

Telangana Biodiversity

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

Editorial

In a remarkable conservation endeavor, India embarks on the ambitious Cheetah Reintroduction Programme, marking a significant step towards reviving the country's once-lost emblem of speed and grace. After an absence of seven decades, eight African cheetahs have been introduced into Madhya Pradesh's Kuno National Park, not only signifying the resilience of the cheetah but also the collective commitment to biodiversity restoration. The success of this pioneering initiative rests on a delicate balance of ecological factors and human collaboration. As these African cheetahs acclimate to the Indian landscape, the program aims to restore a crucial predator to the ecosystem, aiding in controlling herbivore populations and fostering a biodiverse environment. The translocation, however, poses challenges, including adaptation stress, potential social disruptions, and the need for extensive habitat management. Community engagement and awareness play pivotal roles, emphasizing the importance of coexistence and shared responsibility for conservation. The program's success also hinges on ongoing research, continuous monitoring, and adaptive management strategies. The reintroduction initiative not only addresses the historical loss of cheetahs in India but also signifies a hopeful stride towards restoring ecological balance and preserving the nation's natural heritage. As India takes this transformative leap in wildlife conservation, the Cheetah Reintroduction Programme serves as a beacon, symbolizing the nation's commitment to fostering harmonious coexistence between humans and nature.



Photo: Magda Ehlers

Briefly

Decline in migratory bird diversity in Hyderabad

Hyderabad's bird watchers and nature enthusiasts express growing apprehension as the number of migratory birds frequenting the city's lakes experiences a significant decline. Once vibrant winter hotspots like Manjeera, Osmansagar, and Ameenpur lakes, which were typically adorned with a variety of bird species this time of the year, now host only a handful. Previously abundant species such as the Indian paradise flycatcher, sandpipers, and Eurasian spoonbills are notably scarce. Birds like northern shovelers, garganeys, bluethroats, and black-tailed godwits, which traditionally visited Hyderabad during winters, are conspicuously absent. Bird watchers are hopeful for the appearance of these birds in January or February before the season concludes. The decline in bird arrivals is evident across various lakes, prompting nature lovers to reduce their visits. Some citizens note the absence of flamingos for several years, primarily attributed to elevated water levels requiring shallow waters and habitat reduction due to surrounding construction. The overarching concerns center on the impact of high rainfall and urbanization on the lakes.

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Email

biodiversityclub@osmania.ac.in

Photo: Rajukhan Pathan



Special Feature

Mahaveer Harina Vanasthali National Park

Nestled within the historical confines of the expansive Hayathnagar Forest Reserve, Mahaveer Harina Vanasthali National Park stands as an enduring testament to the unwavering commitment to preserving biodiversity and natural heritage in the midst of an ever-expanding urban sprawl. Originally established as an erstwhile shikargarh, or hunting ground, for the Nizams of the Hyderabad State, the park's transformation into a haven for diverse flora and fauna represents a captivating blend of history and conservation ideals.

The park's origins are deeply intertwined with a dedicated history of conservation,

