

19-09-2026

Pneumocystis jirovecii

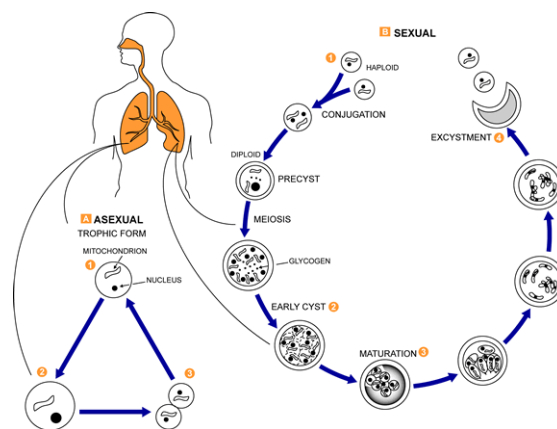
S Science | AAAS

Unanticipated global emergence and evolution of *Pneumocystis jirovecii* mutations and resistance driven by a human-targeted drug

Why in News: A recent study found that ***Pneumocystis jirovecii***, a fungus causing severe pneumonia in immunocompromised people, appears to have developed resistance to a drug not intended to kill it.

Biological Characteristics

- ***Pneumocystis jirovecii*** is an **opportunistic fungal pathogen** causing infection mainly in immunocompromised individuals.
- It was earlier classified as a **protozoan** but has been considered a fungus since the 1990s based on molecular analysis.
- Its life cycle mainly includes **trophic and cystic forms**.



Transmission and Disease

- It is transmitted through the **aerosol route** from person to person.
- ***Pneumocystis pneumonia (PCP)*** mainly affects people with weakened immunity, including those with **AIDS** or receiving immunosuppressive drugs.
- Symptoms include **fever, chills, cough, dyspnea and fatigue**.

Treatment

- PCP is generally treated with high doses of the antibiotic **trimethoprim-sulfamethoxazole (TMP-SMX)**.
- The emergence of drug resistance is significant because it may complicate treatment of infections in immunocompromised patients.

Sohar Port

Why in News: Oman has offered India investment opportunities in **Sohar Port** amid disruptions around the **Strait of Hormuz**, highlighting its potential as an alternative energy-access route.

THE HINDU

Oman pitches new port that could give India better access to Gulf energy

Oman's Sohar Port offers India enhanced access to Gulf energy, benefiting from its strategic location away from conflict zones.



Geographical Location

- **Sohar Port** is a deep-sea port in **northern Oman** on the **Gulf of Oman**.
- It is approximately **160 km south of the Strait of Hormuz** and lies between **Dubai and Muscat**.
- Its location connects the **Gulf region, Indian subcontinent and East Africa**.



Economic Importance

- The port handles **dry bulk, break bulk, liquid bulk and container cargo**.
- The adjoining **Sohar Freezone** supports **petrochemicals, metals and energy industries**.

Institutional Structure

- The port is managed by **Sohar Industrial Port Company (SIPC)**.
- **SIPC** is a joint venture between the **Government of Oman and Port of Rotterdam**.

Fitzroy River

THE GUARDIAN

Crocodile-inhabited river approved as Brisbane 2032 Olympic rowing venue

International Olympic Committee endorses Australia's Fitzroy River course while World Rowing and Paddle Worldwide back the regional venue.



Why in News: The **Fitzroy River** in Queensland, Australia, has been approved as a venue for **rowing and canoeing at the Brisbane 2032 Olympics and Paralympics**.

Geographical Features

- The river is located in **Queensland, Australia**, and is formed by the confluence of the **Dawson and Mackenzie Rivers**.

Threats and Conservation

- Major threats include **habitat loss, hunting and tourism-related disturbance**.
- Its **IUCN Red List status is Least Concern**.
- Under the **Wildlife Protection Act, 1972**, it is listed in **Schedule I**.

- It originates on the slopes of the **Great Dividing Range** and flows through the **Broadsound Range**.
- It ultimately enters **Keppel Bay of the Coral Sea**, part of the Pacific Ocean.

River System

- The river has an approximate length of **480 km**.
- Its catchment covers about **142,000 sq km**, including the **160-km Margaret River** tributary.
- **Rockhampton** is the major city located along the river.

Economic and Navigational Role

- The river passes through **agricultural areas, towns and natural landscapes**.
- It is navigable from **Port Alma to Rockhampton** for about **56 km**.

