

Telangana Biodiversity

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

Editorial

The United Nations Environment Programme's (UNEP) Environmental Rule of Law initiative stands as a beacon of hope and guidance in our collective journey towards a sustainable and ecologically balanced future. At its core, this initiative embodies a comprehensive framework designed to foster environmental governance and justice, recognizing the pivotal role of legal mechanisms in safeguarding our planet. The Environmental Rule of Law is a testament to the realization that preserving the environment goes hand-in-hand with robust legal frameworks. By strengthening legal institutions and promoting adherence to environmental laws, UNEP aims to create a global landscape where sustainable development becomes an intrinsic part of governance. This initiative emphasizes the importance of accountability, ensuring that those who harm the environment face legal consequences. Crucially, the Environmental Rule of Law is not just a theoretical framework; it's a call to action. It empowers communities, governments, and organizations to actively engage in environmental protection. The focus on justice ensures that vulnerable populations, often disproportionately affected by environmental degradation, have a legal recourse to safeguard their rights. In an era marked by environmental challenges like climate change, biodiversity loss, and pollution, the UNEP's Environmental Rule of Law initiative serves as a guiding light. It underscores that true sustainability is rooted in a legal foundation that transcends borders, creating a shared responsibility for the stewardship of our planet.



Courtesy: Monicore

Briefly

OU scientists discover new species of lizard in Telangana

The discovery of the new lizard species Emulus Rock Gecko *Hemidactylus aemulus* from Telangana, India, is an exciting and significant find that contributes to our understanding of biodiversity in the region. This new species is part of the genus *Hemidactylus*, which is the most diverse genus of geckos in the world, with over 180 described species. Emulus Rock Gecko is distinguished from other *Hemidactylus* species by its unique combination of morphological characters, including its large size, prominent tubercles on the dorsal surface, and a distinctive pattern of enlarged scales on the head. This is a cryptic species and has been confused with another species - Giant Leaf-toed Gecko which occurs on the Telangana Plateau. The discovery of *Hemidactylus aemulus* highlights the importance of continued research on biodiversity, as new species are still being discovered even in well-studied regions like India. This new species also underscores the need for conservation efforts to protect the unique and diverse ecosystems of Telangana. This discovery is included in a seminal research paper authored by scientists attached with CBCS, Osmania University.

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Photo: G. Chethan Kumar



Special Feature

Kasu Brahmananda Reddy National Park

Kasu Brahmananda Reddy National Park (KBRNP) is a hidden gem nestled in the heart of Hyderabad, Telangana, India. This sprawling oasis spans an impressive 390 acres (1.6 square kilometers), and its unique charm lies in its role as a green sanctuary amidst the urban sprawl of Jubilee and Banjara Hills. Recognized for its significance in preserving nature and history, this park has a rich tapestry of stories that have shaped its existence.

The park's journey to its present status as a National Park was initiated in 1998 when the Andhra government declared it as such. Subsequently, on the 27th of

October in 2020, the Indian government conferred upon it the esteemed title of an eco-sensitive zone, solidifying its importance as a bastion of biodiversity within a bustling cityscape. The National Park is named after former Chief Minister Kasu Brahmananda Reddy.

Within the boundaries of this remarkable park lies the Chiran Palace complex, a testament to the area's historical significance. Constructed in 1940, this palace gained prominence when Azam Jah bestowed it upon his son, Prince Mukkarram Jah, during his coronation in 1967. The park's charm is further

enhanced by its proximity to other notable landmarks, such as Mor Bungalow, Gol Bungalow, stables for elephants, horses, and cattle, a motor khana showcasing vintage cars, a workshop for heavy machinery, a petrol pump, numerous outhouses, and two wells with water tanks.

