

## Aquatic plants and their significance

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### Introduction

The plants that live in the water are referred as aquatic plants. They are also called as macrophytes. There are different types of macrophytes like the floating ones, emergent and sub-emergent ones. These plants supply both water and oxygen to other organisms. Not only these they also perform many other functions. They have a substantial impact on soil chemistry and light levels by slowing water flow, capturing contaminants, and trapping sediments. The presence of plant stems, leaves, and roots reduces flow rates, allowing excess silt to settle into the benthos. Pollutants can be absorbed by some plants through their tissue.

An emergent plant is one that grows in water however pierces the surface, allowing it to breathe. Emergent vegetation is a term used to describe a group of plants. Examples are Typha species, wild rice species. Submerged macrophytes can grow totally submerged with roots linked to the substrate or without any root system at all like Sagittaria, Glyceria maxima. Floating-leaved macrophytes have root systems that are anchored to the substrate or bottom of a body of water, and leaves that float on the surface like pondweeds. Free-floating macrophytes are aquatic plants that float on the water's surface without their roots linked to the substrate, silt, or water's bottom such as Nile cabbage, water lettuce.

Aquatic plants can be found in both saltwater and freshwater environments. While few animals can survive in an environment where they are constantly submerged in saltwater, many thrive in it. Aquatic plants have devised a number of techniques to circumvent this issue. Aerenchyma tissue, a spongy network of cells that forms air holes in the plant, is found in many aquatic plants. Plants may carry oxygen from the surface to different regions of the plant through the air gaps, which act as tunnels. As a result, even if there is a lack of oxygen under water, aquatic plants may carry oxygen from the atmosphere. Aquatic plants have buoyancy as a result of their surroundings, which helps them to balance their weight. As a result of the absence of pressure that terrestrial plants face, their cell covering is significantly more flexible and delicate. Due to their watery environment, green algae have incredibly thin cell walls,

and research has proven that green algae is the closest progenitor to extant terrestrial and aquatic plants.

Aquatic plants that grow along a lake's shore provide both protection and nourishment to the ecology. Aquatic plants are sometimes viewed as a burden to human pleasure, yet many people realise the value of macrophytes in maintaining healthy lakes. Aquatic plant managers face a difficult task in balancing the amount and dispersion of aquatic plants. There may be 'too many' plants if they obstruct fishing, boating, or swimming (for people or fish). Because of unfriendly bottom sediments, physical barriers such as wind or waves, or murky water, some lakes may naturally contain 'too few' vegetation.

Humans eat some aquatic plants, which are also prospective sources of anticancer and antioxidative natural compounds. A loss in a macrophyte community could signal water quality issues and changes in the water body's ecological state. Antimicrobial and useful compounds are also found naturally in aquatic plants.

### Conflict of Interest

We have no conflict of interests to disclose and the manuscript has been read and approved by all named authors. The Authors are very thankful and honored to publish this article in the respective Journal and are also very great full to the reviewers for their positive response to this article publication.

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