

Telangana Biodiversity

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

Editorial

The first quarter of the year usually witnesses a frenzy of activities including some related to biodiversity and conservation. This year began with relaxation of Covid-19 restriction, though, very soon the country was under partial lockdown-like situation in the month of January. In February, the World Wetlands Day and in March, World Wildlife Day were celebrated. Both these days were marked through the conduct of various awareness and educational activities. The World Wetlands Day emphasized the need of the judicious utilization of aquatic resources with focus on wetlands being home to myriad diversity of life forms, while the Wildlife Day emphasized on the importance of wild animals in various ecosystems and their ecological role. At the Centre, we are striving to create awareness amongst the student community and common public about such important days through various activities undertaken by the Osmania Biodiversity Club.

From this issue, we are introducing various animal characters of the "Jungle book" by Rudyard Kipling under 'Nature for Kids' section. Hope it will be of interest to our young readers.

With the human society becoming more and more adapted to various strains of SARS CoV-II and increasing relaxation on the restrictions enforced by the governments, it is hoped that the world will be back to pre-covid lifestyle but with heavy lessons learnt due to pandemic that nature's fury and wrath has no parallels, and the human race needs to take corrective steps to mitigate and arrest anthropogenic damages caused to the nature.



Courtesy: Philadelphia Zoo

Briefly

Medaram Sammakka Saarakka Jatara

Once in two years, Telangana State celebrates a tribal festival Sammakka Saarakka Jatara (popularly known as Medaram Jatara) in Medaram village located within the forested area of Eturnagaram Wildlife Sanctuary in Mulugu district. This year, it was held for 4 days from February 16 -19, which attracted more than 10 million devotees all over the country. This century old ritual has resulted in a decline in the forest cover due to construction of roads, bridges and other developmental activities that led to habitat destruction, augmentation of human-animal conflict, increased light and sound pollution, plastic pollution, poaching, etc. The Sammakka-Saarakka are mother-daughter tribal warriors known to have sacrificed their lives to protect their community. It is customary that the locals in the area, offer annual homage to the sacrifice the family of the tribal chieftain has made. However, the biennial congregation of believers other than the tribal community is becoming popular with time. In the process of worshipping goddesses, huge gatherings of pilgrims and devotees have impacted the ecosystem and wildlife negatively.

Contents

Editorial	1
Briefly	1
Special Feature	2
Threatened Taxa	3
Pioneers in Conservation	4
Environment Education	4
Nature for Kids	5
Our Biodiversity	5
Feature - Flora	6
Feature - Fauna	7
Events	8
News	8
Signing Off	8

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Photo: Internet Resource



Special Feature

Pakhal Wildlife Sanctuary

Pakhal Wildlife Sanctuary (17°58' N and 79°27' E), one of the oldest sanctuaries of Telangana, is located in Khanapur Mandal, Warangal (Rural) District. This sanctuary came into existence in the year 1952. It is at a distance of about 50 km from Warangal city and about 12 km from the nearby Narsampet town. The sanctuary derives its name from Pakhal Lake, spread across an area of 30 sq km, which was constructed on a tributary of river Krishna in 1323 AD by the Kakatiya ruler, Raja Pratap Rudra Deva. The lake is a very significant source of irrigation for the local farmers. The sanctuary covers an area of about 860 km² constituted by

mixed forest with bamboo and teak as dominant vegetation. General vegetation is dry deciduous type scattered throughout the region, interspersed with patches of evergreen trees, shrubs, and climbers.

Flora

Some floral species found here are *Barringtonia acutangula*, *Embllica officinalis*, *Cordia alliodora* sp., *Bombax ceiba*, *Cleistanthus collinus*, *Flacourtia indica*, *Bridelia retusa*, *Dalbergia latifolia*, *Cochlospermum religiosum*, *Garuga pinnata*, *Magifera indica*, *Caryota urens*, *Syzygium cumini*, *Schleichera oleosa*, *Chloroxylon swietenia*, and *Terminalia arjuna*. *Mallotus*

philippensis and *Aegle marmelos* are some of the evergreen species found in the sanctuary.

Fauna

Pakhal Wildlife Sanctuary harbours rich fauna. Animal species frequently sighted here are Leopard, Wild Boar, Hyenas, Sloth Bear, Chital (Spotted Deer), Gazelle, Blackbuck, Four-horned Antelope or Chousingha, Sambhar, Nilgai, Jackal, Small Indian Civet, Porcupine, Black-naped Hare, Southern Plain Grey Langur, Rhesus Macaque, and Dhole. Reptiles that are commonly spotted are Python, Crocodiles, Monitor Lizard and a variety

Photo: C. Srinivasulu



of snakes. Pakhal Lake attracts around 200 species of birds, both resident and seasonal (migratory birds). Bird species such as Indian Spotted Eagle, Greater Spotted Eagle, and Common Pochard are common. Dusky Eagle Owl and Thick-billed Green Pigeon were also sighted here.

