

SANSKRITI IAS DAILY CURRENT AFFAIRS

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Tetragonula nagalandensis

 Research Matters

New species of stingless bee discovered in Nagaland

Scientists have discovered a new species of stingless honey bee living nearly a meter beneath the soil in the hills of Northeast India.



Why in News: Scientists discovered a new species of **stingless honey bee**, named *Tetragonula nagalandensis*, in Nagaland.

Discovery and Taxonomic Significance

- *Tetragonula nagalandensis* was discovered in the **Medziphema region of Nagaland**.
- The species name **nagalandensis** commemorates the state where it was first discovered.
- Its discovery raises the number of known **stingless bee species in India to 19**.

Ecological Importance

- Unlike common honey bees that construct hives above ground, this species is **subterranean**.
- It builds compact clusters of brood cells protected by layers of **wax and organic material**.
- Stingless bees are important **pollinators of local crops and wild vegetation**.

Identification and Morphology

- Distinct features of the male's underside and reproductive organs, including a **C-shaped notch and sharply curved penis valve**, helped identify the species.
- The bee is relatively small, with a body length of approximately **5 mm**.

Lohit River

 India Today NE

Arunachal: Anjaw's only Bailey bridge over Lohit River on verge of collapse due to overloaded trucks

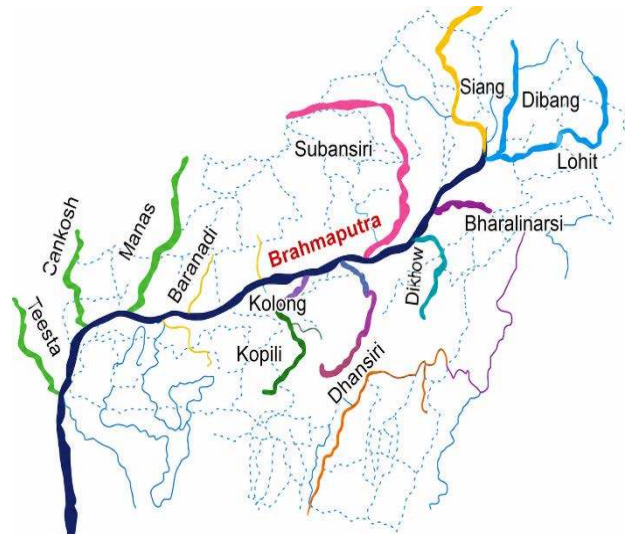
The only Bailey bridge over the Lohit River in Anjaw has been damaged by repeated use of overloaded trucks. The restrictions affect a vital...



Why in News: A vehicle carrying 10 people fell into the **Lohit River** in Arunachal Pradesh, resulting in one death, six injuries and three missing persons.

Geographical Profile

- The **Lohit River** is a major tributary of the **Brahmaputra River** in northeastern India.
- It originates in eastern Tibet in the **Zayal Chu range** and flows for about **200 km** through **Arunachal Pradesh** before joining the Brahmaputra in Assam.
- The river enters India through **Anjaw district** and traverses the **Mishmi Hills**, deep valleys and dense forests.
- Its major tributaries include **Dau, Dalai and Tidding** on the right bank and **Lang** on the left bank.



Ecological and Socio-economic Significance

- The Lohit contributes significantly to **drinking water, agriculture and energy needs** in Arunachal Pradesh.
- **Parshuram Kund**, an important Hindu pilgrimage site, is located along the lower reaches of the Lohit.
- The Lohit region contains some of India's **densest tropical forests** and remote tribal areas.

Distinctive Features

- The river is called the **"River of Blood"** because iron-rich **laterite soils** in the Lohit Valley and Mishmi Hills can give its waters a reddish hue during high flows after rainfall.
- Its steep descent from the Tibetan Plateau through narrow gorges makes the river **fast, fierce and unpredictable**.

Raja Mircha

NDTV Food

This GI-Tagged Chilli Is So Hot, Nagaland Minister Temjen Imna Along Says You Will 'Always Lose'

Nagaland Minister Temjen Imna Along warns about the fiery Raja Mircha chilli at the 4th Organic Naga King Chilli Festival.



Why in News: Nagaland Tourism and Higher Education Minister recently shared a video highlighting **Raja Mircha**, popularly associated with the Naga King Chilli.

