

**A Pictorial Guide to the
Fishes of the
Family Nemipteridae
of India**

**R.P. BARMAN
and
S.S. MISHRA**



ZOOLOGICAL SURVEY OF INDIA

A PICTORIAL GUIDE TO
THE FISHES OF THE FAMILY
NEMIPTERIDAE
OF INDIA

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PREFACE

A pictorial guide or handbook on the Nemipterid fishes that occur in Indian waters is conceived to provide information on these fishes to the common or semi-technical people who often find it difficult to understand the taxonomic studies in its true sense. The book is based on the taxonomic studies and findings by the authors during their study of the fish fauna of different states of India spread over last two decades. This is merely a compilation of the information thus gathered through our own and earlier works to decipher knowledge in a nut shell.

Hope this will provide adequate knowledge to those entering in the field of identification, particularly those working in the fisheries sector. While segregating Nemipterids *i.e.* threadfin breams, monocle breams and dwarf monocle breams, the diagnostic characters are so overlapping and feeble that their identification becomes difficult leading to misidentification. So, species wise fishery data for these fishes are lacking. Russell (1984) provided species identification sheets which do not include all the species available in the area and some names are obsolete. This book will certainly help as a field guide in providing species-wise data and, additional inputs of information for proper fishery management.

Although as many as 64 species belonging to 5 genera of this family are known from all over the world, 24 species belonging to 3 genera are available in Indian waters. All these 24 species are given in the text with their diagnostic characters, fishery information and geographical distribution. The line diagrams are mostly redrawn following FAO publications. The line diagrams and the colour plates provided at the end part will be helpful in species-level identification.

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Zoological Survey of India

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INTRODUCTION

The fishes of the family Nemipteridae (Order Perciformes; Class Actinopterygii) are commonly known as threadfin breams, whiptail breams, monocle breams, dwarf monocle breams and coral breams. These fishes are snapper-like fishes of shallow coastal waters of the tropical and subtropical waters. These fishes are of considerable importance from fishery point of view throughout the Indo-west Pacific region. The identification of the Nemipterids is difficult due to the fact that many species are very similar in morphology and distinct variations in colour pattern bleach out on preservation. It is, therefore, the colour patterns of the fresh specimens are very much important. Considering the importance of the colour patterns of these fishes for identification, colour plates of these fishes are provided in this work.

Nemipterids are known to inhabit shallow coastal waters of the tropical and subtropical Indo-Pacific Seas. These fishes are generally brilliantly coloured. They are essentially bottom dwellers mostly over sand and mud bottoms and abundantly found in open Seas or near to Coral reefs. Threadfin breams constitute a major component of commercial and artisanal fisheries in our country.

Family NEMIPTERIDAE

(Threadfin breams, Monocle breams, Dwarf monocle breams)

Body elongate to almost deep and compressed. Mouth terminal, small to moderate; premaxillaries more or less protrusible. Teeth conical, enlarged canines present in some species and roof of mouth toothless. Suborbital spine present in some species. Dorsal fin continuous with 10 spines and 9 soft rays. Anal fin with 3 spines and 7 rays. Pectoral fins with 2 unbranched and 12 to 17 branched rays. Pelvic fins inserted in thoracic region, with 1 spine and 5 rays. Caudal fin emarginate, forked, lunate or falcate; the upper and/or lower tips of the fin with or without elongated or filamentous

extensions. Well developed subocular shelf, accessory pelvic keel and intercalar present.

The fishes of this family are represented by 5 genera with 64 species throughout the world, 3 genera with 24 species in Indian waters.

Key to the genera

- 1a. Three to four pairs of canine teeth present at least in upper jaw; no suborbital spine; 3 rows of scales on preopercle; spines of anal fin weak *Nemipterus*
- 1b. No canine teeth on jaws; a strong or weak suborbital spine present; 4 to 7 rows of scales on preopercle; second spine of anal fin longer and robust 2
- 2a. A backwardly pointing spine below eye distinct with a series of spines or serrations on its posterior margin; posterior margin of preopercle coarsely denticulate or serrate *Scolopsis*
- 2b. Suborbital spine weak, rudimentary or absent; posterior margin of preopercle finely serrate *Parascolopsis*

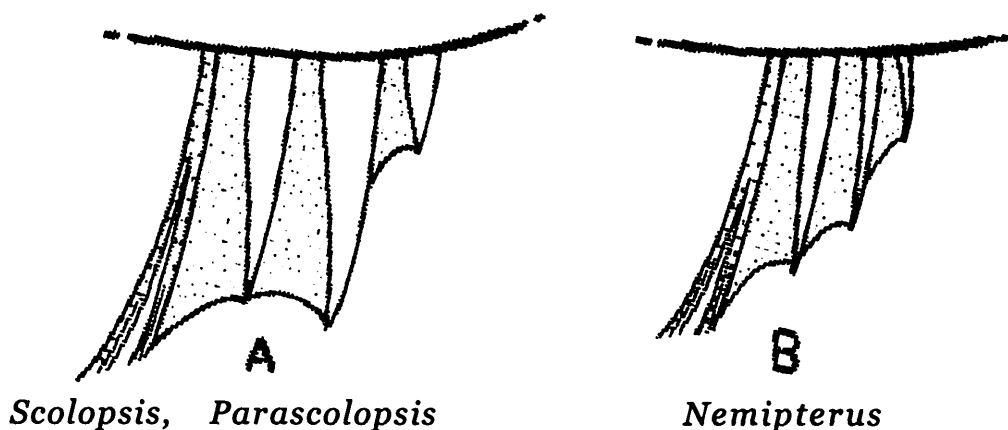


Fig. 1. Anal fin spines

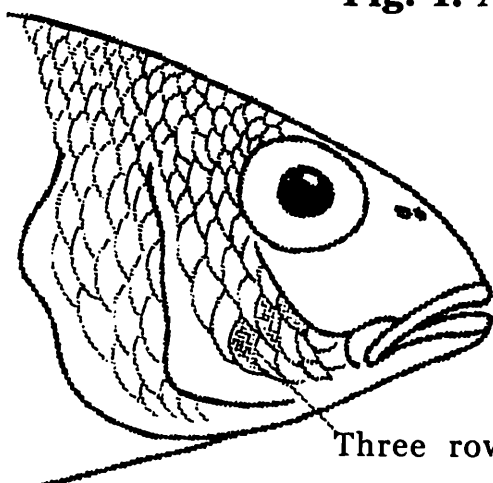
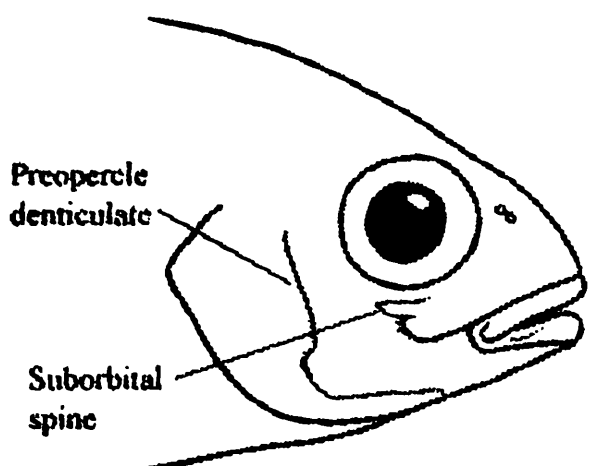
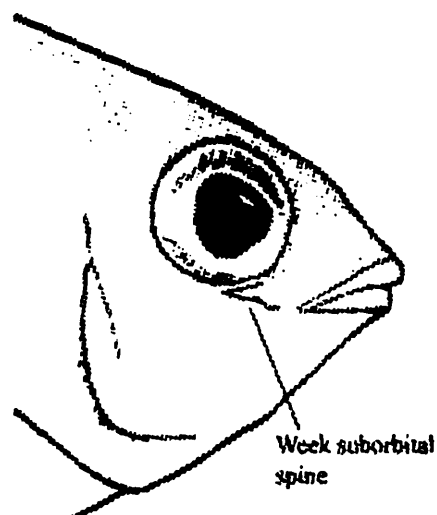


Fig. 2. *Nemipterus*

Fig. 3. *Scolopsis*Fig. 4. *Parascolopsis*

Genus *Nemipterus* Swainson, 1839

These are small to medium sized fishes with a slender to moderately deep and laterally compressed body. Teeth small, conical or villiform in both jaws; small pointed or recurved canines may present anteriorly in both jaws. Gill rakers short and stubby; 10 to 20 on first arch. A single dorsal fin with 10 spines and 9 soft rays, last ray branched at base. Anal fin with 3 spines and 7 or 8 soft rays, last ray branched at base. Pectoral fins short to moderately long, with 2 unbranched and 13 to 16 branched rays. Pelvic fins short or long, with 1 spine and 5 soft rays. Caudal fin forked; upper lobe rounded, pointed, falcate or produced to form a short or long filamentous extension. Scales ctenoid; scales on top of head reaching up to middle of eyes; suborbital naked, its posterior margin smooth; preopercle scaly with 3 transverse rows of scales; lower limb of preopercle naked; posterior limb of preopercle finely denticulate or smooth; opercle scaly; upper margin of opercle with a small, flat embedded spine. Lateral line scales 45 to 51; $3\frac{1}{2}$ to $4\frac{1}{2}$ transverse scale rows above lateral line, 9 to $12\frac{1}{2}$ rows below. Colour usually pinkish or silvery, with red, yellow and blue markings. Benthic, marine species usually found on sandy or muddy bottoms in depths 20 to 50 m. Forms an important constituent in the commercial fishery of our country. A total of 25 species were recognised all around the world and only 8 species are known from Indian waters.

Species known to occur under this genus in India :

1. *Nemipterus bipunctatus* (Valenciennes, 1830)
2. *N. furcosus* (Valenciennes, 1830)
3. *N. hexodon* (Quoy & Gaimard, 1824)
4. *N. japonicus* (Bloch, 1791)
5. *N. nematophorus* (Bleeker, 1853)
6. *N. peronii* (Valenciennes, 1830)
7. *N. randalli* Russell, 1986
8. *N. zysron* (Bleeker, 1856)

Although there is no positive record of *N. bathybius* Snyder and *N. mesoprion* (Bleeker) from Indian waters, these two species are included in the key with an asterisks (*) for their possibility of occurrence and to avoid possible mis-identification, since they are known from Andaman Sea. Although, *N. nemurus* (Bleeker) is also included in Rao (2003) from Andaman and Nicobar Islands, but due to want of material for confirmation it is not included in text.

Key to the species

- 1a. Upper lobe of caudal fin pointed or rounded, but not produced into filament..... 2
- 1b. Upper lobe of caudal fin produced to an elongate point, falcate or extended into a narrow filament..... 6
- 2a. Membrane between dorsal spines deeply incised
.....*N. peronii*
- 2b. Membrane between dorsal spines continuous or slightly emarginate 3
- 3a. Scales below lateral line in ascending rows anteriorly ...
..... *N. bipunctatus*
- 3b. Scales below lateral line in more or less horizontal rows anteriorly 4
- 4a. Pectoral fins short, just reaching to or usually short of level of anus *N. furcosus*

- 4b. Pectoral fins long, reaching to beyond level of anus.... 5
- 5a. Enlarged canines present anteriorly in both jaws; body depth 2.6 to 3.4 in standard length *N. hexodon*
- 5b. Enlarged canines present anteriorly in upper jaw only; body depth 3.3 to 3.8 in standard length.....
..... *N. mesoprion**
- 6a. First two dorsal spines fused, produced to form a long filament *N. nematophorus*
- 6b. First two dorsal spines separated by a membrane, not produced and smaller than the following spines..... 7
- 7a. Upper lobe of caudal fin falcate, ribbon-like; eye tangent to or below a line from tip of snout to upper base of pectoral fin*N. bathybius**
- 7b. Upper lobe of caudal fin produced into a filament; eye tangent to or above a line from tip of snout to upper base of pectoral fin 8
- 8a. Pectoral fins short, not reaching to level of anal fin origin 9
- 8b. Pectoral fins long, reaching to or beyond level of anal fin origin 10
- 9a. Pelvic fins short, not reaching to level of anal fin origin *N. japonicus*
- 9b. Pelvic fins very long, reaching to or beyond level of anal fin origin *N. randalli*
- 10a Body deep, depth 3.8 to 4.6 in standard length; caudal filament short; interspinous membrane of first two dorsal spines pale yellow *N. zysron*
- 10b. Body moderately deep, depth 3.3 to 4.0 in standard length; caudal filament long; interspinous membrane of first two dorsal spines bright red superioly
.....*N. nemurus**

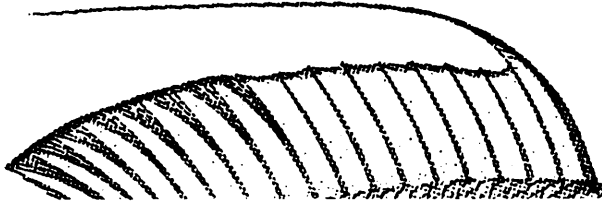


Fig. 5. First two rays of dorsal fin fused and produced



Fig. 6. Dorsal fin membrane deeply incised



Fig. 7. Dorsal fin membrane continuous



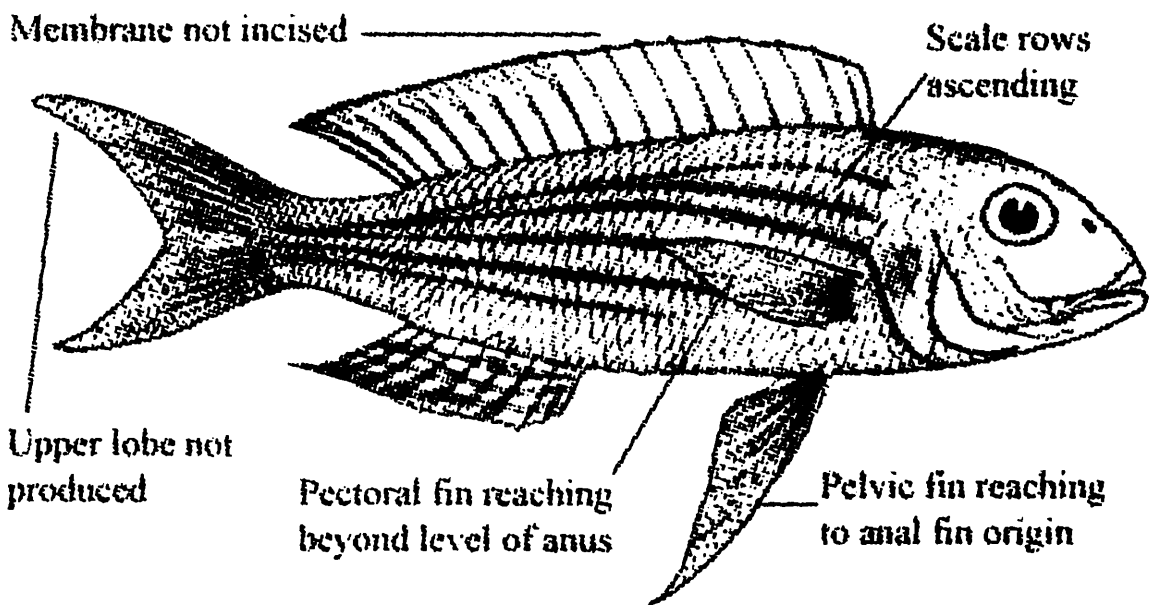
Produced Falcate Pointed

Fig. 8. Caudal fin lobes

1. *Nemipterus bipunctatus* (Valenciennes, 1830)

Delagoa threadfin bream

Diagnostic characters : Body more or less deep, its depth 3.4 to 3.9 in standard length. Eye diameter 3.1 to 3.9 in head length. Snout length almost equal to or little longer than eye diameter. Lower margin of eye tangent to or above a line from tip of snout to upper base of pectoral fin. First two dorsal spines separated by a membrane, not produced into a long filament, and shorter than the following spines. Membrane



between dorsal spines continuous. Caudal fin forked, upper and lower lobes almost equal in length. Pectoral fin extending to or slightly beyond anus. Pelvic fin extending to or beyond level of anal fin origin. Scales below lateral line in ascending rows anteriorly. Sides with 5 to 7 pale greenish yellow stripes. Dorsal fin uniformly rosy with reddish or yellowish border, but without any stripes. Anal fin with 2 to 5 yellowish undulating stripes.

