



# MARINE FISHERIES INFORMATION SERVICE



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# MARINE FISH CALENDAR

## VII. MADRAS\*

S. Ramamurthy, J. C. Gnanamuthu, E. Vivekanandan, P. Ramadoss and S. Chandrasekhar

*Madras Research Centre of CMFRI, Madras*

### Introduction

Madras is an important fish landing centre in the east coast. More than 500 trawlers operate from Kasimode centre at Madras, which land about 6,000 tonnes annually. The mechanised gill nets yield about 120 t and the indigenous gears like gill net, bag net and hooks and line bring about 200 t annually. In addition to this, the city has several landing centres from where indigenous gears are operated. For the purpose of preparing the marine fish calendar for Madras, the landing details of the Kasimode centre, which is the only base supporting mechanised boats as well as country crafts were analysed for 1981-'85.

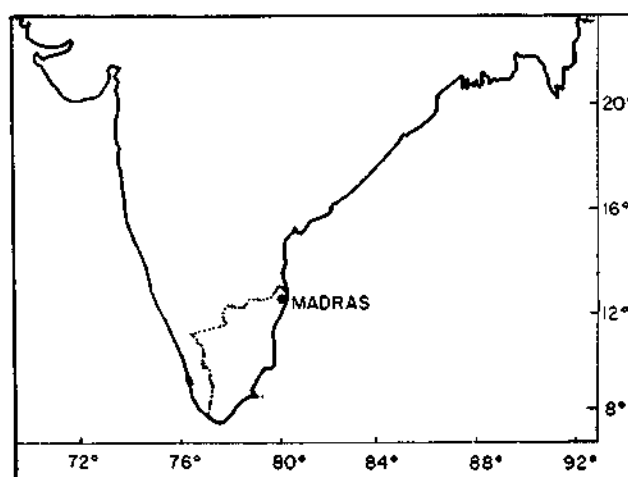
The estimated data on fish groups for which catch details and certain biological information are available are utilized for the preparation of this calendar. The catch details of other miscellaneous groups like cat fish, *Polynemus*, *Chirocentrus* and crustaceans and cephalopods are not incorporated in this calendar. The month-wise pooled CPUE of trawlers, mechanised gill nets and indigenous gears and the monthwise species composition of fish groups are illustrated.

In the trawl catch, threadfin bream ranks first with an annual catch of 760.5 t forming 12.5%, followed by silver belly, anchovy, croaker and lizard fish. There are no significant variations in the CPUE of threadfin bream throughout the year except during the monsoon period of November and December, when the CPUE is low. In fact, the CPUE of many fishes is low during November and December. Despite cyclonic conditions that prevail during these two months, there is no reduction in the number of fishing operations at Kasimode.

Based on the monthwise analysis of CPUE of trawlers, the different fish groups can be categorised

into three: (a) those whose CPUE does not fluctuate very much throughout the year barring the low values during November and December, e.g. sole and flat fish, *Thryssa*, seer fish, pomfret, goat fish, silver belly, ray and shark; (b) fishes whose CPUE is comparatively higher in certain months, e.g. carangid (September), anchovy (April), grunters (March), skate (November-March), threadfin bream (August and September), sciaenid (November - March) and lizard fish (April - August) and (c) fishes which have a definite peak period of abundance every year, e.g. barracuda (September), mackerel (July), drift fishes (August and March), carangids (March), Gerridae (July and August) and ribbon fish (November). They are insignificant at other times of the year.

From Kasimode, about 2,500 mechanised gill net operations are conducted annually in addition to 37,300 operations by non-mechanised gill nets, 1,16,000 operations by bag nets and 37,200 operations by hooks and lines. The landings of mechanised gill nets are constituted mainly by seer fish (44.2%) and shark (16.7%) and those of indigenous gears by lesser sardine (28%) (landed mainly by a specialised gill net known



\* Consolidated by N. Gopinatha Menon and K. Balachandran, CMFRI, Cochin.

locally as 'Kavala valai'), mackerel and *Hilsa* (17.5% each (mainly by bag nets). The CPUE of most of the fishes is very low during November and December as in the case of trawlers. The CPUE of shark (May), tuna (November), seer fish (February and March), sail fish (June and February) and carangid (August and January) from mechanised gill net is higher during the months indicated in parentheses. In the non-mechanised gears, the CPUE of lesser sardine is almost uniform throughout the year and that of shark (September), *Thryssa* (March), mullet (May - July), mackerel (August and March), perch (August) and carangid (August) is higher during the months indicated in parentheses. The CPUE of *Hilsa* is very high during March and meagre during other months.

Fishes such as seer fish, shark and carangid are landed by all the three types of gears, viz., trawl net, mechanised gill net and indigenous gears. An interesting aspect is that the peak period of landing of these groups is different for different gears. For instance, for seer fish the maximum CPUE of mechanised gill net is during March, whereas the CPUE of trawlers and indigenous gears (mainly hooks and line) is very low in this month and high in September and August. This may be due to differences in the fishing area and depth and intensity of operations of these gears during different months of the year.

Monthwise species composition is available for six fish groups. Threadfin bream fishery, which is constituted by five species, is dominated by *Nemipterus japonicus* (53.0%). Silver belly and sciaenid fishery is formed by more than a dozen species each. *Stolephorus bataviensis*, *Thryssa dussumieri* and *Sardinella gibbosa* constitute the major species of anchovy, dussumier's anchovy and lesser sardine groups respectively. The biological information collected on the six fish groups reveal that they spawn either during December - April or June - September.

