LETH

1983

FAO SPECIES IDENTIFICATION SHEETS

FISHING AREA 51
(W. Indian Ocean)

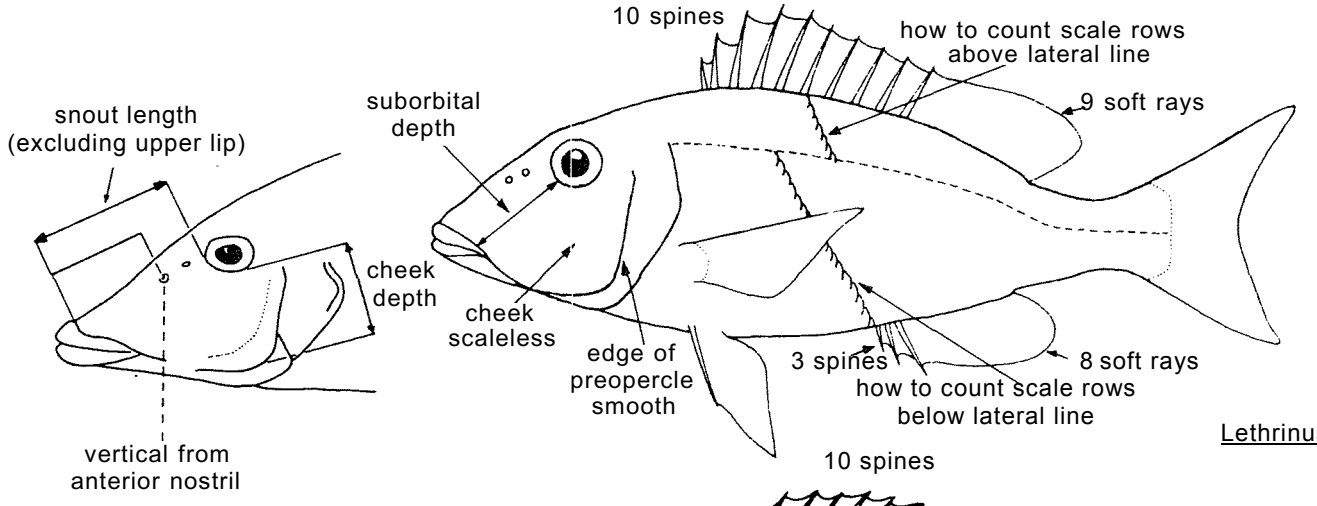
LETHRINIDAE

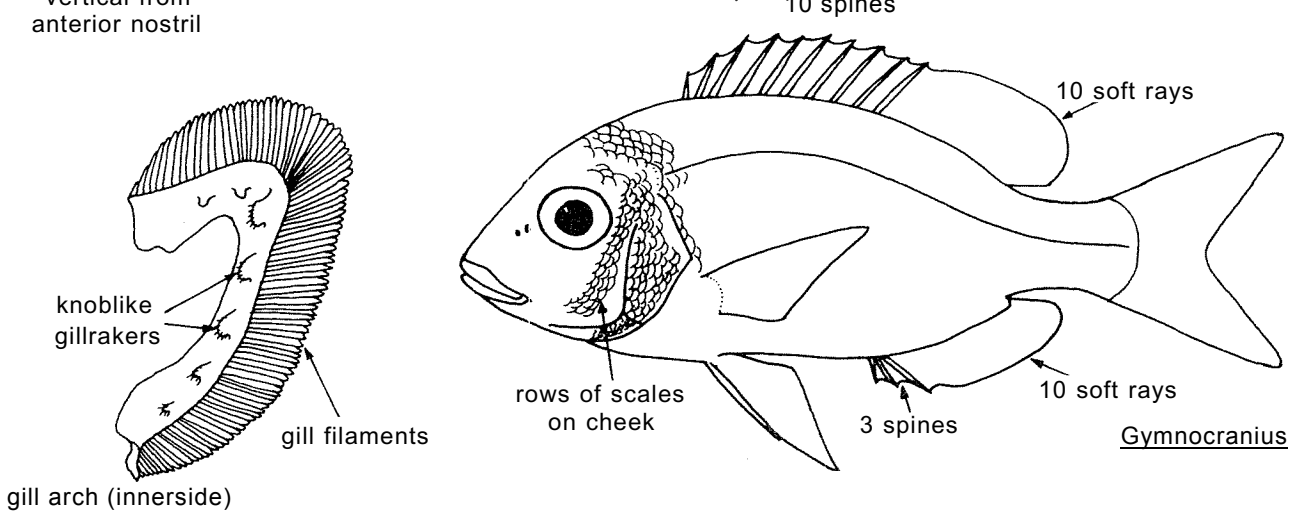
(including part of Pentapodidae of authors)

