

Telangana Biodiversity

Vol. 5 Issue 2

Apr-Jun, 2024

A Newsletter of Centre for Biodiversity and Conservation Studies, Osmania University

Editorial

Launched in 1973, Project Tiger marked a turning point in India's commitment to wildlife conservation. Initiated by the Government of India, the project aimed to halt the alarming decline in tiger population due to habitat loss, poaching, and human-wildlife conflict. Beginning with nine tiger reserves covering 18,278 square kilometers, the initiative has expanded to 55 reserves across the country today, reflecting a remarkable increase in protected habitats.

Under the stewardship of the National Tiger Conservation Authority (NTCA), Project Tiger adopted a science-based approach to conservation, emphasizing habitat improvement, anti-poaching measures, relocation of villages from core areas, and community engagement. These efforts have led to encouraging results—India now hosts over 70% of the world's wild tiger population. Beyond tigers, the project has also benefitted countless other species, preserving entire ecosystems and strengthening biodiversity.

However, the journey is far from over. Urbanization, climate change, and human pressures continue to pose challenges. Continued awareness and support are vital to ensure the long-term success of this iconic species' protection.

In the upcoming series of our newsletter, we will spotlight various Tiger Reserves of India, exploring their unique landscapes, challenges, and conservation successes. Stay tuned as we journey through the heart of India's wilderness and celebrate its most majestic predator.

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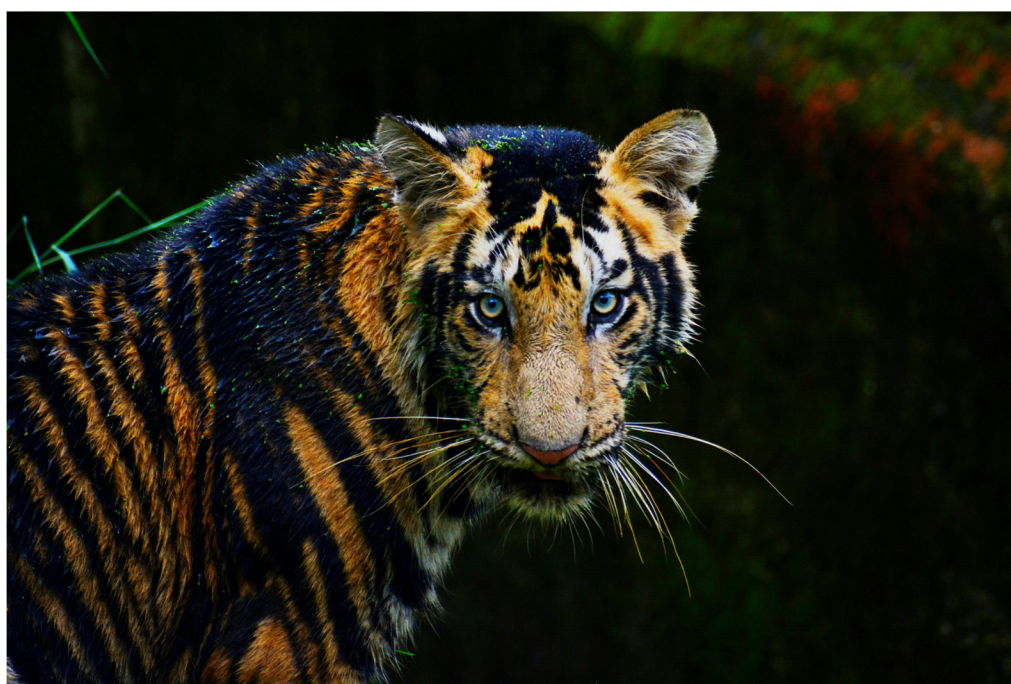


Photo: Amiya Nanda

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Briefly

India Expands its Tiger Reserve Network

India's commitment to tiger conservation has taken a significant step forward with the inclusion of Veerangana Durgavati Tiger Reserve in Madhya Pradesh and Dholpur-Karauli Tiger Reserve in Rajasthan into the country's expanding network of tiger reserves. With these additions, the total number of tiger reserves in India now stands at 55. Veerangana Durgavati Tiger Reserve, carved out from the Nauradehi Wildlife Sanctuary and adjoining forest areas, spans across the districts of Damoh, Sagar, and Narsinghpur in Madhya Pradesh. Known for its rich biodiversity and vital tiger corridors, it strengthens central India's conservation landscape. Dholpur-Karauli Tiger Reserve, situated in eastern Rajasthan, enhances the ecological connectivity between Ranthambhore and Kuno-Palpur landscapes. It holds promise for both tiger conservation and the protection of dry deciduous forest ecosystems. These new reserves reflect India's ongoing commitment to preserving its national animal and securing habitats critical to ecological balance and biodiversity conservation.

