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CENTRAL MARINE FISHERIES RESEARCH INSTITUTE COCHIN, INDIA

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MARINE FISH CALENDAR

X. KARWAR*

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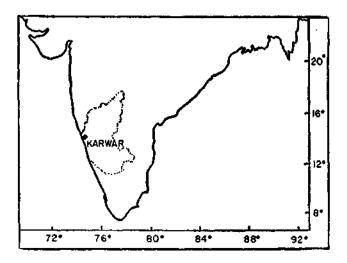
Karwar Research Centre of CMFRI, Karwar

Introduction

Karwar is situated almost at the northernmost (Lat. 14°50' N and Long. 74°03' E) tip of the Karnataka coast. It is the district headquarters of Uttar Kannada. The coastline extending from Majali in the north to Kasaragod in the south was once famous for rampan (shore seine) fishing till the advent of this decade. This part of the coast was called the 'mackerel coast'. However, with the introduction of purse seiners in the mid-seventies and the rapid increase in the strength of this fleet, the indigenous gear rampan gradually lost its glory and is plying into oblivion. Similarly various types of gill net, used mostly for catching the oil sardine, mackerel and seer fishes and cast net for soles and prawns have completely disappeared from this coast. Furthermore, the coast has also lost the fame for its mackerel fishery.

Normally the fishing activities are resumed by the beginning of September after the cessation of the southwest monsoon. The period from September to December is very productive when large quantities of oil sardine, lesser sardines comprising Sardinella fimbriata, S. albella, S. gibbosa and S. dayi, anchovies, mackerel, tunas (Euthynnus affinis, Auxis thazard, A. rochel), black pomfret, carangids, cat fish (Tachysurus tenuispinis, T. serratus) and silver bellies are landed. The period from January to May is known for moderate catches of the above groups.

Oil sardine is caught in plenty in most of the months of the fishing season and mackerel and lesser sardines to a lesser extent. Tunas generally appear in the seiners from September to December and again in small quantities from March to May. Bumper catches of cat fishes and pomfrets, especially the black species are hauled up during September and October causing on many-an-occasion the glut condition. Other fishes are landed throughout the fishing season in varying proportions.



The fishing in the Karwar area is based by and large on the purse seiners. As such the fish calendar is prepared on the fish landings of this gear only and the data covered is from 1981 through 1985.

BELONIDAE

Popular English Name	:	Gar fish/Needle fish
Vernacular Name (Kannada)	:	'Kande'/'Havu meenu'
Annual average catch	:	2.4 t
Percentage in total catch Fishing methods and	:	0.03
their contribution	:	Purse seine/Trawl net/ Gill net/Yendi:

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



Fig. 1. Strongylura strongylura.

Scientific Name	: Strongylura strongylura
Vernacular Name	: 'Kande tole'
Gear	: Purse seine/Trawl net/
	Yendi
Peak period of occurrence	: Aug Dec.
Depth of occurrence	: 5 - 25 m
Length range in	
commercial fishery	: 100 – 1,000 mm
Size at first maturity	; —
Spawning season	: —

CARANGIDAE

Popular English Name	;	Scads/Travellies
Vernacular Name (Kannada)	:	'Kokkare'/'Thonke'/
		'Chorubangude'/
		'Diana'/'Halge meenu'/'Thickli'
Annual average catch	:	600.5 t
Percentage in total catch Fishing methods and	:	8.1
their contribution	:	Purse seine/Trawl net/Yendi/Gill net: —

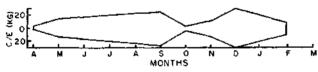


Fig. 2. Seasonal abundance of carangids at Karwar.



Fig. 3. Caranx kalla.