#### CARANGIDAE

Popular English Name	:	Trevally/Scad
Vernacular Name (Tamil)	:	'Parai'
Annual average catch	:	247.3 t
Percentage in total catch	:	—
Fishing methods and their contribution	:	Trawl net : 37.0%
		Gill net : 4.7%
		Hooks & line : 13.1%



Fig. 1. Seasonal abundance of carangids in trawl catch.

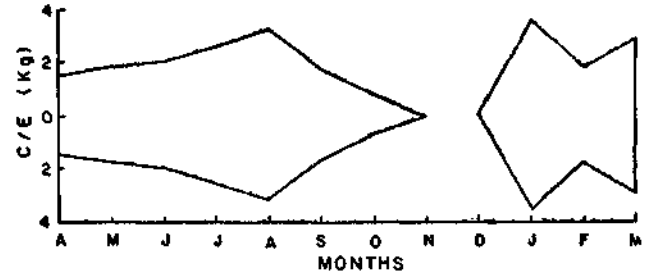


Fig. 2. Seasonal abundance of carangids in gill net catch.

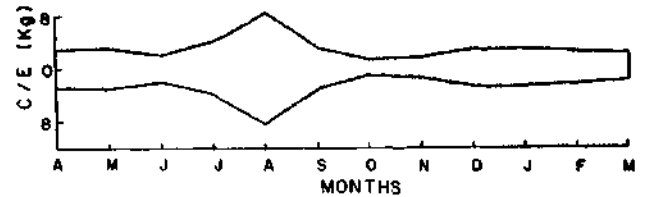


Fig. 3. Seasonal abundance of carangids in indigenous gear catch.

#### CLUPEIDAE

Popular English Name	:	Sardine/Lesser sardines
Vernacular Name (Tamil)	:	'Kavalai'/'Choodai'/'Sudai'
Annual average catch	:	73.5 t
Percentage in total catch	:	—
Fishing methods and their contribution	:	Gill net : 28.0%
		Bag net : 8.8%

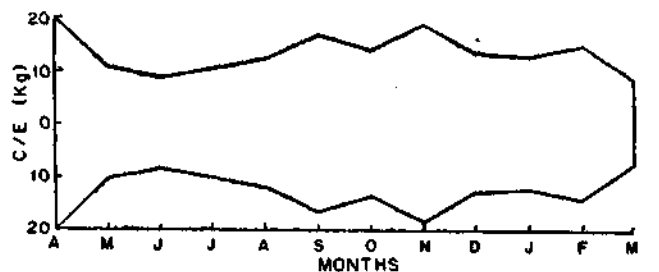


Fig. 4. Seasonal abundance of clupeids in indigenous gear catch.

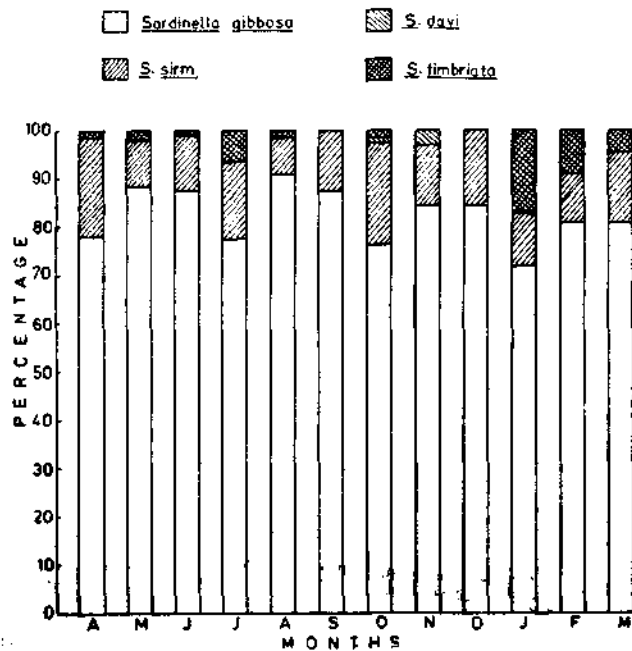


Fig. 5. Monthly species composition of clupeids in gill net catch.

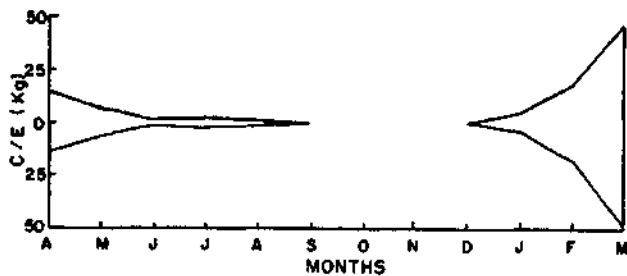


Fig. 6. Seasonal abundance of *Hilsa* in indigenous gear catch.

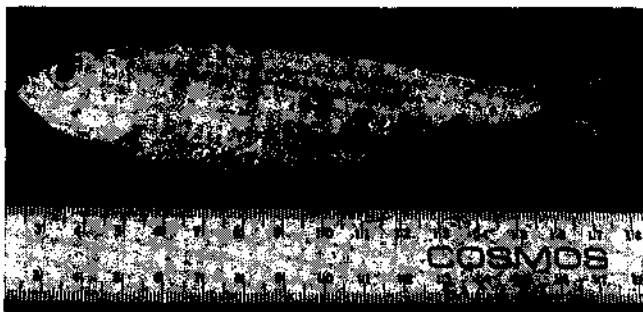


Fig. 7. *Sardinella gibbosa*.

