

NEWSPAPER HIGHLIGHT

India added 540 species to its faunal database in 2021 taking the total number of animal species to 1,03,258. The country also added 315 taxa to the Indian flora during 2021, taking the number of floral taxa in the country to 55,048. Of the 540 faunal species, 406 are new discoveries and 134 new records to India. Thirteen new genera were also discovered in 2021. Among the new species discovered is one species from mammal, 35 reptiles and 19 species of pisces. The new mammal species discovered is *Crocidura narcondamica*, a whitetoothed shrew, from Narcondam Island of the Andaman and Nicobar group of islands. Among the reptiles discovered in 2021, notable is *Boiga whitakeri*, or Whitaker's cat snake, from the Western Ghats in Tamil Nadu.

The National Aeronautics and Space Administration's (NASA) CAPSTONE spacecraft launched from New Zealand should reach the Moon by November 13. CAPSTONE will study the lunar orbit where NASA plans to lodge a space station that will orbit the Moon in a stable path, making it easier for astronauts to reach more parts of the Moon.

Researchers led by those from the National Centre of Biological Sciences, Tata Institute of Fundamental Research, Bengaluru (NCBSTIFR), have found a new pathway that regulates nitrate absorption in plants. The gene MADS27, which regulates nitrate absorption, root development and stress tolerance, is activated by the microRNA, miR444, therefore offers a way to control these properties of the plant. The researchers studied this mechanism in both rice (monocot) and tobacco (dicot) plants. The research is published in *Journal of Experimental Botany*. Nitrogen is one of the most important macronutrients needed for development of a plant. It is a part of chlorophyll, amino acids and nucleic acids, among others.

The United Kingdom is seeing a rise in unexplained cases of hepatitis in children. Researchers have hypothesised a link to the coronavirus. Now, United States data cast doubt on that idea — the number of cases there has remained flat. The rise in U.K. cases may be connected to infections with adenoviruses.

FINANCIAL SERVICES INSTITUTIONS BUREAU

1.The Centre has transformed the Banks Board Bureau (BBB) into Financial Services Institutions Bureau (FSIB) by making some amendments. In 2016, the Prime Minister approved the constitution of the Banks Board Bureau (BBB) as a recruiter for whole-time directors and non-executive chairpersons of state-owned banks and financial institutions.

2.It was also entrusted with the task of engaging with the board of directors of all PSBs to formulate appropriate strategies for their growth and development. Guidelines for selection of general managers and directors of public sector general insurance companies have been made part of Financial Services Institutions Bureau (FSIB).

3.The amendments were made as the Delhi High Court in its 2021 order said the BBB is not a competent body to select the general managers and directors of state-owned general insurers. These amendments were made to the Nationalized Banks (Management and Miscellaneous Provisions) Scheme of 1970/1980. 4.Now, the FSIB has been established as a single entity for making recommendations for appointments of whole time directors and non-executive chairperson of Public sector banks (PSBs), Public sector insurers (PSIs) and Financial institutions (FIs). This new entity will also make recommendations for selection of General Managers and Directors in non-life PSIs.

BUSINESS REFORMS ACTION PLAN

1.Assessment of States/UTs based on implementation of Business Reforms Action Plan (BRAP) 2020 was declared by the Department of Industrial Promotion and Internal Trade (DPIIT), Ministry of Commerce & Industry. The BRAP 2020 includes 301 reform points covering 15 business regulatory areas such as Labour, Environment, Single Window System, Land Administration & Transfer of Land and Property and others.

2.118 new reforms were included to further augment the reform process. Unlike previous years, where States/UTs were ranked, this year they have been placed under the four categories viz. Top Achievers, Achievers, Aspirers and Emerging Business Ecosystems. Top Achievers are Andhra Pradesh, Gujarat, Haryana, Karnataka, Punjab, Tamil Nadu and Telangana.

3.Since 2014, the DPIIT has been assessing States/UTs based on their performance in implementation of prescribed reforms in BRAP exercise. The broader aim of the assessment is to boost investor confidence, foster business friendly climate and augment Ease of Doing Business across the country by introducing an element of healthy competition.

HELIOSEISMOLOGY

1.Seismology literally means the study of earthquakes. This term includes studies of how elastic waves propagate through the Earth and other planet-like bodies, revealing the nature of different layers of the body in question.

2.Geoseismology is the study of the waves generated by quakes and explosions (seismic waves) and what they reveal about the interior of the Earth. In the 1960s, the waves resembling these waves have been discovered to exist on the Sun.

3.Helioseismology is the study of wave oscillations in the Sun. The term 'Helioseismology' is derived from the words helios (Sun), seismos (quake) and logos (study of). The 3 different kinds of waves that helioseismologists measure or look for are: acoustic, gravity, and surface gravity waves.

4.A major difference between geoseismology and helioseismology is that while the Earth is a solid, the layers in the Sun are fluid. Hence, there are no shear waves in the Sun. A more general, related field is asteroseismology, which looks at oscillations on distant stars.

Researchers are getting closer to their goal of revealing exactly where in a cell or tissue each gene is expressed. Spatial transcriptomics allows them to study gene expression in samples. The resulting 'atlases' of spatial information can tell which cells make up each tissue, how they are organised and how they communicate.

Antimicrobial resistance (AMR) is a looming public health crisis impacting every country globally with a disproportionate impact on lives and livelihood in low and middle income countries. A recent report from the Global Research on Anti Microbial resistance (GRAM) project found that in 2019, an estimated 4.95 million people suffered from at least one drug-resistant infection and AMR directly caused 1.27 million deaths. AMR is one of India's major public health problems, directly contributing to about 30% of deaths due to neonatal sepsis across India.

