SERRAN

1983

FAO SPECIES IDENTIFICATION SHEETS

FISHING AREA 51
(W. Indian Ocean)

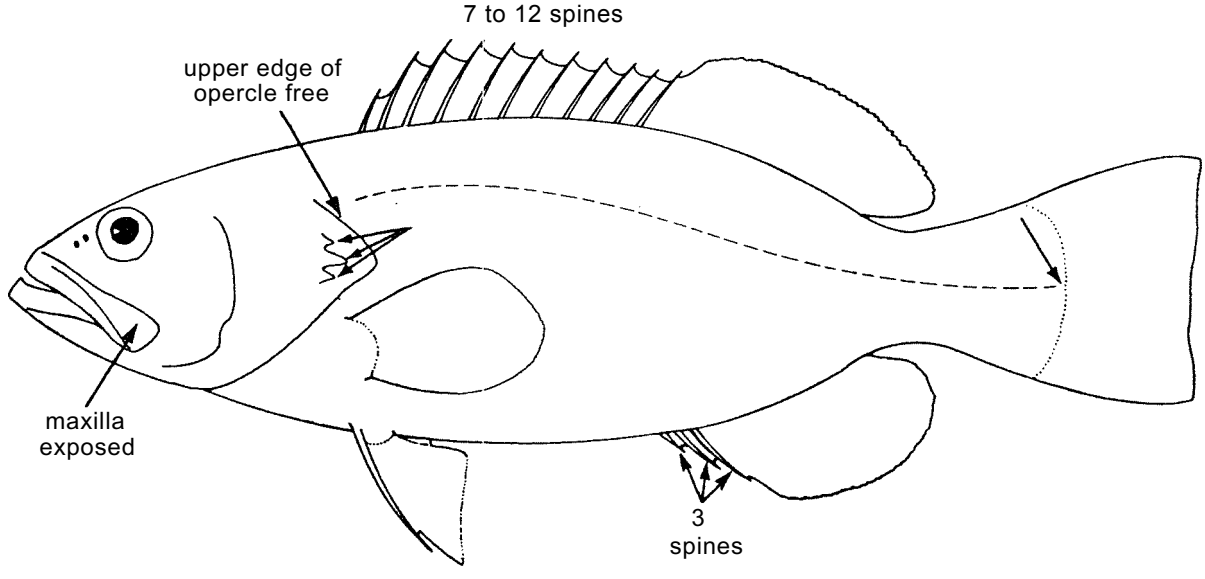
SERRANIDAE*

(Subfamilies Epinephelinae and Serraninae)

Groupers, seabasses, rockcods, hinds, combers, coral trouts, lyretails

Body robust or somewhat compressed, oblong-oval to rather elongate. Mouth large, with small, slender, inwardly-depressible teeth on jaws, vomer and palatines (Anyperodon lacks palatine teeth); enlarged caniniform teeth often present at front of jaws; no molars or incisiform teeth; maxilla exposed, with or without supramaxilla. A single dorsal fin with 7 to 12 strong spines and 10 to 19 soft rays; anal fin with 3 spines and 7 to 10 soft rays (last dorsal and anal fin rays usually split to their base, but counted as a single ray); caudal fin rounded or truncate in most species, emarginate to lunate in a few, with 15 branched rays; pelvic fin insertion under or a little behind pectoral fin base; pelvic fins with 1 spine and 5 soft rays; no scaly process at base of pelvic fins; pectoral fins broadly rounded, the base scaly. Edge of preopercle serrate; opercle with 2 or 3 flat points or spines (most species with 3 distinct spines); gill membranes separate, joined to isthmus far forward, with 7 branchiostegal rays. Scales small, adherent, ctenoid (rough to touch) or cycloid (smooth). Lateral line single.

Colour: variable with patterns of light or dark stripes, spots, vertical or diagonal bars, or nearly plain. Many species are capable of rapid colour changes. Xanthic (yellow) phases are known in some species and several species have distinctively coloured deep- and shallow-water forms. Colour patterns are generally the most useful field characters as the morphometric and meristic characters often overlap to a considerable degree.



