

Our Himalayan

Successor of the Myanmar Matters



**ENDANGERED SPECIES OF
THE PANDEMIC ERA**



1. FOREWORD

- 1.1 A SILENT EXTINCTION: ENDANGERED SPECIES AND
CONSERVATION PRACTICES DURING THE PANDEMIC.....5

2. CONSERVATION

- 2.1 RISING SPOTS: INDIA RECORDS INCREASE IN LEOPARD POPULATION.....9
2.2 CONSERVATION SUCCESS BUILT ON BONDS BETWEEN WILDLIFE AND
THE IDU MISHMI TRIBE.....11
2.3 NORTH-EAST INDIA TAKES STEPS TO PROTECT ENDANGERED CLOUDED
LEOPARDS.....13
2.4 ARMY OF WOMEN SAVING HARGILA STORKS FROM EXTINCTION.....15

3. BIODIVERSITY

- 3.1 NEW GENUS OF TREE FROG DISCOVERED, FOUND IN
ANDAMANS AND NORTH EAST INDIA.....18
3.2 EIGHT CRITICALLY ENDANGERED VULTURES RE-INTRODUCED
INTO THE WILD IN INDIA.....20
3.3 MALAYAN GIANT SQUIRREL COULD DECLINE SIGNIFICANTLY IN INDIA,
SAYS ZOOLOGICAL SURVEY OF INDIA.....23
3.4 GRASSLAND BURNING, CLEARING IMPERILS BIRDS OF BRAHMAPUTRA'S
RIVER ISLANDS.....25
3.5 PERILS OF THE PHAYRE'S LEAF MONKEY.....29

4. EASTERN HIMALAYAS

- 4.1 A BUDDING BOTANIST'S QUEST FOR PLANT-INDIGENOUS COMMUNITY
RELATIONS.....35
4.2 TWO TAGGED AMUR FALCONS RETURN TO MANIPUR AFTER FLYING
29,000 KMS FOR OVER A YEAR.....38

5. BHUTAN

- 5.1 CONSERVATION SITES IN BHUTAN AND INDIA RECEIVE AWARD FOR
DOUBLING TIGER POPULATION.....41

6. MYANMAR

- 6.1 THE ELONGATED TORTOISE BATTLES HABITAT LOSS AND FIRE IN ITS LEAF
LITTER HOME.....43
6.2 MYANMAR'S NEW LANGUR SPECIES IS 'VERY BEAUTIFUL,' BUT CRITICALLY
ENDANGERED.....46

TABLE OF CONTENTS

Vol 25 : January 2021 - March 2021

OUR HIMALAYAN

FOREWORD



A SILENT EXTINCTION: ENDANGERED SPECIES AND CONSERVATION PRACTICES DURING THE PANDEMIC

Vol 25 : January 2021 - March 2021

OUR HIMALAYAN

A SILENT EXTINCTION: ENDANGERED SPECIES AND CONSERVATION PRACTICES DURING THE PANDEMIC

Content Courtesy: Sanchari Sengupta and Nikita Kulkarni

The COVID-19 outbreak is one of the most disastrous environmental-borne human tragedies- catastrophic in both magnitude and reach. Understandably, most of the literature written on the consequences of the pandemic has been from an anthropocentric point of view. As huge as the human tragedy surrounding the pandemic is, the glaring blind spot is the ecological impact due to the pandemic as well as the lockdown. The scientific reports on the impacts of the pandemic on the issues of conservation are very little in comparison to reports on economic and socio-political related effects.

The inaccessibility to field sites to start new studies and monitor ongoing studies due to the effect of the lockdown has resulted in the absence of substantial scientific evidence of direct impacts on the species and ecosystems, hence much of the results are still anecdotal.

The positive and negative impacts of the pandemic on conservation efforts

The impact of the pandemic on global wildlife has been both positive and negative. The dirty-waterways and rivers are clean-



er than before, the smog and haze have dispersed and more importantly, the wildlife has filled the open spaces. Clean rivers and other water bodies had a significant effect on aquatic life. Many species are returning to their natural habitats since the induction of the lockdown. The closure of factories and commercial establish-



ments has dipped the pollution level across the globe. Not only are the land animals returning to claim land previously owned as a monopoly by humans, but also sea creatures seem to be thriving from the momentous break in noise and water pollution.

On the other hand, negative effects of the pandemic like the lack of funding have also hampered conservation efforts. Where many communities thrived on ecotourism, now due to lack of income, have resorted to poaching. Reduced law enforcement presence and tourists along with the greater reliance on hunting by vulnerable local communities have increased threats to certain species and habitats.

In a study conducted by the Mohamed bin Zayed Species Conservation Fund (MBZ Fund), it has been concluded that the COVID-19 has been amply

harming efforts to prevent biodiversity loss worldwide. Majority of conservationists have reported concerns about increased threats to species and habitats. With the millions that have been made unemployed and displaced from megacities to their ancestral homes will now find themselves dependent on nature for subsistence, food, fuel and shelter, putting the environment under tremendous pressure. The strain will likely be compounded by the fact that conservationists and scientists, who would normally work round the clock for conservation practices, are now either out of work or out of funds. Rather than the pandemic being a respite for wildlife to recover, these conservationists have made it abundantly clear that it has set into motion the real possibility that already-endangered species, clinging to life by the thinnest of threads, are about to be further devastated as people who are out of work resort to poaching, hunting, and the destruction of habitat for farming in order to survive.

Reports on poaching around the world are increasing- at least four tigers and six leopards have been killed since the lockdown started in India, three critically endangered giant Ibis birds were recently poisoned in Cambodia (1% to 2% of the world population).



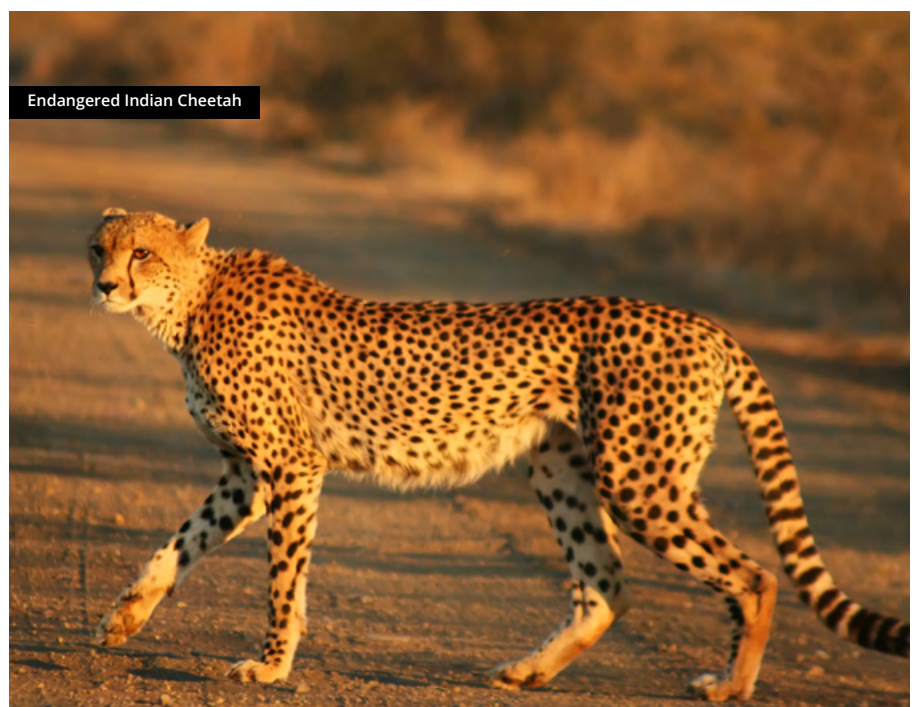
Tigers remain one of the most endangered species in India

In one such incident, the Mayurjharna Elephant Reserve, based in West Bengal, India, PTES' partner Samya Basu addressed the human-elephant conflict. They reported the first instance of illegal poaching for ivory ever seen in this southern region of West Bengal. There is now a concern that similar incidents could increase to the levels seen across other parts of the country, further impacting a species already listed as endangered. Even during lockdown, the wildlife-human conflicts persisted increasing in towns that

become unusually quiet. Asian elephants were more frequently exploring human spaces in the Jhargram Forest Division, West Bengal, in search of food and in the case of solitary tusker elephants, to expand their territories, resulting in potentially fatal consequences.

COVID-19 and the wildlife conservation

Even though the spread and impact of the COVID-19 virus took the world by surprise, as a zoonotic emerging infectious disease (EID), it is far from being unique. In fact, majority of EIDs like the Ebola, SARS,



Endangered Indian Cheetah

and the present COVID-19 have originated in non-human animals, causing increasing amount of harm on human lives. With the risk of such EIDs elevated with further environmental changes, there have been numerous voices calling for additional wildlife conservation practices to tackle future risks of pandemics. Activists and politicians have demanded for a ban in wildlife trafficking and the sale of terrestrial wildlife in so-called 'wet markets.'

Until very recently, animal-borne disease was regarded as a reason to eliminate animals, as opposed to protecting them. Proof of such attitude exist in the frequent and ongoing culls of bats, rodents, wild ungulates, and other organisms that are known to transmit disease to humans and livestock. Even when science suggests that culls are mostly counterproductive to disease spreads and can in fact increase transmission rates, policies that are not beholden to scientific facts reflect quite an opposite viewpoint.

A plan for the present

The immediate concern now is to ensure that all conservation projects remain on track and get the funding they need. In the longer run, it is critical that the gains are not lost. Conservationist and writer Prerna Bindra said, "Several young



people from local communities have become guides and naturalists, and this is a strong message, that wildlife can give you a livelihood. They have made being involved with wildlife aspirational, building community support for conservation. The current period of uncertainty, when no one knows when tourists will return, is putting a lot of people out of work. The hard work done to build community involvement over the years could be wiped out. We need to work with such vulnerable people to provide a safety net". The pandemic has been an eye-opener, but one bound to happen. Rare, unpredictable events like the Covid-19 are becoming more common and are forcing humanity to wrestle with how we are going to shield both the communities and eco-tourism operations that support them from such disruptions. Experts opine that figur-

ing out how to build resilience in the face of more crises like these is the need of the day. Even as the country and its most immediate neighbours teeter on the brink of another full-fledged lockdown, brought on by an even more dangerous strain of the virus, the International Union for the Conservation of Nature (IUCN's) position is that the coming decade is of critical importance for the future of biodiversity and the planet. While the ongoing global health crisis and the health and safety of those affected by COVID-19 must be the top priority for all of us at present, countries and governing bodies must not let it halt the political momentum for a strong biodiversity agenda beyond 2020 that will restore and maintain a healthy environment for nature and for people.

CONSERVATION



RISING SPOTS: INDIA RECORDS INCREASE
IN LEOPARD POPULATION

CONSERVATION SUCCESS BUILT ON
BONDS BETWEEN WILDLIFE AND THE IDU
MISHMI TRIBE

NORTH-EAST INDIA TAKES STEPS TO PRO-
TECT ENDANGERED CLOUDED LEOPARDS

ARMY OF WOMEN SAVING HARGILA
STORKS FROM EXTINCTION

Vol 25 : January 2021 - March 2021

OUR HIMALAYAN

RISING SPOTS: INDIA RECORDS INCREASE IN LEOPARD POPULATION

Content Courtesy: Nikita Kulkarni

Wildlife in India may look like fighting a losing war with land conversion, deforestation, industrialization, and illegal wildlife trade, but there is some good news that is offering a ray of hope for environmental conservation. According to the Indian government's 'Status of Leopard in India, 2018' report published on December 21, 2020, the leopard population of India has increased by nearly 60% in four years.

India is home to five big cats. They are the Asiatic Lion (*Panthera leo*), the Royal Bengal Tiger (*Panthera tigris*), the Indian Leopard (*Panthera pardus*), the Snow Leopard (*Panthera uncia*), and the Indo-Chinese Clouded Leopard (*Neofelis nebulosa*). The Wildlife Protection Act 1972 that declined following habitat loss and fragmentation, poaching for the illegal trade of skins and body parts, and persecution due to conflict situations. India is home to 12,852 leopards (*Panthera pardus*) spread across various parts of the country as of 2018, while it was noted around 7910 in 2014. Speaking about the report, Union Environment Minister Prakash Javadekar said that the "increase in Tiger, Lion and

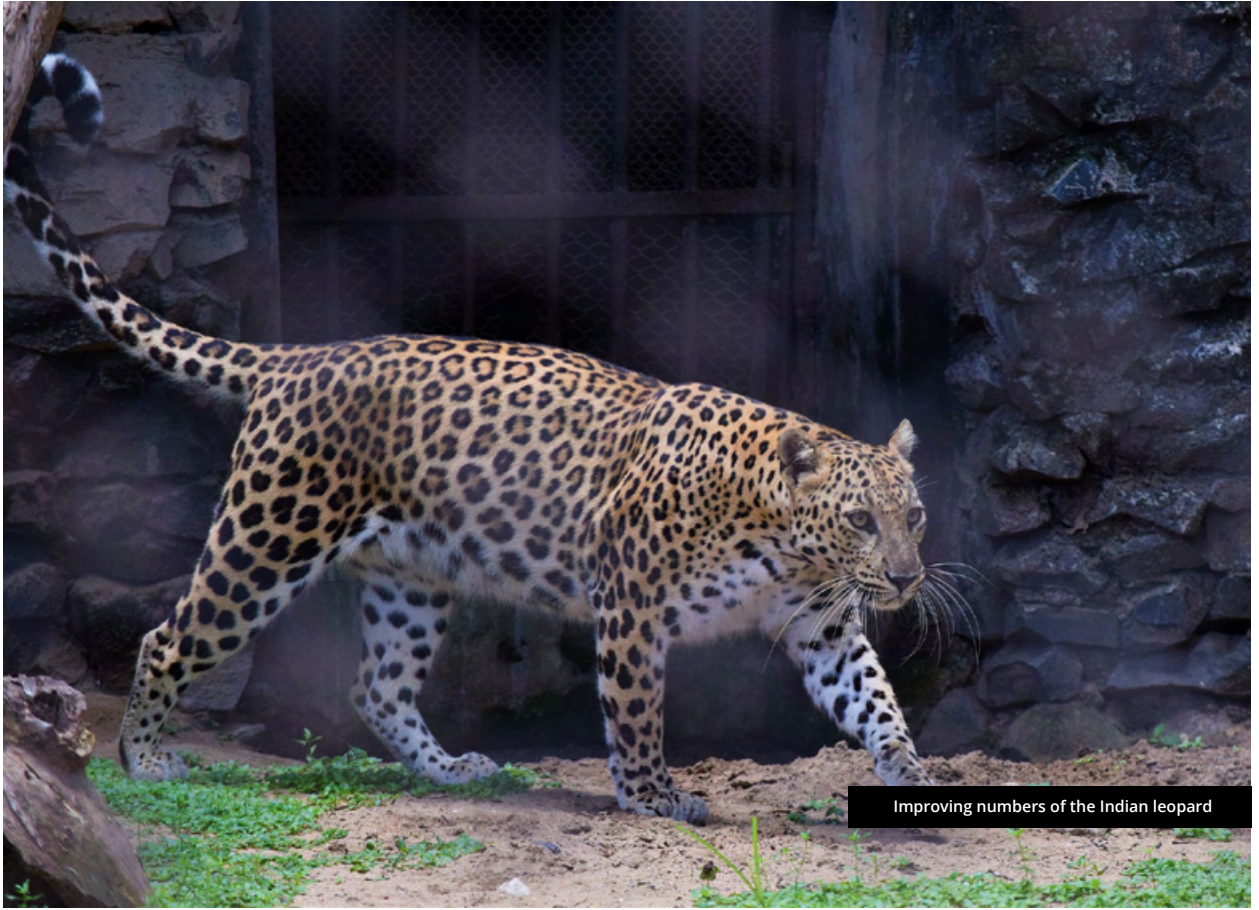


Leopards numbers over the last few years is a testimony to the relentless conservation efforts and of the thriving wildlife & biodiversity of the country".

