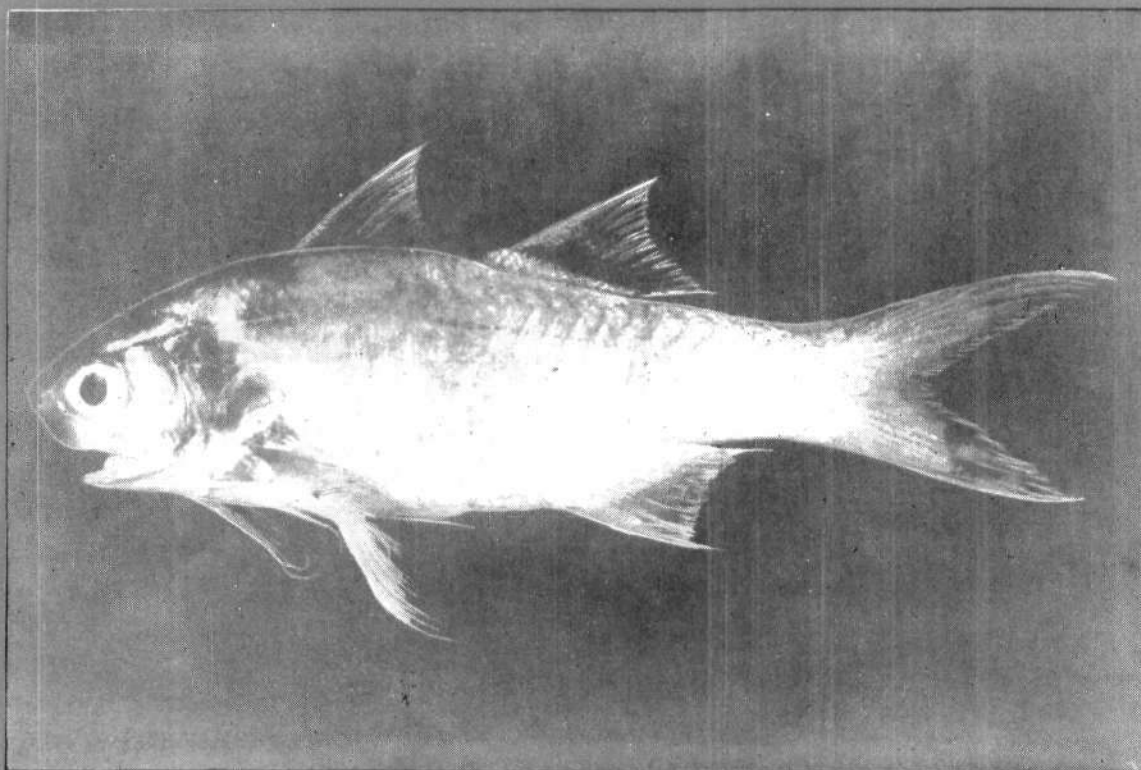




MARINE FISHERIES INFORMATION SERVICE



No. 86
AUGUST 1988

Technical and Extension Series

CENTRAL MARINE FISHERIES RESEARCH INSTITUTE
COCHIN, INDIA

INDIAN COUNCIL OF AGRICULTURAL RESEARCH

MARINE FISH CALENDAR

VIII. VERAVAL*

A. P. Lipton, T. Appa Rao, S. G. Raje, C. Gopal, Ranjit Singh, P. B. Thumber and H. K. Dhokia

Veraval Research Centre of CMFRI, Veraval

Introduction

The coastline of Gujarat, spread around 1,660 km is well known for its bombay duck and pomfret fisheries. In this coast, Veraval which is located in the Saurashtra region forms one of the major fish landing centres. The average annual landing is around 50,000 t, forming about 20% of the catch of the Gujarat State.

In the late 50s fishing was confined to the inshore waters of Veraval. The majority of the boats were of sail type and a very few only were mechanised. These boats were using gill nets and long lines. Stern trawling was unknown and the catch of quality fishes like pomfrets, 'ghol' and eels obtained by long liners and gill netters were iced and transported to Bombay by carrier boats and some quantity by train to Ahmedabad, Baroda and Delhi. The majority of miscellaneous varieties were salted and sun dried. There was poor demand for fish among the local populace.

However, after the state was formed in 1960, fisheries developmental activities took a major turn. A new fisheries harbour was planned for Veraval and the fishing pattern underwent a major change with the introduction of stern trawling. At present there are about 800 trawlers, 300 OBM fitted boats and about 50 non-mechanised crafts. The trawlers accounted for about 90% catch and the rest by gill nets and OBM boats. The average monthly catch by trawlers is about 4,000 t (10 months fishing) and by gill netters about 374 t (12 months fishing).

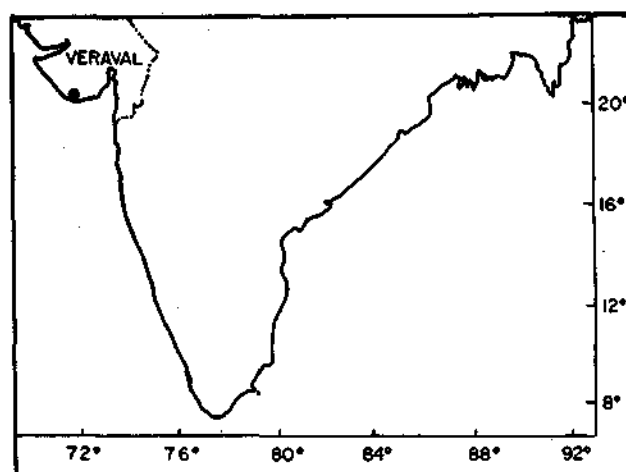
The fishing operations are mainly carried out at about 80 m depth from Dwarka (250 km) towards north to Nawabunder (100 km) towards south. These fishing trips are called 'long trips' which last for about four

days and the boats are equipped with long term storage facilities for the quality fishes. The peak landing period is from October to January by the trawlers. The fishing by trawlers remains closed annually for monsoon from 15th of May to 15th of September. During this period maintenance works of vessels are taken up.

During the monsoon period, depending on roughness of sea, gill netters operate to catch pomfrets, 'ghol' and 'dara'. During the fag end of the fishing season many fishermen go for shark hunting, and the oil from the liver of these sharks is used for repair works of the vessels.

During November, the fish catch constituted 15.45% of the total landings and the peak period of October to December accounted for 36% of the annual landings from Veraval. The pelagic resources formed majority of the landings in gill net catch (65.13%); whereas 64% of the demersal resources was landed by trawlers.

By and large the landings of demersal resources are comparatively higher (60.4%) than the pelagic



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

resources in Veraval area. The sciaenids form 16% of the trawl landings and 3.4% of the gill net landings. The cat fishes constitute 5.8% of the gill net catch and 0.77% of the trawl landings. The threadfin breams form 3.5% of the total catch.

In Veraval it is observed that due to poor handling and storage facilities about 40% of the catch goes as trash fish and is used for manure and fish meal purpose.

CARANGIDAE

Popular English Name : Trevally/Scads
 Vernacular Name (Gujarati) : 'Bangdi'/'Khadwo'
 Annual average catch : 953.8 t
 Percentage in total catch : 2.1
 Fishing methods and their contribution : Trawl net/
 Gill net: —

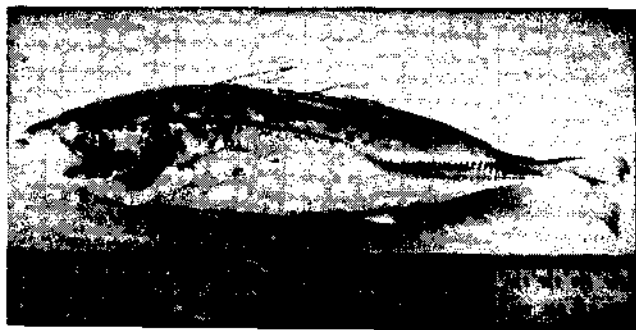


Fig. 1. *Decapterus russelli*.

Scientific Name : *Decapterus russelli*
 Vernacular Name : 'Bangdi'
 Gear : Trawl net/Gill net
 Percentage in the catch of the group : —
 Peak period of occurrence : Dec. - Mar.
 Depth of occurrence : 20 - 40 m
 Length range in commercial fishery : 50 - 150 mm
 Size at first maturity : —
 Spawning season : —

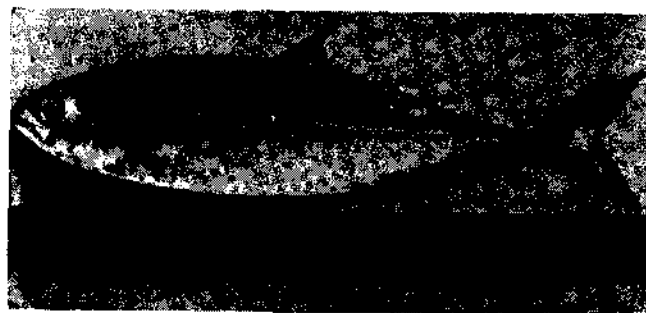


Fig. 2. *Megalaspis cordyla*.

