

July - 13

TNPSC BITS

- ❖ The Tamil Nadu government has constituted a Selection Committee under the retired Madras High Court judge K.B.K. Vasuki for the selection of social worker members to the Juvenile Justice Board (JJB) as well as for a chairperson and members to the Child Welfare Committee (CWC).
- ❖ Garden Reach Shipbuilders & Engineers (GRSE) Ltd. has been honoured with the "Sustainable Governance Champion Award" at the Outlook Planet Sustainability Summit & Awards 2024.
- ❖ OpenAI recently announced a new model called CriticGPT based on GPT4 to write critiques of ChatGPT responses to help human trainers spot mistakes during reinforcement learning from human feedback.
- ❖ The Adani Group has announced that the conglomerate will be sponsoring the Indian team travelling to Paris for the 2024 Olympics Games.
- ❖ Shuttler PV Sindhu will be the female flag bearer for India during the opening ceremony of the 2024 Paris Olympics.
- ❖ Yaroslava Mahuchikh of Ukraine broke the world record for the highest jump (2.10m) by a woman.
 - The old record (2.09m) had stood since 1987.

NATIONAL

Historic Chadwick House



- ❖ After 164 years of its existence, the Comptroller and Auditor General has got its first museum in Chadwick House at Shimla.

- ❖ MK Gandhi stayed in Chadwick House during the 1946 Cabinet Mission.
- ❖ Post-independence, in 1950, the first training school for the Indian Audit and Accounts Service probationers was started here.

22nd yearly summit of India and Russia

- ❖ Indian Prime Minister and Russian President attended the 22nd Annual Summit of India and Russia at Russia.
- ❖ India and Russia agreed to increase bilateral trade to \$100 billion dollars by 2030.
- ❖ India and Russia signed a number of MoUs between institutions on climate change, polar research, legal arbitration and pharmaceutical certification and other issues.

the Russia Federation Visit

- Participate in the 22nd India-Russia Annual Summit
- Continuing a time tested relation of nearly 8 decades
- 17th meeting of PM Modi and President Putin in the last 10 years



Indigenous Light Tank 'Zorawar'

- ❖ The prototype of the country's indigenous light tank Zorawar was unveiled recently.
- ❖ It was jointly developed by the Defence Research and Development Organisation (DRDO) along with Larsen & Toubro (L&T).

- ❖ It is capable of operation in extreme weather and extreme height with minimal logistic support in high altitude area along the northern border of India.



INTERNATIONAL

Exercise Pitch Black



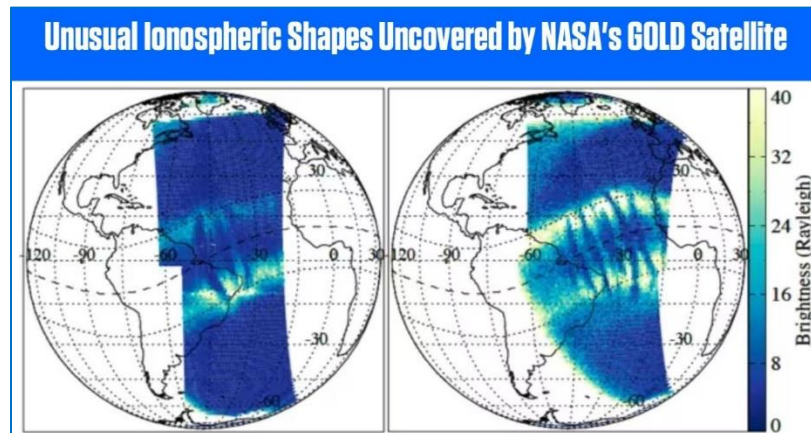
- ❖ India Air Force's Su-30 MKI fighter jets are set to take part in a biennial multinational aerial warfare exercise in Australia.
- ❖ Exercise Pitch Black 24 will be the largest in the exercise's 43-year history.

- ❖ It will bring together 20 participating nations and over 140 aircraft from around the world.
- ❖ On return, IAF will also participate in Ex Udara Shakti 24 with Royal Malaysian Air Force at Kuantan, Malaysia.