Scientific Name : *Sardinella gibbosa*  
 Vernacular Name : 'Kavalai'  
 Gear : Trawl net  
 Percentage in the catch of the group : 80.9  
 Peak period of occurrence : Oct. to Jan.  
 Depth of occurrence : Upto 20 m

Length range in commercial fishery : 120-130 mm  
 Size at first maturity : —  
 Spawning season : Jan. - Apr.

**CYNOGLOSSIDAE, SOLEIDAE, PLEURONECTIDAE AND BOTHIDAE**

Popular English Name : Flat fishes/Soles/Flounders  
 Vernacular Name (Tamil) : 'Aral'/'Nakkumeen'  
 Annual average catch : 34.3 t  
 Percentage in total catch : —  
 Fishing methods and their contribution : Trawl net : 0.6%

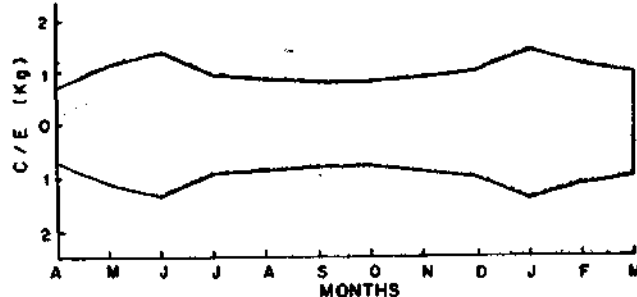


Fig. 8. Seasonal abundance of flat fishes in trawl catch.

**ELASMOBRANCHS**

Popular English Name : Sharks/Skates/Rays  
 Vernacular Name (Tamil) : 'Sura'/'Thirukkai'  
 Annual average catch : 167.0 t  
 Percentage in total catch : —  
 Fishing methods and their contribution : Trawl net : 2.2%  
 Gill net : 16.7%  
 Hooks & line : 6.6%

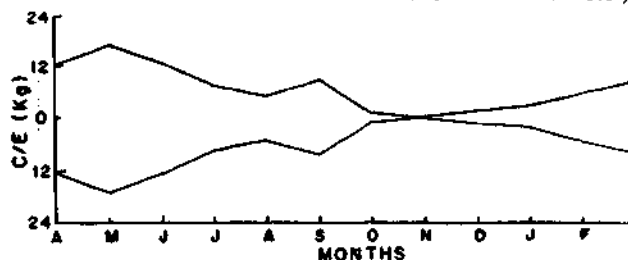


Fig. 9. Seasonal abundance of sharks in gill net catch.



Fig. 10. Seasonal abundance of sharks in trawl catch.

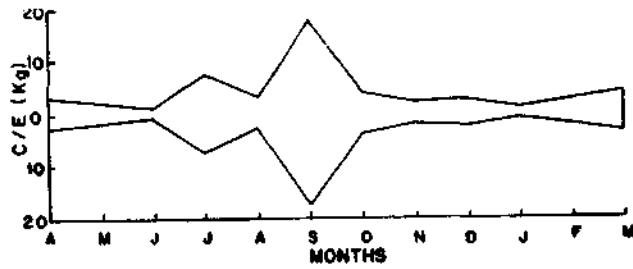


Fig. 11. Seasonal abundance of sharks in indigenous gear catch.

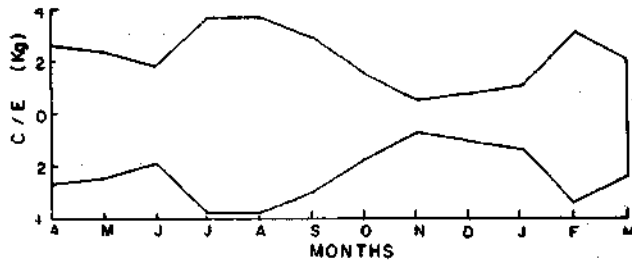


Fig. 12. Seasonal abundance of rays in trawl catch.

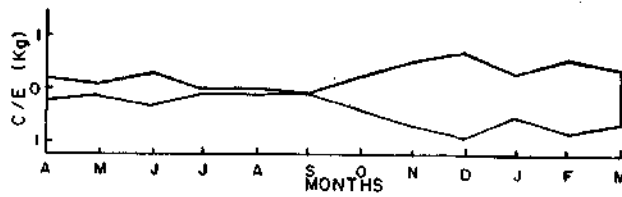


Fig. 13. Seasonal abundance of skates in trawl catch.

ENGRAULIDAE

Popular English Name : Anchovy/Thryssa  
 Vernacular Name (Tamil) : 'Poruva'/'Nethal'/'Nethili'  
 Annual average catch : 370.6 t  
 Percentage in total catch : 7.6  
 Fishing methods and their contribution : Trawl net : 6.1%  
 Gill net : 2.6%

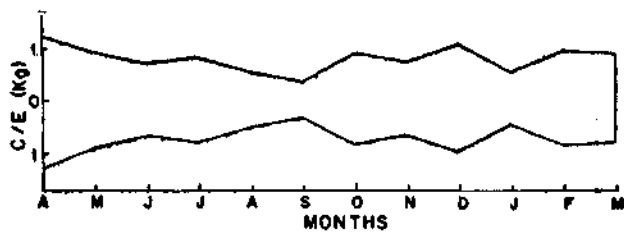


Fig. 14. Seasonal abundance of *Thryssa* in trawl catch.



Fig. 15. Seasonal abundance of *Thryssa* in indigenous gear catch.

