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FISH BIODIVERSITY OF HIVARA (KHADAKDEOLA) RESERVOIR, JALGAON, M.S.INDIA

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AUTHORS' CONTRIBUTIONS

This work was carried out in collaboration between both authors. Both authors read and approved the final manuscript.

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ABSTRACT

Present work was done from1stJanuary to 30th September 2021 Fish samples were collected from different localities like Khadakdeoa Kd., Sarola, Waghulkheda and Chinchkheda of Hivra Reservoir from Jalgaon District of Hivara Dam of North Maharashtraregion. Fisheries play an important role in the economy of country. Fishes are having high economic, food, nutritive, medicinal, and aesthetic value. There is vast biodiversity of fish all over the world and thus it's critical to study it at a time. Therefore the present survey is aimed to study fish biodiversity at minute level. During the survey at Hivara (Khadakdeola) Dam total ten species of fishes belonging to six different families are found. This work will be helpful to fishermen and scientists to know about the biodiversity of fishes found locally in the dam which can also help the fish farmers to select the exact varieties of fish species for the culture in order to get more yield.

Keywords: Scolex; diversity; fishing; water bodies.

1. INTRODUCTION

Fishes are the natural wealth of the world. Fishes as they are the part of fishery are playing an important role in the economy of the world. Fishery helps the stakeholders to earn the money to live their life. But as the human being is greedy he is trying to exploit the fishes, fishery, and the water bodies in which the fishes are rared. Thus it is resulting in the decline of the fish diversity rapidly [1].

Along with this it should be also considered that fishes are the rich source of carbohydrates, proteins, fats, vitamins, minerals and many of the by products [2]. One should not neglect the high medicinal value of fishes, as these are the rich source of minerals, like

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Ca ,Mg ,K, Na, P, Fe, Cl, Co, Mn, I, Br, vitamins like A,B and D,Omega-3 fatty acid, fish oil etc. All above substances are useful as medicine for many human diseases [3]. The icthyofaunal studies were done by many scientists like R. R. Dandawate [4], Fish Biodiversity of Godawari River of Kopargaon and pravara River at Pravara Sangam, Dist. Ahmednagar, PJZ, [5], Eherlich, Paul R."Biodiversity studies: Science and Policy [6]." Science 253.5021(1991): 758-762., Jadhav and Bhosale,"Fish Fauna of Bhima River at Pedgaon near Pune, India" J. Ecobial [7].

It should be also considered that due to anthropogenic activities and climatological changes biodiversity is under crises and it is responsible for endangered natural system in the world [8,9,10].

Therefore as fishes are adding in valuable resources in economic, cultural, aesthetic, scientific, medicinal and educational fields, it's necessary to study their biodiversity in fresh as well as in marine water bodies. Thus we can save the national wealth by providing proper information to all stakeholders related with fish biodiversity in particular region and bring about awareness among them [11].

The information obtained from the present work is important to know about the fish fauna of this local region which will be helpful for the fishermen and the researchers to select the proper variety of fish species for culturing, rearing, and obtaining good yield.

2. MATERIALS AND METHODS

2.1 Study Area

Hivra Dam is an Earth fill dam on the Hivra River near Khadakdeola village in Pachora Tahasil in Jalgaon District (Ms). Popularly it is called as Khadakdeola Dam. It is located at $20^0$35'53.9'N and $75^0$21'20.1'8E having total capacity of 9.601MLT.It has average elevation of 281 meters from sea level. Fishery activity in the dam is one of the important occupations at various Fish samples were collected from different localities like Khadakdeoa Kd., Sarola, Waghulkheda and Chinchkheda of Hivra Reservoir from Jalgaon District.

2.2 Preservation of Samples

With the help of local fishermen the fishes for the present survey were collected at the dam site only. The photographs were clicked for only the identification purpose and the collected fishes were preserved in 10% formalin and deposited in Research laboratory of Department of Zoology, Arts, Commerce and Science College Sonai Ms. India for Morphological study.

2.3 Identification of Fishes

With the help of local names, photographs and standard keys proposed by J. Muller (1844) and Books, entitled "identification of fishes" also the keys given in Book of Day, [12], and, Jayraman. C., [13], For this study freshwater fishes books of Authorvv, Talwar, P.K. and A.Jhinram, also studied [14].