Courtesy: NTCA, GoI



Special Feature

Corbett Tiger Reserve

Established in 1936 as Hailey National Park, Corbett National Park holds the distinction of being India's first national park and a pioneering model for wildlife conservation in Asia. Renamed in 1956 to honor the renowned hunter-turned-conservationist Jim Corbett, the park is situated in the Nainital district of Uttarakhand. Encompassing an area of 1,288.31 square kilometers, it forms the core of the Corbett Tiger Reserve, which includes the Sonanadi Wildlife Sanctuary and adjacent forested areas.

Corbett's diverse topography, ranging from 385 to 1,100 meters in elevation, features a mosaic of habitats including the

dense Sal forests, riverine belts, grasslands known as 'chaurs,' and hilly terrains. The Sal (*Shorea robusta*) forests dominate the landscape, providing critical habitat for a multitude of species. Riverine forests along the Ramganga and other streams are characterized by Khair (*Acacia catechu*) and Shisham (*Dalbergia sissoo*) trees, which play a vital role in soil stabilization and ecological succession.

The park is a biodiversity hotspot, home to over 600 species of plants and a wide array of wildlife. It boasts the highest density of tigers in the world, making it a critical area for the conservation of the Bengal tiger. Other notable fauna include the Asiatic ele

-phant, sloth bear, sambar deer, and over 600 species of birds, such as the great pied hornbill and the white-backed vulture. The park's rivers and reservoirs support populations of gharials and muggers, contributing to its ecological richness.

Corbett National Park was the launch site for Project Tiger in 1973, a landmark initiative aimed at tiger conservation across India. The park's management has since implemented various measures to protect its wildlife, including anti-poaching patrols, habitat restoration, and community engagement programs. These efforts have been instrumental in stabilizing and increa-

Photo: Soumyajit Nandy



Photo: Timothy Gonsalves

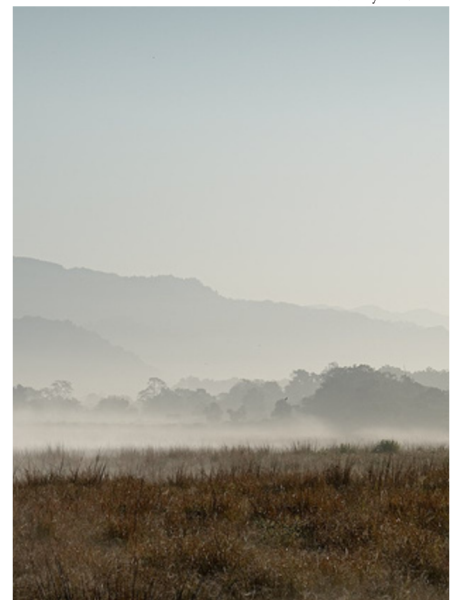
-sing tiger populations within the reserve.

Recognizing the importance of local communities in conservation, the park authorities have initiated programs to involve residents in eco-tourism and wildlife protection activities. This participatory approach not only provides alternative livelihoods but also fosters a sense of stewardship among the local populace. Eco-tourism is carefully regulated to minimize environmental impact while educating visitors about the park's ecological significance.

Despite its successes, Corbett faces challenges such as human-wildlife conflict, habitat fragmentation, and the spread of invasive species like *Lantana camara*, which

disrupts native flora and affects herbivore populations. Continuous monitoring, research, and adaptive management strategies are essential to address these issues and ensure the long-term sustainability of the park's ecosystems.

Corbett National Park stands as a testament to India's commitment to wildlife conservation. Its rich biodiversity, successful conservation programs, and community involvement make it a model for protected areas worldwide. As we continue to face global environmental challenges, the lessons learned from Corbett's management can inform and inspire conservation efforts across the globe. About 260 tigers call Corbett Tiger Reserve their home.



Threatened Taxa

Plant - *Eriolaena lushingtonii* Dunn



Courtesy: BSI, GoI

Taxonomy: Order Malvales; Family Malvaceae.

