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COMPARATIVE STUDY OF FISH BIODIVERSITY AT CHARGAON LAKE IN WARORA TALUKA, CHANDRAPUR DISTRICT, (M.S.) INDIA.

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ABSTRACT: The fish variety is a decent sign of condition of water biota. A virtuous piscine multiplicity characterizes the well-adjusted environment. Compelling this hooked on deiberation the fish variety of Chargaon Lake is considered during present study. The fishes are one of the most essential vertebrate, protein rich food sources for human and several animals. It is most important elements found in the cheap price of many states. Fish variety of Chargaon Lake basically denotes the fish faunal multiplicity. Chargaon Lake preserve a rich variety of fish species which supports the profitable fisheries in Warora Taluka, District Chandrapur. Keeping in the view, the diversity of fish fauna of the Chargaon Lake in Warora Taluka in Chandrapur District, Maharashtra, and Central India has been studied from the period July 2020 to Aug 2021. The aim of the study was to explore the fish fauna of Chargaon Lake.

Key words: - Ecosystem, Diversity, Economy, Aquatic, Protein and Source..

INTRODUCTION :

The productivity of fish species has fascinated the courtesy of distinguished scholars and state has a good involvement in stirring the information group on the water biodiversity of the nation. Some of the earliest studies on the aquatic biodiversity of the state were carried out by Hora and Nair (1941) reported 42 species of fishes in Rihand River of state. Motwani and David (1957) reported 95 species of fishes belonging to 20 families from the some drainage. Dubey and Mehra (1962) recorded 70 fish species in River Chambal. Vyas *et. al.,* (2012) recently studied the aquatic biodiversity of ponds and Rivers of Madhya Pradesh and reported the presence of 86 fish species in different River basin of Madhya Pradesh.

The state of Maharashtra is one of the imperative aquatic biodiversity hotspots of the state, having presented with a large number of water bodies both lotic and lentic, the state assertions of a rich fish biodiversity. Chargaon Lake is by far the most substantial water properties of the state of Maharashtra. The Chargaon Lake is the most essential environmental hub for aquatic biodiversity in Chandrapur District and has therefore been the epicenter of the biodiversity studies.

There is practically not much information available in the literature regarding the recent fish fauna of the Chargaon Lake in Warora Taluka, District Chandrapur in Maharashtra State, India. Further no attempt seems to have been made so far to study the fish diversity of this Chargaon Lake. The Chargaon Lake is the sustenance of the people lives in nearly villages mostly for various localendeavors. Fishing for wages and nourishment is a common practice of the local community.

India is one of the mega biodiversity countries in the world and inhabits the ninth position in terms of freshwater mega biodiversity (Mittermeier *et. al.,* 1997). In India there are 2,500 species of fishes of which 930 live in

freshwater and 1,570 are marine (Kar *et. al.,* 2003). Day (1994) described 1418 species of fish under 342 genera from British India. Jayaram (1981) listed 742 freshwater species of fishes coming under 233 genera, 64 families and 16 orders from the Indian region. Talwar (1991) estimated 2546 species of fish belonging to 969 genera, 254 families and 40 orders from India.

MATERIAL AND METHODS:

Sampling and Analysis: - During the present study, random water samples were collected at periodicintermission during July 2020 to August 2021, using clean 1L-polyethylene bottle for investigation of water variables in the laboratory from the Chargaon Lake. The water quality parameters such as air and water temperature, Ph., Secchi Disc transparency, alkalinity (carbonate and bicarbonate) and dissolved oxygen were measured on in the field itself. The air and water temperature was recorded through digital equipment and dissolved oxygen was analyzed by using Modified Winkles Method. American Public Health Association (APHA, 1998) and Adoni*et. al.,* (1985) methodology was adopted for the analysis of physico-chemical properties of water of Chargoan lake. The fishes were collected using monofilamentous gill nets of 10-50mm mesh sizes. We also used cast nets of 10-25mm mesh sizes for collecting fish in superficial areas. Fish specimens were also collected from different fish landing sites. All the specimens were preserved in 4% formaldehyde solution at the field.

Fishes brought to laboratory were preserved in 10% formalin solution in separate specimens jar according to the size of specimen. The fishes were identified using standard keys of Jayaram (1981), Qureshi &Qureshi (1983), and Day Francis (1994). Fish Base website was also referred for various aspects of fish fauna (www.fishbase.org).

