7. Shortnews

1. Aspergillus Species Discovery

Indian scientists at MACS-Agharkar Research Institute, Pune discovered two new Aspergillus species in the Western Ghats, using advanced polyphasic taxonomy.

Newly Identified Species

Aspergillus dhakephalkarii - It shows fast growth, brown conidia, yellowish sclerotia, smooth ellipsoidal conidia.

Aspergillus patriciawiltshireae - it shows abundant sclerotia, modest sporulation, echinulate conidia, branched conidiophores. These are the first Indian records of A. aculeatinus and A. brunneoviolaceus.

About Aspergillus section Niger

A subgroup of the genus Aspergillus, commonly called black aspergilli due to their darkly pigmented conidia. Widely distributed in soil, decaying vegetation, and diverse ecological niches.

Applications

1. **Industrial use -** Citric acid production, fermentation technology, enzymes.
2. **Food industry -** Role in food mycology and biotechnology.
3. **Agriculture** - Phosphate solubilisation and soil health improvement.
4. **Ecological Importance -** Play roles in nutrient cycling in ecosystems.

Threat - Some species are opportunistic pathogens in humans. For example, it can cause aspergillosis.

2. First Overseas Atal Innovation Centre

Union Education Minister Dharmendra Pradhan inaugurated India's first overseas Atal Innovation Centre at the IIT Delhi–Abu Dhabi campus.

About the Atal Innovation Centre (AIC)

The first overseas Atal Innovation Centre (AIC) has been set up under the Atal Innovation Mission (AIM). It is located at the IIT Delhi–Abu Dhabi campus, symbolising India's growing global footprint in higher education and research collaboration. The AIC will also support Atal Innovation Labs for Indian curriculum schools in the UAE, inspired by the success of Atal Tinkering Labs in India.

About Atal Innovation Mission (AIM)

Launched in 2016 by NITI Aayog, AIM is a flagship initiative to build a culture of innovation and entrepreneurship in India. Works across schools, universities, research institutes, industries, and MSMEs.

Two core functions -

1. **Promote entrepreneurship** – supporting innovators with funding and mentorship.
2. **Promote innovation** – creating collaborative platforms for idea generation.

Key Programs -

1. **Atal Tinkering Labs (ATLs)** - School-level innovation labs.
2. **Atal Incubation Centres (AICs)** - Fostering startups.
3. **Atal New India Challenges & Atal Grand Challenges** - Solution-driven innovation.
4. **Mentor India** - Nationwide mentor network.

Collaborates with academia, industries, NGOs, and individuals to build ecosystems. Uses real-time MIS dashboards for systematic monitoring.

3. Mhadei Wildlife Sanctuary

The Supreme Court ordered the Goa government to maintain status quo on the Mhadei Wildlife Sanctuary, proposed as a tiger reserve.

About Mhadei Wildlife Sanctuary

Overview - Declared a wildlife sanctuary in 1999, located in north-eastern part of Goa.

Vegetation - Dominated by moist deciduous forests with patches of evergreen species. Known for sacred groves that preserve rare and indigenous plants.

Flora - Home to over 1,000 species of flowering plants, including rare and endemic orchids.

Unique **evergreen Ashoka tree** with saffron-colored flowers.

Fauna

1. **Common species -** Indian gaur, barking deer, sambar deer, civets, wild boar, hare, mongoose, langurs, macaques.
2. **Rare species -** Tiger, leopard, black panther, sloth bear, dhole, jungle cat, mouse deer, giant squirrel, flying squirrel, pangolin, slender loris.
3. **Birdlife -** Over 255 bird species (53 breeding); recognized as an **International Bird Area**. Key birds include Nilgiri wood-pigeon, Malabar parakeet, Malabar grey hornbill, grey-headed bulbul, rufous babbler, white-bellied blue flycatcher, and crimson-backed sunbird.
4. **Herpetofauna -** Hosts India's **"big four" venomous snakes** (cobra, krait, Russell's viper, saw-scaled viper) along with King cobra, Malabar pit viper, python, and numerous rare species.
5. **Amphibians -** Includes endangered and endemic species like Marbled ramanella, Malabar gliding frog, and unique caecilians (Nadkarni's, Mhadei, and Goa caecilians).
6. **Butterflies -** 257 species spotted, including Southern birdwing (largest butterfly in South India), striped tiger, blue mormon, and blue tiger.

Unique Features - The only sanctuary in Goa that records tiger presence. Hosts Goa's three highest peaks - Sonsogod (1,027 m), Talvche Sada (812 m), and Vagheri (725 m).

4. World's First Digital Tribal University 'Adi Sanskriti'

The Ministry of Tribal Affairs launched Adi Sanskriti, the world's first Digital Tribal University, at Bharat Mandapam, New Delhi.

About Adi Sanskriti

Nature of Platform - A digital academy and e-learning platform integrating an online marketplace for tribal arts, crafts, culture, and knowledge systems.

Ministry - Ministry of Tribal Affairs.

Objectives

1. To preserve and promote India's tribal heritage.
2. To create sustainable livelihood opportunities for tribal communities.
3. To integrate tribal culture with modern digital education and commerce.