Pakhal Bio-diversity Park, located near the sanctuary, includes a herbal garden with about 400 species of medicinal plants, a butterfly park, an environment education centre, a bird watching camp, and trekking routes. To promote eco-tourism, the visitors are encouraged to use bicycles and battery operated vehicles.

Photo: C. Srinivasulu

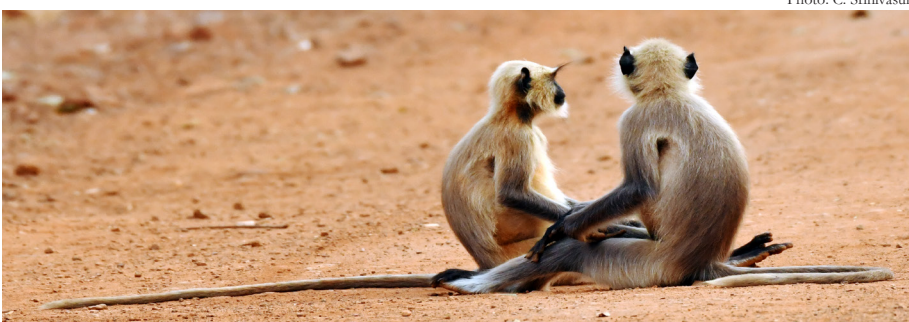


Photo: Munna Mandalapu



Threatened Taxa

Plant - *Ceropegia candelabrum* L.



Photo: Vinayaraj

Taxonomy Order Gentianales; Family Apocyanaceae

Geographic Range Endemic to India; distributed throughout the central, east, north-east and peninsular regions.

State Distribution Rare; found in Kamareddy, Vikarabad, and Rangareddy districts.

Population Nothing is known about its population status or trends.

Habitat & Ecology Slender, twining, trailing herb, found growing around rocks and among bushes in scrub jungles, and dry deciduous and thorny forest patches.

Major Threats Threatened due to habitat loss and destruction, encroachment, overfeeding by wild pig, and harvesting for local medicinal use.

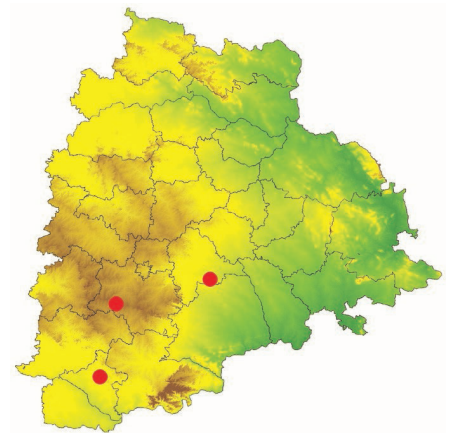
Use & Trade This species is not in trade, but is collected for local medicinal use.

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

Remarks

This species is found in dry deciduous and thorn forests. It does not occur in any protected areas. It is threatened by habitat destruction, predation by wild pig, over-harvesting, and encroachment. The estimated number of localities is 3; the estimated extent of occurrence (EOO) in Telangana State is <5000 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 has not been assessed. In Telangana State, this species is assessed as Endangered, with the criteria A2d +B1ab(iii,iv)+2ab(iii,iv).

Distribution in Telangana State



Animal - *Eutropis ashwamedhi* (Sharma, 1969)



Photo: Seetharamaraju Midathala

Taxonomy Class Reptilia; Order Squamata; Family Scincidae.

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

State Distribution Very rare; known only from Nandikonda valley in Vijaypuri North, Nalgonda district.

Population Nothing is known about its population status and trends. This species was known from only one locality in Telangana State. It was recently collected from Jaggayapeta in Krishna district, Andhra Pradesh a locality quite close to the border of Suryapet district and further surveys may yield the presence of this species from southern parts of Suryapet district.

Habitat & Ecology Found in rocky scrub forest.

