT

Kaushal Iyer

PROOF READING AND EDITORIAL

Chitra Vaidyeshwaran
Isha Bhutada

ENDANGERED

Biodiversity is the cornerstone of our planet. This month's issue is an introduction to endangered species that have made significant contributions to Earth's biodiversity. The following pages will examine the allure of the Himalayan Bhutan Glory, rediscover the rare Forest Owlet, and take a look at the vibrant Forest Jewels. These species are crucial to maintaining a balance in our environment and contributing to the beauty of the natural world.

Additionally, this issue is a reminder of how humans interact with the environment. Species, many of which are now endangered, have significant cultural and scientific value to humans. In turn, the way that human civilizations have grown and spread has affected the natural world. By reading about the variety of ecosystems in the city of Pune, India, the nesting patterns of Olive Ridley Turtles along South Indian fishing villages, and the destruction of the Fishing Cat's wetland habitats, we hope to provide a small snapshot of the place of animals in a human world.

Most importantly, as our anniversary issue, this issue is a call to action. As members and active participants of the environment, it is our responsibility to protect the plants and animals that are so crucial to life on Earth. We hope that this issue inspires you to take both little and big steps to make this planet more habitable for every species.

-Isha B



The Snow Leopard Experience -Jaya Rane

After the excitement of clicking photos of 'Red Fox' was over I realized that I was panting from picking up the camera, as there was only 60% oxygen. I was thinking of taking it easy for the rest of the day when Sushilji (our senior tracker) came and said, "Mummiji chalo jaldi tayar ho jao, snow leopard dekhne jana hai." I couldn't imagine my luck. Don't know how but in no time I was ready without any questions.

We drove for about 2kms and then Sushilji said, 'Ab bas thoda hi chalna hai.' I was not aware how long so I got down and started walking very slowly. The field team took all my equipment, I only had to carry myself. After about 100mts I was panting very badly and waited for some rest. The team was very encouraging and enthusiastic and said, 'Mumiji you can do it.' I walked the rest 700 mts slowly in 2 feet deep snow. Half way through my throat dried so I requested Sushilji for some water but the person carrying water had gone ahead. Sushilji picked up some snow. I melted that snow in my mouth and drank it.

After 30 mins we reached the spot. However I could not see the snow leopard as it was so well camouflaged. We were on the edge of a mountain and the Snow Leopard was on the cliff of the mountain across the river. Finally after about 15mins of scanning through the binoculars following Tanzin, Chering, Lobzang and Sushilji instructions I spotted it. Now the challenge was to remove my gloves in -2 degree and adjust the camera to click pictures of this beautiful creature. After struggling for half an hour I clicked my first photo of one of the most ENDANGERED CAT on the planet. It was an amazing feeling. I thanked all the tracker for taking so much efforts to make this possible.

The snow leopard was guarding its kill. After observing it for more than two hour I realized we need to head back as the temperature was decreasing and I was dreading the climb back.

After another 45 mins we reached the vehicle. Toes and feet were frozen and paining but I did not dare to remove my shoes as the temperature was now -5 degree. We drove back to the hotel where the team had already made the room warm. Removed my shoes and got the sensation back in the body and asked myself, DID I REALLY SEE THE 'GHOST OF THE MOUNTAIN'



©Jaya Rane



When I reached Kibber our team gave me a very warm welcome. They were very emotional to see me there. After Chinmay they were little lost and unsure about how 'Spiti United' will continue but Indrajeet gave them lot of support and confidence that we are determined to continue Chinmay's dream.

The entire team has worked very hard to set up 'Spiti United'. Over last 5 years they have hosted team of Planet Earth, BBC and Mike Berkhead associates along with lots of groups from India. They are extremely hard-working, motivated and eager to welcome visitors.

It feels like snow leopard and other wildlife are like their family. There regular explore these mountains in adverse conditions and thus know the snow leopards home like there own. Sushilji said that there are about 17 Snow leopards around kibber and 12 that he personally know of. They have a philosophical relationship with them that is why they have been able to document amazing photos and videos.

In London each year 'Whitley Awards' are given to conservationists around the world in which they show a short film about each awardee. They requested 'Spiti United' for the snow leopard footage to make a short film for 'Snow Leopard conservationists. Chinmay had a great vision to work towards reducing the gap between these two worlds.

I am extremely proud of our passionate team. According to me they are the worlds best trackers. We were there for 7 days out of which we went on field for 3 days and saw 2 snow leopards. They were ready to take us everyday. They took care of like small children. It was a 7 star treatment. We were served hot tea and lunch in field, we were tucked into our beds, we were carried on yak when we couldn't walk.

I was extremely moved by the hardwork, love, passion and warmth given by the 'Spiti United' team.



©Vinod Bartakke



Snow Leopard Trust

In India, snow leopards are found in the northern Himalayan Mountain range. We work in two distinct areas: Ladakh and Spiti.

The Snow Leopard Trust first began working in India in 1998. It partners with the Nature Conservation Foundation (NCF) to support snow leopard conservation efforts in the country. The program is currently led by Dr. Kulbhushansingh (Kullu) Suryawanshi.

Protecting nature starts with awareness and understanding of its value.

The Snow Leopard Trust runs a series of environmental education programs for children and adults in the areas where we work. These programs strengthen ongoing conservation efforts and inspire future nature conservationists. Their focus lies on the values – both economic and socio-cultural – that intact ecosystems provide. The role of the snow leopard, and the benefits of protecting it, are particularly highlighted.

Our livestock insurance program helps rural communities reduce the financial impact of snow leopard predation by giving them access to compensation for animals lost.

For the families who share the snow leopard's habitat, the loss of even a single animal to predation can create great financial hardship. Occasionally, herders may retaliate against snow leopards to protect their animals and limit their losses.

Through our livestock insurance program, the local community manages an insurance pools specifically designated to reimburse families who lose domestic animals to snow leopard predation.

Snow Leopard Enterprises is an award-winning conservation program that creates sustainable economic opportunities for families who share snow leopard habitat, and reduces the motivation behind poaching.

The idea is simple: Herder women in snow leopard habitat produce unique handicrafts with the natural resources at their disposal. We buy the products from them and sell them to snow leopard supporters across the globe through wholesale partners and in our online retail store.

Families participating in Snow Leopard Enterprises can boost their income by up to 40%. In return, the entire community pledges to keep the snow leopards in their area safe from harm.

The Snow Leopard Trust uses cutting edge research tools to determine where our efforts are needed the most. The information we collect is used to improve the community-based conservation programs that protect snow leopards living in the five countries where we work.

Snow Leopard Trust field researchers conduct studies year round to gain insight about snow leopard habitat, wild prey species, and the cats themselves. Research cameras photograph wild snow leopards as they move throughout their home ranges, while GPS collars provide us the opportunity to track an individual snow leopard's movements for an entire year. Ecological surveys are used to better understand the landscape and the role of humans and wildlife alike, and genetics research offers the chance to establish a snow leopard population's health and diversity.



*Gifts are the way to express the feelings.
How nice it would be to express your feelings in gifts
customized designed by yourself. This is what we do.*

*We offer a merchandising products where
our clients and customers can obtain all printing
and customization related services under one roof.*

*We offer products which are used in gifting,
brand promotion, events,
corporate gifting or rewards.*



inkmarks
Office.no: 3, 2nd floor, B Building, Thorve Vishwa,
Near Comfort Zone, Balewadi, Pune - 45.
+91 - 90110 50751 | +91 - 77986 35351
hello@inkmarks.in | www.inkmarks.in

Why Wildlife First ?