Botanical and Physical Features

- **Raja Mircha**, also known as **Naga King Chilli** or **Bhut Jolokia**, is cultivated mainly in Nagaland.
- Its scientific name is *Capsicum chinense*.
- It has a **subconical to conical shape**, finely wrinkled skin and thin flesh.
- The chilli changes from **green to vibrant red** as it matures.



GI and Cultural Significance

- Raja Mircha received a **Geographical Indication (GI) tag in 2008**, becoming Nagaland's first GI-tagged product.
- The **GI tag** provides exclusive recognition to the regional name "**Naga Mircha**" for chillies grown in the designated region.
- The chilli has been cultivated for generations and is closely linked with the **traditional lifestyle of Nagaland**.

Global Distinction

- Raja Mircha is recognised among the **world's hottest chillies** because of its exceptional pungency and intense fruity aroma.
- It is significantly hotter than common varieties such as **jalapeños and habaneros**.

Dipturus dhritiae



New Species Of Deep-Sea Skate Discovered Off Keralam Coast, Named After ZSI Director Dhriti Banerjee

The newly discovered species has been named in honour of Dr Dhriti Banerjee, Director of Zoological Survey of India and the institution's...



Why in News: Scientists from the **Zoological Survey of India (ZSI)**, **ICAR-CMFRI** and international experts discovered a new deep-sea skate, **Dipturus dhritiae**, in the southeastern Arabian Sea.

Species Profile

- **Dipturus dhritiae**, commonly called the **Arabian skate**, is a newly identified species of deep-sea skate.
- Deep-sea skates are **flat, shark-related fishes** that inhabit the dark ocean floor.
- The species can grow up to about **1.3 metres** and was recorded at depths of **400–600 metres**.
- It has **five rows of thorn-like structures along its tail**, a distinctive identifying feature.

Geographical and Scientific Significance

- The species was discovered off India's **southwestern coast**, including the **Kerala coast and Wadge Bank** region.
- It was named after **Dr. Dhriti Banerjee**, the first woman Director of the **ZSI**.

Conservation Concern

- Deep-sea skates are vulnerable to **overfishing** because they reproduce slowly, produce few offspring and recover slowly from population declines.

Mission Rangeen Machhli 2031

 DD India

V-P Radhakrishnan releases 'Mission Rangeen Machhli 2031' in Lakshadweep, calls for sustainable fisheries-led Blue Economy

Vice President C. P. Radhakrishnan on Monday released the 'Mission Rangeen Machhli 2031' Strategic Action Plan for Ornamental Fisheries...



Why in News: Vice President **C. P. Radhakrishnan** released the **Mission Rangeen Machhli 2031 Strategic Action Plan** for ornamental fisheries development at a Fisheries Outreach Programme in **Agatti, Lakshadweep**.

Institutional Framework

- The plan is implemented under the **Department of Fisheries, Ministry of Fisheries, Animal Husbandry & Dairying**.
- It seeks to establish **uniform operating procedures and management standards** for India's ornamental fish industry.

Supply-chain Standards

- The action plan covers the entire ornamental fisheries chain from **breeding and hatcheries to aquariums and exports**.
- It provides standards for **breeding, hatchery operations and production systems**.
- It includes **quarantine, animal health, disease management, quality assurance and biosecurity** provisions.
- **Certification and traceability systems** will enable tracking of ornamental fish from farm to market.
- Guidelines also cover the **handling, transport and trade** of ornamental species.

Economic and Regional Focus

- The plan seeks to improve **farmer and trader skills, product quality and access to international certification and markets**.
- **Lakshadweep** has been identified as a dedicated **seaweed cluster** for cultivation and processing.
- Lakshadweep's marine resources account for roughly **17% of India's total oceanic economic zone**, according to the source.

Myristica Swamps

TH The Hindu

Rare freshwater swamps in the Western Ghats are on the cusp of extinction

Rare freshwater Myristica swamps in the Western Ghats are at the cusp of extinction.



Why in News: A recent study warned that **Myristica Swamps** are approaching the risk of extinction.

Ecological Characteristics

- **Myristica Swamps** are freshwater swamp ecosystems dominated by evergreen trees belonging to the **Myristicaceae family**.
- They are sometimes described as “**living fossils**” because of the primitive characteristics of Myristica plants.
- Their trees possess **large protruding roots** adapted to permanently waterlogged and inundated soils.