Emperors, pig-face breams, large-eye breams

Perchlike fishes with a large head: suborbital space deep; mouth moderate, terminal; lips often thick and fleshy; maxilla concealed, without supplementary bone, mostly slipping below infraorbiital bones, but overlapping the premaxilla anteriorly; outer teeth of jaws uniserial, caninelike, conical or molarlike; lateral teeth often changing shape with age; inner anterior or lateral teeth villiform; enlarged canines in front of jaws, pointing outward in adults; palate toothless; gill membranes broadly united to each other but separated from isthmus; gills 4, slit behind the fourth present; pseudobranchs present, gillrakers short, knoblike. A single, continuous dorsal fin with 10 spines and 9 or 10 branched (soft) rays, base of spinous part longer than base of soft part, and at most a slight notch to fin; anal fin of 3 spines and 8 to 10 branched rays, its base about equal to that of soft dorsal; pectoral fins moderately long and pointed, with 13 to 15 branched rays; pelvic fins thoracic, with 1 spine, 5 rays and an axillary process; caudal fin emarginate to forked. Scales finely ctenoid and moderate in size. Cheeks, upper surface of head and preorbital area scaleless in Lethrinus, but scales present on cheek in the other genera. Lateral line continuous, with simple tubes. Pyloric caeca few, usually 3.

Colour: ground colour of body and head brown, green or grey with tints of red, pink, yellow or blue. While alive, they are usually pale, or inconspicuous in coloration except for bright pigmented areas such as edges of opercle and preopercle, pectoral fin bases, pelvic fin axils and fin membranes. When excited, or after death, the majority of species shoo! bright colour patterns or markings of deep red, pink, purple; blue, green and yellow. Many species show scarlet coloration to inside of lips, throat and gape of mouth. All species have dark patterns which may appear or disappear in a moment according to emotional state, these often form a reticulated network.

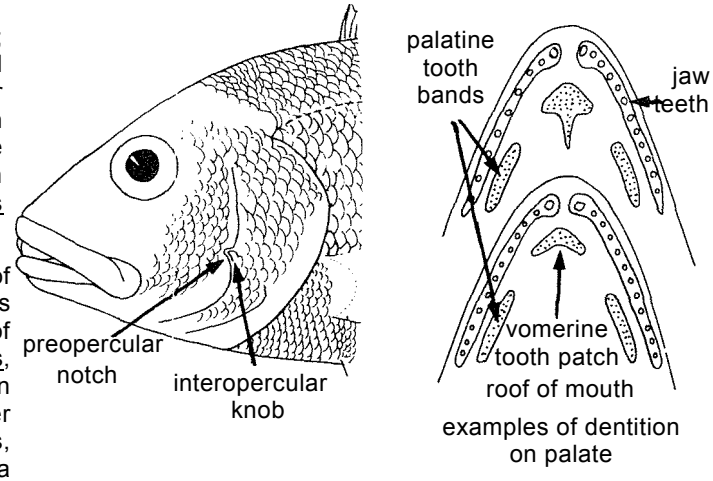




Medium- to large-sized fishes inhabiting tropical and subtropical areas of the Indo-Pacific (except for 1 species occurring in the E.C. Atlantic), mostly on coral reefs and rocky areas, but also on soft substrates in coastal waters. Carnivorous in general, feeding with their stout, crushirg jaws, on crustaceans, echinoids, molluscs, as well as small fishes. Slow swimmers close to the bottom, usually farming small schools. Practically all species are used for food and are captured by hook and line, gillnets, traps, spears or bottom trawls. Statistics by species are apparently not collected in the Western Indian Ocean, but the total reported catches of lethrinids from the area exceeded 11 000 t in 1980. The flesh is of excellent quality although some species (i.e., Lethrinus elongatus, L. xanthochilus, Monotaxis grandoculis and Gnathodentex aurolineatus) have been reported to be toxic occasionally.