Geographic Range: Endemic to India; distributed in Andhra Pradesh, Telangana State, Kamataka, Tamil Nadu, and Kerala.

State Distribution: Rare; found only in Mannanur, Saleshwaram, Mallelatheetham, in Nagarkurnool district.

Population: About 50 individuals occur in the wild.

Habitat & Ecology: Small tree species, found on hilly slopes in dry deciduous and moist deciduous forests.

Major Threats: Threatened due to habitat loss and destruction.

Use & Trade: The species is not in trade.

Conservation Measures: No species-specific conservation measures are in place. This species is reported from Amrabad Tiger Reserve.

Remarks

This species is found in dry deciduous and moist deciduous forests. It occurs in Amrabad TR. It is threatened by habitat loss & destruction. The estimated number of localities is 3; the estimated extent of occurrence (EOO) in Telangana State is <100 km², and the area of occupancy (AOO) is <50 km². There is an inferred continuing decline in the area, extent, and quality of suitable habitat. At the global level, this species is assessed as Vulnerable. In Telangana State, this species is assessed as Endangered, with the criteria B1ab(iii,iv)+2ab(iii,iv)+D1.

Distribution in Telangana State



Animal - *Eutropis nagarjunensis* (Sharma, 1969)



Photo: David V Raju

Taxonomy: Class Reptilia; Order Squamata; Family Scincidae.

Geographic Range: Endemic to India; and is known from Andhra Pradesh and Telangana State.

State Distribution: Occasional; known from Rangareddy, Nagarkurnool, and Nalgonda districts.

Population: Nothing is known about its population status and trends. Known from many localities in Telangana State.

Habitat & Ecology: Found in rocky areas, and on hills with dry deciduous scrub forest.

Major Threats: Threatened due to habitat destruction and alteration due to tourism related infrastructure development, due to stone quarrying activities, and livestock grazing.

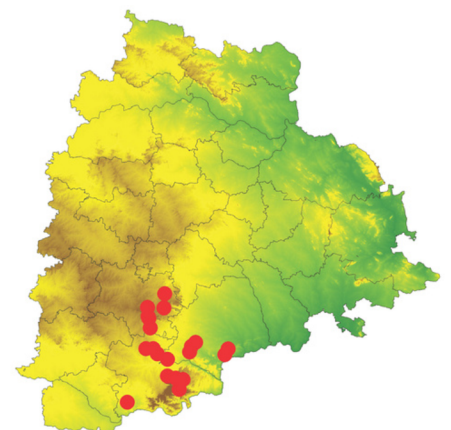
Use & Trade: This species is not in trade.

Conservation Measures: No species-specific conservation measures are in place for this species. It is known from Amrabad Tiger Reserve.

Remarks

This taxon is found in dry scrub forests, in rocky and hilly areas. It is known from Amrabad TR. The species is threatened due to habitat destruction, alteration due to tourism related infrastructure development, stone quarrying activities, and livestock grazing. It is occasional in occurrence. The estimated extent of occurrence (EOO) in Telangana State is <20000 km², and the area of occupancy (AOO) is <1000 km². There is an inferred continuing decline in the area, extent, and quality of suitable habitat. At the global level, this species has been assessed as Near Threatened. In Telangana State, this species is assessed as Vulnerable, with the criteria B1b(iii).

Distribution in Telangana State



Pioneers in Conservation

Padma Shri Dukhu Majhi

In the scorching heat of Ghorabandha, Sindri, where summer temperatures reach upto a sweltering 50°C, Dukhu Majhi's commitment to replantation is a beacon of hope. Dukhu Majhi hails from the district of Purulia in West Bengal. Inspired by his father and a government campaign on the importance of trees, he set out to restore the green cover in his region.

Every day, Majhi carries two canisters of water, shovels, burnt wood and saplings. riding on his bicycle, he sets out looking for sparsely vegetated places. understanding the region's arid climatic conditions, Majhi has successfully planted saplings in areas like roadsides, bus stops, school grounds, temples, markets and even in crematoriums. He also covers newly planted saplings with a pieces of cloth from a nearby crematorium to protect them from accidental damage by passersby. Dukhu Majhi has dedicated his time and efforts to this simple yet powerful cause of replantation for over three decades. Recognizing his tireless efforts the Government of India conferred the Padma Shri on Dukhu Majhi this year.



