

Commentary

The varieties of marine plants and their importance

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ABOUT THE STUDY

The biology of photosynthetic species that live in aquatic habitats, including the variety of creatures collectively referred to as "algae," has gained increasing interest over the recent decades. Marine and freshwater plants have generally received less research than extreme environments when we take the relative size of scientific groups under consideration. Agriculture and forestry, industrial uses, simple access to terrestrial ecosystems, and practical growing techniques in fields or growth chambers were the driving factors behind the work done on land plants. Consequently, the incomplete understanding of the biology of algae, the desire to find inspiration for biotechnologies in this biodiversity, and the emergency decided to bring on by the environmental crisis affecting the oceans, lakes, rivers, and melting glaciers have emphasised the necessity of making up for lost time. The appropriate steps span a broad spectrum of academic fields, comprising molecular and cell biology as well as environmental and evolutionary studies. Functional genomics and ecophysiology play an important role in connecting molecular and cellular investigations with ecosystem-level studies in this multiscale perspectives. There has always been awe and fascination about the biodiversity that may be found in the depths of lakes, rivers, oceans, even ice and snow. Species have been identified with excellent morphological accuracy for ages. Taxonomic theories, currently based on molecular, chemical, and ultrastructural traits, have undergone several modifications and are still open for dispute. Most aquatic ecosystems are dependent on plants because they supply fish and other marine life food and shelter. The foundation of the entire marine food web, which supports everything from microscopic zooplankton to enormous whales, is made up of the carbohydrates produced by plants that grow beneath the water. Additionally, as a result of photosynthesis occurring in the ocean, marine plants and algae produce more than half of the oxygen you consume.

Seagrasses

The long, grass-like leaves that give seagrasses their identity were an evolution that took place 100 million years ago. They

have about 72 different species and live in shallow salty and brackish waters all over the planet. They contain roots, stems, and leaves, and they even generate flowers and seeds, just like blooming plants that you can see on earth. From microscopic invertebrates to sea birds, they offer food and shelter to a wide variety of animals.

Algae

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Seaweed and kelp

A class of bigger marine algae with many cells includes seaweed and kelp. They all have chlorophyll, which is required for photosynthesis, although some kinds of seaweed might resemble brown or red rather than green. This is as a result of the additional pigments that give them a distinct colour. Kelp might create enormous underwater forests that serve as a home for snails, sea urchins, seals, and sea otters and grow in cold oceans all around the world.

Phytoplankton

These tiny single-cell creatures, which are too small to be observed with the naked eye, ultimately combine to create apparent groupings that are seen floating on the surface of the water. One might discover these little marine algae in any body of water. They can reproduce swiftly under the correct circumstances, turning the water green or crimson. Since practically all marine life depends on phytoplankton for nutrition, it plays a critical role in the food chain.

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