

Telangana Biodiversity

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

Editorial

The year is about to end and when we take a look back we see a tsunami of devastation left by the brutal COVID-19 second wave. Many lost their near and dear ones, entire families got wiped out, financial situations got from bad to worse for many. But humans are resilient beings and we held on and gradually started getting up on our feet to find a new beginning and some meaning to our lives. Then we come to know there is yet another variant, the Omicron variant (B.1.1.529), which is a new variant of the coronavirus. It was for the first time reported from Botswana and then from South Africa. The WHO has declared it as a variant of concern. Many have been dreading how much more can we be battered, but we have also come to know from the South African doctors that this is a milder version of the coronavirus which has symptoms like a common cold, with sore and itchy throat, cold, mild fever and body pains. It has spread to majority of the countries even before travel bans could be put into place, but all the reports say one thing, that, for vaccinated persons the effect is very mild and for the unvaccinated it is leading to hospitalizations. This clearly goes on to show that vaccinations are the means to fight this deadly virus, coupled with masking and sanitising. Omicron is mild – yes, but, that does not mean we let our guard down. Let us get our vaccinations, and never let our guard down. Stay safe, stay healthy and get yourself and your family vaccinated. Merry Christmas! and have a safe and healthy new year 2022.

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Photo: Hayath Mohammed

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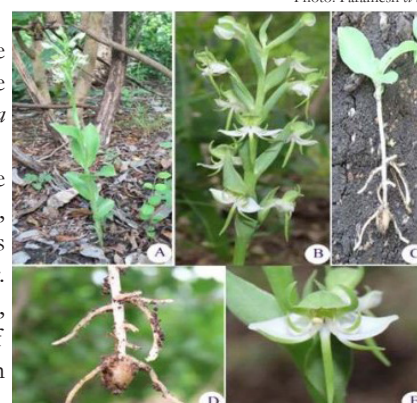
Briefly

New record of orchid *Habenaria* from Telangana State

The erstwhile state of united Andhra Pradesh reported the presence of 13 species of orchids of the genus *Habenaria* and post bifurcation, the newly formed state of Telangana reported the presence of 5 species namely *H. plantaginea*, *H. marginata*, *H. ramayyana*, *H. roxburghii* and *H. commelinifolia* belonging to genus *Habenaria*.

During floristic surveys in the dry deciduous forest of Ananthagiri hills in Vikarabad district, some interesting plant specimens were collected. Upon careful study and following relevant literature, the specimens were identified as *Habenaria gibsonii* Hook.f. var. *foetida* Blatt. & McCann 1932. This species is a perennial, terrestrial herb with 1-2 tubers and greenish-white flowers with foul odour. Flowering season is in July-September months. This species has been reported from Gujarat, Karnataka, Maharashtra, Odisha, Chattisgarh, and Madhya Pradesh. This is the first record of this species from Telangana State reported by researchers from Osmania University. It is rare in occurrence and occurs under the shade of large trees in association with other herb species.

Photo: Paramesh *et al.*



Special Feature

Siwaram Wildlife Sanctuary

The Siwaram Wildlife Sanctuary spread over 36.29 sq km, is located along the Godavari river in Mancherial and Peddapalli districts of Telangana State. It was established in 1987 for the protection of the marsh crocodiles *Crocodylus palustris*. This sanctuary is located nearly 10 km from Manthani, and 50 km from Mancherial town in Telangana and is well accessible by road.

Flora

The vegetation of this sanctuary is of dry deciduous type and riverine forest with Teak, Terminalia, Bamboo, *Anogeissus*, *Cassia*.

Fauna

The flagship species of the wildlife sanctuary is the Marsh Crocodile which is a freshwater crocodile also known as the Mugger Crocodile (*Crocodylus palustris*). These Mugger crocodiles are more in number than the salt water crocodile (*Crocodylus porosus*).

The Mugger crocodile is equally at ease both on land and in water and is known to travel great distances searching for safe abodes during mating and nesting season. The female crocodile is extremely protective of its young hatchlings and has been known to attack humans who come

close to the nesting sites out of curiosity. Twenty three species of birds have been reported so far from this wildlife sanctuary, especially yellow-footed green pigeon.