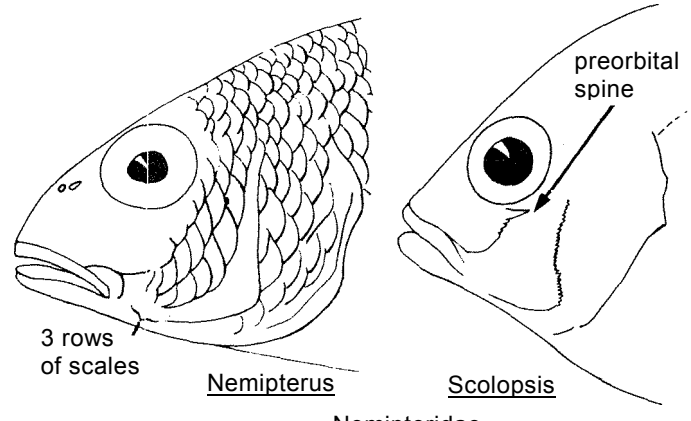
SIMILAR FAMILIES OCCURRING IN THE AREA

Lutjanidae: teeth often present on palate; cheek always scaled (naked in Lethrinus but scaled in the other genera of Lethrinidae; preopercular edge usually serrate; a preopercular notch and an interopercular knob often present; no molarlike teeth in Western Indian Ocean genera (present in many Lethrinus species and in Monotaxis grandoculis.



Lutjanidae (Lutianus)

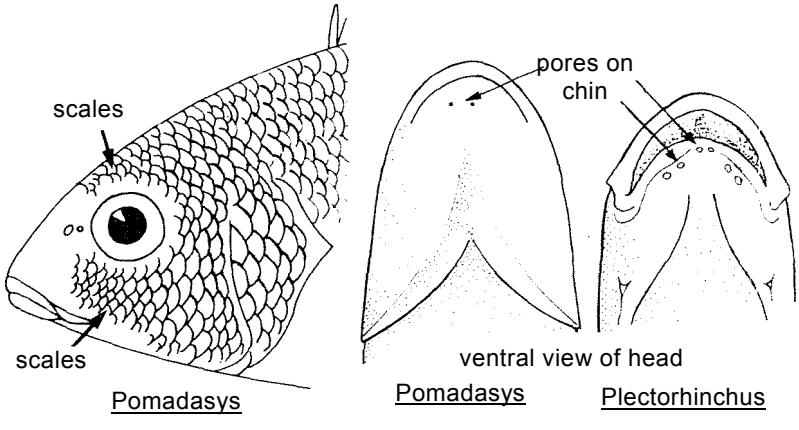
Nemipteridae (including Scolopsidae of authors): pectoral fins with more than 15 soft rays (13 to 15 in Lethrinidae); cheek with 3 rows of scales in Nemipterus, but 4 to 7 rows in Scolopsis, Parascolopsis and Pentapodus (cheek scaleless in Lethrinus and with 4 to 6 scale rows in the other genera of Lethrinidae); 6 or 7 soft anal fin rays, rarely 8 in some Scolopsis species but these have a serrate preopercular margin (8 to 10 anal soft rays in Lethrinidae); no molarlike teeth in jaws; a characteristic preorbital spine in the nemipterid genera Scolopsis, Pentapodus and Parascolopsis (missing in Lethrinidae .



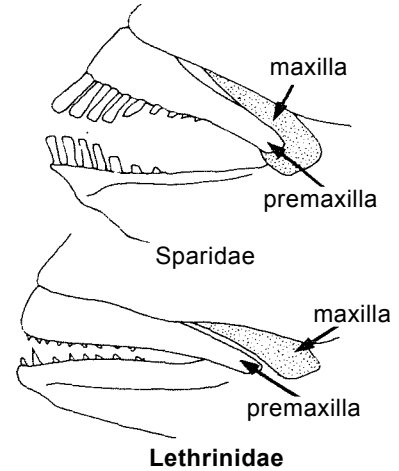
Nemipteridae

Sparidae: posterior tip of premaxilla overlapping maxilla at hind end of mouth (maxilla overlapping premaxilla in Lethrinidae); usually more than 10 dorsal fin spines, rarely 10 in some species of Diplodus which, however, are distinguished easily by their cutting incisors and the arrangement of molar teeth in more than one row; 9 to 17 soft dorsal fin rays (9 or 10 in Lethrinidae).

Haemulidae (including Plectorhynchidae of authors): scales always present between eye and mouth (absent in that area in Lethrinidae); 2 or more pores present on chin; second anal fin spine often very strong.



