

RESEARCH PAPER

Primary investigation on planktons in a fresh water body at Visnagar, Gujarat

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ABSTRACT

Study was conducted in a tropical semi arid zone. The source of water is through sewage and rain. In this ecosystem phytoplankton of the class Bacillariophyceae, class Chlorophyceae and class Cyanophyceae are studied. Zooplanktons are obtained less in number than phytoplanktons. The numerical of phytoplanktons shows that Bacillariophyceae dominated followed by Chlorophyceae and Cyanophyceae. The numerical of zooplanktons shows that Branchiopoda dominated which was followed by Rotifera, Copepods, Ciliata and Phytomastigophora.

Key words : Fresh water body, Planktons

The important of plankton in aquatic ecosystem is well established as they lay an important role in the biosynthesis of organic matter (primary production) in aquatic systems, which directly or indirectly serves all the living organisms of water body as food. Zooplanktons constitute the only food for the fish. Phytoplanktons are the food of zooplanktons and other herbivorous animals. On this aspect, plankton of pond ecosystem where studied by Munawar (1974), Gandhi (1974), Sharma (1993). There was no detailed information on this aspect at semi-arid zone of Visnagar area. To fill up this lacuna, we have tried our little effort this direction, which can be useful for further study in fresh water ecosystem of this area.

Study area:

Study was conducted in visnagar area, Mehsana district, Gujarat state, India. Which lies 23° 42' N latitude and 72° 32' E longitudes. It is a tropical semi arid zone. The average rainfall of the area was 153mm recorded during study period. Small water bodies are located within a city area. Out of these we select Malap pond which situated one km. away from south of city. The sources of water are through sewage and rain. It's three sides are surrounded by farmlands and one side bound by Gandhinagar- Visnagar state highway. The pond is prime wintering ground for migratory and local wetland birds in the pond. Small fishes like Chana sp. are found. The area of pond is about 3 Acre.

MATERIALS AND METHODS

The water samples from the surface of four fixed spots were collected fortnightly and brought to the laboratory time to time for the identification. The specimens were identified by using oil immersion

microscope (100X) and referred the reference book (Fresh Water Biology, Publication-John Wiley and Sams, Inc. London-1945).

Observation:

Phytoplanktons:

Class- Bacillariaceae (Liatoms):

Color yellow; plant a single cell, sometimes united into chains; membrane silicified, with minute definite markings.

These are unicellular algae but, by means of a gelatinous substance, are frequently held together in bands or masses. The membrane is silicified, making it hard and rigid.

Amphora sp.:

Valves greatly convex; girdle side elliptical or oval. Van Heurck regards *Amphora* as one of the most difficult genera of diatoms and notes that over 200 species have been placed in this genus.

Cyclotella sp.:

Valves circular, showing a central smooth or punctate area, and an outer margin of radiating striations. Girdle view with undulating ends.

Cymbella sp.:

Raphe straight or bent, ending in the middle of the valve ends.

Cocconeis sp.:

Girdle view symmetrical with reference to a transverse, but not to a longitudinal axis, the cells being arcuate and attached to higher algae.