Despite the leopard population threatened due to habitat loss, recent conservation efforts that include habitat protection, reducing conflicts and relocation have started to bear fruit in parts of the country, even if there is still a long road ahead in terms of entirely reviving the ecological integrity of their habitat.

Other than conservation, other reasons for leopards

far better than other big cats is because they are exceptionally gifted when it comes to adapting to a seemingly challenging milieu. Even with increasing predatory development model, leopards have been quickest to learn to survive in semi-urban and urban habitats. Furthermore, they have co-existed with humans without posing a significant threat to human life, for e.g., leopards have lived in and around Mumbai's Sanjay Gandhi National Park for years without worsening the animal-human conflict. As per the survey, the highest Leopard numbers were estimated from the four largest tiger conserva-



tion landscapes. The leopard population in different regions is estimated to be at - Shivalik-Gangetic: 1,253, Central India & Eastern Ghats: 8,071, Western Ghats: 3,387, North East Hills, and Brahmaputra Flood Plains: 141.

According to the report, the highest number of leopards have been counted from the state of Madhya Pradesh (3,421), Karnataka (1,783), and Maharashtra (1,690). In terms of regional distribution of leopard population, the Central and Eastern Ghats hold the highest numbers with an approximated number of around 8,071. Meanwhile, the states with the lowest count were Bihar (98), Goa (86), West Bengal (83), Assam (47),

Jharkhand (46), and Arunachal Pradesh (11). The above count was performed by the Wildlife Institute of India (WII) and the National Tiger Conservation Authority (NTCA) as well as a team of forest officers from various regions. This survey is conducted every four years and the numbers are therefore based on the count which started in 2018. The survey was made using camera traps, pattern recognition software, satellite imaging and field estimates. The camera traps shot approx. 5,13,37 leopard photos, out of which 5,240 were identified by experts. The report also said that the leopard population is spread widely in the north-eastern landscape. They are distribut-

ed from the high altitude of the eastern Himalayas to the forests bordering tea gardens in the flood plains, but due to low detection and low sample size, the leopard population was estimated only from the camera trap sites from the northern West Bengal, Manas, Nameri tiger reserves of Assam and the southern valley of the Pakke Tiger Reserve of Arunachal Pradesh. The official statement revealed that since the leopards living in non-forested areas, higher elevations in the Himalayas, arid landscapes and the majority of North East landscape were not sampled, the estimation should be considered as the minimum number of leopards in these landscapes.

CONSERVATION SUCCESS BUILT ON BONDS BETWEEN WILDLIFE AND THE IDU MISHMI TRIBE

Content Courtesy: Nikita Kulkarni

Hunting is one of the major causes of declining wildlife, yet curiously for many indigenous people, hunting and associated rituals are central to maintaining a reciprocal relationship with nature. One such example is that of the Idu Mishmi people of north-east Arunachal Pradesh and tigers. Recent media coverage reported on the presence of the tiger population in the Idu Mishmi's ancestral homeland of Dibang Valley.

The tigers in these valleys are one of a kind in that they reach an impressive altitude of 3600m and feed on unique preys consisting of serow (furry wildebeest-like mountain goat), Mishmi takin (goat-antelope), Gongshan muntjac (barking deer or rib-faced deer) and Mithun (large domestic bovine). In fact, according to the "Status of Tigers, Co-predators and Prey in India" report published by the National Tiger Conservation Authority (NTCA) in December 2020, estimated a presence of 29 tigers based on scat samples and camera-trap images. The tiger population, as well as

tiger, preys in the Dibang valley have been well protected as any other tiger reserve. Although, the difference between the two is there are no formal conservation plans that protect these wild animals, the Idu culture which in turn has been safeguarded by Arunachal's Inner Line Permit, a legal instrument that prohibits the influx of non-locals.

Who are the Idu Mishmi?

Idu Mishmis are one of the 26 recognised indigenous communities of Arunachal Pradesh and Dibang Valley is their ancestral homeland. The Dibang Valley is spread across dense green mountains with snow-covered peaks in between the enormous expanse. In Arunachal Pradesh, unlike the rest of the country, the forests and the land is under the de facto ownership of the local people, meanwhile, the Forest Department regulates only a meagre percentage of the land. In each village, the Idu people have exclusive rights over their mountains and forests.

Ownership rules here are strictly enforced, so much so



The Idu Mishmi Tribe

that without the owners' permission the Idu people do not venture into forests that are not their own. They are predominantly animists, who believe that non-humans such as animals and spirits have equal capacities of conscious decision-making as humans. The Dibang Wildlife Sanctuary is situated north of the district on the Tibetan border and is eight times larger than Corbett National Park but has fewer than 10 forest department staff.

The Idu Mishmi have a tradition called "Iyu Ena" which places restrictions on the killing of wild animals. Iyu Ena has consequently reduced the consumption of wild animal meat and also helped in the protection of biodiver-



Idu Mishmi tribe rituals

ty including that of the endangered tiger population, as per the research conducted by two anthropologists Sahil Nijhawan and Achili Mihu.

The researchers particularly noted that the restrictions observed during the hunting of large wild animals were very strict- specifically for the hunters and the ones that consume the meat. The restrictions include attending/eating food from funerals, washing clothes for a full lunar cycle, attending a wedding or child-birth ceremonies, sexual contacts, sharing household objects/utensils with women, mixing meat with onion etc. The report also noted that all the women stopped weaving yarn as soon as the men left to hunt.

Perhaps the most interesting tradition of all is that of “Iyu

Ena” which strictly forbids the hunting of specific animals- one of the major contributing factors to making Dibang Valley home to genetically distinct tigers and flourishing populations of animals that are found nowhere else like the Mishmi takin, red goral, Gongshan muntjac, the newly described Mishmi hills Hoolock Gibbon, 500 species of birds and thousands of plant species.

The “Iyu Ena” is different for different animals and is categorised into three by the Idu Mishmi culture: -

First Category – This includes all felines- all from the largest tigers to the smallest leopard cats, Hollock Gibbons, most species of eagles and owls. Their hunting is forbidden, and their meat is strictly forbidden to consume.

Second Category – This includes large herbivores animals like the Himalayan serow, Mishmi takin, muntjac, wild pigs, red gorals, and the Himalayan black bears. The Idu people believe that these animals belong to the spirit of the high mountains. Eating the meat of these animals is only allowed after one pays a symbolic price to their spirit-master and observing a very strict “ena”. The restrictions are so strict that Idu women do not eat the meat of any animal in the first or the second category.

Third Category - This category includes smaller animals like squirrels, porcupines, fish, birds, insects and small rodents- most of which are eaten by Idu people without taboo.

Researchers note that it is important not to reduce Idu taboos to mere conservation instruments but to understand them as a part of their overall culture. Furthermore, although these practices are not directly motivated to conserve wildlife, it is pertinent to not only pay attention to the outcomes of cultural institutions but also to their meanings and processes to co-create sustainable and ethical programs.

NORTH-EAST INDIA TAKES STEPS TO PROTECT ENDANGERED CLOUDED LEOPARDS

Content Courtesy: Nikita Kulkarni

India is home to a great diversity of wildlife and has one of the highest numbers of wild cat species living in its forest landscapes. Out of forty Felidae family, India hosts fifteen of them, one of them being the Clouded Leopard or *Neofelis nebulosa* as its scientific name denotes. One of the smallest-big cats of India, the Clouded Leopards are a secretive species of wild cats are known to keep a solitary, low-profile in the wild.

Clouded Leopards are classified as "vulnerable" on the IUCN (International Union for Conservation of Nature) Red List since 2008, due to its population being suspected to be fewer than 10,000 mature individuals with a decreasing population trend. This is large-

ly due to their habitat loss, deforestation, illegal trading and poaching for skin, claws and teeth.

Found in the North-East Indian states, these wild cats are difficult to spot in person due to their secretive nature. Although the best place to see them in India includes the Himalayan foothills of North-East India, Arunachal Pradesh, Namdapha National Park, and the Greater Manas in Assam. Since sightings are rare, most records are captured via camera traps.

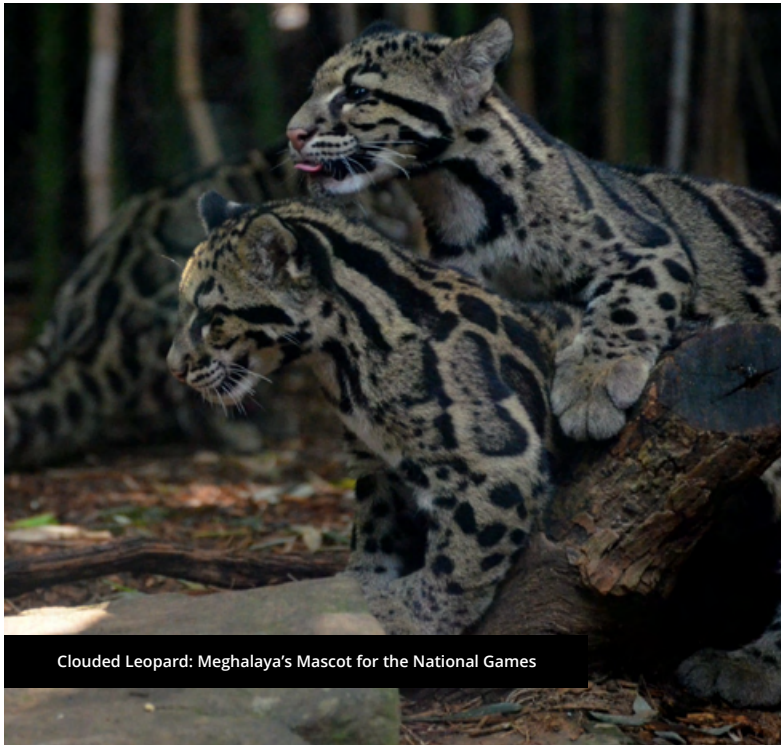
For conservation efforts, three Indian states- Mizoram, Meghalaya and Tripura have taken on the mantle of preserving and increasing the population of endangered clouded leopard.

MIZORAM

As per an official document, Mizoram's Dampa Tiger Reserve has the highest number of clouded leopards living on its land. The density of population of clouded leopards, locally known as "Kelral", is 5.14 per 100 sq km in the reserve, situated along the Mizoram-Bangladesh and Tripura. The official document also stated that "marbled cats", called a miniature version of the clouded cats also reside in this 80 sq km reserve, where their density is 5.03 per 100 sq km. In 2017, the state's Environment, Forests and Climate Change Department place a number of camera traps at various locations across the Dampa Tiger Reserve, which captured the clouded leopards at total



Clouded Leopard



Clouded Leopard: Meghalaya's Mascot for the National Games

TRIPURA

Tripura's Sepahijala Wildlife Sanctuary and the Clouded Leopard National Park have also taken various initiatives for the captive breeding of this species in the zoo.

"The state animal of Meghalaya, the Clouded Leopard, a beautiful spotted cat, is a majestic sight to watch"

"Following the guidelines of the Zoo Authority of India, we have started the process of captive breeding in the zoo situated inside the Sepahijala Wildlife Sanctuary and Clouded Leopard National Park," said Wildlife Warden Biplab Datta. He said that among the zoos in the country, the highest number of 9 Clouded Leopards is in the Sepahijala zoo (in western Tripura). "There are at least five wild Clouded Leopards in the Sepahijala Wildlife Sanctuary," Datta added.

of 84 times and the marbled cats 36 times. A forest official said that in 2018, India added clouded leopards to its recovery programme for critically endangered species to aid more research and strengthen conservation efforts. The wildlife scientists as well as the Mizoram Forest Department suggest that clouded leopard population density in the Dampa Reserve is not only of the highest in the country but also overall South and South-East Asia where the species is found. Even so, Wildlife expert Apurba Kumar Dey said that like the clouded leopard, much of the wildlife in north-east India remains poorly understood and insufficiently protected.

MEGHALAYA

Meghalaya Chief Minister K. Sangma stated "The state

animal of Meghalaya, the Clouded Leopard, a beautiful spotted cat, is a majestic sight to watch. Sadly, it has been declared vulnerable by the IUCN. Let us work towards preserving such rare species," on the event of wildlife week. Meghalaya wildlife officials also confirmed that they have taken several steps in order to protect the habitat of the Clouded leopards and their captive breeding. The officials also stated that the Indian Olympic Association is considering hosting the 39th National Games in Meghalaya in 2023, wherein Meghalaya's state animal, that is the "Clouded Leopard" has been chosen as the mascot for the National Games. A Meghalaya forest official commented, "Besides the governmental steps, we are trying to make people conscious about the significance of the conservation of the endangered clouded Leopard".

ARMY OF WOMEN SAVING HARGILA STORKS FROM EXTINCTION

In 2014, the Zoological Society of London listed the Greater Adjutant Stork, an unusual species of scavenging birds as “close to extinction” or EDGE (Evolutionarily Distinct and Globally Endangered) species. This species of bird considered by many a bad omen or a disease-carrying creature was once commonly found across the wetlands in South-East Asia. Today, however, less than 1200 Hargila storks are left in the world- of which more than 75% of them live in Assam itself.

Award-winning conservationist Purnima Devi Barman, says this lot of Storks, called “Hargila”, as in bone-swallowers in Assam have always been a friend. Affectionately referred to as the “Hargila Baideu” (Stork Sister) by the locals, Barman has dedicated most of her life to protect the Greater Adjutant Storks. She noticed something amiss when she was doing her research for her PhD on the Greater Adjutant- one of the world’s rarest stork at the Guwahati University, Assam. A conservation biologist, Barman noticed that the number of birds that she had



Greater Adjutant Stork, or the Hargila Stork

grown-up watching flocking freely around her home in Pub Majir Gaon (a village on the banks of Brahmaputra River in Assam) had greatly reduced. Disturbed by such an extent, Barman put her PhD on hold in order to make sure that Hargilas were protected in their habitat.