Haemulidae



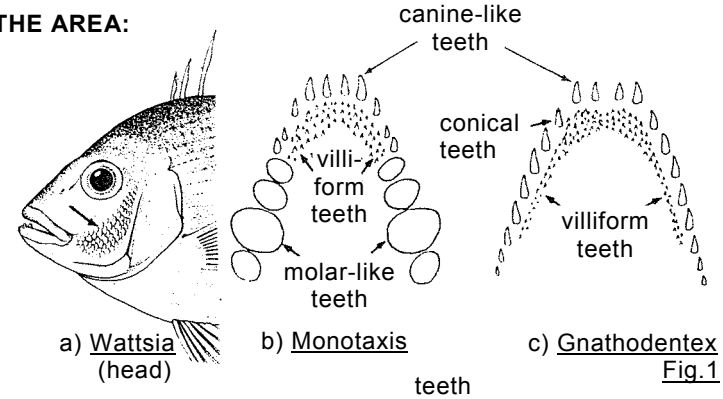
Lethrinidae

KEY TO GENERA AND SPECIES OCCURRING IN THE AREA:

1a. Cheek with 4 to 6 vertical rows of scales (Fig.1a); 10 soft rays in dorsal fin; 9 or 10 soft rays in anal fin

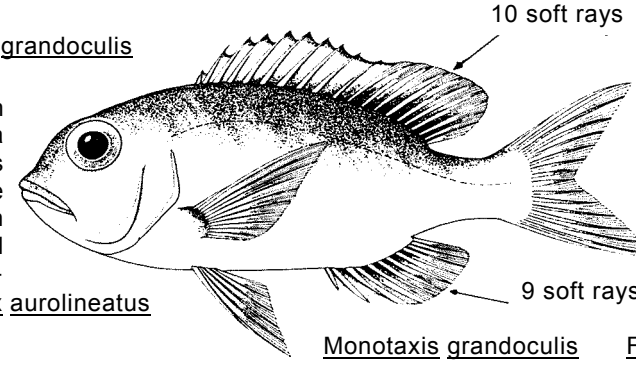
2a. 9 soft rays in anal fin

3a. Sides of jaws with round, flat molars preceded by a patch of small teeth and an anterior series of canines (Fig.1b); profile of head in front of eye strongly convex (Fig.2); pectoral fin with 14 soft rays, inner surface of pectoral fin base scaled (Fig.3a) no longitudinal stripes on body ..... Monotaxis grandoculis



a) Wattsia (head) b) Monotaxis teeth c) Gnathodentex Fig.1

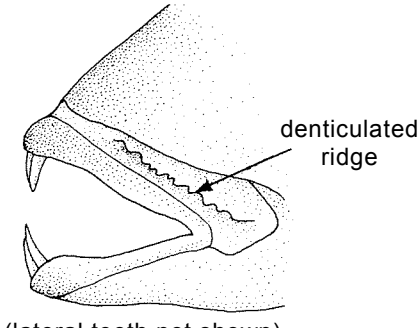
3b. Each jaw with a narrow band of villiform teeth, an outer series of conical teeth, and a series of canines at the front of both jaws (Fig.1c); profile of head in front of eye slightly convex or straight; pectoral fin with 15 soft rays; inner surface of pectoral fin base scaleless (Fig.3b); yellow longitudinal stripes on body (Fig.4) ... Gnathodentex aurolineatus



