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10 December 2024

Indian Star Tortoise

Context: The Indian star tortoise is one of the most commonly smuggled tortoises in the world, and its conservation is a big worry. Scientists have found that there are two different genetic groups of these tortoises, one from northern India and another from the south.

- This means that simply releasing tortoises that were rescued from illegal trade into nearby forests isn't a good solution. It could cause problems, like mixing the two groups, which might harm their survival and future breeding.

Conservation Strategies that should be adopted:

- **Genetic Conservation and Smart Releases:** Release confiscated tortoises only in areas matching their genetic origin to preserve diversity and maintain healthy populations.
- **Habitat Protection:** Secure and restore natural habitats, improve habitat corridors, and promote sustainable land-use practices.
- **Combating Wildlife Trafficking:** Strengthen enforcement, improve border controls, and raise public awareness to reduce demand for tortoises as pets.
- **Captive Breeding and Rehabilitation:** Carefully manage breeding to avoid deformities and ensure captive tortoises are rehabilitated before release.
- **Research and Monitoring:** Conduct ongoing research on the tortoises' genetics, behavior, and ecology to inform conservation strategies and monitor wild populations.

About Indian Star Tortoise:

- The Indian star tortoise (Geochelone elegans) is a distinctive species found in the dry areas and scrub forests of India, Pakistan, and Sri Lanka. Recognized by its star-patterned shell, this species thrives in habitats that experience monsoon seasons and is well-adapted to semi-arid conditions.

Conservation Status

- IUCN Status: Vulnerable
- CITES: Appendix I
- Wildlife Protection Act 1972: Schedule IV

Habitat

- Indian star tortoises inhabit a wide range of environments, including semi-desert grasslands, moist deciduous forests, sand dunes, scrub forests, and even human-altered habitats. They are adaptable to various conditions but remain vulnerable due to habitat loss and degradation.

Physical Characteristics

- Medium-sized head
- Hooked beak
- Short, thick legs with tubercles of varying sizes and shapes
- Males have long tails, while females have short, stubby tails

Behavior and Temperament

- **Diurnal:** Active mainly in the morning and late afternoon
- **Stress-sensitive:** They do not tolerate frequent handling and may become stressed or ill if handled too often.

Diet

- **Herbivorous:** Their diet consists primarily of fresh leafy greens and grasses, which are crucial for their health and well-being.

UP Essential Services Maintenance Act (ESMA)

Context: Recently, the Uttar Pradesh government invoked the Essential Services Maintenance Act (ESMA), 1966, to prohibit strikes by government employees in all state departments, corporations, and authorities for a

period of six months.

- This move was made in anticipation of the Maha Kumbh, a major religious event, as well as other important state functions that require uninterrupted public services.

About the Essential Services Maintenance Act (ESMA)

- ESMA is a crucial piece of legislation aimed at ensuring the continuous provision of essential services in sectors like healthcare, transportation, and energy. The Act empowers the government to prevent strikes in these critical sectors during periods of national importance or emergencies. By prohibiting such strikes, ESMA ensures that public welfare and safety are maintained without disruption.

Key Provisions of ESMA

- The Uttar Pradesh government has used Section 3(1) of the Act to enforce a six-month strike ban. This measure applies to all state departments, corporations, and authorities.
- Under ESMA, employees who participate in or instigate illegal strikes can face severe penalties. These include arrest without a warrant, imprisonment for up to one year, or a fine of ₹1,000, or both.

Justification for the Move

- The decision to invoke ESMA comes at a critical time for Uttar Pradesh, with the Maha Kumbh fast approaching. This religious event attracts millions of people and requires extensive government coordination in areas like transportation, security, healthcare, and sanitation.
- The ban on strikes aims to ensure that all essential services remain operational during such high-stakes events.

Implications of the Decision

- While the move helps maintain public order, it also restricts government employees' right to protest. During this period, employees may need to find alternative ways to voice grievances, such as through petitions or direct dialogue with authorities. Critics, however, argue that it limits workers' democratic rights to protest.

About Kumbh Mela:

- Kumbh Mela is a major Hindu pilgrimage, celebrated every 12 years at four riverbank locations in India:
  - » Prayagraj
  - » Haridwar
  - » Nashik
  - » Ujjain
- The festival involves taking a ritual dip in sacred rivers to cleanse sins.
- It also includes community activities, religious discussions, and entertainment. The festival's origins are linked to the 8th-century philosopher Adi Shankara. It is considered the world's largest religious gathering and is recognized by UNESCO.

Study on Nicobarese People

Context: A new genetic study has been conducted by scientists from the CSIR-Centre for Cellular and Molecular Biology (CCMB) and other institutions on Nicobarese population of the Nicobar Islands.

- The study reveals that the Nicobarese population of the Nicobar Islands has significant ancestral ties to Austroasiatic populations across South and Southeast Asia.

