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## Ichthyofaunal diversity from Khadakpurna dam, district Buldhana, Maharashtra, India

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### Abstract

The present study was carried out from July 2013 to June 2015, 23 fish species under 21 genus 12 families and 07 orders were recorded. Cyprinidae family was dominant with 11 (47%) fish species. Bagridae family contribute 02 (09%), Channidae, Mastacembelidae, Cichlidae, Clariidae, Balitoridae, Siluridae, Schilbeidae, Poeciliidae, Notopteridae and Mugilidae families contribute 01 (04%) fish species. Khadakpurna dam contribute ichthyofaunal diversity of Buldhana district and as well as Maharashtra state India.

**Keywords:** Kadakpurna, Buldhana, cyprinidae, ichthyofauna and diversity.

### 1. Introduction

“The most wonderful mystery of the life may well be the means by which it created so much diversity from so little physical matter” [1]. India is known for reach freshwater habitat to a wide variety of flora and fauna. Maharashtra plays a vital role in freshwater biodiversity especially ichthyofaunal diversity. 5 major water basins i.e. Painganga-Wardha-Wainganga, Tapi-Purna, Bhima, Godavari, & Krishna are the freshwater fish resource of Maharashtra which constitutes 6 orders, 25 families, and 160 species all under the inland water. [2-9]. Fish species are unevenly distributed in all major rivers of the world and having over 25,000 species of fishes. These species richness is high in tropical region compared to other parts of the world, usually these regions are called as high level of endemism probably due to the climatic condition of the tropical region are more stable as compared to the temperate regions of the world.

Tropical fishes have evolved to survive in very warm water and may seem less likely to suffer negative impacts with increase in water parameters. This could be one of the favourable conditions for the growth, survival and evolution for the fish species in tropical region, where greater diversity of environment contributes to greater biological productivity. Around the world approximately 22,000 species of fishes have been recorded out of which 11% are found in India i.e. 2,420, where the Osteichthyes include 34.55% and Chondrichthyes include 65.45%. In India, there are 2500 species of fishes of which, 930 live in freshwater and 1,570 are marine [34].

There are about 450 families of freshwater fishes globally, about 40 represent in India (warm freshwater fishes) about 25 of these families are commercially important. [7, 11] were the first modern writers of Indian fishes.

To protest, maintain and enhance our freshwater fish diversity it is essential to understand the connection of the individual species to the broader ecological drivers and geomorphological process with their habitat.

### 2. Materials and Methods

To study ichthyofaunal diversity of Khadakpurna medium irrigation project from June 2013 to May 2015 fish samples were collected from sampling site which represent the ichthyofaunal composition of Khadakpurna irrigation project.

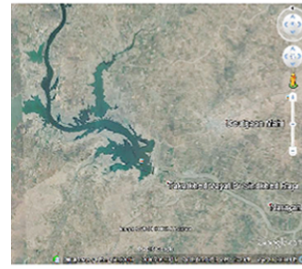
Fish samples were collected every week during the study period from the fish landing centers with the help of skilled local fishermen by various fishing crafts, gears with variable mesh size. Sampling points were distributed throughout the site to cover its whole area and location was changed for the collection of fish fauna according to the season.

Identification of fishes was done up to species level at fish landing center to get its natural colour, pattern of scales, fins, mouth pattern, identification marks like black spot, bloach on operculum, paired and unpaired fins and body parts with the help of standard literature by [8, 11, 4, 12, 5, 13, 6, 14-17]. Fish species which were not identified on the field (landing center) were preserved in 10% formalin or 5cc of formalin was injected in the belly of fish with disposable syringe and packed in polythene bags. These fish samples were brought to Fishery research laboratory, Department of Zoology, Dr. Babasaheb Ambedkar Marathwada University, Aurangabad for further identification.

The study area is 110 km away from Aurangabad (Fishery Research Lab, Department of Zoology, Dr Babasaheb Ambedkar Marathwada University Aurangabad) and is situated on latitude 20°05' 09.33" N and longitude 76°09' 15.78" E [10]. The river Purna is one of the tributaries of river Godavari, sub basin Purna, basin Godavari. River Purna originates from hilly regions of Ajanta ranges district Aurangabad, (M.S). The river flows from North West to East. (Toposheet index no 56A/10, C-1). The river travels 300 km through four districts (Aurangabad, Jalna, Buldhana, and Parbhani) and joins Godavari at Kanteshwar taluka Purna, district Parbhani and hence called as life line of that region. The distance from Ajantha ranges to Khadakpurna is 160 km. The length of dam is 2000 m and having 19 gates. The length of the right canal is 38 km, Khadakpurna to devkhed and left canal 9 km Khadakpurna to kairav and backwater up to Jafrabad. The main purpose of this dam is to water for

drinking, irrigation and domestic purpose, for district Buldhana.