Siwaram Wildlife Sanctuary is also home to the Tiger, leopard, langur, Rhesus macaque, Sloth Bear, Cheetal, Sambar, wild boars and Indian python.

This is good tourist destination with tourists visiting this sanctuary in monsoon and winter seasons to get a close up glimpse of the marsh crocodile in the sanctuary.

Photo: Ravi K.



Photo: Ravi K.



Photo: Ravi K.



Threatened Taxa

Plant - *Andrographis beddomei* C. B. Clarke



Photo: Gunadayalan Gnanasekaran

Taxonomy Order Lamiales; Family Acanthaceae.

Geographic Range This species is endemic to India and is distributed in the states of Andhra Pradesh and Telangana.

State Distribution It is a rare herbaceous plant found in forested tracts of Farahabad, Mallelatheetham, and Munnanur in Nagarkurnool Districts.

Population Nothing is known about its population. It has been reported from three localities in Telangana State.

Habitat & Ecology This is a prostrate to decumbent herb found in dry deciduous forests at elevations between 250-700 m asl.

Major Threats Habitat fragmentation, livestock grazing, prevalence of invasive alien species, and collection for local medicinal use.

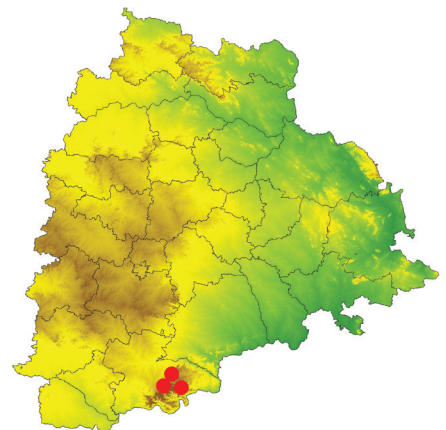
Use & Trade This species is not in trade but is collected for local medicinal use.

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

Remarks

This species is found in forested areas. It occurs in one protected area – Amrabad Tiger Reserve. This species is threatened by habitat destruction and collection for local medicinal use. The estimated number of locations is 3; the estimated extent of occurrence (EOO) in Telangana State is <500 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 DD (Gnanasekaran et al., 2015). In Telangana State, this species is assessed as Endangered with the criteria B1ab(iii,iv)+2ab(iii,iv).

Distribution in Telangana State



Animal - *Harpactes fasciatus* (Pennant, 1769)



Photo: Snehasis Sinha & Sriram Reddy

Taxonomy Class Aves; Order Trogoniformes; Family Trogonidae

Geographic Range Distributed in Sri Lanka and peninsular India. In India, it is localized in the Western Ghats and scattered localities in the northern Eastern Ghats.

State Distribution Historically in Nagarkurnool district, and rare records in Bhadradi Kothagudem district.

Population Nothing is known about the population status or trend.

Habitat & Ecology Diurnal and arboreal, found in moist deciduous forests.

Major Threats Threats to the species are not known.

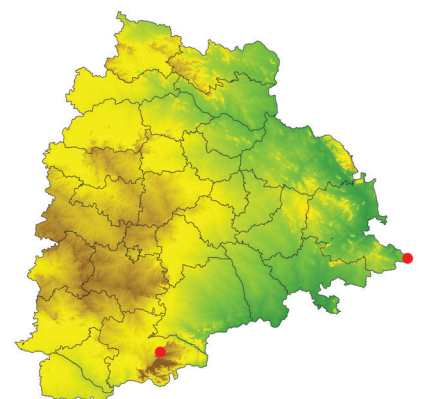
Use & Trade This species is not in trade.

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

Remarks

This taxon is found in forested tracts of Bhadradi Kothagudem district in the Godavari river basin. It is threatened by deforestation and expansion of agriculture. There is an inferred continuing decline in the area, extent, and quality of suitable habitat. At the global level, this taxon has been assessed as Least Concern. In Telangana State, this species is assessed as Endangered, with the criteria B1ab(iii)+2ab(iii).