SCIENCE AND TECHNOLOGY

Unusual Ionospheric Shapes

- ❖ NASA's GOLD mission discovered surprising X- and C-shaped formations.
- ❖ These shapes are usually observed during geomagnetic disturbances, appeared even in the absence of such events, confounding experts.
- ❖ The ionosphere of Earth is a layer of electrically charged gas that is essential for long-distance radio transmission.
- ❖ GOLD is a satellite that was launched in October 2018 and is orbiting over the Western Hemisphere to measure temperatures and ionospheric densities.



IISc - 3D Hydrogel

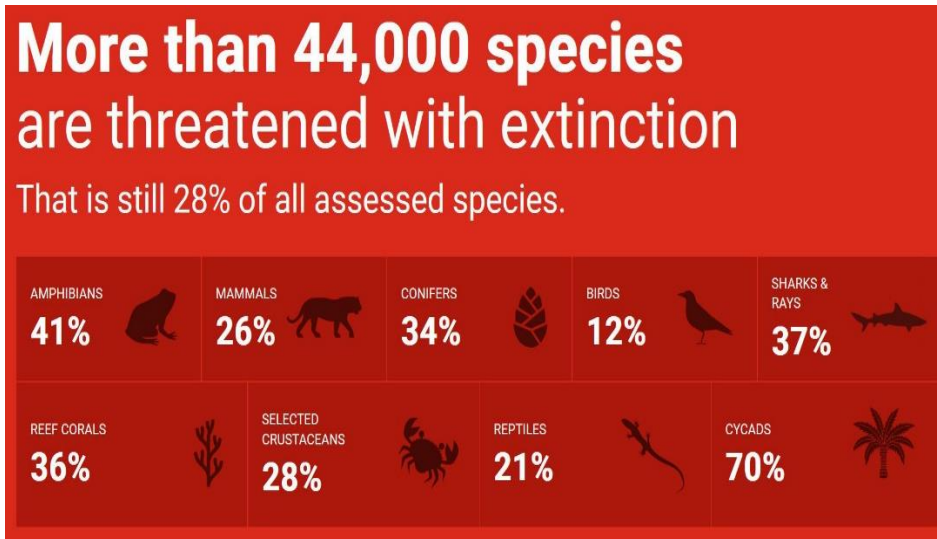
- ❖ The Scientists at Indian Institute of Science created a novel 3D hydrogel culture system that closely mimics the human lung.
- ❖ This provides a platform to track and study how tuberculosis bacteria infect lung cells and test the efficacy of therapeutics used to treat the infection.
- ❖ The new hydrogel culture is composed of collagen, a key component of lung tissue.
- ❖ This 3D environment allows researchers to observe how TB bacteria interact with human immune cells over extended periods – up to three weeks.
- ❖ Mycobacterium tuberculosis (Mtb) is a dangerous pathogen.

- ❖ In 2022, it affected 10.6 million people and caused 1.3 million deaths.



ENVIRONMENT

IUCN Red List Update 2024



- ❖ The IUCN recently updated the Red List to protect a number of lizard and cactus species.
- ❖ The Gran Canaria giant lizard (*Gallotia stehlini*) has moved from Least Concern to Critically Endangered.
- ❖ The Gran Canaria skink (*Chalcides sexlineatus*) has moved from Least Concern to Endangered.
- ❖ The Bornean elephant has been assessed as Endangered.

- ❖ The conservation status of the Iberian lynx has improved from Endangered to Vulnerable.
- ❖ Big leaf mahogany has moved from Vulnerable to Endangered on the IUCN Red List.
- ❖ The IUCN Red List now includes 163,040 species, of which 45,321 are threatened with extinction, surpassing the Barometer of Life goal to assess 160,000 species.