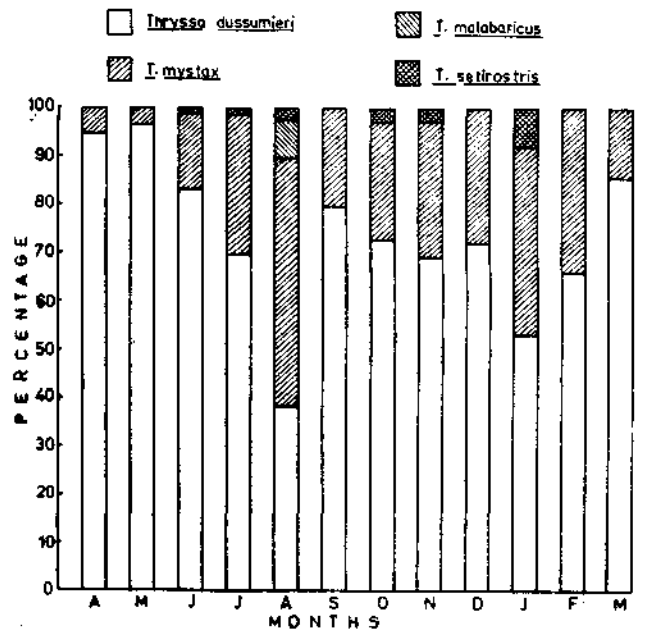


Fig. 16. Monthly species composition of *Thryssa* in trawl catch.

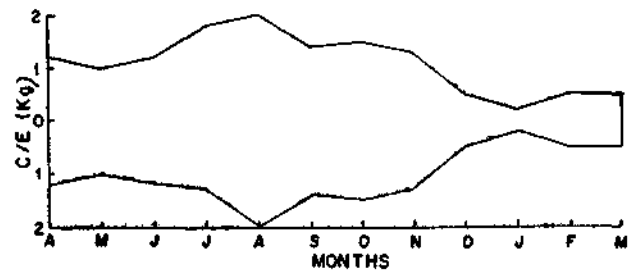


Fig. 17. Seasonal abundance of anchovy in trawl catch.

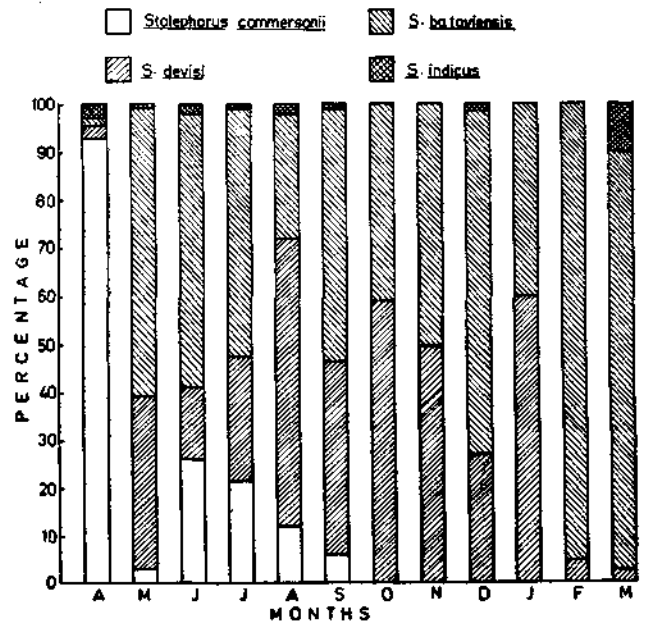


Fig. 18. Monthly species composition of anchovies in trawl catch.

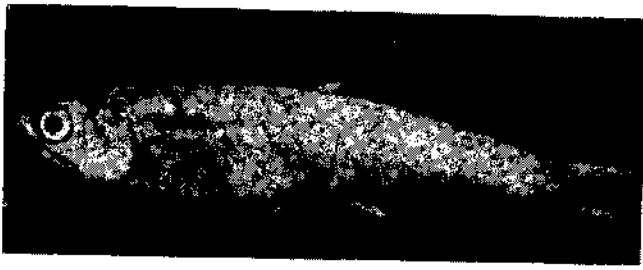


Fig. 19. *Stolephorus bataviensis*.

Scientific Name : *Stolephorus bataviensis*  
 Vernacular Name : 'Nethili'  
 Gear : Trawl net  
 Percentage in the catch of the group : 44.0  
 Peak period of occurrence : Jul. and Oct.  
 Depth of occurrence : Upto 30 m  
 Length range in commercial fishery : 70-90 mm  
 Size at first maturity : —  
 Spawning season : Jun. - Sep.

GERRIDAE

Popular English Name : Silver biddies  
 Vernacular Name (Tamil) : 'Oodan'  
 Annual average catch : 120.2 t  
 Percentage in total catch : —  
 Fishing methods and their contribution : Trawl net : 2.0 %

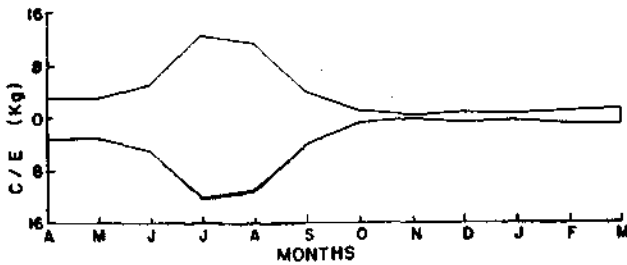


Fig. 20. Seasonal abundance of silver biddies in trawl catch.

