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**COMPARITIVE ACCOUNT ON ICTHYOFAUNA OF WYRA AND PALER RESERVOIRS  
OF KHAMMAM DISTRICT, TELANGANA, INDIA**

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**Abstracts**

Wyra and Paler reservoirs are the historical most important man made reservoirs in Telangana state of India. The present study was aimed to generate information on the ichthyfauna of Wyra and Paler reservoirs of the Telangana. During the study period 31 fish species have been identified belonging to 21 genera, 11 families and 7 orders were identified in Wyra, from Paler 21 genera, 12 families and 7 orders recorded. Varying distribution patterns of different species of fishes have been observed in two reservoirs. Therefore, the present study indicates towards the necessity of the study of fish diversity for conservation and management of fish germplasm in two historical fresh water reservoirs.

**Key words:** Fish fauna, Wyra reservoir, Paler reservoir, fresh water.

**Introduction**

Species diversity is property of the population level while the functional diversity concept is more strongly related to ecosystem stability and stresses, physical and chemical factors for determining population dynamics in the lentic ecosystem (Kar, 2004). Looking into species diversity, among all the classes, fishes are probably diverse class at all taxonomic level and have the maximum species which is equal to the other entire vertebrate combine together. Fishes are one of the primary important elements in the aquatic habitat and play key role in economy of many countries. Our country is endowed with vast and varied resources possessing reservoir ecological heritage and rich biodiversity. India is one of the mega biodiversity hot spots contributing 11.72% of the globe fish diversity. Andhra Pradesh having 102

reservoirs which 7 are major, 26 medium, and 69 minor reservoirs with a water spread area of 2,34,269 hectares. So many oldest man made reservoirs are situated in the state. Hussainsagar (500 years old), sarornagar (275 years), mir Alam (170 years) pocharam (90 years, wyra (77 years) and so on. The present study was aimed to investigation of two historic reservoirs of Telangana have been selected for taxonomic comparison of fishes, limnological and faunistic diversity on wyra reservoir and paler reservoirs Khammam district, Telangana. (January2010- December 2011).

Fishes are most important vertebrates in aquatic animals so many earlier studies also reported on ichthyofauna in Andhra Pradesh (Chacko 1949; David 1963; Dutt & Reddy 1979; Barman, 1993 & Chandrasekhar 2003; Devi and Indra, 2003). The fish fauna of Medak District has been studied by Rahimullah (1944). Previously the fish fauna of Khammam District was partially reported by Barman (1993).

### **Wyra Reservoir:**

The Wyra reservoir is one of the moderate, perennial, manmade, rural and historical fresh water bodies of the Khammam District; it had been constructed during Nizam's period between 1922 to 1929 between two hills on Wyra reservoir (which is tributary of Godavari river basin) located at wyra. It is located 17<sup>0</sup>-15' North latitude and 80<sup>0</sup>-25' East longitude at about 25km from Khammam town of Khammam District. The total catchment area of reservoir is 19.14sq.km and capacity of 70.16tmc. This reservoir has been constructed for irrigational and drinking water usage and serving the purpose for about 24 villages that cover 9,308 hectares of irrigation the reservoir is spread over three mandals viz, Konijerla, Wyra, and Thallada in the District. The reservoir had also been declared has a tourism spot/recreational zone by the govt. of Telangana and also constructed a recreational park on a small hilly area at one end with boating facility...etc in the year 2005.

### **Paler Reservoir:**

The Paler reservoir is one of the medium sized fresh water bodies of the Khammam District, located at Paler village it is a tributary of Krishna river located in Khammam and Nalgonda districts in Telagana. It is situated about 30kms south western side of Khammam town. The paler reservoir has been constructed in the year 1928. It is located 17<sup>0</sup>-12' North latitude and 79-54' East longitude and is a balancing water body of Nagarjuna Sagar left canal. The total reservoir catchment area is 651.24 kms, reservoir water spread area is 7600 hectares with 2.55tmc. The reservoir hosts good diversity of ichthyofauna along with other fauna viz. Macro crustaceans, Malcofauna...etc due its fish potentiality it has

become lively hood to large number of fisherman families. The reservoir exclusively used for irrigation, domestic, fish culture and holy bathing and also use full for electricity (hydropower) generation.