Wildlife has always been a big attraction for one and all. From a school going kid to an elderly person, everyone likes to visit national parks and see the wilderness during safari rides. The forest not only gives you an adventure but also a peace of mind and relaxation to your body. Our wild life faces extreme threat today due to various factors. Most of these factors are man-made and it's in the hands of this man to stop them.

Wildlife is a very important element in maintaining the ecological balance of the Earth. The flora and fauna of a forest are interdependent. These together have been surviving for centuries and keep adapting to the changes that occur. This adaptation is the foundation of evolution. This evolution has a direct impact on humans even though we neglect this at times. The very existence of the wild life keeps a check on the quality of the environment. Every species has an equal role to play in the combined ecosystem of our planet.

Apart from the ecological importance wildlife also plays a very important role in changing lives of many humans in a very positive manner. Forests with abundant wildlife can be converted into a national park and safari rides to observe animals in the wild can make a living for the tribes living in that forest.

Wildlife provides a very rich source of food and livelihood for tribes living in or around the forest. The various flora species in the forest have multiple medicinal properties and help in manufacturing innumerable important medicines.

Thus we can see the wilderness is absolutely important in so many ways for humans and it's the sole responsibility of humans to take care of this wilderness in order for the earth to survive.



Anjarle Turtle Festival

Dates: April 22nd & 23rd 2017

Contribution Rs 4848/- only

Includes

Travel from Pune to Pune
2 lunch 2 dinner 2 breakfast & 4 tea
Stay in tents or rooms
Separate accomodation for male and female

Not Includes

Mineral water
Cold drinks
Personal purchases
Boat rides

Watch turtle babies emerge from their eggs
and begin their life's journey towards the sea

Bird Watching

Turtle Nests

Peaceful Beach

Photography

Beach Side Tent Camping

Visit to Vulture Restaurant

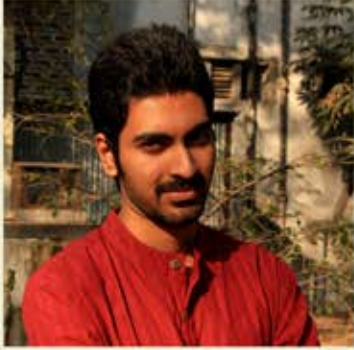
Contact

+91 8007775811



The Threatened Punekars !!

Ashish Nerlekar



A naturalist at heart, I work in the field of ecological research at present. My specific research interests are urban ecology, taxonomy and plant ecology. I love exploring the forests and am fascinated by the myriad biodiversity that our country houses.

Ceropegia Hirsuta a commonly seen flower is eaten as a vegetable in India. The yellow and apple green colored bulbous flower is one of the favourites of many nature photographers

The moment we hear words like endangered, endemic, vulnerable and rare etc, we almost always associate them with species that inhabit pristine forests. We rarely give a thought to the fact that some of the rare and threatened species might just be growing in our backyards. Research has shown that some cities have greater types of plants than wild areas because of the sheer multitude of habitats found in them and thus, it's no wonder that urban ecology has developed into a well-recognized discipline now. Though the proportion of such threatened urban species is less as compared to the ones growing in forested or protected habitats, these form a very important part of the urban ecosystems. Pune city in Maharashtra has been blessed with a high diversity of habitats and a rich resultant biodiversity. Let's get to know some of these threatened plants in Pune.





Zeuxine strateumatica: A ground orchid, it is one of the few orchids that manages to grow in the dry region. This species is pretty widely distributed, but locally rare when we consider the Pune city flora. It typically grows along margins of lakes and ponds and you can spot this at the Vetil hill flowering in February. Orchid seeds are like dust and thousands of seeds may be packed in each fruit.

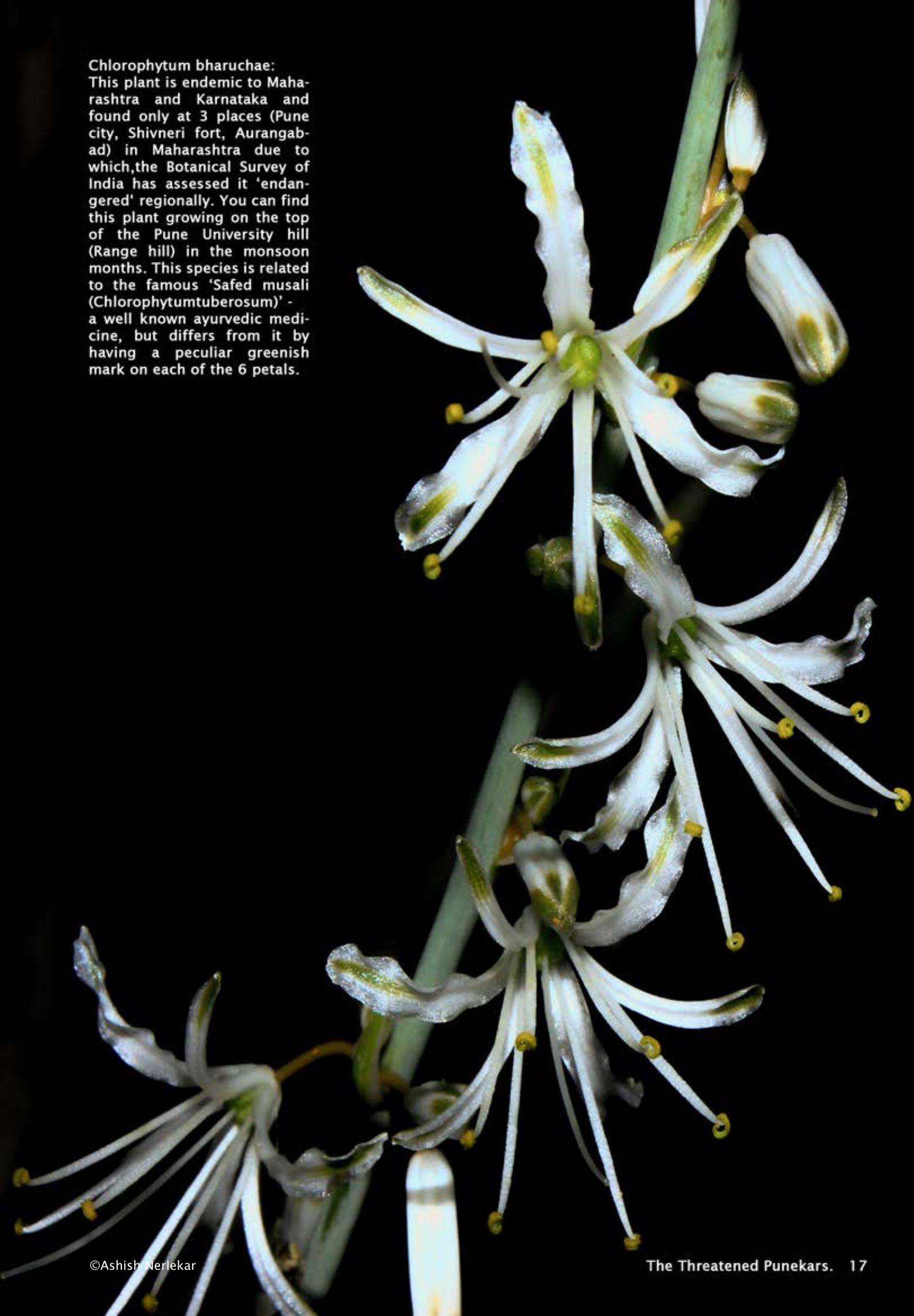


Ceropegia bulbosa: A succulent climber that I have recorded only on two hills in Pune and it is pretty rare at these places. The flowers are of an attractive maroon shade and looks like a Diwali Lantern (hence *Ceropegias* are referred to as Lantern flowers frequently). *Ceropegia* flowers have a very specialized pollination mechanism- they are pollinated by small flies that get trapped in the flower and are released only after the flower wilts. This interesting group of plants is highly threatened because of its natural rarity. You would find this plant growing in association with grasses and other herbs in cracks and crevices along gently slopes of the hills.