Scientific Name : *Megalaspis cordyla*
 Vernacular Name : 'Kati'/'Bangada'
 Gear : Trawl net/Gill net
 Percentage in the catch of the group : —
 Peak period of occurrence : Dec. - Mar.
 Depth of occurrence : 20 - 40 m
 Length range in commercial fishery : 50 - 150 mm
 Size at first maturity : —
 Spawning season : —

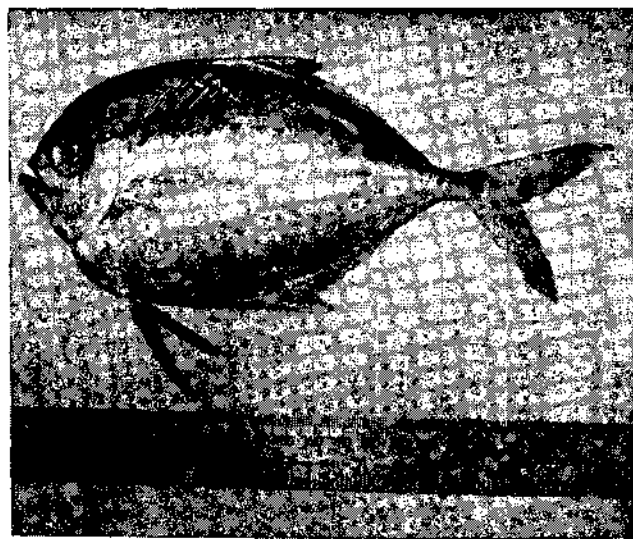


Fig. 3. *Atropus atropus*.

Scientific Name : *Atropus atropus*
 Vernacular Name : 'Khadwo'
 Gear : Trawl net/Gill net
 Percentage in the catch of the group : —
 Peak period of occurrence : Nov. - Dec.
 Depth of occurrence : 40 - 80 m

Length range in commercial fishery : 100 – 300 mm
 Size at first maturity : —
 Spawning season : —

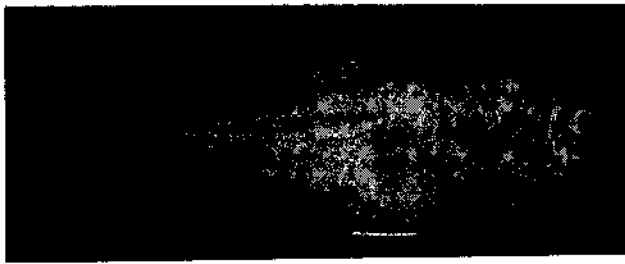


Fig. 4. *Alepes djedaba*.

Scientific Name : *Alepes djedaba*
 Vernacular Name : 'Bangdi'
 Gear : Trawl net/Gill net
 Percentage in the catch of the group : —
 Peak period of occurrence : Sep. – Nov.
 Depth of occurrence : 40 – 80 m
 Length range in commercial fishery : 150 – 300 mm
 Size at first maturity : —
 Spawning season : —

CHIROCENTRIDAE

Popular English Name : Wolf herring
 Vernacular Name (Gujarati) : 'Dai'
 Annual average catch : 723.9 t
 Percentage in total catch : 1.6
 Fishing methods and their contribution : Gill net: —



Fig. 5. *Chirocentrus nudus*.

Scientific Name : *Chirocentrus nudus*
 Vernacular Name : 'Dai'

Gear : Trawl net/Gill net
 Percentage in the catch of the group : 100
 Peak period of occurrence : Oct. – Mar.
 Depth of occurrence : —
 Length range in commercial fishery : 300 – 600 mm
 Size at first maturity : —
 Spawning season : —

CLUPEIDAE

Popular English Name : Sardines/Shad/Herring
 Vernacular Name (Gujarati): 'Chaksi'/'Palva'/'Kati'/'Tarali'
 Annual average catch : 623.5 t
 Percentage in total catch : 1.4
 Fishing methods and their contribution : Gill net/
 Trawl net: —

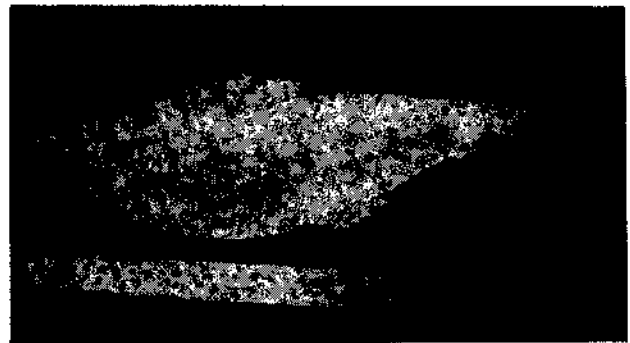


Fig. 6. *Tenulosa toli*.

Scientific Name : *Tenulosa toli*
 Vernacular Name : 'Palva'
 Gear : Gill net
 Percentage in the catch of the group : 92.7
 Peak period of occurrence : Oct. – Mar.
 Depth of occurrence : 20 – 40 m
 Length range in commercial fishery : 150 – 200 mm
 Size at first maturity : —
 Spawning season : —

CYNOGLOSSIDAE

Popular English Name : Tongue soles
 Vernacular Name (Gujarati) : 'Gipti'/'Jeebthi'/'Jeeb'

Annual average catch : 618.7 t
 Percentage in total catch : 1.4
 Fishing methods and their contribution : Trawl net: —

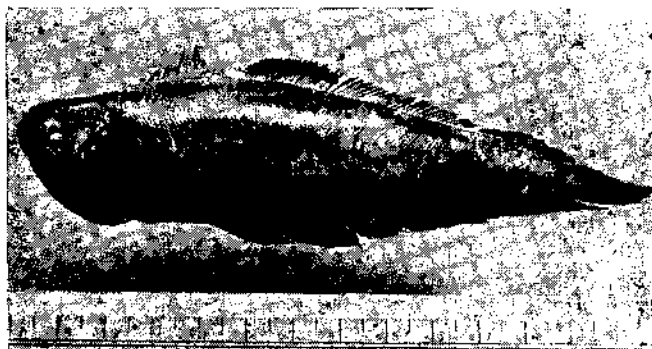


Fig. 7. *Cynoglossus macrostomus*.

Scientific Name : *Cynoglossus macrostomus*
 Vernacular Name : 'Gipti'/'Jeebthi'
 Gear : Trawl net
 Percentage in the catch of the group : —
 Peak period of occurrence : Mar. – May
 Depth of occurrence : 25 m
 Length range in commercial fishery : 100 – 150 mm
 Size at first maturity : —
 Spawning season : —

ELASMOBRANCHS

Popular English Name : Sharks/Rays/Skates
 Vernacular Name (Gujarati) : 'Mogra'/'Lalo'/'Lala'/'Sandho'/'Mushia'/'Patari'/'Kane mushi'/'Tarabla'
 Annual average catch : 1,492 t
 Percentage in total catch : 3.3
 Fishing methods and their contribution : Gill net/
 Trawl net: —

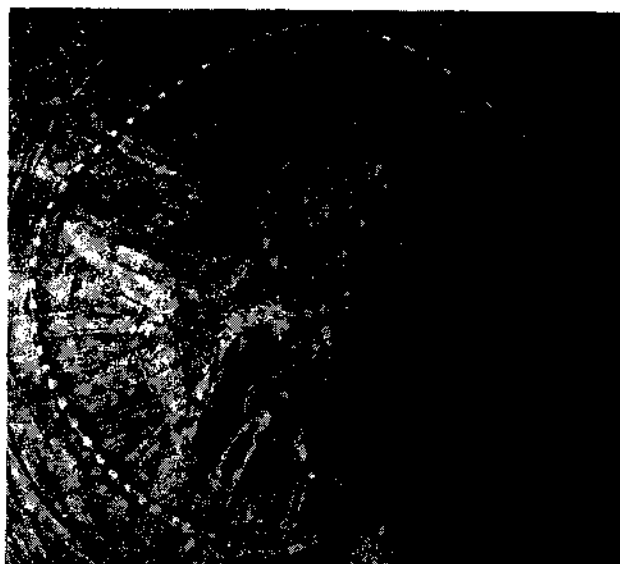


Fig. 8. *Himantura bleekeri*.