Himalayan Monal

 The Indian Express

An eye-catching Himalayan bird is changing its calls. The reason: human-made noise

The Himalayan monal, the state bird of Uttarakhand, is a striking landfowl found across the Himalayan mountains, including in Jammu and...



Why in News: A study in **Uttarakhand** found that exposure to roads, tourists and pilgrimage traffic is altering the calling behaviour of the **Himalayan Monal**.

Taxonomy and Distribution

- The **Himalayan Monal (Lophophorus impejanus)** is also called **Impeyan Monal** or **Danphe**.
- It belongs to the **Phasianidae** family and is the **state bird of Uttarakhand**.

- It occurs across the Himalayas, including **Jammu and Kashmir, Himachal Pradesh, Uttarakhand and Sikkim.**

Habitat and Behaviour

- It inhabits **upper temperate conifer and oak forests with open grasslands.**
- In the **Great Himalayan National Park**, it generally occurs between **2,500–4,000 m** altitude.
- It is a ground-dwelling bird that feeds on **roots, tubers, seeds, insects and grubs.**
- It shows **altitudinal migration**, descending to around **2,000 m in winter**, while also tolerating snowfall.

North Sea

Why in News: Denmark has inaugurated a **carbon capture and storage (CCS)** project for

THE HINDU

[Denmark inaugurates CO2 storage facility in North Sea](#)

Denmark launches the EU's first full-scale CO2 storage facility in the North Sea, marking a significant step in carbon capture technology.



storing carbon dioxide beneath the seabed of the **North Sea** under an old oil platform.

Geographical Setting

- The **North Sea** is a shallow northeastern arm of the **Atlantic Ocean** between the British Isles and northwestern Europe.
- It is bordered by **Great Britain, Norway, Denmark, Germany, the Netherlands, Belgium and France.**
- It connects with the Atlantic through the **English Channel** and with the Baltic Sea through the **Kattegat and Skagerrak.**

River and Marine Linkages

- Major rivers draining into it include the **Forth, Elbe, Weser, Ems, Rhine, Meuse, Scheldt, Thames and Humber.**
- Its geographical position makes it an important maritime interface between northern Europe and the Atlantic.

Economic Significance

- The North Sea contains significant **petroleum and natural-gas reserves** beneath its seabed.
- It is one of **Europe's most productive fishing regions.**
- It is a major shipping zone connecting **Europe with the Middle East**

Advance Authorization Scheme

NH National Herald

Under pressure, govt eases sugar stock limit, asks traders to reduce retail prices

Stocks held beyond the existing 15-day limit must be sourced exclusively through specified sugar import schemes.



Why in News: The government has increased the stockholding limit for bulk consumers from **15 to 30 days**, subject to the condition that stocks beyond 15 days must be sourced from sugar imported under the **Advance Authorisation Scheme (AAS)**.

Scheme Framework

- The **Advance Authorization Scheme** permits **duty-free import of inputs** that are physically incorporated into exported products.
- It also covers eligible **packaging materials, fuel, oil and catalysts** consumed during production.
- The scheme is overseen by the **Directorate General of Foreign Trade (DGFT)**.

Duty Exemptions

- Imports may receive exemption from **Basic Customs Duty, Additional Customs Duty, Education Cess, Anti-dumping Duty and Safeguard Duty**.
- Exemptions may also cover **Integrated Tax and Compensation Cess**, subject to applicable conditions.

Export Obligations and Coverage

- An **export obligation** is generally attached to the authorization.
- It covers **manufacturer exporters** and **merchant exporters tied to supporting manufacturers**.
- Authorizations can cover **physical exports, intermediate supplies and specified deemed exports**.
- The authorization is generally valid for **12 months** from its date of issue.

Bhil Tribe

Bhaskar English

'Quota within quota' formula may affect over 70 communities:
Bhils proposed 9% of 12% quota; who benefits, ...

Two years after the Supreme Court allowed states to provide a separate quota to disadvantaged communities within the SC-ST reservation quota...



Why in News: The **Rajasthan High Court** issued notices on a petition seeking a **9% sub-quota for the Bhil community** within the existing **12% ST reservation**.

Distribution and Demography

- The **Bhil** is described in the source as one of India's oldest and most widely distributed tribal groups.
- According to the **2011 Census**, Bhils constituted approximately **38% of India's Scheduled Tribe population**.
- Major concentrations occur in **Rajasthan, western Madhya Pradesh, Gujarat and northern Maharashtra**.
- Bhil populations are associated with the **southern Aravallis, western Vindhyas and Satpuras, and northern Western Ghats**.

