



## Comparative account on ichthyofauna of Pocharam and Wyra lakes of Andhra Pradesh, India

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Andhra Pradesh has a long tradition of constructing big dams and reservoirs. Some of the oldest man-made lakes in the country are situated in the state: Hussain sagar (500yr old), Saroornagar (275yr), Mir Alam (170yr), Pocharam (90yr), Wyra (77yr) and so on. In the present study two historic lakes of Andhra Pradesh have been selected for taxonomic comparison of fishes. Projects “Limnological and Faunistic Studies on Pocharam Lake, Medak Dist. A.P.” (2003-05) and “Limnological and Faunistic Studies on Wyra Lake, Khammam Dist. A.P.” (2005-07), were conducted by the Fresh Water Biological Station, Zoological Survey of India/Hyderabad. As a part of the work the faunal diversity of fish fauna of these lakes have been studied.

Fishes are very important from the biodiversity point of view enjoying different ecosystems, habitats, and niches of aquatic environment. A limited number of

studies have also been carried out on ichthyofauna of some specific wetlands of Andhra Pradesh (Chacko 1949; David 1963; Dutt & Reddy 1979; Barman 1993 & Chandrasekhar 2003). The fish fauna of Medak District has been studied by Rahimullah (1944). The fish fauna of Khammam District was partially studied by Barman (1993).

**Pocharam Lake:** The largest and the most important reservoir of the Medak District is the Pocharam Reservoir (water spread area 16.835km<sup>2</sup>, with a depth of about 6-7m) formed by damming the Aleru River. It was constructed between 1916 and 1922 (18°08'N & 77°57'E) about 100km north-west of Hyderabad in Medak and Nizamabad districts. Owing to its unique location and the presence of forested tracts, the vertebrate faunal diversity is rich in comparison to other lakes.

**Wyra Lake:** Wyra Lake is located to the north of Wyra Town, about 25km south of Khammam between Khammam and Kothagudem towns in Khammam District. It was constructed in 1930. The lake is located 2km off the Hyderabad-Visakhapatnam highway, and is surrounded by greenery. Its water is unpolluted and potable and serves nearly 20,000 acres for cultivation and provides drinking water for 70 villages. The water spread area of the lake is about 19.166km<sup>2</sup>.

### Material and Methods

During the course of quarterly surveys in connection with the faunistic studies of the Pocharam and Wyra lakes, fish collections were made with the help of hand operated nets of varying sizes by randomly netting different areas of the wetland. Fishermen were engaged to operate cast-nets to collect the fishes. Some fish were collected from fishermen when they were fishing, and also at the time of harvesting. Fish from various sublocalities of Pocharam Lake (Pocharam Village, Pochammaralu, Rajpet, burugupalle, Polkampet, Wadalaparthi and Kottapalle, were collected during three quarterly surveys from July 2003 to April 2005.) From Wyra Lake (Siddiq Nagar, Singarayepalem, Lallurigudem, Mallavaram, Narayanapuram, Reddigydem and Brahmanapalle) fish were collected during three quarterly surveys from April, 2006-March, 2008). The specimens were fixed in 10% formalin. Fishes were identified with the aid of

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standard literatures on the groups viz. Jayaram (1999), Talwar & Jhingran (1991), and Menon (1999).

**Systematic account:** From Pocharam Lake 24 species under 12 families and six orders were recorded from a total of 755 specimens collected and from Wyra Lake 22 species of fishes under 17 genera, 11 families and six orders from a total of 808 specimens were collected (Table 1).