ISTIOPHORIDAE

Popular English Name : Sail fish/Bill fish  
 Vernacular Name (Tamil) : 'Myl meen'  
 Annual average catch : 6.5 t  
 Percentage in total catch : —  
 Fishing methods and their contribution : Gill net : 6.5%

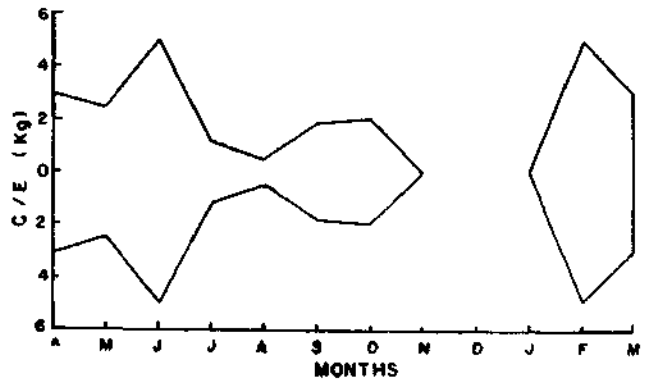


Fig. 21. Seasonal abundance of sail fish in gill net catch.

LEIOGNATHIDAE

Popular English Name : Silver belly  
 Vernacular Name (Tamil) : 'Kara'  
 Annual average catch : 600.1 t  
 Percentage in total catch : 9.9  
 Fishing methods and their contribution : Trawl net : 10.0%

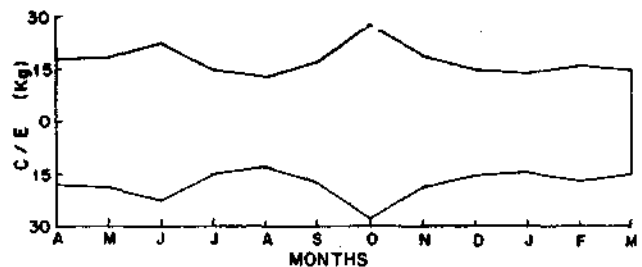


Fig. 22. Seasonal abundance of silver bellies in trawl catch.

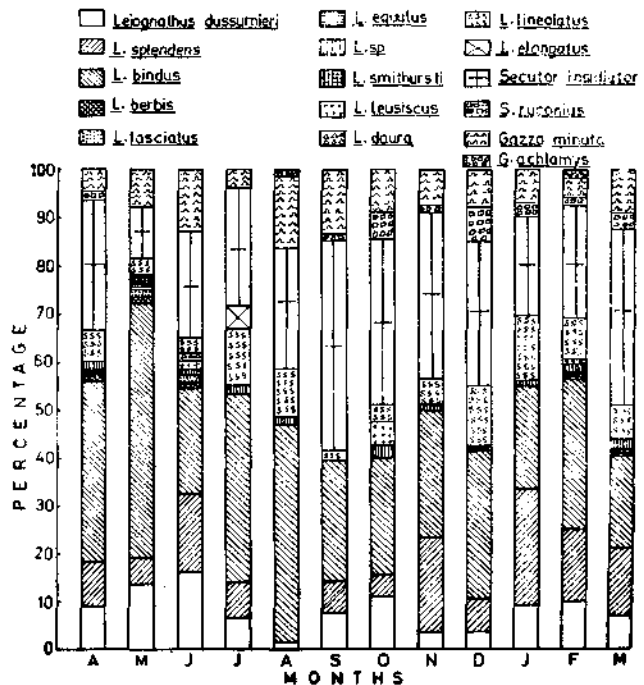


Fig. 23. Monthly species composition of silver bellies in trawl catch.

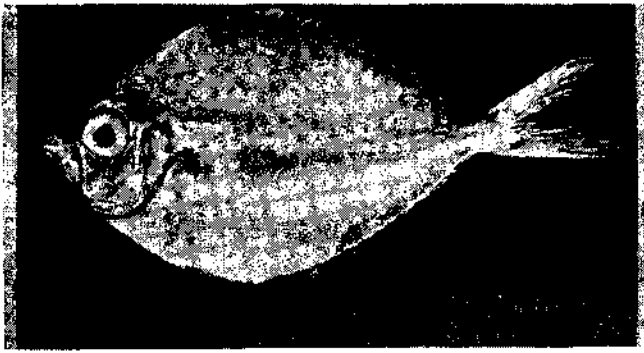


Fig. 24. *Leiognathus bindus*.

Scientific Name : *Leiognathus bindus*  
 Vernacular Name : 'Kara'  
 Gear : Trawl net  
 Percentage in the catch of the group : 30.9  
 Peak period of occurrence : Feb. - May  
 Depth of occurrence : 15 - 40 m  
 Length range in commercial fishery : 60 - 90 mm  
 Size at first maturity : 87 mm  
 Spawning season : Dec. - Apr. and Jun. - Sep.

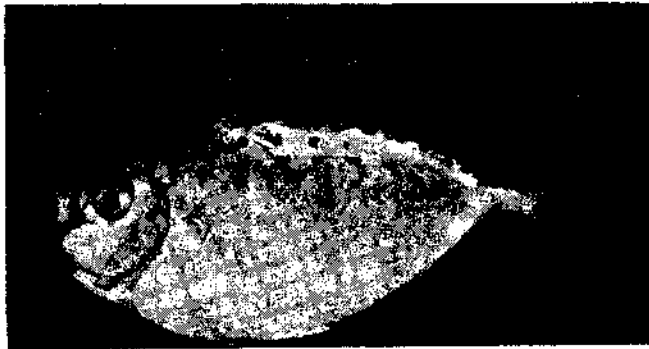


Fig. 25. *Secutor insidiator*.