“My grandmother instilled my love and passion for nature. But it was during my Masters studying ecology and wildlife biology when my professors spoke of the endangered Greater Adjutant Stork, which was then nowhere to be seen in my grandmother’s paddy fields. I volunteered at Aaranyak, a Guwahati-based non-profit wildlife conservation organisation, but saw that people’s interest was restricted to glamorous species like the rhino or tigers. So,

Content Courtesy: Nikita Kulkarni

why shouldn’t I work towards protecting the Greater Adjutant Stork,” says Purnima. “I had wonderful memories of my grandmother narrating interesting tales and singing to me about them. She also taught me how to identify the different stork species. All those memories motivated me to protect the endangered bird”, she adds.

Adjutant storks are a reviled species around Pacharia, Singimari and Dadara villages in Assam’s Kamrup district. People are uncomfortable when they talk about rotten flesh and taints people’s home and surroundings with its odoriferous droppings. Considering the bird as a bad omen, many villagers do not care for the storks and chop down stork nests or smoke them out. “I was once horrified to see nine baby birds’ plops to the ground in front of me when a villager felled an entire tree with many nesting storks. When I tried to stop him, he was furious with me and started arguing how the bird stereotypes associated with the bird,

Barman understood its significance in the local ecosystem while working on her PhD thesis in wildlife biology in the villages of Kamrup district in the Brahmaputra Valley. Not everyone, however, understood the importance of Hargila though. In fact, there was such disdain for this about the five-foot gargantuan bird with spindly legs and dull-grey feathers that scavenges species, Barman says, that the landowners would routinely destroy their nesting trees and even poison their sources of food. Moley Baruah, president of the Early Birds NGO explained that since the primary food of this species is left-overs, they contribute significantly to keeping the environment clean. Occasionally, due to the mixing-up of poison and other plastic/non-consumable food, these birds are killed. Such incidences are occurring around Deepor Beel and garbage dumping grounds.

While Barman tried stopping locals from destroying Hargila nests, they were angry, she added "I spoke to him, but realised that it was not his fault at all. He never knew that it was an important species for the environment. Then I visited the

communities and people who were very unhappy about the messy habits of the bird, and the stench emanating from their nests". Purnima received the Whitley Award or the 'Green Oscars' in 2017, for her remarkable community-led conservation work. This was the day, she made her mission to understand why Greater Adjutant stork's numbers were dwindling and to speak, educate and motivate locals to conserve this species.

She clarifies that while the stork could be found abundantly in the 19th century all across the south and south-east Asia, the urbanization of rural India, increasing the number of buildings, mobile phone towers, bridges and roads have significantly reduced the wetlands where the storks resided. With their habitats destroyed, the birds have been forced to migrate into human settlements where they are regarded as vermin and killed as a result.

Change in perception



Hargila storks in the villages of Kamrup district

Barman realised that first and foremost she needed to change the perception of Hargillas in the eyes of villagers. So, she

started organizing community meetings where she explained how storks like most scavengers can clean up the environment by consuming the decaying animal carcasses and maintain the food chain by regulating the number of rodents and other pests. In 2009, Aaranyak, a Guwahati-based NGO helped her launch a community-based programme to protect Greater Adjutant storks.

Her persistent PR campaign paid off in the remote villages of Kamrup district- particularly in Pacharia and Dadara- where approximately 150 Hargilas now reside and have found real support, particularly among the women.

"When I began conservation work in the colony (Dadara and Pacharia villages), there were about 28 nests. In 2019/19, we have about 200 nests in the same colony. This colony contains the highest concentration of Hargilas in the world," adds Barman.

In 2015, Purnima officially established the "Hargila Army"- these included women working for the conservation of this endangered species. Currently, they have a total of 400 members- of which 200 are active. The rest of the members attend meetings as well as drum up support for the developing income opportunities for local women. While the communities have accepted Hargila as part of their society, the community conservation efforts are a never-ending process.

BIODIVERSITY



NEW GENUS OF TREE FROG DISCOVERED,
FOUND IN ANDAMANS AND NORTHEAST
INDIA

EIGHT CRITICALLY ENDANGERED VUL-
TURES RE-INTRODUCED INTO THE WILD
IN INDIA

MALAYAN GIANT SQUIRREL COULD
DECLINE SIGNIFICANTLY IN INDIA, SAYS
ZOOLOGICAL SURVEY OF INDIA

GRASSLAND BURNING, CLEARING IMPER-
ILS BIRDS OF BRAHMAPUTRA'S RIVER
ISLANDS

PERILS OF THE PHAYRE'S LEAF MONKEY

NEW GENUS OF TREE FROG DISCOVERED, FOUND IN ANDAMANS AND NORTHEAST INDIA

Content Courtesy: Nikita Kulkarni

A team of Chinese, Indian, Thai and Indonesian researchers have found a new genus of frogs in the Andaman and Nicobar Islands as well as the North-eastern regions of India. As per a report published in *Zootaxa*, an international animal taxonomy journal. This genus of frogs has been named *Rohanixalus* after the Sri Lankan taxonomist Rohan Pethiyagoda. A genus is defined as “a principal taxonomic category that ranks above species and below family”. It can include one or many similar species. *Rohanixalus* is the 20th most recognised genus of the Rhacophoridae family and includes eight out of the 422 known Old World Tree Frog species in Asia and Africa.

The researchers noted that the *Rohanixalus* frogs are characterised by their small and slender body, which is 2 to 3 cm long, their distinct behavioural traits, and two contrastingly coloured lateral lines on either side of the body. These frogs also have small brown speckles scattered all through the upper body surfaces and they lay light green coloured eggs in arboreal bubble-nests. As per the DNA studies, the *Roha-*



nixalus frog genus is also discovered to be a different evolutionary lineage from any previously known tree frog genera. These frogs in the genus are known to reside in landscapes dominated by humans and forested areas, like - Andaman Islands, Thailand, Malaysia, Vietnam, Indonesia, Laos, North-east India and Cambodia- up to southern China. During the breeding season, the *Rohanixalus* frogs can be found in large numbers on bushes and shrubs bordering water bodies. One of the most fascinating factors mentioned in the report is that the first member of the tree frog



family- *Rohanixalus vittatus* (striped bubble-nest frog) is reported from the Andaman Islands. Scientists explained that although the amphibian fauna of the Andamans has been researched quite frequently in recent years, this particular genus was so far from net reported that despite being generally found in wayside areas of north and the middle Andaman Islands. S.D. Biju of the University of Delhi, India’s leading amphibian taxonomist who led the study said, “The scientists studied multiple aspects, such as the external morphology of adults and tadpoles, phylogeny, calls and breeding biology of several tree frog species widely distributed across South, Southeast and East Asia and confirmed that they represent a new genus”. “Our discovery of a treefrog member from the Andaman

Islands is unexpected and again highlights the importance of dedicated faunal surveys and explorations for proper documentation of biodiversity in a megadiverse country like India. This finding also uncovers an interesting new distribution pattern of tree frogs that provides evidence for faunal exchange between Andamans and the Indo-Burma region,"headed.

The details of the research were published in an article named "article titled 'New insights on the systematics and reproductive behaviour in tree frogs of the genus *Feihyla*, with a description of a new related genus from Asia (*Anura*, *Rhacophoridae*)'. This paper was published in an issue of *Zootaxa*, a scientific peer-reviewed journal for animal taxonomists. The discovery of the tree frogs in the Andaman Islands also highlights the value of dedicated faunal surveys and discoveries for proper documentation of biodiversity in a hugely diverse country like India. This discovery is also significant in finding an interesting new distribution pattern of tree frogs that offers proof for faunal exchange between the Indo-Burman and Andaman region.

The scientists also observed unique behavioural traits which comprise maternal and paternal care among these



frogs. The mother frog attends the egg clutches until hatching and helps in the release of the tadpoles. During the initial three days after the eggs are laid, the mother frogs sit over the eggs and produce and release a gelatinous secretion which they spread over the egg mass via clockwise movements of her legs. This rare behaviour offers the essential moisture to the eggs laid on the exposed leaf surfaces and also protects them from becoming preys to insects. Scientists also found a huge number of egg clutches (over 50) of different developmental stages on a single leaf or plant during their field studies. They also discovered multiple female frogs attend the egg clutches what they term to be "community egg attendance".

The new genus frogs were not only found to have one of a kind nesting behaviour but also territorial behaviour which includes frequent male and male fights that include kicking, pushing, and dislodging rivals to mate with a female.



EIGHT CRITICALLY ENDANGERED VULTURES RE-INTRODUCED INTO THE WILD IN INDIA

Content Courtesy: Nikita Kulkarni



White Rumped Vulture

After years of hard work and determination, eight critically endangered, white-rumped vultures, six of them captive-bred, were reintroduced into the wild in November for the first time in India,

from the time when the vulture conservation and breeding centre was set-up in the lower Shivaliks near Pinjore, Haryana in September 2001. For conservationists and biologists, this incident of releasing the vultures marks a ground-break-

ing occasion after January 2007, when the first white-rumped vulture chick was born in captivity in the centre.

The white-rumped vulture (*Gyps bengalensis*) is medium-sized species of

Old-World vulture within the genus *Gyps* and the family Accipitridae, native to South and South-east Asia. It has been listed as critically endangered on the IUCN Red List since 2000- as the population severely diminished. This type of vulture has many characteristics and traits that are synonymous with most vultures- including the bald head/neck, broad wings and very short tail feathers. The White-Rumped vultures are the smallest member of bird within the *Gyps* genus-however, they are still very large in size. On average these birds weigh approximately 6 kgs, although the larger ones can weigh up to 8 kgs, their height stands to one metre tall and have a wingspan of up to 2.6 metres.

The closest living relative of the White Rumped Vultures is the larger European Griffon Vulture (*Gyps fulvus*) who populate the temperate regions of Europe and Asia (also rates as a concern on the IUCN red list). They are thought to have diverged on their evolutionary path some 2 to 4 million years ago.

Vibhu Prakash, Bombay Natural History Society (BNHS) Principal Scientist and centre head, said "The release of vultures is a great occasion

for biologists across the globe. The next crucial step is ensuring the safety of the environment in the vulture safe zone". The released vultures (two of them rescued from the wild and six captive-bred) are of the ages six to eight years old. Each of the vultures is tagged with a 30-gram device for satellite transmitters that grant them to monitor their whereabouts and survival. While Nepal was the first country in Asia to release 8 white-rumped vultures in November 2017, but this release is the first in India and a major step in conservation. Asia's largest breeding centre for vultures-the Jatayu Conservation Breeding Centre is located near Chandigarh. The centre is situated on the edge of the Bir Shikargaha Wildlife Sanctuary in Morni hills where the right vultures were released. It is a shared project of Haryana and BNHS which has found major support from the UK's Royal Society for the Protection of Birds (RSPB), the British government's Darwin Initiative for the Survival of Species Fund, The Rufford Foundation to establish the centre and examine the devastating decline of the three seriously endangered *Gyps* species of vultures in India. Aside from white-rumped vultures, the long-billed and

slender-billed vultures which are three of the nine Indian vulture species have been bred in captivity at the Pinjore centre. This was after their populations declined dangerously by 90 per cent in the mid-1990s. These birds are listed in the Critically Endangered by the IUCN-the highest threat category ahead of extinction. Vibhu Prakash along with his wife Nikita commented that the COVID-19 pandemic has delayed the release than was planned.

The Bir Shikargaha sanctuary extends trans-boundary into Himachal Pradesh has been declared as a vulture safe zone. Wildlife awareness is quite high among the villagers in this area. Prakash says "We will monitor the behaviour of vultures in the wild through the satellite transmitters. If any of the released vultures die or get injured, we can quickly recover them and determine what happened. The satellite telemetry will be key for us to know the cause of death and prevent other vultures dying from that cause".

The reason why the vulture population fell almost to the brink of extinction, as per the biologists, in South Asia especially is because of the extensive use of diclofenac in treat-

ing cattle. Since vultures as scavengers clean the environment by ingesting animal carcasses, the consumption of animals treated with diclofenac leads to their death with symptoms of kidney failure. The Indian government banned the use of diclofenac for veterinary use in 2006. While it is a vital step, it has not been fully-effective- and there are also other drugs that are toxic towards vultures.

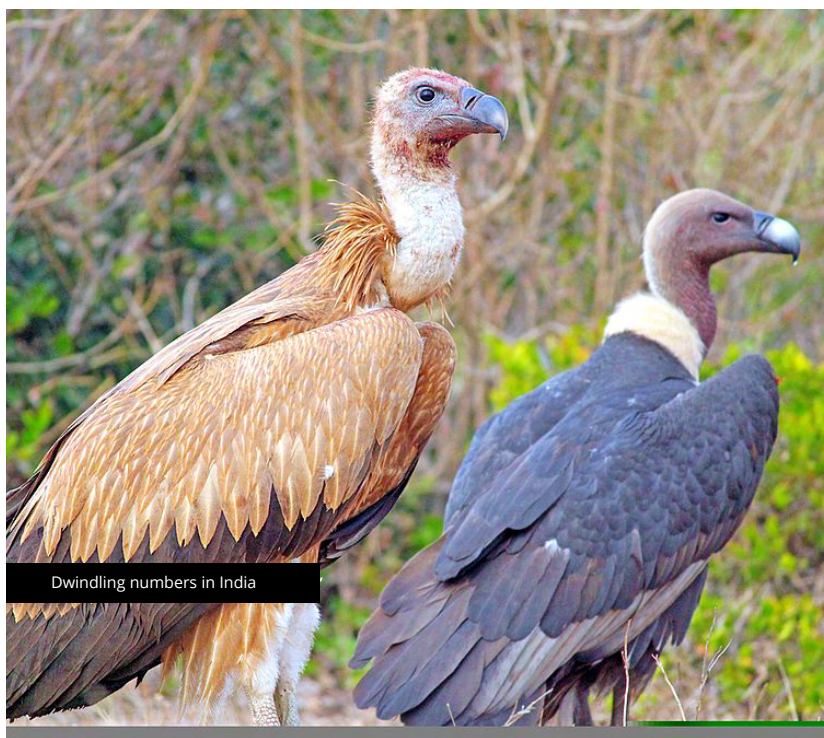
Chris Bowden, Royal Society for the Protection of Birds, programme co-ordinator in South-Asia commented "This release shows we are moving to a new phase in this extraordinary story—and even though the careful monitoring results

within 100 km, which includes five neighbouring states, have shown that diclofenac levels have declined since the national ban was declared 14 years ago. But unfortunately, it also shows there are still significant and alarming amounts of the drug out there, and so this release is a very important trial".