Ceropegia hirsuta: A relatively common species as compared to the earlier. It usually prefers scrub forest with a good grass cover. Though it is found on most of the hills in the city, you need an eye for it! Flowers of this species are yellowish green and the entire plant is covered with soft hair.

Chlorophytum bharuchae:
This plant is endemic to Maharashtra and Karnataka and found only at 3 places (Pune city, Shivneri fort, Aurangabad) in Maharashtra due to which, the Botanical Survey of India has assessed it 'endangered' regionally. You can find this plant growing on the top of the Pune University hill (Range hill) in the monsoon months. This species is related to the famous 'Safed musali (Chlorophytum tuberosum)' - a well known ayurvedic medicine, but differs from it by having a peculiar greenish mark on each of the 6 petals.





Jatropha nana: A small shrub, found on most of the hills in the city, is endemic to India (found at Maharashtra, Bihar, Jharkhand, West Bengal). For most of the year, the plant is dormant and survives on stored food in the underground tuber and leaves and flowers are produced on shoots that start sprouting just before the monsoon. I had the privilege of working on the ecology of this species focussing on the insects that depend on it. Through my work (and comparing with past records), I found that the population has reduced drastically in the past years. It has been thus ranked as 'vulnerable' according to the IUCN.

One of the major threats that is common for all these species is plantation activities. Such plantations of both exotic as well as native species need to be controlled urgently. These plants have tuberous roots just beneath the soil surface which helps them survive unfavourable seasons. Plantations involves digging (and a lot of it) and most of these delicate plants are ripped off during such afforestation efforts. Pune hills have sustained a scrub/ dry deciduous ecosystem in the past (termed as a savanna now following recent research). Such savannas have their own dynamics and just because it does not have tall, evergreen trees does not mean it needs to be afforested. The root of the problem lies in the fact that scrublands are often categorized as barren/wastelands just because they are not 'green' for most part of the year. We must broaden our understanding of nature and definition of a forest and appreciate this native ecosystem right from the policy level to its implementation at the grass root level. These threatened denizens that represent such savannas must be used as mascots for conservation. Let's not indulge in unscientific plantations. Instead we should take pride and preserve our rich original biodiversity.

LION TAILED MACAQUE

macaca silenus

BIOME: Tropical Forests

CLASS: Mammal

ORDER: Primates

CONSERVATION STATUS: Endangered



©Ramesh Ganeshan

Characterized by its long, tufted, and thin tail, the lion-tailed macaque was named for its resemblance to lions. The Old World monkeys are of a moderate size and have black fur and lion-like gray manes. Gentle and reclusive, the lion-tailed macaque can often be found up in the trees. Because of the primate's reserved disposition, it does not typically travel very far out of its forest home ranges. The monkeys inhabit the southwestern region of India, specifically the Western Ghats, a mountainous region that includes Tamil Nadu, Kerala, and Karnataka.

According to the International Union for Conservation of Nature's 2008 Red List of Threatened Species, the lion-tailed macaque is an endangered species. Right now, there are fewer than 2,500 lion-tailed macaques left. This dramatic population decline can be explained by the growth of the coffee, tea, and timber industries, which has caused severe habitat loss. Additionally, these monkeys are hunted for their flesh and fur.

In their current environment, the creatures can often live to approximately 30 years of age.

From Facebook

Photos by Manish Nikte

IVN



IVN



From Facebook

Photos by Ramesh Ganeshan



Fascination of Forest Owlet

Dharmaraj Patil



Wildlife researcher by profession. Started career as a field biologist for a project on human-leopard conflict in Bhimashankar Sanctuary. Long time studying distribution and status of Critically Endangered Forest Owlet. Also worked in national institutes as Biodiversity expert. Coordinated nationwide public consultations for Green India Mission program, a brainchild of Jairam Ramesh, under MoEFCC. Recent project done is on Ecological Niche modelling of Indian endemic birds found in Northern Western Ghats. Also interested in studying butterflies especially of North East India.

The Forest Owlet *Heteroglaux blewitti* is one of the critically endangered birds in the world. This bird was declared extinct until 1997 when it was rediscovered after 113 years in the central forests of India.

Owls are widely thought of as bad omens. Their nocturnal habits, strange appearances and eerie hoots contribute to the superstitions surrounding the birds. However, if we tried to understand their behavioural adaptations and ecological significance, we would realize how fascinating these creatures are. It is no wonder that owls have been a part of ancient cultures in nearly every corner of the world. They have been worshipped for a long time, due to both inherent fear and mythological significance as riders of the goddess Lakshmi.

Owls belong to the order Strigiformes, which is further divided into the Strigidae and Tytonidae families. There are over 200 species of owls found in the world, of which around 45, nearly 25 percent, can be found in India. This contributes to the diverse bio-geography of India. Just as owls are located in every corner of the world, they are located in every corner of India.



From deserts to evergreen forests and snowy peaks to coastal belts, owls have adapted to quite a wide range of climates. With a few exceptions, all owls are nocturnal in habit. This allows owls to avoid competition with other raptors such as falcons, kites, and eagles, all of which dominate the landscape during the day.

There are certain morphological adaptations that have made the owl an expert night-hunter. The owl's forward-directing eyes provide a stereoscopic view of surroundings. In addition to this, its neck rotates 270 degrees, a unique adaptation that gives the owl an ability to see in almost every direction. This adaptation cannot be seen in any other species. There are two key evolutionary processes behind the owl's neck. First, the number of neck vertebrae in owls is double the number of neck vertebrae in humans. This makes the owl neck more flexible. However, this adaptation is not enough. In order to prevent a 270 degree twist from blocking blood flow to the brain and causing instant death, the neck arteries of owls have evolved to be larger. A neck artery is ten times larger than a normal artery in owls. It protects the neck artery from being squeezed. Additionally, owl feathers are adapted to make little noise while in flight. Owls have acute vision and very keen hearing ability. The ear tufts that we see in owls are nothing but a type of radar system that directs even slightest sounds toward the ears.

Some owls have binaural ears in which the left and right ears are not in a single plane. This helps owls detect proximity of prey such as insects, reptiles and mammals.

One of the most rare owls found in India is the Forest Owlet (*Heteroglaux belwitti*). It is called *duda* in tribal dialect and *vanpingla* in Marathi. Earlier the bird was placed in the genus *Athene*, the same genus as the Spotted Owlet. However, due to osteological differences between the two, the renowned ornithologist A.O. Hume later placed it in an independent genus, *Heteroglaux*, which was confirmed by ornithologist Pamela Rasmussen. It is diurnal in habit. The Forest Owlet is a Critically Endangered owl. It was rediscovered after a gap of 113 years! It was rediscovered at Toranmal Reserve Forest in the Nandurbar district of Maharashtra in 1997 by Ben King and Pamela Rasmussen.