3. RESULTS AND DISCUSSION

During the study various fish varities were observed in the Hivra Dam,Pachora Tahasil,Jalgaon District(MS). The results showed the dam is rich in fish diversity. Fishes belonging to orders Cypriniformes, Carangiformes, Perciformes, Siluriformes and Synbranchiformes and families Cyprinidae, Carangidae, Cichidae, Pangaciidae and Mastacembelidae were observed and identified from January 2021 to September 2021. Total 10 diferent species belonging to families Cyprinidae, Carangidae, Chichilidae, Pangasiidae and Mastacembelidae are found. The genera Catla, Labeo and Thinnichthyes are dominant in the Hivra Dam whereas Cyprinus and Cirrhinus are moderately found.The genera Parasrometeus, Tilapia, Puntius, Pangasius and Mastacembelus are found in less numbers.

Fig. 1. Geographical location of Hivra Dam

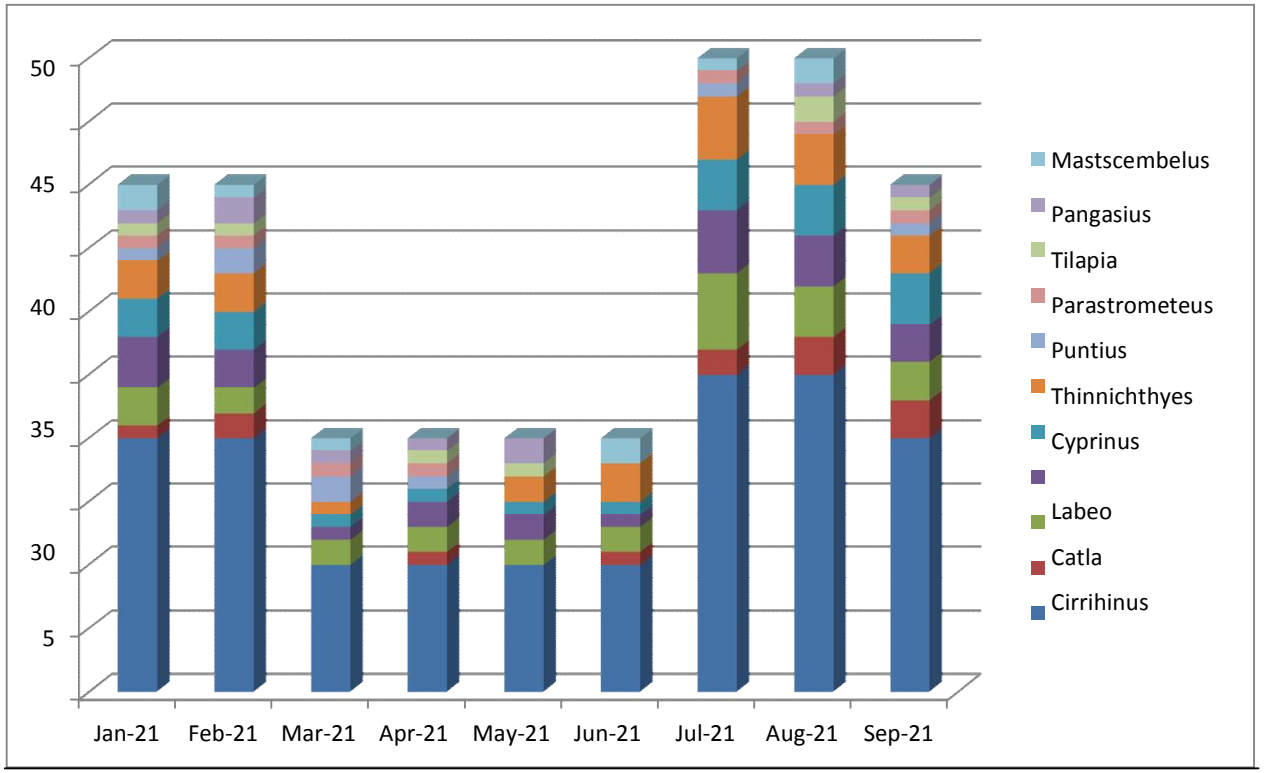
The fishes reported during the survey from January 2021 to September 2021 are depicted in the given tables.

