

## Diversity of Fish Fauna in Kadalundi Estuary, Kozhikode, Kerala

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### ABSTRACT

Kadalundi estuary is one of the unique wetland of north Kerala. This study was intended to assess the diversity of fish fauna in Kadalundi estuary and was carried out over a period of six months (January 2014- June 2014). The fishes were collected personally and also with the help of fisherman. Identification was made with the help of experts and by referring books. A total of 34 species of fishes belonging to 24 families, under 8 orders (Perciformes, Siluriformes, Clupeiformes, Scorpaeniformes, Mugiliformes, Beloniformes, Pleuronectiformes and Anguilliformes). The order Perciformes represented by 23 species belonging to 15 families, were most abundant, followed by the order Siluriformes and Clupeiformes (3 species from 2 family). Four species were recorded from the family Carangidae, 3 species from Lutjanidae, 2 species each from Ambassidae, Gerreidae, Sciaenidae, Ariidae, and Engraulidae and the other families are represented by single species only. Kadalundi estuary rich in fish diversity due to edge effect. Fresh water, brackish and marine fishes were reported from the estuary. Several anthropogenic interventions like Waste dumping, Coir retting industry and Mining of sand and lime is responsible for considerable environmental change in water quality which cause the reduction in the number of fishes. Over fishing by local people and interference of tourists also lead to pollution hence deteriorate the health of ecosystem. The appropriate conservation measures like the implementation of strict laws, frequent monitoring and provide awareness to the local people should be taken to protect this fragile and most productive ecosystem.

**Key words:** Kadalundi, Estuary, Mangrove, Sanctuary, Wet land, Microhabitat.

### 1. INTRODUCTION

Fishes are the most numerous vertebrates living on this earth. There are about 28100 species of fishes known to science. Fishes constitute almost half the numbers of vertebrates in the world. They live in almost all conceivable aquatic habitats. 21,723 living species of fish have been recorded out of 39,900 species of vertebrates (Jayaram, 1999). Of these, 8,411 are fresh water species and 11,650 are marine. In India, there are 2,500 species of fishes of which 930 live in freshwater and 1,570 are marine (Kar, 2003)

Kerala is the land of rivers having forty four perennial rivers of which forty one are west flowing and three east flowing. All these rivers originate from the western Ghats. Kadalundi river is one of the four most important rivers flowing through Malappuram district in the Indian state of Kerala. This river serves as a border line between the Kozhikkode and Malappuram district is 130kms in length with a drainage area of 1099km<sup>2</sup>. The Kadalundi estuary located at the mouth of the river Kadalundi that drains into the Arabian sea on the west coast of the Kerala.

Kadalundi bird sanctuary is officially known as the Kadalundi - Vallikkunnu community reserve. For the convenience of study, the Kadalundi estuary is divided into three microhabitats; Microhabitat I, Microhabitat II, Microhabitat III. Microhabitat I, where the Kadalundi river meets the Arabian Sea (nearby Kadalundi kadavu bridge). Microhabitat II, approximately 500m away from Microhabitat I (area nearby Kadalundi railway bridge). Microhabitat III, approximately 500m away from Microhabitat II.

## 2. METHODOLOGY

For the faunistic study the fishes were collected during the months of January 2014 to June 2014. The fishes were collected personally and also with the help of fisherman using cast net, Kandadi vala and choonda. Also using another method like 'thada' in river. After collection as far as possible, the collected specimens were preserved at the fishing site itself using 10% formalin. The fish fauna were classified up to species level as per the key of Day (1878), Talwar and Jhingar (1991), Jayaram (1999). To measure the density of the species, each species was enumerated in the collection.

## 3. RESULT

A total of 34 fish species were recorded from Kadalundi estuary. The species of fishes belongs to eight orders (Perciformes, Siluriformes, Scorpaeniformes, Clupeiformes, Mugiliformes, Beloniformes, Pleuronectiformes and Anguilliformes) under twenty four families.