The story of Forest Owlet begins in 1872, when it was first collected by F.R. Blewitt, resulting in an alternate name of "Blewitt's Owl", and described by A.O. Hume in 1873. Blewitt found the owl in the previous deciduous forest ecosystem of the Basna range in Mahasamund district of Chhattisgarh. Today, there are only agricultural fields at this type locality. Today, there is no record of forest owlet population anywhere in Chhattisgarh. Since its discovery, ornithologists, spear-headed by J. Davidson, have collected specimens of Forest owlets





©Kaushal Iyer

By 1884, a total of seven specimens had been collected from various localities in Central India: one by Blewitt, five by Davidson, and one by Valentine Ball. For more than a century after these discoveries, there was no trace of the Forest Owlet until it was rediscovered in 1997. Various surveys were unsuccessfully conducted in this time period. There could be a few reasons why Dr. Salim Ali and teams in the Melghat forests could not locate the bird. The surveys were conducted at night time, but Forest Owlets are diurnal birds. Furthermore, today it is easy to survey a bird by using its recorded calls, but at the time, there were no recorded calls to lure the bird. There is a specific reason why the expeditions especially to Gujarat failed. The presence of a Forest Owlet specimen was reported by Colonel Minertzagen at the Mandvi riverbank in Gujarat. Due to this record, a few expeditions were conducted in this region to no success. Using forensic studies, Rasmussen later discovered that the specimen that was submitted by Minertzagen was actually a stolen specimen from Davidson's collection.

The first Forest Owlet site reported in Madhya Pradesh was in Burhanpur district. It was reported by the previous Bombay Natural History Society (BNHS) researcher Farah Ishtiaq in 2001. During this time, the owlet was also reported by the Yawal sanctuary in Jalgaon district. Later, researcher Girish Jathar completed a detailed study on Forest Owlet ecology as PhD work under BNHS. His study area was Toranmal and its surrounding forests. After this, the Envirosearch organization and I conducted extensive surveys in the entire distribution of the Forest Owlet population in Central India. The survey was divided into two phases and covered a total of over 26,000 kilometers of effective road travel. It spanned almost all of the forests in Maharashtra, Madhya Pradesh and Chhattisgarh. The survey revealed about four new sites of the owlet's distribution in Madhya Pradesh, amounting to 24 total owlets. The above forests are where three similar owls (the Forest Owlet, Spotted Owlet and Jungle Owlet) all reside. In at least one of these sites, it was observed that within a few days, a single tree branch was used by all three of these owlets as perch at different times.

More studies are necessary to improve our understanding of the interrelations of these closely related owlets.

Recently, Girish and I conducted a reassessment study under the Ravi Sankaran Fellowship Program. We visited the known sites of the owl in Maharashtra and Madhya Pradesh. Our research revealed that the owl population in the Toranmal forests has drastically gone down, so much so that the owl is facing local extinction. Rampant agricultural encroachment in the owl habitat was found to be the prime reason for this population decline. At the site in Madhya Pradesh, comparatively less disturbance was observed, except for the increasing use of agricultural pesticides in nearby villages. This may have a major impact in the coming years. Additionally, one of the owl sites had an invasion of Common Myna (*Acridotheres tristis*), an aggressive bird that hushes out other birds such as the Forest Owllet from the territory.

The latest path-breaking site discovery of Forest Owllet was at the Tansa Wildlife Sanctuary. This is the first ever record of the owllet from Western Ghats! For more than a century, the owl has been thought to be endemic to the Satpuda forests. One day our friends, Sunil Laad and Rohidas Dhagale, called us to tell us that they had seen an owllet resembling the Forest Owllet. Girish and I initially declined the guess, but after hearing the owllet's call, we realized it was indeed a Forest Owllet. This discovery was a kind of breaking news for many birders. We visited the Tansa site the very next morning and saw one Forest Owllet at the site. After detailed survey, we found more than 50 owllets in and around the Tansa Sanctuary. In short, this is a big hope for the survival of this Critically Endangered bird.

After the Tansa site discovery, there have been newer and newer sites being discovered. The most recent are from Gujarat and Jalgaon district. These all sites actually validate the Ecological Niche Model that we, a group of researchers, have developed. More ground-truthing would be required to search out the other predicted sites.

Although there the media has reported that there are 250 Forest Owllets left in the wild, in reality, there is no such population study has been done so far. No one is sure about the exact population of Forest Owllets.

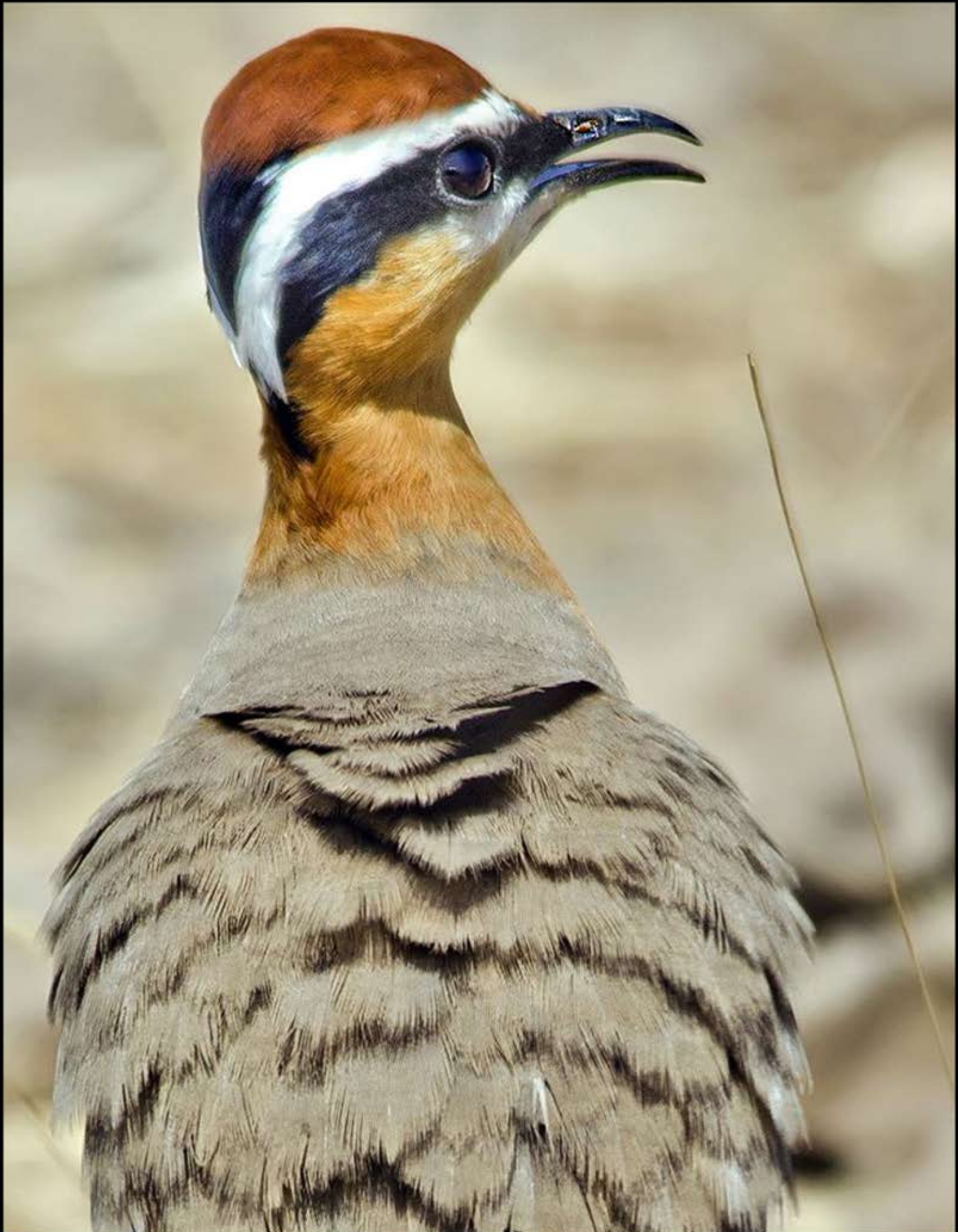
Whenever we talk about discovery of site of Forest owllet, it only means that some learned person saw the owllet and reported it through a research paper. In reality, these are the sites where the local tribes or other communities may already be aware of the owllet's existence without knowing its name!

