



# **Major groups of Fisheries in India**

## **I. Pelagic Fisheries:**

**Dr. Saritha S**

**Asst. Professor**

**SoF, CUTM, Paralakhemundi**

- Fish bionomic grouping-wise contributions in the landings in 2021
  - Pelagic 1.69 million tonnes (56%)-----54% (2020)
  - Demersal 0.82 million tonnes (27%)-----29% (2020)
  - Crustacea 0.37 million tonnes (12%)-----11% (2020)
  - Mollusca 0.16 million tonnes (5%)-----6% (2020)

**PELAGIC FINFISH****CLUPEOIDS**

Wolf herring	18797
Oil sardine	87195
Lesser sardines	225529
Hilsa shad	8107
Other shads	22234
Anchovies	
<i>Coilia</i>	30137
<i>Setipinna</i>	6983
<i>Stolephorus</i>	58501
<i>Thryssa</i>	41820
Other clupeids	57377

Bombayduck	68721
Half Beaks & Full Beaks	5964
Flying Fishes	407
Ribbon Fishes	141299
<b>CARANGIDS</b>	
Horse Mackerel	42873
Scads	214444
Leather-jackets	13346
Other carangids	160561

**MACKERELS**

Indian mackerel	212593
Other mackerels	1858

SEER FISHES	
<i>Scomberomorus commerson</i>	25808
<i>Scomberomorus guttatus</i>	10623
<i>Scomberomorus lineolatus</i>	4
<i>Acanthocybium solandri</i>	375
TUNNIES	
<i>Euthynnus affinis</i>	27853
<i>Auxis</i>	8767
<i>Katsuwonus pelamis</i>	18387
<i>Thunnus tonggol</i>	1707
<i>Thunnus albacares</i>	21088
Other tunnies	877
Bill Fishes	10912
Barracudas	37749
Mulletts	7678
Unicorn Cod	13
<b>OTHERS</b>	
<i>Odonus niger</i>	24158
MISCELLANEOUS	130116

# Oil sardine

- The Indian oil sardine (*Sardinella longiceps*)
- Family Clupeidae
- An iconic resource, both quantity wise as well as consumer preference-wise
- Moved to the 11th position with only 0.87 lakh tonnes landed in 2021 (2.86% of the national total).
- Considering that the stock was under considerable fishing pressure and adverse environmental cues.
- Marine pollution
- Juvenile fishing
- Delay in normal spawning period was evidenced from spent - Most of the spawning activity appeared in August -September rather than June- August period.

# Lesser sardines

- Belong to the families Clupeidae and Dussmieridae
- 15 spp in the indo-west Pacific region
- 12 spp- in Indian water
- Larger species - *S. sirm*, *S. jonesi*, *S. clupeoides*

