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Inventorisation and study of Ichthyofaunal diversity from Asolamendha Lake Tah. Sindewahi, Dist. Chandrapur (M.S.) India

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Abstract
Asolamendha Lake is a huge lake present near Pathari village, Tah. Sindewahi of Chandrapur district; the north eastern part of Maharashtra state of India. The study was carried out for the 2 year from June 2010 to May 2012 for Ichthyofaunal diversity. The collection and observation of fishes has been done during pre-monsoon, monsoon and post-monsson seasons during the investigation period. The lake is used for agriculture, irrigation and fishing purpose. During two year study different varieties of fishes were observed from Asolamendha lake. Lake was found rich in fish biodiversity. The collected fish fauna includes carps, minnows, loaches, barbs, catfishes and perches. The present investigation reveals an inventory of Ichthyofaunal diversity consist of, 32 species from 24 different genera, and 12 families belonging to 7 orders. Culturable species like *Catla catla, Labeo rohita* and *Cirrhinus mrigala* and other species *viz., Mystus sp., Ompak sp., Mastacembelus sp., Channa punctatus* and some species from cypriniformes were found frequently and obtained from most of the sampling sites.

Keywords: Asolamendha, ichthyofauna, diversity, Chandrapur

1. Introduction
Fishes form the most diverse and protean group of vertebrates; fishes are a treasured source both in terms of utility as food and as material for scientific study. Fish constitutes half of the total number of vertebrates in the world. About 21,730 species of fishes have been recorded in the world of which about 11.7% are found in Indian water [8]. In India out of 2500 species of fishes, 930 occur in freshwater. Fresh water fish are used as bio indicators for the assessment of water quality, river network connectivity or flow regime [2]. Many workers have studied taxonomy, bio - diversity and distribution of fishes found in various parts of Indian subcontinent provided that there is a need for the survey of bio diversity of fishes in different types of habitats all over the country. Jayaram [6] studied fish diversity of Indian subcontinent. Yazdani [18] reported Icthyofauna from Krishna, Cauveri and Ganga river of India. In State of Maharashtra, Icthyofaunal diversity was studied by Ahirrao and Mane [1], Sakhare & Joshi [12], Yadav [16, 17], Rathod [11], Tijare [14], Harney [5], Lonkar and Kedar [8] and Paliwal [10]. However, very less information about fish diversity of this lake is available. Therefore the present investigation was undertaken to study the occurrence and complete scenario of fish diversity of Asolamendha Lake from district Chandrapur.

2. Material and methods
2.1 Sampling
Fishes were collected during the study period from Asolamendha lake with the help of local fishermen using gill nets of standardized dimensions with several mesh size and different types of nets, namely cast net, drag net and Bhor jal. Gill netting was installed over night and cast netting during day time. Fish sampling was performed in 100 meter reach of all the three sampling sites. During every catch, fishes were bringing out at shoreline area for taxonomic study. After proper identification photographs were snapped and characters were noted along with fish formula and morphometry. Species identification and confirmation were carried out with the help of standard keys and books (Sterba [13], Lagler [7], Talwar & Jhingran [15], Jayaram [8], Gupta [4]. After completing the all process fishes were released in to lake water. To investigate the Ichthyofaunal diversity, relative species abundance and aspects of inland fisheries of Asolamendha Lake was selected as a case study in this region of Maharashtra.

2.2 Study area

This is a perennial lake constructed on the Pathri river and water of the lake used for the agriculture and fishery purposes. The sub-basin of lake is Pranhita while basin is Godavari river. The lake situated 1km away from Pathari village and near about 60 km away from Chandrapur city at coordinates 20°15'16"N and 79°49'18"E. Its construction work have been started from 1902-03 and completed on 1917-18. It is a huge lake having water spread area over about 93724 hector and having water storage capacity 67.017 million cubic meters. The length of the main canal is 27.12 miles and the length of distributor or minor canal is 139.14 miles. About 18794303 sq. m. space is under the water surface and depth of lake is 208.33 m is noted as per the information collected by the irrigation department.

3. Result

During the two year investigation different varieties of fishes were studied from Asolamendha Lake. Lake was found rich in fish biodiversity. The collected fish fauna includes carps, minnows, loaches, barbs, catfishes and perches.

The present investigation reveals an inventory of ichthyofaunal diversity which consists of 32 species from 24 different genera and 12 families belonging to 7 orders (Table 3.1). Order Cypriniformes was found to be more dominant including 12 species followed by Perciformes 9 species, Siluriformes with 6 species, Synbranchiformes 2 species, Osteoglossiformes 1 species, Atheriniformes 1 species, and Anguilliformis 1 species. Species were categorized as per their commercial importance and feeding habits like weed fish, larvicidal fish and predator fish.