Table 1. Systmatic classification

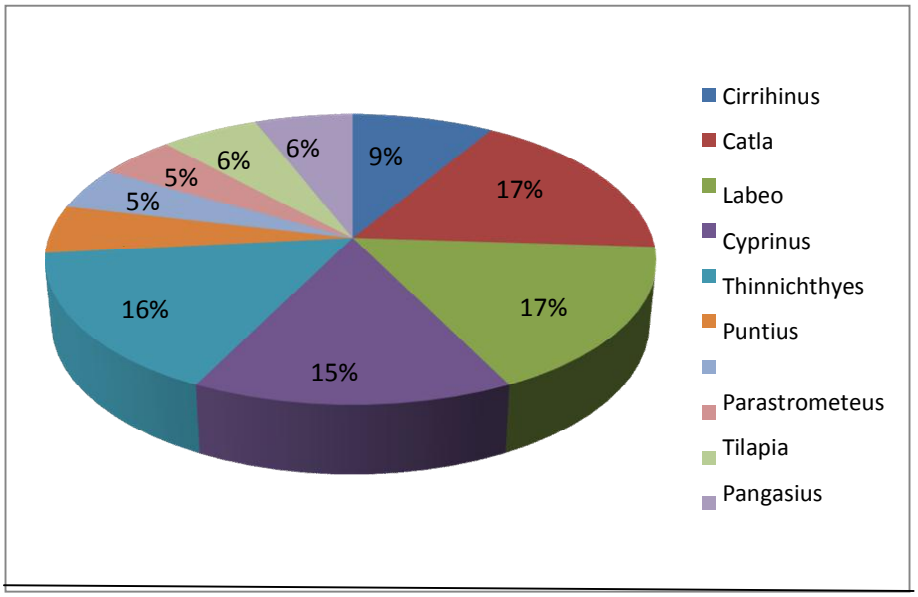
Sr. No.	Local Name	Comm on name	Class	Division	Order	Family	Genus	Species	Authors and year of Publication
1	Dedor Fish	Indian Major Carp	Actinopterygii	Teleostei	Cypriniformes	Cyprinidae	*Cirrihinus*	*mrigala*	Hamilton Bachman 1822
2	Catla Fish	Indian Major Carp	Actinopterygii	Teleostei	Cypriniformes	Cyprinidae	*Catla*	*catla*	Jhingram 1966
3	Rohu Fish	Indian Major Carp	Actinopterygii	Teleostei	Cypriniformes	Cyprinidae	*Labeo*	*rohita*	Hamilton Bachman 1822
4	Kombad a Fish	Comm on Carp	Actinopterygii	Teleostei	Cypriniformes	Cyprinidae	*Cyprinus*	*carpia*	Linnaeus 1758
5	Gher Fish	Sandk hol	Actinopterygii	Teleostei	Cypriniformes	Cyprinidae	*Thinnichthyes*	*thynnoids*	Bleeker 1852
6	Silver Fish	Paral	Actinopterygii	Teleostei	Cypriniformes	Cyprinidae	*Puntius*	*sanctus*	Plamoottil 2020
7	Halwa Fish	Black Pomphret	Actinopterygii	Teleostei	Carangiformes	Carangidae	*Parastrometeus*	*niger*	Bloch 1795
8	Africa Fish	Tilapia	Actinopterygii	Teleostei	Perciformes	Cichilidae	*Tilapia*	*oreochromis*	Gunther 1889
9	Pankaj Fish	Pangas Catfish	Actinopterygii	Teleostei	Siluriformes	Pangasiidae	*Pangasius*	*pangasius*	Hamilton 1822
10	Vam Fish	Tire Trackeel	Actinopterygii	Teleostei	Synbranchi formes	Mastacemb e lidae	*Mastscembelus*	*armatus*	Scopoli 1777