He continued, "The Pinjore centre has become the focal point for vulture conservation in Asia, having played a key role in a timely manner for establishing captive populations of vultures, and indeed the detection of the main culprit diclofenac and other drugs. The safety-testing of other drugs like nimesulide by the Indian Veteri-

nary Research Institute with the BNHS there is yet another crucial element that urgently needs to speed up. We really hope these released birds will survive, but there is a lot more to do to ensure their environment is safe. For example, one further drug, Aceclofenac, which is still in legal veterinary use, has been scientifically demonstrated to convert immediately to diclofenac in cattle, so poses the same threat to vultures, and although earlier steps to ban this was underway, but have not yet resulted in action. But lets at least celebrate this step today and monitor how the birds fare with great interest".

BNHS scientist Prakash said, "If there is no toxicity-related death of these eight birds in two years, then we will go for the release of 20-25 birds each year. We are planning to introduce 100 pairs of each of the three species of white-backed, long-billed and slender-billed in the wild in the next 10 years. Before that, findings from the first released batch will be crucial in future programmes."



Dwindling numbers in India

MALAYAN GIANT SQUIRREL COULD DECLINE SIGNIFICANTLY IN INDIA, SAYS ZOOLOGICAL SURVEY OF INDIA

Content Courtesy: Sanchari Sengupta

The Malayan giant squirrel or black giant squirrel is a species mostly based in the evergreen and semi-green forests of North-east India. This species is now disappearing at an alarming rate as per the study by the Zoological Survey of India (ZSI) under the Union Ministry of Environment, Forest and Climate Change. The report stated that this large squirrel genus which is known to be one of the “forest health indicator” species needs to be conserved. They are under severe threat for existence made worse due to climate change. The report also explained that currently, 56.62% area of the habitat of these squirrels is unsuitable. The Malayan giant squirrel, called *Ratufa Bicolor* scientifically is a large tree squirrel- in the genus *Ratufa* native to the Indomalayan zootope. They reside in forests from northern Bangladesh, eastern Nepal, Northeast India, Myanmar, southern China, Thailand, Laos, Cambodia, Malaysia, Vietnam, and Western Indonesia (Sumatra, Bali, Java and small islands nearby). This genus is one of the biggest squirrel species in the



The Malayan Giant Squirrel

world. On average, an adult Malayan giant squirrel can grow up to have a head and body length of 34 to 37 cm (13 to 15 inches) and can weigh around 1.05 to 1.25 kgs (2.3 to 2.8 lbs), the tail can be around 41 to 42 cms (16 to 17 inches) long. These squirrels are generally distinctly bicoloured with their upper parts being dark coloured and the underparts being pale. The top of the head, its bushy tail, ears are in the shade of deep brown to black and the underparts are light buff-coloured. Squirrels residing in islands like Bali, Java, Sumatra have their hairs at the back and taillight-tipped- making these sections appear to be comparatively pale (the back, however, is noticeably darker than the underparts). Uniquely on the small islands off Myanmar and in the Strait of Malacca,

these black squirrels have reddish-yellowish underparts. The study conducted by ZSI indicated that only 43.38% of this squirrel's original habitat is now favourable to the species by the year 2050. “We hadn't studied giant squirrels comprehensively in this country so far. When we carried out this study, we realised that the Malayan Giant Squirrel was fast losing its territory to human settlements and crop cultivation. If the government does not come up with a conservation management plan for the Malayan Giant Squirrel quickly, we may lose the species altogether in India,” ZSI Director Dr Kailash Chandra said.

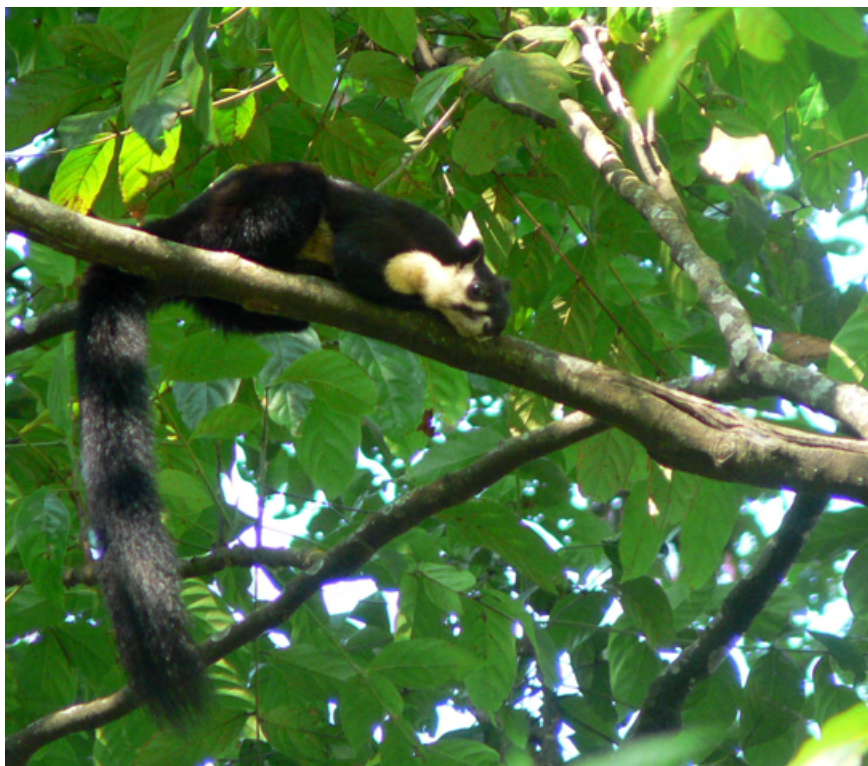
The appropriate zone could decrease to 2.94% of the area the species was meant to inhabit due to climate change. “The squirrel will lose more

than 90% of its distribution range gaining only 1.45% area as newly suitable habitat in India," said the report.

Out of three species of giant squirrels in India, the Malayan species reside in North-east India, meanwhile, two other species are the grizzled giant squirrel and the Indian giant squirrel who are distributed mostly across peninsular and southern India. In India, these squirrel species are found in the northeastern parts of the country in the states of West Bengal, Sikkim, West Bengal, Arunachal Pradesh, Assam, Meghalaya and Nagaland. However, as per the ZSI report, their population may soon be limited to only South Sikkim and North Bengal by 2050.

"The population of the species also indicates to us the health of the forest, of the vegetation and plants in the forest on which the species feeds, as well as that of the other symbiotic species that inhabit the region," Dr Chandra said.

The report also found that the unsustainable hunting of the Malayan squirrel population has caused it to decline alarmingly. This is happening mostly from the community forests, successional forests and slash-and-burn jhum-cultivated areas. The survival of the Malayan giant squirrels hangs on primary forests or forests



of 20 years or older ages, ZSI states, "Forests in north-eastern India has boosted demand for crops and croplands that have resulted in deforestations which have resulted in major forests cover losses and decreased the chances of meeting suitable nesting and feeding areas for this species.



The report also stated that the giant squirrel's habitat is also facing various threats for destruction. Thus, there is an emphasis on the need for suitable conservation and management strategies to save the species which will be on the verge of extinction in the wild.

The ZSI report also suggested some conservation techniques and breeding programs that can be initiated in order to protect the Malayan giant squirrels of the North-east.

GRASSLAND BURNING, CLEARING IMPERILS BIRDS OF BRAHMAPUTRA'S RIVER ISLANDS

Content Courtesy: Chandrani Sinha

Concerned with the burning of grasslands and felling of trees, 34-year-old Bhabesh Mahanta is helping build a food forest for birds on a chapori (riverine island) near Guwahati in Assam.

Ramsing chapori is one among at least 2000 numbers of sandbars and shifting river islands (locally known as char and chapori) in the heavily braided Brahmaputra river in Assam. The sandbars and river islands serve as wildlife corridors for certain species and as a barrier to the migration of others; many are important bird areas, such as Majuli, a prominent river island, surrounded by small islets.

On Ramsing chapori, Mahanta launched an initiative The River Land Project in 2019 out of concern of the destruction of grasslands habitats of birds. Ramsing chapori is a well-known winter picnic spot and couched in the grasses, locally known as ekora (*Saccharum ravennae*), kohua (*Saccharum spontaneum*), etc. are several globally threatened birds such as the swamp prinia and Hodgson bushchat. It is also a probable place for the Bengal florican.

Ramsing chapori is connected to Guwahati by a thin strip of sand or land that gets washed out during monsoon when the flood is at its peak. During the monsoons, when half of the island goes underwater, one must catch a ferry to reach the river island. Farms of potatoes, peas, and leafy vegetables greet visitors in winter. Earlier one could not navigate the chapori due to rich grasslands

claimed Mahanta.

Through his social media page, The River Land, Mahanta, a dancer by profession, gets in touch with scientists and researchers, who advise him to plant native trees known as jhau trees (*Casuarina equisetifolia*) that are locally known to naturally prevent soil erosion mainly in char and chapori area. These trees are part of the natural grassland ecosys-



Endangered birds of the Brahmaputra riverlands

but now it's easily accessible. The island spread over 750 hectares supports 30 families who live off agriculture and cattle rearing. "Overnight burning of grassland and cutting of trees have created disturbances in the animal and bird habitat. I have planted around 100 trees, out of which 80 survived. If this continues, the land will turn barren land and no bird will ever be sighted here,"

tem of Assam.

Grassland burning is just one in a suite of threats that are imperilling these birds, observed Girish Jathar of the Bombay Natural History Society who is studying the Brahmaputra's bird habitats in Assam. A unique combination of habitat – sand bars, wet grasslands, dry grasslands, scrublands, forests – makes Brahmaputra's floodplains a



Brahmaputra Grassland Bird

rich habitat for grassland birds. There are 210 bird species in Brahmaputra's floodplains, of which 113 are grassland-dependent species and out of them, 10 are globally threatened, Jathar told Mongabay-India.

Jathar observed that habitat degradation (owing to encroachment by invasive species, savanna fires – in non-PA and PA (as part of park management) and hunting of birds) are also threatening the landscape's avifauna. According to noted naturalist and former bureaucrat Anwaruddin Chowdhury, overpopulation is also a major threat for

these rare and migratory birds of chars and riverine plains of Brahmaputra, in some cases, they also adapt to development in its habitat. Earlier, experts have underscored, expansion of agricultural practices, unrestricted fishing activities on the islets are major threats to the Brahmaputra river. Many of the local communities are also engaged in tree felling and timber smuggling along this river, according to a paper.

Birder Ujjal Baruah claims to have spotted 30 to 35 different species of birds on the Ramsar sandbar including white-tailed stonechat and

prinias, such as the swamp prinia, marked as endangered on the IUCN Red List of Threatened Species.

Leons Mathew Abraham, a veterinarian and a bird enthusiast has also photographed the swamp prinia at a char near Guwahati in 2018. The shy swamp prinias in recent times have only been reported from floodplains of Assam. This bird was last spotted in January 2021 at Maguri beel (wetland) near Dibru Saikhowa National Park in Assam. The climate and vegetation of the Brahmaputra plains provide a good habitat for these endangered species to make their nest and survive.

Spotting this IUCN endangered bird in this chapori means it has the potential to be a good habitat for this bird.

But Abraham's elation on spotting the rare bird was short-lived. Since 2018, Abraham, originally from Kerala has toured extensively through several chars, for birding. "I have seen places with habitat and no birds, which is alarming..." Abraham told Mongabay-India.

Jathar said it is very important to save the patches where the bird exists - such as the patch near Guwahati. "These unpro-

tected river islands can serve as refugia if human disturbance is at its minimum," added Jathar. However, he expressed scepticism about unscientific afforestation activities. "If enough time is given, the grassland will be maintained or it will turn into a forest because of succession," said Jathar.

"We have thought of site-specific plans and landscape-level plans and for specific species, such as swamp prinias and Bengal florican, we may have specific plans," he added.

At Ramsing chapori, residents shared instances of distur-

bance. Indradev Yadav and his wife, who are seasonal farmers on Ramsing chapori, expressed concern over unknown people harming the grasslands. "We live on occupational farming and cattle rearing. This chapori is our mainstay for farming, but this year some people barged in and started cutting down grassland. We protested but they threatened to kill us; we are now scared to protest," said 67-year-old Yadav.

Even as the residents express their fears, the chapori which falls under Assam's Kamrup territorial/division suffers



inaction from the forest department. A new divisional forest officer is yet to join.

Mahmood Hassan, Director, Char Area Development, Assam said the agency mainly looks after the chars that have human settlements. "We specially intervene in agriculture sectors, beneficiary schemes etc.; we haven't carried out any interventions on ecology and biodiversity till now," said Hassan.

Bhabesh Mahanta, meanwhile, said he has submitted multiple applications and registered complaints with the local police station and forest department. But the administration has not paid attention, he claimed.

Anwaruddin Chowdhury adds that most chars are unprotected areas, and the forest department does not take much interest. Additionally, the integrity of these habitats is a factor. They are subjected to bank erosion and accretion due to the unstable bankline and the dynamic nature of the Brahmaputra river. The 44.6 square km Bura Chapori Wildlife Sanctuary, an old sandbank turned permanent, and which was declared a reserved forest in 1974 and became a sanctuary in 1995, has lost 22.4 percent of its land area in 30 years, (1987-2017), remote sensing data shows.

Research has also shown that

stable river islands (chars) are increasing in the Brahmaputra river. These chars are mainly eroded from the upper catchment of the river and deposited in lower Assam. The overall extent of the Brahmaputra river is also increasing at the cost of the erosion of land surface along the riverbanks. The rate of char formation is greater than the rate at which the Brahmaputra river extent is increasing. These chars occupied approximately 33 percent of the overall area of the river for the 2017-2018 post-monsoon season in Assam.

Chowdhury has on several occasions reiterated that several river island grassland habitats could do with legal protection. "I have proposed to the Assam government that certain grassland chaporis be legally protected, such as Kobo chabori, chaporis of Sibia river, but my request didn't get much attention. Among the chaporis, I had recommended for legal protection, Pani Dihing was successful as it got a bird sanctuary status in August 1996," Chowdhury.

"Currently, we have proposed some chabori grassland areas outside parts of D'ering Memorial Wildlife Sanctuary for protected area status," said Chowdhury.

However, protected area status does not necessarily guarantee a habitat free from disturbances. Burachapori

Wildlife Sanctuary is "heavily encroached by immigrant farmers who disturb grasslands and convert them to rice fields." Though the habitat is otherwise ideal, species such as Bengal florican was very rare, states the BirdLife International (2001) Threatened birds of Asia: The BirdLife International Red Data Book.