In present investigation the following species shows their dominance especially, *Wallago attu, Catla catla*, *Labeo rohita, Channa punctatus* while *Rosbora daniconius, Mystus vittatus* and *Puntius ticto* were observed frequently

Catla catla, *Labeo rohita, Channa punctatus*, shows dominance because fishery society release fish seed during monsoon season. More number of species was found in the lake, probably as the inflow of lake is from Pathari river, fishes can migrate from river to the lake during mosoon season. *Puntius sophore*, *Puntius sarana sarana*, *Puntius ticto*, *Mystus bleekeri*, *Mystus vittatus*, *Mystus cavasius* were most frequently observed. *Collisa fasciatus* was the only larvicidal fish found and widely used as aquarium fish.

Table 3. 1: Diversity of Ichthyofauna of Asolamendha lake during 2010-12

S.N.	Order	Family	Scineticfic name	Common name	Status
1	Osteoglossiformes	Notopteridae	1. *Notopterus notopterus* (Pallas)	Feather Back	+
2	Cypriniformes	Cyprinidae	2. *Catla catla* (Hamilton-Buch)	Catla	+++
			3. *Labeo rohita* (Hamilton-Buch)	Rohu	+++
			4. *Cirrhinus mrigala* (Hamilton-Buch)	Mrigal	++
			5. *Cyprinus carpio* (Linnaeus)	Common carp	++
			6. *Puntius sophore* (Hamilton-Buch)	Sophore	++
			7. *Puntius sarana* (Hamilton-Buch)	Khavli	++
			8. *Puntius ticto* (Hamilton-Buch)	Fire fin barb	++
			9. *Rasbora daniconius* (Bleeker)	Black line rasbora	+++
			10. *Osteobrama cotio cotio* (Hamilton)	Cotio	++
			11. *Hypophthalmichthys molitrix* (Valenciennes)	Silver carp	++
			12. *Salmostoma bacila* (Hamilton)	Minnow	+
			13. *Nemacheilus botia* (Hamilton)	Minnow	+
3	Siluriformes	Bagridae	14. *Mystus bleekeri* (Day)	Seenghala	+++
			15. *Mystus vittatus* (Bloch)	Katva	+++
			16. *Mystus cavasius* (Hamilton-Buch)	Gangetic Mystus	+++
		Siluridae	17. *Ompok pabda* (Hamilton)	Pabda	++
			18. *Ompok bimaculatus* (Bloch)	Butter cat fish	++
			19. *Wallago attu* (Bleeker)	Shark cat fish	+
4	Atheriniformes	Belonidae	20. *Xenentodon cancila*(Hamilton- uch)	Kowa	+
5	Perciformes	Ambassidae	21. *Ambassis nama* (Hamilton)	Glassyfish	++
			22. *Ambassis ranga* (Hamilton)	Glassyfish	++
		Channidae	23. *Channa striatus* (Bloch)	Banded snakehead	+
			24. *Channa punctatus* (Bloch)	Spotted snake head	+++
		Nandidae	25. *Nandus nandus* (Hamilton- Buch)	Dukkar	-
			26. *Colisa facinatus* (Bloch Schneider)	Giant Gourami	-
			27. *Badis badis* (Hamilton)	Blur Perch	+
		Cichlidae	28. *Tilapia mossambicus* (Peater)	Telapi	++
		Gobidae	29. *Glossogobius girius* (Hamilton)	Kaddu	+
6	Synbranchiformes	Mastacembelidae	30. *Mastacembelus puncalus* Hamilton)	Malga	++
			31. *Mastacembelus armatus* (Lacepede)	Spiny eel	++
7	Anguilliformes	Anguillidae	32. *Anguilla bengalensis* (Gray)	Indian long - Fin eel	++

Species abundance analysis: Mostly observed +++, Frequently observed ++ & Rarely observed +

4. Discussion

It was concluded that further study may be done to develop technique for fish to contribute a better knowledge of the fish diversity of Asolamendha lake, district Chandrapur and a tool for conservation planning of aquatic environments in this fisheries. It is, however, essential that conservation efforts should ensure that the current status of the fish fauna is maintained by minimising anthropogenic impacts and the introduction of exotic species. The use of illegal methods to catch fish should be banned in this area to prevent depletion of native freshwater fish diversity. The conservation of Ichthyofuana of this ecosystem can be achieved by introducing scientific fish faunal conservation.

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