



## Rare Species of Algae Found in Badrinath

### Why in News?

- Recently, the Department of Botany and Microbiology (Botany and Microbiology) of HNB Garhwal (Central) University has discovered a rare species of micro-algae in Narad Kund of Badrinath.

### Key Points

- This algae has so far been found only in two countries including the state of Gujarat in India. This species was earlier observed in Gujarat in the year 1980. It was also seen in the US in 1966 and Bangladesh in 1987.
- This microalgae called Pseudobohlinia can become the best alternative to Bio-diesel (biofuel).
- Preeti Singh, who is doing research under the direction of Dr. Dhananjay Kumar, Assistant Professor, Department of Botany and Microbiology, Garhwal University, has discovered this rare species of micro-algae as well as analysed its productivity.
- Preeti Singh had taken samples of algae from the wall of Narad Kund located under Taptakund in Badrinath. The hot water of the hot pool falls in this pool. The temperature of the water is 30 to 40 degrees Celsius.
- After taking samples from the wall, they produced it in the department's laboratory. In the study that lasted for a year, they found four microalgae species along with normal algae. Three of these were seen in other places, but one species was found to be completely different.
- Preeti Singh said that not much was known about this algae. A fork-like shape was observed on the outer surface of this algae of about 5 micrometers. This algae spreads rapidly and also contains a good amount of lipids (fats).
- After the discovery of microalgae of rare species, its usefulness in making bio-diesel was researched. In some places in India, bio-diesel making work from algae is going on. Researchers at the University's Algal Lab conducted a comparative study of lipids in about 109 species of algae. Generally, algae contain 25 to 30% lipids. At the same time, Pseudobohlinia found the highest 33% lipids under normal circumstances. The amount of lipids increased significantly when a favorable environment was found, which is much better for making bio-diesel. Lipids are the major source of bio-diesel.
- It is worth mentioning that in view of the limited quantity of petroleum fuel, emphasis is being given to bio-diesel as an alternative. Under the biofuel policy of the central government, the target is to add up to 20 percent of bio-diesel to petroleum fuels, but this target is not being met. If the government insists on the production of microalgae, species like Pseudobohlinia could become a better option.