However, the true essence of KBRNP lies in its role as a vital carbon sink for the city, effectively offsetting the urban carbon footprint. Its lush terrain provides a habitat for a diverse array of wildlife, boasting an impressive tally of 600 species of plants, 140 bird species, 15 varieties

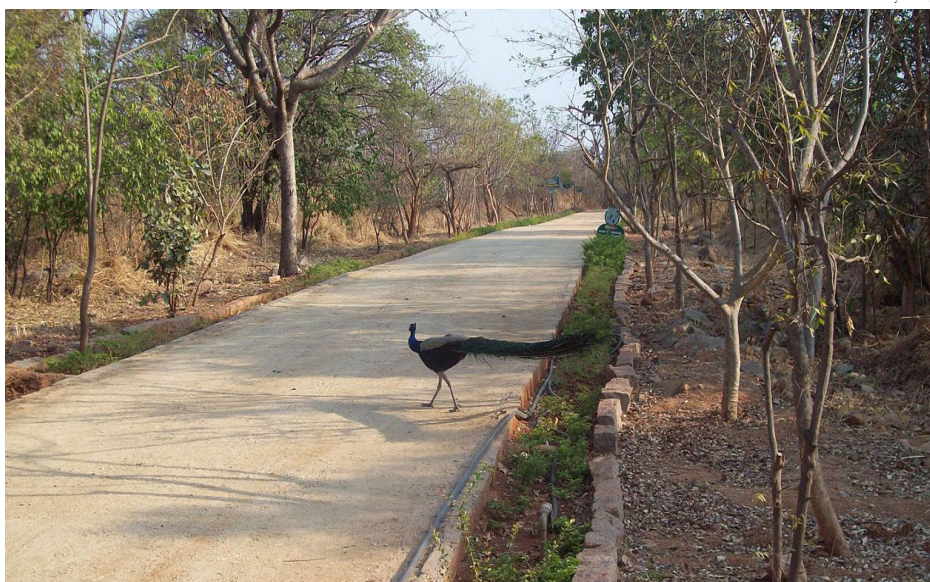
Courtesy: Karumudi



of butterflies, 20 reptile species, and 20 mammal species. Here, one can spot the regal peacock strutting its feathers, Indian civets, elusive jungle cats, prickly porcupines, and enigmatic pangolins.

For those seeking to immerse themselves in this natural wonder, the park offers a range of activities. Nature enthusiasts can embark on tranquil nature walks. Early morning and evening walks and jogs have become a ritual for many fitness enthusiasts, serving as a therapeutic escape from the urban hustle and bustle. Bird safaris are a favorite pursuit among nature lovers. KBRNP is a testament to the harmonious coexistence of nature and civilization.

Photo: Vedhanarayanang



Threatened Taxa

Plant - *Decalepis hamiltonii* Wight & Arn.



Photo: C. Sudhakar Reddy

Taxonomy Order Gentianales; Family Apocyanaceae.

Geographic Range Endemic to India; distributed in Karnataka, Tamil Nadu, and Telangana.

State Distribution Rare; found in Nagarkurnool and Rangareddy districts.

Population Nothing is known about its population status or trends.

Habitat & Ecology Large, glabrous, climbing shrub. It grows between rocks, and in places with thick vegetation, in deciduous forests.

Major Threats Threatened due to habitat loss and destruction, livestock grazing, and over-harvesting for medicinal purposes.

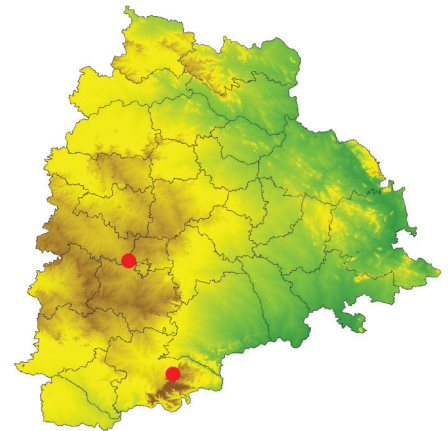
Use & Trade Not in trade, but is collected for local medicinal use.

Conservation Measures No species-specific conservation measures are in place. Occurs in Amrabad Tiger Reserve.