An international group of scientists, led by the Francis Crick Institute, have found that the ancestry of dogs can be traced to at least two populations of ancient wolves. Dogs are known to have originated from the gray wolf, with this domestication occurring during the Ice Age, at least 15,000 years ago. In a study (Nature), the researchers turned to ancient wolf genomes to further understand from where the first dogs evolved from wolves. They analysed 72 ancient wolf genomes, spanning the last 1,00,000 years, from Europe, Siberia and North America. By analysing the genomes, the researchers found that both early and modern dogs are more genetically similar to ancient wolves in Asia than those in Europe, suggesting a domestication somewhere in the east.

The price lowering effect of competition and domestic manufacturing of medicines can transform how diseases get treated in resource poor settings. Decisions made by Indian patent offices can negatively impact generic competition and supply worldwide, relying on the availability of affordable medicines made in India. Monopolies granted by patent offices on medical products keep prices high and block local manufacturers from supplying low cost generic drugs.

Global emissions are expected to cause the planet to continue heating rapidly over the next few decades, prompting the global average temperature to overshoot the Paris

WHAT THE G7 MEET ACCOMPLISHED

1. According to its 12,000-word communiqué, the G7 has issued four other statements as well — on democracy (together with the guest countries), Ukraine, global food security, and the creation of a climate club. Taken together, this summit outcome looks weighty, even impressive. The G7 invited “guests”, top leaders from five countries — Argentina, India, Indonesia, Senegal, and South Africa — in a studied nod to the global south. Its adversaries and competitors Russia and China were not present.
2. G7 Leaders' Communiqué: Key Highlights: Russia's war of aggression against Ukraine: The statement condemned Russia's illegal and unjustifiable war of aggression against Ukraine. Severe and enduring costs on Russia: G7 members will continue to impose severe and enduring costs on Russia to help bring an end to this war. Ensuring food security around the globe: The participating leaders pledged to spend \$4.5 billion this year to help ensure food security around the globe. On China's 'market-distorting' practices: G7 leaders condemned China's non-transparent and market-distorting international trade practices.
3. Partnership for Global Infrastructure and Investment Through its Partnership for Global Infrastructure and Investment, G7 countries aim to mobilize USD 600 billion over the next five years to narrow the global investment gap. Global cooperation: G7 members decided to step up their cooperation globally, including through working towards new Just Energy Transition Partnerships with Indonesia, India, Senegal and Vietnam, building on the existing partnership with South Africa.
4. **India at G7 Summit Although India is not a member of G7, it was called as a guest to attend the summit. At the G-7 summit in Germany, PM Modi participated in two sessions on: Investing in a Better Future: Climate, Energy, Health and Food security.**
5. Resilient Democracies document signed: Through this statement, the participating countries expressed their commitment to guard the freedom, independence and diversity of civil society actors and protect the freedom of expression and opinion online and offline.

DUMPING

1. In recent times, India's optical fibre industry has seen unfair competition from cheap imports from China, Indonesia and South Korea. These countries have been dumping their products in India at rates lower than the market price.
2. Dumping-When the goods are exported by a country to a foreign country at a price lower than the price it charges in its own home market is called dumping. Dumping is a situation of international price discrimination this unfair trade practice has a negative impact on international trade.
3. Dumping is legal: Under World Trade Organization (WTO) rules, dumping is illegal only if the foreign country can reliably show the negative effects the exporting firm has caused its domestic producers. In order to protect domestic producers from dumping, countries use tariffs and quotas.
4. "Anti-dumping"-Anti-dumping is a protectionist tariff, imposed by a domestic government on foreign imports that are at a price lower than the price it normally charges in its own home market. Anti-dumping duty is imposed as a remedy to the distortive trade which arises due to the dumping of goods. This tool of fair competition is permitted by the WTO. From a long-term perspective, anti-dumping duties can reduce the international competition of domestic companies producing similar goods.
5. Sunset clause for Anti-Dumping Duty: Unless revoked earlier, the validity of anti-dumping duty is for five years from the date of imposition. It can be extended for a further period of five years through a sunset or expiry review investigation.
6. **Which authority in India administers trade remedial measures like anti-dumping? Directorate General of Trade Remedies, the apex national authority under the Ministry of Commerce and Industry administers all trade remedial measures.**

FOREST(CONSERVATION) RULES, NOTIFIED

1. MoEFCC has notified Forest (conservation) Rules 2022, under the Forest (conservation) Act, 1980. New Rules says: On monitoring: Constitute an advisory committee, a regional empowered committee and a screening committee at the State/UT. Integrated Regional Office: It will examine all the linear projects (e.g. roads, highways, etc) involving land up to 40 hectares and the use of forest land up to 0.7 canopy density.

agreement's target, which aimed to limit warming to between 1.5°C and 2°C. For the first time, scientists studied the consequences of allowing Earth's temperature to exceed these precautionary limits, then fall below them again. The results suggest that a temporary overshoot would cause waves of irreversible extinctions and lasting damage to tens of thousands of species. This is what the world can expect if humanity fails to make deep emission cuts this decade.

In 2019, Adam Harry shot to fame as the country's first transgender trainee pilot, set to receive support from the Kerala Government to become a commercial pilot. Two years later, he is a delivery person for Zomato because the Directorate General of Civil Aviation (DGCA) says he is unfit to fly as long as he is on hormone therapy.

2.Time frame: A fixed time for quicker review of each project.
Responsibility to states: States are given the responsibility of settling forest rights of forest dwellers (Forest Rights Act, 2006) and allowing diversion of forest land.

3.Allows compensatory afforestation (CA) in other states: If the state already has over two-thirds area under green cover or over one-third area under forest cover, then CA could be taken in other states/UTs where the cover is less than 20%.