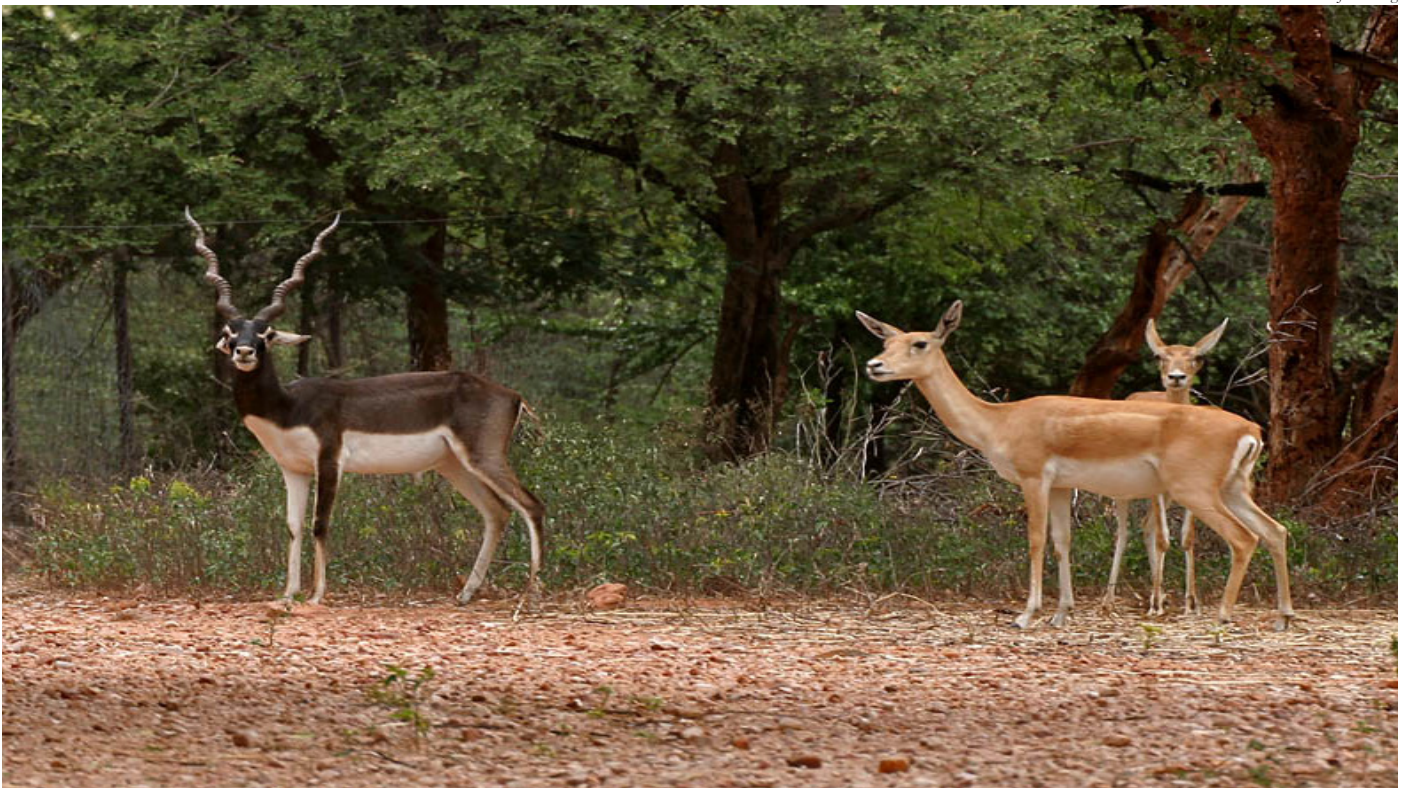
evolving from a hunting ground into a sanctuary that plays a pivotal role in maintaining the delicate ecological balance of the region. This metamorphosis underlines a visionary commitment to safeguarding the natural treasures within its boundaries.

Showcasing a rich tapestry of flora, Mahaveer Harina Vanasthali National Park is adorned with a diverse array of indigenous plants and trees, each playing a crucial role in sustaining the region's ecological equilibrium. As visitors traverse the park, they are treated to the sight of a mesmerizing array of wildlife, including elegant blackbucks and graceful

spotted deer, creating an idyllic haven for wildlife enthusiasts and nature lovers alike.

The park's commitment to conservation extends beyond its borders, evident in the meticulous efforts to protect and nurture the natural habitats of its resident species. These conservation initiatives serve as a model for responsible environmental stewardship, ensuring the sustained well-being of the park's diverse flora and fauna. For those in pursuit of leisure, Mahaveer Harina Vanasthali National Park offers more than just a respite from urban life. The well-maintained trails and scenic picnic spots make it an

Photo: J.M. Garg



ideal destination for families and nature enthusiasts seeking a tranquil escape. The serene surroundings offer an immersive experience in nature, providing visitors with an opportunity to unwind and forge a deeper connection with the beauty of the outdoors.

Moreover, the park extends its embrace to researchers, providing facilities to delve into the intricacies of the diverse ecosystems within its boundaries. Scientists and scholars exploring the park's unique flora and fauna contribute valuable insights to the broader field of conservation biology, fostering a symbiotic relationship between research and environmental preservation.