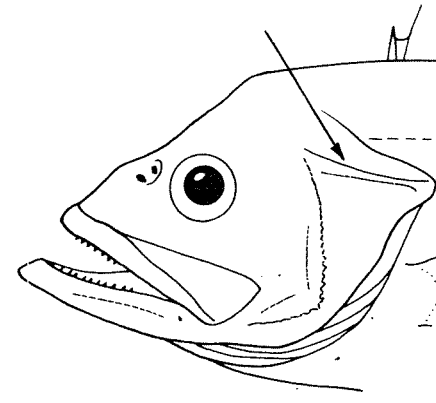
*Not included here are the subfamilies Liopropominae and Anthiinae, which are mostly small fishes and not of commercial importance

Seabasses and groupers are mostly demersal fishes of tropical and subtropical areas ranging from shallow coastal waters to moderate depths, rarely occurring beyond 200 m. A few species are, however, abundant and commercially important in temperate waters. Some serranids show preference for seagrass beds and mud or sandy bottom, but most are fishes of the coral and rocky reefs. Juveniles of a few species are common in the lower reaches of estuaries. Except for breeding aggregations, most species are solitary. All are predators on fishes and invertebrates sometimes including crabs and spiny lobsters. Most are either synchronous or transforming hermaphrodites that begin life as females and later become males; a few have separate sexes.

This family includes a large number of species ranging in size from a few centimetres to over 2 m and 400 kg. Many are excellent foodfishes sought in commercial fisheries; others are of local interest to sports-fishermen and in subsistence fisheries. The catch of groupers and seabasses reported from Fishing Area 51 in 1981 totalled about 9 000 tons. Most species are taken in traps, on hook and line, or on longlines, and those inhabiting soft bottoms are caught in bottom trawls.

SIMILAR FAMILIES OCCURRING IN THE AREA:

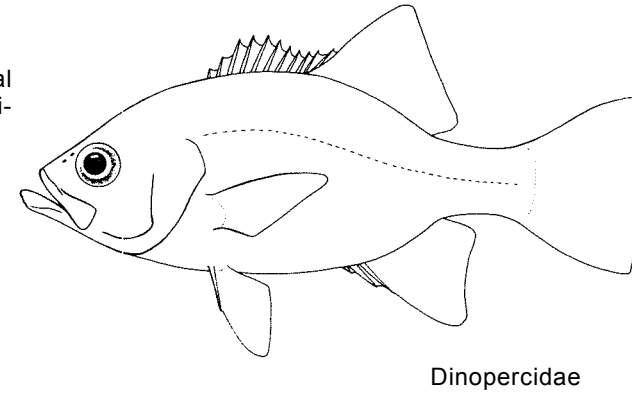
Polyprionidae (previously considered as part of Serranidae). distinct horizontal ridge across opercle; rear edge of opercle with 1 spine (2 or 3 spines in Serranidae).



Polyprionidae

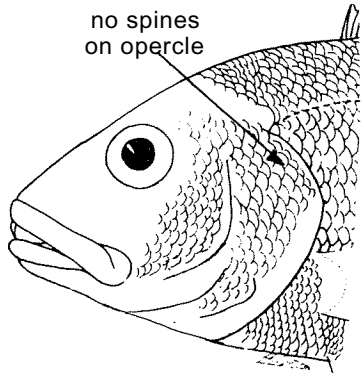
Dinopercidae (previously considered as part of Serranidae): anterior dorsal and anal fin rays much longer than posterior ones; anal fin soft rays 13 (7 to 10 in Serranidae).

Grammistidae: skin with a thick coat of bitter-tasting mucus (bitter taste caused by a toxin called "grammistin"); no distinct canine teeth.