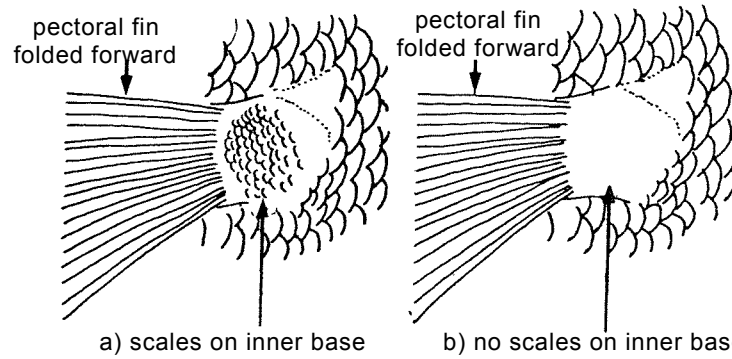
Monotaxis grandoculis Fig.2

2b. 10 soft rays in anal fin

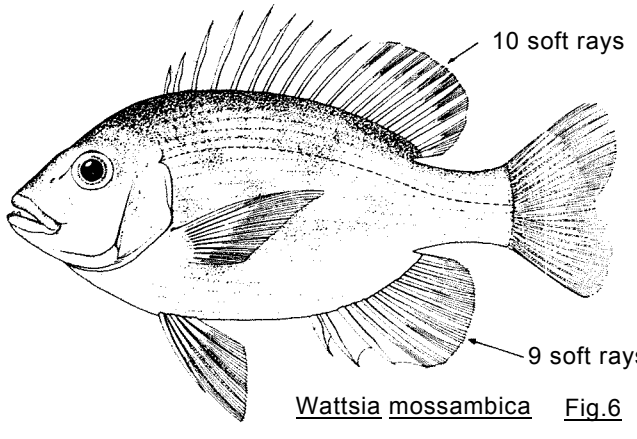
4a. Maxilla with a strong denticulated longitudinal ridge (Fig.5); caudal fin lobes rounded; body 2.2 times or less in standard length (Fig.6) ..... Wattsia mossambica



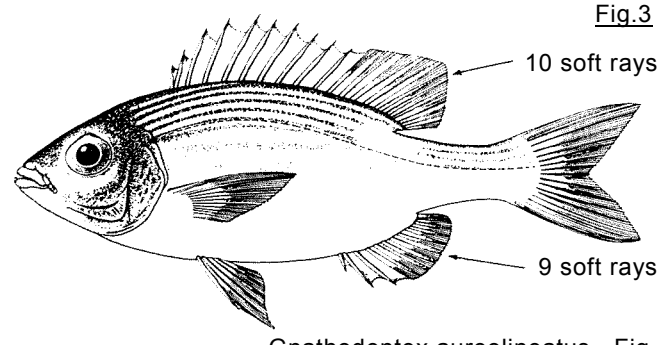
(lateral teeth not shown) Fig.5



a) scales on inner base b) no scales on inner base Fig.3



Wattsia mossambica Fig.6

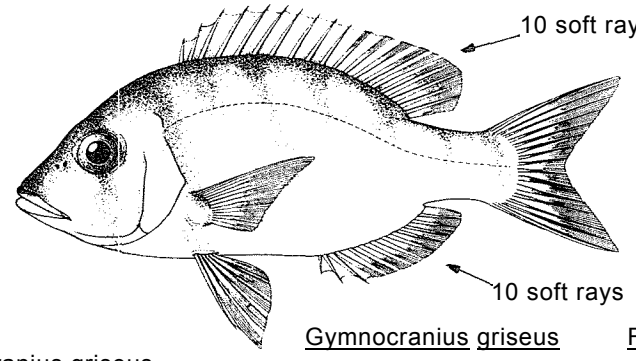


Gnathodentex aureolineatus Fig.4

Based largely on live coloration, and therefore applicable mainly to fresh material

4b. Maxilla surface smooth; caudal fin lobes pointed; body not as deep, 2.3 to 2.8 times in standard length (adults) (Figs.7,8)

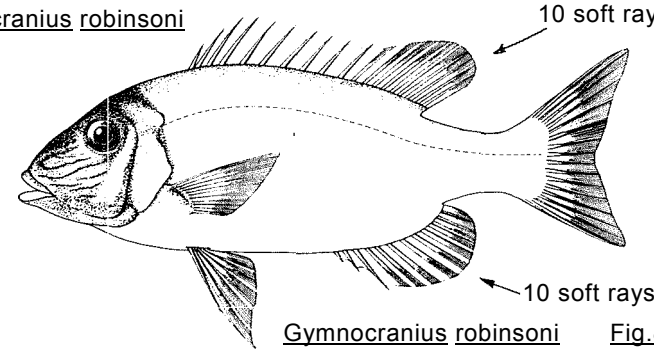
5a. Anal-fin base 2.1 to 2.5 times longer than longest soft anal-fin ray; no wavy blue lines on cheek, snout or opercle (Fig.7) ..... Gymnocranius griseus



Gymnocranius griseus Fig.7

5b. Anal-fin base only about 1.8 times longer than longest soft anal-fin ray; in life, conspicuous wavy blue lines on cheek, snout and opercle (Fig.8) .. Gymnocranius robinsoni