"If encroachment takes place it degrades the water table and the soil becomes loose and later gets washed away by flash flood and river during monsoon," said Chowdhury.

Ranjan Kumar Das, a professor of geography at Tinsukia College and a member of the NGT's expert committee in Assam that is monitoring grassland and wetland birds and their habitat also drew attention to the issue of sand mining on the char and chapories. "Sand mining creates hollow pockets which later get hit by water when the monsoon comes, and the flood takes a rampant form. The upcoming dams on the river's upstream will also create problems for the grassland habitat, due to unregulated water flow," said Das.

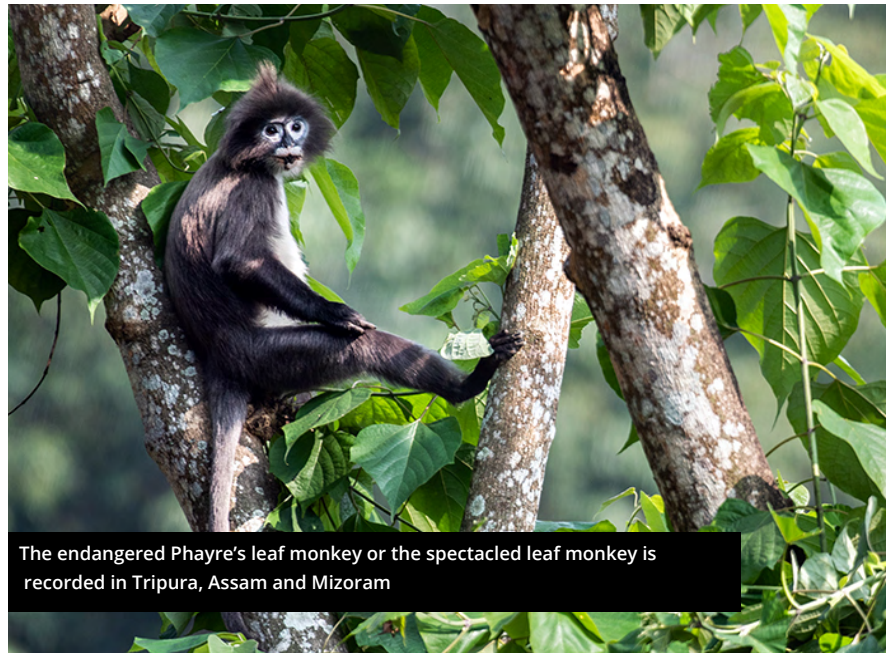
PERILS OF THE PHAYRE'S LEAF MONKEY

Content Courtesy: Shatabdi Chakrabarti

Phayre's leaf monkey (*Trachypithecus phayrei*), an endangered goggle-eyed primate species once widely distributed across many forests in north-east India, is now confined to small, fragmented patches in the states of Assam, Mizoram, and Tripura in the region. Tripura's Sepahijala Wildlife Sanctuary is one of the few places where these monkeys can be spotted. But the monkeys, that feast on leaves of a wide variety of plant leaves (folivores), have developed an affinity for rubber in the mushrooming commercial plantations in and around the protected area.

In Bangladesh, which abuts Tripura, and is home to the species, the monkeys have taken a liking to the non-native invasive *Acacia* plants. The species (*T. phayrei*) is one of the most widely distributed of the broader group or genus (*Trachypithecus*) but one of the least studied in ecology, behaviour, genetics, and systematics. Experts are concerned about the nutritional implications of the animals' altering feeding patterns.

"The species is adapting to life



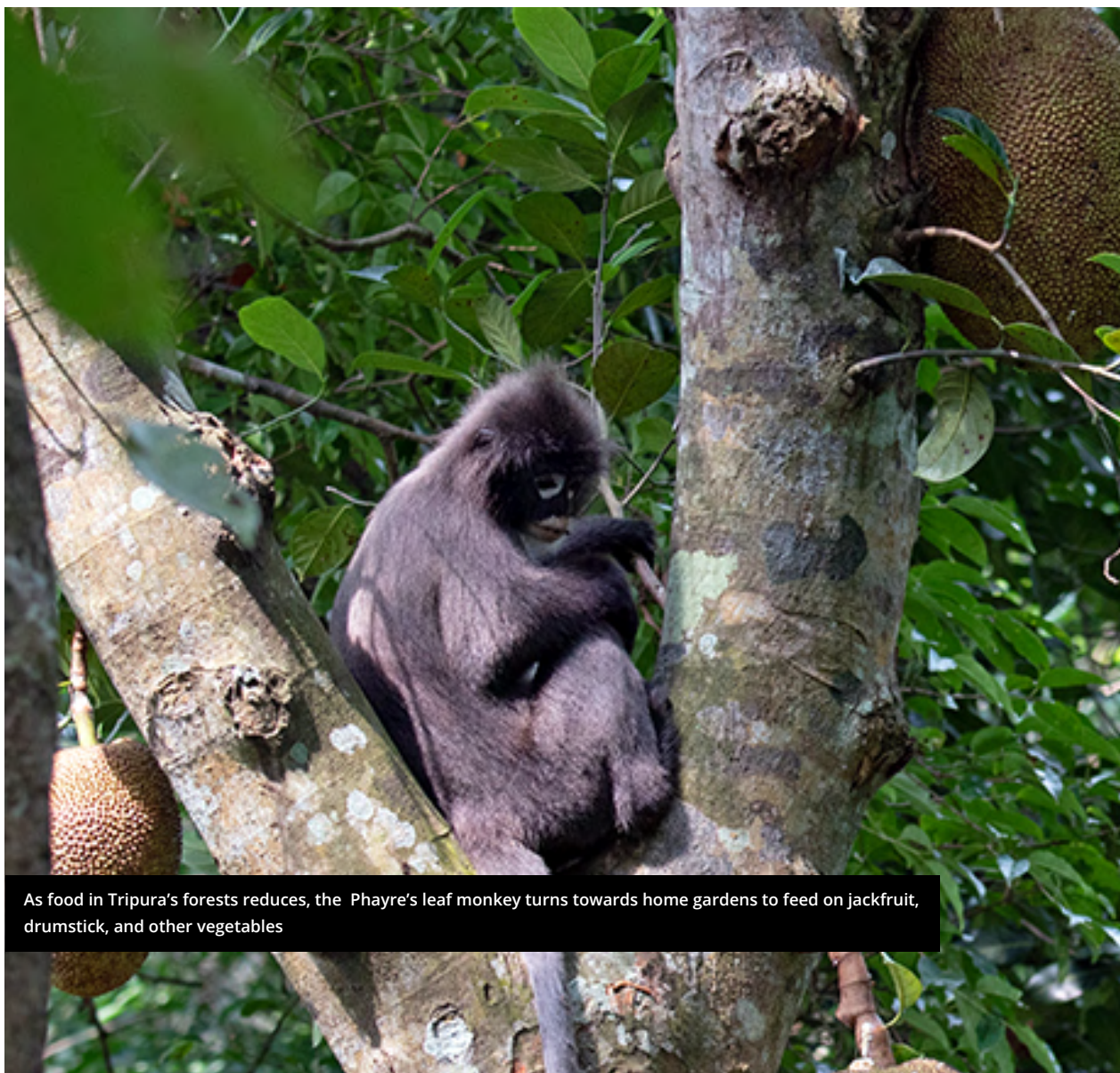
The endangered Phayre's leaf monkey or the spectacled leaf monkey is recorded in Tripura, Assam and Mizoram

in rubber plantations in Tripura. There is a high dependence on rubber leaves," confirmed primatologist Joydeep Bose. In a study, Bose and Bhattacharjee (2004) reported that plants like *Hevea brasiliensis* (67.4 percent), *Delonix regia* (5.8 percent), and *Acacia auriculiformis* (4.3 percent) make up more than 75 percent of the annual diet of the species in Tripura; their diet includes twigs and leaves of the rubber tree.

Tripura is the second-largest producer of natural rubber (*Hevea brasiliensis*) in India after Kerala, as per area under cultivation and quantity of produce. This commercial monoculture product's lucrative nature has led to large

parts of the state being converted into plantations. Sepahijala district has one of the highest shares of the area under rubber in the state, and the livelihood of most people is based on agriculture and rubber. Bose mentioned that the only place where he could observe the monkeys all day was in plantations and some tea gardens where the troops seemed to have adapted to human presence. Everywhere else, it was next to impossible to follow or track these monkeys; they would disappear into the canopies at first glance of humans.

In Tripura and Assam, where troops exist in human-dominated areas, the monkeys raid kitchen gardens to feed on



As food in Tripura's forests reduces, the Phayre's leaf monkey turns towards home gardens to feed on jackfruit, drumstick, and other vegetables

jackfruit, drumsticks, and other vegetables. The troops travel from one village to the other looking for food during the season when the forest isn't providing them with enough new leaves or fruits and flowers to feed on, said Assam-based wildlife biologist Parthankar Choudhury. But it is the tall canopies of the forests that they return to for night roosting. In a 2017 paper, Conservation concern to the primates outside protected areas: A

study from Hailakandi, Assam, India, Choudhury, and co-author Amir Sohail Choudhury marked the Phayre's monkeys in Hailakandi as "uncommon" in occurrence in comparison to the prominently occurring Rhesus macaque and capped langur. They suspect that the Phayre's leaf monkeys (called chosma bandor in local dialect) were difficult to see due to their shy nature. However, locals were familiar with them, and a small troop of three to four individuals frequently

visited a study village. These monkeys are easily identified in the field by the distinct white patches around their mouths and eyes, making them look as if they are wearing spectacles- hence the common name 'spectacled' leaf monkey. They are named after Sir Arthur Purves Phayre, a British Indian Army officer who 'discovered' the species. The species occurs in eastern Bangladesh, southwestern China, parts of southeast Asia,

and northeast India. According to IUCN, Phayre's monkey is listed as Endangered as it is suspected to have undergone a decline of more than 50 percent over the last three generations (36 years, given a generation length of 12 years), due to a combination of habitat loss and hunting. In India, it is a schedule 1 species under the Wildlife Protection Act, 1972.

Myanmar's Phayre's langur monkey population has now been identified as a completely different species and has been named Popa langur, marked as critically endangered. Bangladesh scientist Tanvir Ahmed, who was part of the international team of more than 30 researchers who decoded the evolutionary history of the

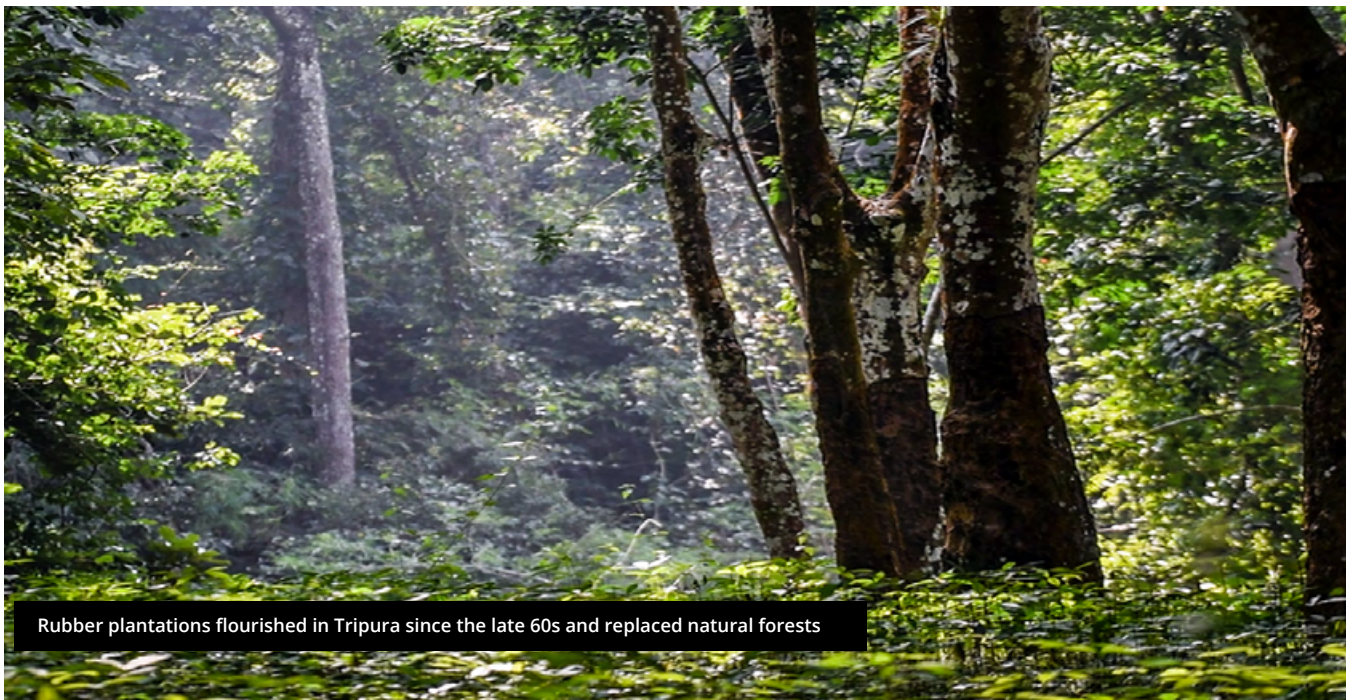
Trachypithecus genus, said that since the taxonomic revision, what was earlier thought to be the distribution range of the Phayre's langur, has now been reduced.

"This means that the overall population is also lower than what was thought to be before the taxonomic revision," Ahmed told Mongabay-India. In Bangladesh, a 1982 population study showed approximately 1300 individuals in the North Sylhet Division. Tanvir Ahmed's census of the species in the same geographical range in 2018-19, showed the total number to be approximately only 376 individuals with a very low number of mature adult monkeys.

This stark difference in population numbers in just over three generations shows that there

is a steep and rapid loss in their numbers in the wild, Ahmed noted. In Bangladesh, Ahmed has observed troops of Phayre's langur monkeys feeding on Acacia plants. This invasive, non-native species may not provide enough nutritional value to the monkeys and they may be forced to feed on them as their habitat shrinks and natural food sources are reduced, he said.

In Tripura, wherever rubber plantations sprang up, the monkeys made it part of their diet and adapted. But in other places without the plantations, they would carry on with their regular diet of the plant species, observed Joydeep Bose. Rubber plantations started in Tripura in the late 60s, and Sepahijhala was declared a sanctuary in the 80s. So, the



Rubber plantations flourished in Tripura since the late 60s and replaced natural forests

species had already adapted to rubber over the years. Jhum cultivation with reduced fallow age outside protected area is blamed for habitat degradation.