Distribution and Antiquity

- In India, Myristica swamp habitats occur mainly in the **Western Ghats**, with smaller distributions in the **Andaman and Nicobar Islands and Meghalaya**.
- They occur in tropical plains with **fertile alluvial and waterlogged soils**.
- The source states that freshwater swamp forests occupy no more than **2.1% of Earth's surface**.
- The genetic diversity of Myristica swamps is traced back approximately **500 million years**.

Ecosystem Services

- Myristica swamps help **regulate floods, recharge groundwater and maintain perennial freshwater flows**.
- They have a greater **carbon-sequestration capacity** than non-swamp forests and support diverse vertebrate and invertebrate fauna.

Other Important News of the day

Places in News

Denmark

Why in News: India and **Denmark** recently discussed strengthening bilateral cooperation in the **MSME sector and intellectual property (IP)**.



	Geographical Setting ➤ Denmark is located in north-central Europe and is one of the Scandinavian countries. ➤ It comprises the Jutland Peninsula and an archipelago of more than 443 islands. ➤ Denmark shares its only land border with Germany in the south. ➤ Its territories include the Faroe Islands and Greenland, both located in the North Atlantic Ocean. Physical Features ➤ Denmark is largely flat, with relatively hilly terrain in the central part of the Jutland Peninsula. ➤ Its coastline contains numerous fjords, with the Limfjord being the largest. ➤ Major surrounding water bodies include the Baltic Sea, North Sea, Kattegat Bay and Kiel Bay. ➤ Copenhagen is the capital of Denmark. Climate and Resources ➤ Denmark has a relatively mild climate because of the moderating influence of the Gulf Stream. ➤ Important rivers include the Guden, Odense and Skjern, with Guden identified as the longest. ➤ Major natural resources include petroleum, natural gas, fish, salt, limestone and chalk stone.
National Parks and Wildlife Sanctuaries in News	Male Mahadeshwara Hills Wildlife Sanctuary DH Deccan Herald <u>Forest data exposes heavy poaching and illegal arms toll in MM Hills wildlife sanctuary</u> Chamarajanagar poaching: MM Hills accounts for nearly half the poaching and illegal arms cases in the district's forest circle.  Why in News: Karnataka Forest Department data indicates that Male Mahadeshwara Hills Wildlife Sanctuary accounted for nearly half of the poaching and illegal arms cases registered over the last 16 years.

	Geographical and Legal Status ➤ The sanctuary is located in Chamarajanagara district, Karnataka, at the intersection of the Western and Eastern Ghats. ➤ It was declared a Wildlife Sanctuary in 2013. ➤ It is contiguous with the Biligiri Rangaswamy Temple Tiger Reserve, Sathyamangalam Tiger Reserve and Cauvery Wildlife Sanctuary. ➤ The hills are bounded by the Kaveri River to the northeast and the Palar River to the south. Ecological Profile ➤ Vegetation is predominantly dry deciduous forest, transitioning into scrub forest in fringe areas, with moist deciduous, semi-evergreen, evergreen and shola forests at different altitudes. ➤ Important flora includes <i>Anogeissus latifolia</i>, <i>Boswellia serrata</i>, <i>Hardwickia binata</i> and <i>Chloroxylon swietenia</i>. ➤ The sanctuary supports elephants, Indian bison, tigers, wild dogs, leopards, sambars and spotted deer, besides diverse bird species. Conservation Significance ➤ Its location between major protected areas creates an important wildlife landscape connecting the Eastern and Western Ghats. ➤ The sanctuary also contains the Male Mahadeshwara Temple, dedicated to Lord Shiva and known locally as Mahadeshwara.
Sports in News	Roger Federer Inducted into International Tennis Hall of Fame Why in News: Swiss tennis legend Roger Federer was inducted into the International Tennis Hall of Fame – Class of 2026 on 29 August 2026 at Newport, Rhode Island, USA. Career Milestones ➤ Federer won 20 Grand Slam singles titles and 103 ATP titles. ➤ He spent 310 weeks as World No. 1, including a record 237 consecutive weeks.

- He retired from professional tennis in **2022**.