Language and Livelihood

- The Bhils primarily speak **Bhili**, an **Indo-Aryan language** influenced by regional languages such as Rajasthani and Marathi.
- Agriculture is the principal occupation, with some groups practising **jhum cultivation**.

Culture and Beliefs

- The name **Bhil** is associated with **"villu/billu"**, meaning bow in the Dravidian linguistic context cited in the source.
- Major festivals include the **Baneshwar Fair, Holi** and **Dussehra**.
- Important traditional deities include **Khandoba, Kanhoba, Bahiroba, Sitalmata and Vaghdev**.
- **Bhil painting** is characterised by distinctive **multi-coloured dots**, while **Ghoomar** is identified as an important folk-dance tradition.

Vasundhara Doraswamy – Saroja Vaidyanathan Excellence Award 2026

TNIE The New Indian Express

Vasundhara Doraswamy to receive Saroja Vaidyanathan Excellence Award 2026

Dr Doraswamy has had a career spanning more than five decades and is known for integrating Ashtanga Vinyasa Yoga with Bharatanatyam.



Why in News: Dr Vasundhara Doraswamy, a renowned Bharatanatyam exponent, will receive the **Padmabhushan Guru Dr Saroja Vaidyanathan Excellence Award 2026** at the **Vysakhi Nrithyotsav** in Visakhapatnam.

Recognition and Contribution

- The award is being presented by **Nataraj Music & Dance Academy (NMDA)**.
- She is known for integrating **Ashtanga Vinyasa Yoga with Bharatanatyam** and earned a doctorate on this interrelationship.
- Her notable choreographies include **Panchali, Ganga Lahari and Sama Veda**.
- She has received the **Sangeet Natak Akademi Award** and **Shantala Award**.

International and Institutional Linkages

- She has performed at the **UNESCO World Peace Conference, Paris**, and received honorary citizenship of **Louisville, Kentucky**.
- **NMDA**, founded by **BR Vikram Kumar**, promotes Indian classical dance and is an **ISO 9001:2015-certified** organisation.

India Electric Mobility Index 2025

News On AIR

India Electric Mobility Index 2025 announced by NITI Aayog; Delhi emerges top performer in adopting Electric Mobility

Delhi has been ranked top performer in States and UT in Electric Mobility adoption as per the India Electric Mobility Index (IEMI) 2025.



Why in News: **NITI Aayog** released the **India Electric Mobility Index (IEMI) 2025**, with **Delhi** ranking first with **84 points**.

Key Findings

- **Maharashtra (78), Karnataka (73), Chandigarh (71) and Goa (65)** followed Delhi.

- The median score increased from **36 in 2024 to 40 in 2025**.
- **Delhi** led transport electrification, while **Karnataka** led charging infrastructure readiness.
- **Maharashtra, Karnataka and Tamil Nadu** led in EV research and innovation.

Institutional Context

- The index assesses **transport electrification, charging infrastructure, and research and innovation**.
- **NITI Aayog**, established on **1 January 2015**, is neither a Constitutional nor statutory body.
- It promotes **cooperative and competitive federalism** and is chaired by the **Prime Minister**.

Other Important News of the day

Persons in News

Abhishek Sharma's 30-Ball Century

BCCI

[Abhishek Sharma breaks records galore with superb 30-ball hundred vs AFG](#)

It was a record-breaking night for Team India opening batter Abhishek Sharma during the third and final T20I between Afghanistan and India...



Why in News: India defeated Afghanistan by **127 runs** in the third T20I on 17 September 2026 to complete a **3-0 series sweep**.

Record Performance

- **Abhishek Sharma** scored **108 off 34 balls**, including **9 fours and 11 sixes**.
- His **30-ball century** became the fastest T20I hundred by an Indian batter, surpassing **Rohit Sharma's 35-ball century**.
- It was the **third-fastest men's T20I century**, after **Sahil Chauhan (27)** and **Muhammad Fahad (29)** balls.
- He became the first batter with **two T20I centuries under 40 balls**.

Series Achievement

- Abhishek scored **229 runs** in the series and was named **Player of the Series**.

Environment

Gandhi Sagar Wildlife Sanctuary

TNIE The New Indian Express

Four years of Project Cheetah: Gandhi Sagar awaits fourth African cheetah, Durgavati awaits first

Nirwa or a younger Botswana female may be shifted from Kuno, while Veerangana Durgavati awaits clearance to house cheetahs.