Scientific Name : *Himantura bleekeri*
 Vernacular Name : 'Tarabla'/'Boor'
 Gear : Trawl net
 Percentage in the catch of the group : —
 Peak period of occurrence : Jan. – Jun.
 Depth of occurrence : —
 Length range in commercial fishery : 1,000 – 1,400 mm
 Size at first maturity : —
 Spawning season : —

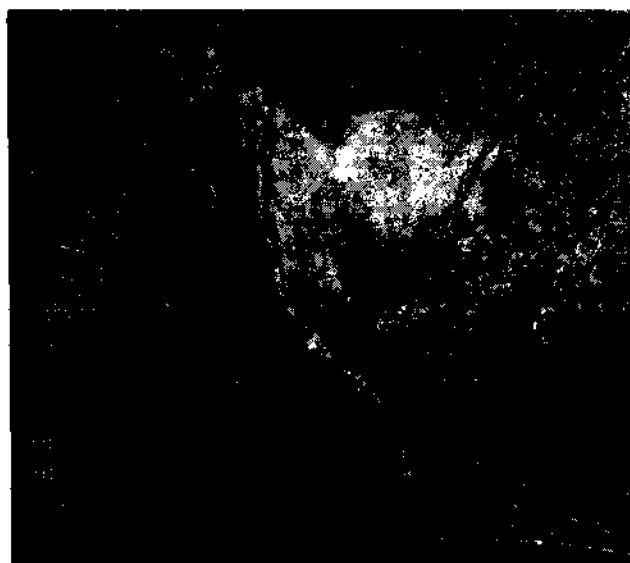


Fig. 9. *Aetobatus narinari*.

Scientific Name : *Aetobatus narinari*
 Vernacular Name : 'Wagalin'/'Kodio'
 Gear : Trawl net
 Percentage in the catch of the group : —
 Peak period of occurrence : Apr. – May
 Depth of occurrence : —
 Length range in commercial fishery : 2,000 – 3,000 mm
 Size at first maturity : —
 Spawning season : —

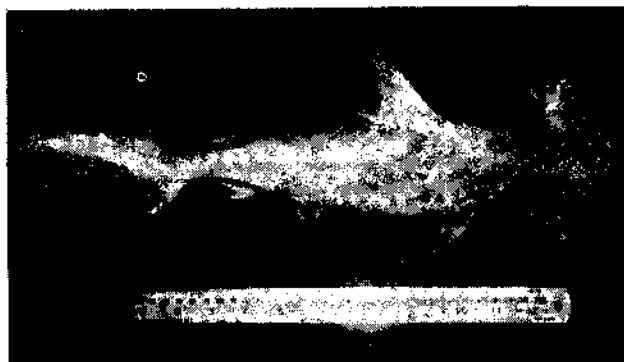


Fig. 10. *Sphyrna mokarran*.

Scientific Name : *Sphyrna mokarran*
 Vernacular Name : 'Kane mushi'
 Gear : Gill net
 Percentage in the catch of the group : —
 Peak period of occurrence : Apr. – May
 Depth of occurrence : 80 m
 Length range in commercial fishery : 2,000 – 2,500 mm
 Size at first maturity : —
 Spawning season : —



Fig. 11. *Sphyrna lewini*.

Scientific Name : *Sphyrna lewini*
 Vernacular Name : 'Kane mushi'

Gear : Gill net
 Percentage in the catch of the group : —
 Peak period of occurrence : Apr. – May
 Depth of occurrence : 80 m
 Length range in commercial fishery : 700 – 2,000 mm
 Size at first maturity : —
 Spawning season : —

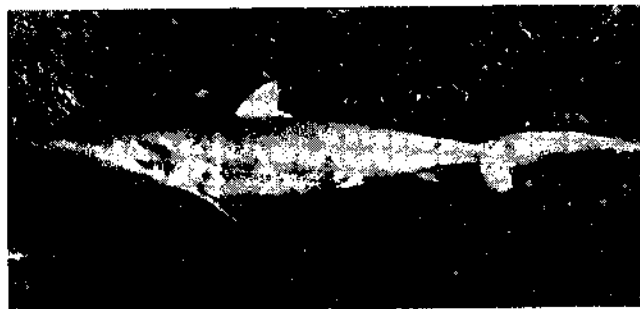


Fig. 12. *Carcharhinus limbatus*.

Scientific Name : *Carcharhinus limbatus*
 Vernacular Name : 'Patari'
 Gear : Gill net
 Percentage in the catch of the group : —
 Peak period of occurrence : Oct. – May
 Depth of occurrence : 30 – 80 m
 Length range in commercial fishery : 500 – 1,500 mm
 Size at first maturity : —
 Spawning season : —

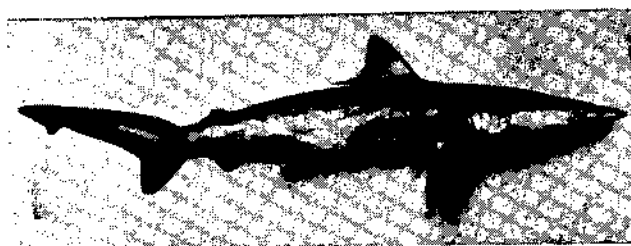


Fig. 13. *Carcharhinus melanopterus*.

Scientific Name : *Carcharhinus melanopterus*
 Vernacular Name : 'Patari'
 Gear : Gill net
 Percentage in the catch of the group : —
 Peak period of occurrence : Oct. – May
 Depth of occurrence : 30 – 80 m

Length range in commercial fishery : 500 – 1,500 mm
 Size at first maturity : —
 Spawning season : —



Fig. 14. *Scoliodon laticaudus*

Scientific Name : *Scoliodon laticaudus*
 Vernacular Name : 'Sandho'
 Gear : Trawl net/Gill net
 Percentage in the catch of the group : —
 Peak period of occurrence : Oct. – May
 Depth of occurrence : 30 – 80 m
 Length range in commercial fishery : 300 – 850 mm
 Size at first maturity : —
 Spawning season : —



Fig. 15. *Rhizoprionodon acutus*.

Scientific Name : *Rhizoprionodon acutus*
 Vernacular Name : 'Sandhi'/'Pisori'
 Gear : Gill net/Trawl net
 Percentage in the catch of the group : —
 Peak period of occurrence : Oct. – May
 Depth of occurrence : 30 – 80 m
 Length range in commercial fishery : 300 – 750 mm
 Size at first maturity : —
 Spawning season : —

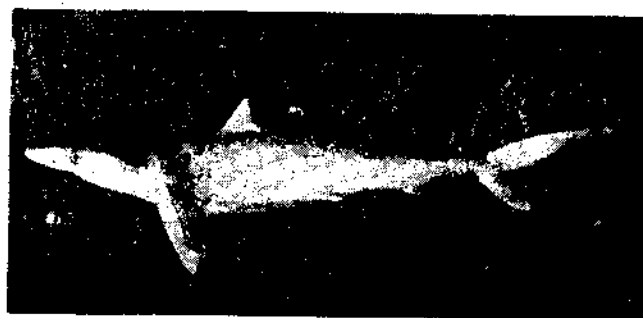


Fig. 16. *Rhizoprionodon oligolinx*.

Scientific Name : *Rhizoprionodon oligolinx*
 Vernacular Name : 'Sandhi'
 Gear : Gill net/Trawl net
 Percentage in the catch of the group : —
 Peak period of occurrence : Oct. – May
 Depth of occurrence : 30 – 80 m
 Length range in commercial fishery : 300 – 750 mm
 Size at first maturity : —
 Spawning season : —

ENGRAULIDAE

Popular English Name : Anchovies
 Vernacular Name (Gujarati) : 'Mandeli'/'Palli'
 Annual average catch : 3,592 t
 Percentage in total catch : 8.1
 Fishing methods and their contribution : Trawl net/
 Dol net: —

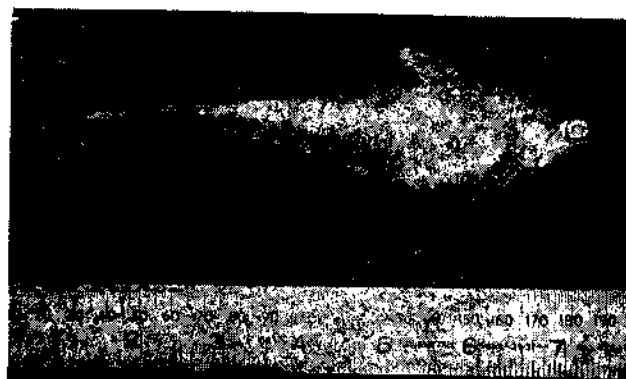


Fig. 17. *Coilia dussumieri*.