Majhi's story is a powerful reminder that environmental conservation does not always require grand initiatives or vast resources. Sometimes, all it takes is one determined individual who cares deeply for the land and its future. His selfless dedication to tree planting has inspired many in his community, proving that even in the harshest conditions, one person's efforts can nurture hope and resilience.

Environment Education

Small Wings, Big Impact - Honey Bees

Honey bees are more than just honey makers — they are essential pollinators that play a crucial role in maintaining biodiversity and food security. In India, the most common species are the Indian honey bee (*Apis cerana*) and the rock bee (*Apis dorsata*), along with the smaller dwarf bee (*Apis florea*). Honey bees live in well-organized colonies and communicate through a fascinating “waggle dance” to share the location of flowers. Honey bees are vital for pollinating wild flora and agricultural or plantation crops. Pollination by insects like honey bees is an indispensable ecosystem service for mankind. Sadly, their populations are declining due to habitat loss, invasive plant species and climate change. This not only impacts the species, but also significantly impacts the agricultural industry, as a decline in honey bee populations equals a drastic drop in crop yield. It is therefore important to promote native vegetation, encourage informed and scientific bee-keeping and support the habitats of wild honey bee populations.



Photo: Pavel Hájek

Nature for Kids

Bagheera

Who doesn't love Bagheera, the sleek and wise black panther from *The Jungle Book*? As Mowgli's guardian and friend, Bagheera is always there to help — but did you know that Bagheera is actually based on the leopard (*Panthera pardus*)? In the wild a black panther is not a separate species, but a leopard with completely black fur! Scientists call this condition of fully black fur as “Melanism” and the leopards that show this condition are called “Melanistic leopards”. Melanistic leopards are often found in dense forests where their dark coat helps them blend into the shadows.

Leopards are beautiful and incredibly adaptable animals, found across Africa and Asia. They are found all across India - in forests, grasslands, and even areas close to human settlements. Melanistic leopards, like our beloved Bagheera, have been spotted in the lush forests of the Western Ghats in southern India.

Leopards are known for their stealth and strength. They hunt alone, stalking prey quietly and using their powerful bodies to make quick, precise attacks. They are excellent climbers and often carry their prey up onto trees to keep it safe from other predators.

Like other big cats in the wild, leopards are affected by habitat loss, negative interactions with humans and poaching. Despite these challenges, they remain one of the most strongest big cats in the world. Just like Bagheera, real-life leopards are smart, resourceful, and masters of the jungle — and they definitely deserve our admiration and protection! Isn't it amazing how Bagheera's story helps us appreciate these magnificent creatures even more?

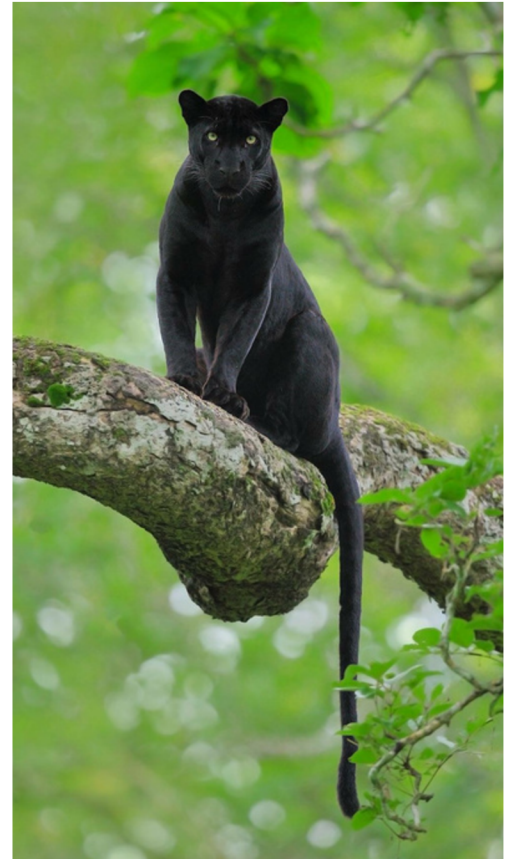


Photo: Sridhar Nagara

Our Biodiversity

Grasses of Telangana State

Telangana, characterized by its diverse topography and climatic conditions, harbours a rich assemblage of grass species integral to its ecosystems. Recent botanical explorations have significantly expanded the documented grass diversity in the state. For instance, a study in Nizamabad district reported 35 new grass species, including endemic taxa such as *Eragrostis*, *Tripogon*, and *Bothriochloa* species. In protected areas like the Kawal Tiger Reserve, grasslands play a pivotal role in supporting herbivore populations. A phytodiversity assessment in the Jannaram division of the reserve identified 65 herbaceous species, with Poaceae being the dominant family. Notably, species like *Iseilema laxum*, *Cynodon barberi*, and *Eragrostis amabilis* exhibited high importance value indices, underscoring their ecological significance.

