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Tadoba

DIARIES

The official Newsletter of Tadoba-Andhari Tiger Reserve



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Tadoba-Andhari Tiger Reserve Conservation Foundation, Chandrapur



CONSERVATION RESEARCH : A CRUCIAL FRONTIER FOR ACTION

Dear Reader,

Globally, it is recognised that research helps us understand the biology and ecology of wildlife species so as to inform conservation priorities and action. It is through such new knowledge that we identify vulnerabilities; and interventions are planned and implemented scientifically. These are closely monitored and evaluated for success in achieving desired outcomes.

Tadoba has a long history of research – and over the years we have enabled research in various aspects that have informed the management practices of Tadoba-Andhari Tiger Reserve. Indeed, it would be appropriate to say that the excellence in management of this diverse ecosystem is based on the insights gained from studies on its vegetation, population dynamics of prey species, interactions between different predator species, and movement studies on large predators like tigers and leopards.

Long-term studies are particularly valuable. In this context, a Wildlife Institute of India study using radio telemetry, satellite imagery and GIS tools has helped develop a deep understanding of the landscape level movement of tigers in Eastern Vidarbha landscape. Supplementing this knowledge is a decade long ongoing project (2019-29) 'Long term monitoring of Tigers, co-predators and Prey' in Tiger Reserves and other tiger bearing areas of Vidarbha, Maharashtra.

A major challenge of the Vidarbha landscape is human-wildlife conflict. An ongoing study on understanding large carnivore conflict issues in Maharashtra continues to provide valuable insights on the reasons for conflict and how it may be mitigated for long-term conservation success in this landscape. Learnings from such projects have helped secure wildlife corridors that facilitate wildlife movement, allow genetic exchange between separate populations and maintain genetic vigour and viability of wild populations. The findings are also used to identify critical areas of mitigation like finalising locations of wildlife crossings such as overpasses/underpasses on roads and railway lines.

TATR has also seen the voluntary relocation of five villages, and another village may be relocated soon. There is an ongoing Cambridge University PhD study on the socio-economic impact of relocation, and also evaluates the official processes that govern the relocation process. Additionally, Tata Institute of Social Sciences has also studied the legal and social aspects of relocation in TATR.

We are also excited about a recently initiated study on the seasonal and locational variations in herbivore and carnivore diets in association with National Centre for Biological Sciences, Bangalore. Understanding the dietary profile of wild species, particularly of herbivores, is often difficult using traditional methods like morphological analysis. However, novel DNA-based methods serve as an excellent tool. We plan to use DNA metabarcoding for identifying dietary ranges of all the important species in the reserve. The study outcome will help in better management of different species and could be potentially useful for habitat restoration and conflict mitigation in Tadoba landscape.

Besides, the Bamboo Research and Training Centre, Chandrapur is working on studying the gregarious flowering of bamboo in the Tadoba landscape and the knowledge gained will be critical to manage this flowering phenomenon and ensure proper regeneration of bamboo to its present level.

Research activities and modern methodologies also empower our frontline staff with new understanding of research tools and use it to make scientific observations while doing their regular duties. TATR management encourages the members of frontline staff to make best use of their time in remote forests for scientific understanding of the treasure that they protect for future generations.

Science helps us solve the mysteries of the natural world and provides amazing insights into the hidden life of wild species. Most visitors are unaware of the science that goes into protecting wildlife. I would urge you to learn more about ongoing research in this landscape. I assure you it will deepen your appreciation of Tadoba's diverse and amazing wildlife!

Dr. Jitendra Ramgaokar

Field Director, TATR
and Executive Director, TATR Conservation Foundation

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Editor: Dr. Jitendra Ramgaokar, CF & Field Director, TATR | Executive Editor: Anant Sonawane, Communications Officer, TATR.

MOTHER FIGHTS BACK

We were waiting at the Agarzari gate for our morning safari to begin. Our guide updated us that tigress T-127, popularly known as Madhu had killed an Indian gaur with her cubs in the buffer forest. All of us were excited at the possibility of sighting a tiger with her kill. While we were waiting for the entry gate to open, we saw an adult male tiger crossing the road! Our safari was yet to begin and we had a sighting! I was told that it was T-185, a male known as Taru among safari drivers and guides.