Scientific Name : *Coilia dussumieri*
 Vernacular Name : 'Mandeli'
 Gear : Dol net

Percentage in the catch of the group : 100
 Peak period of occurrence : Oct. – Mar.
 Depth of occurrence : —
 Length range in commercial fishery : 60–160 mm
 Size at first maturity : —
 Spawning season : —

HAEMULIDAE

Popular English Name : Spotted Grunter
 Vernacular Name (Gujarati) : 'Kharkara'/'Anther'
 Annual average catch : 84.9 t
 Percentage in total catch : 0.2
 Fishing methods and their contribution : Trawl net: —

HARPADONTIDAE

Popular English Name : Bombay duck
 Vernacular Name (Gujarati) : 'Bumla'
 Annual average catch : 5.2 t
 Percentage in total catch : —
 Fishing methods and their contribution : Dol net: —

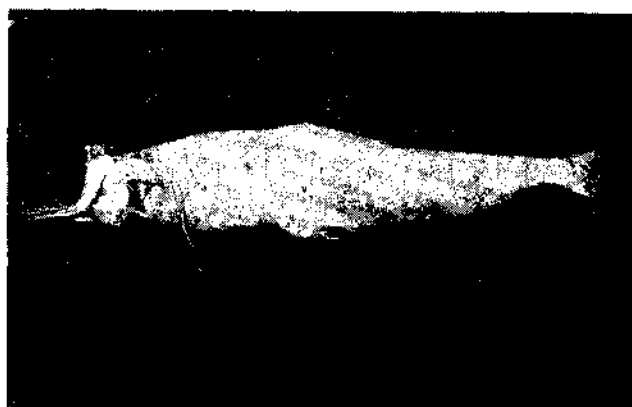


Fig. 18. *Harpadon nehereus*.

Scientific Name : *Harpadon nehereus*
 Vernacular Name : 'Bumla'
 Gear : Dol net
 Percentage in the catch of the group : —
 Peak period of occurrence : Mar., May and Nov.
 Depth of occurrence : —

Length range in commercial fishery : 30–330 mm
 Size at first maturity : —
 Spawning season : —

LACTARIIDAE

Popular English Name : White fish
 Vernacular Name (Gujarati) : 'Dhangari'/'Katli'
 Annual average catch : 2,555.3 t
 Percentage in total catch : 5.7
 Fishing methods and their contribution : Trawl net: —



Fig. 19. *Lactarius lactarius*.

Scientific Name : *Lactarius lactarius*
 Vernacular Name : 'Dhangari'/'Katli'
 Gear : Trawl net
 Percentage in the catch of the group : 100
 Peak period of occurrence : Oct.–Jun.
 Depth of occurrence : 60–80 m
 Length range in commercial fishery : 60–120 mm
 Size at first maturity : —
 Spawning season : —

LETHRINIDAE

Popular English Name : Pig face bream
 Vernacular Name (Gujarati) : 'Dhamil'/'Chunco'
 Annual average catch : 31.8 t
 Percentage in total catch : 0.1
 Fishing methods and their contribution : Trawl net: —

LEIOGNATHIDAE

Popular English Name : Pony fish/Silver bellies
 Vernacular Name (Gujarati) : 'Kitali'

Annual average catch : 16.6 t
 Percentage in total catch : 0.1
 Fishing methods and their contribution : Trawl net: —

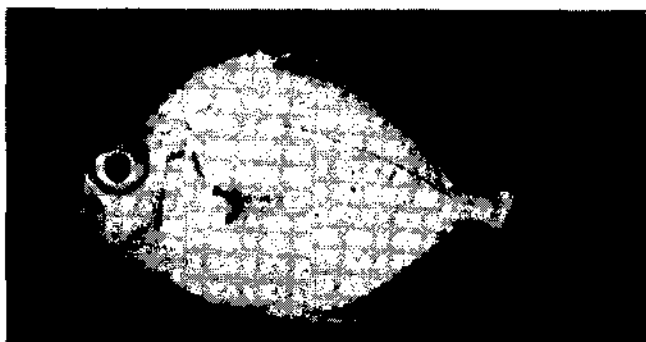


Fig. 20. *Leiognathus splendens*.

Scientific Name : *Leiognathus splendens*
 Vernacular Name : 'Kitali'
 Gear : Trawl net
 Percentage in the catch of the group : —
 Peak period of occurrence : Sep. – May
 Depth of occurrence : 20 – 80 m
 Length range in commercial fishery : 75 – 100 mm
 Size at first maturity : —
 Spawning season : —

LUTIANIDAE

Popular English Name : Red snapper/Snapper
 Vernacular Name (Gujarati) : 'Ratado'
 Annual average catch : 95 t
 Percentage in total catch : 0.2
 Fishing methods and their contribution : Trawl net: —

MULLIDAE

Popular English Name : Goat fishes
 Vernacular Name (Gujarati) : 'Chiri'
 Annual average catch : 139.6 t
 Percentage in total catch : 0.3
 Fishing methods and their contribution : Trawl net: —



Fig. 21. *Upeneus sulphureus*.

Scientific Name : *Upeneus sulphureus*
 Vernacular Name : 'Chiri'
 Gear : Trawl net
 Percentage in the catch of the group : 100
 Peak period of occurrence : Oct. and Dec.
 Depth of occurrence : 80 m
 Length range in commercial fishery : 100 – 150 mm
 Size at first maturity : —
 Spawning season : —

MURAENESOCIDAE

Popular English Name : Eel
 Vernacular Name (Gujarati) : 'Wam'
 Annual average catch : 715.1 t
 Percentage in total catch : 1.6
 Fishing methods and their contribution : Trawl net: —

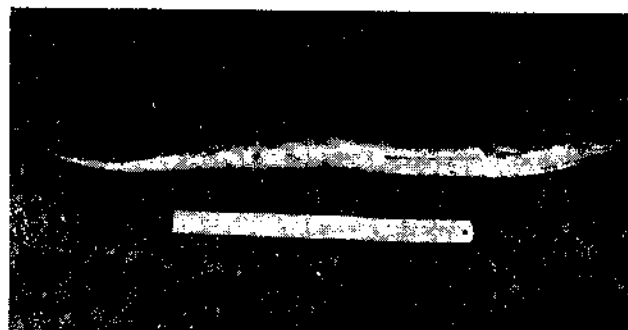


Fig. 22. *Muraenesox talabonoides*.

Scientific Name : *Muraenesox talabonoides*
 Vernacular Name : 'Wam'
 Gear : Trawl net
 Percentage in the catch of the group : —

Peak period of occurrence : Oct. – Jun.
 Depth of occurrence : 60 m
 Length range in commercial fishery : 500 – 2,500 mm
 Size at first maturity : —
 Spawning season : —

NEMIPTERIDAE

Popular English Name : Threadfin breams
 Vernacular Name (Gujarati) : 'Rathamachla' / 'Lalmachla'
 Annual average catch : 2,232 t
 Percentage in total catch : 3.5
 Fishing methods and their contribution : Trawl net: —

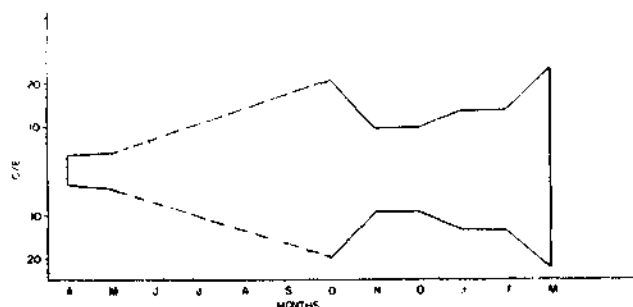


Fig. 23. Seasonal abundance of threadfin breams landed by trawl net.

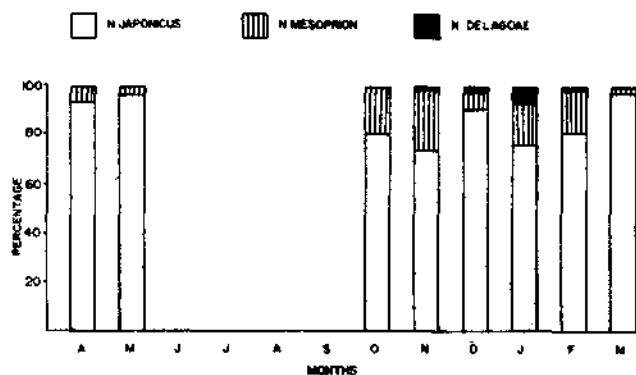


Fig. 24. Monthly species composition of threadfin breams in the trawl catch.