Scientific Name	:	Caranx kalla
Vernacular Name	:	'Kokkare'
Gear	:	Purse seine/Trawl net/Yendi/Gill net
Peak period of occurrence	:	Aug. – May
Depth of occurrence	:	2 – 10 m
Length range in		
commercial fishery	:	50 - 200 mm
Size at first maturity	:	
Spawning season	;	

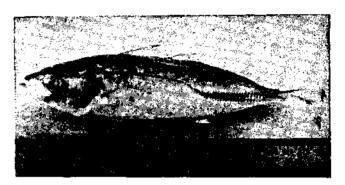


Fig. 4. Decapterus russelli.

Scientific Name	:	Decapterus russellt
Vernacular Name	:	'Thonke'
Gear	:	Purse seine
Peak period of occurrence	:	Sep. – Apr.
Depth of occurrence	:	5 - 50 m
Length range in		
commercial fishery	:	70 – 200 mm
Size at first maturity	:	
Spawning season	:	_

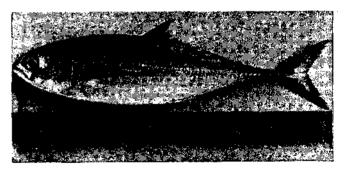
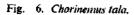


Fig. 5. Megalaspis cordyla.

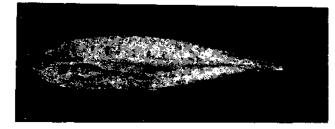
Scientific Name	:	Megalaspis cordyla
Vernacular Name	:	'Chorubangude'
Gear	:	Purse seine
Peak period of occurrence	:	Sep Арг.
Depth of occurrence	:	5 – 50 m

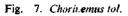
Length range in		
commercial fishery	:	100 - 300 mm
Size at first maturity	:	
Spawning season	:	_





Scientific Name	:	Chorinemus tala
Vernacular Name		'Halge meenu'
Gear		Purse seine
Peak period of occurrence	:	Sep Apr.
Depth of occurrence		5 – 50 m
Length range in		
commercial fishery	:	125 - 250 mm
Size at first maturity	:	
Spawning season	:	





.

Scientific Name	:	Chorinemus tol
Vernacular Name	:	'Thickli'
Gear	:	Purse seine
Peak period of occurrence	:	Sep. – Apr.
Depth of occurrence	:	5 - 50 m
Length range in		
commercial fishery	:	200-350 mm
Size at first maturity	:	
Spawning season	:	

CARCHARHINIDAE

Popular English Name	:	Sharks
Vernacular Name (Kannada)	:	'Sorrah'
Annual average catch	:	2.7 t

Percentage in total catch Fishing methods and their contribution

: Purse seine/Trawl

: 0.04

net/Yendi/Gill net:---

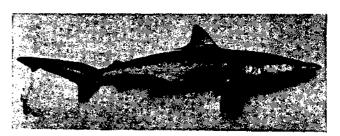


Fig. 8. Carcharhinus melanopterus.

Scientific Name	: Carcharhinus melanopterus
Vernacular Name	: 'Sorrah'
Gear	: Purse seine/Trawl net/Yendi/Gill net
Peak period of occurrence	: Aug. – May
Depth of occurrence	: 5 – 50 m
Length range in	
commercial fishery	: 200 – 1,000 mm
Size at first maturity	:
Spawning season	: -

CHIROCENTRIDAE

Popular English Name	:	Wolf herrings
Vernacular Name (Kannada)	:	'Karli'
Annual average catch	:	
Percentage in total catch	:	·
Fishing methods and		
their contribution	:	Purse seine/Trawl net/
		Gill net/Yendi:

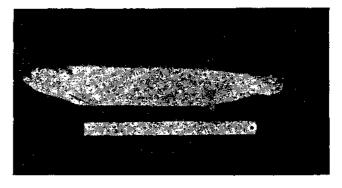


Fig. 9. Chirocentrus dorab.