Distribution in Telangana State



Pioneers in Conservation

Padma Shri Pappammal

Smt. R. Pappammal was born in 1914 Devarayapuram village in Tamil Nadu, who after the demise of her parents was raised by her paternal grandmother in Thekkampatti village near Coimbatore, Tamil Nadu. She inherited a small provision store from her grandmother and with the savings from that shop she bought herself 10 acres of land for agriculture about which she was very much interested from a very young age. Though the perennial river Bhavani flows down from the Nilgiris mountains runs about 2 km from her farm, she had no means to irrigate her farm, so she grew rain-fed crops like millets, pulses and grams during the north east monsoon. She gave away the 7.5 acres of land to her elder sister's four daughters, whom she had adopted and educated. In 1962, she became a member of a political party and won the local body election as a panchayat ward member and later became the vice chairman of the panchayat. From 1983, her life took another major dimensional change that led her to become a lead farmer and an icon of, “women in farming” after she joined the Krishi Vigyan Kendra of the Indian Council of Agricultural Research (ICAR) in Coimbatore district. She took basic training and became an instant leader in the local management committee (LMC) of KVK. With her inherent organising skills, she started to mobilize other women in the farm extension activities. she played an important role in several lab-to-farm technologies. She became an early adopter and promoter of new initiatives among fellow women farmers. The government honoured her with the Padma Shri for being a role model woman farmer and her remarkable contribution in promoting women in agriculture.



Photo courtesy: M. Periasamy

Environment Education

World Migratory Bird Day 2021

Every year, World Migratory Bird Day (WMBD) is officially celebrated twice in a year since it started in 2006, first on the second Saturday of May and again on the second Saturday of October. The day is observed to spread awareness for the need to conserve migratory birds and their habitats. In 2021, the first WMBDD was on May 08, 2021, and then on October 09, 2021 with an apt theme “Sing, Fly, Soar – Like a Bird!” for the year 2021. Scientists around the world have also been studying the impact the pandemic is having on birds and other wildlife, looking at how “the anthropause” has affected the birds and other wildlife around the world. The pandemic has been an unprecedented challenge for humankind, at the same time, it has also brought a whole new level of awareness and appreciation of birds and the importance of nature for our own well-being. World Migratory Bird Day 2021 is therefore not only a celebration of birds, it is also an important moment to reflect on our own global relationship with nature and to highlight our collective desire to do more to protect birds and nature in a post-pandemic world.

Courtesy: Sara Wolman



Nature for Kids

Crickets - Noisy sleep invaders...

Field crickets are nocturnal, fossorial, cold blooded insects with flattened gray, black, brown or green bodies, round head with a pair of long antennae and chewing mouthparts. These are often confused with grasshoppers. Most of the crickets can't fly, they possess powerful hind legs for crawling or hopping as high as 20-30 times their body size. Unlike most crickets, tree crickets, house crickets and great green bush crickets can fly.

They are good at adapting to different climatic conditions, preferably warm temperatures. They can be found in lawns, bushes, caves, grasslands, marshes, deserts, agricultural fields, forests and even in corners of your house.

Crickets are omnivorous. They feed on dried organic materials, plants, small fruits, seeds, nectar, both living and dead insects including their larvae and play a major role in their decomposition. They also consume the seeds of many invasive plant weeds and help in regulating their population. They are prey to a wide range of insects, amphibians, reptiles,

birds and mammals.

Did you know that crickets have ears on their knee joints and locate sound by using them? All field crickets have an ability to communicate by a unique "chirping" sound, generated by the movement of "scrapers" across a row of teeth-like structure found on the forewings. Males are the loudest and noisiest! The rate of chirping is directly influenced by temperature. Studies have shown that the more the number of chirps by the male the higher the temperature of the surroundings.

In many cultures, crickets are a sign of good luck and are kept as pets in cages, they are often featured prominently in folklore and literature. House crickets are treated as a delicacy in many Asian cultures for their high protein and vitamin content as well as excellent taste.

During their population outbreak, they can cause damage to agricultural crops, clothing, furniture, rugs, and even rubber materials when they invade a house.