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

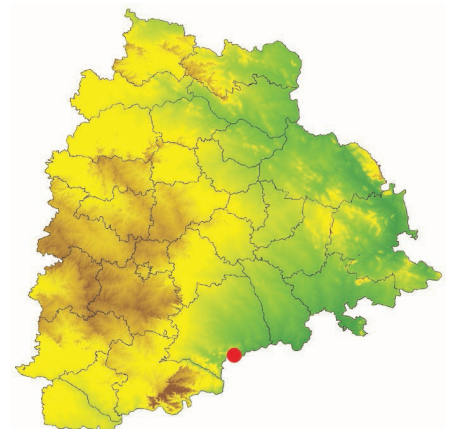
Use & Trade This species is not in trade.

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

Remarks

This taxon is found in dry scrub forests. It is not known from any protected areas in Telangana State. The species is threatened due to habitat destruction, alteration due to tourism related infrastructure development, and stone quarrying activities. It is very rare in occurrence. It is known from only one locality. 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 has been assessed as Vulnerable. In Telangana State, this species is assessed as Critically Endangered, with the criteria B1ab(iii)+2ab(iii)+D2.

Distribution in Telangana State



Pioneers in Conservation

Padma Shri Ali Manikfan

Muraiduganduar Ali Manikfan was born on 16 March 1938, Minicoy Island, Lakshadweep. Lack of formal education didn't stop the 83 year old from speaking 14 languages and gaining knowledge through observation and experience. Known for his expertise in Marine Biology, traditional Ship building, Astronomy, Geography, Social Science, Horticulture and Agriculture, and his passion for fishes motivated him to work as marine biologist in Central Marine Fisheries Research Institute of India (CMFRI). During his stay here, his observational skills have helped Dr. Santhappan Jones to discover a rare species of fish and named it as *Abudefduf manikfani* after him. Tim Severin, an Irish adventurer, has approached him to rebuild an ancient Arab trading ship 'Sohar'. He has hand-built the 'Sohar' using traditional boat-building techniques, coir, and timber.



Photo: Vicharam



Photo: Internet Resource

This ship sailed from Oman to China and is currently on display at the Oman Museum. His interest in cosmology has led him to develop a lunar calendar using the new moon and astronomical algorithms. Following traditional agricultural practices he has converted his 15 acre barren land into agriculture fields, and designed a windmill that runs with no electricity. Being an environmentalist, he has built a house with eco-friendly materials, and has invented a bicycle using a roller motor, a solution to curb cost and risk on nature.

His simple personality with versatile contributions in various fields was recognised by the Government of India and awarded him with the Padma Shri in 2021.

Environment Education

World Wetlands Day 2022

World Wetlands Day is celebrated on February 2nd to spread knowledge and importance of conserving wetlands, as they support diverse forms of life, acts as carbon sinks, hinder natural calamities, and also reservoirs of ground water. This year marks the 51st anniversary of the Ramsar Convention that came into existence to protect wetlands. Ecologically important wetlands are designated as Ramsar Sites. Forty-nine Ramsar Sites are recognised in India. The theme of this year's World Wetland Day is "Wetlands Action for People and Nature".

The University College for Women of Osmania University in collaboration with the Telangana State Biodiversity Board, Govt. of Telangana has conducted a one-day National webinar on Conservation of Wetlands and its importance, which was attended by students and scholars from various universities in Telangana and Andhra Pradesh. The resource persons included eminent faculty members of Osmania University and Acharya Nagarjuna University along with the member secretary of the State Biodiversity Board Shri. Kalicharan S. Khartade IAS.

Courtesy: icriforum.org



Nature for Kids

Baloo

Baloo, the “Bear” is the second lead character in “The Jungle Book” authored by Rudyard Kipling. Jungle Book is a beautiful tale of friendship between Mowgli, a human child raised by wolves who is befriended by wild animals in the jungles of the Central India. Baloo (Bear in Hindi) is a happy, kind, and an easy going Sloth Bear, who plays the role of a teacher to Mowgli. A wolf pack finds Mowgli, who was accidentally abandoned by his parents in the forest and cares for him as one of them. Baloo takes it upon himself to keep Mowgli safe from Sher Khan - the tiger and teaches him the ways of the jungle. The story portrays Baloo as a relaxed individual either lazing around or yearning eatables most of the time, as Sloth Bears are notorious for, but, when needed, he becomes active and ferocious, many a times both together.

Sloth Bears are vulnerable and endemic to South Asia, found in tropical forests of India, Nepal, and Sri Lanka. They are characterized by the presence of a shaggy coat and a long muzzle, being longest among all the bear species of the Indian subcontinent. Males live individually and females are seen with cubs. Females give birth to two cubs per cycle, and many times cubs have been seen taking a ride on their mother’s back, a behavior exclusive to this species. They are fond of honey, eat termites, and ants by digging their nests with the help of their strong curved claws. The population of Sloth Bears is at risk due to human-wildlife conflicts, hunting, poaching, and habitat destruction.