Scientific Name Vernacular Name

: Chirocentrus dorab : 'Karli'

Gear	:	Purse seine/Trawl net/ Gill net/Yendi
Peak period of occurrence	:	Aug. – May
Depth of occurrence	:	_
Length range in commercial fishery	:	200 – 1,000 mm
Size at first maturity	:	
Spawning season	:	~ -

CLUPEIDAE

Popular English Name Vernacular Name (Kannada)	:	Sardines/Hilsa/Shads 'Buthayee'/'Tarli'/ 'Pedi'/'Belenji'/ 'Palasa'/'Pachki'
Annual average catch	:	32,442 t
Percentage in total catch Fishing methods and	:	60.0
their contribution	:	Purse seine/Cast net/ Shore seine/Gill net/ Yendi: —

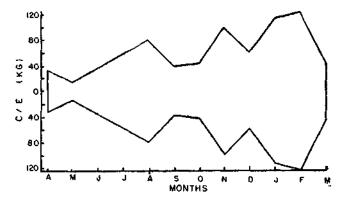


Fig. 10. Seasonal abundance of oil sardine at Karwar.

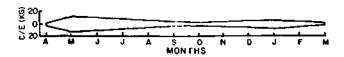


Fig. 11, Seasonal abundance of white sardine (Escualosa thoracata) at Karwar.

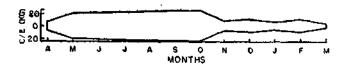


Fig. 12. Seasonal abundance of lesser sardines at Karwar.

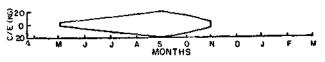


Fig. 13. Seasonal abundance of other clupeids.

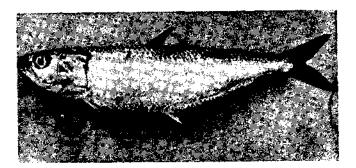


Fig. 14. Sardinella longiceps.

Scientific Name	:	Sardinella longiceps
Vernacular Name	:	'Buthayee'/'Tarli'
Gear	:	Purse seine/Cast net/
		Shore seine/Gill net
Peak period of occurrence	:	Aug May
Depth of occurrence	:	11 – 19 m
Length range in		
commercial fishery	:	50 - 220 mm
Size at first maturity	:	140 – 145 mm
Spawning season	:	Jun. – Dec.

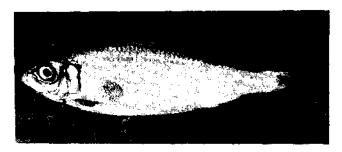


Fig. 15. Sardinella fimbriata.

Scientific Name	:	Sardinella fimbriata
Vernacular Name	:	'Pedi'
Gear	:	Purse seine/Cast net/
		Shore seine/Gill net
Peak period of occurrence	:	Aug. – May
Depth of occurrence	:	11 – 19 m
Length range in		
commercial fishery	;	60 - 205 mm
Size at first maturity	:	<u> </u>
Spawning season	:	—



Fig. 16. Sardinella gibbosa.

Scientific Name	:	Sardinella gibbosa
Vernacular Name	:	· · · · · · · · · · · · · · · · · · ·
Gear	:	Purse seine/Cast net/
		Shore seine/Gill net
Peak period of occurrence	:	Aug May
Depth of occurrence	:	11 - 19 m
Length range in		
commercial fishery	;	45 - 200 mm
Size at first maturity	:	- .
Spawning season	:	

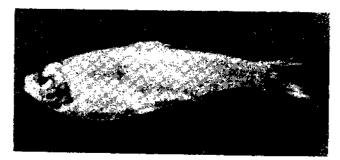


Fig. 17. Escualosa thoracata.