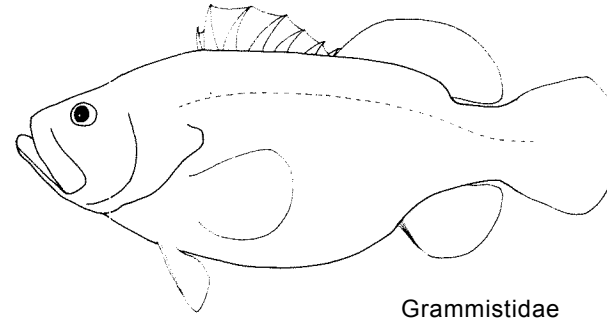


Dinopercidae

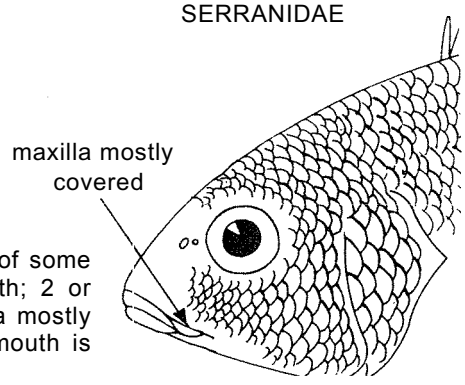
Lutjanidae: maxilla mostly covered by preorbital bone when mouth is closed (maxilla exposed in Serranidae); no spines on opercle.



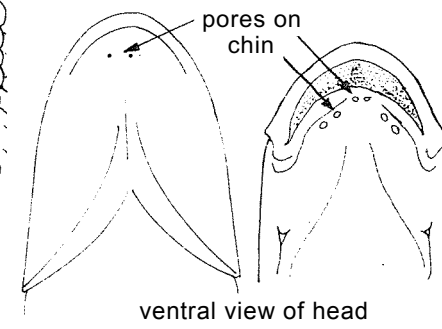
Lutjanidae



Grammistidae



Pomadasys



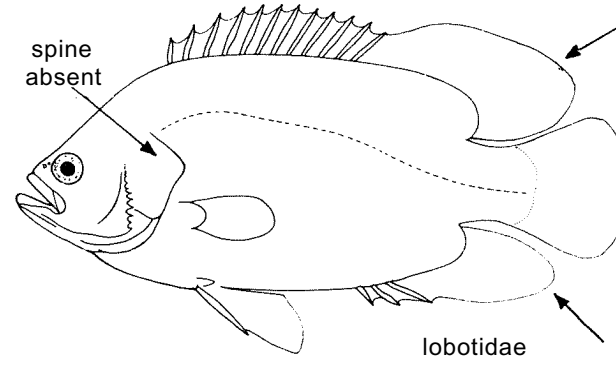
Pomadasys Plectorhynchus

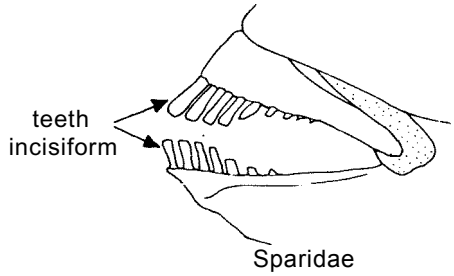
Haemulidae (Pomadasyidae of some authors): no teeth on roof of mouth; 2 or more distinct pores on chin; maxilla mostly covered by preorbital bone when mouth is closed; no spines on opercle.

Sparidae: jaws with incisiform and/or molariform teeth, canines in some species (no incisiform or molariform teeth in Serranidae); maxilla mostly covered by preorbital bone when mouth is closed; no spines on opercle; edge of preopercle not serrated.

Lobotidae: dorsal and anal fin lobes greatly enlarged; no spine on opercle; no teeth on roof of mouth; branchiostegal rays 6 (7 in Serranidae).

Haemulidae



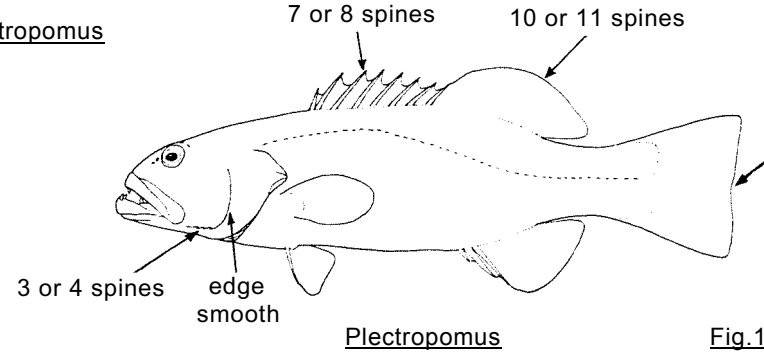


Sparidae
(example of dentition)