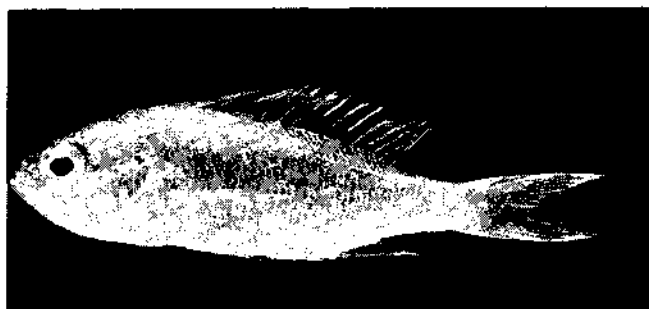


Fig. 25. *Nemipterus mesoprion*.

Scientific Name : *Nemipterus mesoprion*
 Vernacular Name : 'Rathamachla'
 Gear : Trawl net
 Percentage in the catch of the group : 17.2
 Peak period of occurrence : Nov. – Dec.
 Depth of occurrence : 80 m
 Length range in commercial fishery : 120 – 200 mm
 Size at first maturity : 135 mm
 Spawning season : Oct. and Apr.

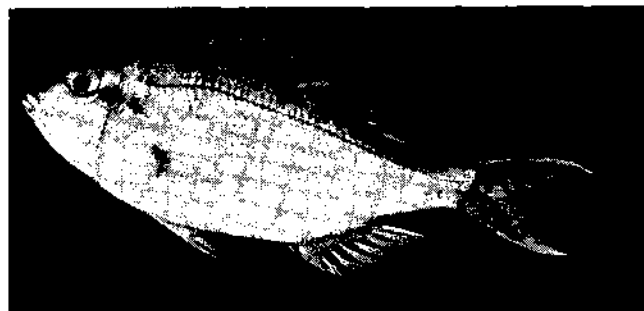


Fig. 26. *Nemipterus japonicus*.

Scientific Name : *Nemipterus japonicus*
 Vernacular Name : 'Lalmachla'
 Gear : Trawl net
 Percentage in the catch of the group : 81.2
 Peak period of occurrence : Apr. – Mar.
 Depth of occurrence : 80 m
 Length range in commercial fishery : 140 – 250 mm
 Size at first maturity : 157 mm
 Spawning season : Oct. and Apr.

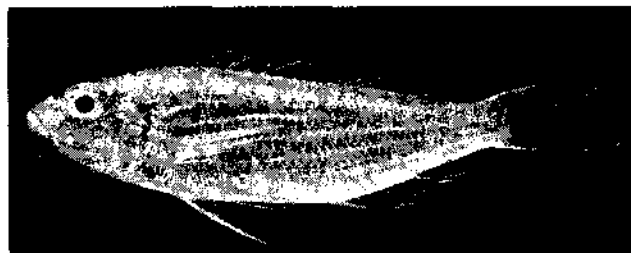


Fig. 27. *Nemipterus delagoae*.

Scientific Name : *Nemipterus delagoae*
 Vernacular Name : 'Rathamachla'
 Gear : Trawl net
 Percentage in the catch of the group : 1.6
 Peak period of occurrence : Jan.

Depth of occurrence : 80 m
 Length range in commercial fishery : 50–500 mm
 Size at first maturity : —
 Spawning season : —

POLYNEMIDAE

Popular English Name : Indian Salmon/
Threadfin
 Vernacular Name (Gujarati) : 'Rawas'/'Dara'/'Shin'
 Annual average catch : 214.3 t
 Percentage in total catch : 0.5
 Fishing methods and their contribution : Gill net/
Trawl net: —



Fig. 28. *Polynemus sextarius*.

Scientific Name : *Polynemus sextarius*
 Vernacular Name : 'Dara'
 Gear : Trawl net
 Percentage in the catch of the group : —
 Peak period of occurrence : Jan.
 Depth of occurrence : 60 m
 Length range in commercial fishery : 150–200 mm
 Size at first maturity : —
 Spawning season : —

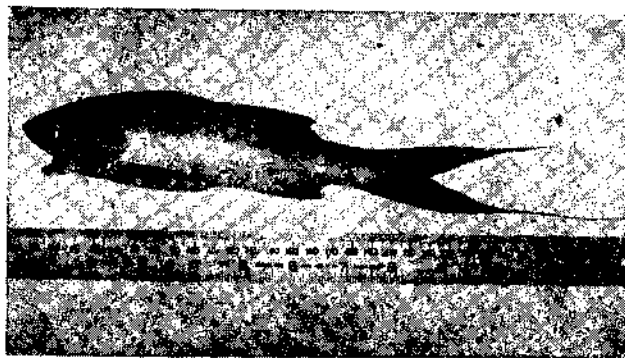


Fig. 29. *Polynemus indicus*.

Scientific Name : *Polynemus indicus*
 Vernacular Name : 'Dara'
 Gear : Gill net
 Percentage in the catch of the group : —
 Peak period of occurrence : Jan. – Feb.
 Depth of occurrence : 40 m
 Length range in commercial fishery : 50–100 mm
 Size at first maturity : —
 Spawning season : —

PRACANTHIDAE

Popular English Name : Bull's eye
 Vernacular Name (Gujarati) : 'Kashi'
 Annual average catch : 52.4 t
 Percentage in total catch : 0.1
 Fishing methods and their contribution : Trawl net: —



Fig. 30. *Priacanthus hamrur*.

Scientific Name : *Priacanthus hamrur*
 Vernacular Name : 'Kashi'
 Gear : Trawl net
 Percentage in the catch of the group : 100
 Peak period of occurrence : Nov. – Dec.
 Depth of occurrence : 80 m
 Length range in commercial fishery : 200–250 mm
 Size at first maturity : —
 Spawning season : —

PSETTODIDAE

Popular English Name : Indian halibut
 Vernacular Name (Gujarati) : 'Hairo'/'Dataro'
 Annual average catch : 87 t
 Percentage in total catch : 0.2
 Fishing methods and their contribution : Trawl net: —



Fig. 31. *Psettodes erumei*.

Scientific Name	: <i>Psettodes erumei</i>
Vernacular Name	: 'Hairo'/'Dataro'
Gear	: Trawl net
Percentage in the catch of the group	: —
Peak period of occurrence	: Oct. ~ Jan.
Depth of occurrence	: 80 m
Length range in commercial fishery	: 200 - 400 mm
Size at first maturity	: —
Spawning season	: —

SCIAENIDAE

Popular English Name	: Croakers/Jew fish
Vernacular Name (Gujarati)	: 'Dhoma'
Annual average catch	: 6,579 t
Percentage in total catch	: 14.8
Fishing methods and their contribution	: Trawl net/ Gill net: —

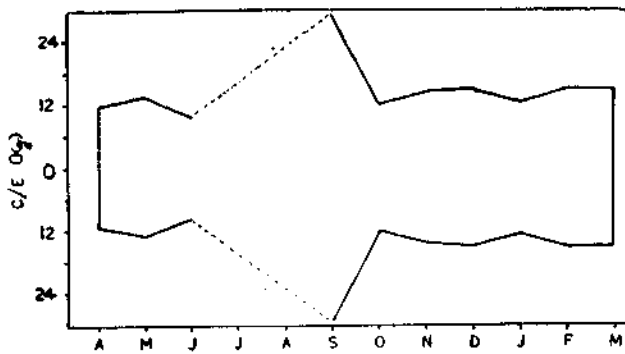


Fig. 32. Seasonal abundance of sciaenids landed by trawl net.

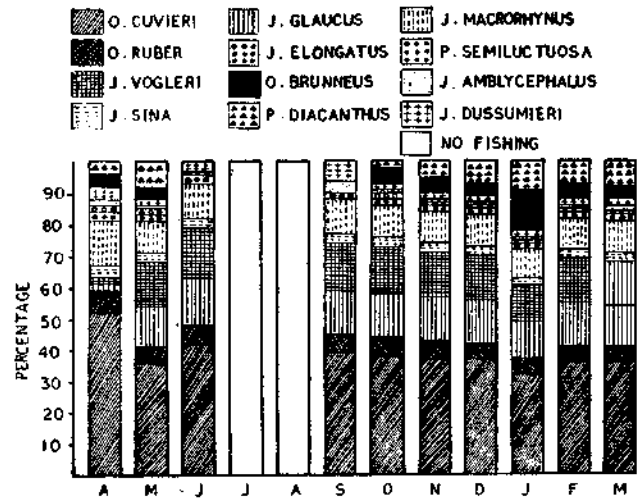


Fig. 33. Monthly species composition of sciaenids in the trawl catch.

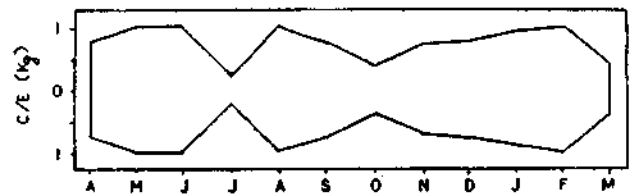


Fig. 34. Seasonal abundance of sciaenids landed by gill net.

