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Lightning Cleanser

- A team of researchers found that lightning bolts increase the ability of the atmosphere to cleanse itself or breakdown greenhouse gases (GHGs).
- The extreme amounts of hydroxyl radical (OH) and hydroperoxyl radical (HO2) were discharged during lightning events. This OH initiates chemical reactions and breaks down molecules like the GHG methane.
- To know more about lightning, click here.

Sauropods

- Researchers from the Geological Survey of India have identified fossil bone fragments of 100-million-years old sauropods from an area around West Khasi Hills District in Meghalaya.
- **Sauropods** were dinosaurs that had very long necks, long tails, small heads relative to the rest of their body, and four thick, pillar-like legs.
- They are notable for the enormous sizes attained by some species, and the group includes the largest animals to have ever lived on land.
- Meghalaya is the fifth state in India to report Sauropod bones which have titanosaurian affinity.
- [Other four states - The Lameta Formation of Gujarat, Madhya Pradesh and Maharashtra and Kallamedu Formation of Tamil Nadu.]
- In India, the sauropods generally belong to the titanosaurian clade.
- The record of the sauropod assemblage of probable titanosaurian affinity from Meghalaya extends the distribution and diversity of vertebrates in the Late Cretaceous of India.

Titanosaurs

- They were a diverse group of sauropods, including genera from Africa, Asia, South America, North America, Europe, Australia and Antarctica.
- Titanosaurian sauropods were the most diverse and abundant large-bodied terrestrial herbivores in the Gondwanan landmasses during the Cretaceous Period, but not endemic to the Gondwana.

Gondwana

- Gondwana is the southern half of the Pangaean supercontinent that existed some 300 million years ago.
- It is composed of the major continental blocks of South America, Africa, Arabia, Madagascar, Sri Lanka, India, Antarctica, and Australia.

Crocidura narcondamica

- It is a new species of insectivorous mammal, a white-toothed shrew discovered by the scientists from the Zoological Survey of India (ZSI) from Narcondam Island of the Andaman and Nicobar group of islands.
- Shrews are small and mouse-like mammals, and they live in sub-leaf stratum in the forests. Insects are the primary diet of these animals.
- This new species has a distinct external morphology with darker grey dense fur with a thick, darker tail compared to other species of the Crocidura genus. Its craniodental characters also make them distinct.

Narcondam Island

- The stratovolcanic Narcondam Island is an oceanic island of volcanic origin situated in the Andaman and Nicobar Archipelago, India.
- The isolated island is one of most remote and uninhabited islands of the Andaman and Nicobar archipelago.
- This thickly vegetated island is bordered by cliffs on the southern side and crested by three peaks is part of a volcanic arc that continues northward from Sumatra to Myanmar.
- **Species found** - The endemic Narcondam Hornbill is found only here.
- The island provides habitat for the Andaman Scops Owl, Nicobar Bat, Andaman Dwarf gecko and Andaman day gecko, all of which are species endemic to the Andaman and Nicobar islands.
- **Recognitions** - Narcondam Island has been identified as an Important Bird Area by BirdLife International and Bombay Natural History Society.
- It has been notified as Sanctuary under the Wildlife (Protection) Act, 1972 granting is further protection.

Eriophyid Mite Infestation in Amaranthus

- Researchers in Kasaragod have found Eriophyid mite infestation in amaranthus, a common leafy vegetable cultivated all over the country.
- Even though Eriophyid mites were reported in Tanzania in 1992, it is the first report of the mite infestation in amaranth in India.
- The mite causes severe malformation of the amaranthus shoot, making it fibrous and reducing the yield.
- The affected plants showed crinkling deformity and malformation of tender

leaves, a severe reduction in the leaf size and stunting.
- An observation trial to contain the pest immediately after a harvest reduced the mite damage symptoms almost completely for at least 15 days when the new shoots would be ready for the next harvest.

Nodavac-R

- Nodavac-R is the first indigenous vaccine for fish developed by the Central Institute of Brackish water Aquaculture (CIBA) in Chennai.
- This is a safe and efficacious vaccine for viral nervous necrosis (VNN) affecting many species of fishes.
- Red-spotted grouper nervous necrosis virus (RGNNV) is the only genotype prevalent in India and most other tropical countries.
- Nodavac-R, which could be injected to fingerlings, can be used in all species susceptible to VNN such as milkfish, mangrove red snapper etc.
- It would prevent VNN in fish hatcheries and bring down the incidence of VNN in grow-out farms.

Viral Nervous Necrosis

- Viral nervous necrosis (VNN) is an acute and serious viral disease caused by Betanodavirus or Nervous Necrosis Virus (NNV).
- Formerly known as Viral Encephalopathy and Retinopathy, VNN affects many marine, brackishwater and freshwater fishes resulting in 100% mortality in larval and early juvenile stages.
- VNN causes necrosis and vacuolation of the brain, spinal cord, and eyes, which leads to abnormal swimming behavior, and ultimately death.
- Infected adults remain as carriers and transmit the virus to offspring through eggs.
- The practical way to control the disease and prevent vertical transmission is to vaccinate fingerlings and adult fish.

Asian Development Outlook 2021

- The Asian Development Outlook 2021 is a report released by the Asian Development Bank (ADB).
- The report said the 45 economies that excluded Japan, Australia and New Zealand, were to grow 7.3% this year, supported by a healthy global recovery and early progress on COVID-19 vaccines.
- The pandemic was the biggest threat to Asia and the Pacific (including India), mainly due to delay in vaccine rollouts or major new outbreaks.
- Average inflation in the region was forecast to fall to 2.3% in 2021, from 2.8% in 2020.

- While east and south Asia forecast were to see the strongest growth, the central and Southeast Asia and the Pacific were to see more moderate growth.
- **India** - The report said that the ongoing 'second wave' COVID-19 pandemic could put India's economic recovery at risk.
- It said that excluding the second wave, India's economy was expected to grow 11% in fiscal year 2021-2022, amid a strong vaccine drive.
- India's GDP was expected to expand 7% in 2022.

Air Quality Index

- Delhi's Air Quality Index (AQI) deteriorated from 'moderate' to 'poor' and 'very poor', says the Central Pollution Control Board (CPCB).
- Delhi's air typically worsens in October-November and improves by March-April.
- AQI is calculated based on the Union Ministry of Earth Sciences' System of Air Quality and Weather Forecasting and Research (SAFAR) system.
- To know more about Air Quality Index, click here.

Source: PIB, The Hindu, Down To Earth