Geographical distribution : Indian Ocean, including the Persian Gulf, red Sea, east Africa south to Delagoa Bay, Mauritius, Seychelles, Madagascar, Arabian Sea, Sri Lanka, Bay of Bengal, Andaman Sea, Strait of Malacca. In India this species is found along both the coasts and common in catches.

Size : Maximum to 30 cm standard length.

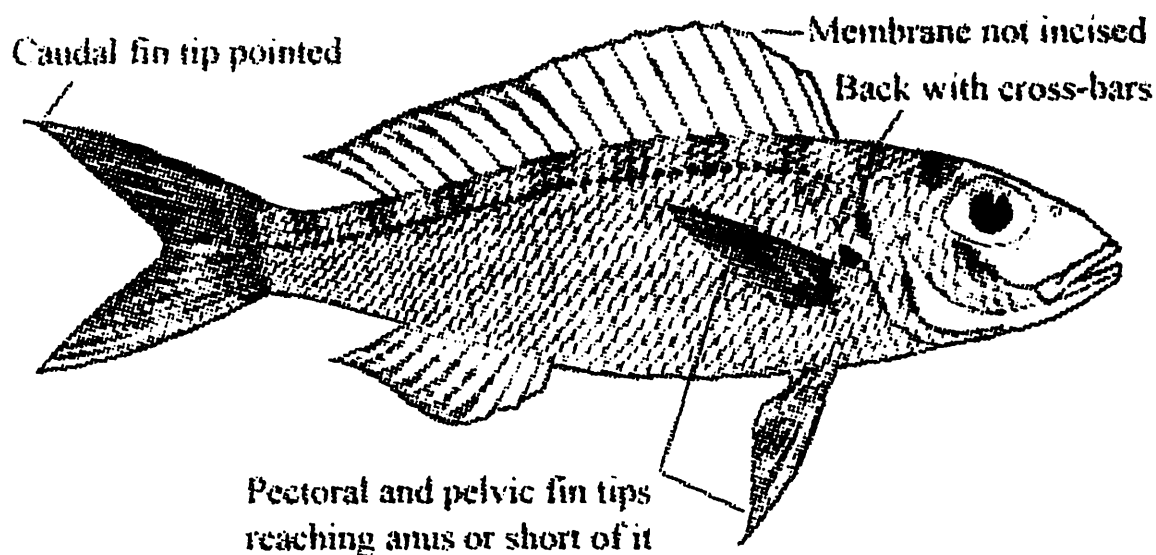
Interest to Fisheries : This fish is caught by bottom trawls and line gear. It is a benthic species, found on sand or mud bottoms in depths between 18 to 100 m. It has little fisheries importance.

Remarks : This species was earlier recorded as *Nemipterus bleekeri* (Day, 1875) (Munro, 1955) and *Nemipterus delagoae* Smith, 1941. Among the species having upper caudal lobe pointed or rounded and scales below lateral line ascending rows anteriorly, *N. theodorei* Ogilby is with upper caudal fin tip black and found in Eastern Australia and *N. celebicus* (Bleeker) is with 2 or 3 narrow medial stripes in dorsal fin and found in Indonesia and Northern part of Australia.

2. *Nemipterus furcosus* (Valenciennes, 1830)

Fork-tailed threadfin bream

Diagnostic characters : Body elongate, its depth 3.0 to 3.9 in standard length. Eye diameter 2.8 to 4.0 in head length. Snout length equal to or longer than eye diameter. Lower margin of eye tangent to or above a line from tip of snout to upper base of pectoral fin. First two dorsal spines separated by a membrane, not produced into a long filament, and shorter than the following spines. Membrane between dorsal spines



continuous. Caudal fin deeply forked, upper and lower lobes almost equal in length, upper lobe pointed, not prolonged into filament. Scales below lateral line almost in horizontal rows anteriorly. Pectoral fin reaching to or just short of level of anus. Pelvic fins short, reaching to or just short of level of anus. Head and body pale iridescent pink, shading on sides to silvery-white below; back with 9 inconspicuous cross-bars, reaching to or just beneath lateral line. Anal fin bluish white, with a row of transparent or faint yellowish spots near base.

Geographical distribution : West Pacific from Japan to northeastern Australia, and Indian Ocean, including the Gulf of Mannar, Sri Lanka, Andaman Sea, Strait of Malacca and the northeastern Australia.

Size : Maximum to 24 cm standard length.

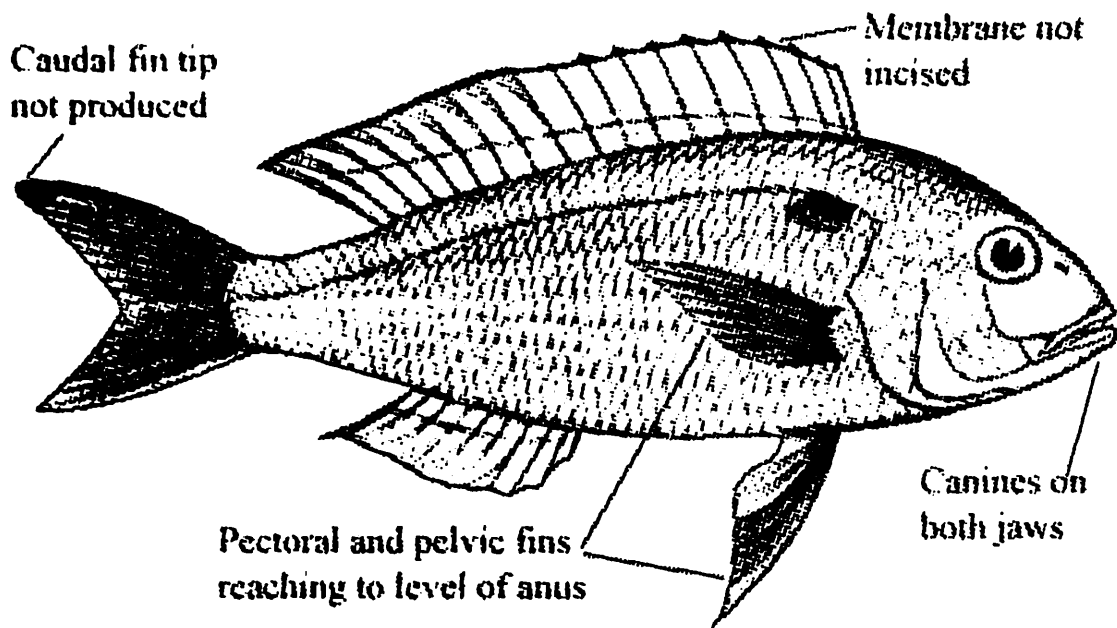
Interest to Fisheries : This fish is caught by bottom trawls and line gear. It is a benthic species, found on sand or mud bottoms in depths between 8 to 110 m. It has fisheries importance and is considered a good food fish.

Remarks : The other *Nemipterus* species having pointed caudal fin lobe and scales below lateral line in more or less horizontal rows anteriorly, differ from this species in having longer pectoral fin, that reach to beyond level of anus or longer pelvic fin, that reach to or beyond anal fin origin (Russell, 1990).

3. *Nemipterus hexodon* (Quoy & Gaimard, 1824)

Ornate threadfin bream

Diagnostic characters : Body moderately elongate, its depth 2.6 to 3.4 in standard length. Eye diameter 3.2 to 4.6 in head length. Snout length equal to or longer than eye diameter. Lower margin of eye above a line from tip of snout to upper base of pectoral fin. Enlarged canines present in both jaws anteriorly. First two dorsal spines separated by a membrane, not produced into a long filament, and shorter than the following spines. Membrane between dorsal spines continuous. Caudal fin forked, upper lobe slightly longer than lower. Pectoral and pelvic fins moderately long, reaching to or just beyond level of anus. Scales below lateral line in almost horizontal rows anteriorly. Upper part of body pinkish, paling on sides to silvery-white on ventral surface. Dorsal fin with a yellow stripe originating near base anteriorly to middle of posterior margin.



Geographical distribution : Indo-West Pacific from the Andaman Sea to the Solomon Islands.

Size : Maximum to 21 cm standard length.

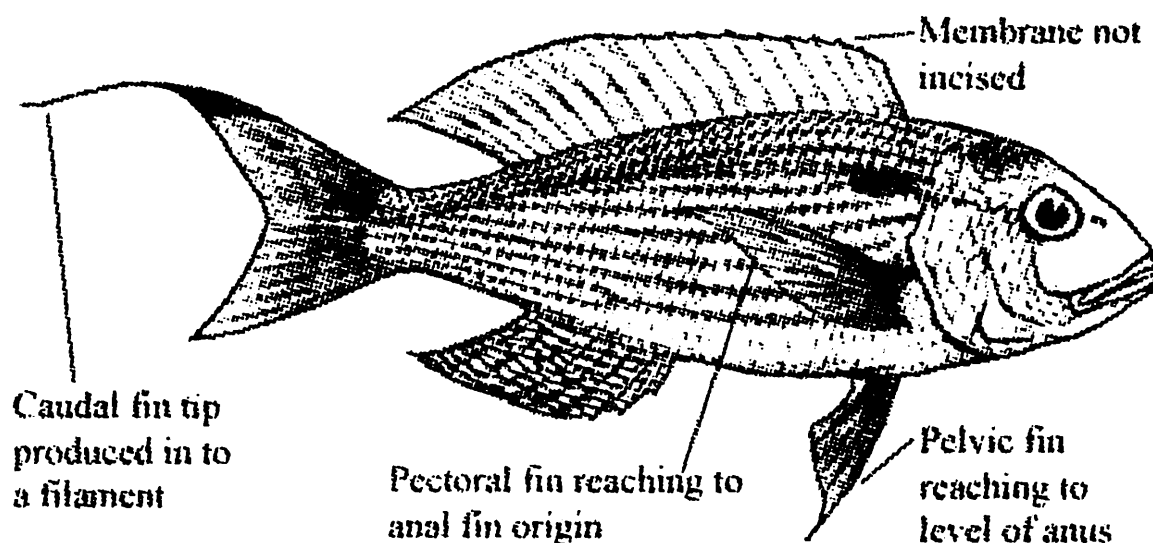
Interest to Fisheries : Ornate threadfin breams are caught by bottom trawls and handline. This species has minor fisheries importance

Remarks : This species is included among the *Nemipterus* species having a combination of characters like upper caudal fin pointed, scale rows below lateral line more or less horizontal anteriorly and pectoral fin extending beyond level of anus and enlarged canines present in upper jaw only.

4. *Nemipterus japonicus* (Bloch, 1791)

Japanese threadfin bream

Diagnostic characters : Body somewhat deep, its depth 2.7 to 3.5 in standard length. Eye diameter 3.2 to 4.6 in head length. Snout length equal to or longer than eye diameter. Lower margin of eye above a line from tip of snout to upper base of pectoral fin. First two dorsal spines separated by a membrane, not produced into a long filament, and shorter than the following spines. Membrane between dorsal spines continuous, not incised. Caudal fin forked, upper lobe slightly longer than lower and produced into a short or moderately long filament. Scales below lateral line in almost horizontal rows anteriorly. Pectoral fins very long, reaching to or beyond level of anus. Pelvic fins reaching to or just beyond level of anal fin origin. Upper part of body pinkish, pale on sides to silvery-white on ventral surface. Sides with 11 to 12 longitudinal pale golden yellow stripes extending from posterior of head to base of caudal fin. A conspicuous yellow or orange blotch present on upper margin of opercle. Dorsal fin with a yellow band near base. Anal fin whitish with broken pale lemon coloured bands.



Geographical distribution : Widespread throughout the Indian Ocean and the West Pacific. Abundantly found in both coasts of our country.

Size : Maximum to 25 cm standard length.

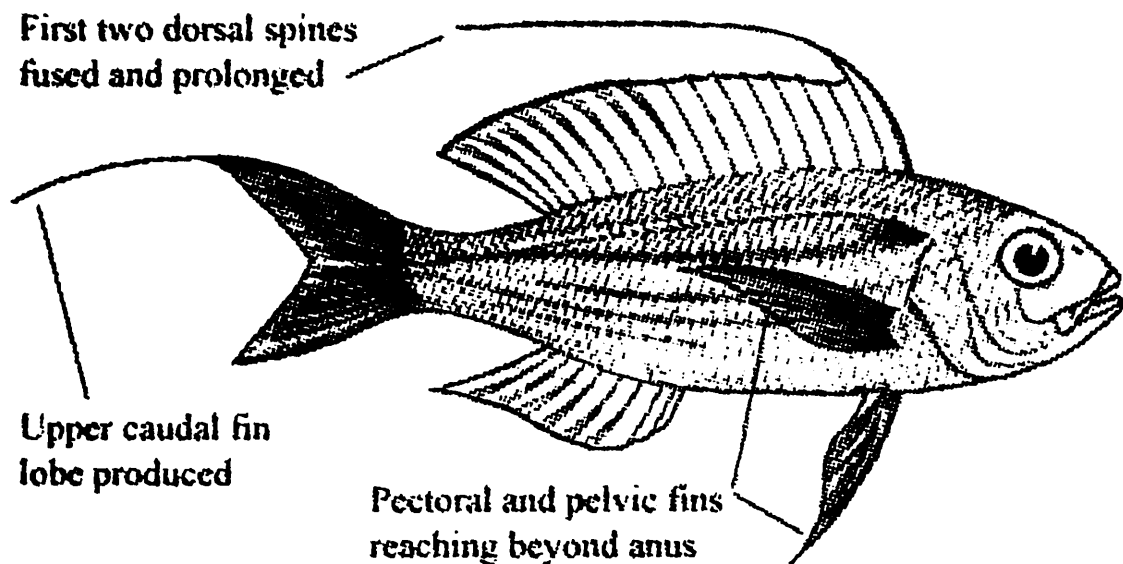
Interest to Fisheries : This fish is caught by bottom trawls, gillnets, bag-nets and long-lines gear. It is a benthic species, generally abundantly found in coastal waters on sand or mud bottoms in depths between 5 to 80 m. It forms an important fishery, particularly along the east coast of India.

