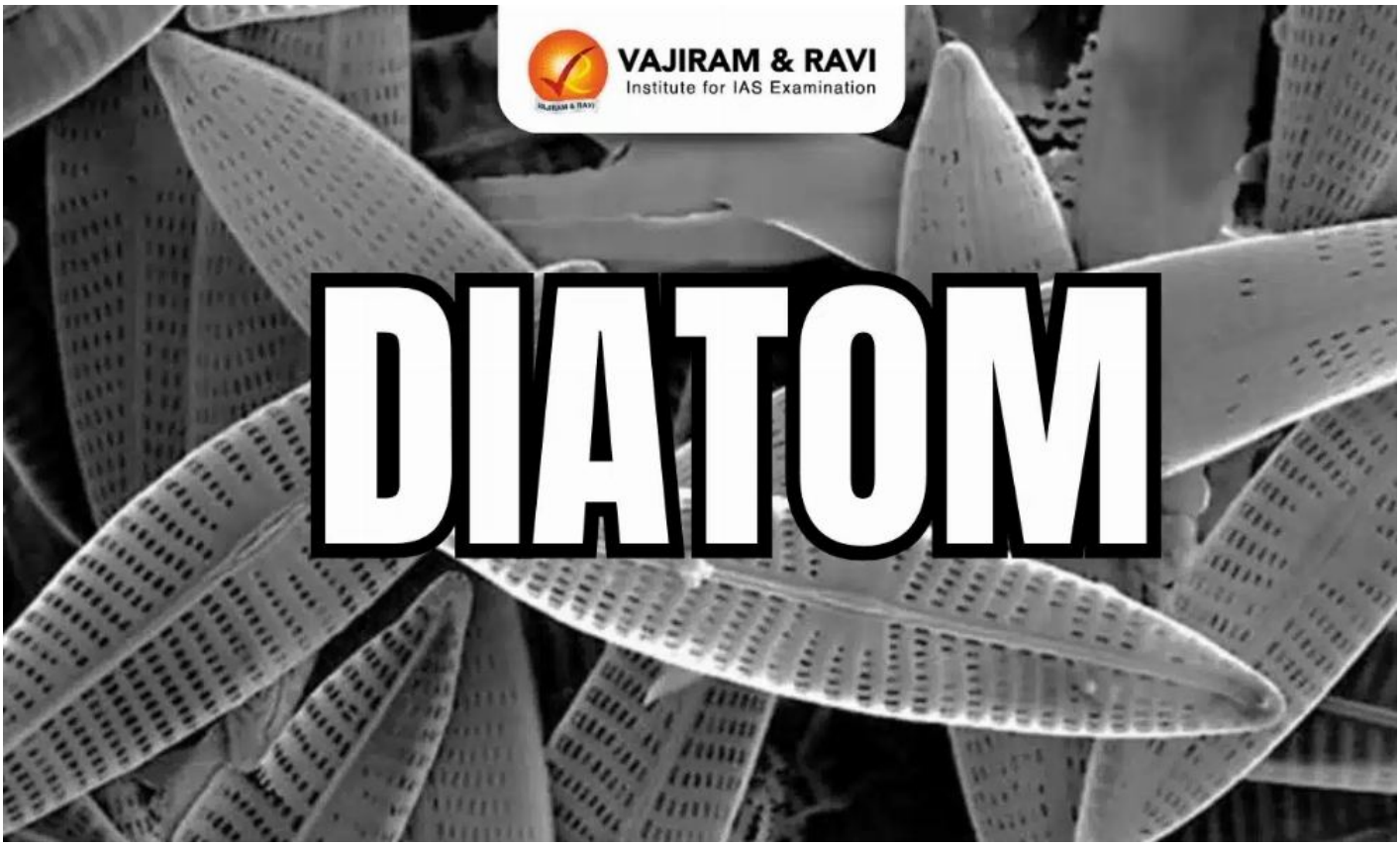
Diatoms

August 31, 2025 • vajiramandravi.com



Diatoms Latest News

A team of Indian and international researchers discovered a new species of diatom, named Climaconeis heteropolaris.

About Diatoms

- These are **photosynthetic**, **single-celled organisms.**
- These are **microscopic algae** and serve as the **base of the aquatic food chain.**
- They are a major group of algae and form one of the **most common forms of phytoplankton.**
- **Habitat**:
    - They are found in almost **all aquatic habitats,** including lakes, ponds, streams, rivers, and the ocean.
    - **Most diatoms** live as **free-floating cells in the open water,** but **some live on the bottom (benthos), attached** to surfaces such as **plants or rocks,** or in the bottom sediment.

    - **These surface-attached diatoms** represent a **significant part of the periphyton,** which is a **mixture of algae, cyanobacteria, microbes,** and detritus that is attached to submerged surfaces.
- Due to their sensitivity towards any water chemistry changes, they are excellent **indicators of aquatic health.**
- **Like other algae**, diatoms have **no leaves, stems, roots, or flowers, but** the **cell of every diatom contains chlorophyll,** the substance that is responsible for the green color of leafy plants.
- They are the **only organism** on the planet with cell walls composed of transparent, opaline silica.
- Diatom **cell walls are ornamented by** intricate and **striking patterns of silica.**
- **Each species** has a **distinct pattern of tiny holes in the cell wall** (frustule) through which they **absorb nutrients and get rid of waste.**
- Diatoms can **photosynthesize** which means they can **convert dissolved carbon dioxide** in the water **into oxygen** that is **essential for the survival of fish** and other aquatic organisms.
- They also serve as a **major source of atmospheric oxygen for the planet,** and a **key food source for higher organisms** in the food chain, such as zooplankton, molluscs, and fish.
- Collectively, they are responsible for **generating** up to **50% of the oxygen produced globally each year.**
- Diatoms also play a crucial **role in the nutrient cycling** of marine and lake waters.

Source: TOI