KEY TO GENERA OCCURRING IN THE AREA:

1a. Dorsal fin spines 7 or 8, soft rays 10 or 11; caudal fin truncate or lunate; vertical edge of preopercle smooth, lower edge with 3 or 4 large, anteriorly directed spines (Fig.1) ..... Plectropomus

1b. Dorsal fin spines 9 to 11, soft rays 10 to 19



Plectropomus Fig.1

2a. Rear nostrils as long vertical slits; dorsal fin spines 10; jaws without distinct canines; scales cycloid (smooth to touch); dorsal profile of head in adults markedly concave (Fig.2)..... Cromileptes

2b. Rear nostrils round or oblong, but not slit-like; scales ctenoid (rough to touch); except in large adults of some species

3a. Scales moderate, 4 to 9 in a series from dorsal fin origin to lateral line; dorsal fin spines 10; no supramaxilla

4a. Soft dorsal rays 10; lateral line scales 39 to 42..... Chelidoperca

4b. Soft dorsal rays 13 to 15; lateral line scales 70 to 77 ..... Serranus

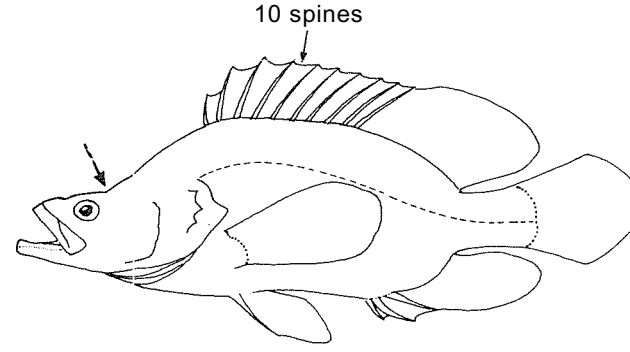
3b. Scales smaller, 12 to 20 in a series from dorsal fin origin to lateral line; dorsal fin spines 9 or 11; supramaxilla present

5a. Caudal fin lunate, with lobes produced in adults; gillrakers all rudimentary; dorsal fin with 9 spines and 13 or 14 rays (Fig.3) .....Variola

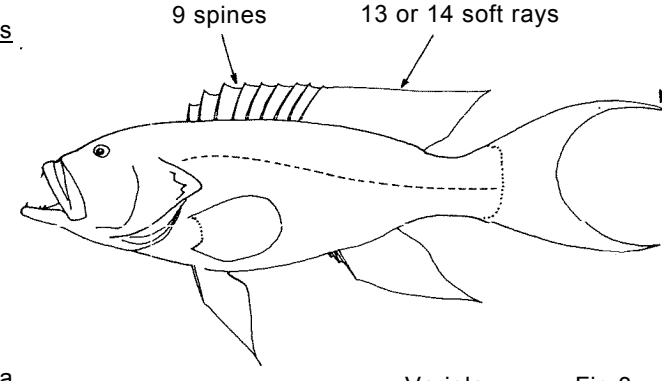
5b. Caudal fin truncate, emarginate or rounded; gillrakers not all rudimentary

6a. No teeth on palatines (roof of mouth); body elongate, compressed (Fig.4) ..... Anyperodon

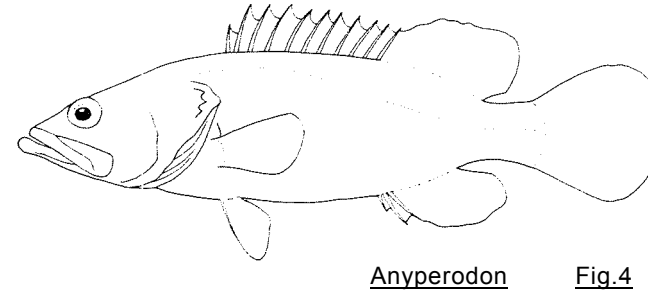
6b. Palatines with teeth



Cromileptes Fig.2



Variola Fig.3



Anyperodon Fig.4

7a. Body depth contained 2.1 to 2.4 times in standard length; dorsal fin spines 9, dorsal soft rays 17 or 18; caudal fin truncate (Fig.5); colour dark brown; inside of mouth and gill cavity reddish orange .....Aethaloperca