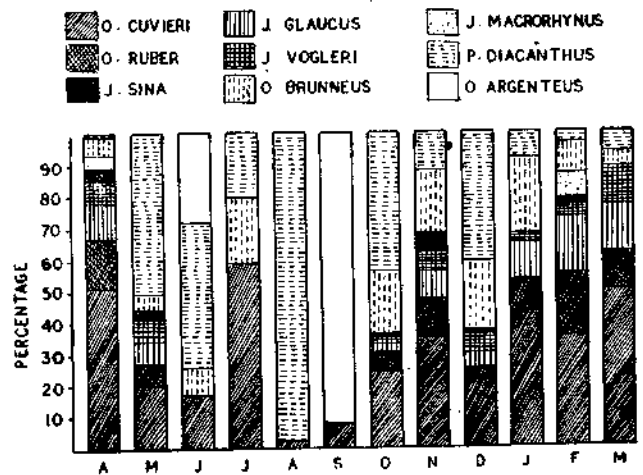


Fig. 35. Monthly species composition of sciaenids in the gill net catch.

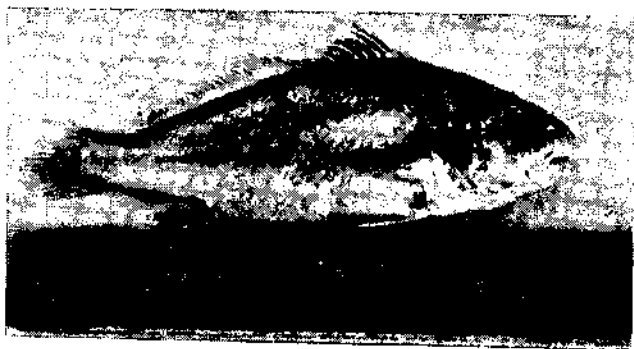


Fig. 36. *Johnieops sina*.

Scientific Name	: <i>Johnieops sina</i>
Vernacular Name	: 'Dhoma'
Gear	: Trawl net
Percentage in the catch of the group	: —
Peak period of occurrence	: Oct. – Apr.
Depth of occurrence	: 60 m
Length range in commercial fishery	: 150 – 200 mm
Size at first maturity	: —
Spawning season	: —



Fig. 37. *Protonibea diacanthus*.

Scientific Name	: <i>Protonibea diacanthus</i>
Vernacular Name	: 'Ghol'
Gear	: Trawl net/Gill net
Percentage in the catch of the group	: Trawl net : 8.2 Gill net : 9.6
Peak period of occurrence	: Dec. – Jan.
Depth of occurrence	: 30 – 40 m
Length range in commercial fishery	: 200 – 400 mm
Size at first maturity	: —
Spawning season	: —



Fig. 38. *Johnius vogleri*.

Scientific Name	: <i>Johnius vogleri</i>
Vernacular Name	: 'Dhoma'
Gear	: Trawl net/Gill net
Percentage in the catch of the group	: Trawl net : 10.2 Gill net : 8.2
Peak period of occurrence	: Oct. – Mar.
Depth of occurrence	: 10 – 40 m
Length range in commercial fishery	: 150 – 200 mm
Size at first maturity	: 170 mm
Spawning season	: Jun. – Jul. and Oct. – Nov.

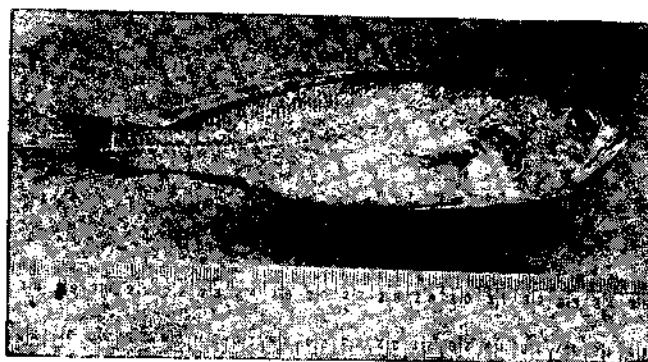


Fig. 39. *Otolithes ruber*

Scientific Name	: <i>Otolithes ruber</i>
Vernacular Name	: 'Dhoma'
Gear	: Trawl net/Gill net
Percentage in the catch of the group	: Trawl net : 6.2 Gill net : 18.1
Peak period of occurrence	: Oct. – Mar.
Depth of occurrence	: 10 – 40 m
Length range in commercial fishery	: 150 – 240 mm
Size at first maturity	: —
Spawning season	: —



Fig. 40. *Otolithes cuvieri*.

Scientific Name	: <i>Otolithes cuvieri</i>
Vernacular Name	: 'Dhoma'
Gear	: Trawl net/Gill net
Percentage in the catch of the group	: Trawl net : 35.5 Gill net : 30.6
Peak period of occurrence	: Oct. - Jan. and Mar. May
Depth of occurrence	: 10 - 40 m
Length range in commercial fishery	: 150 - 250 mm
Size at first maturity	: 150 - 180 mm
Spawning season	: Nov. - Apr.

SCOMBRIDAE

Popular English Name	: Seer fishes/Tuna/Sail fish/Mackerel
Vernacular Name (Gujarati)	: 'Chopri'/'Surmi'/'Gedara'/'Goda'/'Kunga'/'Bangada'
Annual average catch	: 905.7 t
Percentage in total catch	: 2.1
Fishing methods and their contribution	: Gill net/ Trawl net: —

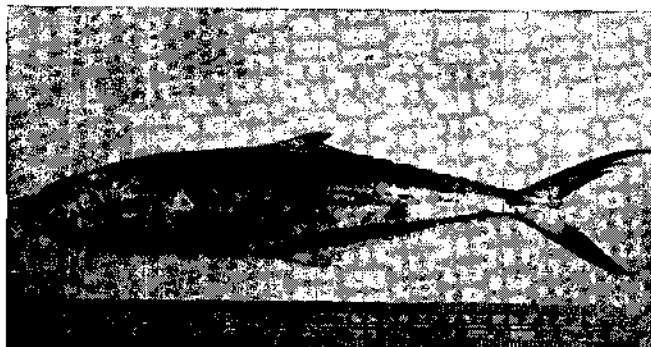


Fig. 41. *Scomberomorus guttatus*.

Scientific Name	: <i>Scomberomorus guttatus</i>
Vernacular Name	: 'Chopri'
Gear	: Gill net/Trawl net
Percentage in the catch of the group	: —
Peak period of occurrence	: Jul. - Mar.
Depth of occurrence	: 40 - 80 m
Length range in commercial fishery	: 200 - 500 mm
Size at first maturity	: —
Spawning season	: —

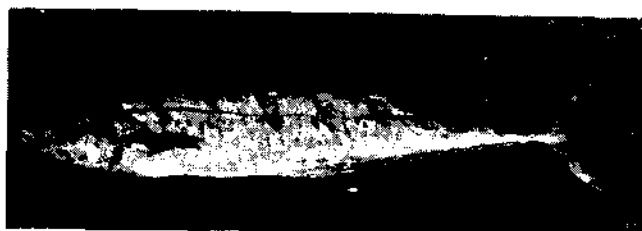


Fig. 42. *Scomberomorus commerson*.

Scientific Name	: <i>Scomberomorus commerson</i>
Vernacular Name	: 'Surmi'/'Chopri'
Gear	: Gill net/Trawl net
Percentage in the catch of the group	: —
Peak period of occurrence	: Jul. - Mar.
Depth of occurrence	: 40 - 80 m
Length range in commercial fishery	: 300 - 900 mm
Size at first maturity	: —
Spawning season	: —



Fig. 43. *Scomberomorus lineolatus*.

Scientific Name : *Scomberomorus lineolatus*
 Vernacular Name : 'Chopri'
 Gear : Gill net/Trawl net
 Percentage in the catch of the group : —
 Peak period of occurrence : Jul. – Mar.
 Depth of occurrence : 40 – 80 m
 Length range in commercial fishery : 400 – 700 mm
 Size at first maturity : —
 Spawning season : —



Fig. 44. *Euthynnus affinis*.