Scientific Name : *Secutor insidiator*  
 Vernacular Name : 'Kara'  
 Gear : Trawl net  
 Percentage in the catch of the group : 27.8  
 Peak period of occurrence : September  
 Depth of occurrence : 15 - 40 m  
 Length range in commercial fishery : 60 - 90 mm  
 Size at first maturity : Dec. - Apr. and Jun. - Sep.

#### MUGILIDAE

Popular English Name : Grey mullets  
 Vernacular Name (Tamil) : 'Manalai'/'Madavai'  
 Annual average catch : 14.6 t  
 Percentage in total catch : —  
 Fishing methods and their contribution : Bag net : 14.6%

#### MULLIDAE

Popular English Name : Goat fish/Red mullet  
 Vernacular Name : 'Sennagari'  
 Annual average catch : 145.3 t  
 Percentage in total catch : —  
 Fishing methods and their contribution : Trawl net : 2.4%

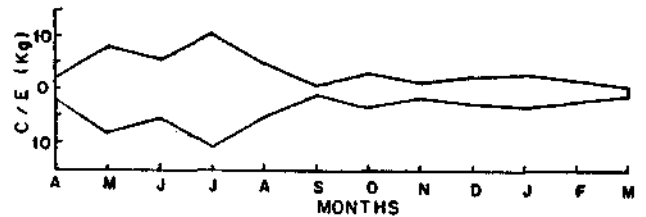


Fig. 26. Seasonal abundance of grey mullets in indigenous gear catch.

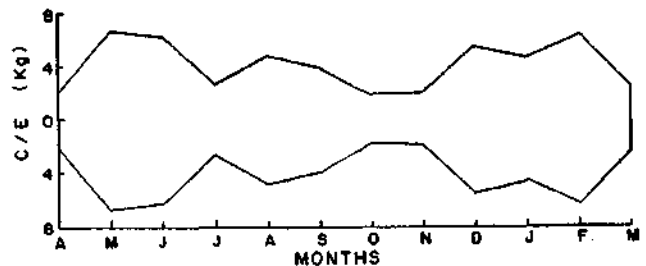


Fig. 27. Seasonal abundance of goat fishes in trawl catch.

#### NEMIPTERIDAE

Popular English Name : Threadfin bream  
 Vernacular Name (Tamil) : 'Sankara'  
 Annual average catch : 760.5 t  
 Percentage in total catch : 12.5  
 Fishing methods and their contribution : Trawl net : 12.7%

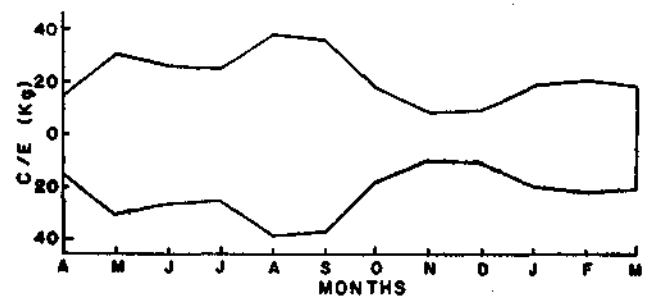


Fig. 28. Seasonal abundance of threadfin breams in trawl catch.

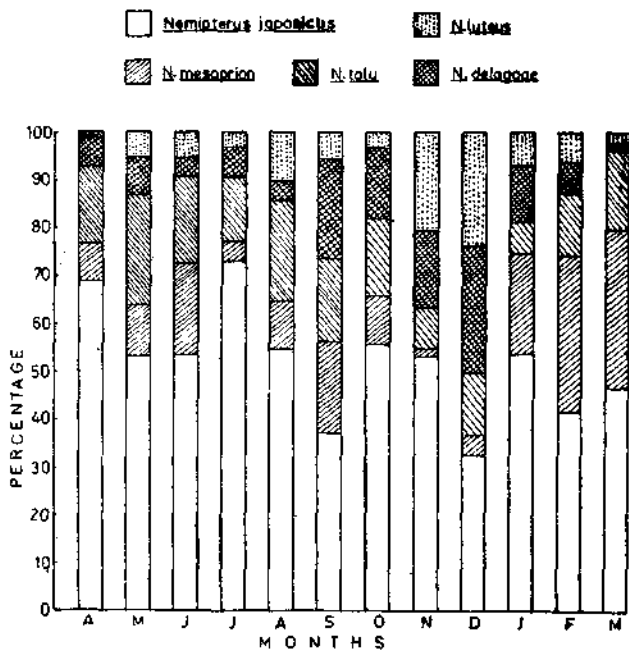


Fig. 29. Monthly species composition of threadfin breams in trawl catch.

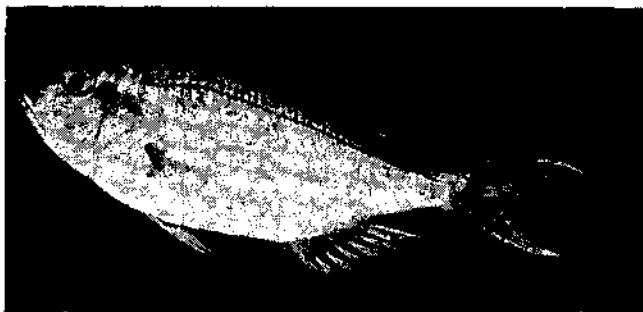


Fig. 30. *Nemipterus japonicus*.