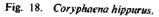
Scientific Name	:	Escualosa thoracata
Vernacular Name		'Belenji'
Gear	:	Purse seine/Yendi/
		Gill net/Cast net
Peak period of occurrence	:	Oct. ~ May
Depth of occurrence	:	11 – 19 m
Length range in		
commercial fishery	:	60 - 175 mm
Size at first maturity	:	·
Spawning season	:	

CORYPHAENIDAE

Fishing methods and their contribution

: Purse seine/ Gill net: --





Scientific Name Vernacular Name Gear Peak period of occurrence Depth of occurrence	 Coryphaena hippurus 'Halge meenu' Purse seine/Gill net Sep Apr. 5 - 50 m
Length range in commercial fishery Size at first maturity Spawning season	: 210 - 460 mm : :

CYNOGLOSSIDAE

Popular English Name	:	Tongue sole
Vernacular Name (Kannada)		'Lepe'
Annual average catch	;	
Percentage in total catch	:	
Fishing methods and		
their contribution	:	Trawl net/Yendi:

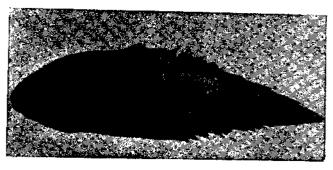


Fig. 19. Cynoglossus bilineatus.

Scientific Name	: Cynoglossus bilineatus
Vernacular Name	: 'Lepe'
Gear	: Trawl net/Yendi
Peak period of occurrence	: Aug May
Depth of occurrence	$5 - 50 \mathrm{m}$
Length range in	
commercial fishery	: 90150 mm

Size at first maturity	:	
Spawning season	:	

DUSSUMIERIDAE

:	Rainbow sardine
:	'Thirugani'
:	77.3 t
:	1.04
:	Purse seine/Yendi: -
	::

ENGRAULIDAE

:	Anchovies
:	'Dinasi'/'Othaly'/
	'Enaga'
:	345.8 t
:	4.7
:	Purse seine/Yendi/
	Trawl net: —
	::

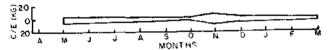


Fig. 20. Seasonal abundance of anchovies at Karwar.

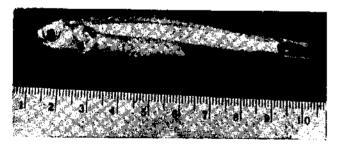


Fig. 21. Stolephorus devisi.

Scientific Name	:	Stolephorus devisi
Vernacular Name	:	'Dinasi'
Gear	:	Purse seine/Yendi
Peak period of occurrence	:	Oct. – May
Depth of occurrence	:	11 – 19 m
Length range in		
commercial fishery	:	6 0~115 mm
Size at first maturity	:	—
Spawning season	:	—

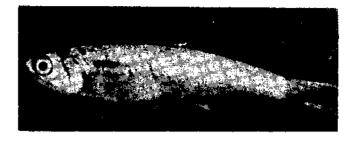


Fig. 22. Stolephorus bataviensis.

Scientific Name	:	Stolephorus bataviensis
Vernacular Name	:	'Dinasi'
Gear	;	Purse seine/Yendi
Peak period of occurrence	:	Oct. – May
Depth of occurrence	:	11 – 19 m
Length range in		
commercial fishery	:	60-115 mm
Size at first maturity	:	
Spawning season	:	

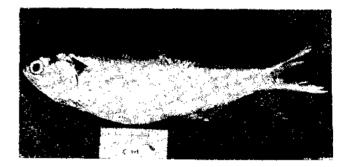


Fig. 23. Thryssa mystax.

Scientific Name	:	Thryssa mystax
Vernacular Name	:	'Othaly'/'Enaga'
Gear	:	Purse seine/Trawl net/ Yendi
Peak period of occurrence	:	Sep. – Apr.
Depth of occurrence	:	11 – 19 m
Length range in		
commercial fishery	:	80 – 190 mm
Size at first maturity	:	—
Spawning season	:	
- -		

LACTARIIDAE

Popular English Name	:	Big-jawed jumper
Vernacular Name (Kannada)	:	'Adabanaga'
Annual average catch	;	—
Percentage in total catch	:	

Fishing methods and their contribution

Scientific Name

Gear

Vernacular Name

Peak period of occurrence

commercial fishery

Depth of occurrence

Size at first maturity

Spawning season

Length range in

: Purse seine/Trawl net/ Yendi/Gill net/Cast net:

: Lactarius lactarius

'Adabanaga' 🕁

: Purse seine/Trawl net/ Yendi/Gill net/ Cast



Fig. 24. Lactarius lactarius.