Their life cycle includes incomplete metamorphosis without pupal stage directly resulting in young nymph resembling the adults.



Courtesy: Vini Souza

Our Biodiversity

Endemic Fishes of Telangana State

A new species of Bagrid fish, *Rita bakalu*, is described from the Godavari river basin in the Telangana state by researchers from National Bureau of Fish Genetic Resources. Six species of Bagrids are reported from South Asia and this new species makes the count to 7. The new species is different from its congeners by a combination of characters such as eye diameter, head length, number of caudal fin rays; upper jaw teeth and palatal teeth. The distinctness of the species was additionally confirmed by DNA sequencing.

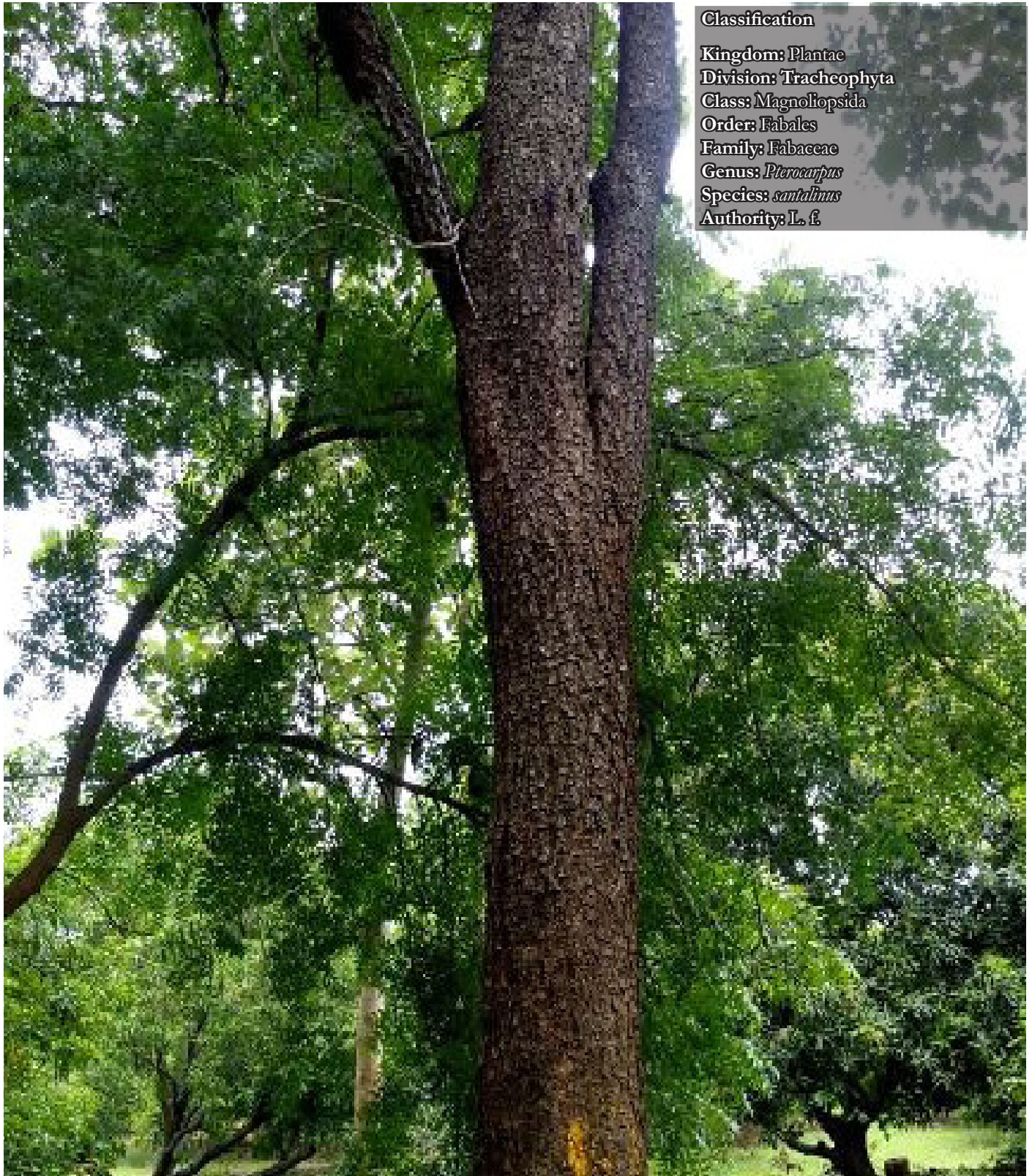
A new species of Loach fish discovered from Telangana State by researchers from Osmania University, in the hill stream area of Kawal Tiger Reserve (KTR) is among the first vertebrates to bear the name of Telangana, *Indoreonectes telanganaensis*. The new species is distinguished from its congeners by a combination of characters including caudal peduncle as long as deep; large eyes; pectoral fin as long as the head; length of the nasal barbel; unique dorsal-fin origin; and wide, well-defined bars on the lateral side of the body. The distinctness of the species was additionally supported by multivariate morphometric, and DNA analysis.