All excited, we reached the spot where the Indian gaur was killed. We could see Madhu's three cubs around, but good photographs would not be possible so we decided to go back and track Taru. While we were tracking him, a spotted deer sounded an alarm call and my senses became alert. There he was - Taru was walking on the road, straight towards us! My guide murmured that it was the first time Taru had entered Madhu's territory! My heart started beating faster in anticipation.

Taru headed towards the kill. As Madhu's cubs were there, we were sure that something dramatic would happen. By the time we reached the spot, Taru had created panic among the cubs and was running after one of them. And then, she finally entered! The protector- the mother - Madhu! She stood between the cubs and Taru. Her aggressive posture clearly showed that she was not going to compromise her cubs' safety at any cost. At first, Taru did not seem keen on fighting her. Madhu made sure that the cubs were at a safe distance and started growling at Taru. Agitated, Taru growled back and a fight broke between them which lasted for a few seconds. Madhu was much smaller in size and strength, but she put up a good fight and finally took a defensive stance. Taru, the winner, did not stretch it too far. He did not hurt Madhu or her cubs, but had his share in the kill. Madhu kept staring at him while he ate the Indian gaur's meat. Later Taru left the spot. Madhu got up and started markings on the trees near the kill... announcing - this is my territory!

- Rozar Daniel Rangary
Tourist, Chandrapur



CLAWS OF DEATH

It was a hot day in May 2022 when I entered the forest from the Kolar gate for an evening safari. I took my guests first to Jamni lake, and then over to 97 water body, Ainbodi and then to Pandharpauni. There was neither any movement of tiger nor did we hear of any other exciting happening in the forest. At around 5 pm, we reached Ambepat where I spotted a Crested Hawk Eagle on a mango tree. I showed it to my guests and they started photographing it. While we were busy in observing it, the eagle had an eye on something else! Around 30 to 35 feet away from the eagle, a Plum Headed Parakeet female was feeding her chicks. She had her nest in the bark of a big tree and had no idea this avian apex predator was watching her. All of a sudden, the eagle spread its large wings and took a flight towards the parakeet's nest. Our eyes followed its path. Before we could understand what was happening, the eagle had attacked the nest. The mother parakeet panicked and left the nest making a loud distress call. Next moment, we saw two chicks of parakeets struggling for life in the strong grip of the eagle's claws. One chick escaped from the claws of death, but fell down from the height. The eagle flew away with the other chick! All of us were so amazed with what happened within a few seconds in front of us that my guests forgot to click the photos! Being a safari guide, I had seen the tiger in action many times. However, I had never witnessed an eagle's hunting. It was indeed a lifetime experience for me. No less exciting than watching a tiger hunting down its prey!

- Mangesh Nannaware
Guide, Kolar Gate





Monitor Lizard

Every monsoon, hundreds of images of snakes and lizards are shared on social media because with rain, the sightings of the reptiles increase. I found it funny that thousands of amused social media users have shared an image tagging it as 'Komodo Dragon', some even calling it 'alien species'! The image in fact was of a monitor lizard! The Bengal monitor or common Indian monitor is a monitor lizard distributed widely in the Indian subcontinent, as well as parts of South-East Asia and West Asia. This large lizard is mainly a terrestrial animal and is well known for its strong grip. I am lucky enough to have witnessed all three seasons in Tadoba, and I have observed that sightings of monitor lizards increase with one spell of monsoon.

I saw the monitor lizards while doing monsoon patrolling with beat guards and accidentally we went close to one of the individuals lying roadside. To my surprise, it acted as if it was dead or sick! It didn't move an inch! We thought it was sick and needed help. Hence one of us approached it. Suddenly the monitor lizard got up and ran into a bush with great speed! It was a great learning experience for me. Animals have their own defence mechanism and when they feel threatened from other species, they use their defence mechanism.

Although monsoon sightings are frequent, it does not take away from the fact that they are endangered, and are illegally hunted, trafficked and consumed across India. At a young age I rescued a few monitor lizards from a weekly market, where they were kept to sell. In fact, as a Schedule-I species under the Wildlife Protection Act 1972, they are entitled to the same level of protection as tigers.

- Prajakta Hushangabadkar
Wildlife Biologist, TATR



Rough & Tough Bhera

My first introduction to the super-wood of the Bhera tree, also called Satinwood tree (*Chloroxylon swietenia*) was when I saw my friend – a butcher – chopping meat on it. He poured litres of water over it, and but the log seemed to withstand it all effortlessly. While exploring Melghat, a Korku tribal showed me a very unique scene. In the areas that were burnt down in forest fires, Bhera trees stood out unaffected! The wood actually was fire resistant!