Remarks : With the combination of characters *i.e.* upper lobe of caudal fin produced into a filament and pectoral fin tip extending to or beyond anal fin origin, it closely resembles *N. randalli* Russell, that however differs in having longer pelvic fin extending beyond anal fin origin and *N. balinensis* (Bleeker) (found in Indonasia) in which eye is tangent to or below a line from snout tip to upper base of pectoral fin.

5. *Nemipterus nematophorus* (Bleeker, 1853)

Doublewhip threadfin

Diagnostic characters : Body moderately deep, its depth 2.9 to 3.5 in standard length. Eye diameter 3.0 to 4.0 in head length. Snout length equal to or longer than eye diameter. Lower margin of eye tangent to a line from tip of snout to upper base of pectoral fin. Dorsal fin with first and second spines close together, almost fused and produced into



a long filament. Scales below lateral line in almost horizontal rows anteriorly. Pectoral fins reaching to or beyond level of anus. Pelvic reaching to or just beyond level of anus. Caudal fin forked, upper lobe prolonged into a long filament. Upper part of body pinkish, pale on sides to silvery-white on ventral surface.

Geographical distribution : Indo-West Pacific from the east coast of India, through the Strait of Malacca, to the Philippines, South China Sea, Gulf of Thailand and Indonesia.

Size : Maximum to 20 cm standard length.

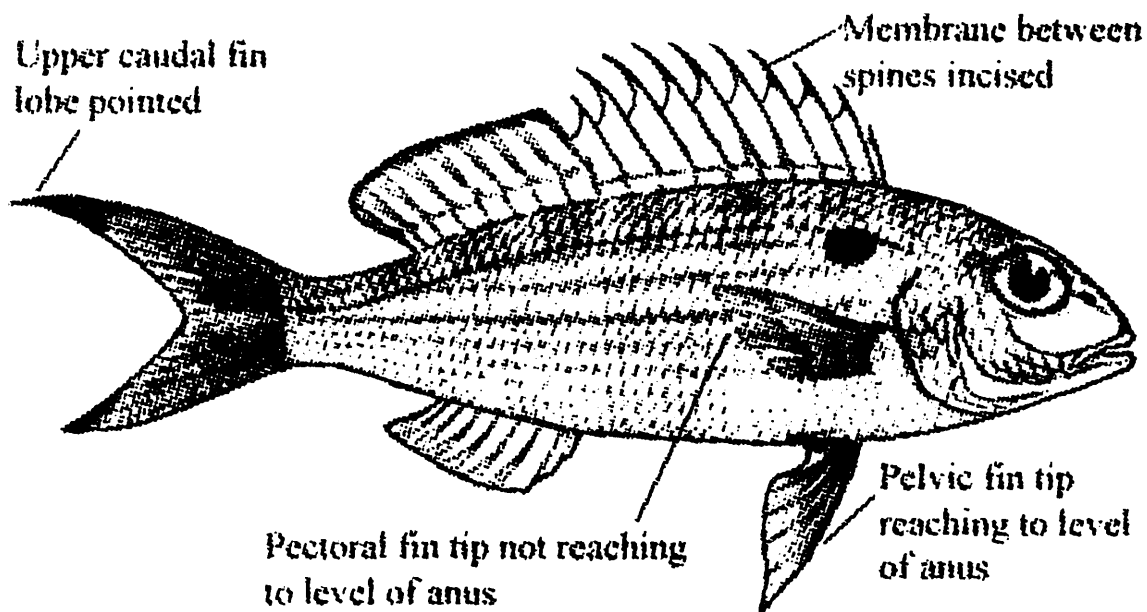
Interest to Fisheries : This fish is caught by bottom trawls and line gear. It is a benthic species, found on sand or mud bottoms in depths to 75 m. It has little fisheries importance.

Remarks : This is the only *Nemipterus* species with first two spines of dorsal fin fused and produced as a filament.

6. *Nemipterus peronii* (Valenciennes, 1830)

Notched threadfin bream

Diagnostic characters : Body slender, its depth 3.0 to 4.0 in standard length. Eye diameter 2.8 to 3.5 in head length. Snout length almost equal to eye diameter. Lower margin of eye just above a line from tip of snout to upper base of pectoral fin. A line drawn up from the hind margin of suborbital



reaching the dorsal profile at or just before origin of dorsal fin. Dorsal fin spines elongate, interspinous membrane deeply incised. Pectoral fins short, not reaching to level of anus. Pelvic fins more or less long, reaching to level of anus. Caudal fin deeply forked, upper lobe pointed and slightly longer than lower lobe. Anal fin with 3 spines and 7 rays. Gill rakers 9 to 12. Lateral line with 47 to 50 scales. Upper part of body pinkish with 7 or 8 indistinct darker pink saddles reaching to or just below lateral line; lower part of body silvery, with faint golden lines following each scale row. A diffuse pale reddish spot below and just posterior to origin of lateral line. Anal fin pale whitish pink. Caudal fin pinkish. Pelvic fins whitish and pectoral fin translucent.

Geographical distribution : West Pacific from Taiwan to northeastern Australia, and Indian Ocean, from the Andaman Sea in east, through Sri Lanka, to Persian Gulf and Red Sea.

Size : Maximum to 27 cm standard length.

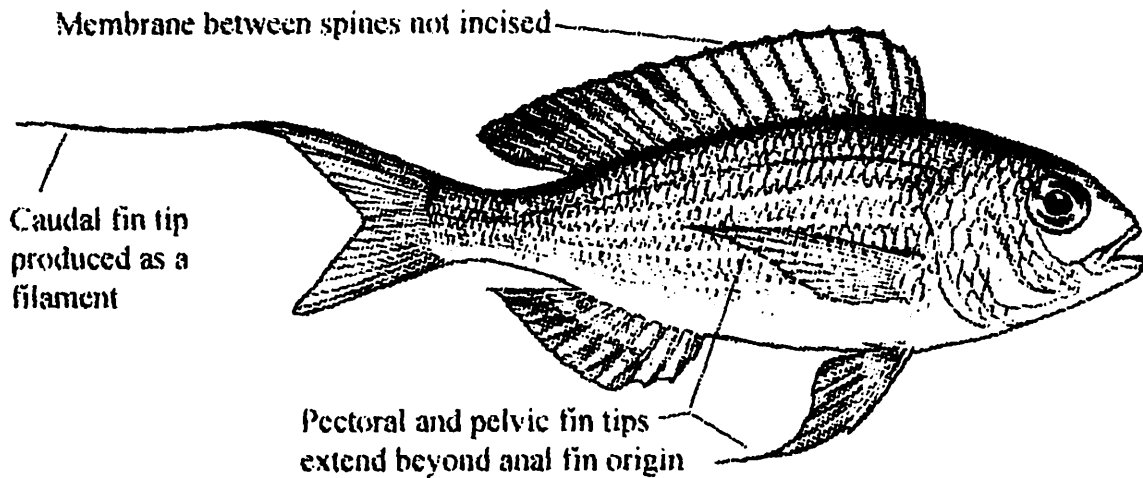
Interest to Fisheries : It is a benthic species, found on sand or mud bottoms in depths to 100 m. It has little fisheries importance. This fish is caught by bottom trawls and line gear and it has little fisheries importance, usually found abundantly along southeast coast.

Remarks : This species has been earlier identified as *N. tolu* by some authors, and the name *N. peronii* has been wrongly used for *N. furcosus*. *N. tolu* is a junior synonym of *N. peronii*. Only this *Nemipterus* species is having the membrane between dorsal spines deeply incised, while in others this membrane is continuous or only slightly emarginate.

7. *Nemipterus randalli* Russell, 1986

Randall's threadfin

Diagnostic characters : Body depth 3.0 to 3.5 in standard length. Eye diameter 2.7 to 3.7 in head length. Snout length almost equal to eye diameter. Lower margin of eye tangent to or above a line from tip of snout to upper base of



pectoral fin. A line drawn up from the hind margin of suborbital reaching the dorsal profile about 3 to 7 scale rows anterior to origin of dorsal fin. Pectoral and pelvic fins very long, reaching to or just beyond level of anal fin origin. Caudal fin forked, upper rays produced into a long filament. Body silvery pink with 3 or 4 faint yellow stripes on sides below lateral line. A broad yellow stripe on either side of ventral midline. A pinkish blotch below anterior part of lateral line. Anal fin pale bluish with narrow yellow medial stripe. Caudal fin pink, caudal filament light reddish. Pelvic fins whitish. Pectoral fins transparent.

Geographical distribution : Indian Ocean, including the coasts of India, Pakistan, Persian Gulf, Red Sea, Gulf of Aden, East African coast, Seychelles and Madagascar. This has also been reported from the Andaman Islands (Mishra and Krishnan, 1992)

Size : Maximum to 19 cm standard length.

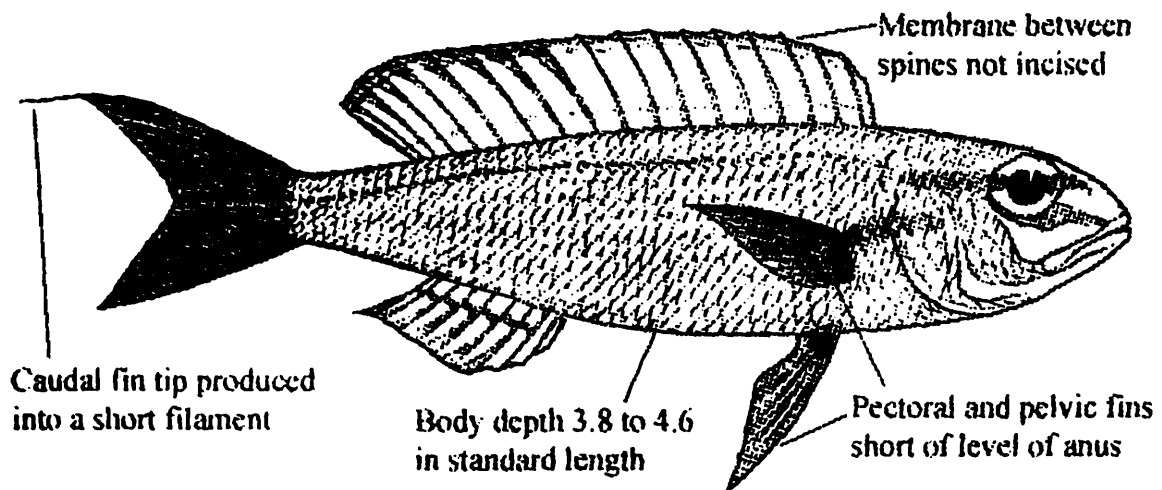
Interest to Fisheries : It is a benthic species, found on sand or mud bottoms in depths between 25 to 225 m. This species is captured by bottom trawls and line gears. This species has little fisheries importance.

Remarks : This is the only *Nemipterus* species with upper caudal lobe produced into a long filament and both pectoral and pelvic fins extending to or beyond level of anal fin origin. In all other species either the pectoral fin or the pelvic fin or both are short of the level of anal fin origin.

8. *Nemipterus zysron* (Bleeker, 1856)

Slender threadfin bream

Diagnostic characters : Body depth 3.5 to 4.5 in standard length. Eye diameter 2.5 to 3.5 in head length. Snout length almost equal to or less than eye diameter. Lower margin of eye tangent to or above a line from tip of snout to upper base of pectoral fin. Suborbital depth 1.5 to 3.5 in eye diameter. A line drawn up from the posterior border of suborbital reaching the dorsal profile about 2 to 6 scale rows before origin of dorsal fin. Pectoral and pelvic fins short, reaching to just short of level of anus. Caudal fin deeply forked, upper lobe produced into a short filament. Gill rakes 10 to 15. Upper part of body reddish, silvery below. Sides below lateral line with indistinct yellow stripes along the middle of each scale. Three broad yellow bands on head, one from middle of upper lip to lower border of eye, one from snout through eye to upper angle of operculum and one from middle of operculum to upper pectoral fin base. Anal fin pink with a series of elongate yellow spots or yellow stripes submedially. Caudal fin pinkish, upper and lower lobes pale yellowish, filament yellow. Pectoral fins pale yellow.



Geographical distribution : Widespread in the Indo-West Pacific, from northeastern Australia, to the Red Sea, Seychelles and Zanzibar.

Size : Maximum to 19 cm standard length.

Interest to Fisheries : This species is caught by bottom trawls and line gear and it has little fisheries importance. It is a benthic species, found on sand bottom near rocks in depths between 10 to 125 m.

Remarks : Among the *Nemipterus* species with produced upper caudal fin and both pectoral and pelvic fins short of level of anus, it closely resembles *N. nemurus* (Bleeker) which however differs in having a deeper body and a red spot between first two dorsal spines.

Genus ***Parascolopsis*** Boulenger, 1901

These are small fishes with a moderately deep and laterally compressed body. Teeth villiform; anterior teeth small, conical in some species; canine teeth absent. Gill rakers short and stubby, 8 to 19 on first arch. A single dorsal fin usually with 10 spines and 9 soft rays. Anal fin with 3 spines and 7 soft rays, second spine usually longer and more robust than first and third. Pectoral fin long, with 2 simple and 12 to 15 branched rays. Pelvic fins long, with 1 spine and 5 soft rays. Caudal fin emarginate. Scales on top of head reaching to level of middle of eyes or to level of posterior nostrils; suborbital scaly or naked; posterior margin of suborbital smooth, denticulate or finely serrate; upper corner of suborbital with a small spine or without spine; preopercle scaly, with 4 or 5 transverse rows of scales; lower limb of preopercle scaly or naked; posterior margin of preopercle serrate; opercle scaly; upper margin of opercle with a small, flat embedded spine. Lateral line scales 34 to 40; 2½ to 5 transverse scale rows above lateral line, 11 to 15 rows below. Usually reddish in colour, with yellow or silver markings. Benthic; usually occurring in offshore shelf waters in depths between 20 to 400 m. No significant fishery exists for these species; captured in small numbers in trawl catches. A total of 12 species recognized all around the world and only 5 species known to occur in Indian region.

