505-Million Year Old Jellyfish Fossils

Source: TOI

Why in News?

Recently, researchers have unveiled a **collection of** jellyfish **fossils from the Cambrian period**, providing a unique glimpse into their distant past.

- These preserved fossils, found in the **Burgess Shale**- a renowned fossil-rich site in the **Canadian Rockies**, offer an improbable pathway to preservation.

What are the Major Findings of the Research?

- **Special Features of the Fossils:**
  - The newly discovered jellyfish fossils retained remarkable features, such as over **90 fingerlike tentacles** protruding from their bell-shaped bodies.
  - Some specimens even contained stomach contents and gonads, providing invaluable insights into their anatomy and behavior.
  - These things help scientists learn about how the jellyfish looked and acted.
- **Link with Old Fossils from a Quarry:**
  - In the 1990s, scientists dug up over 170 jellyfish fossils in a place called **Raymond Quarry in British Columbia.** These fossils were kept for a long time.
  - Researchers re-examined the specimens from the excavation and identified that the fossils actually belonged to a **previously unknown species.**
    - This newly discovered species was named **Burgessomedusa phasmiformis.** The species falls under the **medusozoans category.**

What are Jellyfish?

- **About:**
  - Jellyfish are **members of the phylum Cnidaria,** a group of animals that includes corals**, sea anemones, hydroids**, and siphonophores.
    - Cnidarians are characterized by having **radial symmetry, a central mouth surrounded by tentacles,** and **specialized stinging cells called cnidocytes** that can inject venom into their prey or predators.
  - Jellyfish tend to just **follow the** currents of the ocean, they can be found around the world in every type of ocean water.
    - They are considered to be **one of the earliest branches of the animal tree of life.**
- **Characteristics:**
  - Despite their name, jellyfish do not have much characteristics of a fish, they **are** invertebrates**, or animals with no backbones.**
    - Jellyfish are also among the simplest animals in terms of body organization and nervous system, **lacking a brain, a heart, or a skeleton.**
  - However, some jellyfish have evolved remarkable adaptations, such as **eyes,** bioluminescence, **and complex behaviors.**
- **Prey:**

- They dine on **fish, shrimp, crabs and tiny plants**. They have tiny stinging cells in their tentacles to **stun or paralyze their prey** before they eat them.

- **Challenge of Jellyfish Fossilization:**
  - Jellyfish, composed of **95% water,** pose a considerable challenge when it comes to fossilization. Their delicate structure makes them prone to rapid deterioration, leaving behind minimal traces in the fossil record.