Photos: Krishna Prasad

Feature - Flora

Red Sanders - *Pterocarpus santalinus* L. f.



Classification

Kingdom: Plantae
Division: Tracheophyta
Class: Magnoliopsida
Order: Fabales
Family: Fabaceae
Genus: *Pterocarpus*
Species: *santalinus*
Authority: L. f.

Pterocarpus santalinus, commonly known as Red Sandalwood, is a medium-sized perennial tree growing to a height of 10-15m with ashy-black, brown bark. Leaves are trifoliate, ovate or obtuse arranged alternately; flowers are yellow in color, arranged in simple or branched raceme. The term *Pterocarpus* is derived from the Greek word *Pteron* = wing, *karpus* = fruit referring to its winged pod bearing one to two reddish brown seeds. Found in dry, deciduous, hilly or rocky areas with red or loamy soils. It is endemic to Eastern ghats - Palakonda and Seshachalam hill ranges of Kadapa, Chittoor, Prakasam, Nellore and Kurnool districts of Andhra Pradesh and cultivated in the states of Kerala, Maharashtra, Gujarat, Karnataka, Telangana, Tamil Nadu, Odisha and West Bengal and in Sri Lanka, Taiwan, and China. In traditional medicine, it is considered as antipyretic, anti-inflammatory, anthelmintic, anti-hyperglycaemic etc. Red wood powder is used in cosmetics, as a natural dye for staining, coloring agent in food, textile, leather industry. Its timber is prized for making furniture, cabinet works and also exported to Japan for manufacturing musical instruments. In Buddhism, it is considered holy, and is thus used in carving statues and also in cremation rituals. It is listed as Endangered by the IUCN RedList and is also listed under CITES Appendix II due to its over exploitation.

Photo from Internet

Feature - Fauna

Indian Chevrotain - *Moschiola indica*

Classification

Kingdom: Animalia
Phylum: Chordata
Class: Mammalia
Order: Artiodactyla
Family: Tragulidae
Genus: *Moschiola*
Species: *indica*
Authority: (Gray, 1852)



Indian Mousedeer (*Moschiola indica* (Gray, 1852)) was in 2005 considered distinct from *M. meminna* which is now confined to Sri Lanka. It is endemic to the Indian subcontinent occurring in evergreen, semi-evergreen and deciduous forests with dense undergrowth and is also seen in plantations; always in close proximity to water. It is distributed in Eastern and Western Ghats, Deccan plateau, central India and terai region, may also be distributed in Nepal. This is the smallest of the 12 species of deer found in India, being 25-30 cm high at the shoulders, with a body weight of 3-4 kgs. It is dull brown in colour with 3-5 white dotted stripes along the flanks. Both sexes lack antlers but males have well developed canines. It forages on the forest floor and feeds on fallen fruits, fresh grass, flowers, tubers, leaves, fungi and herbs. It has been occasionally observed feeding on insects, crustaceans and even animal matter. It is nocturnal, hiding in the daytime in dens, tree hollows, large tree roots from predators such as pythons, eagles, foxes etc. The Indian Chevrotain is widely hunted for its meat in south India. It has been successfully captive bred in the Nehru Zoological park and some individuals have been released back into the wild in Amarabad TR, Kinnerasani WLS and Mrugavani National Park.