Species known to occur under this genus in India :

1. *Parascolopsis aspinosa* (Rao & Rao, 1981)
2. *P. boesemani* (Rao & Rao, 1981)
3. *P. eriomma* (Jordan & Richardson, 1909)
4. *P. inermis* (Temminck & Schlegel, 1843)
5. *P. townsendi* Boulenger, 1901

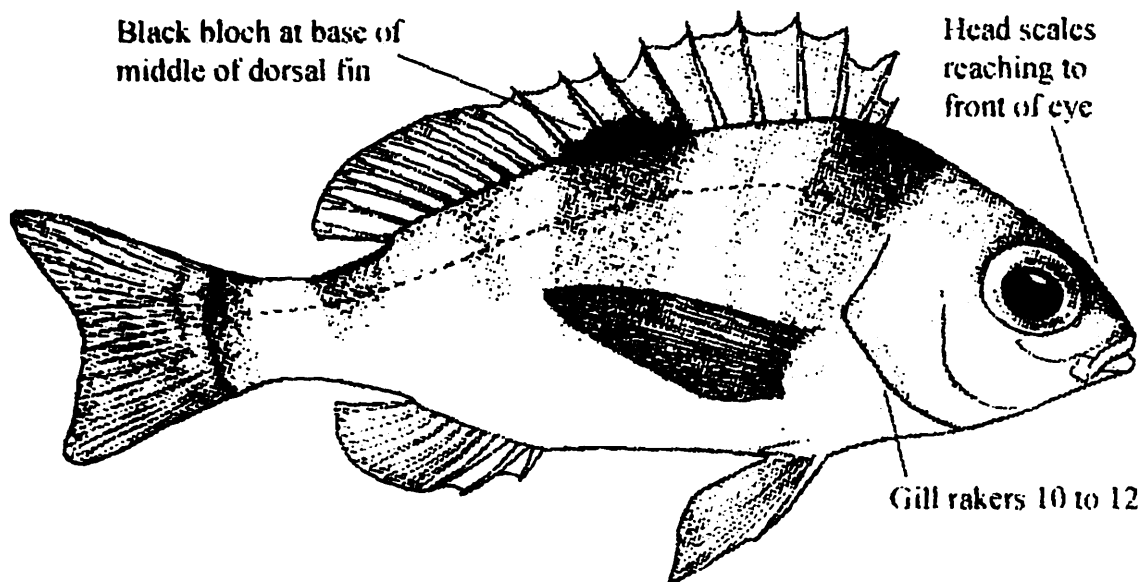
Key to the species

- 1a. Gillrakers on first arch 17 to 19..... *P. eriomma*
- 1b. Gillrakers on first arch 8 to 14 2
- 2a. Suborbital scaly; maxilla scaly or naked*P. townsendi*
- 2b. Suborbital and maxilla naked 3
- 3a. Head scales reaching forward to about middle of eyes, or between middle and anterior margin of eyes *P. inermis*
- 3b. Head scales reaching forward to or in front of anterior margin of eyes 4
- 4a. Posterior margin of suborbital smooth or with just a few tiny spines; a black blotch at base of middle of dorsal fin
..... *P. aspinosa*
- 4b. Posterior and anterior margin of suborbital finely denticulate; a red spot between seventh and tenth dorsal spines *P. boesemani*

1. *Parascolopsis aspinosa* (Rao & Rao, 1981)

Smooth dwarf monocle bream

Diagnostic characters : Body depth 2.5 to 3.0 in standard length. Snout length less than eye diameter. Gill rakers 10 to 11. Head scales reaching forward to between level of anterior border of eyes and hind nostrils. Posterior margin



of preopercle almost vertical; lower limb of preopercle naked. Posterior border of suborbital smooth or just a few tiny spines; suborbital depth 2.6 to 4.6 in diameter of eye. Lateral line with 35 to 36 scales. Pectoral fin with 2 simple and 14 to 15 branched rays. Pectoral and pelvic fins long, reaching to or behind level of anus. Body rosy-orange. 4 pale reddish saddles on back and 2 on caudal peduncle. A black blotch at base of dorsal fin between eighth spine and first ray. Dorsal fin with orange margin. Anal fin pale rosy. Pectoral fins yellowish.

Geographical distribution : Indian Ocean, including the Persian Gulf; Gulf of Oman, Gulf of Aden, Arabian Sea, Bay of Bengal and the Andaman Sea.

Size : Maximum 17 cm standard length.

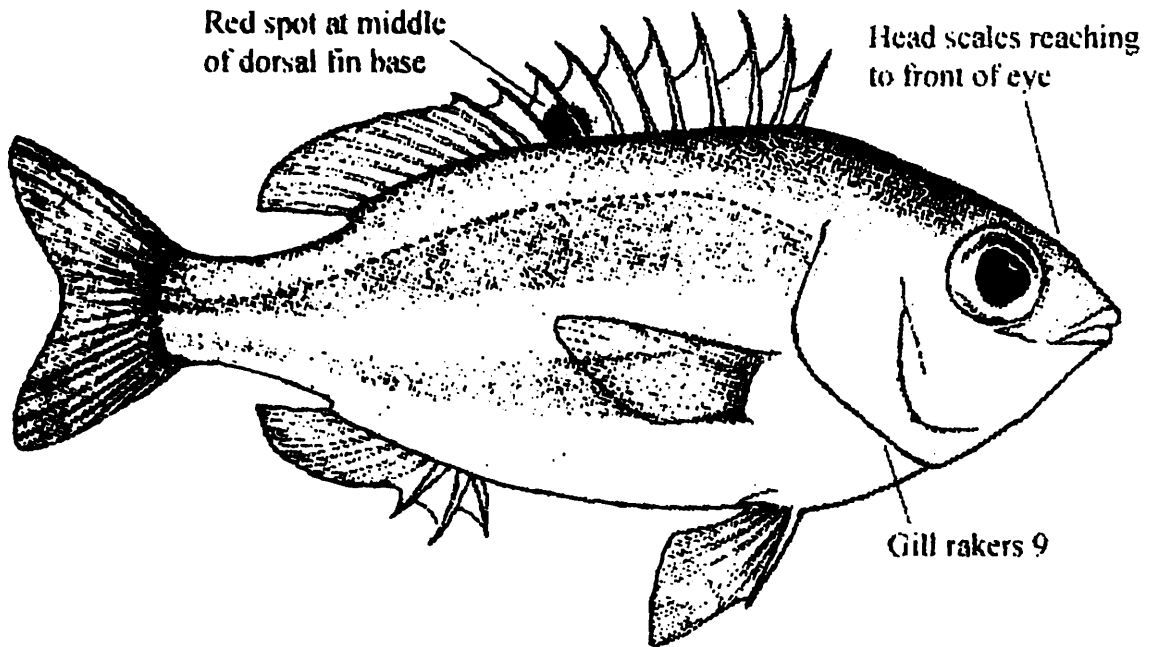
Interest to Fisheries : These fishes are of little fisheries importance, caught by bottom trawls and line gear. This is a benthic species, found on sand or mud bottoms in off shore waters.

Remarks : Among the species of *Parascolopsis* with head scales reaching forward to front of anterior margin of eye, suborbital is scaly in *P. townsendi* Boulenger and posterior margin of suborbital finely denticulate with a red spot between 7th and 10th dorsal spine in *P. boesemani* (Rao and Rao). Similar blotch, as in *P. aspinosa*, at the base of dorsal fin is present in *P. tanyactis* Russell, known from northwestern Australia, Indonesia and Philippines, but differs in having head scales not extending beyond anterior margin of eye (Russell, 1990).

2. *Parascolopsis boesemani* (Rao & Rao, 1981)

Redfin dwarf monocle bream

Diagnostic characters : Body depth 2.8 in standard length. Snout length less than eye diameter. Gill rakers 9. Head scales reaching forward to level of posterior nostrils. Posterior margin of preopercle almost vertical; lower limb of preopercle naked. Posterior border of suborbital finely denticulate;



suborbital depth 3.8 in diameter of eye. Lateral line with 36 to 37 scales. Pectoral fin with 2 spines and 14 rays. Pectoral and pelvic fins long, reaching to or behind level of anus. Body rosy-yellow; 3 pale rosy saddles on body and one caudal peduncle. 2 light green stripes with a slight orange tinge, below lateral line. A blood-red blotch between 7th and 10th spine.

Geographical distribution : This species is so far known only from a single specimen collected off Waltair, India

Size : Maximum 9.1 cm standard length.

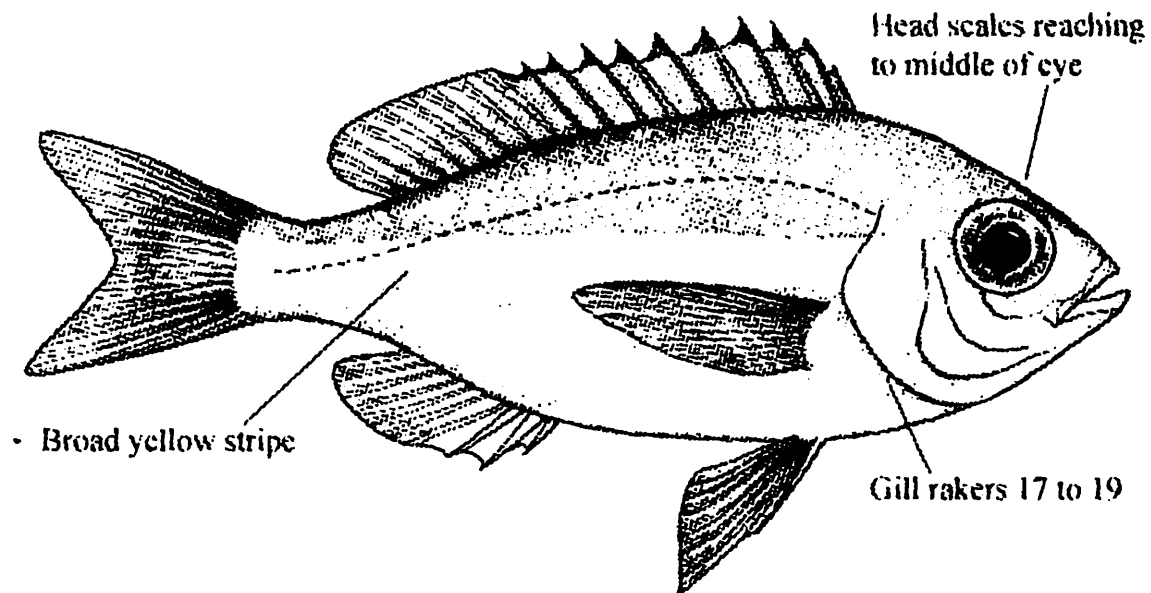
Interest to Fisheries : This species is caught by bottom trawls and it has no fisheries importance. A benthic species, found on sand or mud bottoms in off shore waters.

Remarks : It closely resembles *P. aspinosa* (Rao and Rao) but differs in having posterior margin of suborbital smooth and *P. townsendi* Boulenger where the suborbital is scaly. However all these three species have head scales reaching to front margin of eye. Another species *P. rufomaculatus* Russell, known from northeastern Australia, also has a spot on dorsal fin between 8th to 10th spine which is bright red in colour and head scales extend up to middle of eye.

3. *Parascolopsis eriomma* (Jordan & Richardson, 1909)

Rosy dwarf monocle bream

Diagnostic characters : Body depth 2.5 to 3.0 in standard length. Snout length less than eye diameter. Gill rakers 17 to 19. Head scales reaching forward to between middle of eyes. Posterior margin of preopercle almost vertical or sloping forward slightly; lower limb of preopercle naked. Posterior border of suborbital serrate, a small spine at upper corner. Suborbital depth 2.6 to 4.8 in diameter of eye. Lateral line with 34 to 36 scales. Pectoral fin with 2 spines and 14 to 15 rays. Pectoral fins long, reaching to or almost beyond level of anus. Pelvic fins long, reaching to level of anus. Body pinkish with a broad longitudinal yellow stripe along middle of body, from superior angle of pectoral fin to caudal fin base. A dusky, elongate blotch at origin of lateral line. Dorsal fin pinkish with spinous margin reddish. Pectoral and caudal fins yellowish.



Geographical distribution : Indian Ocean, from, east coast of Africa, the Gulf of Oman, Red Sea, Sri Lanka, Andaman Sea; and West Pacific, including southern Japan, Taiwan, south China Sea, Philippines, Indonesia.

Size : Maximum to 25 cm standard length.

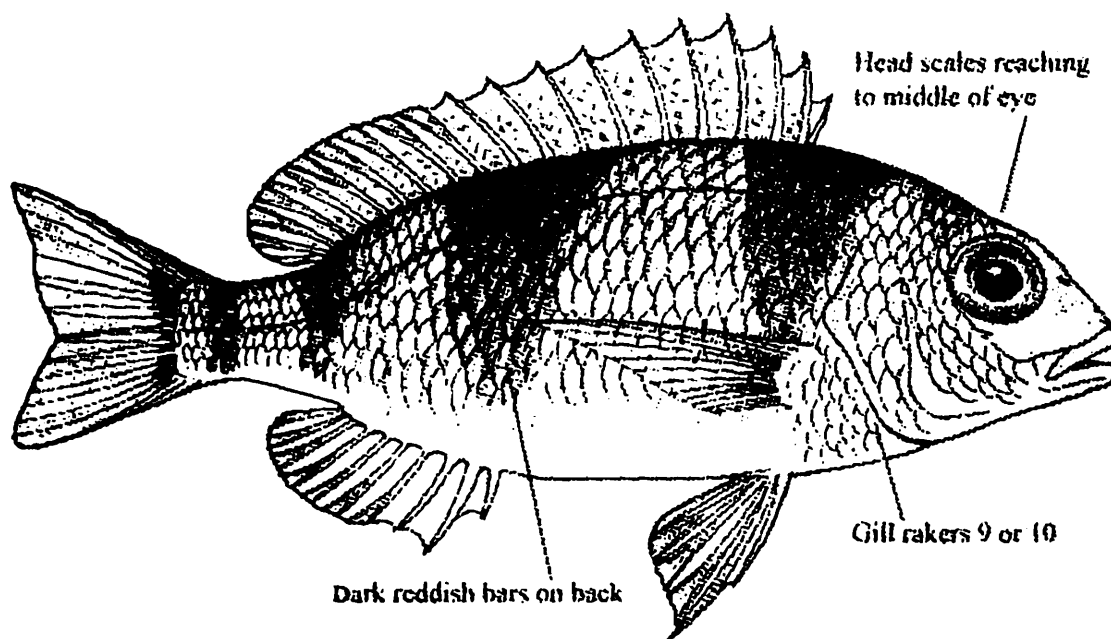
Interest to Fisheries : This species is caught by bottom trawls and long line gear. This species has little fisheries importance. It is a benthic species, found on sand or mud bottoms in off shore waters, in depths of 25 to 175 m.

Remarks : This is the only species of genus *Parascolopsis* having 17 to 19 gill rakers on first arch and in all others the gill raker count is less, 8 to 14.

4. *Parascolopsis inermis* (Temminck & Schlegel, 1843)

Unarmed dwarf monocle bream

Diagnostic characters : Body depth 2.5 to 3.0 in standard length. Snout length equal to or less than eye diameter. Gill rakers 9 to 10. Head scales reaching forward to between middle of eyes.. Posterior margin of preopercle sloping forward slightly; lower limb of preopercle naked. Poserior border of suborbital finely serrate (sometimes smooth), a very small spine at upper corner. Suborbital depth 2.5 to 3.5 in diameter of eye. Lateral line with 35 to 36 scales. Pectoral fin with 2 spines and 14 rays; long, extending to beyond level of anus. Pelvic fins long, reaching to or almost to level of anus. Body pale yellowish, silvery below; 4 broad, dark reddish bars on back; the first anterior to dorsal fin and extending down to base of pectoral fin; the second below middle of dorsal fin and extending down to midlateral part of body; third just posterior to dorsal fin and extending almost to ventral surface of caudal peduncle; the fourth extending down caudal fin base. Dorsal fin yellowish, with several red spots.