**Table 1** Fishes of Kadalundi estuary

SI No	Scientific Name	Family	Order
1.	<i>Caranx ignobilis</i>	Carangidae	Perciformes
2.	<i>Carangoides malabaricus</i>	Carangidae	Perciformes
3.	<i>Alepes djedaba</i>	Carangidae	Perciformes
4.	<i>Alepes melanoptera</i>	Carangidae	Perciformes
5.	<i>Lutjanus argentimaculatus</i>	Lutjanidae	Perciformes
6.	<i>Lutjanus fulviflamma</i>	Lutjanidae	Perciformes
7.	<i>Lutjanus johnii</i>	Lutjanidae	Perciformes
8.	<i>Ambassis gymnocephalus</i>	Ambassidae	Perciformes
9.	<i>Ambassis macracanthus</i>	Ambassidae	Perciformes
10.	<i>Gerres filamentosus</i>	Gerreidae	Perciformes
11.	<i>Gerres erythrourus</i>	Gerreidae	Perciformes
12.	<i>Daysciaena albida</i>	Sciaenidae	Perciformes
13.	<i>Johnius belangerii</i>	Sciaenidae	Perciformes
14.	<i>Glossogobius giuris</i>	Gobiidae	Perciformes
15.	<i>Eleutheronema tetradactylum</i>	Polynemidae	Perciformes
16.	<i>Sillago sihama</i>	Sillaginidae	Perciformes
17.	<i>Scatophagus argus</i>	Scatophagidae	Perciformes
18.	<i>Sphyraena barracuda</i>	Sphyraenidae	Perciformes
19.	<i>Terapon jarbua</i>	Terapontidae	Perciformes
20.	<i>Etroplus suratensis</i>	Cichlidae	Perciformes
21.	<i>Epinephelus malabaricus</i>	Serranidae	Perciformes
22.	<i>Leiognathus equulus</i>	Leiognathidae	Perciformes
23.	<i>Acanthocybium solandri</i>	Scombridae	Perciformes
24.	<i>Arius arius</i>	Ariidae	Siluriformes
25.	<i>Arius jella</i>	Ariidae	Siluriformes
26.	<i>Mystus gulio</i>	Bagridae	Siluriformes
27.	<i>Thryssa mystax</i>	Engraulidae	Clupeiformes
28.	<i>Stolephorus commersonii</i>	Engraulidae	Clupeiformes
29.	<i>Anodontostoma chacunda</i>	Clupeidae	Clupeiformes
30.	<i>Platycephalus indicus</i>	Platycephalidae	Scorpaeniformes

31.	<i>Mugil cephalus</i>	Mugilidae	Mugiliformes
32.	<i>Hyporhamphus limbatus</i>	Hemiramphidae	Beloniformes
33.	<i>Cynoglossus macrolepidotus</i>	Cynoglossidae	Pleuronectiformes
34.	<i>Ariosoma mellissii</i>	Congridae	Anguilliformes