The discovery of species such as *Dactyloctenium australe* (Durban grass) and *Urochloa trichopus* in regions like Rangareddy district highlights the ongoing additions to Telangana's grass flora. These species not only contribute to biodiversity but also serve as vital fodder resources for livestock and wildlife. Moreover, the identification of *Oropetium villosulum*, an endemic dwarf grass, in areas like Ananthagiri Hills and Ramannapeta emphasizes the presence of unique grass species in the state. Such findings are crucial for conservation planning and highlight the need for continued botanical surveys.

Grasses in Telangana are not only ecologically important but also have significant economic value. They contribute to soil stabilization, serve as fodder, and support the livelihoods of local communities. However, challenges such as habitat degradation and invasive species threaten these grasslands. Conservation efforts, including habitat restoration and sustainable land management practices, are essential to preserve this vital component of Telangana's natural heritage. The grass species of Telangana are integral to the state's biodiversity and ecological balance. Ongoing research and conservation initiatives are imperative to safeguard these species and ensure the sustainability of the ecosystems they support.

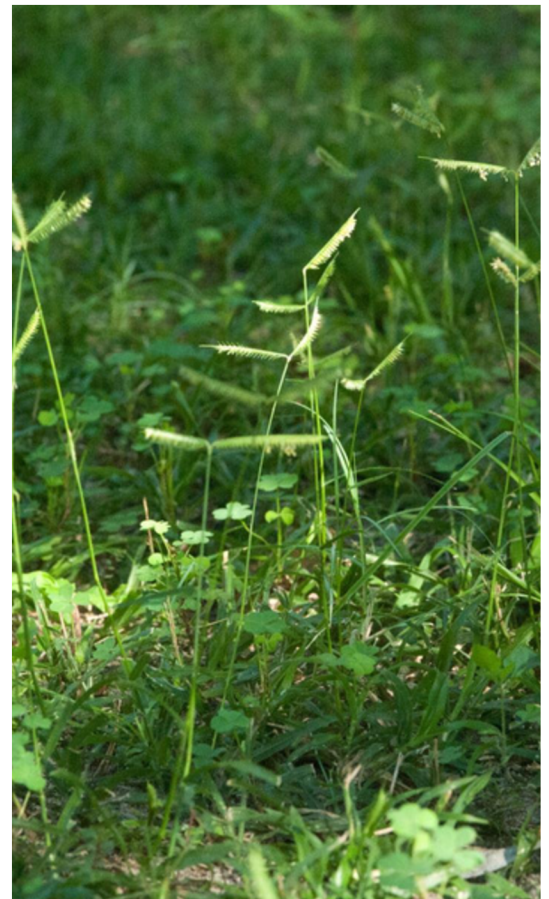


Photo: Roger & Allison Heath

Feature - Flora

Curry Tree - *Bergera koenigii* (L.)

Classification

Kingdom: Plantae
Division: Tracheophyta
Class: Magnoliopsida
Order: Sapindales
Family: Rutaceae
Genus: *Bergera*
Species: *koenigii*
Authority: (L.)



Bergera koenigii (syn. *Murraya koenigii*), commonly known as the Curry tree, is a small, aromatic tree native to the Indian subcontinent. In Telugu, it is called "Karivepaku." Widely cultivated for its fragrant leaves, it is an essential component in South Asian cooking, especially for tempering curries and dals. The compound leaves are dark green, shiny, and highly aromatic when crushed. The tree produces small white flowers, followed by shiny black berries, which are edible but not commonly consumed. Apart from its culinary use, the curry leaf is also valued in traditional medicine. Its leaves are used to treat indigestion, nausea, and diabetes. Curry leaves are rich in antioxidants, iron, and vitamins. Easy to grow, drought-tolerant, and multipurpose, the Curry tree remains a staple in Indian homes and gardens.

