



17 August 2024

National and International News

<p><b>Forever chemicals</b></p> <p><b>PFAS</b></p>	<p><b>Why in the news?</b></p> <ul style="list-style-type: none"> <li>American researchers have achieved a major <b>breakthrough by discovering a method to trace the origin and destination of forever chemicals.</b></li> <li>Researchers used a <b>technique involving magnetic fields and radio waves to track the spread of "forever chemicals" in global ecosystems.</b></li> </ul> <p><b>About Forever chemicals:</b></p> <ul style="list-style-type: none"> <li>Scientifically known as <b>per-and polyfluoroalkyl substances (PFAS).</b></li> <li><b>Common applications:</b> water-proofing, heat resistance, detergents, food packaging, and non-stick technologies.</li> <li><b>Environmental impact: Persist in the environment indefinitely,</b> leading to environmental degradation.</li> <li><b>Health Risks of PFAS:</b> <ul style="list-style-type: none"> <li>Testicular, kidney, liver, and pancreatic cancer.</li> <li>Reproductive issues.</li> <li>Weakened childhood immunity.</li> <li>Low birth weight.</li> <li>Endocrine disruption.</li> <li>Increased cholesterol levels.</li> <li>Weight gain in children and dieting adults.</li> </ul> </li> </ul>
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New Ramsar sites in India

Why in the news?

- Recently, the Union Minister for Environment, Forest, and Climate Change announced that **three additional wetlands from India have been added to the Ramsar sites list.**

New Ramsar sites in India:

- Nanjarayan Bird Sanctuary:**
  - Location:** Tamil Nadu
  - Historical Significance:** Named after **King Nanjarayan**, who repaired and restored the lake centuries ago.
- Kazhuveli Bird Sanctuary:**
  - Status:** Declared the **16th bird sanctuary in Tamil Nadu in 2021.**
  - Location:** Tamil Nadu
  - Significance:** **One of the largest wetlands in peninsular India**, rich in biodiversity.
  - Migratory Path:** Lies in the **Central Asian Flyway**, serving as a crucial stopover for migratory birds.
- Tawa Reservoir:**
  - Location:** Largest protected area in **Madhya Pradesh.**
  - Construction:** Built at the **confluence of Tawa and Denwa rivers.**
  - Significance:** Located within the **Satpura Tiger Reserve**, forming the western boundary of Satpura National Park and Bori Wildlife Sanctuary.

Prerana Programme

Why in the news?

- The **Union Minister of Education** recently engaged with students, teachers, parents from PM SHRI Schools, and alumni of the **Prerana Programmes.**

About Prerana Programme:

- Launch Date:** January **2024.**
- Launched By:** Union Education Ministry.
- Objective:** **Integration of Indian education system principles and value-based education** as outlined in the **National Education Policy (NEP) 2020.**
- Target Audience:** Selected students of Class IX to XII.
- Program Features:**



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- **Experiential Learning:** Best-in-class technology where heritage meets innovation.
- **Student Selection:** 20 students (10 boys and 10 girls) from various parts of India attend the program weekly.
- **Value-Based Themes: The curriculum is rooted in 9 themes:**
  - Swabhiman and Vinay
  - Shaurya and Sahas
  - Parishram and Samarpan
  - Karuna and Sewa
  - Vividhta and Ekta
  - Satyanishtha and Shuchita
  - Navachar and Jigyasa
  - Shraddha aur Vishwas
  - Swatantrata and Kartavya
- **Program Aim:** To inspire youth and foster respect for Bharat's unity in diversity, embodying the spirit of "Vasudhaiva Kutumbakam."

Gastrodia indica



Why in the news?

- A unique orchid species, **Gastrodia indica**, was recently discovered in Sikkim's Fambonglho Wildlife Sanctuary.

About Gastrodia indica:

- **First Orchid from India that Never Opens Its Flower:** The first cleistogamous species of the genus Gastrodia discovered from India, named Gastrodia indica.
- **Habitat:** Thrives in dense, rotten leaf litter associated with trees like Magnolia doltsopa, Acer campbelli, and Quercus lamellose.
- **Contribution to Botanical Diversity:** The discovery of Gastrodia indica increases the total number of Gastrodia species in India to 10.
- **Conservation Concerns:** Faces potential threats due to its limited population and specific habitat requirements.



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## Prokaryotes

### Why in the news?

- **Scientists have discovered that prokaryotes are highly resilient to climate change**, which may lead to their increased dominance in marine environments.

### About Prokaryotes:

- **Single-Celled Organisms:** Prokaryotes are single-celled organisms that **lack a distinct nucleus and other membrane-bound organelles.**
- **Cell Organisation:**
  - Basic structural components include a **cell wall (absent in mycoplasma), cytoplasm, and a plasma membrane.**
  - They **lack a well-defined nucleus.**
- **Historical Significance:** Prokaryotes are considered to be the oldest cell-based lifeforms on Earth.
- **Habitat:**
  - They thrive across the entire planet, **both on land and in water.**
  - They are **found in** environments ranging from the **tropics to the poles.**
- **Ecological Significance:** Prokaryotes **play a crucial role in the world's food chains**, supporting the nutrient needs of fish consumed by humans.

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