Scientific Name : *Euthynnus affinis*
 Vernacular Name : 'Gedara'
 Gear : Gill net
 Percentage in the catch of the group : —
 Peak period of occurrence : Oct. – Mar.
 Depth of occurrence : 40 m
 Length range in commercial fishery : 400 – 600 mm
 Size at first maturity : —
 Spawning season : —

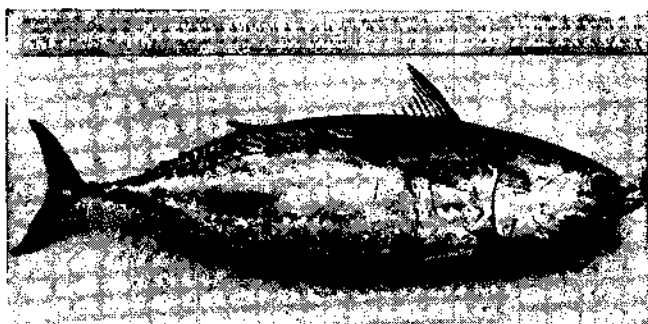


Fig. 45. *Auxis thazard*.

Scientific Name : *Auxis thazard*
 Vernacular Name : 'Gedara'
 Gear : Gill net
 Percentage in the catch of the group : —
 Peak period of occurrence : Oct. – Mar.
 Depth of occurrence : 40 m
 Length range in commercial fishery : 300 – 400 mm
 Size at first maturity : —
 Spawning season : —



Fig. 46. *Katsuwonus pelamis*.

Scientific Name : *Katsuwonus pelamis*
 Vernacular Name : 'Gedara'
 Gear : Gill net
 Percentage in the catch of the group : —
 Peak period of occurrence : Oct. – Mar.
 Depth of occurrence : 40 m
 Length range in commercial fishery : 400 – 800 mm
 Size at first maturity : —
 Spawning season : —

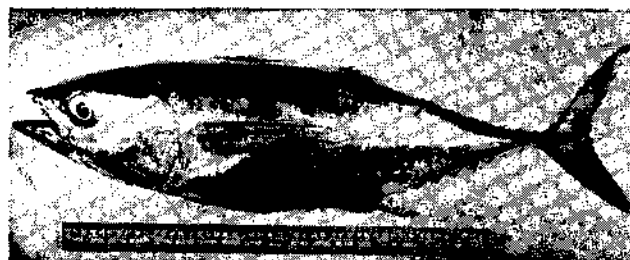


Fig. 47. *Thunnus albacares*.

Scientific Name : *Thunnus albacares*
 Vernacular Name : 'Gedara'
 Gear : Gill net
 Percentage in the catch of the group : —
 Peak period of occurrence : Oct. – Mar.
 Depth of occurrence : 40 m

Length range in commercial fishery : 1,000 – 1,500 mm
 Size at first maturity : —
 Spawning season : —

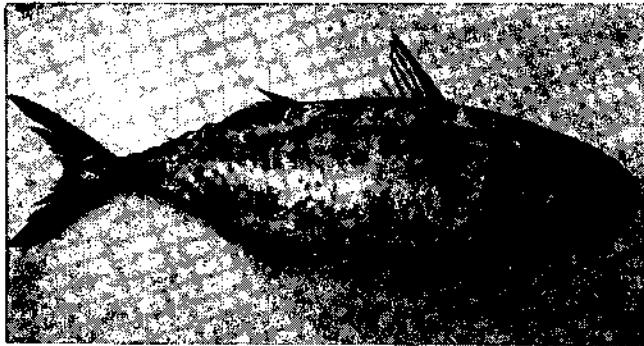


Fig. 48. *Rastrelliger kanagurta*.

Scientific Name : *Rastrelliger kanagurta*
 Vernacular Name : 'Bangada'
 Gear : Trawl net/Gill net
 Percentage in the catch of the group : —
 Peak period of occurrence : —
 Depth of occurrence : 40 – 60 m
 Length range in commercial fishery : —
 Size at first maturity : —
 Spawning season : —

SERRANIDAE

Popular English Name : Rock Cods/Grouper
 Vernacular Name (Gujarati) : 'Wehali'/'Wekhra'
 Annual average catch : 115.4 t
 Percentage in total catch : 0.3
 Fishing methods and their contribution : Gill net/
 Trawl net: —

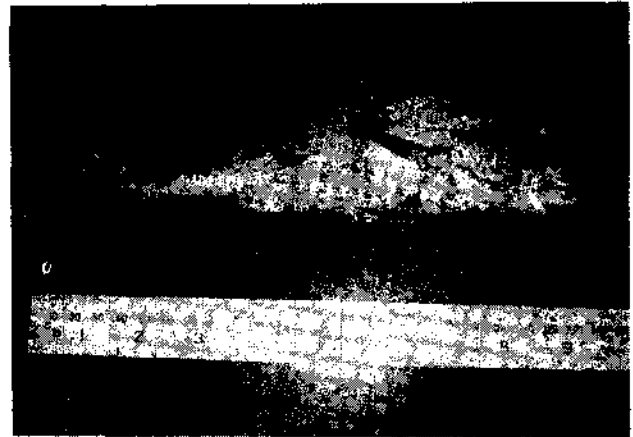


Fig. 49. *Epinephelus malabaricus*.

Scientific Name : *Epinephelus malabaricus*
 Vernacular Name : 'Wehali'
 Gear : Trawl net/Gill net
 Peak period of occurrence : Nov. – Dec.
 Depth of occurrence : 20 – 80 m
 Length range in commercial fishery : 1,000 – 1,500 mm
 Size at first maturity : —
 Spawning season : —



Fig. 50. *Epinephelus diacanthus*.

Scientific Name : *Epinephelus diacanthus*
 Vernacular Name : 'Wehali'
 Gear : Trawl net
 Percentage in the catch of the group : —
 Peak period of occurrence : Nov. – Dec.
 Depth of occurrence : 20 – 80 m
 Length range in commercial fishery : 150 – 350 mm
 Size at first maturity : —
 Spawning season : —



Fig. 51. *Epinephelus tauvina*.

Scientific Name	: <i>Epinephelus tauvina</i>
Vernacular Name	: 'Wekhra'
Gear	: Trawl net
Percentage in the catch of the group	: —
Peak period of occurrence	: Nov. – Dec.
Depth of occurrence	: 20 – 60 m
Length range in commercial fishery	: 400 – 650 mm
Size at first maturity	: —
Spawning season	: —

SPARIDAE

Popular English Name	: Silver breams
Vernacular Name (Gujarati)	: 'Kishi'
Annual average catch	: 118.9 t
Percentage in total catch	: 0.4
Fishing methods and their contribution	: Trawl net: —

SPHYRAENIDAE

Popular English Name	: Barracuda
Vernacular Name (Gujarati)	: 'Bhugar'/'Zeera'
Annual average catch	: 6.3 t
Percentage in total catch	: 0.01
Fishing methods and their contribution	: Trawl net: —

STROMATEIDAE

Popular English Name	: Pomfrets
Vernacular Name (Gujarati)	: 'Paplet'/'Vichuda'/'Alwa'/'Pathi'/'Kafri'
Annual average catch	: 684.9 t
Percentage in total catch	: 1.5
Fishing methods and their contribution	: Gill net/ Trawl net: —



Fig. 52. *Parastromateus niger*.

Scientific Name	: <i>Parastromateus niger</i>
Vernacular Name	: 'Alwa'
Gear	: Gill net/Trawl net
Percentage in the catch of the group	: —
Peak period of occurrence	: Apr. – Jun.
Depth of occurrence	: 20 – 40 m
Length range in commercial fishery	: 100 – 400 mm
Size at first maturity	: —
Spawning season	: —

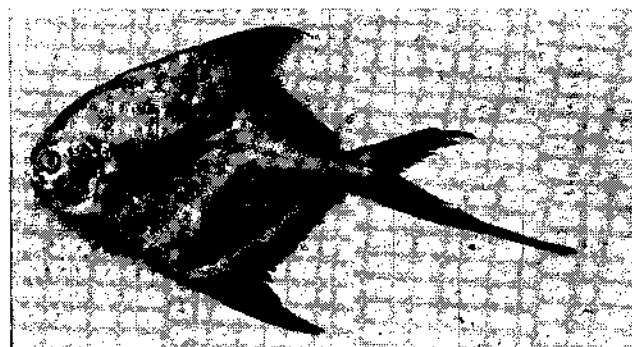


Fig. 53. *Pampus argenteus*.

Scientific Name	: <i>Pampus argenteus</i>
Vernacular Name	: 'Paplet'/'Vichuda'
Gear	: Gill net
Percentage in the catch of group	: —
Peak period of occurrence	: May – Jun.
Depth of occurrence	: 20 – 30 m
Length range in commercial fishery	: 100 – 300 mm
Size at first maturity	: —
Spawning season	: —



Fig. 54. *Pampus chinensis*.