Photo: Pradeep Rajatewa

Feature - Fauna

Blackbuck - *Antilope cervicapra* (Linnaeus, 1758)

Classification

Kingdom: Animalia

Phylum: Chordata

Class: Mammalia

Order: Artiodactyla

Family: Bovidae

Genus: *Antilope*

Species: *cervicapra*

Authority: (Linnaeus, 1758)



The Blackbuck (*Antilope cervicapra*) is a graceful and fast-moving antelope native to the Indian subcontinent. Known as "Krishna Jinka" in Telugu, it is easily recognized by the striking contrast in colouration—males sport dark brown to black upper bodies with white underparts and long, spiral horns, while females and young ones are light brown without horns. Blackbucks inhabit open grasslands and semi-arid regions, often seen in small herds. They are herbivores, feeding on grasses, pods, and cereals. Once widespread, their numbers declined due to habitat loss and poaching, but conservation efforts in protected areas have helped stabilize populations. Culturally revered and protected in many parts of India, the Blackbuck holds ecological significance as a grazer that maintains grassland balance. It is currently listed as Least Concern by the IUCN, but continued protection is vital.

Photo: Jit Roy

Events

Telangana Celebrates International Day for Biological Diversity



Courtesy: Internet Resource

The Telangana Biodiversity Board (TBDB) annually celebrates the International Day for Biological Diversity (IBD), aligning with the theme set by the Convention on Biological Diversity (CBD) "Be part of the plan." Aligned with the theme, TBDB organized a series of impactful awareness programs and online competitions for students and the general public. These activities, held between March 7 and May 18, aimed to enhance understanding about the significance of biodiversity and the importance of nature conservation. Furthermore, the TBDB supported district-level initiatives across Telangana, including plantation drives, campaigns promoting the rejection of single-use plastics, biodiversity rallies, workshops, and lectures emphasizing the importance of millets.

The culmination of these efforts was the celebration of International Day for Biological Diversity on May 22, 2024, at Kasu Brahmananda Reddy (KBR) National Park, located in Jubilee Hills, Hyderabad.

News

Hyderabad's Biodiversity Flourishes



Photo: Venugopal Nagandla

Hyderabad has emerged as a beacon of urban biodiversity, boasting a rich tapestry of 315 bird species, 1,665 plant varieties, 141 butterfly species, 53 reptilian species, and 64 fish species. This impressive diversity underscores the city's commitment to ecological preservation and sustainable urban development. On May 22, 2024, Hyderabad celebrated the International Day for Biological Diversity by unveiling its updated City Biodiversity Index (CBI), marking a significant 58% improvement over the previous assessment. This achievement positions Hyderabad as the only Indian city to have twice assessed and released its CBI within a decade. The CBI, developed by ICLEI South Asia with support from the Greater Hyderabad Municipal Corporation (GHMC) and local biodiversity experts, evaluates three key components: Native Biodiversity, Ecosystem Services, and Biodiversity Governance. Initiatives like the Haritha Haram program, lake conservation efforts, increased forest cover, and enhancement of urban green spaces have played pivotal roles in this remarkable progress.

Signing Off

Largest known madtsoiid snake from India

The recent discovery of *Vasuki indicus*, a colossal madtsoiid snake from the Middle Eocene (~47 million years ago) in Kutch, India, marks a significant milestone in paleontology. Measuring an estimated 11–15 meters in length, this ancient serpent ranks among the largest snakes ever known. Its existence during a warm climatic period and its phylogenetic ties to both Indian and North African species suggest a historical intercontinental dispersal, offering profound insights into Earth's evolutionary and geological history.

Findings like these underscore the importance of paleontology in unraveling the mysteries of our planet's past. For young minds, paleontology serves as a captivating gateway into science, fostering curiosity, critical thinking, and a deeper appreciation for biodiversity. Engaging with ancient life forms encourages systematic learning and highlights the interconnectedness of life and Earth's changing environments.

By nurturing an interest in paleontology, we empower the next generation to explore, understand, and protect our natural world. The story of *Vasuki indicus* not only enriches our scientific knowledge but also inspires young explorers to delve into the wonders of Earth's deep history.



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We hope you have enjoyed this issue... If you wish to share any information, please do not hesitate to contact us.



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