Uropeltis caudomaculata

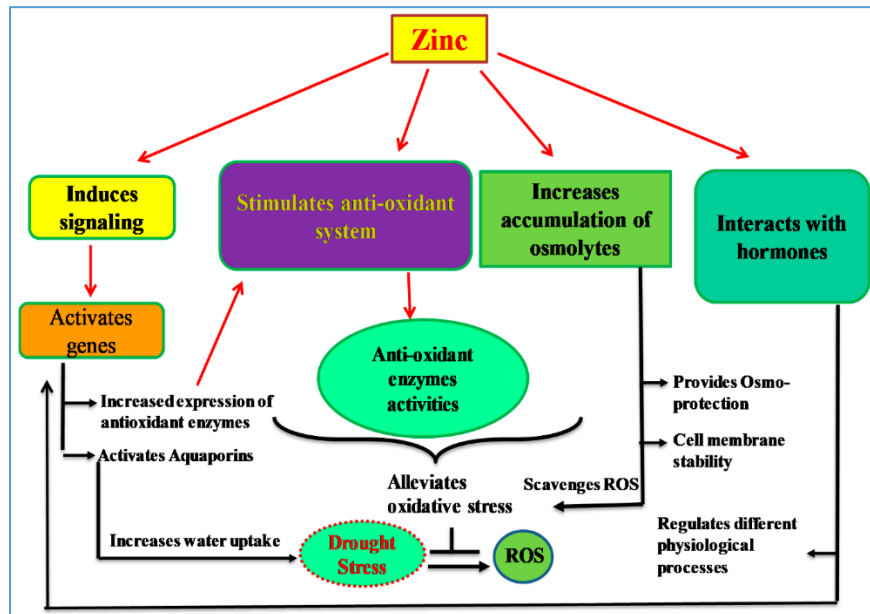
- ❖ Researchers have discovered a new species of a shield-tail snake in the Meghamalai-Munnar landscape of the Western Ghats.
- ❖ They live in forests and near tea plantations between elevations of about 3,000 to 6,400 feet
- ❖ *Uropeltis caudomaculata* is known to be found in only three localities: Meghamalai Tiger Reserve in Tamil Nadu, Periyar Tiger Reserve and Yellapetty, Munnar in Kerala.



Zinc's role in climate change resilient

- ❖ Researchers in France have discovered that zinc plays a crucial role in the health of legume crops.
- ❖ zinc aids in plant's nitrogen fixation, a process where atmospheric nitrogen is converted into ammonia, an essential nutrient for plants.
- ❖ Legume crops form a symbiotic relationship with rhizobia, a bacterium that fixes atmospheric nitrogen in root nodules.

- ❖ These nodules are sensitive to environmental factors such as temperature, drought, flooding, soil salinity, and high soil nitrogen levels.
- ❖ The researchers discovered that legumes also use zinc as a secondary signal to integrate environmental factors and regulate nitrogen fixation efficiency.
- ❖ The mechanism works due to a transcriptional regulator called Fixation Under Nitrate (FUN).



PERSONALITIES, AWARDS, AND EVENTS

Principal Advisor for National TB Program

- ❖ Former WHO's Chief Scientist Dr. Soumya Swaminathan has been appointed as the Principal Advisor for the National Tuberculosis Elimination Programme (NTEP).
- ❖ India accounts for 25% of world's TB burden and over 25 lakh new cases of TB were notified in 2024 in India.
- ❖ In 1929, India joined the International Union Against Tuberculosis.
- ❖ In 1959, the government, with the help of the WHO, established the National TB Institute in Bengaluru.
- ❖ The National Tuberculosis Control Programme (NTP) was formulated in 1962.
- ❖ The National Strategic Plan for Tuberculosis Elimination (2017-2025) was developed to eliminating TB by 2025.
- ❖ Later, A new National Strategic Plan for Tuberculosis Elimination (2020-2025) to end TB was launched.

- ❖ India reduced TB incidence by 16% from 2015 to 2022 and reduced TB mortality by 18% during the same period.



9th IASRM Annual World Congress



- ❖ IASRM and the Anti-Ageing Foundation (India) have hosted the 9th Annual World Congress–Longevity Revolution 2024-11 Years Regenerative Medicine Redefined.
- ❖ The International Association of Stem Cell & Regenerative Medicine (IASRM) celebrated its 9th year of conducting stem cell and regenerative medicine conferences and workshops.



- ❖ Longevity Revolution 2024 is a premier platform for impactful discussions, interactions, and education in the field of regenerative medicine.