Geographical distribution : Eastern Indian Ocean, including the Laccadive Islands, Sri Lanka, Andaman Sea; and Western Pacific, including southern Japan and the South China Sea.

Size : Maximum to 18 cm standard length.

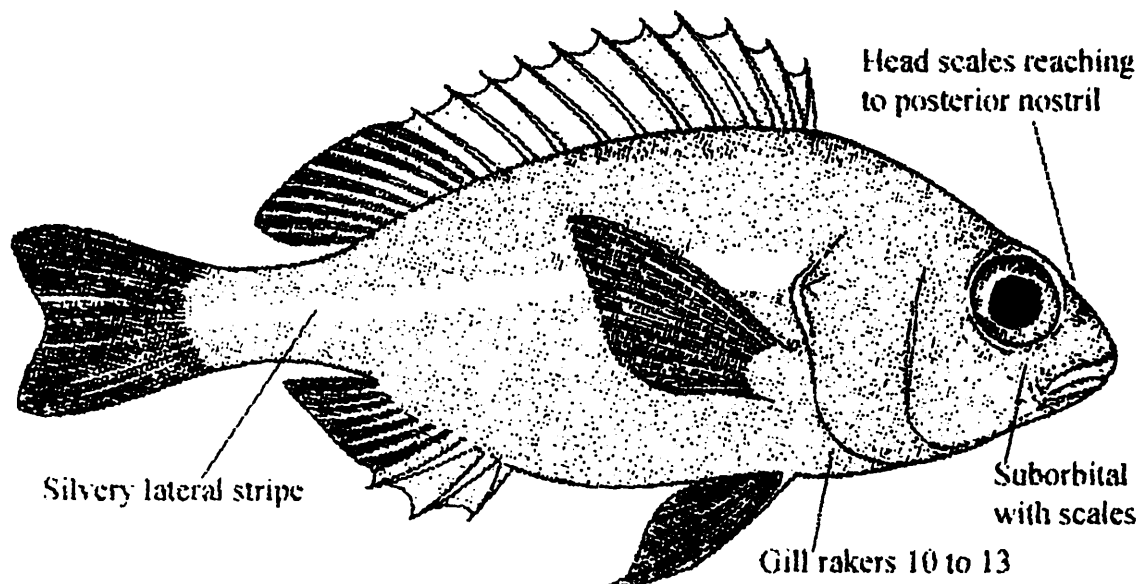
Interest to Fisheries : It is a benthic species, found on sand or mud bottoms in off shore waters. This species is caught by bottom trawls and line gear and it is of little fisheries importance.

Remarks : Similar transverse bars or bands as in *P. inermis* are also seen in *P. aspinosa*, where head scales extend up to front of eye, and also in *P. tanyactis* Russell, in which species the head scales extend almost to anterior margin of eye, middle rays of dorsal fin are elongate in larger specimens and a dusky band join nostrils across snout and known from Indonesia, the Philippines and northwestern Australia.

5. *Parascolopsis townsendi* Boulenger, 1901

Scaly dwarf monocle bream

Diagnostic characters : Body depth 2.5 to 3.0 in standard length. Snout length equal to or less than eye diameter. Gill rakers 10 to 13. Head scales reaching forward to level of hind nostrils. Suborbital scaly; posterior margin of preopercle sloping backward slightly; lower limb of preopercle scaly. Posterior border of suborbital finely serrate, no spine at



superior corner; suborbital depth 2.8 to 5.2 in diameter of eye. Lateral line with 37 to 40 scales. Pectoral fin with 2 spines and 13 to 15 rays. Pectoral fins long, reaching to above level of origin of anal fin. Pelvic fins long, reaching to or almost level of anus. Body uniformly reddish with a silvery lateral stripe.

Geographical distribution : Western Indian Ocean, including the Gulf of Oman, Gulf of Aden, Red Sea and Arabian Sea.

Size : Maximum to 15.5 cm standard length.

Interest to Fisheries : This species is caught by bottom trawls and it is of little fisheries importance.

Remarks : Among all the known species of the genus, this is the only species in which the suborbital region and sometimes the maxilla are covered with scales.

Genus *Scolopsis* Cuvier, 1815

These are small to medium sized fishes with a slender to moderately deep, laterally compressed body. Teeth villiform or conical, small; canine teeth absent. Gill rakers short and stubby, 8 to 12 on first arch. A single dorsal fin with 10 spines and 9 soft rays. Anal fin with 3 spines and 7 soft rays; second spine usually longer and robust than first and third. Pectoral fins short to moderately long, with 2 unbranched and 12 to 17 branched rays. Pelvic fins with 1 spine and 5 soft rays. Caudal fin emarginate or forked; lobes mostly pointed, falcate or produced. Scales ctenoid; scales on top of head reaching forward to level of middle of eyes, to level of nostrils or to front of nostrils; suborbital naked, with a large backwardly pointing spine and a series of smaller spines or serrations on its posterior margin; a small antrorse spine beneath eye in some species; 4 to 7 transverse rows of scales on cheek; lower limb of preopercle naked or scaly; posterior margin of preopercle serrate or spinous; opercle scaly; upper margin of opercle with a small, flat embedded spine. Lateral line scales 35 to 49; 3 to 5½ transverse scale rows above lateral line and 12 to 18 rows below. Colour variable. Benthic; usually occurring on reefs or on sandy or muddy bottoms close to

reefs, in depths down to 60 m. No major fishery exists for these species. In all, 25 species are recognised all around the world and only 11 species known to occur in Indian waters.

Species known to occur under this genus in India:

1. *Scolopsis aurata* (Park, 1797)
2. *S. bilineata* (Bloch, 1793)
3. *S. bimaculatus* Ruppell, 1828
4. *S. ciliata* (Lacepede, 1802)
5. *S. frenatus* (Cuvier, 1830)
6. *S. ghanam* (Forsskal, 1775)
7. *S. lineata* Quoy & Gaimard, 1824
8. *S. margaritifera* (Cuvier, 1830)
9. *S. taeniatus* (Cuvier, 1830)
10. *S. vosmeri* (Bloch, 1792)
11. *S. xenochrous* Gunther, 1872

Records of *Scolopsis dubiosus* Weber, a junior synonym of *S. taenioptera* (Cuvier), (Talwar and Kacker, 1984; Rao *et al.*, 2000) need further confirmation on the basis of Russell (1990). Despite having doubtful occurrence, it is included in the key with asterick (*) to avoid confusion.

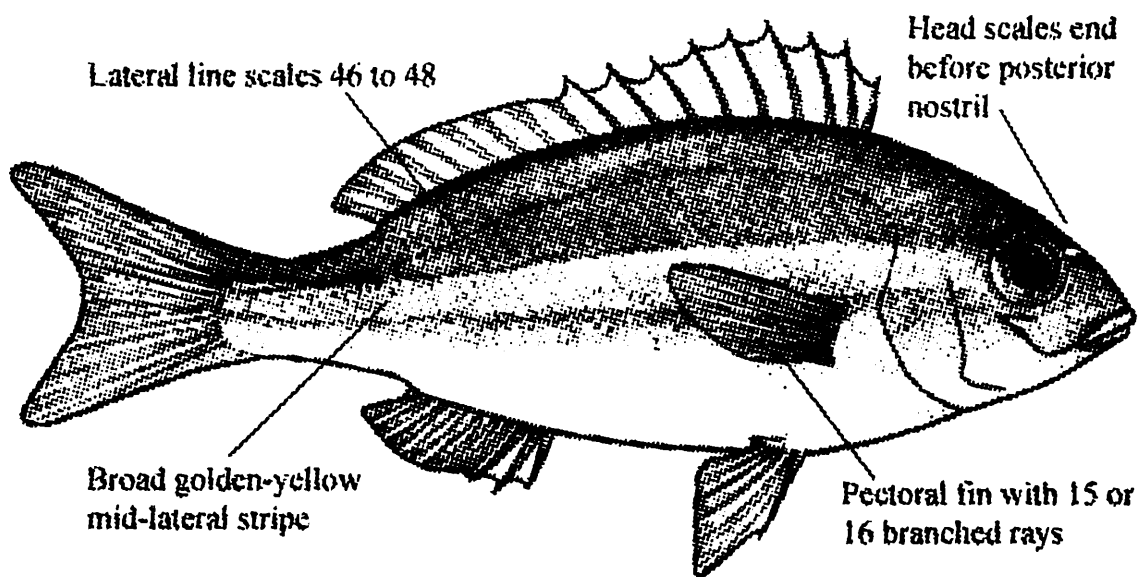
Key to species

- 1a. Small antrorse spine or bony ridge present below eye..
..... 2
- 1b. No small antrorse spine or bony ridge below eye 5
- 2a. Maxillary denticulate on its external margin .. *S. ciliata*
- 2b. Maxillary smooth on its external margin 3
- 3a. Scales on top of head not extending forward to the level
of posterior nostril.....*S. xenochrous*
- 3b. Scales on top of head extending forward to between level
of snout and anterior nostril..... 4

- 4a. Body depth 2.5 to 3.0 in standard length; pectoral fins reaching to level of anus; anterior part of anal fin black *S. bilineata*
- 4b. Body depth 2.0 to 2.6 in standard length; pectoral fins not reaching to level of anus; anterior part of anal fin not black *S. vosmeri*
- 5a. Head scales reaching forward to level of mid-pupil only *S. ghanam*
- 5b. Head scales reaching forward to or in front of level of anterior margin of eye 6
- 6a. Lateral line scales 37 to 39 *S. margaritifera*
- 6b. Lateral line scales 42 to 48 7
- 7a. Pectoral fin with ii,14 rays; 3 scale rows between lateral line and dorsal origin; colour pattern consisting of 3 irregular dark stripes horizontally on upper half *S. lineata*
- 7b. Pectoral fin with ii,15 to 16 rays; 4 to 5 scale rows between lateral line and dorsal origin; colour pattern not as above 8
- 8a. A large dark ovoid spot transected by lateral line on upper part of body beneath middle of dorsal fin *S. bimaculatus*
- 8b. No dark ovoid spot on upper part of body 9
- 9a. Lower border of eye distinctly below line from snout to upper pectoral base *S. frenatus*
- 9b. Lower border of eye tangent to or above a line from snout to upper pectoral base 10
- 10a. Head scales not reaching forward to level of posterior nostril; a broad golden-yellow mid-lateral stripe from behind eye to the base of caudal fin; dusky stripe absent above lateral line *S. aurata*
- 10b. Head scales reaching forward to or nearly to level of posterior nostril 11
- 11a. Dusky stripe present above lateral line *S. taeniatus*
- 11b. Dusky stripe above lateral line absent *S. taenioptera**

1. *Scolopsis aurata* (Park, 1797)
Yellow-stripe monocle bream

Diagnostic characters : Body depth 2.9 to 3.1 in standard length. Snout length about equal or little greater than eye diameter. Head scales reaching forward to or just behind level of front border of eye. Scaly area between eyes truncated anteriorly. Lower limb of preopercle scaly. Antrorse suborbital spine absent. Lateral line with 46 to 48 scales. Transverse scale rows between lateral line and first dorsal spine base 4. Pectoral fin with 2 simple and 15 or 16 branched rays. Pelvic fins long, reaching to or just behind level of anus. Caudal fin forked. Body silvery-white, dusky blue on back. A broad golden-yellow mid-lateral stripe extending from behind eyes to caudal fin base. A narrow pale bluish stripe joining eyes.



Geographical distribution : Eastern Indian Ocean, including Maldives, Sri Lanka, and Southern Indonesia. It is a benthic species usually found near coral reefs.

Size : Maximum to 21 cm standard length.

Interest to Fisheries : It is a benthic species usually found near reefs. This species is caught by bottom trawls and line gear and is of minor fisheries importance

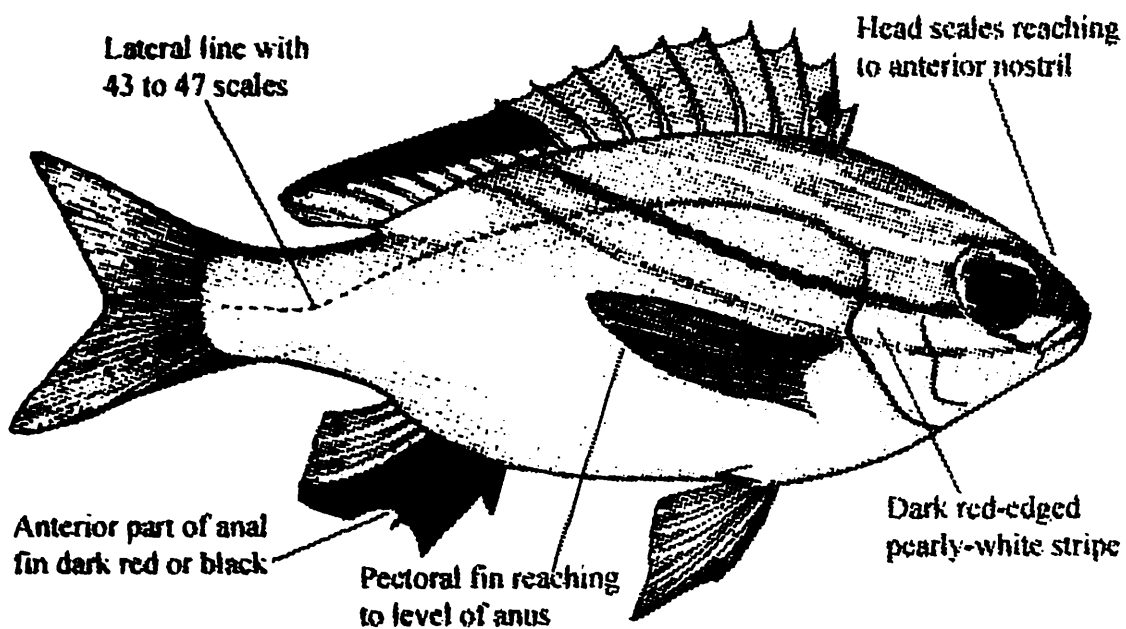
Remarks : This species closely resemble *S. monogramma* (Cuvier), known from western Pacific Ocean, that differs in having 5 or 6 transverse scales between lateral line and base of first dorsal spine and scales on top of head not truncated anteriorly (Russell, 1990). Rao *et al.* (2000) recorded this species as *S. personatus* (Cuvier), a junior synonym.