A major threat to Forest Owllet is the destruction of its habitat, which is quite evident at Toranmal, the rediscovery site. Other reported threats include the overuse of pesticides, use of their eggs in witchcraft, and poaching for illegal trade. This is also true for all other owls in India. Being a glamorous species, many researchers are studying the bird, but in the pristine forests where there is no apparent threats to its conservation. The need of the time is that such researchers should focus on critical sites like Toranmal and conserve the owllets there instead doing research with single focus of publishing papers and achieving fame. If this is not done, soon there will be a local extinction of Forest Owllets from Toranmal. Researchers must determine whether the conservation of endangered sites or elite research on already well-conserved sites is the larger priority.

If we look from a systemic perspective, the Forest Owllet is a critical link in the entire teak dominant dry deciduous open forest ecosystem. Any such system will be dynamic and alive when the interrelations with the system are well maintained. Even science does not know how many elements a species is connected to for sure. Hence, the loss of such an endemic bird can lead to the collapse of an entire ecosystem. This calls for a need for all researchers and nature lovers to come together and act towards real conservational goals instead of being busy with creating mere heaps of research papers!

From Facebook

Photo by Suhas Ghule



From Facebook

Photos by Uday Wandkar



The Duck Existence

In India, most of the Fishing Cat habitat comprises of freshwater marshlands which are considered as 'wastelands' under land use policies and are thus subjected to conversion and degradation. This is one of the major reason for the decline in numbers of the fishing cat in India



Fishing cats are adapted for the semi-aquatic life. They have partially webbed paws and their claws cannot be retracted completely.

Photo Credits: Kathy Newton/ Cincinnati zoo

A Duck Existence

Tiasa Adhya



Tiasa completed her bachelor's in Zoology from the Calcutta University in 2008. Then she joined a non-government organization in Kolkata and worked in the Sundarbans for four years along with some parts of North Bengal. The tiger census in the Sundarbans in 2010 was a turning point for her not because she saw the tiger but because she saw the pugmarks of a lesser known feline – the FISHING CAT

It has partially webbed feet, with which the Fishing Cat wades through waters. An unusual asset for a water tolerant cat – an idea most other cats would abhor to associate with. The double-coated fur is an additional boon, keeping the body from getting wet. Claws that remain half-out act like weapons to catch its favored fish. What gives it a weird look though is the short tail. Such is the Fishing Cat, as big as a domestic dog; a cat with a bark-like growl.

It is found in the tropical floodplains like in Dudhwa Tiger Reserve near Ganga, in Kaziranga National Park along the mighty Brahmaputra or in the freshwater marshes of Chilika, fed by tributaries of Mahanadi river. Coastal wetlands like the mangrove swamps in Sundarbans and Bhitarkanika also give refuge to the cat. Marshy swamps like these are either flooded in the monsoons or are bathed with tidal waves every day. While water arrives with food, its recession exposes other types of prey. A predator in this dynamic system is an efficient hunter in both land and water. Not only can it hunt out its prey from water, the Fishing Cat can hunt birds and rodents with ease and is strong enough to take down goats and fawns

Fishing cat clicked at Dudhwa



The cat has the gait of a tiger, or so thinks Dakubabu, a local elder, member of a once notorious zamindar family and the owner of a union of small-scale fishermen at present. What he did not disclose is utter despise towards his old enemy. We got a picture the same night and took out the trap. This was just a recce to find probable sites to put up camera traps. Not more than half-a-day must have passed in which trails leading to the pond were blocked. Strong nets were guarding portions of the pond when we returned to trap again at the same place, this time to get a video. There were two clips. One in which a Fishing Cat came and checked out the net. And in a couple of minutes it was back, on the other side of the net, in the pond. Before diving it looked back across the net one last time. And then water splashes across the screen. Call it mockery or the cat having its own way, as usual.

In another, a second cat strolling across was clearly caught off-guard in the light. The cat barely walks a few paces after which it sits down and starts scratching itself. While leaving the spot, he sprays pheromones on a haystack, before fading into the darkness. Calmness in the face of adversity is a wise attitude someone had said. In yet another, a cat was walking past but stopped short on being lit. It then continued walking, stopping twice to turn back fully to look at the camera. The last look comprised two torch like balls looking back from the dark. In comparison, jackals darted when caught unaware once they triggered the lights.

These videos are rarities because marshlands continue to go at an alarming rate and Fishing Cats follow. The ephemeral presence of water makes it convenient for factories and urbanization to replace them. The change is apparent throughout Howrah, a district next to Calcutta. One that was once rich in marshlands because it is geologically depressed and situated in an interflow of the lower gangetic floodplain. Not anymore. The pockets that Fishing Cats persist in are scanty and scattered today.

These pockets are relatively low-lying and are seasonally flooded. Here, marshy reeds are cultivated instead of other agricultural crops since the latter are prone to rot if inundated. These are cut once a year but they grow back fast and do not require pesticides or year round labor. The landscape is also dotted with small ponds which are used for fish culture. Coupled with reed cultivation, these facilitate the cat's presence in such pockets giving both refuge and food. Yes, there are feuds too when a cat gets killed because of its habit of taking goats and fish. But that is meager in comparison to the mass habitat destruction caused by ecologically un-informed land-use policies.

Take for example the Dankuni marshes spreading from northern Howrah into southern Hooghly. Despite these being wetlands and worthy of being protected, more than a dozen companies want to fill them up. The fate of these marshes hangs precariously on a final decision by the court next month even though it has all the features of a wetland. Since these were flooded by the once free flowing Saraswati river, the soil-layers are dark in color since they are devoid of oxygen and since they retain water throughout. A plethora of emergent – tall grass-like plants capable of withstanding inundation - along with other submerging and aquatic vegetation is present there. Moreover many wetland animals like the Yellow Monitor Lizard is also found. As Durga puja approaches, the emergent deck up with fluffy flowers on top – brown, tawny, off-white and whitish ones. Such a beautiful horizon exists only in such patches though and invokes a sense of nostalgia. Once, such a horizon was a common sight in Howrah





By late winter, much of the water would disappear and marshlands would start looking like fields of matted reeds. But looks are often deceptive. One could get into knee-deep mud or water as soon as one gets in. If there is water beneath, every sway of the body could send ripples across the green surface. What better way to understand that marshes are nature's sponges? The cat's presence is felt in the relatively higher grounds here, especially on the bunds surrounding a pond. Almost like jewels, pugmarks seem to embroider the soft mud in certain places. A camera trap put up in one such trail gifted us with the image of a Fishing Cat carrying a big fat rodent in its mouth. At such moments, one is torn between feelings of happiness and anxiety, the latter because the dozen companies are still eyeing the same marsh.

Dankuni is not a one-off case. It mirrors what marshlands are perceived as socially and politically - 'wastelands'. Imagine a specialist tied to a habitat that is considered a wasteland. No wonder habitat destruction is such a threat to the Fishing Cat in India. Apart from some protected areas, it still persists in certain unique pockets in human dominated landscapes that have reedy marshes or crops similar to them. The local challenges here can still be addressed but bigger forces need a stronger anti-thrust. It requires science, activists, communicators and activists to come together. The king of the marshes is striving hard for survival despite its reserve in betraying tension. It can do without much attention because it has managed without it in the past. However, what we do its habitat might come back and hit us hard. Marshlands are nutrient, carbon and water sinks. All much needed for humankind's adaptation to climate change and resource scarcity. No wonder so much is being spent on marsh restoration in Europe, Australia and the US. Iraq wants to restore its once expansive marshlands because it has erupted social and environmental dynamics of the region but the country might not have enough funds to do it. We just have to foresee the future for once. What happens to the Fishing Cat now might reflect that which might happen to us in a short while.

