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Commentary

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Microbial habitual in aquatic environment

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DESCRIPTION

The Earth is characterized by the presence of different types of ecosystems or environments defined by interacting organisms and physical landscapes. Ecosystems always consist of living or living elements and non-living or non-living elements. These factors determine the types of organisms that can live in these environments. Ecosystems can be either terrestrial (terrestrial) or aquatic (above water). Almost 71% of the earth's surface is covered with water, so aquatic ecosystems dominate over terrestrial ecosystems. An aquatic ecosystem refers to any freshwater or saltwater environment and the characteristic flora (plants) and fauna (animals) living in this habitat. Freshwater aquatic ecosystems can include rivers, lakes, and ponds. Saltwater ecosystems include oceans and seas. Aquatic ecosystems have historically been important to humans and other organisms. Aquatic ecosystems not only provide a food source for a wide variety of organisms, but are also essential for cycling important gases and nutrients such as carbon dioxide, nitrogen and phosphorus. Furthermore, aquatic ecosystems play an important role in rock cycling by contributing to the weathering and erosion of rocks and sediments to create new soil and sedimentary structures. In any aquatic ecosystem, the main factor that defines this type of environment is the presence of water. As mentioned, this includes both freshwater and saltwater. Furthermore, aquatic ecosystems are defined by various biological features such as plants, animals, and other aquatic microorganisms.

Abiotic factors that affect the types of organisms that can live in these aquatic environments include sunlight, temperature, salinity, acidity, and water depth. In general, there are two types of aquatic ecosystems, namely marine ecosystem s and freshwater ecosystems. Both marine and freshwater ecosystems are further divided under different aquatic ecosystems. The aquatic environ ment includes inland surface waters, oceans, and ground waters. Microorganisms are important components of the aquatic environment. This chapter describes the general features, organizati on, composition and function of microbial habitats ,including plankton, sediments or benthos, microbial mats, and biofilms. Planktonic microbial communities includealgae, bacteria, and protozoa . These are characterized by dramatic increases in microbial numbers and activities that support the formation of adjacent aerobic and anaerobic microenvironments and the cycling of essential nutrients. Microbial mats are unique communities often found in extreme and rapidly changing envir onments. Biofilms are characterized by the presen ce of bacterial extracellular polymers and have been extensively studied for their role in nutrient cycling and pollution control in aquatic environme nts and their beneficial or detrimental effects on h uman health. Freshwater environments such as streams, rivers and lakes contain populations of bacteria and algae, as well as fungi, protozoa and viruses that interact and contribute to food web function. The ocean contains diverse microbial habitats, with total bacterial counts averaging an order of magnitude higher in coastal waters than in the open ocean.

In aquifer environments, microorganisms are the only inhabitants, and bacteria are the predominant type of microorganism.

However, the level of microbial activity is low. Many of the new microbial species have been isolated from the marine environment, suggesting that marine microbes can provide valuable clues in the search for alternative energy sources.

The characteristics of aquatic ecosystems can be divided into abiotic and biotic factors. Abiotic factors include depth, nutrients, temperature, salinity, current, temperature, etc., while biotic factors include biotic. Water flow, salinity, acidity, oxygen, light levels, depth and temperature are all factors that affect aquatic habitats. Plant characteristics and photosynthesis are affected by lighting conditions.

CONCLUSION

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