:

:

:

:

net

: Aug. - May

2 – 10 m

60 - 180 mm

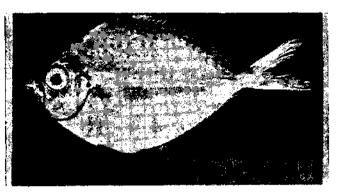


Fig. 26. Letognathus bindus.

Scientific Name	:	Leiognathus bindus
Vernacular Name	:	'Guruku'
Gear	:	Purse seine/Trawl net/
		Yendi
Peak period of occurrence	:	Sep. – Apr.
Depth of occurrence	:	5 – 25 m
Length range in		
commercial fishery	:	50 – 100 mm
Size at first maturity	:	_
Spawning season	:	<u> </u>

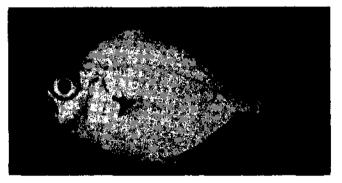


Fig. 27. Letognathus splendens.

Scientific Name	:	Leiognathus splendens
Vernacular Name	:	'Guruku'
Gear	:	Trawl net/Purse seine/
		Yendi
Peak period of occurrence	:	Sep Apr.
Depth of occurrence	:	5–25 m
Length range in		
commercial fishery	:	50 – 100 mm
Size at first maturity	:	_
Spawning season	:	Pitter.

ne/



Fig. 25. Seasonal abundance of silver bellies at Karwar.

:

LEIOGNATHIDAE

Popular English Name	:	Pony fish/Silver bellies
Vernacular Name (Kannada)	:	'Guruku'
Annual average catch	:	265.9 t
Percentage in total catch Fishing methods and	:	3.58
their contribution	:	Trawl net/Purse seir Yendi: —

MUGILIDAE

Popular English Name	:	Grey mullet
Vernacular Name (Kannada)	:	'Madle'
Annual average catch	:	
Percentage in total catch	;	
Fishing methods and		
their contribution	:	Purse seine/Trawl net/
		Yendi/Gill net:

NEMIPTERIDAE

Popular English Name	:	Threadfin bream
Vernacular Name (Kannada)	:	'Rane meenu'
Annual average catch	:	
Percentage in total catch	:	
Fishing methods and		
their contribution	:	Parse seine/
		Trawl net:

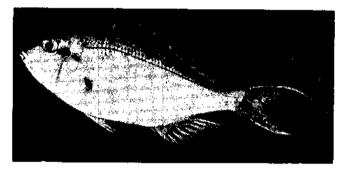


Fig. 28. Nemipterus japonicus.

:	Nemipterus japonicus
	'Rane meenu'
:	'Purse seine/Trawl net
:	Sep Apr.
	5 – 50 m
:	90 - 180 mm
:	
:	
	::

PLATYCEPHALIDAE

Popular English Name	:	Flat head
Vernacular Name (Kannada)	:	'Vataki'
Annual average catch	:	-
Percentage in total catch	:	<u> </u>
Fishing methods and		
their contribution	:	Trawl net/
		Yendi :

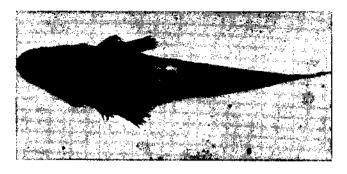


Fig. 29. Platycephalus scaber.