Scientific Name	: <i>Nemipterus japonicus</i>
Vernacular Name	: 'Sankara'
Gear	: Trawl net
Percentage in the catch of the group	: 53.0
Peak period of occurrence	: Jul. - Aug.
Depth of occurrence	: 15 - 40 m
Length range in commercial fishery	: 130 - 150 mm
Size at first maturity	: 145 mm
Spawning season	: Dec. - Mar.

**NOMEIDAE**

Popular English Name	: Drift fish/Butter fish
Vernacular Name (Tamil)	: —
Annual average catch	: 48.4 t
Percentage in total catch	: —
Fishing methods and their contribution	: Trawl net : 0.8%

**POMADASYIDAE**

Popular English Name	: Grunter
Vernacular Name (Tamil)	: 'Kullukorake'/ 'Kurumatti'/'Curutche'
Annual average catch	: 38.9 t
Percentage in total catch	: —
Fishing methods and their contribution	: Trawl net : 0.6%



Fig. 31. Seasonal abundance of gruntters in trawl catch.

**SCIAENIDAE**

Popular English Name	: Croaker
Vernacular Name (Tamil)	: 'Kathalai'
Annual average catch	: 346.6 t
Percentage in total catch	: 5.7
Fishing methods and their contribution	: Trawl net : 5.8%

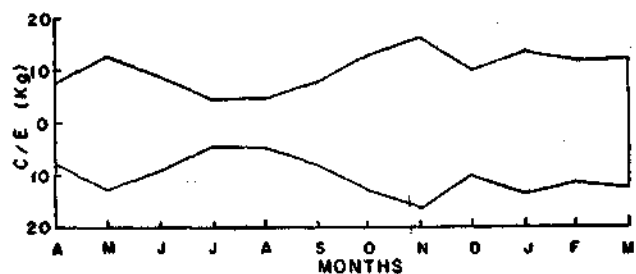


Fig. 32. Seasonal abundance of sciaenids in trawl catch.



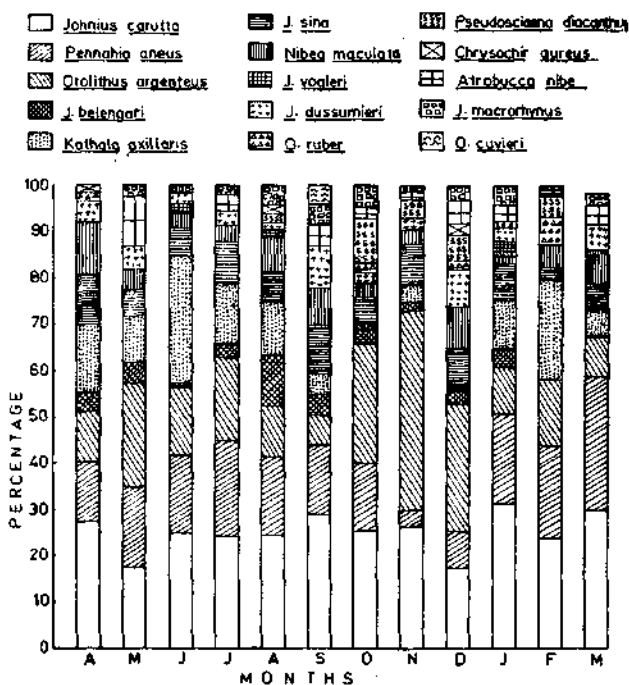


Fig. 33. Monthly species composition of sciaenids in trawl catch.

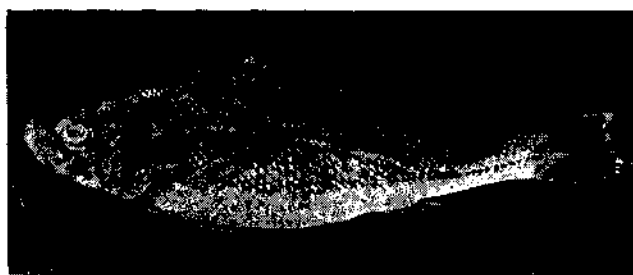


Fig. 34. *Johnius carutta*.

Scientific Name	: <i>Johnius carutta</i>
Vernacular Name	: 'Kathalai'
Gear	: Trawl net
Percentage in the catch of the group	: 25.5
Peak period of occurrence	: Jan. - Feb.
Depth of occurrence	: 15-40 m
Length range in commercial fishery	: 130-150 mm
Size at first maturity	: 140 mm
Spawning season	: Jun. - Jul.

SCOMBRIDAE

Popular English Name	: Mackerel/Tunas/Seer fishes
Vernacular Name (Tamil)	: 'Kumla'/'Kannangeluthi'/'Churai'/'Seela Vanjiram'

Annual average catch	: 111.6 t
Percentage in total catch	: —
Fishing methods and their contribution	: Trawl net : 19.4%
	Gill net : 52.8%
	Hooks & line : 4.6%
	Bag net : 17.5%

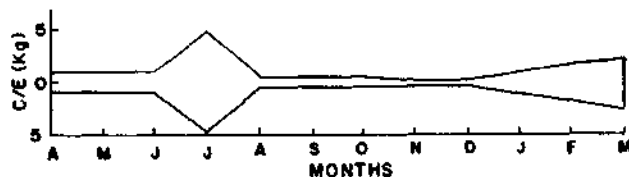


Fig. 35. Seasonal abundance of mackerel in trawl catch.