It beckons as a sanctuary of unparalleled natural splendor.

Photo: Adithya Pakide



Threatened Taxa

Plant - *Euphorbia sebastinei* Binojk. & N.P.Balacr.



Photo: Vinayaraj

Taxonomy Order Malpighiales; Family Euphorbiaceae.

Geographic Range Endemic to India; distributed in Maharashtra and Telangana State.

State Distribution Very rare; found only in the Hussain Sagar lake environs, and along the Musi riverbanks in Hyderabad. It is commonly associated with *Eclipta alba*, *Sida acuta*, *Tribulus lanuginosus*, *Euphorbia hirta*, *Euphorbia indica*, *Ageratum conyzoides*, *Alternanthera ficoidea* and *Parthenium hysterophorus*.

Population Nothing is known about its population status or trends.

Habitat & Ecology Decumbent herb found on riverbanks in moist gravelly soil.

Major Threats Threatened due to habitat loss and destruction.

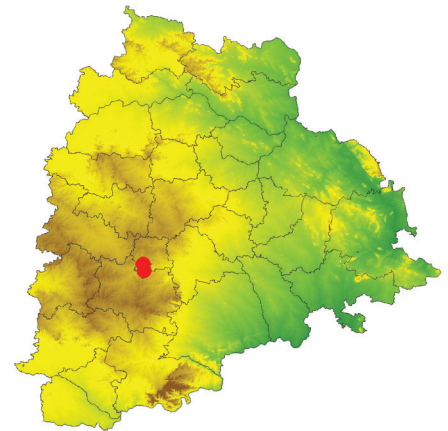
Use & Trade Not in trade.

Conservation Measures No species-specific conservation measures are in place.

Remarks

This species is found on lake fringes and riverbanks. It does not occur in any protected areas. It is threatened by habitat loss & destruction. The estimated number of localities is 2; the estimated extent of occurrence (EOO) in Telangana State is <100 km², and the area of occupancy (AOO) is <10 km². There is an inferred continuing decline in the area, extent, and quality of suitable habitat. At the global level, this species is not assessed. In Telangana State, this species is assessed as Critically Endangered, with the criteria B1ab(iii)+2ab(iii)+D2.

Distribution in Telangana State



Animal - *Rita bakalu* (Lal et al., 2016)



Courtesy: TToTS

Taxonomy Class Actinopterygii; Order Siluriformes; Family Bagridae.

Geographic Range Endemic to the Godavari river basin in Telangana State and Andhra Pradesh.

State Distribution Found only from the Pranahita river near Bejjur in Komaram Bheem Asifabad district.

Population Nothing is known about the population status or trends.

Habitat & Ecology Found in the Godavari river basin.

Major Threats There exists no information about threats to this species.

Use & Trade This species is not in trade.

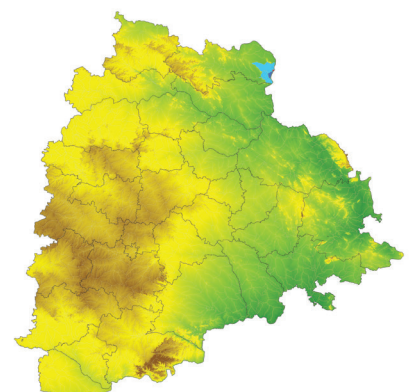
Conservation Measures No known species specific conservation measures are in place for this species.

Remarks

This taxon is found in Godavari river. Threats to this species are not known. This recently described taxon is endemic to Telangana State and Andhra Pradesh, and has not been assessed so far.

This species is assessed as Data Deficient, due to lack of information on its population status and threats.

Distribution in Telangana State



Pioneers in Conservation

Padma Shri Tula Ram Upreti

The venerable Sikkimese organic farmer Mr. Upreti, who is 98 years old, has been awarded the coveted Padma Shri award for his extraordinary commitment to organic farming and his significant efforts to disseminate knowledge about sustainable agricultural practices. Born into a family steeped in organic agricultural heritage, he has dedicatedly carried on this environmentally conscious endeavor for an astounding eight decades. His agricultural practices, which grow vegetables and paddy without the use of chemicals or artificial fertilizers, serve as a model for environmentally responsible agriculture.