#### PLATE - 01



SATELLITE VIEW



WALL OF THE DAM



FISHING SITE



RIVER SITE

**Table 1:** Ichthyofauna from Khadakpurna Dam

Order	Family	Genus	Species	
Cypriniformes	Cyprinidae	<i>Labeo</i>	<i>rohita</i>	
		<i>Puntius</i>	<i>stigma</i>	
			<i>ticto</i>	
		<i>Salmostoma</i>	<i>phulo</i>	
		<i>Rasbora</i>	<i>daniconius</i>	
		<i>Catla</i>	<i>catla</i>	
		<i>Cyprinus</i>	<i>carpio communis</i>	
		<i>Cirrhinus</i>	<i>mrigala</i>	
		<i>Osteobrama</i>	<i>cotio cotio</i>	
		<i>Hypothalmichthys</i>	<i>nobilis</i>	
		<i>Thynnichthys</i>	<i>sandkhol</i>	
			<i>Nemacheilus</i>	<i>botia botia</i>
		Siluriformes	Siluridae	<i>Ompok</i>
Bagridae	<i>Mystus</i>		<i>bleekeri</i>	
			<i>cavasius</i>	
Schilbeidae	<i>Eutropiichthys</i>		<i>goongwaree</i>	
	Clariidae	<i>Clarias</i>	<i>batrachus</i>	
Cyprinodontiformes	Poeciliidae	<i>Poecilia</i>	<i>reticulate</i>	
Osteoglossiformes	Notopteridae	<i>Notopterus</i>	<i>notopterus</i>	
Perciformes	Channidae	<i>Channa</i>	<i>orientalis</i>	
	Cichlidae	<i>Oreochromis</i>	<i>mossambica</i>	
Synbranchiformes	Mastacembelidae	<i>Macrognathus</i>	<i>pancalus</i>	
Mugiliformes	Mugilidae	<i>Rhinomugil</i>	<i>Corsula</i>	
Total: 07 Order	12 Families	Genus:- 21	Species:- 23	

PLATE - I



*I. aheo rohita*



*Puntius stiar.*



*Puntius ticto*



*Rasbora daniconius*



*Osteobrama cotio cotio*



*Catla catla*



*Cirrhinus mriala*



*Hypothalmichthys nobilis*



*Eutropiichthys goongwaree*



*Thynnichthys sandkhol*



*Ompok bimaculatus*



*Nemacheilus botia botia*



*Mystus bleekeri*



*Mystus cavasius*



*Poecilia reticulata*



*Notopterus notopterus*



*Channa orientalis*



*Clarias batrachus*



*Salmostoma phulo*



*Cyprinus carpio communis*



*Oreochromis mossambica*



*Macroanathus pancalus*



*Rhinomuail corsula*

### 3. Results and Discussion

During the study period from July 2013 to June 2015, 23 fish species under 21 genus 12 families and 07 orders were recorded. Cyprinidae family was dominant with 11 (47%) fish species. family contribute 02 (09%), Channidae, Mastacembelidae, Cichlidae, Clariidae, Balitoridae, Siluridae, Schilbeidae, Poeciliidae, Notopteridae and Mugilidae families contribute 01(04%) fish species each. Cyprinidae family was dominant during study period due to their hardy nature and better adaptability of surrounding atmosphere [18]. Have reported 08 fish species in which Cyprinidae family was dominant with 08 fish species from Chenani Hydroelectric Reservoir, Udhampur (J&K) India [19]. Have reported 26 fish species in which Cyprinidae family was dominant with 11 species from Bilawali Tank, Indore (M.P.) [33] have reported 165 fish species in which family cyprinidae was dominant with 87 fish species from Maharashtra [20]. Have studied 18 fish species from Godavari River at Dhangar Ta. Purna Dist. Parbhani in which cyprinidae family dominant with 08 fish species [21]. Have reported 09 fish species from Isapur Reservoir, Maharashtra state, in which cyprinidae family dominant with 05 fish species [22]. Have reported 25 species from Anjanapura Reservoir, Karnataka in which Cyprinidae was dominant with 14 fish species [23]. Have reported 15 fish species were 11 fishes are dominant from family Cyprinidae from Harsool Sawangi Dam Aurangabad [24]. 21 fish species were reported from Pimpaldari tank, Hingoli, Maharashtra, India in which Cyprinidae family was dominant with 11 fish species [25]. Have reported 37 fish species from Charju River, Tirap District, Arunachal Pradesh, India in which Cyprinidae family was dominant with 16 fish species [26]. Have reported 63 fish species in which Cyprinidae family with 23 fish species from River Champavathi, Vizianagaram District (AP) India [27]. Have reported 97 fish species in which Cyprinidae family dominant with 39 fish species from Lower Reaches of the Brahmaputra River Assam [28]. Have reported 65 fish species in which Cyprinidae family was dominant with 13 fish species from Teesta River in Darjeeling Himalaya of West Bengal, India [29]. Have recorded 83 fish species in which Cyprinidae family was dominant with 31 fish species from Sonkosh River Assam [30]. Have reported 32 fish species in which Cyprinidae family was dominant with 19 fish species from Tunga River, Karnataka, India [31]. Have reported 37 fish species in which Cyprinidae family was dominant with 29 species from Karanja Reservoir, Karnataka, India [32]. Have reported 33 fish species in which Cyprinidae family was dominant with 18 fish species from Bhadra reservoir of Karnataka, India.

### 4. Conclusion

Present study made a attempt to make a biological database for the protection of endangered and threatened fish species from Khadakpurna dam. Under this concept, an effective management and conservation of freshwater fishes and fishery have must considered in the management of freshwater of Kadakpurna dam Maharashtra.

### 5. Acknowledgement

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