**Discussion**

The ichthyofauna of both lakes are dominated by cyprinid and cobitid species (Cypriniformes) followed by the species of perches (Perciformes) and species of other orders. Geographically both lakes are in the Deccan Plateau and are natural tributaries of the Godavari River which are meant for agriculture, fish harvesting and drinking water supply to nearby villages. These two lakes are not influenced by urban sewage and are surrounded by semi-deciduous forest with sugar cane, cotton and paddy fields. Physico-chemical parameters of both lakes show similarities like temperatue (26-32 °C), pH (7.5-7.8), DO (2.5-3.9mg/l), etc. Because of the many similarities, the ichthyofaunal diversity is found to be similar with a few exceptions. The seedlings of commercially important fishes like Catla and Labeo are introduced by the fisheries society. Most of the fishes are common to both lakes with some exceptions like *Etrophus suratensis*, *Channa striatus* and *Rhinomugil corsula* which are are found only in Wyra Lake. *Etrophus suratensis*, a shoaling fish, is very common in the estuaries and thrives well where luxuriant growth of aquatic vegetation is available. Dense vegetation, many water plants, hiding places and open swimming areas are suitable for this species in Wyra Lake. Another fish which is reported only in Wyra Lake, *Rhinomugil corsula* which thrives well in estuarine waters, is also reported from the Krishna River basin. The mixing of waters of the Krishna-Godavari river basins explains the occurrence of *Rhinomugil corsula* in Wyra. Whereas, one specimen of *Ompok bimaculatus* was reported in Pocharam Lake. This is generally not cultured in lakes but might have made its entry through the Godavari River system. Some of the riverine fishes such as *Sperata seenghala*, *Wallago attu* and *Rhinomugil corsula* are found to be inhabiting lentic waters such as lakes and reservoirs, so the maintenance of healthy environment of lentic

**Table 1. List of fish species occurring in Pocharam and Wyra lakes.**

Species	Pocharam Lake	Wyra Lake
<b>Notopteridae</b>		
1. <i>Notopterus notopterus</i> (Pallas)	+	+
<b>Cyprinidae</b>		
2. <i>Salmostoma bacaila</i> (Hamilton)	+	-
3. <i>Chela laubuca</i> (Hamilton)	+	-
4. <i>Parluciosoma daniconius</i> (Hamilton)	+	+
5. <i>Osteobrama vigorsii</i> (Hamilton)	+	-
6. <i>Puntius sophore</i> (Hamilton)	+	+
7. <i>Puntius ticto</i> (Hamilton)	+	+
8. <i>Catla catla</i> (Hamilton)	+	+
9. <i>Labeo rohita</i> (Hamilton)	+	+
<b>Balitoridae</b>		
10. <i>Schistura d. denisoni</i> (Day)	+	-
<b>Bagridae</b>		
11. <i>Mystus vittatus</i> (Hamilton)	+	+
12. <i>Mystus cavasius</i> (Hamilton)	+	+
13. <i>Sperata seenghala</i> (Sykes)	+	+
<b>Siluridae</b>		
14. <i>Ompok bimaculatus</i> (Bloch)	+	-
15. <i>Wallago attu</i> (Schneider)	+	+
<b>Belonidae</b>		
16. <i>Xenentodon cancila</i> (Hamilton)	+	+
<b>Mastacembelidae</b>		
17. <i>Macrogathus pancalus</i> (Bloch)	+	+
18. <i>Mastacembelus armatus</i> (Hamilton)	+	+
<b>Ambassidae</b>		
19. <i>Chanda nama</i> (Hamilton)	+	+
20. <i>Parambassis ranga</i> (Hamilton)	+	+
<b>Cichlidae</b>		
21. <i>Etrophus maculatus</i> (Bloch)	+	+
22. <i>Etrophus suratensis</i> (Bloch)	-	+
<b>Mugilidae</b>		
23. <i>Rhinomugil corsula</i>	-	+
<b>Gobiidae</b>		
24. <i>Glossogobius giuris</i> (Hamilton)	+	+
<b>Belontiidae</b>		
25. <i>Polyacanthus fasciatus</i> (Schneider)	+	-
<b>Channidae</b>		
26. <i>Channa punctatus</i> (Bloch)	+	+
27. <i>Channa striatus</i> (Bloch)	+	+

waters helps in the conservation of some riverine fishes. In recent times, fishes, especially freshwater fishes of the Indian region, are being threatened due to loss of habitat, as rivers are being dammed or diverted and wetlands are cleared for agriculture and for other purposes. Deleterious effects also result from over fishing, catching of breeding fish and fry, pollution of rivers and streams. Protection and conservation of lakes helps in maintaining the freshwater ichthyofaunal diversity to some extent.

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