Scientific Name	:	Platycephalus scaber
Vernacular Name	;	'Vataki'
Gear	:	Trawl net/Yendi
Peak period of occurrence	:	Aug. – May
Depth of occurrence	:	5 – 50 m
Length range in		
commercial fishery	:	100 – 220 mm
Size at first maturity	:	
Spawning season	:	

POLYNEMIDAE

Popular English Name	:	Threadfins
Vernacular Name (Kannada)	:	'Ravese'
Annual average catch	:	
Percentage in total catch	:	-
Fishing methods and		
their contribution	:	Purse seine/Trawl net/
		Yendi/Gill net:

SCIAENIDAE

Popular English Name
Vernacular Name (Kannada)
Annual average catch
Percentage in total catch
Fishing methods and
their contribution

:	Croakers/Jew fish
:	'Banagu'/'Dodi'
:	17.4 t
:	0.23

: Purse seine/Trawl net/ Gill net/Yendi: ---

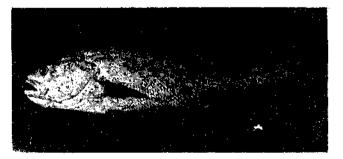


Fig. 30 Protonibea diacanthus.

Scientific Name	:	Protonibea diacanthus
Vernacular Name	:	'Ghol'
Gear	:	Purse seine/Gill net
Peak period of occurrence		Aug Dec.
Depth of occurrence	:	5 - 50 m
Length range in		
commercial fishery	:	200 - 1,500 mm
Size at first maturity	:	
Spawning season	:	-

Peak period of occurrence	:	Aug Dec.
Depth of occurrence	:	10 – 75 m
Length range in		
commercial fishery	:	200 - 350 mm
Size at first maturity	:	
Spawning season	:	
-Panna oraș	•	



Popular English Name	:	Mackerel/Tuna/Seer
		fish
Vernacular Name (Kannada)	:	'Bangude'/'Dande'/
		'Surmai'/'Esoma'/
		'Bugudi'
Annual average catch	:	1,265.2 t
Percentage in total catch Fishing methods and	:	17.02
their contribution	:	Purse seine/Yendi/ Gill net : —

TUNA

Popular English Name	:	Tuna	
Vernacular Name (Kannada)	:	'Bugudi'	
Annual average catch	:	145.2 t	
Percentage in total catch	:	1.97	
Fishing methods and			
their contribution	:	Purse seine/	
		Gill net:	

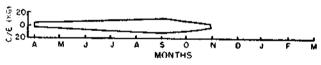


Fig. 31. Seasonal abundance of tunas at Karwar.

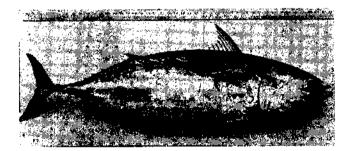


Fig. 32. Auxis thazard.

Scientific Name	:	Auxis thazard
Vernacular Name	:	'Bugudi'
Gear	:	Purse seine/Gill net



Fig. 33. Auxis rochei.

Scientific Name	:	Auxis rochei
Vernacular Name	:	'Bugudi'
Gear	:	Purse seine/Gill net
Peak period of occurrence	:	Aug Dec.
Depth of occurrence	:	10 – 75 m
Length range in		
commercial fishery	:	200-300 mm
Size at first maturity	:	
Spawning season	:	

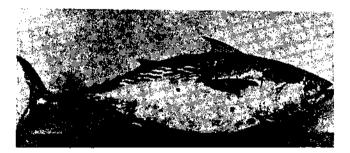


Fig. 34. Euthynnus affinis.

Scientific Name	:	Euthynnus affinis	
Vernacular Name	:	'Bugudi'	
Gear	:	Purse seine/Gill	net
Peak period of occurrence	:	Aug. – May	
Depth of occurrence	:	5 – 50 m	
Length range in			
commercial fishery	:	250 – 680 mm	
Size at first maturity	;		
Spawning season	:	·	

SEER FISHES

Popular English Name	:	Seer fish
Vernacular Name (Kannada)	:	'Esona'/'Dande'/
		'Surmai'
Annual average catch	:	б.б t
Percentage in total catch	:	0.09
Fishing methods and		
their contribution	:	Purse seine/Yendi/
		Gill net :

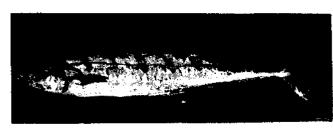


Fig. 35. Scomberomorus commerson.