Scientific Name	: <i>Pampus chinensis</i>
Vernacular Name	: 'Pathi'/'Kafri'
Gear	: Gill net
Percentage in the catch of the group	: —
Peak period of occurrence	: —
Depth of occurrence	: 20–40 m
Length range in commercial fishery	: 250–350 mm
Size at first maturity	: —
Spawning season	: —

SYNODONTIDAE

Popular English Name	: Lizard fishes
Vernacular Name (Gujarati)	: 'Chor bumla'
Annual average catch	: 115.5 t
Percentage in total catch	: 0.3
Fishing methods and their contribution	: Trawl net: —

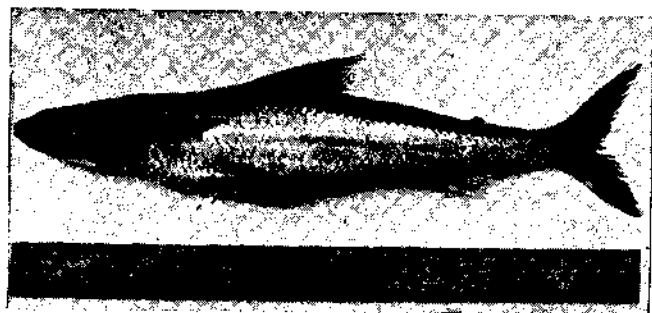


Fig. 55. *Saurida tumbil*.

Scientific Name	: <i>Saurida tumbil</i>
Vernacular Name	: 'Chor bumla'
Gear	: Trawl net
Percentage in the catch of the group	: 100
Peak period of occurrence	: Nov. – Jan.
Depth of occurrence	: 40–80 m
Length range in commercial fishery	: 300–400 mm
Size at first maturity	: —
Spawning season	: —

TACHYSURIDAE

Popular English Name	: Cat fishes
Vernacular Name (Gujarati)	: 'Khaga'
Annual average catch	: 722.1 t
Percentage in total catch	: 1.6
Fishing methods and their contribution	: Trawl net : 1.1 % Gill net : 0.5 %

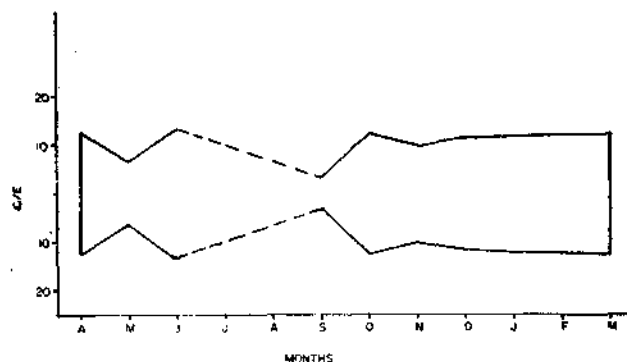


Fig. 56 Seasonal abundance of cat fish landed by trawl net.

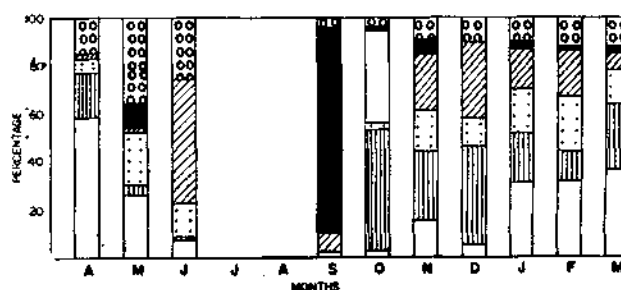


Fig. 57. Monthly species composition of cat fish in the trawl catch.

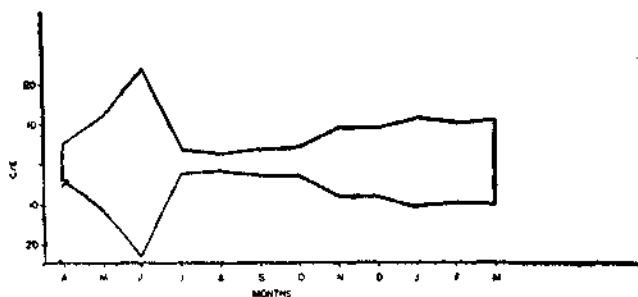


Fig. 58. Seasonal abundance of cat fish landed by gill net.

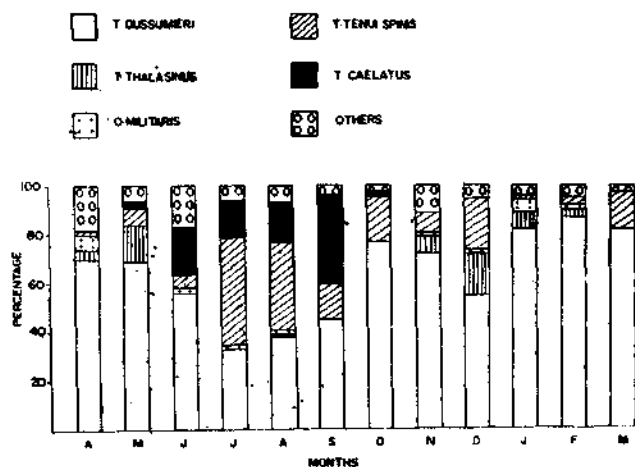


Fig. 59. Monthly species composition of cat fish in the gill net catch.

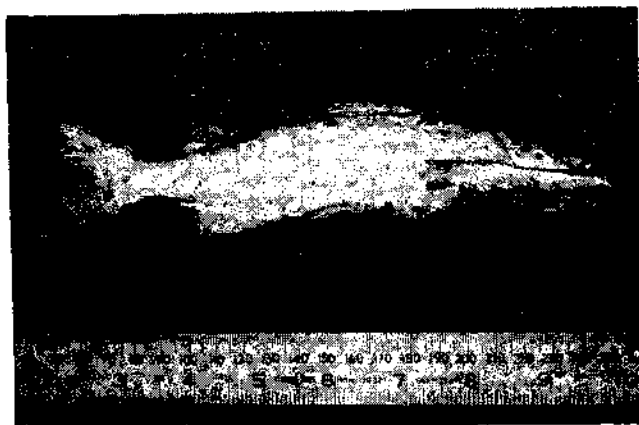


Fig. 60. *Osteogeneiosus militaris*.

Scientific Name : *Osteogeneiosus militaris*
 Vernacular Name : 'Khaga'
 Gear : Trawl net/Gill net
 Percentage in the catch of the group : Trawl net : 13.3
 Gill net : 2.0
 Peak period of occurrence : Jan. - May

Depth of occurrence : 20-60 m
 Length range in commercial fishery : 240-490 mm
 Size at first maturity : —
 Spawning season : —



Fig. 61. *Tachysurus sona*.

Scientific Name : *Tachysurus sona*
 Vernacular Name : 'Khaga'
 Gear : Trawl net/Gill net
 Percentage in the catch of the group : —
 Peak period of occurrence : —
 Depth of occurrence : 30-60 m
 Length range in commercial fishery : 600-700 mm
 Size at first maturity : —
 Spawning season : —



Fig. 62. *Tachysurus tenuispinis*.

Scientific Name : *Tachysurus tenuispinis*
 Vernacular Name : 'Khaga'
 Gear : Trawl net/Gill net
 Percentage in the catch of the group : Trawl net : 17.9
 Gill net : 9.5
 Peak period of occurrence : Jan. - Apr. and Jun.
 Depth of occurrence : 20-60 m

Size at first maturity	:	—
Spawning season	:	—



TRICHIURIDAE	
Popular English Name	: Ribbon fish
Vernacular Name (Gujarati)	: 'Pathi'/'Baga'
Annual average catch	: 11,081.8 t
Percentage in total catch	: 24.8
Fishing methods and their contribution	: Trawl net/ Dol net: —

Scientific Name	: <i>Trichiurus lepturus</i>
Vernacular Name	: 'Baga'
Gear	: Trawl net/Dol net
Percentage in the catch of the group	: —
Peak period of occurrence	: Dec. - Feb.
Depth of occurrence	: 40 - 80 m
Length range in commercial fishery	: 300 - 1,200 mm
Size at first maturity	: —
Spawning season	: —



Scientific Name	: <i>Tachysurus dussumieri</i>
Vernacular Name	: 'Khaga'
Gear	: Trawl net/Gill net
Percentage in the catch of the group	: Trawl net : 37.5 Gill net : 72.4
Peak period of occurrence	: Jan. - May
Depth of occurrence	: 20 - 60 m
Length range in commercial fishery	: 300 - 750 mm

Scientific Name	: <i>Lepturacanthus savala</i>	Depth of occurrence	: 40–80 m
Vernacular Name	: 'Pathi'	Length range in	
Gear	: Trawl net/Dol net	commercial fishery	: 300–900 mm
Percentage in the catch of the group	: —	Size at first maturity	: —
Peak period of occurrence	: Dec. – May	Spawning season	: —