Table 2. Population survey of fish species from Hivra Dam during the year 2021

Sr. No.	Month (2nd week) and Year	Site of Collection	No. of Fishes collected	No. of fishes Preserved	Voucher No	Genera									
						Cirrihinus	***Catla***	***Labeo***	***Cyprinus***	***Thinnichthyes***	***Puntius***	***Parastromateus***	***Tilapia***	***Panga sius***	***Mastscembelus***
1	January 2021	Khadak deola Kd.	20	1	ZLVr.1	1	3	4	3	3	1	1	1	1	2
2	Februa ry 2021	Waghul kheda	20	1	ZLVr.2	2	2	3	3	3	2	1	1	2	1
3	March 2021	Sarola	10	1	ZLVr.3	0	2	1	1	1	2	1	0	1	1
4	April 2021	Chinck heda	10	1	ZLVr.4	1	2	2	1	0	1	1	1	1	0
5	May 2021	Khadak deola Kd.	10	1	ZLVr.5	0	2	2	1	2	0	0	1	2	0
6	June 2021	Waghul kheda	10	1	ZlVr.6	1	2	1	1	3	0	0	0	0	2
7	July 2021	Sarola	25	2	Zlvr.7	2	6	5	4	5	1	1	0	0	1
8	August 2021	Chinck heda	25	2	ZLVr.8	3	4	4	4	4	0	1	2	1	2
9	Septem ber 2021	Khadak deola Kd.	20	1	ZlVr.9	3	3	3	4	3	1	1	1	1	0

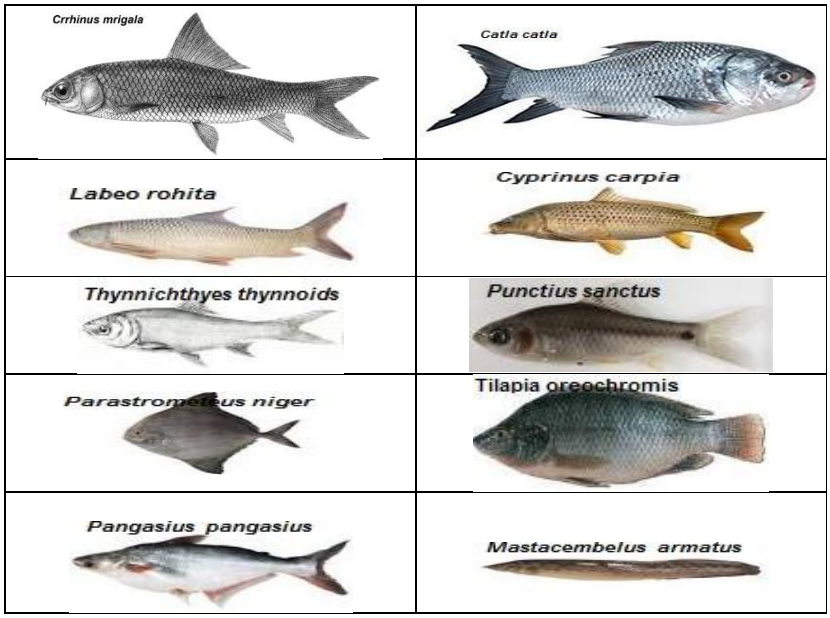


Graphical Representation 1. Population survey of fish species from Hivra Dam during the year 2021



Graphical Representation 2. Population survey of fish genera from Hivra Dam during the year 2021

Thus the biodiversity in the Hivra Dam is high, but it should be taken care of. As India is eighth in position in the world and third in Asia in fish biodiversity [1], it is necessary to maintain these ranks by bringing about the conservation of fish biodiversity. The production of indigenous fishes can be increased. The indigenous fishes can be introduced into the value systems of society like sport, biological control and aesthetics etc. [1]. The awareness about stopping illegal method of catching fish can be created among local fishermen and fish farmers of this area so that fresh water fish resources can be conserved. Fishermen and fish farmers can be awared about fishing, scientific methods, and facilities available for them. Fishermen and fish farmers should stop the fishing of immature fishes, spawns and larval fishes. For getting more yields loan facilities by the government to those stakeholders can be given on large scale.



Photoplate 1. Fish Biodiversity of Hivra Dam, Pachora Tahasil, Dist. Jalgaon, Maharashtra

4. CONCLUSION

We can conclude from the above survey that we should provide all the bests to the stakeholders related with fish biodiversity to keep them enriched with all the nutritional, financial, medicinal, aesthetic and scientific knowledge. Thus the human being can become successful in conserving fish biodiversity as a natural wealth.

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COMPETING INTERESTS

Authors have declared that no competing interests exist.

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