Scientific Name	:	Scomberomorus commerson
Vernacular Name	:	'Dandi'
Gear	:	Purse seine/Gill net/
		Yendi
Peak period of occurrence	:	Aug. – May
Depth of occurrence	:	10 – 75 m
Length range in		
commercial fishery	:	410 - 770 mm
Size at first maturity	:	
Spawning season	:	_

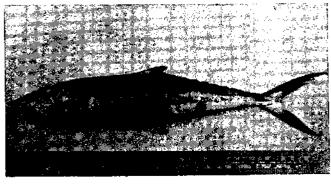


Fig. 36. Scomberomorus guttatus.

Scientific Name

Vernacular Name Gear

- Scomberomorus : guttatus
- 'Surmai'
- : Purse seine/Gill net/ Yendi

Peak period of occurrence	:	Aug May
Depth of occurrence	:	10 – 75 m
Length range in		
commercial fishery	;	400 ~ 610 mm
Size at first maturity	:	
Spawning season	:	

MACKEREL

Popular English Name	:	Mackerel
Vernacular Name (Kannada)	:	'Bangude'
Annual average catch	:	1,113.4t
Percentage in total catch	:	14.97
Fishing methods and		
their contribution	:	Purse seine/Yendi/
		Gill net : —

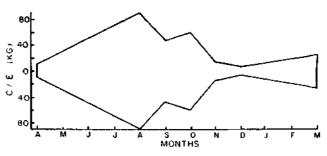


Fig. 37. Seasonal abundance of mackerel at Karwar.

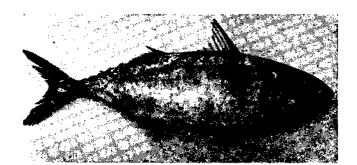


Fig. 38. Rastrelliger kanagurta

Scientific Name Vernacular Name Gear

Peak period of occurrence Depth of occurrence Length range in commercial fishery Size at first maturity Spawning season

- Rastrelliger kanagurta :
- 'Bangude' :
- Purse seine/Yendi/ : Gill net
- Aug. May ;
- $2 50 \, m$:
- 70 270 mm :
- 220 mm :
- : May Dec.

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Sphyraenidae

Popular English Name	:	Barracuda
Vernacular Name (Kannada)	;	'Banse'
Annual average catch	:	0.4 t
Percentage in total catch	:	0.01
Fishing methods and		
their contribution	:	Purse seine/Trawl net/ Yendi:

STROMATELDAE

Popular English Name	:	Pomfrets
Vernacular Name (Kannada)	:	'Paplet'/'Manji'/ 'Karimanji'
Annual average catch	:	136.5 t
Percentage in total catch Fishing methods and	:	1.84
their contribution	:	Purse seine/Trawl net/ Gill net: —

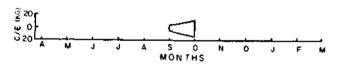


Fig. 39. Seasonal abundance of pomfrets at Karwar.

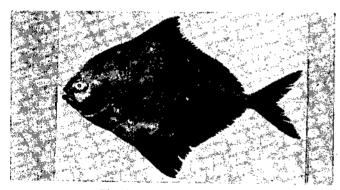


Fig. 40. Parastromateus niger.

Scientific Name	:	Parastromateus niger
Vernacular Name		'Kari manji'
Gear	:	Purse seine/Gill net
Peak period of occurrence	:	Sep Oct.
Depth of occurrence	:	5 – 50 m
Length range in		
commercial fishery	:	50 - 450 mm
Size at first maturity	:	-
Spawning season	:	— •

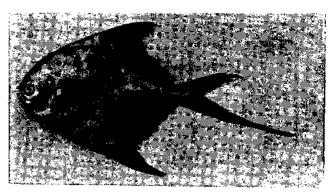


Fig. 41. Pampus argenteus.