Remarks

This species is found in forested areas. It occurs in Amrabad TR. It is threatened by habitat destruction, livestock grazing, and over-collection for medicinal purposes. The estimated number of localities is 2; the estimated extent of occurrence (EOO) in Telangana State is <1000 km², and the area of occupancy (AOO) is <100 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 Endangered. In Telangana State, this species is assessed as Endangered, with the criteria A2d+B1ab(iii,iv)+2ab(iii,iv).

Distribution in Telangana State



Animal - *Tor khudree* (Sykes, 1839)



Photo: Internet

Taxonomy Class Actinopterygii; Order Cypriniformes; Family Cyprinidae.

Geographic Range Endemic to India and Sri Lanka. In India, it is known from the major rivers and reservoirs of central and peninsular India.

State Distribution Found in Manjeera Reservoir in Sangareddy district and in Godavari river near Bhadrachalam in Bhadrachalam district.

Population No information exists about the population of this species.

Habitat & Ecology This is a mesopelagic species, preferring cool, fast-flowing, rocky streams, but also occurs in rivers, tanks, reservoirs and lakes.

Major Threats Overfishing and introduction of major carps into river systems and reservoirs could be a threat to the species.

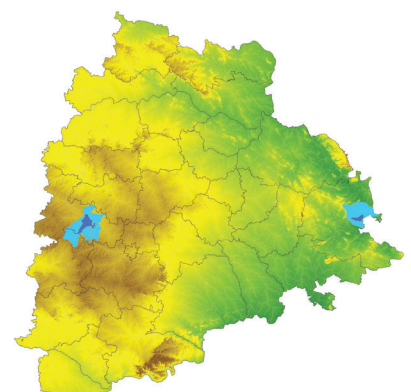
Use & Trade This species is harvested for local consumption.

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

Remarks

This taxon is found in cool, fast-flowing, rocky streams, but also occurs in rivers, tanks, reservoirs and lakes. This species is threatened with overfishing and introduction of major carps into river systems and reservoirs. At the global level, this taxon has been assessed as Endangered. In Telangana State, this species is assessed as Endangered, with the criteria A2d.

Distribution in Telangana State



Pioneers in Conservation

Padma Shri Amar Mahalinga Naik

Amai Mahalinga Naik, also known as the “Suranga Man” or “Tunnel Man” of India, is a 77-year-old farmer from the village of Kepu in Karnataka. He has become a national inspiration for his work in converting his barren hilltop land into a thriving farm using traditional methods of water conservation. Naik is often referred to as Karnataka’s “single man army” for his relentless efforts in developing his farm. He has single-handedly dug six tunnels through rocks, totaling 315 feet in length, over the course of 40 years to bring water to his two-acre plot of land.

Using the traditional method of digging horizontal tunnels into hillocks, Naik has been able to harvest rainwater and store it underground, making it available for his crops even during the driest months of the year. This method has also helped to improve the soil quality and fertility of his



Photo courtesy: Twitter



Courtesy: kannadaonindia.com

land. As a result of his hard work and dedication, Naik has been able to transform his barren land into a lush and productive farm. He now grows a variety of crops, including arecanut, coconut, banana, cashew, cacao, and pepper vines. He also practices beekeeping and grows Azolla plants, which are used as fodder for his cows. Naik’s farm has become a model for sustainable agriculture and has inspired many other farmers to adopt his methods. His work has also been documented by the History Channel in 2018.

Thousands of people visit Naik’s farm every year, including international tourists, to witness his zero-energy micro-irrigation system and learn about his sustainable farming practices. Naik was awarded the Padma Shri in January 2022.