*Sardinella albella*

*S. gibbose*

*S. fimbriata*

*S. dayi*

*S. clupeoides*

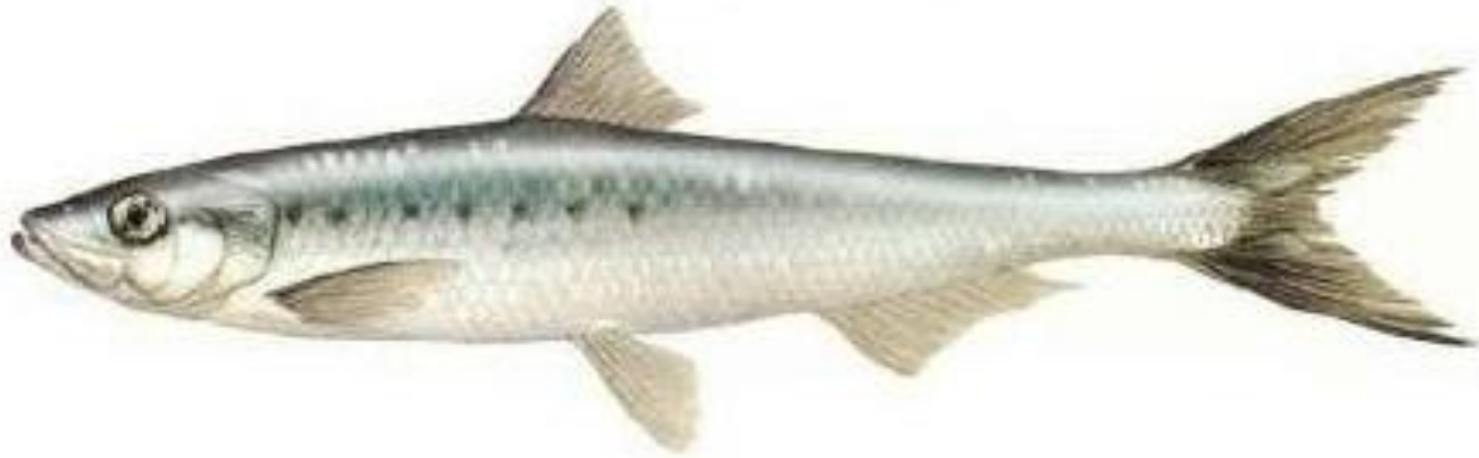
*S. melanura*

*S. sindensis*

*S. jonesi*

*Amblygaster sirm*

1. Family: clupeidae



2. Family: dussumieridae



## **Production**

- 2021 – 2.26 mmt (7.4% of the national total)
- 2020- 2.16 mmt

## **Exploitation**

- South East Coast: Small meshed gill net.
- South West Coast: Seines(shore seine, boat seines, ring seine)
- The commercial lesser sardine fishery supported by- 0 & 1+ year classes.
- Feeds mainly on plankton.



## Sardines

### Fish Name

### Picture

Indian Oil Sardine  
*Sardinella longiceps*



Goldstripe Sardine  
*Sardinella gibbosa*



Fringescale Sardine  
*Sardinella fimbriata*



# Hilsa shad

- *Tenualosa ilisha*
- Often called as Queen of fishes
- State fish of West Bengal
- Family Clupeidae
- West Bengal recorded highest landings of Hilsa among all maritime states of the country
- Mechanized multi-day trawlers, mechanized gillnetter, and inboard bagnetters.
- Due to the all-time high demand and popularity of the species, fishing pressure is increasing in its distributional ranges.

# Anchovies

- Widely distributed along the Indian coast
- Belong to the family, Engraulidae
- Indian anchovies includes 5 genera
  1. *Stolephorus*
  2. *Coilia*
  3. *Setipinna*
  4. *Thryssa*
  5. *Thryssina*
- These genera constitute seasonal fisheries in AP, TN, Karnataka and Maharashtra

## Anchovies

- They are small pelagic fishes and constitute one of the most important pelagic resources in the world
- In India, anchovies form the artisanal fisheries and are a major source of income for the traditional fishers.

Anchovies	
<i>Coilia</i>	30137
<i>Setipinna</i>	6983
<i>Stolephorus</i>	58501
<i>Thryssa</i>	41820

# Whitebaits

- Belong to the family, Engraulidae
- Small pelagics, distributed at depths of 10-50 m
- Ten species of white baits occur in India
  - *Encrasicholina devisi*
  - *E. heterolobus*
  - *E. punctifer* (*Stolephorus buccaneeri*)
  - *Stolephorus andhraensis*
  - *S. baganensis* (*S. macrops*)
  - *S. commersonii*
  - *S. dubiosus*
  - *S. indicus*
  - *S. insularis*
  - *S. waitei* (*S. bataviensis*).

## Means of exploitation

- boat seines, shore seines, bag nets and gill nets
- Fishery supported by '0' year class
- Mean age: 0.5 year and they spawn at this age
- Andhra Pradesh and Tamil Nadu along the east coast and Kerala along the west coast are the three coastal states of India that support 95% of the average annual catch of anchovies in the country.
- There are **two fishing seasons**: January to May and September to November, the latter period being the peak season for anchovy catches.

## Anchovies

**Fish Name**

**Picture**

Indian Anchovy  
*Stolephorus indicus*



Goldspotted Grenadier Anchovy  
*Coilia dussumieri*



Malbar Anchovy  
*Thryssa malabarica*





# Indian mackerel (*Rastrellinger kanagurta*)

- Belonging to the family: Scombridae
- Production: 2.13 lakh tonnes (7.0%),
- The bulk of mackerel landings are contributed by a single species *Rastrelliger kanagurta* (Indian mackerel)
- Another spp contributing is the Indian Chub Mackerel (*Scomber indicus*).
- In addition, *R. brachysoma* (Short mackerel-Andaman waters) and *R. faughni* (Island mackerel-South east) have also been reported to occur in India- However, their occurrence is very rare.