Scientific Name	:	Pampus argenteus
Vernacular Name		'Paplet'
Gear	:	Purse seine/Trawl net/
	:	Gill net
Peak period of occurrence	:	Sep. – Oct.
Depth of occurrence	:	5 – 50 m
Length range in		
commercial fishery	:	40 – 290 mm
Size at first maturity	:	_
Spawning season	:	

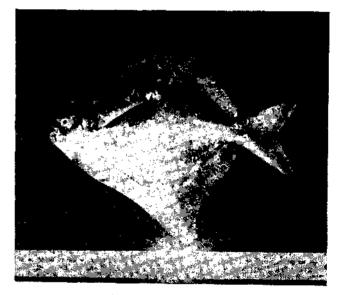


Fig. 42. Pampus chinensis.

Scientific Name	:	Pampus chinensis
Vernacular Name		'Manji'
Gear	:	Purse seine/Trawl net/ Gill net
Peak period of occurrence	:	Sep Oct.
Depth of occurrence		5 - 50 m
Length range in		
commercial fishery	:	50 - 250 mm
Size at first maturity	:	
Spawning season	:	

TACHYSURIDAE

Popular English Name	:	Cat fish
Vernacular Name (Kannada)	:	'Shade'
Annual average catch	:	207.0 t
Percentage in total catch	:	2.79
Fishing methods and		
their contribution	:	Purse seine/Gil

Purse seine/Gill net/ Trawl net/Yendi: ---

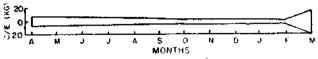


Fig. 43. Seasonal abundance of cat fishes at Karwar.



Fig. 44. Tachysurus thalassinus,

Scientific Name	:	Tachysurus thalassinus
Vernacular Name	:	'Shade'
Gear	:	Purse seine/Gill nct
Peak period of occurrence	:	Aug. – May
Depth of occurrence	:	5 – 25 m
Length range in		
commercial fishery	:	50 – 585 mm
Size at first maturity	:	<u> </u>
Spawning season	:	



Fig. 45. Tachysurus tenuispinis.

Scientific Name Vernacular Name Gear

- : Tachysurus tenuispinis
- : 'Shade'
- : Purse seine/Trawl net/ Yendi/Gill net

Peak period of occurrence	:	Aug Dec.
Depth of occurrence	:	525 m
Length range in		
commercial fishery	:	250 - 400 mm
Size at first maturity	:	—
Spawning season	:	

THERAPONIDAE

Popular English Name	:	Thorn fish/Crescent perch
Vernacular Name (Kannada)	:	'Garagat'
Annual average catch	:	5.5 t
Percentage in total catch	:	0.07
Fishing methods and		
their contribution	;	Purse seine/
		Trawl net: —

TRICHIURIDAE

Popular English Name	:	Ribbon fish
Vernacular Name (Kannada)	:	'Kambli'
Annual average catch	:	16 t
Percentage in total catch	:	0.21
Fishing methods and		
their contribution	:	Purse seine/Trawlnet/
		Yendi: —

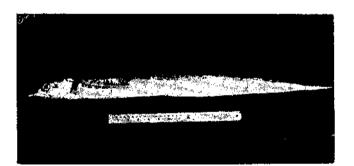


Fig. 46. Trichiurus lepturus.

Scientific Name	:	Trichiurus lepturus
Vernacular Name	:	'Kambli'
Gear	:	Purse seine/Trawl net/
		Yendi
Peak period of occurrence	:	Aug. – May
Depth of occurrence	:	5 - 50 m
Length range in		
commercial fishery	;	150 - 1, 500 mm
Size at first maturity	:	_
Spawning season	:	

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DASYATIDAE

Popular English Name Vernacular Name (Kannada) : 'Thorake' Annual average catch : 0.5 t

: Rays

Percentage in total catch Fishing methods and their contribution

: 0.01

: Trawl net/Yendi/Gill net: —

