

A Study on Planktonic Diversity in Reference to Major Carps Productivity in Govindgarh Lake, Rewa (M.P.)

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Abstract: When discussing diversity in zoology, plankton deserve special attention due to their fundamental roles in aquatic ecosystems and the immense variety of species within this group. By studying and understanding planktonic diversity, we gain valuable knowledge about the intricate web of life in our oceans, lakes, and rivers.

Seasonal variation of plankton was recorded highest 485 org./L in summer followed by 332 org./L and 267 org./L in winter and rainy season respectively during the first period of research, same variation season wise 497 in summer followed by 346 org./L and 280 org./L in winter and rainy seasons respectively.

Keywords: aquatic ecosystem, intricate web, variation etc

REFERENCES

- [1]. Abonyi, A., Horváth, Z., and Ptasnik, R. (2018). Functional richness outperforms taxonomic richness in predicting ecosystem functioning in natural phytoplankton communities. *Fresh. Biol.* 63, 178–186.
- [2]. Adoni, A.D. (1985). Work Book on Limnology. Pratibha Publication, Sagar (MP) India.
- [3]. APHA (1980). American Public Health Association. Standard methods for examination of waters and wastewaters, Washington, DC, USA.
- [4]. Desikachary, T.V. (1959). Cyanophyta. I.C.A.R., New Delhi.
- [5]. García-Palacios, P., Gross, N., Gaitán, J., and Maestre, F. T. (2018). Climate mediates the biodiversity-ecosystem stability relationship globally. *Proc. Natl. Acad. Sci. U.S.A.* 115, 8400–8405.
- [6]. Hillebrand, H., Langenheder, S., Leuret, K., Lindström, E., Östman, Ö., and Striebel, M. (2018). Decomposing multiple dimensions of stability in global change experiments. *Ecol. Lett.* 21, 21–30.
- [7]. Hodapp, D., Hillebrand, H., and Striebel, M. (2019). “Unifying” the concept of resource use efficiency in ecology. *Front. Ecol. Evol.* 6:233.
- [8]. Ramanathan, K.R. (1964). Ulotrichales. Indian Council of Agricultural Research, New Delhi. 188.
- [9]. Sarode, P.T and Kamat, N.D. (1984). “Fresh water diatoms of Maharashtra” SaikripaPrakashan, Aurangabad - 431003.
- [10]. Trivedi, R.K. and Goel, P.K. (1984). Chemical and Biological methods for water pollution status. Environmental publication, Karad (India).
- [11]. Vallina, S. M., Cermeño, P., Dutkiewicz, S., Loreau, M., and Montoya, J. M. (2017). Phytoplankton functional diversity increases ecosystem productivity and stability. *Ecol. Model.* 361, 184–196.
- [12]. Van der Plas, F. (2019). Biodiversity and ecosystem functioning in naturally assembled communities. *Biol. Rev.* 94, 1220–1245.
- [13]. Chandrasekhar and Kodarkar (1997) Studied to diversity of zooplankton in Reservoir of Powai, Mumbai. Dhanamet. al., (2016) studied on physico-chemical properties and diversity of phytoplankton in the Ousteri Lake, Punducherry.

- [14]. Jonah and George (2019) studied to the influence of quality of water and community of zooplankton in EtimEkpo River, Akwa, Nigeria.
- [15]. Cecilia (2011) examined to the community of phytoplankton and their impact on the quality of water in Hollingsworth Lake, United Kingdom.
- [16]. Jonah et. al., (2020) studied to the impacts of agrochemical residues on the assessment of quality of water quality and abundance and distribution of macroinvertebrates or plankton in the river of Nigeria named IkpeIkotNkon river.
- [17]. Chapman D. (ed). Water quality assessment: A guide to the use of biota, sediments and water in environment monitoring (2nd edition). London and New York: Taylor and Francis, 1996.
- [18]. Shekhar STR, Kiran BB, Puttaiah T, Shivraj Y, Mahadeva KM. Phytoplankton as an index of water quality with reference to industrial pollution. Journal of Environment Biology. 2008; 29(2):233-236.
- [19]. Singh, Preety. (2015). A seasonal study of phytoplankton diversity of a Gomati river of Lucknow (U.P.), India : A pollution indicator. IJREAS., 5(4): 43-48.
- [20]. Pillai, M.M., Brintha, M. and Sukumaran, M. (2011), Studies on Phytoplankton Diversity in Response to Abiotic Factors in Pachiparai Dam, Kanyakumari District, Tamil Nadu, India, Journal of Theoretical and Experimental Biology, 8(1&2): 29-34.
- [21]. Nandan, S.N. and Aher, N.H. (2005). Algal community used for assessment of water quality of Haranbaree dam and Mosam river of Maharashtra. J. Environ. Biol., 26: 223-227.
- [22]. Narasimha, R.K. and Banarjee, G. (2013). Physico-chemical factors influenced plankton biodiversity and fish Abundance – A case study of Nagaram tank of Warangal, Andhra Pradesh.
- [23]. Chellappa, N.T., Borba, J.M. and Rocha, O. (2008). Phytoplankton community and physico-chemical characteristics of water in the public reservoir of Cruzeta, RN, Brazil., Braz. J. Biol., 68(3): 477-494.
- [24]. Moitra, S.K. and S.K. Mukherji 1992. Studies on the fresh water plankton of fish pond in Kalyani, W. Bengal, India. Vest. Ca. Spol. Zool., 36(1): 23-28.
- [25]. Ariyadej, C., Tansakul, R., Tansakul, P. and Angsupanich, S. (2004). Phytoplankton diversity and its relationships to the physico-chemical environment in the Banglang Reservoir, Yala Province. Songklanakarin J. Sci. Technol., 26(5): 595-607.