Why in News: As **Project Cheetah** completes four years, **Gandhi Sagar Wildlife Sanctuary** is preparing for the arrival of another African cheetah from **Kuno National Park**.

Geographical Setting

- The sanctuary is located in **northwestern Madhya Pradesh**, along part of the **Rajasthan border**.
- It was notified in **1974** and covers about **368 sq km**.
- The **Chambal River** flows through it and divides the sanctuary into two parts.
- The **Gandhi Sagar Dam** forms a large reservoir in the region.

Ecological Profile

- It lies in the **Khathiar-Gir dry deciduous forests ecoregion**.
- Important trees include **Khair, Salai, Kardhai, Dhawda, Tendu and Palash**.
- Important fauna include **Chinkara, Nilgai, Spotted Deer, Indian Leopard, Striped Hyena and Jackal**.

Conservation Significance

- It has been selected as a suitable site for **cheetah reintroduction in India**.
- It is designated as an **Important Bird and Biodiversity Area (IBA)**.
- Important historical sites include **Hinglajgarh Fort, Chaturbhujnath Temple, Chaurasigarh and Bhadkaji rock paintings**.

Defence	Next-Generation Missile Vessels Why in News: Cochin Shipyard Limited (CSL) has bl. BusinessLine Cochin Shipyard lays keel for Navy's next generation missile vessels Cochin Shipyard has laid the keel for the Indian Navy's advanced Next Generation Missile Vessels, enhancing maritime capabilities.  laid the keel for the first of six Next-Generation Missile Vessels (NGMVs) for the Indian Navy. Programme Details ➤ Six NGMVs are being constructed by Cochin Shipyard Limited at a cost of ₹9,805 crore. ➤ Delivery is scheduled to commence from March 2027. ➤ The vessels are designed as high-speed, weapon-intensive platforms with advanced sensors. Operational Capabilities ➤ Their primary roles include maritime strike, anti-surface warfare and sea denial around strategic maritime choke points. ➤ They can conduct offensive operations against warships, merchant vessels and land targets. ➤ They can also support local naval defence and protection of offshore development areas. Technical Features ➤ Each vessel will have about 80 personnel and a maximum speed of approximately 33 knots (61 km/h). ➤ The propulsion system uses the LM2500 marine gas turbine manufactured by General Electric. ➤ They can remain at sea for around 10 days and extend deployment through tanker refuelling. ➤ Their weapons and sensors include BrahMos supersonic cruise missiles, surface-to-surface missiles, anti-missile systems, air-surveillance radars and fire-control radars.
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Science and Technology	 NASA Science (.gov)  Newfound 'Baby' Planet Smashes Record for Youngest Known World Astronomers have confirmed a world that's less than a million years old as the youngest known planet, using data from NASA-funded archives. Why in News: Astronomers have identified Elias 2-24 b, described in the source as the youngest known exoplanet, still forming within its natal disk of gas and dust. Key Features ➤ Elias 2-24 b is located about 450 light-years from Earth. ➤ It orbits the young star Elias 2-24 at about 55 times the Earth-Sun distance. ➤ It is estimated to be less than one million years old. Formation and Size ➤ The planet is still forming within its native gas-and-dust disk. ➤ Its mass is estimated to be about 2–4 times that of Jupiter. ➤ Previous youngest-planet record holders were more than 5 million years old, including planets around PDS 70 and WISPIT 2. Exoplanets ➤ Exoplanets are planets that orbit stars outside our Solar System. ➤ They range from gas giants larger than Jupiter to small rocky planets and exhibit diverse temperature conditions.
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Uttar Pradesh in News

NSG Regional Hub in Ayodhya



News On AIR

UP govt approves free transfer of 26 hectares of land for setting up regional hub of National Security Guard in Ayodhya



Uttar Pradesh cabinet has approved the transfer of free land to the Union Ministry of Home Affairs (MHA) for the establishment of a Regional...

Why in News: The **Uttar Pradesh Cabinet** approved free transfer of **26 hectares** for an **NSG regional hub in Ayodhya**.

Security Significance

- The move aims to strengthen security in Ayodhya amid its large number of **devotees, tourists and distinguished visitors**.
- The hub is expected to improve **counter-terrorism and rapid-response capabilities**.

Institutional Context

- The **National Security Guard (NSG)** is India's specialised force for **counter-terrorism and hostage-rescue operations**.
- A regional hub can improve the availability of specialised security capabilities in the area.