RESULTS AND DISCUSSION:

The Chargaon Lake assists as a basis of aquatic for irrigation to neighboring villages.During present investigation 18 species of fishes belonging to 16 genera, 11 families and 5 orders were identified (Table No.1). The order Cypriniformes was found to be dominant among fishes. Total 6 species of fishes were observed belonging to or Cypriniformes and family Cyprinidae. The members of this family are distributed in freshwater habitat all over the world. Freshwater carps are included in this order. The second largest order observed at Chargaon Lake was Siluriformes. Generally, cat fishes are included in this order of fishes. The collectivedocumentation marks of these fishes is presence of one or two pairs of barbles. The four species belonging to order Perciformes, two species belonging to Ophiocephaliformes and one species belonging to Osteoglossiformes were also detected from the Chargaon Lake. The sparinglyvital species of fishes like *Labeorohita, Catlacatla, Channastriatus, Channamarulius,* and *Tilapia mossambica* were found numerically more in Chargaon Lake during the study period. This was due to the release of seedlings and fingerlings of these economically important fishes in Lake for commercial fishery practices.The variety and richness in fishes of Chargaon Lake is recognized to the availability of adequately of food material and vigorous ecosystem developed concluded a long period of time. It is also may be the result of measured fishing follows at Chargaon Lake. The fishes choose the idealbiologicaldynamics for their presence and propagation.

Sakhare (2001) reported the occurrence of 23 species of fishes belonging to 7 orders at Jawalgaon reservoir, Dist. Solapur (M.S.). The order Cypriniformes was reported to be the dominant in terms of number of species.Sarwade and Khillare (2010) reported the 60 species of fishes belonging to 15 families and 36 genera during their study on Ujani

wetland (M.S.). Kamble and Reddi (2012) reported the occurrence of 10 species of fishes belonging to 5 orders and 6 families. Kharat*et al.,* (2012) had recorded 51 species of fishes belonging to the 14 families and 35 genera during their study on Krishna River at Wai (M.S.). Jayabhaye and Lahane (2013) observed the 21 species of fishes belonging to 6 families and 13 genera during their study period on Pimpaldari tank, Dist. Hingoli(M.S.). Our findings are corroborating with observations of Sakhare (2001), and Sarwade and Khillare (2010), Kharat*et al.,* (2012) and Jayabhaye and Lahane (2013).

CONCLUSION:

The Chargaon Lake reveal a good Ichthyofaunal diversity characterized by 18 species of fishes belonging to 16 genera, 11 families and 5 orders. The diversity and plenty of fishes in Chargaon Lake represents the appropriateness of water of Chargaon Lake for aquaculture practices. To maintain the productivity of aquatic environment uninterrupted watching of lake is desirable.

The present study that the Chargaon Lake hosts a number of freshwater fish species. But the fish fauna of this lake are being threatened due to several anthropogenic activities including introduction of exotic fish species, habitat degradation, pollution, irrational fishing. Due to different anthropogenic activities the fish diversity of this water body is in declining mode. To conserve this inherent treasure of Chargaon Lake, the wetland of International importance, a long term management plan should be adopted.

Effective implementation on the regulation on mesh size and fishing gear is much needed to prevent over exploitation. Strict management measures with large public awareness would be essential to save the fish germplasm and it's time to make proper policies and take necessary actions to improve conservation measures so that the future generations get the fish live on the earth rather than the photographs in the literature. This study would serve as a frame of reference for future initiatives in studying fish biodiversity and conservation management.

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Table No.1 Fishes Observed at Chargaon Lake during the period from July.-2020 to Aug.-2021:

Sr. No.	Order	Family	Scientific name of fish
1	Cypriniformes	Cyprinidae	*Catlacatla* *Cirrhinamrigala* *Cyprinuscarpio* *Labeorohita* *Puntius sarana* *Puntius ticto*
2	Ophiocephaliforme	Channidae	*Channamarulius* ***Channastriatus***
3	Osteoglossiformes	Notopteridae	*Notopterusnotopterus*
4	Perciformes	Centropomidae	*Ambassisranga*
		Gobiidae	*Glossogobiusgiuris*
		Mastacembelidae	*Mastacembelusarmatus*
		Cichlidae	*Tilapia mossambica*
5	Siluriformes	Bagridae	*Mystusseenghala*
		Clariidae	*Clariasbatrachus*
		Heteropneustidae	*Heteropneustesfossilis*
		Siluridae	*Ompokpabda. Wallago attu*

Following fishes were foundat Chargaon Lake during the study period from July.-2020 to Aug.-2021:

Catlacatla

Cirrhinamrigala

Cyprinuscarpio

Labeorohita

Puntius sarana

Puntius ticto



Channamarulius *Channastriatus* *Notopterusnotopterus*



Ambassisranga *Glossogobiusgiuris* *Mastacembelusarmatus*



Tilapia mossambica *Mystusseenghala* *Clariasbatrachus*



Heteropneustesfossilis *Ompokpabda* *Wallago attu*