Environment Education

UNEP’s Environmental Rule of Law

The Environmental Rule of Law is an important concept at the heart of the UN. The former Secretary-General in his Report on the Rule of Law and Transitional Justice in Conflict and Post-Conflict Societies defined the rule of law as a principle of governance in which all persons, institutions and entities, public and private, including the State itself, are accountable to laws that are publicly promulgated, equally enforced and independently adjudicated, and which are consistent with international human rights norms and standards. The UN Environment report found that despite a 38-fold increase in environmental laws put in place since 1972, failure to fully implement and enforce these laws is one of the greatest challenges to mitigating climate change, reducing pollution and preventing widespread species and habitat loss. While there are still gaps in many of the laws, the substantial growth of environmental laws has been dramatic. The benefits of environmental rule of law extend far beyond the environmental sector. While the most direct effects are in protection of the environment, it also strengthens rule of law more broadly, supports sustainable economic and social development, protects public health, contributes to peace and security by avoiding and defusing conflict, and protects human and constitutional rights. As such, it is a growing priority for all countries.

Courtesy: UNEP



Nature for Kids

Haathi

Haathi, the elephant, is one of the most important characters in Rudyard Kipling's "The Jungle Book." He is a wise and powerful figure who plays a key role in the story's plot and serves as a mentor to the protagonist, Mowgli. Colonel Haathi is described as being a "huge, slow, thoughtful old elephant" with "the great tusks which had pierced the shields of men." He is also said to be "the oldest and wisest of the Jungle people." Haathi is a respected leader among the animals and is known for his wisdom, his strength, and his sense of justice. In the story, Haathi is one of the first animals to accept Mowgli as a member of the jungle. He also helps to protect Mowgli from the dangers of the jungle, including the evil tiger, Sher Khan. Haathi teaches Mowgli about the laws of the jungle and helps him to develop into a strong and independent individual.

Asiatic elephants are the largest land mammals in Asia and are found in India, Sri Lanka, Nepal, Bhutan, Bangladesh, Myanmar, Thailand, Laos, Cambodia, and Vietnam. They are highly social animals and live in herds of up to 100 individuals. Asiatic elephants are herbivores and their diet consists of a variety of plants, including grasses, leaves, fruits, and bark. They are also known to eat insects and other small animals on occasion. They play an important role in their ecosystems. They help to disperse seeds and disperse nutrients throughout the forest. They also help to maintain the balance of nature by keeping populations of other animals in check.

Asiatic elephants have been harmed by humans for centuries for their ivory. They are also threatened by habitat loss and fragmentation due to human development. As a result, Asiatic elephants are now a vulnerable species on the IUCN Red List of Threatened Species. There are a number of conservation efforts underway to protect Asiatic elephants.



Photo: Internet Resource

Our Biodiversity

Woodpeckers of Telangana State

Woodpeckers are a family of birds that are found all over the world, except in Antarctica and Australia. They are known for their unique ability to peck wood, which is used for feeding, communication, and nesting. Woodpeckers are primarily cavity nesters that excavate their own nest spots in dead or dying trees. The cavities will usually hold three to six eggs, and both parents tend the young birds. Woodpeckers sleep in cavities throughout the year. Woodpeckers play an important role in the ecosystem. They help to keep the trees free from infestations by feeding on insects. This helps to keep the core of the tree free from infestations, which is important for the health of the tree. Woodpeckers also help to create cavities in trees, which are used by other birds and animals for nesting and shelter.

The following 14 species of woodpeckers are known from Telangana State: Speckled Piculet (*Picumnus innominatus*), Heart-spotted Woodpecker (*Hemicircus canente*), Brown-capped Pygmy Woodpecker (aka Indian Pygmy Woodpecker *Yungipicus nanus*), Brown-capped Pygmy Woodpecker (*Yungipicus canicapillus*), Yellow-crowned Woodpecker (*Leiopicus mahrattensis*), Fulvous-breasted Woodpecker (*Dendrocopos macei*), Greater Flameback (*Chrysocolaptes guttacristatus*), White-naped Woodpecker (*Chrysocolaptes festivus*), Rufous Woodpecker (*Micropternus brachyurus*), Common Flameback (*Dinopium javanense*), Black-rumped Flameback (aka Lesser Goldenbacked Woodpecker *Dinopium benghalense*), Lesser Yellownape (*Picus chlorolophus*), Streak-throated Woodpecker (*Picus xanthopygaus*), and Greater Yellownape (*Chrysophlegma flavinucha*). One species, Eurasian Wryneck *Jynx torquilla*, is a winter visitor.