From Facebook

Painting by Pratim Das



Pratim Das - 17/March

Riddles of the Riddleys

Devi Priyadarshini



Devi Priyadarshini, MSC. MPhil. In Zoology from Utkal University

Experience includes 7 years of working with various organizations for wildlife and nature. As a naturalist every other phenomenon attracts me while I have special interests for big cats, turtles and arachnids. I have worked previously with Wildlife Institute of India, Dehradun and the Department of Forest and Environment, Govt. Of Odisha. Also laying my hands on forensic biology at Central Forensic Science Laboratory, CBI, MHA, Govt. Of India for three years before finally landing at the National Museum of Natural History.

Currently posted at the National Museum of Natural History, New Delhi, MOEF&CC, Govt. Of India, eastern regional centre in Bhubaneswar as Scientist B.

Pursuing my PhD. Currently on spiders of rice agroecosystems from Utkal University, Odisha. I aim at one day being able to give animals their long deserved rights of peaceful existence on this planet which we have annexed unfairly!.


Of the many amazing creatures nature has gifted us with, sea turtles are one of the most attractive and interesting species. They are unique and special in many ways. In the list of sea turtles are the wonderful Pacific Ridley Turtles and the Olive Ridley Turtles. These, along with their close kin, the Kemp's Ridley Turtle, are the smallest of all turtles. They owe their names to the colour of their carapace and skin, which is grey or green over various periods of life. These turtles migrate huge distances in the sea waters to congregate at nesting sites which are unique to both the Olive and Kemp Riddleys. This phenomenon of nesting en mass is called "Arribada," the Spanish word for "arrival."

The Olive Ridley sea turtle, *Lepidochelys Olivacea* is listed as a vulnerable species in the IUCN Red Data Book. It majorly nests along the Odisha coast. Scientific findings have revealed that, of the total population that nests along the Indian coastline, the largest breeding population comes to the Odisha coast for nesting. The other congregations for nesting are found along Mexico and Coata Rica. There are also other places where they nest sporadically or in small groups including California, Chile, parts of South Africa, and Australia. In the Indian Ocean, they are along the Coromandel Coast and Sri Lanka. However, they are slowly becoming endangered due to a loss of suitable breeding and nesting grounds everywhere. Migration monitoring studies conducted by the Wildlife Institute of India, Dehradun using Monel metal tags and satellite transmitters have also found that the Olive Riddleys nesting along the Odisha coast migrate to the southern coast of Sri Lanka for foraging.



As a regular periodic phenomenon, the turtles throng the coasts of Odisha each year in huge number at three major locations: the islands of Gahirmatha, Rushikulya, and the Devi River mouth. The largest rookery in the world for the Olive Ridleys is the Gahirmatha Marine Sanctuary, which is part of Bhitarkanika National Park. After a cyclone, the islands in this location were fragmented into one kilometer land stretches and isolated from one another. This has considerably shrunk the habitat available for the turtles to nest. Because mating occurs in the sea waters, the males are mostly not seen since they retreat to the foraging ground after mating is over. The females on the other hand linger around the shallow waters for over a month, after which they reach the beaches to lay their eggs. Nesting seasons in India lasts from around November or December to March or April. The females lay approximately 100 to 120 eggs each. Each female works for between 40 minutes and an hour to dig a 1.5 deep foot hole with its flippers and lay her eggs.

It is also said that Olive Ridleys are ruthless mothers, as they leave these eggs unattended and also do not come back to hatch them or rear the young ones. The young hatchlings come out by themselves and crawl seawards to start foraging on their own. From then, they live an independent life, a major part of which is still a mystery to human beings. They spend their young lives in the oceans and again come back to the nesting grounds only after attaining adulthood after around 13 to 15 years. What happens to them during all these years is yet to be explored and discovered.



The eggs are round and the size of ping pong balls. They have a hard outer shell that prevents them from breaking when they fall on each other during the egg-laying process. The eggs are covered by the sand that was dug out by the mother and pressed properly with a rhythmic beating using a plastron to seal the area until the babies can hatch out of them.

This year, when I first learned about the probable nesting that was to begin on Feb. 15, following predictions based on the mating pairs seen in the sea waters near Devi River's mouth, I decided to go ahead and closely observe the nesting. Although I had seen it before, I was curious to track the differences and mark the changes that had taken place in the eight or nine years that have passed by.



After reaching the location at around 12:30 in the night, we had information that the process had already started on the night of Feb. 14. The congregation was over 15,000 the previous night. That night, they expected a good congregation because it was the peak time. When we landed, the whole beach was dark except for the roaring sea waves emitting a faint light that guided us along the coast. Travelling along, I could smell the typical smell of fish due to the presence of the fishermen's boats, nets and equipment. Advancing ahead with excitement, I could slowly make out the loud noises of a few turtles digging and others beating the covered nests with plastron. After moving ahead, I could faintly see the turtles approaching steadily and eagerly from the sea towards the sandy beach to dig their nests. As we moved on, the number was increasing in multiples.

A little further, there was hardly any space to let us walk, even with measured and careful footsteps. That day, we recorded more than 10,000 turtles along the Rushikulya coast. I was overwhelmed to find the encouraging figures right on the second day of nesting. Following the set of protection rules that the forest department staff had sincerely posted, we delivered our service to the marine guests so they could have a peaceful nesting. There were a few turtles who had done their job and were retreating, tired and exhausted after a whole session of egg laying. There were little clashes for space. In fact, a few unfortunate nests which had been accidentally dug out by other females due to a shortage of space.



This year, all the nesting sites had encouraging and unprecedented figures of turtles that had come to nest and lay eggs. The figures still await official authentication, as the total count considers all females that came to the beach, including many who visited without nesting. It has been sounded that the total counts have crossed the 400,000 mark this year at Rushikulya, but the figures need to be authenticated with other survey teams and research agencies functioning during this season. Regardless, this year's statistics have been very good and give all turtle lovers a big ray of hope! Compared to previous years where there have been instances of no nesting at all due to various reasons like changes in salinity, temperature, and oil spillage, this year has been heartening. We are more than excited to have our marine friends back in place with encouraging numbers. It was even more exciting to find reports that a few of the turtles with tags returned to the same beach to nest, which means that they visited the same place again and chose to nest.

Thanks to the conservationist teams, people from the nearby villages, NGOs and state forest department officials who work day in and day out during the nesting season, hatchlings can move safely back into the sea. The community participation of the local villagers has been instrumental to discouraging the poaching and the trade of products like eggs, meat, and carapace. The young children also participated in saving the turtles babies from predators like crows, dogs, jackals, hyenas, wild boars, and raptors. However, a lot can still be done to keep this living heritage healthy and alive. A few of the basic protection challenges that still loom over the nesting sites and possible solutions are listed below.

1. Using of turtle unfriendly fishing mechanisms for deep sea fishing.
2. Using turtle excluder devices (TEDs) to allow sea turtles caught by nets to escape.
3. Changing patterns of beaches and shorelines due to tidal dynamics.
4. Changing patterns of beach salinity, temperature, pollution levels due to oil spillage, and abiotic factors controlled by pollution.
5. Artificial lighting along the nesting site coasts.
6. Increasing pollution due to growing industrial areas near Rushikulya.
7. Predation of the hatchlings by a wide range of predators from scavengers to birds, mammals and even crabs.
8. Fragmenting beaches and beach erosion lead to habitat loss and a shortage of available suitable space for nesting.