Interestingly, Mr. Upreti's path towards organic farming has historical origins because during the 1940s and 1950s, he traveled the Silk Road on foot to trade with Tibet. As a rice, buckwheat, and maize trader, he proved early on that sustainable agriculture could be profitable.

Known for being the pioneer of organic farming in the area, Mr. Upreti has spent more than thirty years actively promoting and engaging in environmentally conscious and sustainable farming practices. His dedication to this farming style improves soil quality and increases crop yields in addition to supporting ecologically responsible agricultural methods. Mr. Upreti has been a prominent figure in local administration, having been a member of the Assam Lingzey Gram Panchayat Unit for around twenty-five years and served two terms as Panchayat President. He has dedicated his life to sustainable practices and the betterment of his community, as demonstrated by his diverse accomplishments, which include leadership roles in the community and organic farming.



Photo courtesy: India Today NE



Photo Courtesy: East Mojo

Environment Education

Unveiling the Ecological Marvels of Spiders

Spiders, often misunderstood and feared, hold a pivotal role in maintaining ecological balance. Functioning as nature's pest controllers, they voraciously consume harmful insects, regulating populations and preventing potential outbreaks that could harm crops and forests. This natural pest management reduces the dependence on harmful pesticides, promoting sustainability. Beyond pest regulation, spiders contribute to nutrient cycling by capturing prey in their webs, releasing nutrients back into the soil upon decomposition. They also serve as a vital food source for various animals, forming an integral part of the intricate web of life. Some spider species play a crucial role in pollination, transferring pollen between plants, particularly in ecosystems lacking traditional pollinators like bees. Spiders contribute to seed dispersal by carrying seeds, aiding in maintaining plant diversity and promoting habitat regeneration. Their impact extends beyond ecological roles, as their intricate webs enhance the beauty of natural landscapes and inspire human imagination, reflected in art, literature, and folklore. In essence, spiders are indispensable components of ecosystems, contributing to pest control, nutrient cycling, pollination, seed dispersal, and cultural inspiration. Recognizing their vital roles is crucial as we seek to understand and conserve our natural world, ensuring that these unsung heroes, the remarkable spiders, are not overlooked in the intricate tapestry of life.

Courtesy: Erik Karits



Nature for Kids

Akela

In Rudyard Kipling's enduring masterpiece, 'The Jungle Book,' the character of Akela, the solitary wolf, resonates as a powerful emblem of the untamed wilderness. As a species integral to the Indian subcontinent, Akela symbolizes the majestic Indian wolf, navigating the diverse landscapes of India, Nepal, and Bangladesh. Akela's narrative unfolds against the backdrop of dense forests, grasslands, and the delicate dance between survival and solitude. Akela, with his solitary stature, embodies the essence of the lone wolf, a sentinel of the jungle. Known for their adaptive nature, Indian wolves like Akela navigate various terrains, from expansive grasslands to agricultural fringes. Much like their fictional counterpart, these wolves play a crucial role in the intricate web of jungle life.

Indian wolves are social creatures, often forming packs, yet Akela's tale speaks of the challenges faced by lone wolves in the wild. In the jungles of 'The Jungle Book,' Akela stands as a resilient figure, relying on keen instincts and solitary strength. His howls echo through the wilderness, a poignant reminder of the wild's unforgiving yet enchanting nature. In the broader ecological tapestry, lone wolves like Akela contribute to the delicate balance of their ecosystems. As apex predators, they play a vital role in controlling herbivore populations, ensuring the equilibrium of their habitats. However, encroachment, habitat loss, and human-wildlife conflict pose significant threats to these resilient creatures, mirroring the challenges faced by Akela in Kipling's timeless narrative. Akela's tale, much like that of Kaa's, serves as a reminder of the intricate connections between human activities and the preservation of these majestic creatures and the wild landscapes they call home.