Another friend from the Tadoba forest, who took cattle out to graze, mentioned that on his way back from the jungle, he would bring Bhera leaves every evening. These, he would put in the fireplace and he would enjoy a mosquito free peaceful sleep!

Interestingly, an ongoing research has confirmed that the essential oils extracted from its leaves display distinct mosquito-repelling qualities, and very specifically against *Anopheles gambiae*, the main cause of malaria.

The British in India found tremendous value in its hard yellowish-brown wood. They over-exploited these trees for heavy construction, railway sleepers and boat building. This wood, which is termite resistant, can also be polished to a high gloss, making it useful for small luxury items like intricate veneer and panelling. However, being heavy, it is a little difficult to work with hand tools. This makes the wood useful for agricultural implements.

Many parts of Bhera tree that have prominent brown and yellow coloured deep elongated cracks in the bark, are also used in local medicines. The dried leaves are used in treating wounds and scabies. The essential oils in the leaves and bark have amazing antibacterial and antifungal properties. Its antimicrobial, anti-oxidant properties have been acknowledged since ancient times.

- Anirudh Chaoji
Senior Naturalist

DROSERA HIDDEN TREASURE OF TADOBA

While all of us know that Tadoba is a forest full of biodiversity, only a few know about the uncommon or rare varieties of plants found here. I consider myself very fortunate to have an opportunity to work in Tadoba and to study the richness of its natural treasure.

The most interesting species among such lesser-known plants are insectivorous plants. Tadoba's forests have two varieties of these insectivorous plants – *Drosera burmanni* and *Drosera indica* – both from the family Droseraceae. They are called Jalakeshar and Kitakbakshi in the local language. They are found in moisty and marshy areas of the forest. If you are observant enough, you can find them around lakes, fields or waterbodies. I have seen these species at Kolsa lake and Pangdi lake in the Kolsa zone of TATR.

Drosera is a small stemless plant. It is red in colour and its leaves are radical. Its flowering season is between October to April. Why is this plant called insectivorous? At the upper part of this plant, there are some special glands that produce a sticky substance. Insects and ants get attracted to this sticky substance. As soon as they approach the upper part of *Drosera*, they are stuck to it.

One may think- how can a plant 'eat' an insect? Plants like *Drosera* explain it the best. They lure, capture, and digest insects using stalked mucilaginous glands covering their leaf surfaces. The insects supplement the poor mineral nutrition of the soil.

Insectivorous plants like *Drosera* help in controlling the insects' population and thus maintaining the ecological balance. Worldwide, *Drosera* are at risk of extinction due to the destruction of natural habitat through urban and agricultural development. They are also threatened by the illegal collection of wild plants for the horticultural trade.

So next time you visit Tadoba, look for this hidden treasure of the forest and consider yourself lucky if you get to see one.

- Rundan Katkar,
Range Forest Officer, Kolsa, TATR



Contribute to 'Tadoba Diaries'

Are you a forest department staff, tourist, guide, driver, working with a resort, managing a home stay or a community member from TATR vicinity? Do you want to join our effort to spread awareness on forest and wildlife conservation through 'Tadoba Diaries'? Please share your interesting photographs (not less than 4 MB) and experiences (not more than 250 words) on tadobadiaries2021@gmail.com. Your photograph/experience must be related to TATR only. The best content will be published with due credit.





A global celebration of India's National Animal, the tiger, was marked in Chandrapur on 29th July 2022 in the presence of Shri Bhupender Yadav, Honourable Minister, Environment, Forest and Climate Change and Shri Ashwini Kumar Chaubey, Minister of State, Environment, Forest and Climate Change. The national level event was held at the Chandrapur Forest Academy of Administration, Development and Management.

It was a day for the tiger and its protectors – India's frontline staff - to be in the spotlight. Besides the honourable ministers, Maharashtra's Head of Forest Force and Principal Chief Conservator of Forest (PCCF) Dr YLP Rao, and Chief Wildlife Warden, directors of Tiger Reserves from across the country, officials from the Ministry of Environment, Forest and Climate Change attended the event. The Special Tiger Protection Force (STPF) from Tiger Reserves of Maharashtra, namely, Tadoba-Andhari, Melghat, Pench and Navegaon Nagzira, along with a contingent of Kerala Forest Department conducted a magnificent parade showcasing their regimented discipline essential as a strike force to combat wildlife crime.