Photo: P. Jeganathan

Events

WWF India's Sustainable Trees program



Courtesy: Internet Resource

WWF India, Hyderabad office headed by Ms. Farida Tampil, the State Director, and, Sri Ram Chandra Mission Foundation (Heartfulness Institute) joined hands to adopt 50,000 trees in Kanha Shantivanam, the global headquarters of Heartfulness Institute, Hyderabad. This initiative is part of WWF India's Sustainable Trees program to plant native indigenous tree species across India, and, Heartfulness's Green Kanha mission. The Green Kanha Initiative over the last 6 years has transformed the rocky, barren area into a lush green landscape that is now home to 500,000 plus trees with over 10,000 trees translocated from different parts of the country.

News

Floating solar parks to meet renewable energy targets!

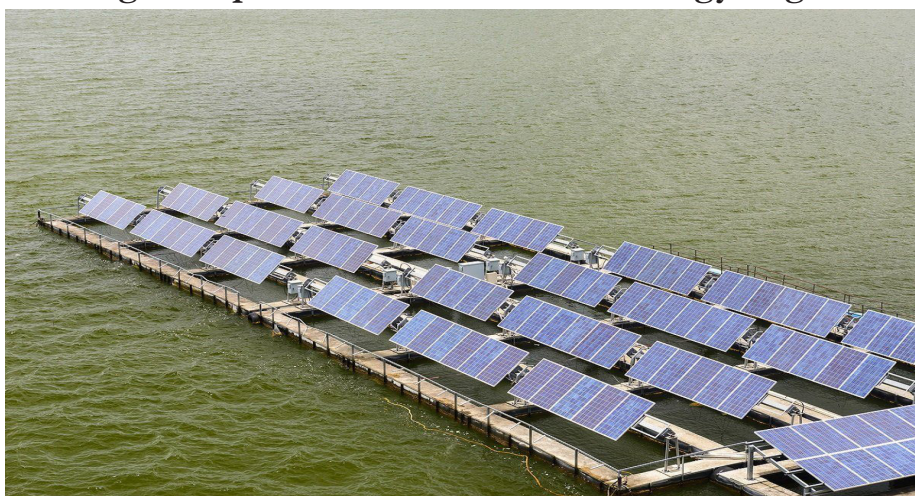


Photo: Internet Resource

NTPC & BHEL have initiated India's largest 100 MW floating solar photovoltaic power plant project on a reservoir 7 km away from Godavari river at Ramagundam, Telangana State, where 4.7 lakh photovoltaic plants are spread over 450 acres of the waterbody to produce 100 MW of clean energy. Floating solar photovoltaic plants are clean energy generators where an array of solar panels are mounted on a structure on a water body. Floating solar or floating photovoltaics are also called 'floatovoltaics'. They are considered as a viable alternative to land-based solar arrays where major challenges like land acquisitions can be avoided. NTPC announced that upon successful commissioning, first part capacity of 17.5 MW was declared on Commercial Operation from 28 October 2021.

Signing Off

Vaccination vs Omicron

How incredibly interesting! Omicron has taken the world like a storm, spreading like wildfire so much so that almost every alternate person is now infected with Omicron. It is greatly infectious than the Delta strain. But thank goodness to governments worldwide and thanks to the devastating Delta strain we all hurriedly took our jabs even before this new strain hit us and look where it has left us, ready and up against the newest member of the coronavirus family, the Omicron. Majority of the developed nations have even started giving booster jabs to enhance our immunity levels, our Indian government is not far behind and has announced booster doses firstly to the frontline workers, and then the elderly. It has also started vaccinating the 18-25 year old. All this is leading to milder symptoms, fewer hospitalizations, faster recovery times and the healthcare staff not getting greatly burdened and burnt out.

This would be a Happy New Year afterall! So here goes... here's wishing you all a very Happy and safe New Year 2022! Keep your masks and spirits up!



Photo: 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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