

Ichthyological Investigations in River Chaliyar, Kerala

M. B. Raghunathan

Zoological Survey of India, Southern Regional Station

100, Santhome High Road, Madras - 600 028, India

41 species of fish belonging to 27 genera were recorded during ichthyological investigations in River Chaliyar, Kerala, India during 1984-87. Preliminary information on species diversity in estuarine, plains and mountainous courses; and premonsoon, monsoon and postmonsoon periods are provided.

Key words : River Chaliyar, ichthyo-fauna, species diversity.

The four major rivers of Kerala namely, Periyar, Bharathapuzha, Pamba and Chaliyar together drain about 35% of the state. Chaliyar river drains a very extensive tract of the Wynad ghats and Nilgiri mountains. This is the only main stream in Malabar which brings in considerable portion of waters from the crest of the Ghat mountain ridge. Its two main branches viz., Punnapuzha and Chola river rise respectively in the Kunda mountains on the Nilgiri plateau and on the lower ranges of the south east Wynad. The two streams after receiving many large feeders (Korapuzha, Kalakkupuzha) unite in the midst of the Nilambur Government Teak plantations and then flow on, receiving several important feeders from the north and south, to their outlet into the sea at Beypore.

Total length of the river is nearly 152 km. The effluents from the rayon factory at Mavoor, enter the river at a place called Pallikadavu. Since there is no previous account on the fauna of this major river in Kerala, studies on River Chaliyar with special reference to fishes were undertaken from 1984 to 1987.

Sampling stations stretched over a distance of about 45 km (Fig. 1) and were located at Koolimadu (1), very near the pumping station of Water Authority;

Pallikadavu (2), where the effluent outlet of rayon factory is located; Kodampuzha (3), near the road bridge of Feroke; and Karuvanthuruthu (4), very near the mouth of the river. Collections were made in different periods namely, premonsoon, monsoon and postmonsoon periods.

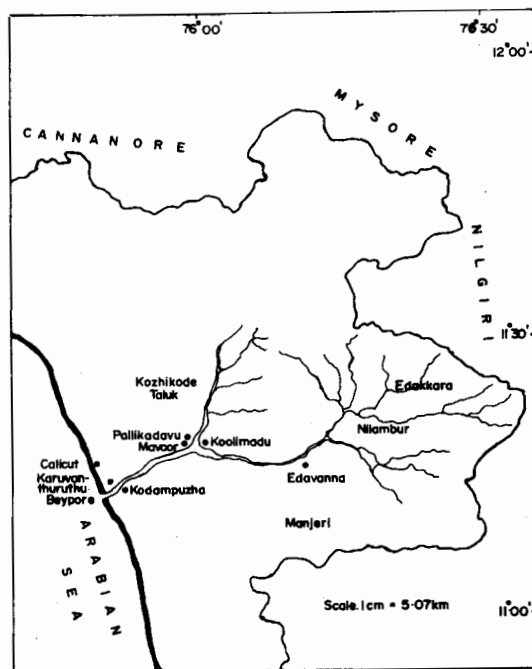


Fig. 1. River Chaliyar; location of sampling stations.

Table 1. Fishes collected from River Chaliyar by season and sampling stations (1. Koolimadu; 2. Pallikadavu; 3. Kodampuzha; 4. Karuvanthuruthu; 5. Edakkara; 6. Mambad; 7. Edavanna; 8. Beypore)

	Premon- soon	Mon- soon	Postmon- soon		Premon- soon	Mon- soon	Postmon- soon
Order CYPRINIFORMES				Family LEIOGNATHIDAE			
Family CYPRINIDAE				23. <i>Leiognathus brevis</i> (Valenciennes)	3,4,8	-	3,4,8
1. <i>Danio aequipinnatus</i> (McClelland)	1,5	6,7	1,2,5,6	24. <i>Secutor insidiator</i> (Bloch)	4	-	3,8
2. <i>Osteobrama bakeri</i> (Day)	-	-	6	25. <i>Secutor ruconius</i> (Hamilton-Buchanan)	3,4	3	4,8
3. <i>Puntius amphibius</i> (Valenciennes)	-	1	5	Family GERREIDAE			
4. <i>Puntius conchoni</i> (Hamilton-Buchanan)	-	5,6	5,6,7	26. <i>Gerres filamentosus</i> Cuvier	3,4,8	3	3,4
5. <i>Puntius dorsalis</i> (Jerdon)	-	5	6,7	27. <i>Gerreomorpha setifer</i> (Hamilton-Buchanan)	3	3,4	4,8
6. <i>Puntius filamentosus</i> (Valenciennes)	-	1,2	5,6,7	Family CARANGIDAE			
7. <i>Puntius parrah</i> (Day)	-	-	1,5	28. <i>Caranx carangus</i> (Bloch)	3	3,4	3,4
8. <i>Puntius sarana</i> (Hamilton-Buchanan)	-	1,2	1,2,5,6,7	Family CICHLIDAE			
9. <i>Puntius sophore</i> (Hamilton-Buchanan)	-	-	1,5	29. <i>Etroplus maculatus</i> (Bloch)	1,2,3	-	2
10. <i>Puntius vittatus</i> (Day)	-	-	5,6	30. <i>Etroplus suratensis</i> (Bloch)	3,4	3	3,4,8
11. <i>Rasbora daniconius</i> (Day)	-	1,2,5	1,2,5,7	Family MUGILIDAE			
12. <i>Salmostoma boopis</i> (Day)	-	5,6	6,7	31. <i>Liza macrolepis</i> (Smith)	-	3	3,4
Order SILURIFORMES				32. <i>Liza parsia</i> (Hamilton-Buchanan)	-	3	3
Family BAGRIDAE				33. <i>Mugil cephalus</i> Linnaeus	3	-	3,4
13. <i>Mystus armatus</i> (Day)	1	-	-	Family GOBIIDAE			
14. <i>Mystus gulio</i> (Hamilton-Buchanan)	3,4	-	3,4	34. <i>Glossogobius giuris</i> (Hamilton-Buchanan)	1,2,3	-	1,2,3
15. <i>Mystus oculatus</i> (Valenciennes)	1,2	-	-	35. <i>Stenogobius malabaricus</i> (Day)	3	-	3,4
Family SILURIDAE				36. <i>Oligolepis acutipinnis</i> (Valenciennes)	3	-	3
16. <i>Ompok bimaculatus</i> (Bloch)	2	-	-	37. <i>Butis butis</i> (Hamilton-Buchanan)	3	-	3
Order ATHERINIFORMES				Family ELEOTRIDAE			
Family HEMIRAMPHIDAE				38. <i>Eleotris fusca</i> (Schneider)	3,4	-	3,4
17. <i>Hyporhamphus limbatus</i> (Valenciennes)	3,4	-	4,8	Order TETRAODONTIFORMES			
18. <i>Hyporhamphus xanthopterus</i> (Valenciennes)	3,4	-	3,4	Family TETRAODONTIDAE			
Family BELONIDAE				39. <i>Tetrodon hispidus</i> Lacepede	3	-	3
19. <i>Xenentodon cancila</i> (Hamilton-Buchanan)	1,2	-	-	Order MASTACEMBELIFORMES			
Order SCORPAENIFORMES				Family MASTACEMBELIDAE			
Family PLATYCEPHALIDAE				41. <i>Mastacembelus guentheri</i> (Day)	1	-	1
20. <i>Platycephalus cantori</i> Bleeker	-	-	3,4				
Order PERCIFORMES							
Family CHANIDAE							
21. <i>Chanda nama</i> (Hamilton-Buchanan)	3	-	3				
Family SILLAGINIDAE							
22. <i>Sillago sihama</i> (Forsskal)	3	-	4,8				

