



Damietta University

Faculty of science

Zoology department

An essay on:

# PROTOZOAN ZOOPLANKTON AS BIOINDICATOR

Supervision by:

***Dr/ Wael Salah El-Tohamy Mostafa***

Prepared by:

*Wafaa abdo elsharabasy*

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# 1. Introduction

## 1.1 zooplankton

Zooplankton (Greek: Zoon, animal; planktos, wandering) are myriads of diverse floating and drifting animals with limited power of locomotion. Majority of them are microscopic, unicellular or multicellular forms with size ranging from a few microns to a millimeter or more. In addition to size variations, there are differences in morphological features and taxonomic position. ( S.C. Goswami ,D. Paula, Goa .)

Zooplankton is referred to as one of the most important biotic components of the aquatic ecosystem, particularly in the pelagic habitat, where it represents the second ring in the pelagic food chain. The importance of zooplankton is raised from being the major consumer of the primary producers of the organic matter (phytoplankton) and essential food materials for planktonfeeding fishes and other aquatic animals. Such intermediate role of zooplankton makes it as a regulator of the biological productivity in the pelagic habitat, since it has a detrimental effect on phytoplankton by grazing and beneficial effect to the water fertility through nutrient recycling (Havens, 1993). The commercial catch of the pelagic fish is mostly related to the zooplankton abundance (Wimpenny, 1966).

Not only the standing stock is significant, but also the community structure has an importance in determining the role of zooplankton in the biological productivity of the aquatic habitat, depending upon the feeding habits (herbivorous, omnivorous or carnivorous) of the different zooplankters and food relationships between them.

Zooplankton community demonstrates variable structure in the different aquatic habitats, relative to differences in the ecological conditions. In a broad trend, the community of the open sea comprises little meroplanktonic representatives while in the neritic area; meroplankton constitutes pronounced part of zooplankton community, both qualitatively and quantitatively.

## 1.2 protozoan zooplankton

Protozoans are the third, and last, common planktonic group that belongs to the Kingdom Protista. These single celled organisms are different from the other Protists, the Diatoms and Dinoflagellates, because they are heterotrophs and do not contain photosynthetic pigments. Consequently they are mostly without color and appear clear under the microscope. Protozoans occur frequently in our coastal