

## Introduction

Phytoplankton are the autotrophic component of the plankton community and a key part of oceans, seas and freshwater basin ecosystems. The name *plankton* is derived from the Greek adjective *πλαγκτός* (*planktos*), meaning errant, and by extension, *wanderer* or *drifter*, and was coined by Victor Hensen in 1887.

Phytoplankton absorbs energy from the sun and nutrients from the water to produce their own food. In the process of photosynthesis, phytoplankton release molecular Oxygen ( $O_2$ ) into water. It is estimated that between 50% and 85% of the world's Oxygen is produced via phytoplankton photosynthesis.

They are microscopic marines as well as freshwater algae. Phytoplankton is the base of several aquatic food webs. It lives in watery environment both salty and fresh. Some phytoplankton are bacteria, some are protists and most are single celled plants. Some example of phytoplankton are diatoms and dinoflagellates which are responsible for seasonal algal blooms. While phytoplankton produce their own food by photosynthesis, Zooplanktons live by feeding on other plankton. (e.g. copepods, daphnia and jellyfish). Besides, zooplankton, many other aquatic animals like fish feed on phytoplankton. Both phytoplankton and zooplankton are of food for larger animals. Thus, phytoplankton can be considered as the foundation of food chain in aquatic ecosystem. Because of this, they are known as primary producers of food. Zooplankton and other small animals that graze on the phytoplankton are known as primary consumers.

Phytoplankton could be used as the indicator of physicochemical status of any aquatic body (Mittal and Sengar 1994). The communities of phytoplankton are also reported to be affected by the process of cultured eutrophication in aquatic bodies. In India recently the diversity of phytoplankton in different freshwater wetlands along with their physicochemical characteristics were studied (Veereshkumar and Hasmoni 2006, Ravikumar et al 2006, Tiwari and Shukla 2007 Senthikumar and Das 2008).

It is known that fishes depend directly or indirectly on plankton for their food (Boney 1983). So the study of plankton is necessary in the production of fish. The productivity of any water body is determined by the amount of plankton it contains. Thus plankton is of great importance in aquaculture and fisheries. They play important role in the food chain and webs. They help to maintain the nitrogen

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