International Achievements

- He won **Olympic doubles gold** for Switzerland at the **2008 Beijing Olympics**.
- He was part of Switzerland's **2014 Davis Cup-winning team**.



Hall of Fame Recognition

- Federer was inducted alongside **Mary Carillo** in the **Contributor Category**.
- His induction recognises his **sporting achievements, sportsmanship and global contribution to tennis**.

Defence

Typhon Missile System

Why in News: Russia criticised Japan's deployment of U.S. **Typhon missile systems**, describing the move as unacceptable and a threat to Russian security.

System Profile

- **Typhon**, also known as the **Mid-Range Capability (MRC)**, is a **surface-to-surface missile system** developed for U.S. forces.
- The system is manufactured by U.S. defence company **Lockheed Martin** and uses a modular architecture capable of launching different missiles.
- It can launch **SM-6** and **Tomahawk cruise missiles**.



	Operational Capabilities ➤ The SM-6 offers an engagement range exceeding 320 km, while the Tomahawk provides deep-strike capability up to about 1,500 km. ➤ Its containerised and road-mobile design allows rapid deployment and dispersal across allied territory. ➤ The system can conduct both sea-denial operations and precision land attacks. Configuration and Strategic Significance ➤ Each Typhon battery has four trailer-mounted launchers, with four vertical launch cells per launcher, providing 16 launch cells per battery. ➤ A battery also includes a mobile command post and generator vehicles supporting sensors and communications. ➤ Its ability to threaten both land and maritime targets makes it significant for precision strike and area-denial operations.
Science and Technology	Peptides  The Indian Express  <u>Bengaluru peptide party cancelled: Are these 'miracle' molecules safe or just hype?</u> The success of drugs such as semaglutide has helped turn peptides into a wellness buzzword. But many compounds now sold for recovery,... Why in News: A proposed “peptide party” in Bengaluru was cancelled after Karnataka Food Safety and Drug Administration officials intervened. Basic Biology ➤ Peptides are short chains of amino acids and are fundamental building blocks of proteins. ➤ They commonly contain about 2–50 amino acids, which are linked through peptide bonds.

	➤ The human body naturally produces several peptides, including insulin, endorphins and growth hormone-releasing hormone. Physiological Functions ➤ Peptides act as biological signalling molecules that regulate processes such as hormone production, tissue repair, immune response and metabolism. ➤ Insulin regulates blood glucose, while endorphins help block pain signals and relieve stress. Therapeutic Applications ➤ Laboratories have developed synthetic proteins and peptide-based therapies, including synthetic insulin and GLP-1 receptor agonists. ➤ Peptides are therefore relevant to hormonal regulation, metabolic
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Uttar Pradesh in News

Nepalganj Road–Nanpara–Bahraich Rail Section

 The New Indian Express



UP's Nepalganj Road-Bahraich rail section converted to broad gauge, electrified at Rs 730 crore

Four existing train services have also been extended to Nepalganj Road as part of efforts to improve passenger connectivity in the region.

Why in News: The **Nepalganj Road–Nanpara–Bahraich** railway section in Uttar Pradesh was inaugurated after **gauge conversion and electrification**, at an estimated cost of **₹730 crore**.

Infrastructure and Connectivity

- The **56.15-km railway section** has been converted from **metre gauge to Broad Gauge** and fully electrified.
- The upgraded route connects **Bahraich, Risiya, Mathera, Nanpara, Babaganj and Nepalganj Road**.

- Four existing train services have been extended up to **Nepalgunj Road**, improving connectivity with **Gonda**, **Gorakhpur** and **Varanasi**.

Border and Regional Significance

- The project strengthens **India–Nepal border connectivity** between **Bahraich**, **Rupaidiha** and **Nepalgunj**.
- Improved rail connectivity is expected to facilitate **trade, tourism, employment and socio-economic development** in the region.
- The project is particularly significant for **Bahraich, an Aspirational District**, by improving access to markets and economic centres.

Social and Environmental Dimensions

- Enhanced connectivity can benefit people from **neighbouring Nepal** through better access to **employment, education, healthcare and trade**.
- **Railway electrification** is expected to reduce dependence on **diesel traction** and lower carbon emissions.

The project aligns with broader efforts to strengthen **regional connectivity and railway infrastructure in North India**.