'The Jungle Book,' teaches us to reflect on the shared responsibility of safeguarding the jungles that inspired Kipling's timeless storytelling.



Courtesy: Cesar Ojeda

Our Biodiversity

Canids of Telangana State

Canids, the family of dog-like mammals, grace the diverse landscapes of Telangana State with their presence, contributing to the region's rich biodiversity. Telangana is home to several canid species, each playing a unique role in the intricate tapestry of the state's ecosystems.

Among the notable canids found in Telangana is the Indian Fox (*Vulpes bengalensis*), an adept and adaptable predator that thrives in varied habitats, from grasslands to scrublands. These small canids are known for their bushy tails and are often encountered in the state's rural and semi-urban areas. The Golden Jackal (*Canis aureus*) is another charismatic canid species that inhabits Telangana. With its distinctive golden coat and keen senses, the Golden Jackal navigates the state's diverse terrains, including agricultural fields and open woodlands. Known for their opportunistic feeding habits, these jackals contribute to the balance of local ecosystems. Telangana is also home to the Indian Wolf (*Canis lupus pallipes*), a species known for its resilience and adaptability. Though facing threats due to habitat loss and human-wildlife conflict, these canids persist in certain pockets of the state. As apex predators, Indian Wolves play a crucial role in regulating herbivore populations, ensuring the health of the ecosystems they inhabit. The Dhole (*Canis alpinus*), or Indian Wild Dog, adds to the canid diversity of Telangana. Living in close-knit social units, dhole packs navigate the state's forests and grasslands. Recognized for their cooperative hunting strategies, dholes contribute to the ecological balance by controlling ungulate populations.

While these canids are integral to Telangana's ecosystems, they face threats such as habitat fragmentation, poaching, and human-wildlife conflict. Conservation efforts are essential to safeguard these remarkable creatures, ensuring the preservation of Telangana's unique canid diversity and the ecological harmony they contribute to in the region.



Photo: Vijay Sirdesai



Photo: Vijay Sirdesai

Feature - Flora

Indian Bael - *Aegle marmelos* (L.)Correa

Classification

Kingdom: Plantae
Division: Tracheophyta
Class: Eudicots
Order: Sapindales
Family: Rutaceae
Genus: *Aegle*
Species: *marmelos*
Authority: (L.)Correa



Aegle marmelos, commonly known as bael, bhel, Bengal quince, golden apple, or stone apple, holds a significant place in the botanical tapestry of Southeast Asia and the Indian subcontinent. Indigenous to India, Pakistan, Bangladesh, Sri Lanka, and Nepal, this species, belonging to the Rutaceae family, manifests as a small to medium-sized tree or deciduous shrub, reaching heights of up to 13 meters (43 feet). Its distinctive crown, with thin, drooping limbs, adds to its unique charm. This versatile tree is not merely a botanical wonder; it serves as a vital larval food source for the common Mormon and Lime butterfly, both Indian Swallowtail butterflies. Beyond its ecological role, every part of the bael tree, from roots to leaves, twigs, and fruits, holds medicinal value. The fruits, whether consumed fresh or dried, offer a range of health benefits. Derived from the bael, herbal medications have been traditionally employed to treat respiratory conditions, peptic ulcers, chronic diarrhea, dysentery, and act as a potent laxative with astringent properties. The cultural significance of the bael tree is deeply rooted in Hindu beliefs. Hindus revere the bael tree as a manifestation of the goddess Sati, infusing it with spiritual significance, and making it special place in Shiva temples.