Key Findings of the Study

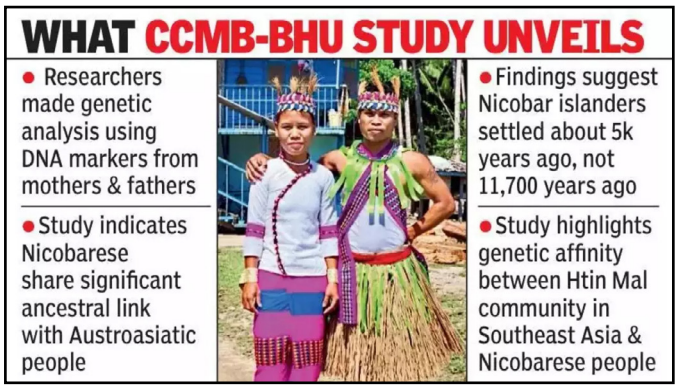
- **Genetic Relationship:** The study confirmed that the Nicobarese share notable genetic similarities with other Austroasiatic-speaking populations, particularly the 'Htin Mal' community from mainland Southeast Asia.
- **Settlement Timeline:** The study revised the timeline of the Nicobarese settlement in the Nicobar Islands. It suggests that their ancestors arrived around 5,000 years ago, a much more recent timeline than the previously believed period of around 11,700 years ago during the early Holocene. This suggests that the Nicobarese settled in the islands later, but their ancestors still had deep ancestral connections to Southeast Asian populations.

Implications of the Study

- **Migration Patterns:** The study provides insights into the migration and distribution of ancient populations across South and Southeast Asia. It shows the long-standing connections between the Nicobarese and other Austroasiatic-speaking populations in the region.
- **Shared Genetic Regions:** The common genetic

affinities between the Nicobarese and other Southeast Asian linguistic groups reveal the complex history of human migration and settlement in the region.

- **Revised Understanding of Isolation:** The study challenges the notion that the Nicobarese are an isolated indigenous group. Instead, it places them within a broader genetic and linguistic framework shared with South and Southeast Asia.



Andaman and Nicobar Tribes

- The Andaman and Nicobar Islands are home to six indigenous tribes: the Andamanese, Onges, Jarawas, Sentinelese, Nicobarese, and Shompens. Of these, the Andamanese, Jarawas, Onges, and Sentinelese are classified as Particularly Vulnerable Tribal Groups (PVTGs), while the Nicobarese are not. These tribes belong to two different racial groups:
  - » **Negrito Group:** The Andamanese, Jarawas, Onges, and Sentinelese, living in the Andaman Islands.
  - » **Mongoloid Group:** The Nicobarese and Shompens, living in the Nicobar Islands.

Nicobarese Population and Location:

- **Population:** The Nicobarese community consists of approximately 25,000 people.
- **Location:** They reside in the Nicobar Islands, which lie south of the Andaman Islands in the eastern Indian Ocean. The Nicobar archipelago comprises seven large islands, including Car Nicobar and Great Nicobar, along with several smaller islands.

Conclusion:

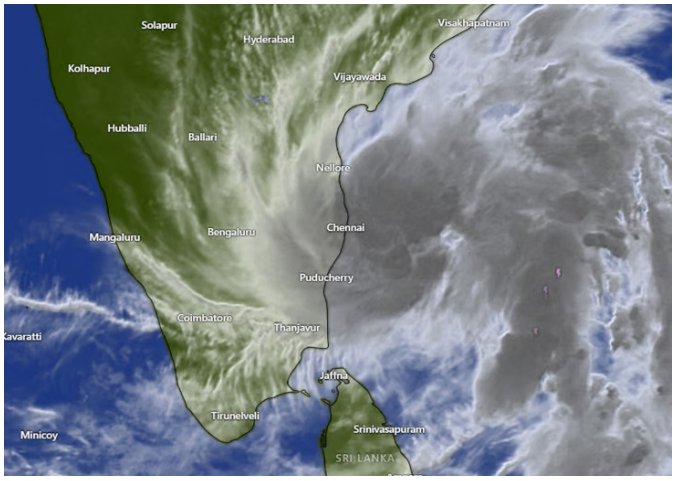
This research enhances our understanding of the Nicobarese's migration history and their connections to wider Southeast Asia. By tracing these genetic links, we gain deeper insights into the complex history of human settlement in the region, and the Nicobarese are recognized as part of this broader genetic and linguistic continuum.

Cyclone Fengal

Context: Cyclone Fengal, a low-intensity storm, made landfall near Puducherry on November 30, 2024. Despite its relatively moderate wind speeds of 75-95 km/h, the cyclone caused significant damage, leading to at least 12 fatalities, widespread property damage, and the destruction of crops, particularly in Tamil Nadu.

Cyclone Categories and Fengal's Classification:

- The India Meteorological Department (IMD) categorizes cyclones based on wind speeds, which range from low-pressure areas (<31 km/h) to super cyclones (>222 km/h).
- Cyclone Fengal, with wind speeds between 75-95 km/h, falls under the category of a cyclonic storm—a low-intensity cyclone. This places it in the same range as many other storms that have not caused significant destruction.
- For comparison, past severe cyclones like Cyclone Phailin (2013) and Cyclone Amphan (2020) had maximum wind speeds over 200 km/h, causing far-reaching damage.



