



# Horseshoe Crabs

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## Why in News?

Recently, the [Zoological Survey of India \(ZSI\)](#) and Odisha Forest Department have started the exercise to tag **Horseshoe Crabs** to conserve this ancient species.

- ZSI planned to **tag** hundreds of crabs to determine their **population pattern and threats to them.**



## What are the Key Facts About Horseshoe Crabs?

- **About:**
  - Horseshoe crabs are **marine and brackish water arthropods** of the family **Limulidae** and the only living members of the order **Xiphosura**.
  - **These are one of the oldest living creatures on Earth (emerged 250 million years ago), also called living fossils.**
- **Species and Location:** There are **4 existing species** of horseshoe crabs.
  - India has **2 species** of horseshoe crabs: **Tachypleus Gigas** (found in Odisha and West Bengal) and **Carcinoscorpius rotundicauda** (found in Sundarbans mangroves of West Bengal).
  - **American horseshoe crab (Limulus polyphemus):** Found along the eastern coast of the USA and in the Gulf of Mexico.
  - **Tri-spine horseshoe crab (Tachypleus Tridentatus):** Found in the Indo-Pacific region.
- **Threat:**
  - **Destructive fishing** practices and **illegal smuggling.**
- **Conservation Status:**

- **Wildlife Protection Act (WPA), 1972:** Indian species are protected under **Schedule II** of **WPA 1972**.
- **IUCN Status:**
  - American horseshoe crab: **Vulnerable**.
  - Tri-spine horseshoe crab: **Endangered**.
  - The two other species are **not listed yet**.
- **Medicinal Uses:**
  - Its **carapace (hard upper shell)** is applied onto scars.
  - Horseshoe crab blood is **bright blue** and contains **immune cells** that are **sensitive to toxic bacteria**.
    - These cells **clot around invading bacteria**, protecting the horseshoe crab's body.
    - Scientists used these cells to develop a test called **Limulus Amebocyte Lysate (LAL)**, which **checks new vaccines for contamination**, preventing the distribution of vaccines with harmful bacteria.
- **International Horseshoe Crab Day** is celebrated on **20th June** every year to showcase the collective conservation efforts for horseshoe crabs.

## Living Fossils

- Living fossils are **species that have survived for millions of years**, maintaining the **same traits as their ancient ancestors**.
- These organisms provide **invaluable insights into Earth's evolutionary history** and ancient ecological landscapes.
- **Other Examples of Living Fossils:**
  - **Coelacanth:** Rediscovered in 1938 off the coast of South Africa, **this deep-sea fish is notable for its lobed fins**, which function similarly to limbs.
  - **Ginkgo Biloba:** The **sole surviving member of an ancient group of plants**, it has distinctive **fan-shaped leaves that have remained unchanged** for millions of years.
  - **Wollemi Pine:** **A rare plant discovered in 1994 in Australia**, known for its ancient lineage.
  - **Tuatara:** A **reptilian species unique to New Zealand**, representing a link to ancient reptiles.

## UPSC Civil Services Examination, Previous Year Questions (PYQs)

### ***Prelims***

**Q. Recently, our scientists have discovered a new and distinct species of banana plant which attains a height of about 11 meters and has orange coloured fruit pulp. In which part of India has it been discovered? (2016)**

- (a) Andaman Islands
- (b) Anaimalai Forests
- (c) Maikala Hills
- (d) Tropical rain forests of northeast

**Ans: (a)**

**Q. Biodiversity forms the basis for human existence in the following ways: (2011)**

1. Soil formation
2. Prevention of soil erosion
3. Recycling of waste
4. Pollination of crops

Select the correct answer using the codes given below:

- (a) 1, 2 and 3 only
- (b) 2, 3 and 4 only
- (c) 1 and 4 only
- (d) 1, 2, 3 and 4

**Ans: (d)**

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