Implementation - Built in collaboration with State Tribal Research Institutes (TRIs). The first phase involved TRIs from 15 States including Andhra Pradesh, Assam, Bihar, Chhattisgarh, Gujarat, Kerala, Madhya Pradesh, Maharashtra, Odisha, Rajasthan, Tamil Nadu, Telangana, and Uttar Pradesh.

Key Features of Adi Sanskriti

1. **Adi Vishwavidyalaya (Digital Tribal Art Academy) -** Offers 45 immersive courses on tribal dance, painting, crafts, music, and folklore.
2. **Adi Sampada (Socio-Cultural Repository) -** Curated collection of over 5,000 documents across five themes — paintings, dance, clothing & textiles, artefacts, and livelihood.
3. **Adi Haat (Online Marketplace) -** Currently linked with TRIFED; aims to evolve into a dedicated marketplace for tribal artisans with direct consumer access.

5. Cholesterol Based Nanomaterials

Indian scientists at the Institute of Nano Science and Technology (INST), Mohali have developed cholesterol-based nanomaterials to control electron spin for next-generation spintronic devices. Their findings recently was published in Chemistry of Materials.

Cholesterol-Based Nanomaterials

They are Nanostructures engineered using cholesterol molecules, leveraging their chirality, flexibility, and biocompatibility to design functional materials at the nanoscale.

Produced by - Combining cholesterol with different metal ions; the researchers created nanomaterials that selectively filter electron spins.

Purpose - Used to control electron spin, molecular interactions, and bioelectronic functions,

enabling applications in spintronics, quantum devices, and biomedical technologies.
Spintronics (spin-based electronics) exploits the intrinsic spin of electrons, alongside their charge, to store and process information more efficiently.

Potential Applications of the Finding

Energy-Efficient Electronics - Cholesterol-based spintronics could reduce power consumption, enabling greener and more sustainable technologies.
Memory Devices - Spin-controlled nanomaterials can be used to design energy-efficient memory chips, advancing data storage technologies.
Quantum Technologies - The chemical tunability of these materials offers new pathways for quantum information processing and high-precision spin manipulation.
Bioelectronics - Applications may extend to biomedical devices, given cholesterol's compatibility with biological systems.
Molecular Separation - The technology can separate molecules with extreme accuracy, useful in pharmaceuticals and advanced materials research.

6. Gyan Bharatam

Recently, the Ministry of Culture has launched 'Gyan Bharatam' at the International Conference on Manuscript Heritage at Vigyan Bhawan, New Delhi. The first International Conference on Manuscript Heritage (Sept 11–13) brings together over 1,100 participants, including scholars, cultural experts, and global institutions.

About Gyan Bharatam

National Initiative - Gyan Bharatam is a landmark movement aimed at preserving, digitising, and disseminating India's manuscript heritage at a global scale.
Visionary Approach - It combines preservation, scholarship, and accessibility, while aligning with the vision of Viksit Bharat by 2047 and India's aspiration of becoming a Vishwa Guru.

Objectives of the Initiative

Documentation - Identification and creation of a nationwide register of manuscripts.
Conservation - Restoration of fragile texts with professional conservation measures.
Digitisation - Large-scale digitisation using AI-driven tools to build a National Digital Repository for centralised access.
Scholarship & Research - Promotion of research, translation, and publication of rare manuscripts.
Capacity Building - Training scholars and conservators to expand expertise in manuscript studies.
Public Participation - Encouraging collaborative programmes to engage communities in heritage preservation.

Broader Scope and Significance

Technology Integration - AI-powered initiatives like the Gyan-Setu Innovation Challenge enhance digitisation and manuscript accessibility.
Global Partnerships - Strengthens collaboration with libraries, institutions, and private custodians across the world.
Education Linkage - Seeks to integrate manuscript wisdom into modern education and policy frameworks.

7. Qatar

Prime Minister Narendra Modi spoke with Qatar's Amir Sheikh Tamim Bin Hamad Al-Thani, expressing concern over recent Israeli attacks on Doha and reaffirming India's support for peace, stability, and dialogue.

About Qatar

Qatar is a small peninsular nation on the northeastern coast of the Arabian Peninsula.
Bordering Countries - It shares a land border with Saudi Arabia to the south and is surrounded by the Persian Gulf. It shares maritime borders with Bahrain, Iran, and the United Arab Emirates (UAE).
Geography - The country's terrain is flat and arid desert, with sand dunes dominating the southern

region, especially near Khor al Adaid (Inland Sea)
Qatar's highest point - Qurain Abu al-Bawl (103 m/338 ft), located in the west.
Topography - Salt flats (sabkhas), formed due to high evaporation rates, are common near the coast.
Vegetation - Despite the desert environment, man-made green spaces exist in Doha, while natural vegetation like the Sidra tree grows in the northern regions**.**
Water Bodies - Qatar lacks permanent rivers but has wadis, which flow briefly during rains.The country relies on desalination plants and reservoirs due to water scarcity.
Islands - Halul Island (oil storage hub), Shrao's Island, and Al Safliya Island.
About Doha - It is located on the eastern coast, is the capital and largest city. It serves as Qatar's political, economic, and cultural center, housing most of the population.