A 2014 study in Sepahijhala concluded that seven troops, comprising 95 individuals, were present in the sanctuary. "Because of their ability to digest the leaves and fruits of such a large variety of plant species, these monkeys also play an important role in the health of the forest and in seed dispersal. But due to habitat loss and land degradation, the food ecology of the monkeys has been affected," Bose said. As per the 2015 and 2017 reports of the Forest Survey of India, the total forest and tree cover of the state was 8,044 square kilometres and 7,726 square kilometres, respectively. The 2017 State of Forest Report of Tripura concluded that a total decrease of 164 square kilometres in the state's forest cover could be attributed to developmental activities, harvesting of mature rubber trees, and shifting agricultural practices. However, the report also suggests that a positive change has been seen due to the extension of the area under rubber plantations in some cases.

The monkeys are spending more and more time in these plantations and are now a common sight in and around

"Because of their ability to digest the leaves and fruits of such a large variety of plant species, these monkeys also play an important role in the health of the forest and in seed dispersal."

the villages fringing the sanctuary. It is not very difficult to walk into the sanctuary from one of the surrounding villages. With a porous boundary and human habitation all around, it is quite easy to get access without entering the park from the main gate. Many local community members residing in the villages work in the rubber plantations and walk in and out easily from the sanctuary.

According to a field guide who has been tracking this species in Sepahijhala, there has been an increase in the frequency of

sightings within the plantations and the villages. But there has also been a decrease in the numbers, especially in the past decade as more and more forests are being cut down to make way for plantations.

EASTERN HIMALAYAS

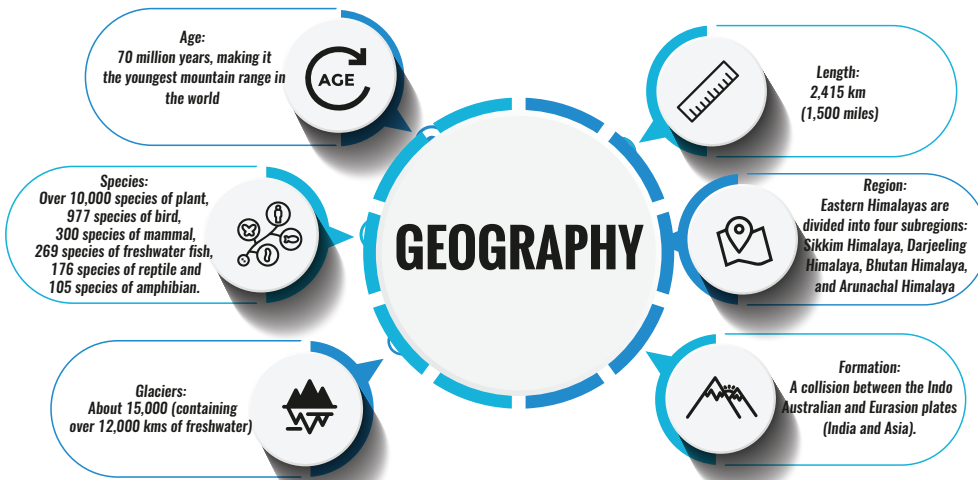


BUDDING BOTANIST'S QUEST FOR
PLANT-INDIGENOUS COMMUNITY RELA-
TIONS

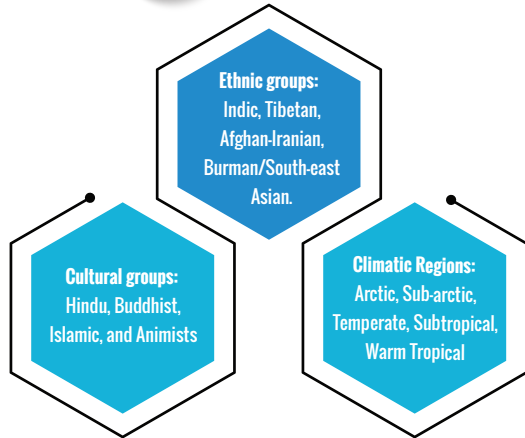
TWO TAGGED AMUR FALCONS RETURN
TO MANIPUR AFTER FLYING 29,000 KMS
FOR OVER A YEAR

Vol 25 : January 2021 - March 2021

OUR HIMALAYAN



- 40+ LANGUAGES
- 163 ENDANGERED SPECIES
- 220 TRIBES 300+ SUB-TRIBES
- 76 ENDANGERE PRIORITY SPECIES



There are many different ethnic groups and tribes living throughout the Eastern Himalayas.

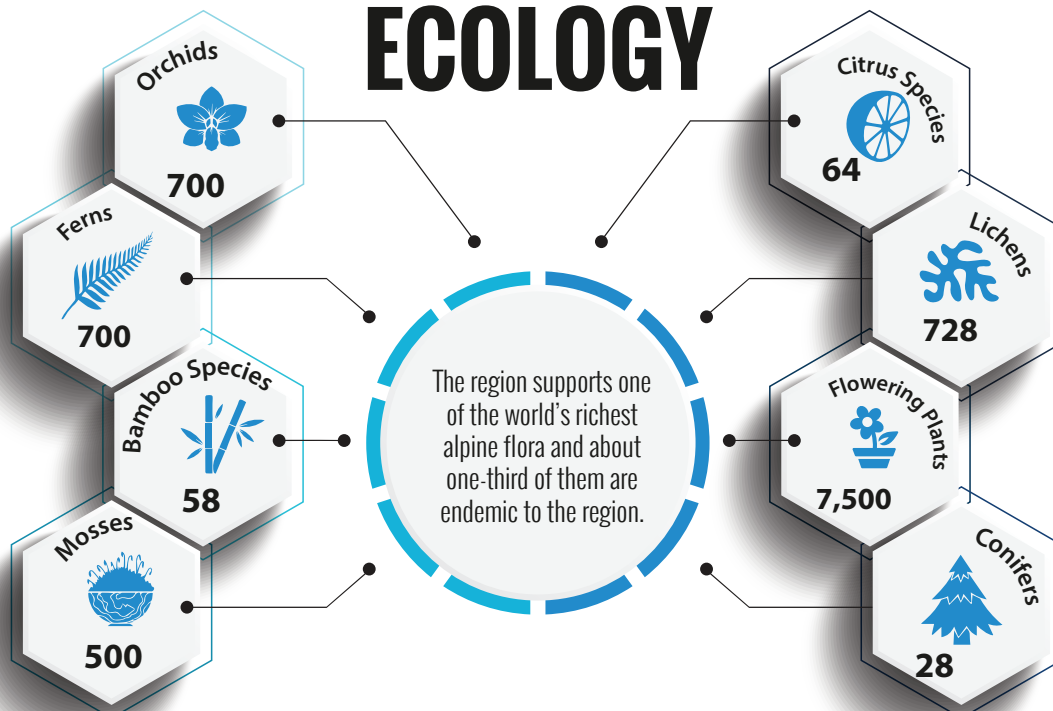
Over 1 billion people live within the river basins of the Eastern Himalayas

The Eastern Himalayan population is divided into four nations: Indians, Nepalese, Bhutanese, and Chinese, and come from four distinct ethnic groups: Indic people, Tibetan people, Afghan-Irani an people, and Burma n/South-east Asian people.

SOUTH EAST ASIAN COUNTRIES



ECOLOGY



- Species of Plants: 10,000+
- Species of Reptiles: 176
- Species of Amphibians: 105
- Species of Freshwater Fish: 269
- Species of Mammals: 300
- Species of Birds: 977

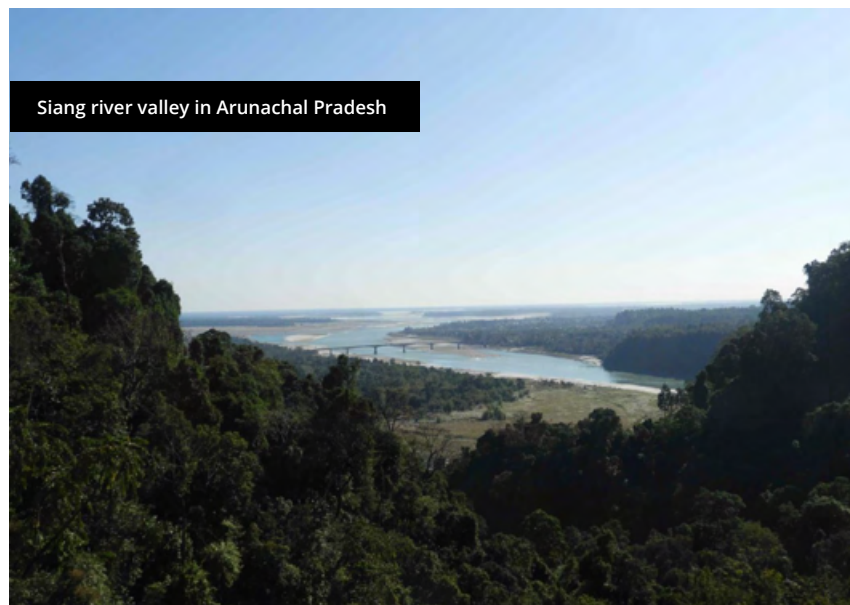
BIODIVERSITY

The Eastern Himalayas are one of the most biologically rich areas on Earth.

A BUDDING BOTANIST'S QUEST FOR PLANT-INDIGENOUS COMMUNITY RELATIONS

Content Courtesy: Sanchari Sengupta

In 2019, budding ethnobotanist Momang Taram and her friend Ojar Taku were scouting the Siang river valley in Arunachal Pradesh for flowering plants belonging to a specific family. "Then suddenly we both (Ojar Taku and I) observed some yellow flowers hanging far from the cliff in East Siang district. He scaled that cliff with great risk and somehow brought a single plant," recounts Taram, a Ph.D. student at the state's Rajiv Gandhi University. At first sight, Taram said she knew the flower belonging to the genus *Henckelia* was a novelty, "because almost all the described *Henckelia* of this region are etched in my mind." Taram, is an Adi, a prominent indigenous community in the biodiversity-rich northeast India, and calls the Siang valley home. The "novelty" was named *Henckelia siangensis* in honour of the place of description to prompt an emotional attachment with it. "Naming the endemic species after the place will encourage the community to know more about the rich floral diversity of their locality, their impor-



Siang river valley in Arunachal Pradesh

tance, and they will try to conserve it, which has done the same magic for me too (in creating conservation awareness). So, far no traditional uses have been recorded for this particular species," Taram told Mongabay-India. Priding herself on her ability to tap into the vast wealth of traditional knowledge of her community for research, she acknowledged community members who help in her fieldwork through uncharted forest terrains where venturing alone might be risky in terms of safety, for a woman. "Knowledge of indigenous communities also helps in taxonomic studies, as they always provide the necessary hints of flowering and fruiting,

availability, and location when we give them the specifics of what we are looking for. And ethnobotany as a whole depends on their knowledge, and we are just the media to distribute their knowledge to a greater mass," Taram said. "The local community has a large role to play in Arunachal Pradesh where more than 80 percent of forested areas are private lands," she emphasised. She credits Ojar Taku for site-specific knowledge of the plants, especially in unfamiliar forested terrains. Also, she is acrophobic, which means she must deal with an irrational fear of heights – a challenge in her line of work. So Ojar Taku aids with the collections.

“Though we are not less than a man in any field, I realised that my physical strength is not as good as my male partners. So being a good friend, Ojar Taku helped me on several trips in those terrains. He has a good idea of the locations of the valley and also has good knowledge of the plants in a less scientific way,” said Taram.

The genus *Henckelia* belongs to the flowering plant family Gesneriaceae with over 3000 species, including the lipstick plant (*Aeschynanthus radicans*), a popular ornamental plant. Interested in almost all the vascular plants except grasses, Taram is currently working on Gesneriaceae’s taxonomic revision (updating the taxonomy) in Arunachal. “I was in search of Gesneriads of East Siang District, especially trying to find out the habitat preferences and variations in an endemic species, *Henckelia mishmiensis* on the rocky surfaces of a streamside,” Taram said while recounting the description of *H. siangensis*.

Called Libe lirak Appun in the Adi language, the species with its five winged-petals is conspicuous among rock crevices with its striking yellow colour. Gesneriaceae plants usually prefer moist, shaded areas along streams, rock



The *Henckelia siangensis*

surfaces, crevices, or tree trunks. Taram has described nine species and one variety from Arunachal Pradesh (including five from the Gesneriaceae family) in collaboration with researchers from India and other countries. Concerned with challenges such as unplanned urbanisation and diversion of forest land for development projects, she is working with her peers to document and curate the traditional knowledge of the major ethnic communities of the region, including creating a non-profit website dedicated to identifying the plants by using local names used in the area. “Siang valley is an unexplored paradise till today. Numerous workers from the British colonial period have also worked on plants, though much is unknown. In my perception, the major threats are unplanned urbanisation

and lack of awareness; examples are practices like jhumming (shifting cultivation), commercial monoculture plantations, and the diversion of forest land for (infrastructure) development projects,” she said.

Situated on the northeastern tip of the country, the eastern Himalayan state has one of India’s most extensive forest cover (80 percent), and local communities largely manage the forests. AP is inhabited by the world’s largest variety of ethnic tribal groups and subgroups numbering over a hundred and each tribe speaking their language and dialect. Adi is one of the numerically largest tribes in AP, a forested state with lofty hill ridges and deep valleys drained by rivers, including the Siang.

Taram says their “tribal way of living” ignited her interest in the relationship between people and plants (ethnobotany).

ny); further moulded by her mother's fondness for ornamental plants and listening to the community's older members talk about local lore. For instance, Taram, often seen in a pair of well-worn denim and boots in the rugged mountain terrains, narrated how she heard Adi community members in Upper Siang talking about a plant's tender shoot used as a vegetable or chewed raw as an addictive substance. "In further questioning about the appearance, it led me to Gesneriaceae. And luckily, I found that plant in the nearby areas. A detailed study of the plant (*Rhynchosyris parviflorum* Blume) led me to understand that it is not yet recorded from our country. I also took suggestions of Dr. Benjamin Anderson, who revised the genus (*Rhynchosyris*) globally," explained

Taram. *R. parviflorum* usually prefers cliffs near perennial streams in primary forests and secondary forests and damp groves near roadsides. "It was not recorded from mainland India so far; the distribution in India of this species was only from Andaman and Nicobar Islands, and so we communicated the article in the Journal of Threatened Taxa." Floristically, northeast India hosts 43 percent of the total plant species occurring in India. The rate of endemic species (species that are only found in northeast India) percentage is also high. While Taram intends to explore other parts of the eastern Himalayas, her current pursuits are focused on the Siang valley because of the familiarity with the region and its people. Researchers have emphasised

that the Adi community's traditional knowledge and forest classification system supported by advanced tools like global positioning system and satellite imagery can be immensely useful for sustainable ecosystem management in the region, which can feed into State's Action Plan on Climate Change (REDD+) and sustainable Himalayan ecosystem initiative. Momang Taram believes species should be left untouched for conservation but acknowledges that it is not feasible. "So we can create biodiversity parks in cities, towns, etc. to showcase the interesting plants we have by cultivating them there. Additionally, awareness meetings, fair, tree talks, and treks to regions with great diversity can be organised," she suggested.