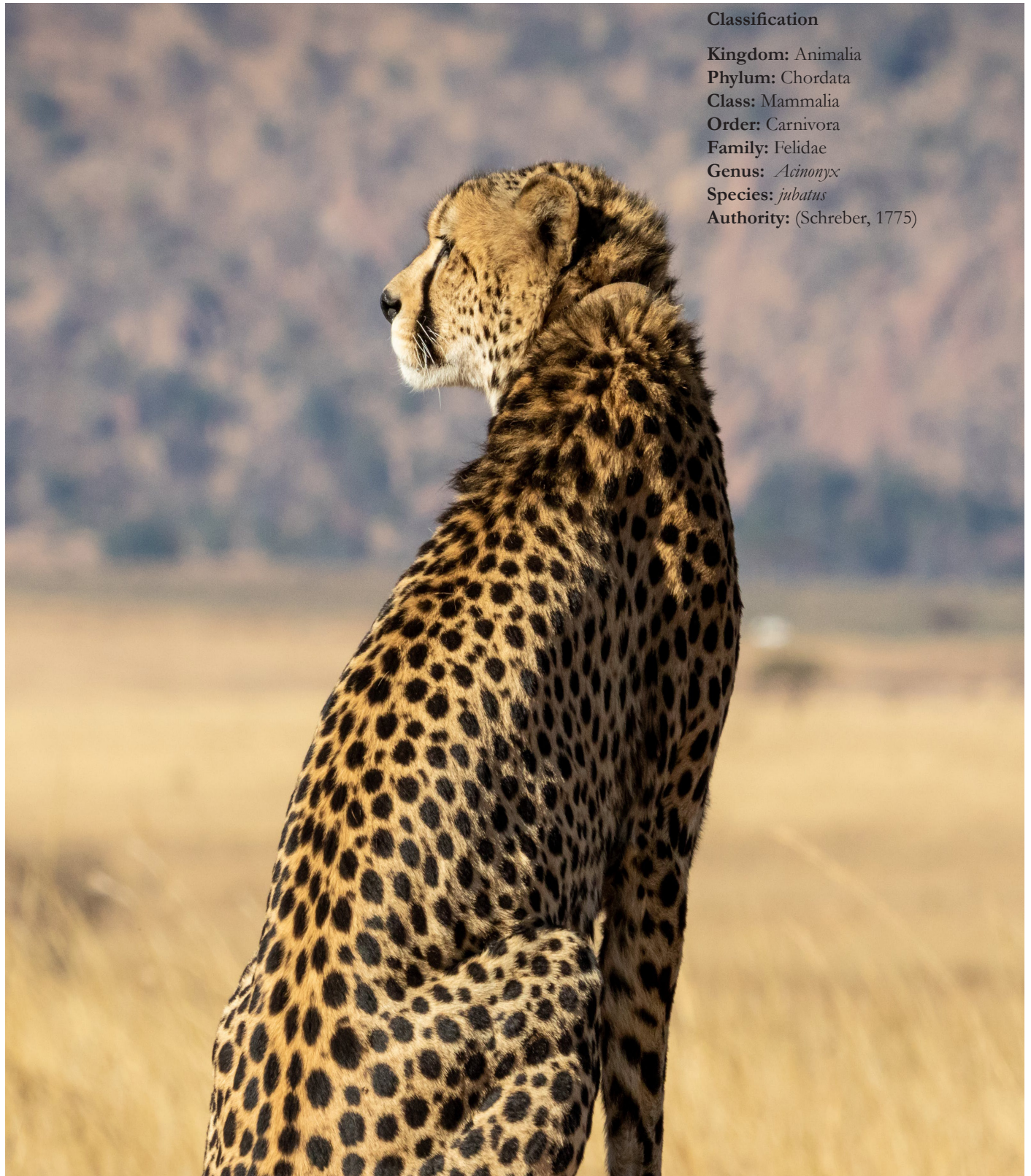
Courtesy: Phytognosis

Feature - Fauna

Cheetah - *Acinonyx jubatus* (Schreber, 1775)

Classification

Kingdom: Animalia
Phylum: Chordata
Class: Mammalia
Order: Carnivora
Family: Felidae
Genus: *Acinonyx*
Species: *jubatus*
Authority: (Schreber, 1775)