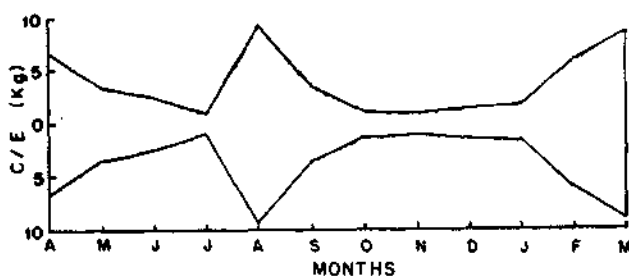


Fig. 36. Seasonal abundance of mackerel in indigenous gear catch.

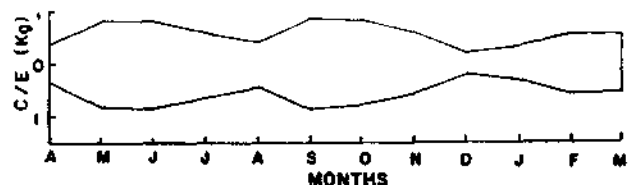


Fig. 37. Seasonal abundance of seer fish in trawl catch.



Fig. 38. Seasonal abundance of seer fish in gill net catch.



Fig. 39. Seasonal abundance of seer fish in indigenous gear catch.

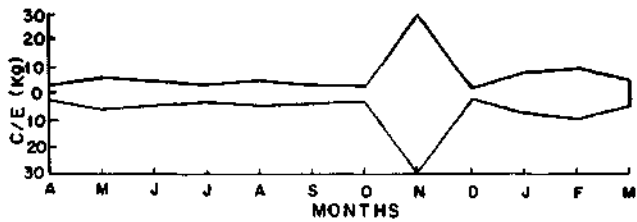


Fig. 40. Seasonal abundance of tuna in gill net catch.

**SPHYRAENIDAE**

Popular English Name : Barracuda  
 Vernacular Name (Tamil) : 'Ooli'  
 Annual average catch : 43.4 t  
 Percentage in total catch : —  
 Fishing methods and their contribution : Trawl net : 0.7%

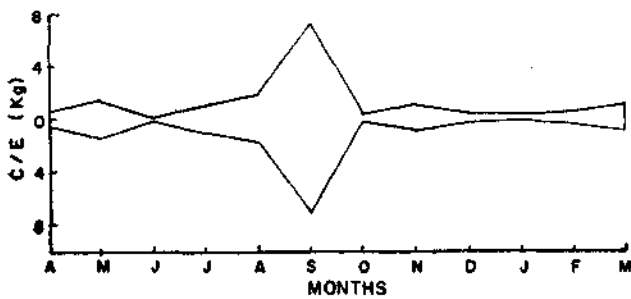


Fig. 41. Seasonal abundance of barracuda in trawl catch.

**STROMATEIDAE**

Popular English Name : Pomfrets  
 Vernacular Name (Tamil) : 'Vavval'  
 Annual average catch : 19.5 t  
 Percentage in total catch : —  
 Fishing methods and their contribution : Trawl net : 0.3%  
 Gill net : 1.3%

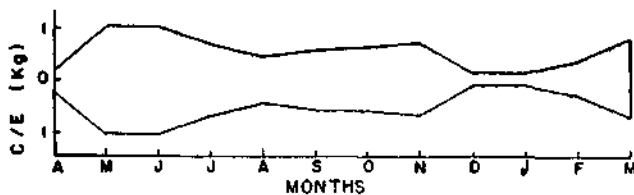


Fig. 42. Seasonal abundance of pomfrets in trawl catch.



Fig. 43. Seasonal abundance of pomfrets in gill net catch.

**SYNODONTIDAE**

Popular English Name : Lizard fish  
 Vernacular Name (Tamil) : 'Oolooway'/  
 'Coolooway'  
 Annual average catch : 330.6 t  
 Percentage in total catch : —  
 Fishing methods and their contribution : Trawl net : 5.4%

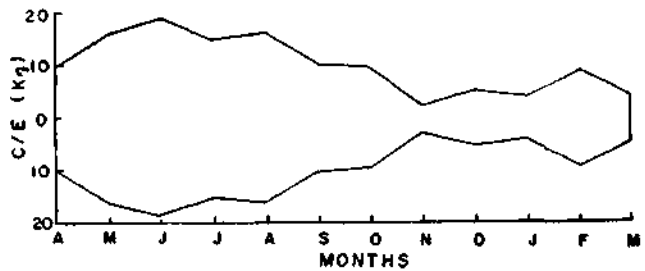


Fig. 44. Seasonal abundance of lizard fish in trawl catch.

**TRICHIURIDAE**

Popular English Name : Ribbon fish  
 Vernacular Name (Tamil) : 'Savali'/'Chavalai'/  
 'Olavalai'  
 Annual average catch : 221.0 t  
 Percentage in total catch : —  
 Fishing methods and their contribution : Trawl net : 2.0%

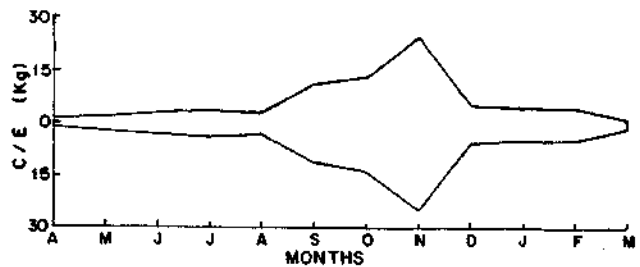


Fig. 45. Seasonal abundance of ribbon fishes in trawl catch.