Among these, some are the most common woodpeckers found in most parts of Telangana, while others are less common and are found in specific habitats such as forests and woodlands.

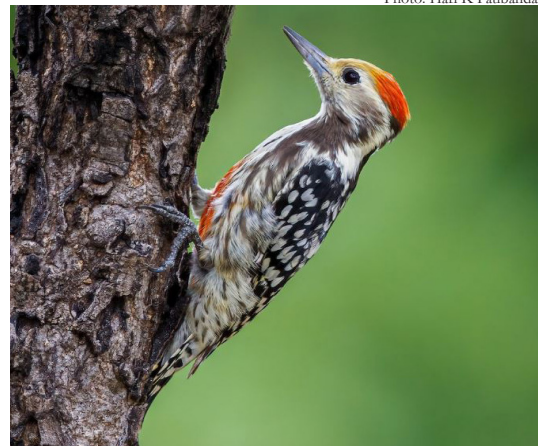


Photo: Hari K Patibandla



Photo: Sriram Reddy

Feature - Flora

Thorn Apple - *Datura stramonium* L.

Classification

Kingdom: Plantae
Division: Tracheophyta
Class: Magnoliopsida
Order: Solanales
Family: Solanaceae
Genus: *Datura*
Species: *stramonium*
Authority: L.



Datura stramonium, also known as thorn apple, jimsonweed, devil's snare, or devil's trumpet, is a poisonous flowering plant of the nightshade family Solanaceae. It is a native of Central America but has been introduced to many parts of the world including India, where it is now considered a weed. It is an annual herb that can grow up to 6 feet tall. It has large, trumpet-shaped flowers that are white, purple, or yellow. The fruits are spiny capsules that contain numerous small, black seeds. All parts of this plant are poisonous, but the seeds are the most toxic. The plant contains a number of tropane alkaloids, including atropine, scopolamine, and hyoscyamine. These alkaloids can cause a variety of symptoms, including hallucinations, delirium, seizures, and coma. In severe cases, its poisoning can be fatal. Despite its toxicity, it has been used in traditional medicine for centuries. It has been used to treat a variety of ailments, including asthma, bronchitis, diarrhea, and toothaches. It also has a long history of use as a psychoactive drug. The tropane alkaloids in the plant can produce powerful hallucinations and altered states of consciousness. In Hindu religion, during festivals such as Ganesh Chaturthi, leaves and spiny fruits of this plant are offered to the deity.

Courtesy: Wikipedia

Feature - Fauna

Spot-billed Pelican - *Pelecanus philippensis* Gmelin, 1789

Classification

Kingdom: Animalia
Phylum: Chordata
Class: Aves
Order: Pelecaniformes
Family: Pelecanidae
Genus: *Pelecanus*
Species: *philippensis*
Authority: Gmelin, 1789



Spot-billed pelicans (*Pelecanus philippensis*), aka Grey Pelicans or Spotted Pelicans, are majestic waterbirds that are presently confined to and breed in peninsular India, Sri Lanka, and Cambodia. The Kolleru Bird Sanctuary has been identified as the world's largest home for spot-billed pelicans. These are large birds, with an average wingspan of about 2.5 meters. They have light-toned feathers, with a pinkish pouched bill marked with dark spots on the upper beak. Their pouched bill is their most distinctive feature, and it allows them to catch fish and other aquatic prey. They build their nests in low trees, shallow wetlands, and sometimes near human habitations. Their breeding season varies between September and November to May. They lay two to four eggs, which are incubated by both parents for about 30 days. The chicks hatch blind and helpless, but they fledge within 60-75 days. They are piscivores and they fish in open waters, singly or in small flocks. Spot-billed pelicans play an important role in the aquatic ecosystem. They help to control populations of fish and other aquatic prey. They are also a popular tourist attraction.