Momang Taram, the botanist

TWO TAGGED AMUR FALCONS RETURN TO MANIPUR AFTER FLYING 29,000 KMS FOR OVER A YEAR

Content Courtesy: Sanchari Sengupta

Flying thousands of kilometres from their breeding grounds in northern China and eastern Mongolia, nearly a million Amur falcons regularly descend across northeast India for nearly a month in October to feed and rest before continuing their journey to southern Africa. Of them, five were tagged in November 2019 in Manipur with satellite transmitters to identify their important migration routes in remote areas. Two of the five tagged Amur falcons returned to the area in Manipur in October of last year after completing their migratory route and covering some 30,000 km.

After spending almost a fortnight in Manipur, both tagged birds headed to the southern parts of Africa after crossing the Arabian Sea.

Kumar, a senior scientist at the state-funded research institution Wildlife Institute of India, said the male Amur reached Somali after non-stop journey of 5,700 km that includes nocturnal flight. "The bird named Chiulan reached Tamenglong on October 26 after a roundtrip of 33,000 km. After spending 15 days there,



it started its non-stop onward journey on November 11," he said. Meanwhile, the other one, Irang reached Manipur after a roundtrip of 29,000 km. Amur falcons are pigeon-sized migratory birds originating in Siberia where they breed in

the summer. They are a small migratory raptor, famous for making the longest voyage from its breeding grounds in Russia and China to spend the winter in South Africa. Amur falcons are the world's longest migratory birds who can travel

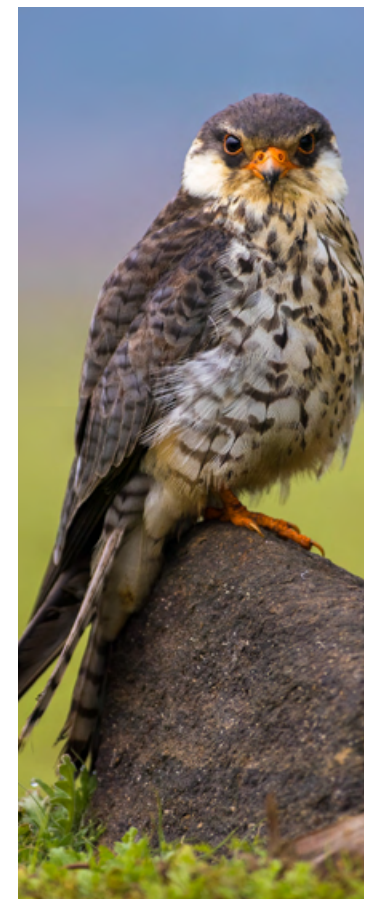


Amur falcons



over 22,000 kilometres without taking many breaks in between. Often, Amur falcons make a stop in eastern India. In 2019, Manipur's forest department fitted satellite radio transmitters in five migratory birds, namely the Chiulon, Punching, Phalong, Irang, and Barak, to study the route and flight patterns of these migratory birds. While two of these five birds continued to send their flight signals, three of them reportedly died. Only until a few years ago, around 100,000 birds were hunted in Nagaland's Wokha district every day. The mass

hunting of the bird prompted the government to take urgent action. The state government banned the hunting and killing of these birds and warned that they would freeze developmental funds of villages if found guilty. Mordecai Panmei, director of Rainforest Club, Tamenglong said awareness drive helped convince the villagers to stop hunting the birds. "We have been trying to aware the villagers that conservation efforts can bring tourism opportunities. As these birds remain here for weeks, tourists will be very happy to visit their villages



during this time. This will bring income for them," he said. As of today, the hunting has stopped. The two birds were a welcome sight for the villagers of the Manipur district. "Villagers are very happy and excited to have a glimpse of the birds again. This is a very significant development for all of us as we have been trying very hard to involve the community for conservation of the migratory birds. There used to be mass hunting of these migratory birds by the villagers a few years ago but people's attitude has changed a lot over the past few years," said divisional forest officer, Tamenglong, Kharibam Hitler Singh.

BHUTAN



CONSERVATION SITES IN BHUTAN AND
INDIA RECEIVE AWARD FOR DOUBLING
TIGER POPULATION

Vol 25 : January 2021 - March 2021

OUR HIMALAYAN

CONSERVATION SITES IN BHUTAN AND INDIA RECEIVE AWARD FOR DOUBLING TIGER POPULATION

Content Courtesy: Sanchari Sengupta

Straddling the India-Bhutan border, a 1,500-sq. km. conservation area called the Transboundary Manas Conservation Area or TraMCA, has received the TX2 Conservation Excellence Award for 2020. TX2 stands for “Tigers times two,” which is a reference to the goal to double the population of wild tigers by 2022.

The TX2 Conservation Excellence Award recognises a site that has achieved excellence in two or more of five themes: Tiger and prey population monitoring and research (tiger translocation/prey augmentation); effective site management; enhanced law enforcement, protection and ranger welfare improvement; community-based conservation, benefits and human-wildlife conflict mitigation and habitat and prey management. The award includes a financial grant to assist ongoing conservation. India and Bhutan are among 13 countries working towards



TX2, a goal that the World Wildlife Fund (WWF) had set through the Global Tiger Initiative, Global Tiger Forum and other critical platforms. Incidentally, the number of the striped cat in the Indian Manas increased from nine in 2010 to 25 in 2018 while that in the Bhutan Manas more than doubled from 12 in 2008 to 26 in 2018, making the TraMCA a strong candidate for the prestigious award. From 2010 to 2016, Bhutan achieved the target with the number of tigers increasing from 10 to 22, which also happened to be one of the most ambitious conservation goals ever made for a single species. At present, Bhutan has an estimated tiger population of 103 at a density of 0.46 individuals per 100 sq. km. “Camera trap studies in

tiger prey, including gaur and sambar, are abundant in the protected area,” said a statement by the WWF.

Conservation Director of WWF-Bhutan, Vijay Moktan, congratulated the Manas Park and the forest department and acknowledged the front-line rangers, community leaders, local communities, donors, and partners for their pledges and resolute actions. “This leaves no doubt that Manas Park is as fit and healthy as before,” he said.

The awards are presented by the Conservation Assured Tiger Standards, IUCN’s Integrated Tiger Habitat Conservation Programme, Global Tiger Forum, United Nations Development Programme, The Lion’s Share, and WWF Tigers Alive Initiative.



MYANMMAR



THE ELONGATED TORTOISE BATTLES HABITAT LOSS AND FIRE IN ITS LEAF LITTER HOMES.

MYANMAR'S NEW LANGUR SPECIES IS 'VERY BEAUTIFUL,' BUT CRITICALLY ENDANGERED

THE ELONGATED TORTOISE BATTLES HABITAT LOSS AND FIRE IN ITS LEAF LITTER HOMES

Content Courtesy: Sanchari Sengupta

According to a study, since 90 percent of the habitat of the elongated tortoise falls outside the protected area (PA) of the Indian subcontinent, conservation specialists in both India and Bangladesh are now opting for community-based conservation to conserve the critically endangered species in the region. What is sorely needed at this point is a prioritising of components of the ecosystems such as leaf litter on the forest floor and streams, as well as an immediate revision and update to the wildlife protection laws.

The tortoise species (*Indotestudo elongate*), with its yellowish-brown to olive shell adorned with black blotches can largely be found across northern and



north-eastern India, Bangladesh, Nepal, Bhutan, Thailand, Vietnam, Cambodia, Laos, and Malaysia. In and around the Indian subcontinent, it is mostly found along the Manas-Bhutan transboundary landscape, Corbett-Rajaji-Nepal Terai landscape, and north-east Myanmar and north-east Bangladesh transboundary landscape. Interestingly, a modelling study

published by researchers from the Wildlife Institute of India on the known range of the species in India (Assam, Bihar, Jharkhand, Meghalaya, Mizoram, Odisha, Sikkim, Tripura, Uttarakhand, Uttar Pradesh, West Bengal), Nepal, Bhutan, and Bangladesh provides the first predictive map of *I. elongata* distribution for the Indian subcontinent. The study area covers about 1,731,135 square kilometres.

Incidentally, only eight percent of the potential distribution of the species falls within the current protected areas network in the study area and the PA network subset that does cover the distribution of the species is "highly diffuse, with distant, fragmented PAs with little to no connectivity." According to study co-author Abhijit Das of the Wildlife

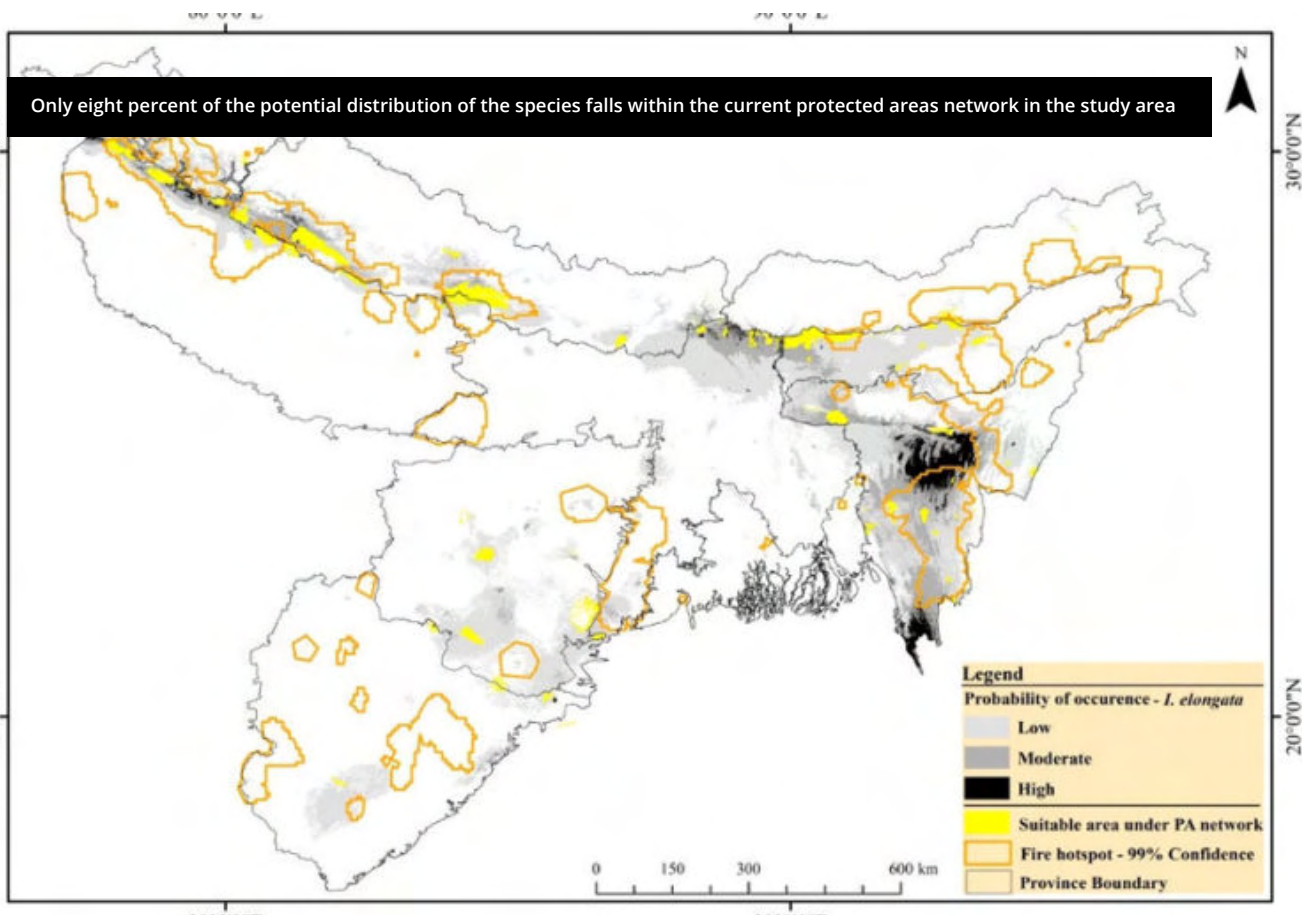


Institute of India, "PAs are considered as the cornerstone of biodiversity conservation. However, little is known about the effectiveness of PAs in safeguarding poorly known yet highly threatened biodiversity such as that of tortoises." Alternatively known as the Sal forest tortoise, this specific species normally occurs in open deciduous forest patches, including Sal (*Shorea robusta*) and evergreen forest habitats, dry thorn forests, and savannah grasslands. Across its fairly substantial range, the species is unfortunately threatened with habitat loss, forest fires, and over-exploitation. Several studies have pointed

out the lethal impact of catastrophic forest fires and grass and leaf litter clearing fires set by locals during the dry season when it takes refuge in these microhabitats. Das observes, "We need to identify moist patches inside our forest. These moist patches act as a refuge for many wildlife species, particularly reptiles, during the dry season. These moist patches need to be protected by creating a fire-line. Besides special microhabitats such as large fallen logs, tree buttresses and forest floors need to be saved from forest fires." In India, the Sal forest tortoise is one of the 29 species (which includes 24 turtles and 5 tortoises) of freshwater

tortoise and turtles and is listed under schedule IV of the Wildlife Protection Act. It is listed in Appendix II (as Testudinidae spp.) of Convention on International Trade in Endangered Species of Flora and Fauna (CITES). "This perhaps the only tortoise species in the Indian subcontinent that has the largest geographical distribution. However, everywhere it is rare. That makes it more vulnerable because the population is impacted anywhere in its large distribution range," said Das. Forest fire is known to be a major threat to these slow-moving creatures. In some studies, living tortoises were found to bear fire scars covering up to two-thirds of

CONTENT COMPILED AND EDITED FROM VARIOUS SOURCES FOR NON-COMMERCIAL RESEARCH AND PRIVATE STUDY. FOR PRIVATE CIRCULATION ONLY



their carapace surface. In identifying fire-prone zones within the distribution range of the tortoise, the researchers found that as much as 29 percent of the predicted distribution of the species falls within high occurrence fire zones.

In Bangladesh, where the species is protected under schedule III of the Bangladesh Wildlife (Preservation) Act, conservation biologist Shahriar Caesar Rahman has carried out extensive work, including telemetry studies on the elongated tortoise in his country. The tortoise is found in the north-eastern and south-eastern parts of Bangladesh. A

large part of elongated tortoise habitat in Bangladesh falls within the Chittagong Hill Tracts, a hilly terrain inhabited by 11 indigenous communities. The indigenous communities in the area practice slash-and-burn (jhum) and rely on subsistence hunting.

