



Four Species of Azooxanthellate Corals

Why in News?

Scientists have recorded **Four Species of Azooxanthellate Corals under the Genus *Truncatoflabellum* (Scleractinian: Flabellidae) for the first time from Indian waters.**



What are the Findings?

- **Truncatoflabellum crassum, T. incrustatum, T. aculeatum, and T. irregulare are the four species of corals found.**
 - These groups of coral were previously found from Japan to the Philippines and Australian waters while only *T. crassum* was reported within the range of Indo-West Pacific distribution including the [Gulf of Aden](#) and the [Persian Gulf](#).
- They are found from the **Waters of [Andaman and Nicobar Islands](#).**
- They are Azooxanthellate corals, which are **a group of corals that do not contain zooxanthellae and derive nourishment not from the sun** but from capturing different forms of plankton.
 - Zooxanthellae are unicellular, golden-brown algae (dinoflagellates) that **live either in the water column as plankton or symbiotically inside the tissue of other organisms.**
 - Zooxanthellate corals, meanwhile, are restricted to shallow waters.
- They are **hard corals and are not only solitary but have a highly compressed** skeletal structure.
 - There are about **570 species of hard corals found in India** and almost 90% of them are

found in the waters surrounding [Andaman and Nicobar Islands](#). The pristine and oldest ecosystem of corals share less than 1% of the earth's surface but they provide a home to nearly 25% of marine life.

- They are **deep-sea representatives, with the majority of species reporting from between 200 m to 1000 m.**
- They also occur in **shallow coastal waters.**

What is the Significance of the Study?

- It illustrates the **morphological features along with the global mapping of zoogeographic distributional ranges** of the above said four newly recorded species of flabelliids from Indian waters.
- The most studies of hard corals in India have been concentrated on reef-building corals while much is not known about non-reef-building corals. These new records enhance **knowledge about non-reef-building, solitary corals.**
- The presently reported four species of solitary stony corals enhance the **national database of biological resources of India and also define the expansion of scope to explore these unexplored and non-reefs building corals.**

What are Corals?

- Corals are **made up of genetically identical organisms called polyps.** These polyps have **microscopic algae called zooxanthellae living** within their tissues.
 - The corals and algae have **a mutualistic relationship.**
 - The coral provides the **zooxanthellae with the compounds necessary for photosynthesis.** In return, the zooxanthellae supply the coral with organic products of photosynthesis, like carbohydrates, which are utilized by the coral polyps for the synthesis of their calcium carbonate skeletons.
 - In addition to providing corals with essential nutrients, **zooxanthellae are responsible for the unique and beautiful colors of corals.**
- They are also **called the “rainforests of the seas”.**
- There are **two types of corals:**
 - **Hard, shallow-water corals**—the kind that builds reefs.
 - **Soft corals and deepwater corals** that live in dark cold waters.

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