A tribal community called *Kalandar* uses the sloth bears as a part of their tradition wherein the bears popularly known as the “Dancing Bears” are displayed and made to dance for alms. Under the Indian Wildlife Protection Act, possessing and displaying wild animals including sloth bears is banned, and about 90% reduction of these activities has been noticed.



Photo: Internet Resource

Our Biodiversity

Medicinal plants of Telangana State

In Telangana State, over 2000 species of medicinal plants are found. We use medicinal plants in our everyday lives starting our days with drinking warm lemon water to activate our digestive system. Here, we focus on 14 species of Critically Endangered and Endangered species of medicinal plants found in the state.

Paederia foetida (*Saviraela chettu*) a climber with foetid smell is a popular medicinal plant with anti-inflammatory properties. *Nervilia aragoana* (*Ontelu dumpa*) is a terrestrial orchid used by the Chenchus of the Nallamala forest who use it for its anti-inflammatory properties; *Stemona tuberosa* (*Adavi tamara*) is a vine with a woody base used for treating respiratory & gynecological issues.

Albizia thompsonii (*Kondala*) is a large tree species, with flowers resembling a shaving brush, *Andrographis beddomei* is a small herb, *Butea monosperma* (*Moduga chettu*) is a small-sized tree with bright red flowers blooming just before holi, these species treat skin & respiratory diseases, and ulcers. *Ceropegia bulbosa* var. *lushii* (*Kola nimmatai*) is a small perennial herb; *Ceropegia candelabrum* (*Tiyyamanda*) is a twinning herb, the tubers of these are nutritious and are a cure for digestive issues and diarrhea.

Curcuma inodora (*Adivi Pasupu*) is a perennial herb, *Decalepis hamiltonii* (*Nannari kummulu*) is a woody climber, and are cures for pain, constipation & respiratory issues. *Holostemma adakodien* (*Bandi Gurivinda*) is a shrub; *Litsea glutinosa* (*Kanugu nalike*) is a tree species; *Pimpinella heyneana* & *Rauvolfia serpentina* (*Sarpa Gandha*) are small herbs and used for the treatment of diabetes, eye issues, and ulcers.

Majority of these species are collected for their medicinal value to treat minor ailments locally or at a commercial scale atleast in certain parts of the State.

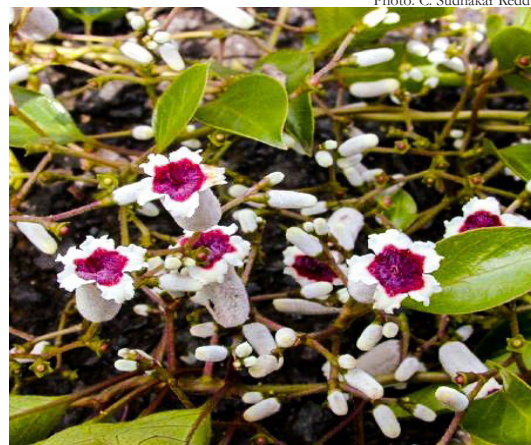


Photo: C. Sudhakar Reddy



Photo: Prasad

Feature - Flora

Sacred Lotus - *Nelumbo nucifera* Gaertn.

Classification

Kingdom: Plantae
Division: Tracheophyta
Class: Magnoliopsida
Order: Proteales
Family: Nelumbonaceae
Genus: *Nelumbo*
Species: *nucifera*
Authority: Gaertn.



Nelumbo nucifera, also called Indian or Asian Lotus, is a widely used ornamental plant. It is the National flower of India, called as *Thamara puvvu*, *Kamalamu* in Telugu. It is considered as a Sacred Lotus for its great significance in Hindu and Buddhist religions. It is one of the two extant species of perennial, aquatic plant native to India and has wide distribution ranging from South-East Asia, Sri Lanka, Indo-China, New Guinea to Northern and Eastern Australia. In Chinese tradition, it represents the heart and mind's purity for inhabiting muddy soil. This species requires nutrient rich loamy soil with broad depressed waxy coated leaves floating above the water; stems are vibrant green in color, hairless, smooth with hollow chambers that facilitates oxygen to the root system. These diurnal flowers with varied colors possess symmetrically arranged, overlapped petals and held 6 ft above the water by petiole. Every part of the plant has high medicinal and nutritional value. It is used in treating inflammation, gastro-intestinal issues, cancer, skin diseases, antidiabetic, antipyretic and diuretic. In Ayurveda, lotus seeds are widely used for their astringent traits. Lotus silk is believed to have healing abilities and it is one of the expensive silk available. In recent studies, it has gained importance as horticultural model.