With the help of the communities and trained parabiologists, they have rescued over 130 specimens of turtles and tortoises belonging to five different species including the critically endangered Asian giant tortoises, Arakan forest turtle, keeled box turtle and elongated tortoises.

Shailendra Singh, Program

Head of Turtle Survival Alliance India who was not a part of the study agreed that fragmented habitats need to be connected through more community forest and participatory monitoring and models such as around the Chitwan community forest can be replicated around other areas too. "We also need to strengthen the capacity of range states (mainly Nepal) and work with them in collaboration Indian counterparts under programs like Strengthening Regional Cooperation for Wildlife Protection in Asia (SRCWP) and SAARC (South Asian Association of Regional Cooperation) and tiger conservation programs," he added.



MYANMAR'S NEW LANGUR SPECIES IS 'VERY BEAUTIFUL,' BUT CRITICALLY ENDANGERED

Content Courtesy: Sanchari Sengupta

According to a study, since 90 percent of the habitat of the elongated tortoise falls The gray-furred langur with white rimmed eyes and a fluffy head, named the Popa langur (*Trachypithecus popa*) has been named after an extinct volcano near its habitat in Myanmar. The newly discovered species has become a novelty not just because of the uniqueness of its species but also because of its charismatic appearance.

"It looks like a bespectacled uncle," Frank Mombert, director of program development for the Asia-Pacific region at Fauna & Flora International (FFI), an international conservation organization, commented. "It makes it very cute, and very beautiful."

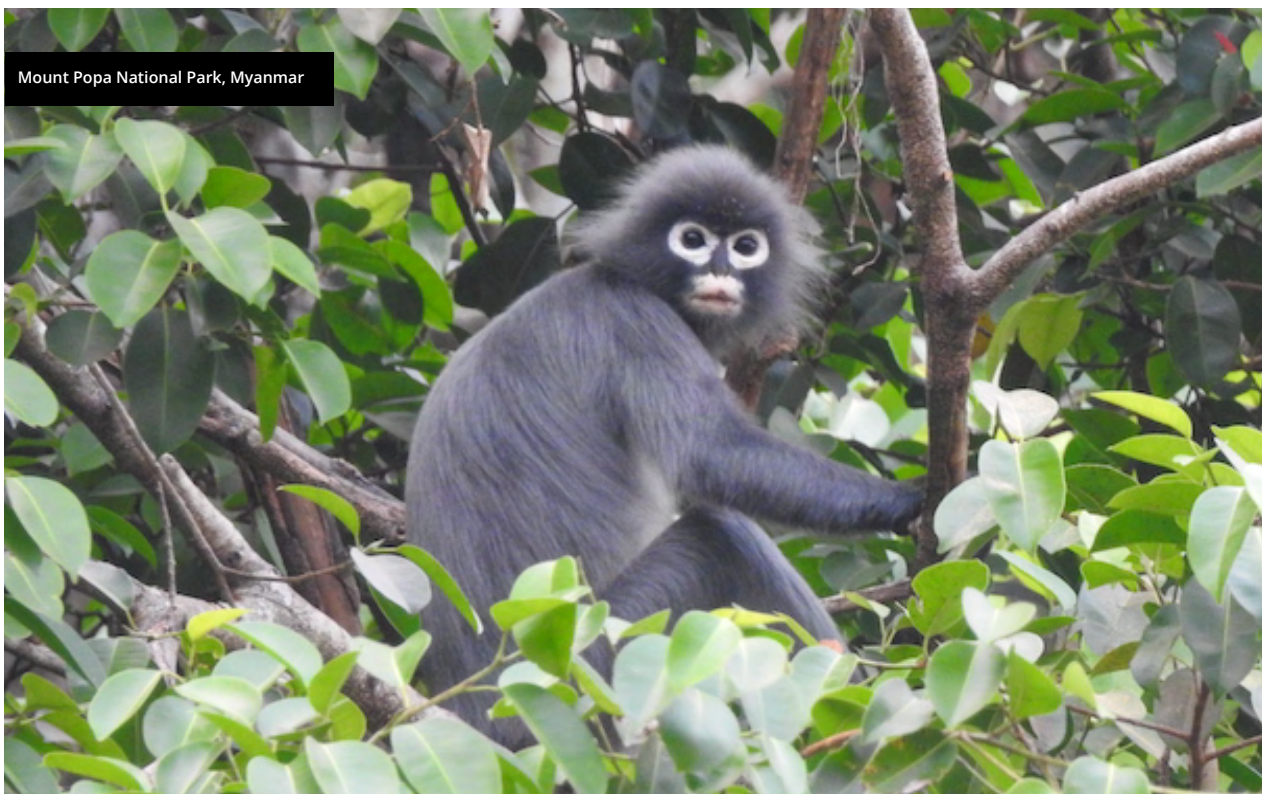
The discovery of this species of primates is a story in itself. It took place in a laboratory where a team of international researchers, led by Christian Roos of the German Primate Centre, a non-profit research institute, compared tissue samples from various museum specimens, that also happened to contain a 100-year-old specimen from London's Natural History Museum, with faecal



The new langur species from Myanmar

samples from captive and wild animals. What followed was several years of genetic analysis that led up to the publishing of a paper in Zoological Research identifying the Popa langur as a distinct species in the genus *Trachypithecus*. According to Roos, there are nearly 20 known langur species in the *Trachypithecus* genus, and a close cousin of our *Trachypithecus popa* is the Phayre's langur (*T. phayrei*), although some morphological differences between the two are noticeable. As in the case of

all living beings, with the discovery of the new species comes the danger of extinction. It has been estimated that there are only 200 to 260 individuals spread across four separate populations. Factors that threaten the existence of the species are hunting, habitat destruction and fragmentation. While the current state of the species has not yet been evaluated by the IUCN, going by the organisation's criteria, the Popa langur would already be classified as "critically endangered." Apart from the Popa langur,



Mount Popa National Park, Myanmar

many other langur species also face endangerment and extinction, like Delacour's langur (*T. delacouri*), which is critically endangered, and the Shortridge's langur (*T. shortridgei*) and Hatinh langur (*Trachypithecus hatinhensis*), which are endangered.

The biggest, and perhaps safest, population of Popa langurs is located in Mount Popa National Park in the Mandalay region of central Myanmar, says Roos. However, the region only has about 26 square kilometres (10 square miles) of suitable habitat for the species, and therefore may not be suitable to sustain a growing population, he said. "There are habitat limitations for them to thrive and recover its population, because obviously, it has suffered from hunting and ... the whole area around

Mount Popa has completely turned into agriculture. So, it's an isolated forest, and not connected to anything else anymore."

A second population of langurs is found partially in the Panlaung-Pyadalin Cave Wildlife Sanctuary in Myanmar's Shan state, but it overlaps with a limestone concession in an adjacent area. "[This region] requires immediate attention, due to the sanctuary's limited human and financial resources for protection of the species from hunting and agricultural encroachment, the direct and indirect threats caused by a cement company," Momberg said in an email. "FFI has provided comprehensive recommendations for the mitigation of threats and for a biodiversity off-set plan, which includes the protection and monitoring of

the new Langur species, as well as long-term financial support for improving the management of the Panlaung-Pyadalin Cave Wildlife Sanctuary."

According to Momberg, FFI will help implement local conservation efforts, including awareness and outreach campaigns, working alongside the Myanmar Forest Department. FFI is also supporting further research activities in the area, including projects focused on the Popa langur. "Myanmar is still an exceptional place for new discoveries," Momberg said. "Myanmar has the largest remaining forest area in mainland Southeast Asia. Many recent new species discoveries of plants and animals across all taxa highlights that Myanmar is a global hotspot for biodiversity."

MYANMAR MATTERS VOLUME 1 TO 21

CONTENT COMPILED AND EDITED FROM VARIOUS SOURCES FOR NON-COMMERCIAL RESEARCH AND PRIVATE STUDY. FOR PRIVATE CIRCULATION ONLY



vol 1. Apr-May 2013



vol 2. Jun-July 2013



vol 3. Aug-Sep 2013



vol 4. Oct-Nov 2013



vol 5. Dec-Jan 2014



vol 6. Feb-Mar 2014



vol 7. Apr-May 2014



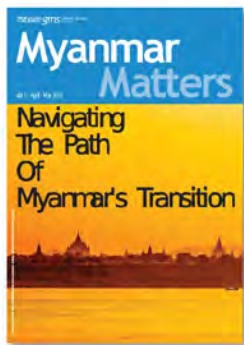
vol 8. Jun-July 2014



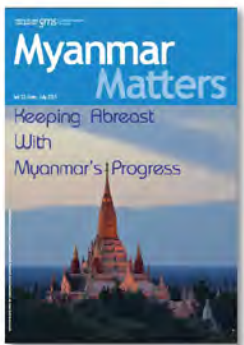
vol 9. Aug-Sep 2014



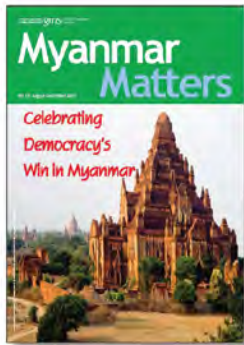
vol 10. Oct-Dec 2014



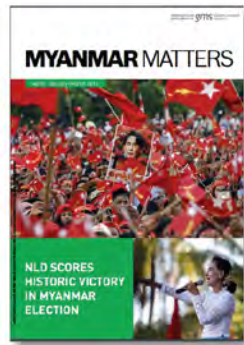
vol 11. Apr-May 2015



vol 12. Jun-July 2015



vol 13. Aug-Dec 2015



vol 14. Jan-Mar 2016



vol 15. Oct 2016



vol 16. Jan 2017



vol 17. Mar 2017



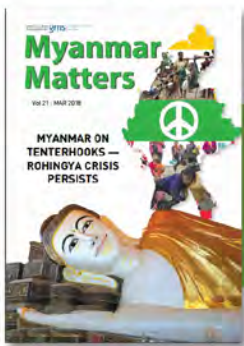
vol 18. June 2017



vol 19. Sep 2017



vol 20. Dec 2017

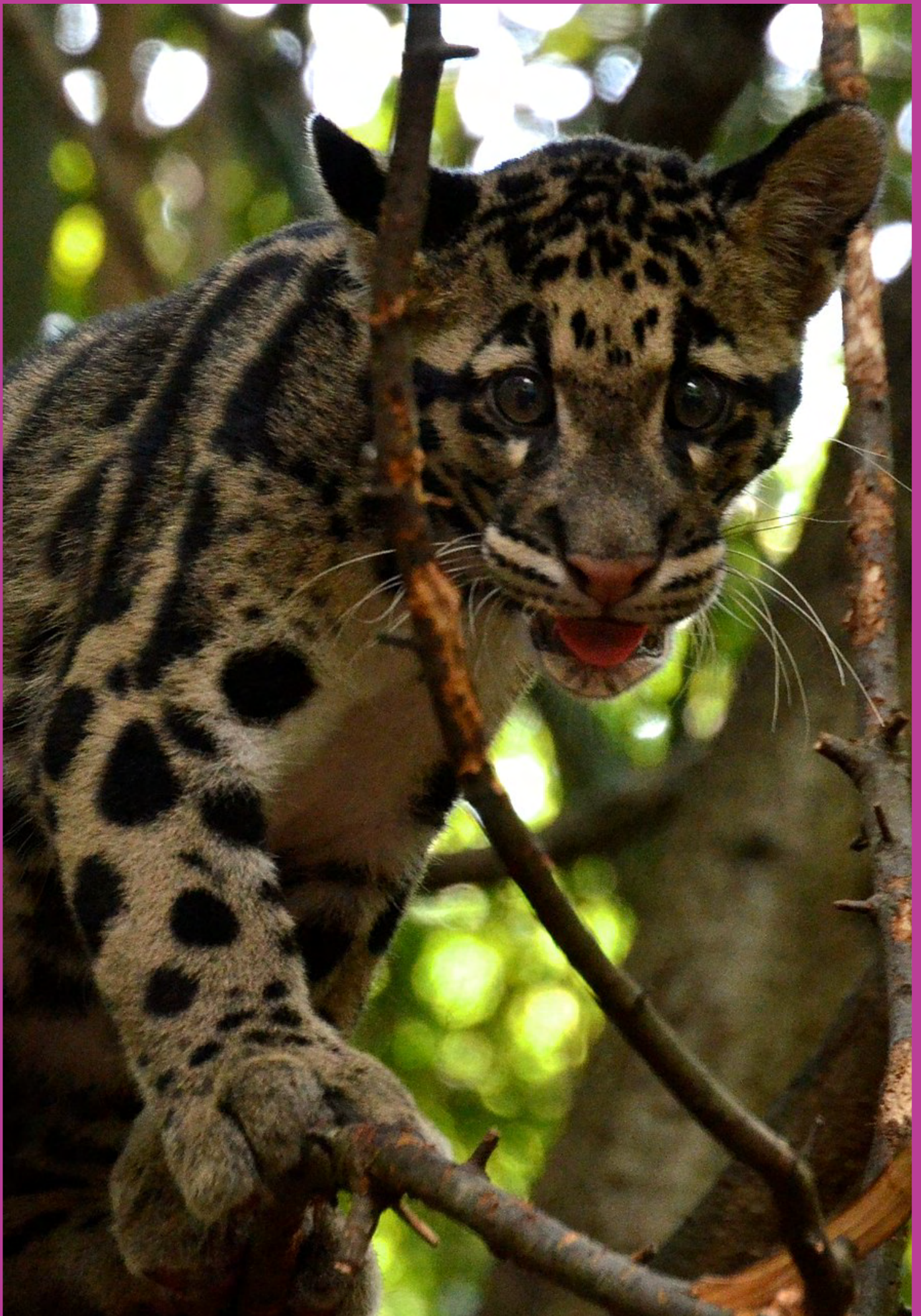


vol 21. Mar 2018

To read any of the previous editions go to:
www.myanmar-matters.com/volumes/

Vol 25 : January 2021 - March 2021

OUR HIMALAYANS





For contributions, feedback & enquiries
on advertising opportunities in
Our Himalayan, please contact:
communications@baliparafoundation.com
www.baliparafoundation.com

Profile and Published by
GMS
www.gms.net.in
www.baliparafoundation.com

Founder: Ranjit Barthakur
Editor in Chief: Neville Chesan
Assistant Editor: Sanchari Sengupta & Nikita Kulkarni
Produced by: Blenheim Chalcot

Advisory Board Members:
Nicholos Claxton
Prabir Banerjea
Kalpesh Popat
Paper Plane Tales
Akash Chandra
Prabudha Barua
Varsha Wadhvani
Front Picture Courtesy: Sumeet MogheB
Back Picture Courtesy: Alex Treadway