2. *Scolopsis bilineata* (Bloch, 1793)

Two-lined monocle bream

Diagnostic characters : Body depth 2.5 to 3.0 in standard length. Snout length less than eye diameter. Head scales reaching to or just in front of anterior nostrils. Scaly area between eyes truncated anteriorly. Lower limb of preopercle scaly. Antrose suborbital spine present beneath eye. Lateral line with 43 to 47 scales. Pectoral fin with 2 simple and 14 to 16 branched rays. Pelvic fins long, reaching to or almost to level of anal fin origin. Caudal fin forked. Upper part of body olive or grayish-brown, pearly-white below. A dark red-edged pearly-white stripe extending from mouth to soft dorsal fin base. Two narrow yellow stripe on head; the first from top of snout through upper part of eye to below middle of spinous dorsal fin; the second parallel to first, from above eye to below dorsal fin origin. A yellow mid-dorsal stripe from above eyes along base of dorsal fin; a whitish patch just beneath base of posterior half of soft dorsal rays; spinous dorsal fin yellow, soft dorsal with anterior half deep red or black. Anterior half of anal fin deep red or black. Juveniles with 3 dark brown stripes on upper part of body, interspaces between stripes yellow.

Geographical distribution : Eastern Indian Ocean from the Laccadive Islands, Sri Lanka, Andaman Sea, Western



Australia, and the Western Pacific from the Ryukyu Islands to eastern Australia and eastwards to New Caledonia and Fiji. It is a benthic species, usually found on coral reefs, in depth to 20 m.

Size : Maximum to 15.5 cm standard length.

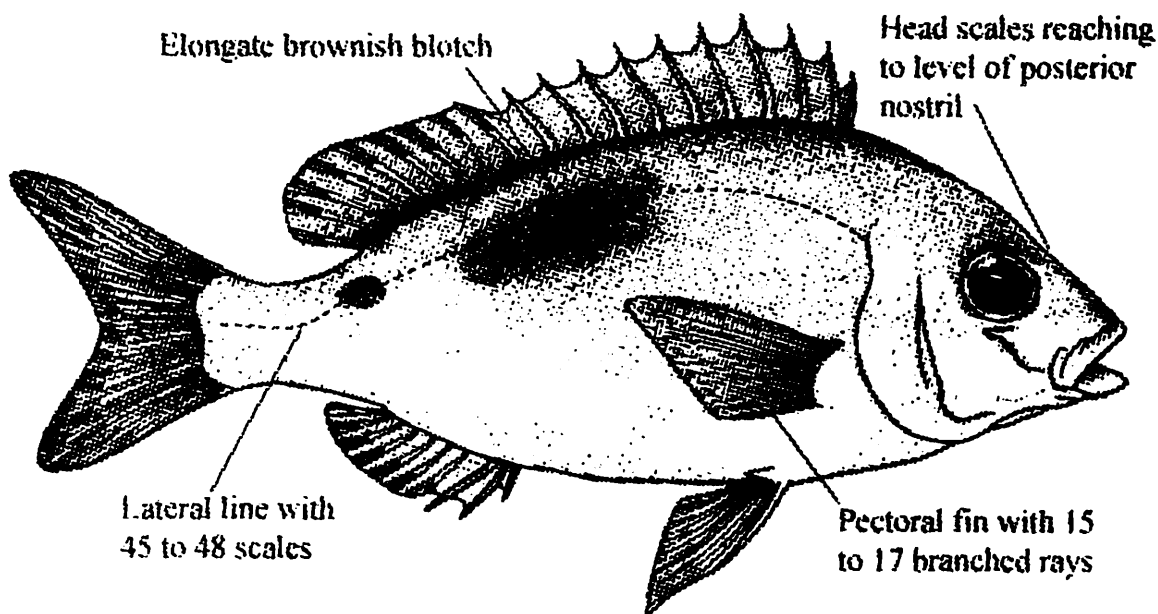
Interest to Fisheries : This species is caught mainly by handline gear and it has little fisheries importance.

Remarks : Apart from this species, *S. ciliata*, *S. vosmeri* and *S. xenochrous* are known to have a small antrorse spine or bony ridge below eye. The maxillary bone of *S. ciliatus* is denticulate on its external edge; *S. vosmeri* is a deep bodied species without a band from mouth to soft dorsal fin and anterior anal fin not black; and in *S. xenochrous*, head scales extend to or beyond anterior margin of eye but does not reach to level of posterior nostril.

3. *Scolopsis bimaculata* Ruppell, 1828

Thumb print monocle bream

Diagnostic characters : Body depth 2.5 to 3.5 in standard length. Snout length about equal to eye diameter. Head scales reaching forward to level of hind nostrils. Lower limb of preopercle scaly. Antrose suborbital spine absent. Lateral line with 45 to 48 scales. Pectoral fin with 2 simple and 15 to 17 branched rays. Pelvic fins long, reaching to



between level of anus and origin of anal fin. Caudal fin forked. Body pale grey and whitish on abdomen. An elongate brownish blotch or a pair of blotches on upper part of side, extending below 7th or 8th dorsal spine and intersected by lateral line. A broad golden-yellow midlateral stripe extending from behind eyes to caudal fin base. A narrow pale bluish stripe joining eyes.

Geographical distribution : Western Indian Ocean from Muscat to Delagoa Bay, Mozambique including the Persian Gulf, Red Sea, Madagascar, Sri Lanka, Bay of Bengal.

Size : Maximum to 25 cm standard length.

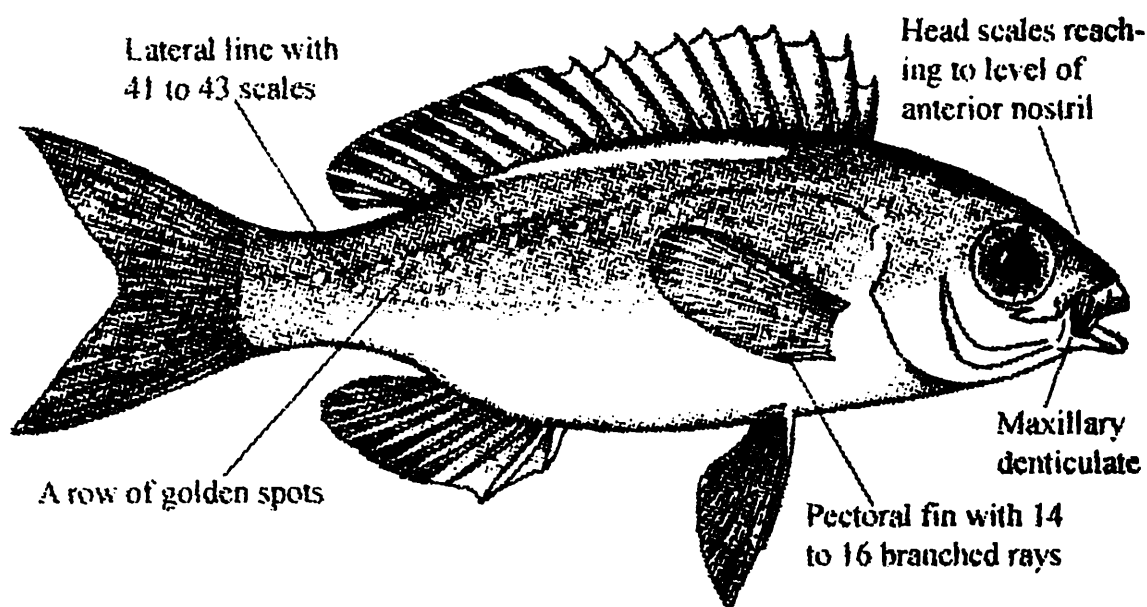
Interest to Fisheries : This species is caught by bottom trawls and line gear. This species has little fisheries importance.

Remarks : It is a benthic species, found in inshore waters usually on coral reefs or sand or mud bottom close to reefs, in depth to 60 m. The ovoid blotch intersecting lateral line below middle of dorsal fin keeps this species distinct from other species of the genus. In *S. taeniatus*, a dusky stripe is present above lateral line and head scales extend nearly to level of posterior nostril.

4. *Scolopsis ciliata* (Lacepede, 1802)

Shaw-jawed monocle bream

Diagnostic characters : Body somewhat elongate, its depth 3.0 to 3.4 in standard length. Snout length slightly less than eye diameter. Outer margin of maxilla denticulate. Head scales reaching forward to or just ahead of level of front nostril. Lower limb of preopercle scaly. An antrose backwardly directed suborbital spine present. Lateral line with 41 to 43 scales. Pectoral fin with 2 simple and 14 to 16 branched rays. Pelvic fins long, reaching to or slightly extending beyond level of anus. Caudal fin forked. Body dorsally brown and ventrally white. A silvery white stripe below dorsal fin. A row of golden spots along middle of body from behind pectoral fin tip to caudal peduncle. Margins of upper and lower caudal fin lobes reddish.



Geographical distribution : Indo-West Pacific. Known only from Andaman and Nicobar Islands in India.

Size : Maximum to 13.5 cm standard length.

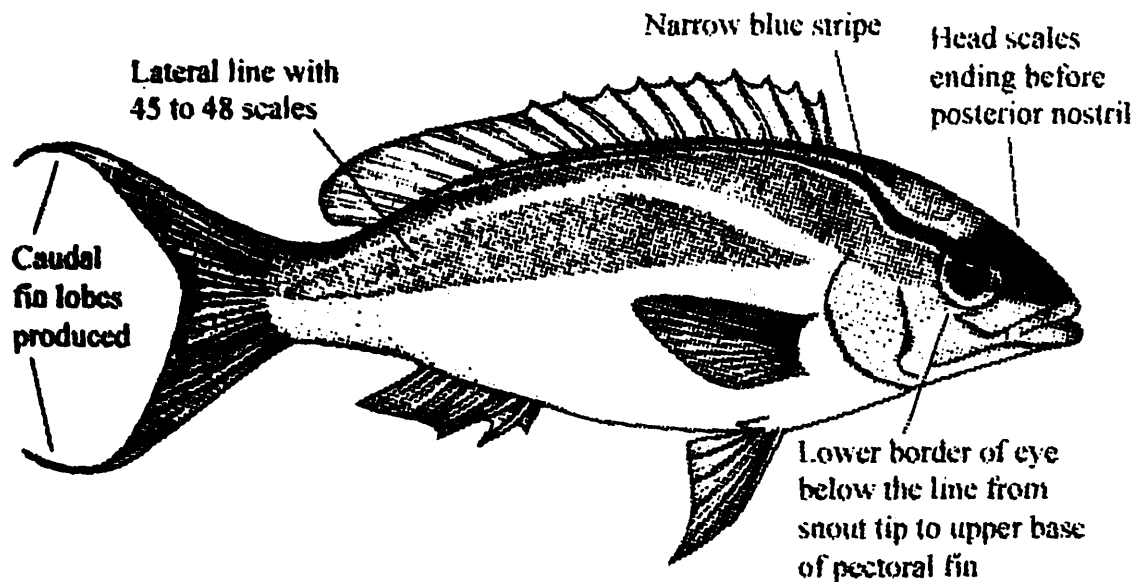
Interest to Fisheries : It has little fisheries importance

Remarks : It is a benthic species, found in inshore waters usually on coral reefs or sand or mud bottom close to reefs. This is the only known *Scolopsis* species with denticulate maxilla and an antrorse spine below eye.

5. *Scolopsis frenatus* (Cuvier, 1830)

Bridled monocle bream

Diagnostic characters : Body more or less elongate, its depth 3.0 to 3.5 in standard length. Snout pointed, its length almost equal to eye diameter. Lower border of eye distinctly below the line from snout tip to upper pectoral base. Head scales reaching to between anterior border of eye and posterior nostril. Lower limb of preopercle naked. Antrorse suborbital spine absent, suborbital depth 1.9 to 5.7 in eye diameter. Lateral line with 43 to 49 (generally 45 to 48) scales. Pectoral fin with 2 unbranched and 15 branched rays. Pelvic fins long, reaching to or just behind level of anus. Caudal fin forked and tips of caudal fin usually filamentous. Body dorsally blue or olive green and white below. A broad yellow stripe from upper part of eye and arching along dorsal profile to upper part of caudal peduncle, bordered above and below with



a broad band of brown or dark green. A light blue area just below lower dark green band. A narrow blue stripe on dorsal midline beginning on interorbital and continued along base of dorsal fin. Fins whitish or slightly blue. Juveniles with blue upper half and white below; a lemon-yellow stripe from top of snout to upper half of caudal peduncle.

Geographical distribution : Western Indian Ocean, including the Seychelles, Chagos Archipelago, Mauritius, Reunion and Madagascar. Known only from the Lakshadweep Islands in India.

Size : Maximum to 21 cm standard length.

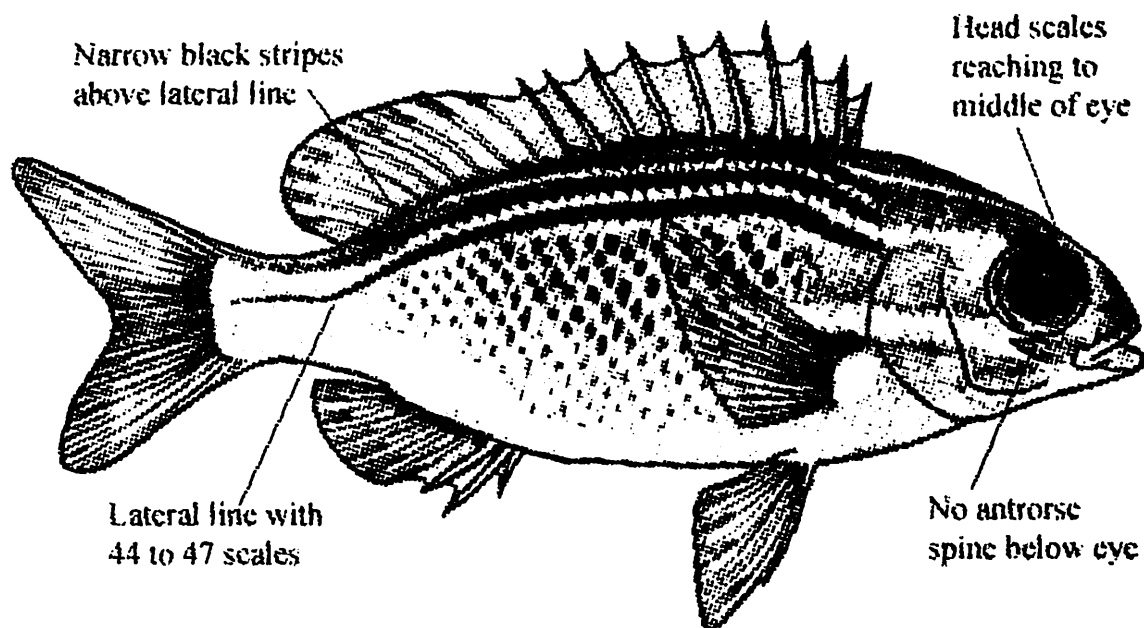
Interest to Fisheries : This species has little fisheries importance.

Remarks : This species is typically with the lower border of eye below the line from snout tip to upper base of pectoral fin and produced caudal fin lobes, which make it distinct from other species of the genus.

6. *Scolopsis ghanam* (Forsskal, 1775)

Arabian monocle bream

Diagnostic characters : Body depth 3.0 to 3.5 in standard length. Snout length less than eye diameter. Head scales reaching forward to level of middle of eye. Lower limb of preopercle naked. Antrose suborbital spine absent. Lateral



line with 44 to 47 scales. Pectoral fin with 2 undivided and 13 to 16 branched rays. Pelvic fins long, reaching to or just behind level of anus. Caudal fin forked. Body silvery-grey with numerous black or dark brown spots on sides; spots above the lateral line forming 2 or 3 narrow black stripes with white interspaces between; a pearly-white stripe from below eye to upper margin of pectoral base.