What can general public do to help the situation?

1. Avoid blaring horns while crossing a turtle country atleast during the nesting seasons.
2. Stop using artificial lights can so that turtle hatchlings are not disoriented towards the city instead of towards the sea.
3. Aid government departments in the protection of turtle eggs and hatchlings from predators through community participation.
4. Provide turtles with a disturbance free, plastic free and clean environment on nesting shores.
5. Promote eco-friendly tourism so that the creatures are not irritated and disturbed during the nesting season.
6. The government should take measures and steps to avoid industrial growth in the areas where the turtles nest to prevent water, air, light and sound pollution.
7. Require TEDs to be used amongst fishermen communities who opt for deep sea fishing through trawlers.
8. Educate local fisherman about the adverse effects of careless fishing practices.



From Facebook

Photo by Vinit Rajawat



© Vinit Rajawat

Photo by Shruti Kuvar



From Facebook

Photo by Sachin Dhopade



Sachin R. Dhopade
Photography

Photo by Ganesh Dhumal



Ganesh Dhumal
Photography

Himalayan Bhutan Glory

Amol Pendharkar



Amol Pendharkar has been in the field of wildlife tourism for the past 6 years & is one of the founder members of Starling Trails Organisation. He has special interest in butterflies and has set up a butterfly park by the name of "Papilion Butterfly Garden" in Pune with the help of PMC & friends & Guides. Bird watching and photography are his hobbies. He conducts slide shows and presentations on environment and conducts interactive sessions on wildlife related topics.

How many of you have heard this name: - Himalayan Bhutan Glory? Never heard it before? Then you are not alone, there are plenty of us who have not heard the name of this rare butterfly *Bhutanitis lidderdalii*-Himalayan Bhutan Glory which is from the family of Swallowtails butterflies, are known so because of their tail like extensions on their lower hind-wings. It is endemic to the Eastern Himalayas, occurring in Sikkim and eastward into Bhutan, Arunachal Pradesh, Manipur, Nagaland, and Northern Myanmar. It is considered as one of the most beautiful butterflies in the world; but very few are fortunate to have a glimpse of this butterfly.

This butterfly was described by William Stephen Atkinson and in the Proceedings of the Zoological Society of London in 1873. Mr Atkinson wrote:

"This fine insect was first discovered in May 1868, near Buxa, in the Bhutan Himalayas, at an elevation of 5000 feet, by Dr R. Lidderdale, of the Bengal Army. Dr Lidderdale obtained two specimens from the same locality in 1872; and from one of these, kindly communicated to me, the foregoing description and the accompanying drawing have been prepared. I am glad to associate Dr Lidderdale's name with this very interesting discovery, which adds a new and remarkable form to the family of Papilionidae. Other specimens have since been taken by Lt H.M. Rose of the Bengal Staff Corps."

The Himalayan Bhutan Glory has wingspan of 90 to 110 mm & the upper wing of the Himalayan Bhutan Glory is dull black with pale white or cream coloured with narrow vertical lines. There is a large orange-red patch near its lower hind wing. Forewings are long and rounded. Its hind-wing has 3 tails like extensions and one of the tails is longest. The under-wings are similar to the upper-wings but are much paler. The antennae, head, thorax and abdomen are black, while the abdomen is crossed by coloured white lines and abdominal segments are marked by lines of similar colour. Both the male & female look similar.

The Himalayan Bhutan Glory is seen between 1,500 and 2,500m above sea level in the Himalayas and Manipur-Naga Hills in northeast India and flies at tree-top level, with a slow drifting unpredictable flight. It rarely descends to the ground & is found more commonly on ridges rather than in valleys. When seen from below, the grey underside of this butterfly makes it very difficult to spot in the canopy shade and can vanish in front of your eyes, in spite of being a large butterfly. When at rest it, it spreads its wings & covers its hind-wings with the fore-wings and thus is hidden, as its bright colours on its hind-wings are not visible and escapes detection. Very little is known about the life of this butterfly but it is known to lay eggs between two seasons: the first one from May-June, and the second one from August to October.

This species is considered rare in India, and it has been legally protected under India's Wildlife Protection Act, 1972. However, worldwide, Collins and Morris (1985) gave its status as "Insufficiently known", arguing that it is widely distributed and hence unlikely to be in danger at the moment. However, they acknowledge that more information is needed on this comparatively poorly known species and more studies and research is required on this species.



Forest Jewels

The Abundant, Uncommon & Rare

Pankaj Koparde



I am a Ph.D. student working with Salim Ali Centre for Ornithology and Natural History (SACON), India at Shomita Lab. I am interested in ecology, evolution and conservation biology. My particular research interests include biogeography, landscape ecology, conservation genetics, avian acoustics, odonatology and statistics.

I am interested in diversity and distribution studies especially those on Dragonflies and Damselflies. I have previously worked in North Western Ghats of India on the same, and I am looking forward to continuing the work.

It was a cloudy morning of July 2012. With a camera and a pair of binoculars hanging from my shoulders, I walked a bird transect in the semi-evergreen forests near Bahe village, Maharashtra. Bahe, a small village now in the buffer area of Sahyadri Tiger Reserve, has witnessed windmills getting erected on nearby lateritic plateaus and its unfortunate side effects on the semi-evergreen forests on the slopes of the plateau. My bird-watching trail passed through one of the forest patches on the slope of the plateau and was undulating, slippery at times due to recent rains. Birds, as obedient weather followers, were probably hidden in canopy and understory. Nothing I could hear, observe or feel. The otherwise alive forest was silent as if dead. I had walked the same transect a year ago but in the month of June, when the Monsoon had not appeared. The same trail a year ago had been full of calls of Nilgiri Wood-Pigeons. The cloudy morning of 2012 was definitely something special, but I was unaware of the sudden surprises the forests can bring up. I completed my routine bird transect, sat on a rock nearby a small seasonal stream. With a frustrated mind, I started filling up transect datasheet, correcting any possible errors caused due to distorted handwriting as I was writing while walking. This is when something yellow captured my view. A fairy perhaps! That yellow color in that murky, damp forest was something really special. I followed the color, turned out it was a beautiful gomphid called Indian Lyre tail (*Heliogomphus promelas*) male. I was overwhelmed to see my first *Heliogomphus*. I carefully scanned the part of the stream visible to me and to my surprise in the next ten minutes, I observed four lifers including the *Heliogomphus*. Back at the field station in Koyna, a careful look at their distribution revealed that two out of my four lifers at Bahe were new distributional records for the State of Maharashtra. Except for Indian Lyre tail, all other lifers were Data Deficient as per the International Union for Conservation of Nature (IUCN) Red list of Threatened Species. As a budding researcher, personally, this discovery was invaluable for me; but this study along with few others re-questioned the conservation status of the Indian odonates.

To give you a brief idea, odonates (Dragonflies and Damselflies) are freshwater insects that depend on water for reproduction. Some also refer Dragonfly and Damselfly as 'Helicopter' and 'Needle' respectively. I am sure; everyone reading this article would have at least a childhood memory attached with the odonates. You may have either chased them or tied a knot on their abdomen and played with them.