**Material and methods**

During the study period, the fishes were collected once in a month from January 2010 to December 2011. Fish collection were made with the help of hand operated nets of varying sizes, some fishes were collected from fisher men when they were fishing and also at the time of harvesting of reservoirs. The collected fish specimens were preserved in 10% of formalin solution. The Identification of the fish species done with local name of the fishes used in this region according to mainly on the basis of color pattern, specific spots or marks on the surface on the body, shape of the body, structure of various fins and fin formula. The fishes were identified up to species by referring standard reference studies [ Misra (1962), Day (1878), Jayaram (1981), Dattamunshi and Srivastava (1985), Hamilton and Buchanan(1822), Talwar, and Jhingaran (1991)].

**Systemic account**

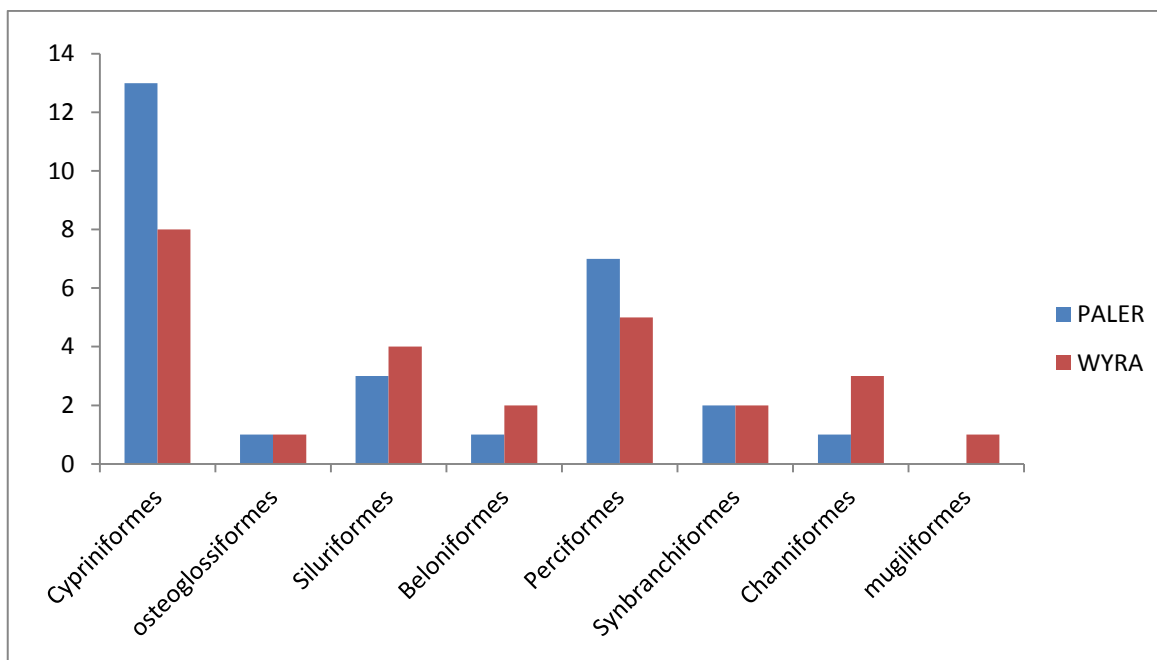
From Wyra reservoir 26 species of fishes belonging to 21 genera, 11 families and 7 orders were recorded and from Paler reservoir 28 species of fishes belonging to 21 genera, 12 families and 7 orders were recorded. The list of species available in reservoirs was shown in Table-1.

**Table-1: list of fish species occurring in Wyra and paler reservoirs.**

Species	Wyra reservoir	Paler reservoir
Notopteridae		
1.Notoppterus notopterus (pallas)s	+	+
Cyprinidae		
2.Salmostoma bacaila(Hamilton)	+	+
3.Esmous daniconius	-	+
4.Parluesoma danconius(Hamilton)	+	+
5.Puntious chola(Hamilton)	-	+
6.Puntiuos amphibious(Hamilton)	-	+
7.Puntious conchoniuis(Hamilton)	-	+
8. Puntious filamentosus	-	+
9. Puntious sophore (Hamilton)	+	+