## Means of exploitation

- Shore seine
- Boat seine
- Gill net
- Hook and line
- Ring seine
- Purse seine
- Trawls

Mackerels	
Fish Name	Picture
Indian Mackerel <i>Rastrelliger kanagurta</i>	
Indian Chub Mackerel <i>Scomber indicus</i>	

# Seer fishes

SEER FISHES	
<i>Scomberomorus commerson</i>	25808
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<i>Scomberomorus lineolatus</i>	4
<i>Acanthocybium solandri</i>	375

Belonging to the family **Scombridae**  
commercially important fishes

## **Means of exploitation**




- Gill nets, trawls, hook and line

# Tunas

- Belonging to the family **Scombridae**
- largest, and commercially important, highly valued food fishes.
- They are found in temperate and tropical oceans around the world and account for a major proportion of the world's fishery production.
- Tunas are unique among fishes because they possess body temperatures several degrees higher than the ambient waters and have a high metabolic rate that enables them to exhibit extraordinary growth rates.

TUNNIES	
<i>Euthynnus affinis</i>	27853
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<i>Thunnus albacares</i>	21088
Other tunnies	877

- Troll line, hook and line, drift gill net, purse seine, hook and line, pole and line

Tunas	
Fish Name	Picture
Little Tunny <i>Euthynnus affinis</i>	 A side view of a Little Tunny (Euthynnus affinis) fish. It has a deep, compressed body with a prominent dorsal fin and a deeply forked tail. The upper part of its body is a vibrant blue-green, while the lower part is a lighter, silvery-pinkish hue.
Frigate Tuna <i>Auxis thazard</i>	 A side view of a Frigate Tuna (Auxis thazard) fish. It has a deep, compressed body with a prominent dorsal fin and a deeply forked tail. The upper part of its body is a vibrant blue-green, while the lower part is a lighter, silvery-pinkish hue.
Oriental Bonito <i>Sarda orientalis</i>	 A side view of an Oriental Bonito (Sarda orientalis) fish. It has a deep, compressed body with a prominent dorsal fin and a deeply forked tail. The upper part of its body is a vibrant blue-green, while the lower part is a lighter, silvery-pinkish hue.

Yellowfin Tuna  
*Thunnus albacares*



Bigeye Tuna  
*Thunnus obesus*



Skipjack Tuna  
*Katsuwonus pelamis*



# Bombay duck

- *Harpodon nehereus* - *Harpodontidae*
- Found in the mid-water column
- distributed in the Indo-west Pacific, is a
- white, soft, and delicate fish
- predatory in habit
- contributes to a major fishery along the Maharashtra and Gujarat coasts
- occurs sporadically along the east coast
- Captured using a characteristic bag-net known as ‘**dol**’ that is operated against tidal currents
- It is a popular food fish along the northwest coast of India
- it is marketed fresh, dried or salted.

**Bombay duck: 68721**





# Half Beaks & Full Beaks

- Production: 5964 Tonnes (1%)
- Support a food fishery in Tamil Nadu, Kerala, maharashtra
- Exploitation - drift gillnet
- Half beak: Hemiramphidae
- Full beak: Belonidae
- Four species of full beaks namely *Ablennes hians*, *Tylosurus crocodilus crocodilus*, *Strognilurus leiura* and *S. appendiculatus* and two species of half beaks namely *Hemirhamphus far* and *H. georgii* have been observed to support the fishery



# Flying Fishes

- Production: 407 tonne
- Family: **Exocoetidae**
- They are commonly found in the epipelagic zone, the top layer of the ocean to a depth of about 200 m.
- **Distribution:** South east coast, especially coromandel coast



# Ribbon Fishes

- Family – Trachipteridae
- Production: 141299 tonne (4.64%)

- Carangids - Carangidae
- Bill Fishes – Istiophoridae (Marlins), Xiphiidae (Sword fish)
- Barracudas - Sphyraena
- Mulletts - Mugilidae
- Unicorn Cod - Bregmacerotidae