Coming back to the current question in odonatology, really, what do we know about them! Well, we know a lot about their natural history, thanks to the works of few great odonatologists; but when it comes to their distribution we have scarce data so as to assess their conservation status. A quick look at the current IUCN Red list of Threatened Species shows that many Indian odonates are either not assessed or Data Deficient. To be exact, only 119 out of 500 Indian odonates have been assessed. This is unfortunate, given that odonates, especially ecologically specialized and endemic species, have been observed to be good ecological indicators of habitat and water quality. Chance records like my observations from Bahe village will not help assess the species. This needs a focused and collaborative effort to map distribution, estimate population densities, and monitor the effect of habitat loss and fragmentation so as to come up with conservation assessment and appropriate conservation action. Let me explain to the readers, how this works -



Indian Lyre tail (*Heliogomphus Promelas*)

Indian Lyre tail as the name suggests has a beautiful 'lyre' like structure (lyre is a French musical instrument) as anal appendages. It is a black and yellow dragonfly with beautiful bottle green eyes. The species is categorized as Near Threatened by IUCN. The species is distributed in Peninsular India starting from Maharashtra to Kerala, and also in Orissa. The habitat requirement of the species is peculiar. It inhabits only clear and fast flowing hill streams in forests. The reason why the species is categorized as a Near Threatened one is because of rapid land-use change resulting in severe loss of habitat of the species. Indian Lyre tail's last assessment was carried out in 2011. Since then, as a result of several citizen science initiatives and outreach programs such as Dragonfly India meetings, there is data available to be used for the next assessment.

Yellow-striped Blue Dart (*Pseudagrion indicum*)

Like other *Pseudagrion* species, Yellow-striped Blue Dart is a blue and black damselfly, but with signature yellow stripes on the thorax and bi-colored eyes (black above, greenish below). The species occurs in pools and streams associated with hills and forests. This *Pseudagrion* is relatively well distributed across the Western Ghats, but sightings from Northern Western Ghats are limited. I have always seen Yellow-striped Blue Darts, perching on twigs, in forest streams with a moderate water flow. During my long field work in Northern Western Ghats, I first saw this species in a stream near Hiranyakeshi temple in Amboli. It was easy to identify the species because of those characteristic yellow stripes. Subsequent to this, I observed the species in various parts of Western Ghats, always raising the question, why is the species classified as Data Deficient by IUCN? It's not only me; though many others have sighted and reported the species in various corners of the Western Ghats, still, the conservation status is unchanged. Perhaps, the reviewers feel that rather than deciding the conservation status based on a meager amount of scattered distributional and population information, it is in the species best interest to keep the conservation status undefined. The review, published in 2009, suggests that there is an urgent need of expert sampling so as to understand distributional limits and population status.





Black Marsh Skimmer (*Indothemis carnatica*)

This blackish brown dragonfly, sometimes showing violet tinge, has glossy brown eyes. Since it's not brightly colored, many may overlook its presence, but this is a Near Threatened species as per IUCN. So, next time you see one, don't forget to keep notes! Black Marsh Skimmer is often confused with Black Ground Skimmer (*Diplacodes lefebvrii*) which is a Least Concern species. The differences between these species are their sizes (*Diplacodes* is smaller), color (*Diplacodes* is black), and shape and size of anal appendages. Black Marsh Skimmer inhabits weedy lakes and ponds. In my limited experience, this is a species of open forests, scrublands and scrub savanna. The species has a broad spatial range from India to Thailand. Its last assessment was published in 2009, eight years back! The world has changed a lot in the last eight years; therefore there is an urgent need for a new assessment.

Ruby-tailed Hawk let (*Epithemis mariae*)

Ruby-tailed Hawk let is a gem found in the mud lands of Kerala. It is the 'love at first sight' species if you are a naturalist. I was lucky to observe this beautiful insect in 2015 in Thattekadu Bird Sanctuary. Actually, it was not just luck but also a proper understanding of forests and a lot of hard work that paid off as a sighting of *Epithemis*. Ruby-tailed Hawk let has a beautiful ruby colored patch on the abdomen. The otherwise black dragonfly has coffee (so Kerala!) brown eyes and two white stripes on the thorax. Ruby-tailed Hawk let surely looks as if an insect king of the tropical forests wearing a black robe and a red waist belt. The species inhabits forested marshlands such as *Myristica* swamps, a rare ecosystem vulnerable to minute changes in land-use. The species, till now, is known only from Kerala, Tamil Nadu, and Karnataka, but Mr. Parag Ranganekar's recent findings suggest that a Goan population exists. The species could be found as a Least Concern species in IUCN Red-list, last assessed in 2011.



Coorg Bambootail (*Caconeura ramburi*)

Similar to the Yellow-striped Blue Dart is the story of Coorg Bambootail. This beautiful bright blue and black colored damselfly has the most beautiful azure blue eyes with a small black cap. The azure blue on the thorax and last abdominal segments is unforgettable. The species is widespread in the Western Ghats and in parts of Eastern Ghats. The Ghats endemic species was subsequently sighted in Peninsular India, breaking its own box of endemism. As the time passes, we get more and more information on this beautiful damselfly making it easy to assess the conservation status. However, till now, the species enjoys the Data Deficient status, published in 2009, because there is not enough fresh information to assign a conservation category yet.



Splendid Dart let (*Agriocnemis splendidissima*)
This *Agriocnemis* is a tiny black and blue damselfly with greenish eyes. The species is easy to identify by diagnosing its peculiar anal appendages. The superior anal appendages are sharp claw-like structures, easily visible in a good photograph. The species is endemic to Peninsular India, as per the current knowledge. The species do not appear in the IUCN Red -list, meaning it is not assessed and hence do not even has a Data Deficient status. This is one of those species which I was referring when I said that only 119 out of 500 species have been assessed. The species inhabits edges of streams and marshes in forested areas. In our current work, we found the species in highly polluted waters of Mula River in Pune. This clearly indicates that there also needs to be a revision of natural history and ecology of the species.



What's next?

Conservation status is a strong factor that may help influence policies and convince government towards habitat conservation. It is like a unique threat status identity for each species. It signifies that adequate amount of scientific work is done on the species so as to understand its ecology and natural history. Therefore, there is an urgent need to address the question on the knowledge gap on our odonates. One more thing to be emphasized is that current IUCN conservation assessments are too old for many species. For example, Indian Lyre tail's assessment year was 2011. It means the status could be updated now with five years worth data. This happens because there is a limited skilled workforce in Indian Odonatology. If more of us, researchers and academicians, having a firsthand experience of odonate conservation, come forward to assess the conservation status of the species we have worked on, we will have contemporary assessments, which will be of great conservation value.

To understand more about our odonates many of us have started independent studies at conservation level. We have created a social group through which all the active and budding odonatologists remain in touch and information flows fast. This is important because, for country-wide research, we need to work as a team. You can also help us collect data by becoming a citizen scientist. All you need to do is photograph odonates whenever possible and upload the pictures on our citizen science portals such as Dragonfly-India on inaturalist (<http://www.inaturalist.org/projects/dragonflyindia>), Dragonflies of India on India Biodiversity Portal (http://indiabiodiversity.org/group/dragonflies_of_india/userGroup/show) and Odonata of India (<http://www.indianodonata.org/>). Curators on the portal can identify the species for you, converting your contribution to a research grade observation.

This approach has helped us tremendously till now and I am sure it will continue. With this approach, we are able to map the distribution of several species such as Black Marsh Skimmer and Yellow-striped Blue Dart, but several species still await a status update. You can help in improving present conservation assessments. We can also create national listings just like IUCN Red-list to better understand our own odonates. Updating conservation status is a step towards conserving the beautiful tiny fairies. Perhaps this is our only chance and we sure do not want to miss it!

For many, it may be a distant dream, but I want to chase dragonflies like a kid, when the streams carry clear water and sing their favorite song as they flow, and when forests are full of birds and there is no noise of your own.