Further samples were occasionally collected from Edakkara (5), Mambad (6), Edavanna (7) and Beypore (8), covering a total distance of about 90 km stretch of the river. Castnet was employed as sampling gear and five throws were made for each sample. Besides, the landings from different areas were also examined.

During the present investigations in River Chaliyar 41 species belonging to 27 genera were identified. Chaliyar river is divisible into three broad zones namely mountainous course, plains course and estuarine region. Each of the zones is characterised by particular geological features. In the mountainous course the river flows through steep gradients in narrow channels over rocky and boulder beds. The plains course enables the river to gather silt and sand till the estuarine region. A broad analysis of the data indicates that there is difference in the composition of ichthyofauna of these regions. Majority of the species identified are represented from the estuarine and middle plains region.

During the present studies both middle course and estuarine region were intensively surveyed while the mountainous course could not be covered adequately. Hence a few more species of fishes may be found if some of the inaccessible areas especially in the mountainous course are covered. From the upper reaches, 8 species of fishes belonging to the genera, *Puntius* (5 species), *Danio*, *Rasbora* and *Salmostoma* were recorded. From the middle stretch of the river 20 species belonging to the genera *Puntius* (8 species), *Danio*, *Rasbora*, *Salmostoma*, *Mystus* (2 species), *Osteobrama*, *Etioplus* (2 species), *Glossogobius*, *Mastacembelus*, *Xenentodon* and *Ompok* were recorded. *Osteobrama bakeri* which was originally described from Kottayam was collected from River Chaliyar after

several years and was represented with only one specimen. Among *Puntius* species, the recording of following species namely *Puntius parrah* and *Puntius vittatus* are important. Among *Mystus* species, *Mystus armatus* originally described from Malabar was recorded from River Chaliyar. *Mastacembelus guentheri* which has a restricted distribution both in Kerala and Assam was recorded from River Chaliyar with a few numbers. From the estuarine region 21 species of fishes belonging to the genera, *Mystus*, *Hyporhamphus*, *Platycephalus*, *Chanda*, *Sillago*, *Leiognathus*, *Secutor* (2 species), *Gerres*, *Gereomorphus*, *Caranx*, *Etioplus* (2 species), *Mugil*, *Liza* (2 species), *Stenogobius*, *Oligolepis*, *Butis*, *Eleotris* and *Tetradon* were recorded.

Majority of the fishes of economic value were dominant during the postmonsoon months. Heavy water discharge and flow during the period could be favourable to these fishes which were replaced by the smaller varieties and cat fishes during the premonsoon period.

The author is grateful to the Director, Zoological Survey of India, Calcutta and to Officer-in-Charge, Western Ghat Regional Station, ZSI, Calicut and Officer-in-Charge, Southern Regional Station, ZSI, Madras for encouragement and facilities. Thanks are due to Dr. K. Remadevi, Scientist B, SRS, ZSI, Madras for confirming identification of Gobioids.

References

- Jayaram, K.C. (1981) *The freshwater fishes of India, Pakistan, Bangladesh, Burma and Sri Lanka*, Zoological Survey of India, Calcutta, India
- Jayaram, K.C. Venkateswarlu, T. & Raghunathan, M.B. (1982) *Rec. Zool. Sur. India, Occ. Pap.* 36
- Talwar, P.K. & Kacker, R.K. (1984) *Commercial sea fishes of India*, Zoological Survey of India, Calcutta, India