*Caranx ignobilis*



*Carangoides malabaricus*



*Alepes djedaba*



*Alepes melanoptera*



*Lutjanus argentimaculatus*



*Lutjanus fulviflamma*



*Lutjanus johnii*



*Ambassis gymnocephalus*



*Ambassis macracanthus*



*Gerres filamentosus*



*Gerres erythrousus*



*Daysciaena albida*



*Johnius belangerii*



*Glossogobius giuris*



*Eleutheronema tetradactylum*



*Sillago sihama*



*Scatophagus argus*

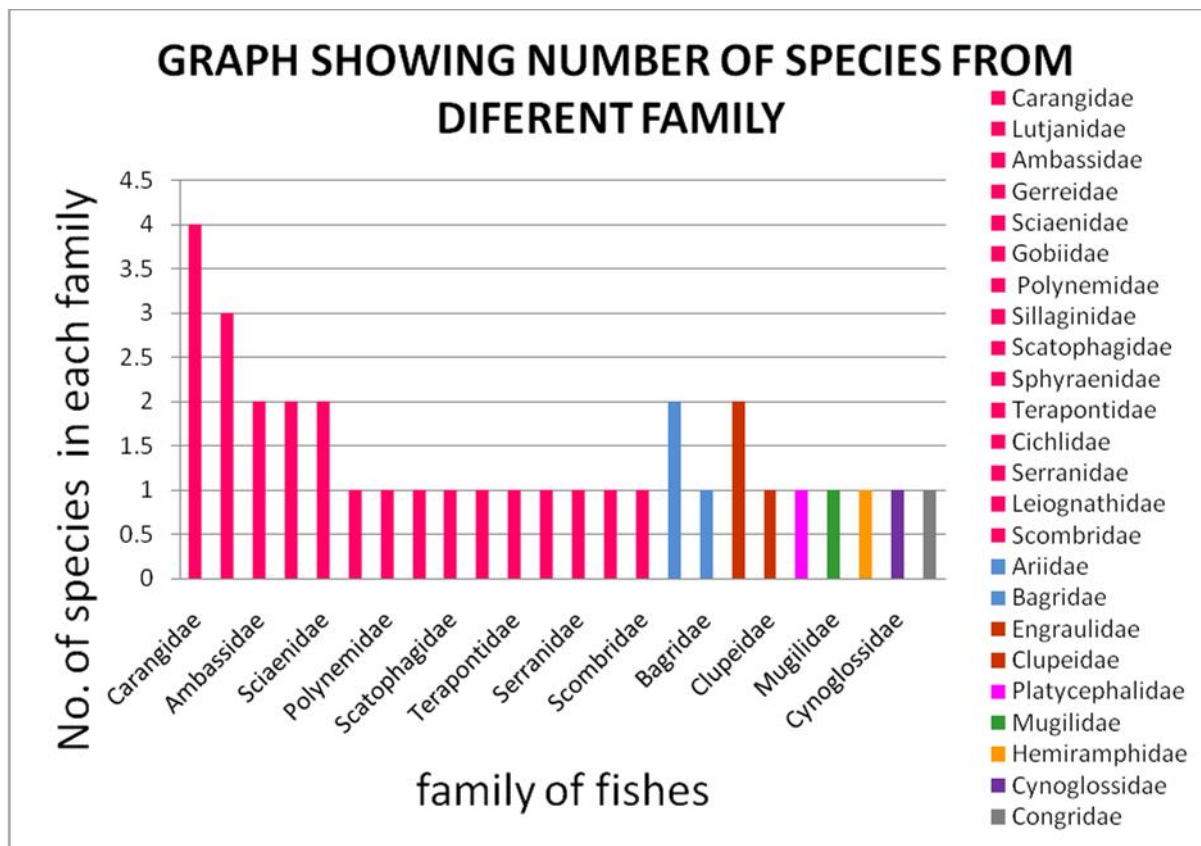


*Sphyaena barracuda*





Figure 1: Family wise Distribution of Fishes at Kadaludi Estuary



- Perciformes
- Siluriformes
- Clupeiformes
- Scorpaeniform
- Mugiliformes
- Beloniformes
- Pleuronectiformes
- Anguilliformes

The fishes are differently distributed in the three microhabitats of Kadalundi estuary.

**Microhabitat I** – In the present study, *Arius arius* are most abundant here.

**Microhabitat II** – This microhabitat has abundantly found following species. They are *Arius arius*, *Sillago sihama*, *Ambassis gymnocephalus*, *Caranx ignobilis*, *Terapon jarbua*, *Platycephalus indicus* and *Daysciaena albida*.

**Microhabitat III** - In the present study, *Mugil cephalus* are most abundant here.

Official records say the reserve hosts 43 species of fish, today the fish production is under the decline. Several biotic interferences are prevalent in the estuary, notably dumping of waste, house waste and animal waste, mining of sand and lime and retting of coconut husk, etc. The fish fauna of Kadalundi estuary derived mainly from the sea; most of them can harbour both in marine and estuarine water.

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