Photo: Robertdcamp

Feature - Fauna

Indian Pitta - *Pitta brachyura* (Linnaeus, 1766)

Classification

Kingdom: Animalia
Phylum: Chordata
Class: Aves
Order: Passeriformes
Family: Pittidae
Genus: *Pitta*
Species: *brachyura*
Authority: (Linnaeus, 1766)



Pitta brachyura (Indian Pitta) is native to India. The word *Pitta* is derived from Telugu referring to a small bird. This bird is known as *Polanki Pitta* or *Ponangi Pitta* in Telugu. It mainly breeds in the hilly regions of Himalayas, Central India, and Western India, and migrates to Peninsular India and Sri Lanka in winter. This passerine bird inhabits dense evergreen, deciduous forest, scrub jungle, and is also seen near fresh water wetlands. This colorful bird with stubby tail is about 17-19 cm in length and weighs around 45-65 gms. In flight, it displays nine colors of feathers, hence also known as “Navrang” in Hindi. It has long, strong legs; stout bill; a black eye-stripe with white throat and neck; buffy crown with black stripe in the middle; very short blue tail; underparts are buffy green with bright red on the vent. It perches on trees, and forages on ground, feeding on insects and smaller invertebrates amongst the litter. It has a typical two loud-note whistle *wheet - tien* or *wheet-pyon*, repeated 3-4 times per minute during breeding season, and rarely less vocal with one whistle note. It is also known as “6 o’ clock bird” for its pattern of vocalising at 6:00 AM and 6:00 PM.

Photo: Sriram Reddy

Events

Rise in Birdwalk programmes in Telangana State



Courtesy: Internet Resource

With the onset of a new year, the Telangana Forest department has organized bird walks in Asifabad district; Kawal Tiger Reserve and Pakhal Wildlife Sanctuary during the months of January and February with an aim to create awareness and promote the importance of biodiversity conservation among locals and nature enthusiasts. Many birding enthusiasts, photographers, videographers and nature lovers from different parts of Telangana as well as neighboring states gathered and actively participated in identifying and recording 300 species of birds from Asifabad, 100 species of birds from Kawal Tiger Reserve and 70 species of birds from Pakhal Wildlife Sanctuary. Species sightings included reportings of a few rare, migratory birds including Eurasian Wrenneck, Shaheen Falcon, Woolly-necked Stork, etc. Bird walks have become gateways into the remote areas of Telangana forests. They have not only attracted bird watchers, but also, farmers and local people to be curious.

News

World Wildlife Day Celebrations



Photo: Internet Resource

An 8 year old girl, Dobbala Blessy of Suddala village, Konaraopet mandal, Sircilla district has collected 65,000 seeds to create a seed bank. She collects the seeds from various places while accompanying her father Mr. P. Prakash and prepares seed balls to disperse in the near by areas for germination during the rainy season. Her father has been instrumental in Blessy taking up this unique way of improving greenery in the vicinity. Since 2020, she has already dispersed about 30,000 seeds through seed balls. She, while playing, walking and even standing under a tree, makes sure that she collects as many seeds as she can so that she can add them to her growing seed bank and later disperse them to grow into large trees. When she first started doing this unique activity she was ridiculed, but now, her teachers, the villagers and her friends appreciate her. She was felicitated by Municipal Administration Minister K. T. Rama Rao and Rajya Sabha MP Joginapally Santosh Kumar.

Signing Off

Open day in Osmania University

As a part of "Osmania Taksh 2022", Osmania University has observed Open day on 24th March to attract students, parents and other stake holders to witness academic and research activities in various departments and centres of the University and its constituent colleges. More than 15,000 visitors thronged the university campus on this day.

Among the major attractants, the "Natural History Museum" of Osmania University located at the Department of Zoology and the Centre for Biodiversity and Conservation Studies has attracted many visitors. The Natural History Museum, with a range of preserved specimens of animals from various parts of the world including rare specimens of birds, mammals, reptiles, etc., was a hit amongst school-students, college-students and parents alike. To the visitors interested in Zoological collections, bird specimens especially those collected by Dr. Salim Ali during the Hyderabad State Ornithological Survey conducted in 1930-31, zoo fossils, osteological collections, egg collections including the largest egg - that of the recently extinct Moa bird, Okapi, Malayan Tapir, and a collection of vultures were special attractions. Around 3000 students from schools and colleges both within Hyderabad and far off have visited the Museum.



Photo: Department of Zoology, OU

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

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