Before the start of the formal event, Shri Bhupendra Yadav, along with other delegates, visited Tadoba Andhari Tiger Reserve early in the morning accompanied by its director, Dr Jitendra Ramgaokar. Shri Yadav encountered Tadoba's varied wildlife, was captivated by the beauty of the Tadoba lake, and had informal interactions with the forest staff and management, which he felt helped him understand the challenges in protecting the reserve. The tiger, too, showed up for an unscheduled meeting—a magnificent male strolled by, piloting the minister for a good distance in his early morning safari!

It was befitting that the event took place in the country's 'tiger-hub' Chandrapur – a district that houses more than



250 tigers, and is home to Tadoba, which harbours the world's fastest growing tiger population. The function was inaugurated with a parade in honour of our national animal, the tiger, where women and men of the STPF from Maharashtra and Kerala Forest Department saluted the attending dignitaries.

Shri Sunil Limaye, PCCF (Wildlife) and Chief Wildlife Warden of Maharashtra, then welcomed the gathering, remarking on India's success in achieving the Tx2 goal that defines Global Tiger Day – a pledge taken by 13 tiger range countries at the St Petersburg summit in 2010, to double the world's wild tigers by 2022. Awards were distributed in honour of frontline staff from across India, recognising their extraordinary commitment and rewarding them for showing exemplary courage in the field. Each award constituted a cash reward of INR1 lakh and a certificate.

Shri S P Yadav, Member Secretary of the National Tiger Conservation Authority spoke on the country's various efforts that have led to the success in doubling its tiger populations in the last decade, which further cements its status as a global leader in tiger conservation.

Shri Ashwini Chaubey, Minister of State, Environment, Forest and Climate Change too shared his thoughts on the importance of forest protection, thanking the STPF and forest guards for their commitment and contribution.

CELEBRATING THE TIGERS

importance of forest protection, thanking the STPF and forest guards for their commitment and contribution.

Following this was a brief but enlightening speech by the chief guest, Shri Bhupender Yadav. He acknowledged the crucial contribution of forest guards and communities who live near forests towards wildlife conservation, and in achieving the Tx2 goal of tiger conservation. He assured them that the central government recognises their work and stands with them in their difficult task.

He said that his government appreciated the importance of tiger conservation which is crucial for preserving the ecological balance of entire ecosystems. He reflected on the government's commitment towards conservation – adding that India now has 52 Tiger Reserves across the country, from nine since Project Tiger was initiated in 1973.

The event then concluded and was followed by a meeting of the National Tiger Conservation Authority board.





WALK WITH THE CATCH! The rusty spotted cat, listed as 'Near Threatened' on IUCN's Red List, is a predominantly nocturnal wild cat. While habitat loss, fragmentation, and deforestation are some of the biggest threats, Tadoba is a safe haven for this rare-to-sight animal. This graceful cat-walk with a catch was captured on a camera trap installed by the forest department.

NATURE TRAIL

You may have visited Tadoba multiple times and may have enjoyed a number of safaris in the gypsy. Have you ever thought of how it would feel to experience the jungle on foot? Believe us, it will be an out of the world experience. If you want to get closer to the wild side of nature, do not miss this opportunity. Our expert guides will take you through the designated route and help you read the forest through pugmarks, scats and other signs of wildlife.

Location: Agarzari (Moharli Zone)

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PRESENCE OF MIND



It was a bright sunny day in the summer of 2021. I was patrolling in Sirkheda – my beat in Shivni range in the buffer zone. I was accompanied by my colleague, forest guard S.G. Chahande. He was riding a bike with his helper and I had another forest worker on my bike. The four of us on two motorcycles were driving through the dam road.

It was a hot afternoon and we were soaked in sweat. The jungle was silent with animals and birds resting in the shadows. Chahande was driving some distance ahead of me. He was about to take a blind turn. What he did not realise was that someone was resting at the roadside just after the turn. It was a tigress! Around four years old, the tigress was cooling off under a tree. Unaware of her presence, Chahande took the turn and passed by her, unaware of her presence. With the bike passing by, the tigress got disturbed and stood up all of a sudden! By the time Chahande realized she was there, he was out of her range.