10. Puntious terio	+	+
11. Puntious ticto(Hamilton)	-	+
12.Osteo brama cotio cotio	-	+
13.Catla catla (Hamilton)	+	+
14.Labeo rohita(Hamilton)	+	+
15.Chela laubuca(Hamilton)	+	-
16.Osteo brama vigorsii(Hamilton)	+	-
Bagridae		
17.Mystus vittatus(Hamilton)	+	-
18.Mystus cavasius(Hamilton)	+	-
19.Aorichthyees seenghalla(skyes)	+	+
20. Mystus bleekeri(day)	-	+
Siluridae		
21.Ompok padda(Hamilton)	-	+
22. Wallago attu(shneider)	+	-
Belonidae		
22.Xenentodon concila( Hamilton)	+	+
Mastacembelidae		
23.Macrogathus puncalus (bloch)	+	+
24.Mastacembelus armatus( Hamilton)	+	+
Ambasidae/chandidae		
25.Chanda nama( Hamilton)	+	+
26.Pseudambassis ranga( Hamilton)	+	+
Nandidae		
27.Nandus nandus( Hamilton)	-	+
Cichlidae		
28.Etroplus maculates(bloch)	+	+
29.Etroplus suratensis(bloch)	+	+
30. Osteo chromis mossambica	-	+
Gobidae		
31.Glossobius giuris( Hamilton)	+	+

Chanidae		
32. Channa punctatus(bloch)	+	+
33.Channa stritatus(bloch)	+	-
34. Channa orientalis( Hamilton)	+	-
Belontidae		
35.Polya canthus fasciatus(Schneider)	+	-



**Fig.1. Comparison of orders in Wyra and Paler reservoirs.**

**Results and Discussion**

Inland fisheries in india have great potential of contributing to the food security of the country. Resrvoirs and lakes are the main resources exploited for inland fisheries and understanding of fish faunal diversity is a major aspect for its developmental and the sustainability management. Fishes are the most important aquatic animals. It is being rich of nutrients. In the present investigation, from Wyra reservoirs 26 species, 21 genera, 11 families and 7 orders recorded. Whereas from Paler reservoir 21 genera 12 families and 7 orders are recorded. These two reservoirs are geographically located in Khammam District of Telangana in Deccan plateau region both reservoirs are free from urban and industrial pollutants. Reservoirs water basically using for irrigation, drinking, fish culture, recreation, holly bathing paler reservoir water also using for electricity generation. The seedlings of commercially important fishes like catla and labeo supplied

by the fish society. The study on Ichthyofaunal diversity from different fresh water bodies of India have been carried out during the last few decades (Raju Talwar and Jhingran 1991; Misra, 1999; Sarkar and Benerjee, 2000). The Ichthyofauna of both lakes majorly dominated by Cyprinid (Cypriniformes) and followed by the species of order Perciformes. Comparison of orders present in reservoirs was shown in fig.1. Most of the fishes are common in both reservoirs.

With recent scientific advances and new strategies, we can conserve aquatic resources and ensure its genetic diversity. We being the fishery scientist has no promote fishery and Endeavour to enhance the fish production to improve the socio-economic conditions of traditional fish farmer. According to vision 2020 document even after 50 years of independence still there is a lot to be done in fishery sector and water has been done so far in this sector is only a drop in the ocean. Therefore there is need to take measures, which have to be initiated to protect and preserve the fish genetic resources and few of them or also at the verge of extinction in this region. The fish germplasm resource of this region exhibits a combination of both torrential and plain water forms.

The present study elucidates the ecological significance of water bodies to increase fish growth and production. Nowadays all water resources are in threatened position by the impact of human population growth, industrial emissions, over harvesting of selected species, over fishing and loss of habitats are majorly showing severe effect on diversity of aquatic animals like fishes. The data thus obtained has been taken as basic criteria to suggest the remedy to enhance the fish growth and fish production not only in this water body but also in other water bodies too in this region. Hence there is an urgent need to create awareness among the people and fisher men to conserve and protect fresh water resources for maintain fresh water ichthyofauna diversity to some level.

## **Conclusion**

On the basis of present investigation, there is need to focus on protecting measures have been taken to maintain fresh water ichthyofauna in Wyra and Paler reservoirs to preserve germplasm for genetic resources.

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