7b. Body depth contained 2.3 to 3.8 times in standard length; dorsal fin with 9 to 11 spines and 10 to 19 soft rays; caudal fin rounded, truncate or emarginate

8a. Dorsal fin spines 9

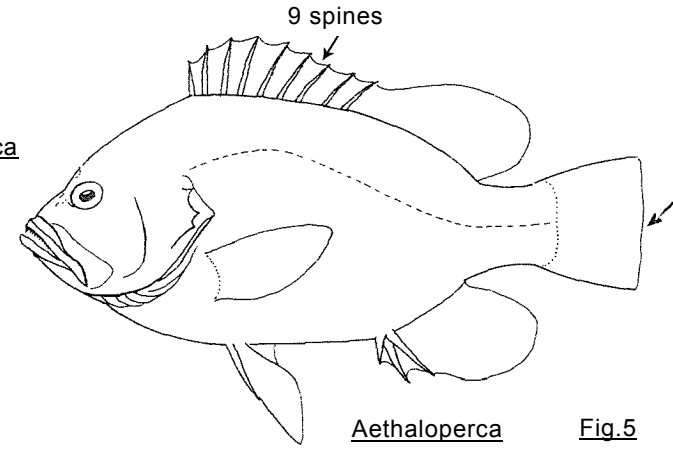
9a. Caudal fin truncate or emarginate; head small, its length contained 3.0 to 3.1 times in standard length; membrane between dorsal spines not deeply incised (Fig.6) ..... Gracila

9b. Caudal fin rounded; head larger, its length contained 2.3 to 2.8 times in standard length; membrane between dorsal spines deeply incised (Fig.7) ..... Cephalopholis

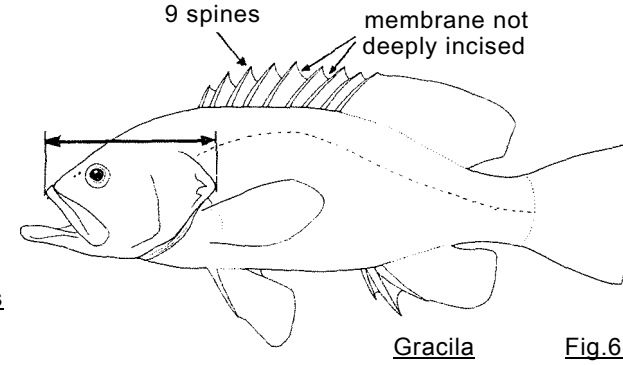
8b. Dorsal fin spines 11

10a. Lateral line tubes branched; eye diameter ½ or less of interorbital width (in fish 20 cm standard length or larger), subequal to greatest width of maxilla (Fig.8)..... Promicrops

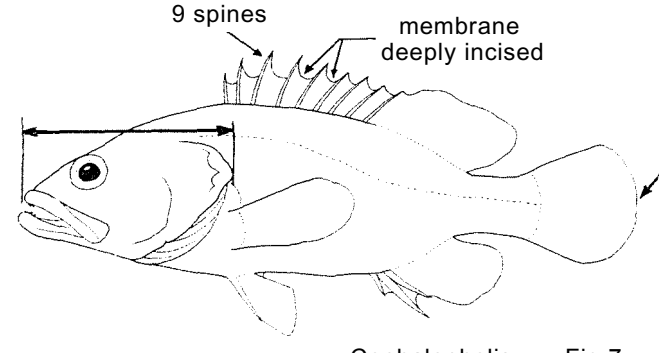
10b. Lateral line tubes not branched; eye diameter more than ½ interorbital width (except in fishes longer than 100 cm)