The cheetah (*Acinonyx jubatus*), the sole member of the genus, is a big cat that is indigenous to central Iran and Africa. It was introduced back into India in 2022. With a top speed of 98 km/h, it is the fastest terrestrial animal. A compact body structure, long, thin legs, retractable claws, and a long tail are just a few of the speed-related adaptations that have evolved in this animal. Small and rounded head, with a short nose and facial markings that resemble black tears are prominent. The body has uniformly spaced, solid black patches on it. It consumes little to medium-sized prey. Male “coalitions”, females and their cubs, and lone males make up the three main social groups that the cheetah inhabits. A substantial silvery-grey mantle extends down the back of cheetah cubs which mimics the appearance of the aggressive mammal called honey badger, which aids in concealing the cubs. Many well-known historical personalities, like Genghis Khan, Charlemagne, and Akbar the Great of India, kept cheetahs as pets. The dead pharaoh’s spirits, according to ancient Egyptians, were taken by cheetahs. Cheetahs were last seen in India in 1957, when one of them perished in a well not far from Hyderabad. The IUCN Red List classifies it as Vulnerable.

Photo: Magda Ehlers

Events

Hyderabad bags AIPH World Green City Award 22



Courtesy: EPTRI, Hyderabad

Hyderabad clinched the AIPH World Green City Award and the Living Green for Economic Recovery and Inclusive Growth Award, earning the additional accolade of the Green Garland for Telangana. These honors underscore the city's commitment to nature-oriented designs and operations, acknowledging its endeavors in fostering green initiatives and inclusive growth. Positioned as the heart of Telangana, Hyderabad has actively engaged in programs dedicated to augmenting its green cover and biodiversity. Local communities and NGOs have played pivotal roles in raising awareness about nature conservation. The city's impactful tree plantation initiative, Haritha Haram, stands out for significantly enhancing air quality and expanding green spaces. Hyderabad's dedication to aesthetics and environmental consciousness is reflected in the construction of new buildings, city attractions, and public spaces, all meticulously designed with a focus on incorporating lush plants and gardens.

News

Cheetah reintroduced in India



Photo Credit: PTI

On September 17, eight cheetahs were reintroduced into Madhya Pradesh's Kuno National Park, marking the first-ever intercontinental large wild carnivore translocation. For Prime Minister Modi's birthday, five female and three male cheetahs from Namibia's Namib Desert, aged 2-5 years, were introduced, with plans to introduce 12 more from South Africa. This groundbreaking initiative aims to revive the cheetah population in India, which became extinct 70 years ago due to habitat loss and hunting. Iranian cheetahs, closer relatives to the extinct Indian cheetahs, were not chosen due to their low population.

The project, proposed in 2009 and executed after 13 years, enlisted the expertise of Dr. Laurie Marker, a zoologist, Adrian Tordiffe, a wildlife veterinarian, and K. Ullas Karanth, an Indian tiger expert. Quarantined and fed buffalo meat, the cheetahs were released into the wild to enhance the grassland ecosystem and boost economic growth through tourism.

Signing Off

Challenges in large carnivore translocations

The translocation of large carnivores, a crucial conservation strategy, presents multifaceted challenges. Relocating predators like lions, cheetahs, or tigers involves meticulous planning and execution to ensure both ecological balance and the well-being of the translocated individuals. Challenges include the potential stress and disorientation experienced by animals in unfamiliar territories, risking their health and adaptation. Social dynamics within relocated populations can be disrupted, impacting breeding patterns and hierarchical structures. Moreover, the success of translocation hinges on factors like habitat suitability, prey availability, and the mitigation of human-wildlife conflict, requiring comprehensive ecological assessments.

Human perceptions and local communities' attitudes towards large carnivores further complicate the process, necessitating community engagement and awareness initiatives. Coordinated efforts by wildlife experts, veterinarians, and community stakeholders are imperative to address these challenges, fostering sustainable large carnivore translocations that contribute to biodiversity conservation while respecting the delicate balance between nature and human existence. The success of the Cheetah Reintroduction Programme in India hinges on a delicate interplay of ecological, social, and logistical factors.



Photo: Iurii Ivashchenko

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



Centre for Biodiversity and Conservation Studies

A Centre of Excellence under MHRD-RUSA 2.0 at Osmania University

#F5, First Floor, CFRD Building, Osmania University, Hyderabad- 500007, TS

Visit us at: www.oucbcs.org

Email: biodiversityclub@osmania.ac.in