Meanwhile, I was driving behind Chahande. As the turn was a blind one, I could not see what had happened. As soon as I took the turn, I was right in front of the tigress! Already agitated with a motorcycle disturbing her afternoon siesta, the tigress saw my motorcycle taking the turn. In just a split second, I noticed her presence, and she

was already rushing towards me. As I tried to evade her, she started running after my bike and continued for almost 15 to 20 meters. At one point she was so close to us that I feared she might catch hold of the forest worker sitting behind me. Within a few seconds, I reached a spot where the road had a sharp slope and I was terrified for a moment that the motor cycle would skid. That would have been a nightmare! Falling on the ground when a young agitated tigress is rushing to you would be a tricky situation. I had no option, but to stop the bike. The tigress came towards us aggressively. We stayed put on the bike. My helper raised the stick in his hand and both of us started shouting loudly. The tigress was startled, but refused to back off. She was only five feet away from us. Thankfully, at the same time Chahande returned with his helper! Now there were four of us facing the tigress. All of us kept shouting loudly. She just stood on the road, looking at us. Then she walked in the opposite direction, stopped, stared back at us and finally, walked away!

This was the greatest and most thrilling experience of my life. While on duty, the possibility of such an incident is always there. It is your presence of mind that and not giving in to fear helps you manage such a situation.

- L. K. Meshram
Forest Guard, Shivni, TATR



A MOMENT IN NATURE

My photography journey began when I didn't even understand what a camera was. It was all thanks to my father. I was in fifth standard when it all started as a pursuit of my curiosity, then it became a hobby and now it is my passion. I went on clicking trees, sky, clouds, water, rain, every element of nature and quickly got addicted to nature photography.

I am fortunate to live near the world famous Tadoba-Andhari Tiger Reserve, home to the majestic tiger. Along with rich bio-diversity Tadoba is blessed with serenity of mother nature. There is a natural lake or man-made waterbody in each safari zone. It provides me with the best ground to experiment with different shots.

Till my tenth standard exam, I had to give preference to my studies over my passion for nature photography. However, post exams, I followed up my passion and took many beautiful images in Tadoba. I was selected for the YCP program of World Wide Fund for Nature India. During this journey, I met National Award winning wildlife photographer Nalla Mutthu and learned a lot from him. My seniors Indrajit Madavi and Laxmikant Shukla also guided me.

My biggest Guru is undoubtedly Tadoba. The natural beauty here is simply divine. The magnificent forms I get to capture here are unmatched. Clicking the natural beauty gently hiding behind a tree is nothing less than a feast for me. I wish I get to learn from nature more and that makes me an accomplished, yet a humble nature photographer.

- Samrudhi Amrut Dandwate
Student, Class XII
Sindewahi, Chandrapur

JUNGLATLYA GOSHTI



Tadoba-Andhari Tiger Reserve Conservation Foundation has brought out 'Junglatlya Goshti'- an excellent nature book for the nature enthusiasts across Maharashtra. This Marathi book is a work of Anirudh Chaoji, former Ecotourism and Nature Interpretation Officer at TATR. This book will help you fall in love with nature and help the safari guides to provide even better jungle experience to the tourists.

'Junglatlya Goshti', is a compilation of Wild Bytes, with interesting information on wildlife and natural phenomenon. From everyday encounters with insects, birds and reptiles to complex concepts of human-tiger interaction, the book covers a variety of topics for every nature lover.

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This book is available on www.ranmangli.org

Note: If you are from Maharashtra Forest Department, please ask your office to order for the entire team at a discounted cost by writing to

DRAWING COMPETITION

On the occasion of International Tigers Day, Bombay Natural History Society in cooperation with TATR, organised a drawing competition for the school students in Chandrapur district. A total of 1,142 students from 39 schools participated in the competition. The students enjoyed the activity. The topics given were 'Cleanliness Drive in Schools', 'Pollution in Chandrapur City' and 'Wild Animals and Crop Damage'. The winners of the competition will be awarded.



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SUPER CLICK

BANDA ARVIND

THE NEW KING!

A new male tiger was recently sighted by tourists in Agarzari area of buffer zone. Unlike the most of the popular tigers in Tadoba, this male was shy and not camera friendly. In his effort to go away from his fans, the tiger rushed through a nallah, giving this magnificent click to the photographer.



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