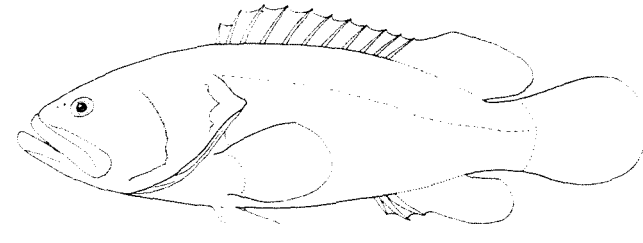
Aethaloperca Fig.5



Gracila Fig.6



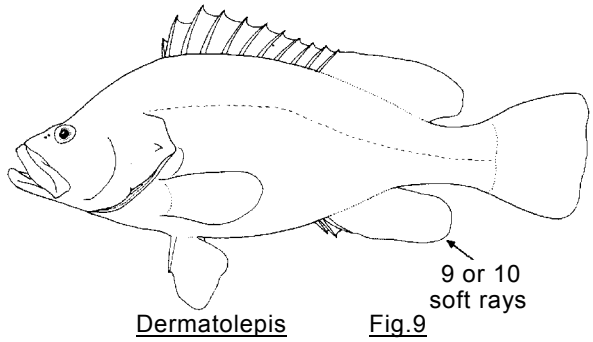
Cephalopholis Fig.7



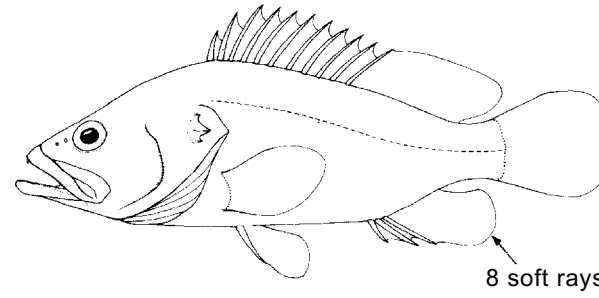
Promicrops Fig.8

11a. Scales all cycloid (smooth when stroked toward the head); head and body strongly compressed; anal fin rays 9 or 10 (Fig-9) ..... Dermatolepis

11b. Scales on body ctenoid (rough when stroked toward the head), at least in juveniles; head and body not strongly compressed; anal fin rays 8 in most species (Fig.10) . ..... Epinephelus



Dermatolepis Fig.9



Epinephelus Fig.10

LIST OF SPECIES OCCURRING IN THE AREA:

Code numbers are given for those species for which Identification Sheets are included

Aethaloperca rogaa (Forsskål, 1775)	SERRAN Aethal 1
Anyperodon leucogrammicus (Valenciennes, 1828)	SERRAN Anyper 1
Cephalopholis analis (Valenciennes, 1828)	SERRAN Cephal 8
Cephalopholis argus (Schneider, 1801)	SERRAN Cephal 9
Cephalopholis aurantia (Valanciennes, 1828)	SERRAN Cephal 10
Cephalopholis boenack (Bloch, 1790)	SERRAN Cephal 11
Cephalopholis formosa (Shaw, 1804)	SERRAN Cephal 12
Cephalopholis hemistiktos (Rüppell, 1830)	SERRAN Cephal 13
Cephalopholis leopardus (Lacepède,1802)	SERRAN Cephal 14
Cephalopholis miniata (Forsskål, 1775)	SERRAN Cephal 1
Cephalopholis nigripinnis (Valenciennes, 1828)	SERRAN Cephal 15
Cephalopholis oligosticta (Randall & Ben Tuvia, 1983)	SERRAN Cephal 16
Cephalopholis sexmaculata (Rüppell, i828)	SERRAN Cephal 17
Cephalopholis sonnerati (Valenciennes, 1828)	SERRAN Cephal 3
Chelidoperca occipitalis Kotthaus, 1973	
Cromileptes altivelis (Valenciennes, 1828)	SERRAN Cromil 1
Dermatolepis striolatus Playfair, 1866	SERRAN Dermat 2
Epinephelus albomarginatus Boulenger, 1903	SERRAN Epin 26
Epinephelus andersoni Boulener, 1903	SERRAN Epin 27
Epinephelus areolatus (Forsskål, 1775)	SERRAN Epin 4
Epinephelus bleekeri (Vaillant, 1877)	SERRAN Epin 6
Epinephelus caeruleopunctatus (Bloch,1790)	SERRAN Epin 28
Epinephelus chlorostigma (Valenciennes, 1828)	SERRAN Epin 29
Epinephelus diacanthus Valenciennes, 1828)	SERRAN Epin 30
Epinephelus epistictus (Temminek & Schlegel, 1842)	SERRAN Epin 31
Epinephelus fasciatus (Forsskål, 1775)	SERRAN Epin 8
Epinephelus faveatus (Valenciennes, i828)	SERRAN Epin 32
Epinephelus flavocaeruleus (Lacepède, 1802)	SERRAN Epin 33
Epinephelus fuscoguttatus (Forsskål, 1775)	SERRAN Epin 9
Epinephelus guaza (Linnaeus,1758)	SERRAN Epin 1
Epinephelus hexagonatus (Schneider,1801)	SERRAN Epin 34
Epinephelus latifasciatus (Temminck & Schlegel, 1842)	SERRAN Epin 35
Epinephelus longispinis (Kner, 1865)	SERRAN Epin 36
Epinephelus magniscuttis Postel, Fourmanoir & Guezé, 1964	SERRAN Epin 37