Photo: Vijay Sirdesai

Events

International Tiger Day at KBR National Park

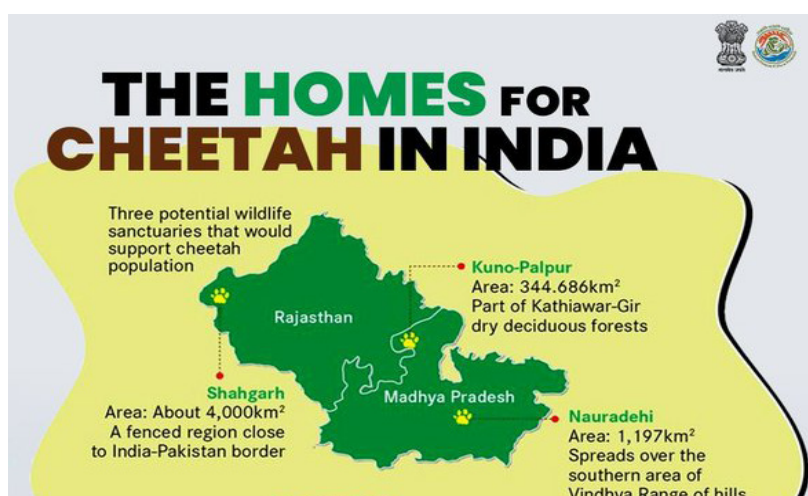


Courtesy: Times of India

The forest department along with Wildlife Conservation Society and Hyticos held the International Tiger Day celebration on July 29 at Kasu Brahmananda Reddy National Park. About 400 kids from seven schools joined the celebration. The event included an orientation session, camera trap selfies, poster presentation, nature conservation-based games (bingo) and match the stripes. International Tiger Day is an annual celebration to raise awareness for tiger conservation. It is held on July 29th each year and was created in 2010 at the Saint Petersburg Tiger Summit in Russia. The goal of the day is to promote a global system for protecting the natural habitats of tigers and to raise public awareness and support for tiger conservation issues. Tigers are the largest of the big cats and are an important part of the ecosystems they inhabit. They are apex predators, which means that they are at the top of the food chain and play a vital role in controlling populations of prey animals.

News

Kuno being readied for Cheetah reintroduction



Courtesy: Government of India Twitter Handle

In anticipation of the introduction of cheetahs, the fastest land animals in the world, people at Kuno National Park in Madhya Pradesh are diligently preparing the park to accommodate these magnificent creatures. The park, located within the dry deciduous forests of the Khathiar-Gir ecoregion, is a designated Wildlife Sanctuary. After the announcement of the action plan for cheetah reintroduction in India, Kuno was selected for this project due to its expansive area and arid conditions that are ideal for cheetahs. Park officials are currently undertaking various measures to make the park suitable for their arrival, including the removal of invasive grass and thorny bushes, the construction of quarantine cages, watchtowers, and other necessary facilities. However, there are concerns surrounding the coexistence of cheetahs with other apex predators in the park, such as leopards and tigers migrating from Ranthambore. As conflicts between these species are expected, measures are being taken to address this issue.

Signing Off

Earth is heating up...time to act is now

According to the IPCC's Sixth Assessment Report the global surface temperature has increased by approximately 1 degree Celsius since the pre-industrial era. This rise is primarily due to human activities, making us the main culprits behind recent global warming. The impacts of climate change are already evident worldwide, with more frequent and severe weather events, rising sea levels, and the alarming melting of glaciers. Unfortunately, these effects are only expected to worsen in the coming decades, leading to even more extreme weather events, higher sea levels, and the potential extinction of numerous species.

However, there is still hope. It is still within our reach to limit global warming to 1.5 degrees Celsius, but achieving this goal will require swift and comprehensive actions. We must urgently reduce greenhouse gas emissions, transition to renewable energy sources, enhance energy efficiency, promote afforestation and reforestation, and implement climate adaptation measures. The IPCC's Sixth Assessment Report serves as a wake-up call, urging us to take immediate action to combat climate change. The future of our planet hangs in the balance, and it is crucial that we act now to secure a sustainable and thriving future for generations to come.



Courtesy: Internet Resource

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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