Geographical distribution : Indian Ocean, including the Persian Gulf, Gulf of Oman, Red Sea, East Africa south to Delagoa Bay, Madagascar and the Andaman Islands.

Size : Maximum to 15 cm standard length.

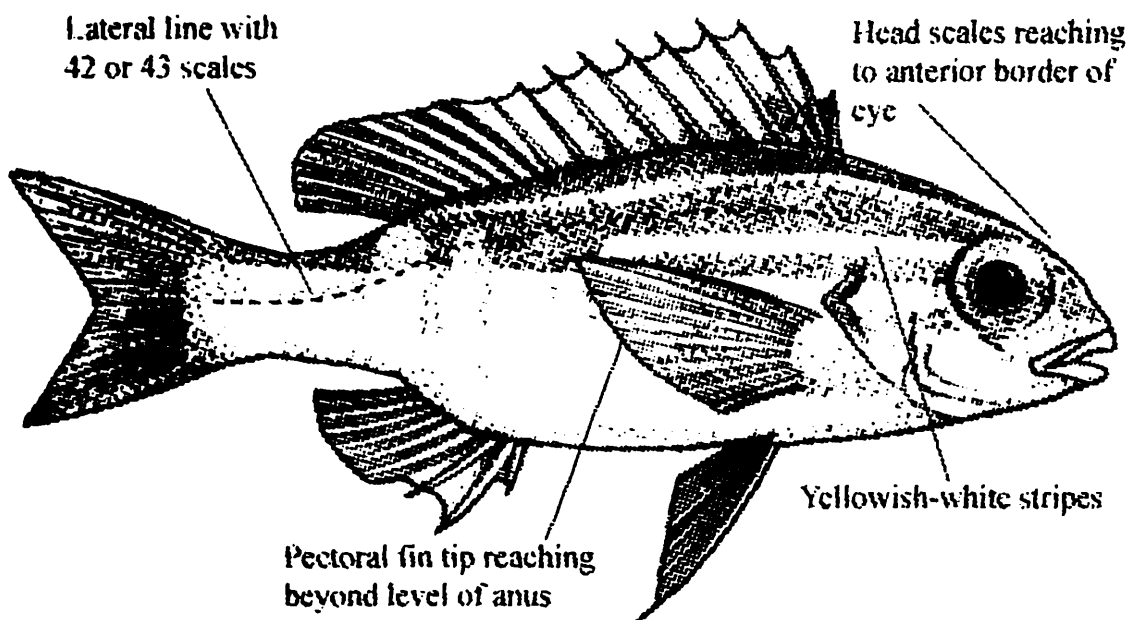
Interest to Fisheries : This species is caught by bottom trawls and hand-lines, traps and gill nets. It has little fisheries importance.

Remarks : It is a benthic species, found in inshore waters, usually on shallow sandy bottoms close to coral reefs. This species closely resemble *S. trilineata* Kner, known from West Pacific, in having no antrorse spine below eye and head scales extending up to middle of eye only, differs in having less lateral line scales (41 to 43) and scaly lower limb of preopercle (Russell, 1990).

7. *Scolopsis lineata* (Quoy & Gaimard, 1824)

Striped monocle bream

Diagnostic characters : Body slender, its depth 2.8 to 3.3 in standard length. Snout length less than eye diameter. Head scales reaching forward to or just in front of level of anterior border of eye. Lower limb of preopercle naked. Antorse suborbital spine absent. Lateral line with 40 to 45 (generally 42 or 43) scales; 3 scale rows between lateral line and dorsal fin origin. Pectoral fin with 2 unbranched and 12 to 15 branched rays. Pelvic fins long, reaching beyond level of anus. Caudal fin forked. Body olive brown above and silvery white below; 3 yellowish white stripes, the uppermost along dorsal profile, the next from the eye to end of the dorsal fin base, the lower one midlaterally. Fins whitish. Juveniles white with 3 black bands on upper half of body, interspace between lower pair of bands yellow; black spot between first three dorsal spines.



Geographical distribution : West Pacific, and southeastern Indian Ocean, including north-western Australia, Cocos-Keeling Islands.

Size : Maximum to 18 cm standard length.

Interest to Fisheries : It has little fisheries importance

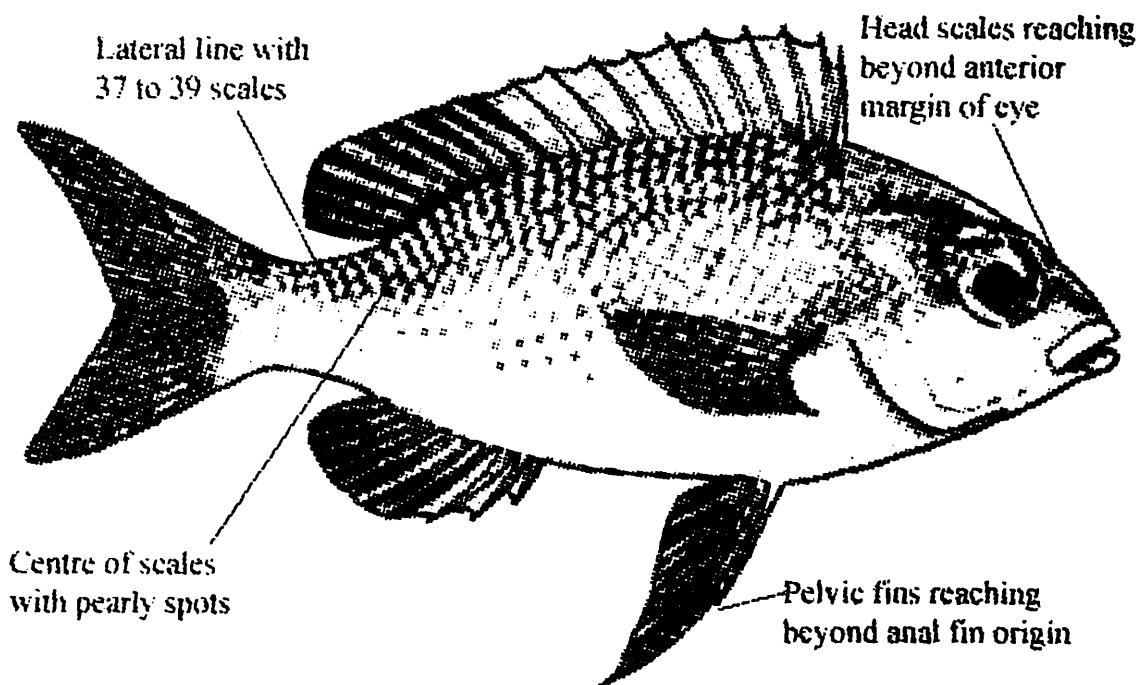
Remarks : It is a benthic species, found in in shore waters usually on shallow sandy bottoms close to coral reefs. This has

been recorded from Andaman and Nicobar Islands as *S. cancellatus* Cuvier and Valenciennes (Rao *et al.*, 2000). Among the *Scolopsis* species having no antrorse spine below eye, head scales extending beyond front margin of eye and 42 to 48 lateral line scales, it differs in having 14 branched rays in pectoral fin and 3 scale rows between lateral line and dorsal fin origin, while others have 15 to 16 branched rays in pectoral fin and 4 or 5 scale rows between lateral line and dorsal fin origin.

8. *Scolopsis margaritifera* (Cuvier, 1830)

Pearly monocle bream

Diagnostic characters : Body depth 2.4 to 3.8 in standard length. Snout length less than eye diameter. Head scales reaching to posterior nostril; lower limb of preopercle scaly. Antrorse suborbital spine absent. Lateral line with 35 to 39 (generally 37 or 38) scales. Pectoral fin with 2 unbranched and 14 to 15 branched rays. Pelvic fins long, reaching to or beyond level of origin of anal fin. Caudal fin forked. Body olive on back and white below. Centre of scales with pearly or yellowish spots, forming longitudinal and transverse lines. 2 pearly stripes on snout ahead of eyes. Fins yellowish. Lower lobe of caudal fin reddish. Juveniles white with a narrow black stripe along back and a black midlateral stripe.



Geographical distribution : Indo-West Pacific.

Size : Maximum to 17.5 cm standard length.

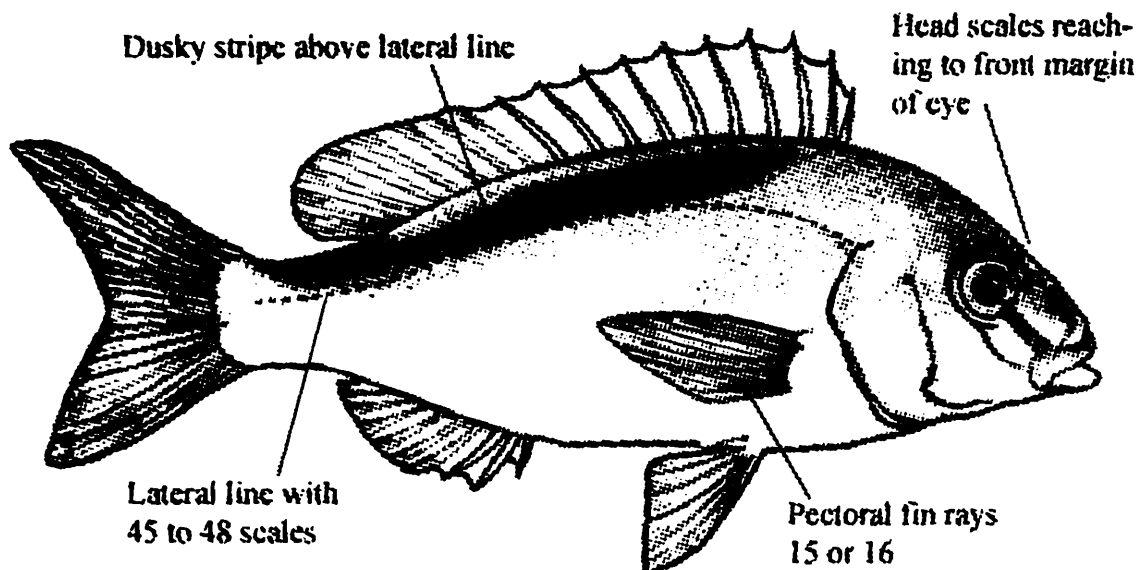
Interest to Fisheries : It has little fisheries importance.

Remarks : It is a benthic species, found in inshore waters usually on shallow sandy bottoms close to coral reefs. A junior synonym, *Scolopsis leucotaenia* Bleeker, is often used in literature for this species. This species differs from other species with no antrorse spine below eye in having less lateral line scales (37 to 39), while others contain 41 to 48 scales along lateral line.

9. *Scolopsis taeniatus* (Cuvier, 1830)

Black-streak monocle bream

Diagnostic characters : Body depth 2.8 to 3.1 in standard length. Snout length about equal or little greater than eye diameter. Head scales reaching forward to or just in front of level of front border of eye. Lower limb of preopercle scaly. Antrose suborbital spine absent. Lateral line with 45 to 48 scales; 5 scale rows between lateral line and dorsal fin origin. Pectoral fin with 2 unbranched and 15 to 16 branched rays. Pelvic fins long, reaching to level of anus. Caudal fin forked. Dorsal surface of body greenish-olive and abdomen whitish. A narrow whitish stripe along base of dorsal fin; below this, a prominent dark brown or black streak above lateral line extending below almost the 3rd or 4th dorsal spine and ending



on caudal peduncle. A bright stripe from eye to upper jaw and from posterior margin of eye to base of pectoral fin.

Geographical distribution : Western Indian Ocean, including the Persian Gulf, Red Sea, Arabian Sea, Sri Lanka (Gulf of Mannar).

Size : Maximum to 28 cm standard length.

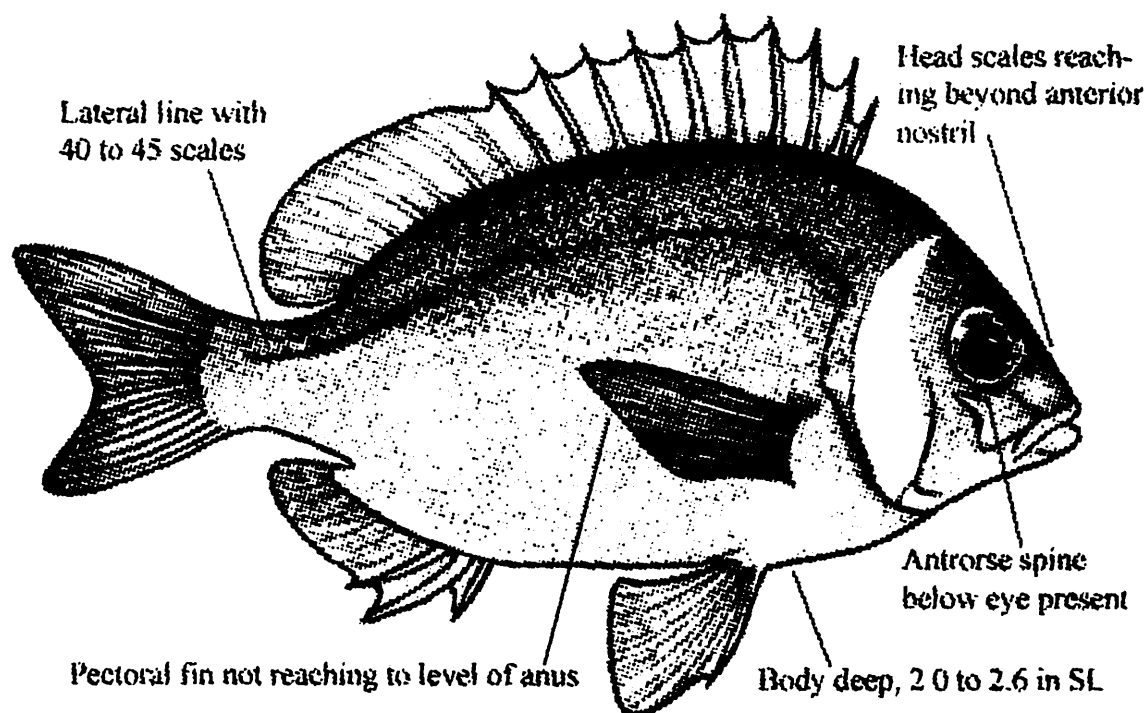
Interest to Fisheries : This species is caught by trawls and line gear and it has little fisheries importance.

Remarks : It closely resembles *S. affinis* Peters and *S. taenioptera* (Cuvier), both known from western Pacific, but differs in having dusky stripe above lateral line.