Epinephelus malabaricus (Schneider, 1801)	SERRAN Epin 38
Epinephelus melanostigma Schultz, 19535	SERRAN Epin 39
Epinephelus merra Bloch, 1793	SERRAN Epin 40
Epinephelus microdon (Bleeker, 1856)	SERRAN Epin 41
Epinephelus miliaris (Valenciennes, 1830)	SERRAN Epin 42
Epinephelus modestus Gilchrist & Thompson, 1909	SERRAN Epin 43
Epinephelus morrhua (Valenciennes, 1833)	SERRAN Epin 44
Epinephelus multinotatus (Peters, 1876)	SERRAN Epin 45
Epinephelus ongus (Boch, 1790)	SERRAN Epin 46
Epinephelus poecilonotus (Temminck & Schlegel, 1842)	SERRAN Epin 47
Epinephelus posteli Fourmanoir & Crosnier, 1964	SERRAN Epin 48
Epinephelus guoyanus (Valenciennes, 1830)	SERRAN Epin 49
Epinephelus radiatus (Day, 1867)	SERRAN Epin 50
Epinephelus retouti Bleeker, 1874	SERRAN Epin 51
Epinephelus rivulatus (Valenciennes, 1830	SERRAN Epin 52
Epinephelus septemfasciatus (Thunberg, 1793)	SERRAN Epin 53
Epinephelus spilotoceps Schultz, 1953	SERRAN Epin 54
Epinephelus stoliczkae (Day, 1875)	SERRAN Epin 55
Epinephelus summana (Forsskål, 1775)	SERRAN Epin 11
Epinephelus tauvina (Forsskål, 1775)	SERRAN Epin 12
Epinephelus tukula Morgans, 1959	SERRAN Epin 56
Epinephelus undulosus (Quoi & Gaimard, 1.824)	SERRAN Epin 57
Gracila albomarginata (Fowler & Bean, 1930)	SERRAN Gracil 1
Gracila polleni (Bleeker, 1868)	SERRAN Gracll 2
Plectropomus laevis (Lacepède, 1802)	SERRAN Plect 3
Plectropomus leopardus (Lacepède, 1802)	SERRAN Plect 1
Plectropomus maculatus (Bloch, 1790)	SERRAN Plect 4
Plectropomus punctatus Quoy & Gaimard, 1824	SERRAN Plect 5
Plectropomus truncatus Fowler & Bean, 1930	SERRAN Plect 2
Promicrops lanceolatus (Bloch, 1790)	SERRAN Promic 1
Serranus cabrilla (Linnaeus, 1756)	SERRAN Serran 1
Serranus novemcinctus Kner, 1865	SERRAN Serran 6
Variola albimarginata Baissac, 1953	SERRAN Vari 2
Variola louti (Forsskål, 1775)	SERRAN Vari 1

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