Formation of a Cyclone:

- Warm ocean waters provide heat and moisture, causing the ocean to evaporate and create moist air.
- The rising moist air creates a low-pressure system at the surface, attracting air from surrounding areas with higher pressure.
- The Coriolis effect (Earth's rotation) causes the rising air to spin around the low-pressure center, creating cyclonic circulation.
- As the wind system rotates with increasing speed, an eye forms at the center, which is calm and characterized by very low air pressure.
- Dissipation occurs when the cyclone moves over cooler waters, encounters dry air, or interacts with land, disrupting its warm, moist air supply.

Unusual Movement and Impact of Cyclone Fengal:

- While Cyclone Fengal's intensity was relatively low, its slow movement significantly amplified its effects. Unlike many storms that weaken after landfall, Fengal exhibited unusual behavior:
  - **Slow Movement:** Fengal moved at speeds dropping to less than 6 km/h at sea and remained stationary for up to 12 hours after landfall near Puducherry.
  - **Prolonged Presence:** This extended duration over the affected region contributed to exceptionally heavy rainfall and flooding.

Sustained Intensity and Impact:

- Typically, cyclones weaken after landfall due to friction with the ground and obstacles like buildings and trees.
- Fengal's Retained Cyclonic Intensity: Its slow movement allowed Fengal to maintain cyclonic intensity for a longer period, resulting in:
  - Heavy Rainfall
  - Strong Winds
  - Widespread Flooding

The Role of the India Meteorological Department (IMD):

- The IMD, established in 1875, is India's principal meteorological agency under the Ministry of Earth Sciences. It forecasts cyclones, issues warnings, and supports disaster preparedness.
- **Cyclone Naming:** Cyclones in the North Indian Ocean are named by regional meteorological centers (India, Bangladesh, Sri Lanka, etc.) from a rotating list. Naming helps in clear communication during disaster response.

Power Packed News

INS Tushil

- The Indian Navy recently commissioned INS Tushil, a multi-role stealth-guided missile frigate, at the Yantar Shipyard in Kaliningrad, Russia. The ceremony was presided over by Defence Minister Rajnath Singh, marking a significant milestone in Indo-Russian defence cooperation.

- INS Tushil is the seventh ship of the Talwar-class frigates and the first of the third batch ordered by the Indian Navy. Built by the Yantar Shipyard, the vessel underwent extensive sea trials, including weapon firings and achieving speeds exceeding 30 knots.
- Notably, it features an enhanced indigenous content of 26%, incorporating 33 systems from major Indian Original Equipment Manufacturers (OEMs).
- This commissioning underscores the deepening defence ties between India and Russia, reflecting a shared commitment to regional security and military modernization. The event also highlights the successful collaboration between the two nations in advancing naval capabilities.
- The commissioning of INS Tushil is a testament to the enduring strategic partnership between India and Russia, reinforcing their mutual interests in enhancing defence cooperation and regional stability.

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Nebraska Declares December 6 as Gandhi's Remembrance Day

- In a historic tribute, December 6 was declared as Gandhi's Remembrance Day in the U.S. state of Nebraska, marking a significant acknowledgment of Mahatma Gandhi's principles of non-violence, tolerance, and justice.
- The occasion was commemorated with the unveiling of a bust of Gandhi at the Nebraska State Capitol building in Lincoln by Governor Jim Pillen.
- This event represents the first installation of Gandhi's statue in any state capitol within the nine states under the consular jurisdiction of the Indian Consulate in Seattle.
- The declaration highlights Gandhi as a global symbol of peace and justice, whose philosophy of truth and human dignity has inspired individuals and movements worldwide. The Nebraska State Capitol now stands as a site honoring Gandhi's enduring legacy.
- This event coincides with the November 2023 commencement of the first Indian Consulate in Seattle. Covering Washington, Oregon, Idaho, Montana, Wyoming, North Dakota, South Dakota, Nebraska, and Alaska, the consulate enhances India-U.S. ties in the Pacific Northwest region.

74-Year-Old Laysan Albatross Lays Egg After Four Years

- In a remarkable event, a 74-year-old Laysan albatross named Wisdom has laid her first egg in four years at the Midway Atoll National Wildlife Refuge in Hawaii. Wisdom's return to her nesting site highlights the long-lived nature of these birds, as she has been visiting this location annually to reunite with her partner and lay eggs, a typical behavior for the Laysan albatross.
- Wisdom's egg-laying after such a long hiatus demonstrates the resilience and longevity of these birds, contributing valuable insights into the natural history and conservation of Laysan albatrosses.
- These birds are vital indicators of the health of marine ecosystems and play a crucial role in maintaining biodiversity in the Pacific Ocean.

About Laysan albatrosses:

- Laysan albatrosses, known as mōlī in Hawaiian, are seabirds that typically live up to 68 years, although Wisdom has surpassed this life expectancy. Every year, millions of these albatrosses return to Midway Atoll to breed and care for their young.
- Their breeding habits are marked by long intervals between eggs, with many returning to the same nesting sites year after year.