10. *Scolopsis vosmeri* (Bloch, 1792)

White cheek monocle bream

Diagnostic characters : Body depth 2.0 to 2.5 in standard length. Snout length a little less than eye diameter. Head scales reaching anterior nostrils; lower limb of preopercle scaly. Antorse suborbital spine present below eye, suborbital depth 1.7 to 3.8 in eye diameter. Lateral line with 39 to 45 scales. Pectoral fin with 2 spines and 15 to 17 rays. Pelvic fins long, reaching to or just behind level of anus. Caudal fin forked. Body generally brownish with a reddish-purple



tinge; a broad white vertical bar extending from top of head to opercle. A horizontal stripe sometimes present below lateral line from margin of opercle to below soft part of dorsal fin. Scales on sides with dark spots. Opercular membrane blood-red.

Geographical distribution : Indo-West Pacific from East African coast, Red Sea and the Persian Gulf to northern Australia. It is a benthic species, found in shore waters usually on sand or mud bottoms close to coral reefs.

Size : Maximum to 16 cm standard length.

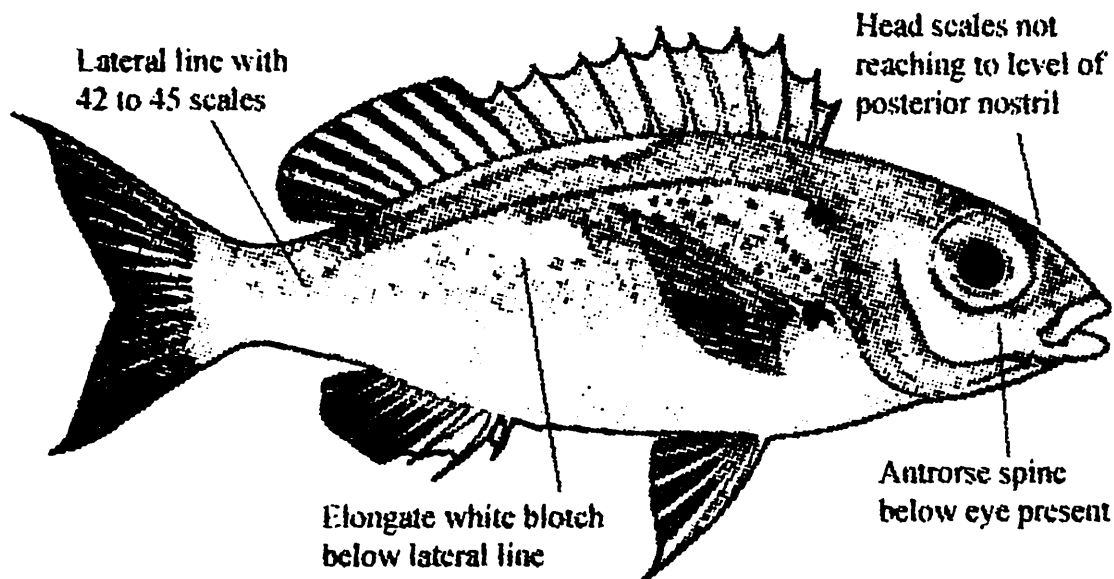
Interest to Fisheries : This species is caught by bottom trawls and hand-lines and traps and it has little fisheries importance

Remarks : As described under *S. bilineata*.

11. *Scolopsis xenochrous* Gunther, 1872

Oblique-barred monocle bream

Diagnostic characters : Body depth 3.2 to 3.5 in standard length. Snout length a little less than eye diameter. Head scales reaching forward to between level of front border of eyes and posterior nostrils; lower limb of preopercle scaly. Antrorse suborbital spine present beneath eye. Suborbital depth 2.5 to 3.5 in eye diameter. Lateral line with 42 to 45 scales. Pectoral fin with 2 spines and 15 rays. Pelvic fins long,



reaching to or just level of anus. Caudal fin forked. Dorsal surface of body grayish-brown and silvery white below. A pearly-blue streak from behind eye along dorsal fin base. An oblique, brown-margin pearly-blue bar above pectoral base. Numerous short oblique rows of dusky brown spots on sides. An elongate white blotch below lateral line on posterior half of body.

Geographical distribution : Indian Ocean, from the Maldives, Sri Lanka, Andaman Sea to the northwestern Australia. West Pacific, including Taiwan, the Philippines, Indonesia, New Guinea, northeastern Australia, and the Solomon Islands. In India it is known from the Lakshadweep Islands, Andaman and Nicobar Islands and the Gulf of Mannar. It is a benthic species, found around rocky-rubble and seaweed areas and coral reefs, in depth to 50 m.

Size : Maximum to 17 cm standard length.

Interest to Fisheries : This species is caught by bottom trawls and line gear and it has little fisheries importance.

Remarks : As described under *S. bilineata*.

SUMMARY

The text contains information on the fishes of the family Nemipteridae, commonly known as threadfin breams, whiptail breams, monocle breams, and dwarf monocle breams, which occur in coastal waters of India. Threadfin breams form a major constituent of commercial and artisanal fisheries in our country. Generally these fishes are brilliantly coloured. They are essentially bottom dwellers mostly over sand and mud bottoms and abundantly found in open Seas or near to Coral reefs.

This work has recorded 24 species belonging to 3 genera that inhabit Indian waters. The genera *Nemipterus*, *Parascolopsis* and *Scolopsis* are represented by 8 species, 5 species and 11 species respectively. All the species have been described with key to the genus and species. Line diagrams of each species with key diagnostic characters are also provided. Colour photographs wherever possible have been provided in

this study since the colour pattern of the species is very much important for identification. It is hoped that this work will help in easy identification of the Nemipterid fishes of our country. In some earlier Indian works various synonyms are used as valid names which are indicated in the remarks of those species to avoid confusion.

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***Nemipterus bipunctatus* (Valenciennes)**



***Nemipterus furcosus* (Valenciennes)**



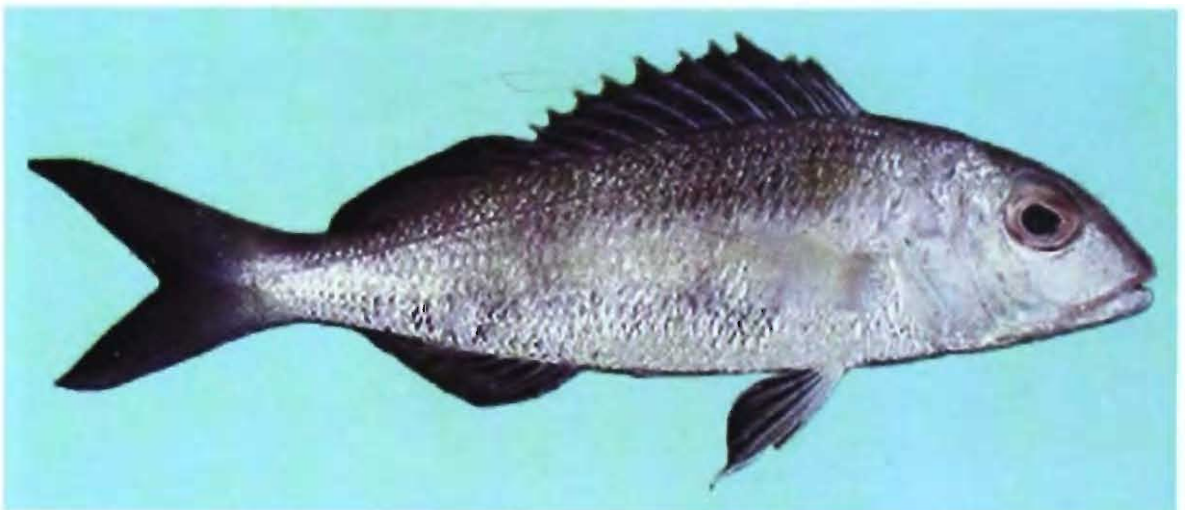
***Nemipterus hexodon* (Quoy & Gaimard)**



***Nemipterus japonicus* (Bloch)**



***Nemipterus nematophorus* (Bleeker)**



***Nemipterus peronii* (Valenciennes)**



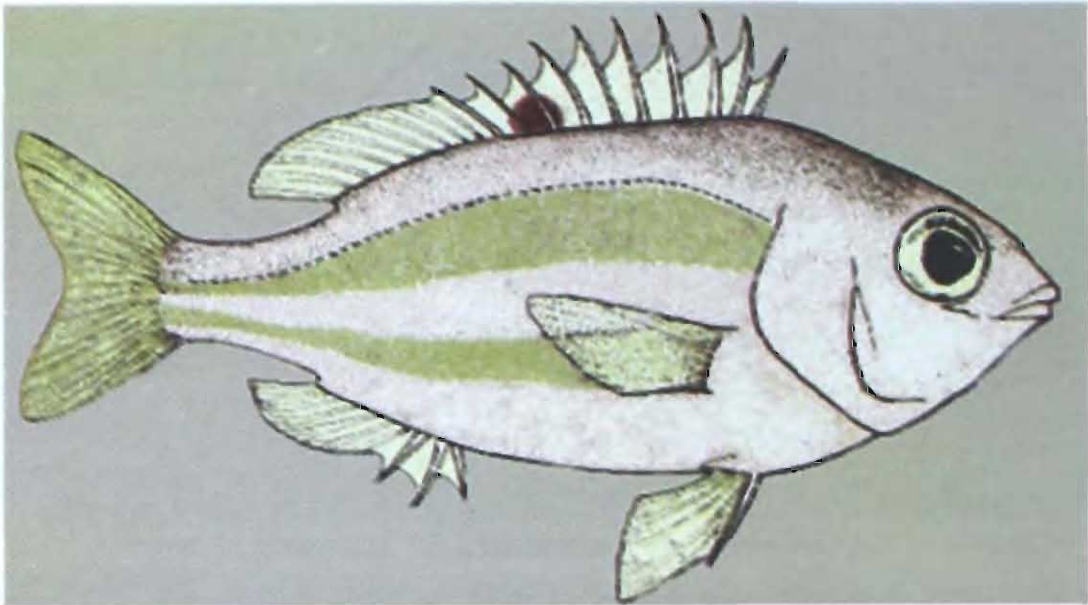
***Nemipterus randalli* Russell**



***Nemipterus zysron* (Bleeker)**



***Parascolopsis aspinosa* (Rao & Rao)**



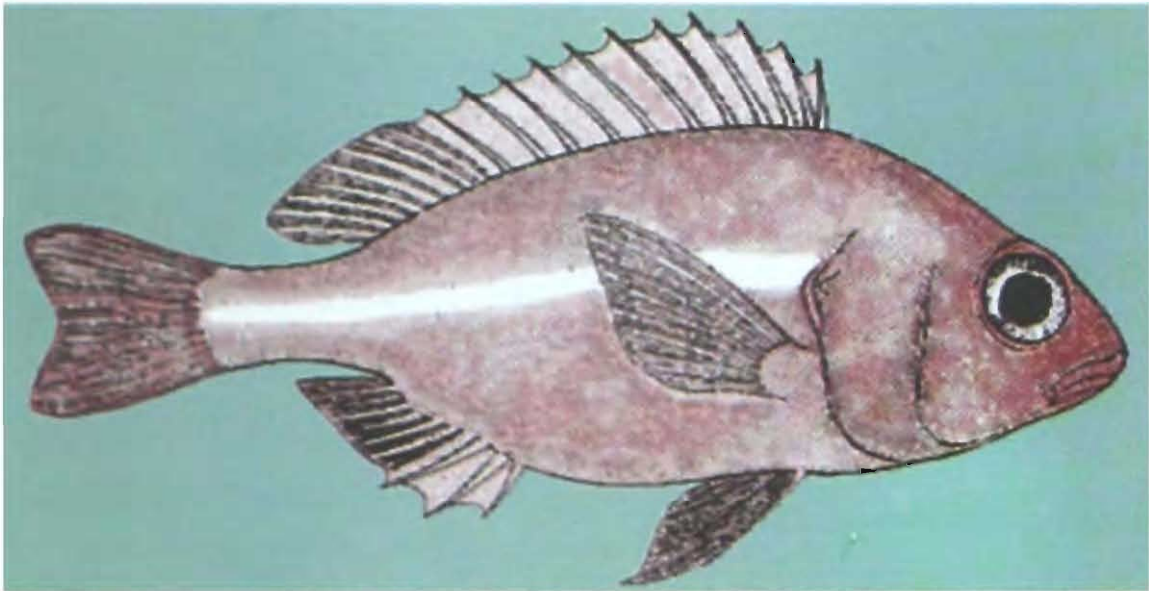
***Parascolopsis boesemani* (Rao & Rao)**



***Parascolopsis eriomma* (Jordan & Richardson)**



***Parascolopsis inermis* (Temminck & Schlegel)**



***Parascolopsis townsendi* Boulenger**



***Scolopsis aurata* (Park)**



***Scolopsis bilineata* (Bloch)**



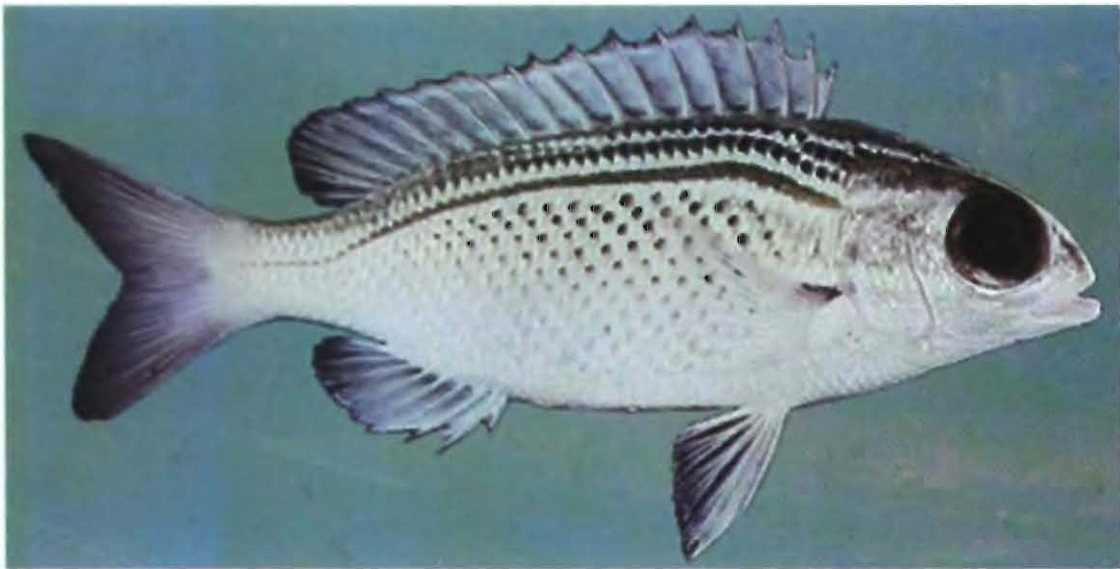
***Scolopsis bimaculatus* Ruppell**



***Scolopsis ciliata* (Lacepede)**



***Scolopsis frenatus* (Cuvier)**



***Scolopsis ghanam* (Forsskal)**



***Scolopsis lineata* Quoy & Gaimard**



***Scolopsis margaritifera* (Cuvier)**



***Scolopsis taeniatus* (Cuvier)**



***Scolopsis vosmeri* (Bloch)**



***Scolopsis xenochrous* Gunther**