



## Density and distribution of fishes (Ichthyofaunal) in Hebbal Lake, Bangalore, Karnataka, India

BM Sreedhara Nayaka

Karnataka State Pollution control Board, Bangalore, India

### Abstract

The survey of fish fauna in the Hebbal Lake was studied from Jan – December 2015. The survey reported the total of 14 species belonging 3 orders and 4 families. The order Cypriniformes were most dominant group followed by Perciformes and Siluriformes.

**Keywords:** Hebbal lake, Bangalore, Ichthyofaunal diversity, species

### Introduction

Biodiversity is essential for stabilization of ecosystem protection of overall environmental quality for understanding intrinsic worth of all species on the earth (Ehrlich and Wilson, 1991) [1]. A fresh water perennial tank has got prime importance as a source of drinking water and for aquaculture potential in terms of fish. These water bodies are located in different parts of the country especially in rural areas and are mainly used as a source of drinking water, irrigation and for fish production by the local fishermen communities. However, tropical climate of the region creates an environment helpful for fast growth of fish. Fish is most important bio-product of fresh, marine and brackish water ecosystems contributing an essential and beneficial food item to mankind since ancient time (Pailwan and Muley, 2006) [2].

Fisheries of the lakes and reservoirs constitute an important

component of the inland fish production in India (Jhingran, 1985) [3]. Before popularization of fish culture technology in India, capture fisheries of the lakes and reservoirs mostly constituted to the inland fish production.

### Materials and Methods

Fishes were collected from Hebbal lake with the help of local fishermen using different type of nets namely; gill nets, cast nets, dragnets and Bhor-jal. Fishes were brought to laboratory and preserved in 4% formalin solution in separate specimen jars according to the size of species. Small fishes were directly placed in the 4% formalin solution. At the same time as large fishes were given an incision in their abdomen and preserved. The meristic and morphometric characters were measured and identified upto the species level, with the help of standard keys (Jayaram (1999) [9] and Jhingran (1991) [10]).

### Results and Discussion

**Table 2:** Monthly variation in Ichthyofauna of Hebbal lake (January – December 2015)

Family	Zooplankton	Jan.	Feb	Mar	Apr	May	Jun	Jul	Aug.	Sep.	Oct.	Nov.	Dec.
Cyprinidae	Catla-catla	4	9	7	5	11	3	1	1	4	2	5	3
	Labeo-rohita	5	4	8	10	5	1	2	2	2	4	4	3
	Cyprinus carpio	3	7	7	11	8	4	1	4	2	3	6	3
	Rasbora daniconius	18	23	18	28	26	3	7	2	4	11	15	18
	Puntiu sticto	8	14	8	18	13	0	0	0	0	0	0	0
	Chela bacaila	0	1	7	1	4	4	1	0	0	0	0	3
	Garra lamta	1	5	7	11	3	0	0	0	0	0	0	1
	Thynnichthys sandkhol	2	7	2	9	4	0	0	0	0	0	0	1
Channidae	Channa Striatus	1	5	9	5	11	2	0	0	0	1	3	3
Cichlidae	Oreochromis mossambica	1	2	1	1	2	1	0	0	0	0	0	1
Clariidae	Clarias batrachus	0	0	1	0	0	0	0	0	0	0	0	1

In the ichthyofaunal study 11 species of 4 families were recorded at Hebbal lake in number of catches carried out during (Jan. - Dec. 2015). Fishes data have been presented in Table 1. The members of order Cypriniformes were dominated by 8 species followed by Perciformes 2 species and Siluriformes with one species. Sesaonally, fishes showed its dominance during summer season followed by winter and monsoon season.

During summer, the rise in temperature enhances the rate of decomposition due to which the water becomes nutrient rich similarly due to concentration followed by evaporation in summer season the nutrient concentration increase and abundant food present in form of phytoplankton, zooplanknos and microorganism to fish that's why high fish population density during the summer season could be related to stable hydrological factors and low water level due to high catch,

while low density during the monsoon season is attributed to heavy water inflow. They are resumed again in monsoon due to dilution and high water level due to low catch. Similar, results have been reported by Deshpande and Bhilane (2009)<sup>[4]</sup>; Kamble and Mudkhede (2009)<sup>[5]</sup>; Srikanth *et al.* (2009)<sup>[6]</sup>; Ashashree *et al.* (2008)<sup>[7]</sup> and Sone and Malu (2000)<sup>[8]</sup>.

### Conclusion

The present work will provide future strategies for development and biodiversity conservation of Hebbal lake.

### References

1. Ehrlich PR, Wilson EO. Biodiversity studies science and policy. Science. 1991; 253:758-762.
2. Pailwan IF, Muley DV. Limnology and fishery status of a fresh water perennial tank at Kaneriwadi near Kolhapur (M.S.) India J Aqua. Biol. 2006; (212):72-76.
3. Jhingran VG. Fish and fisheries of India. Hindustan Publishing Corporation, Delhi, India, 1985.
4. Deshpande VY, Bhilane MP. Ichthyofauna of Satara Tahsil of Maharashtra. J. Aqua. Biol. 2009; 24(1):36-40.
5. Kamble AT, Mudkhede LM. The studies on diversity of fish fauna in medium reservoir, Mandvi, Kinwat, Maharashtra. J Aqua. Biol. 2009; 24(1):41-43.
6. Srikanth K, Ramu G, Benarjee G. The study on fish diversity of Rammappa lake, Warangal District, Andhra Pradesh, India, J Aqua. Biol. 2009; 24(2):1-4.
7. Ashashree HM, Venkateshwarlu M, Renukaswamy HM. Diversity of fish fauna in Nagathibelagulu pond, Shimoga, Karnataka. Advances in aquatic ecology. 2008 ; (2):95-97.
8. Sone AA, Malu RA. Fish diversity in relation to aquaculture in Ekbargi Reservoir, Washim, Maharashtra. J Aqua. Biol. 2000; 15(1&2):40-42.
9. Jayaram KC. The freshwater fishes of the Indian Region. Narendra Publishing House, 1999.
10. Jhingran VG. Fish and Fisheries of India 3rd Edition. Hindustan Publication Corporation, Delhi, 1991.