1b. Cheek naked (Fig.9); 9 soft rays in dorsal fin; 8 soft rays in anal fin

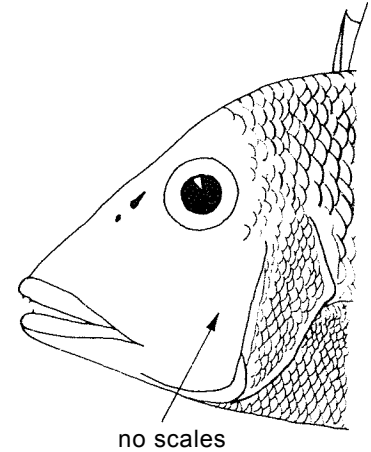


Gymnocranius robinsoni Fig.8

6a. Snout and head elongate; body depth less than head length, usually more than 2.9 times in standard length (except some specimens of L. reticulatus); teeth caninoid or conical, never molariform posteriolaterally (Fig. 10); inner surface of pectoral fin base scaleless

7a. Upper margin of eye almost on dorsal profile; interorbital space concave, flat or only slightly convex

8a. No red coloration to opercle or pectoral fin base



Lethrinus Fig.9

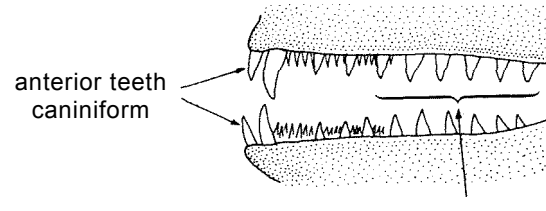
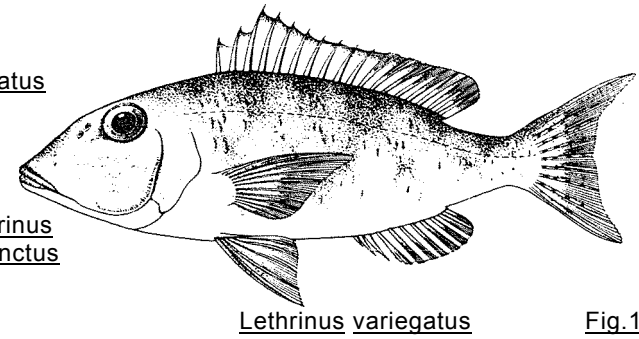


Fig.10

9a. Posterior nostrils much closer to anterior nostril than to anterior margins of eye (Fig.11) ... Lethrinus variegatus

9b. Posterior nostril about halfway between anterior nostril and anterior margin of eye (Fig.12) ..... Lethrinus semicinctus

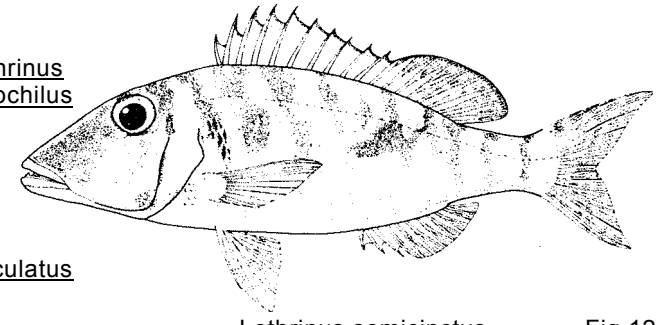


Lethrinus variegatus Fig.11

8b. Bright red coloration to opercle and/or pectoral fin base

10a. One or 2 red spots on pectoral fin base; opercular margin red (Fig.13) ..... Lethrinus xanthochilus

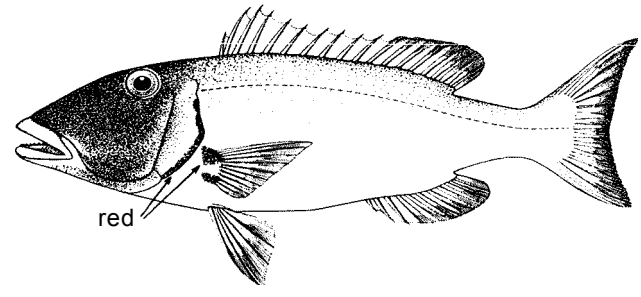
10b. No red spot on pectoral fin base; a conspicuous red spot on opercular edge (Fig.14) ..... Lethrinus rubrioperculatus



Lethrinus semicinctus Fig.12

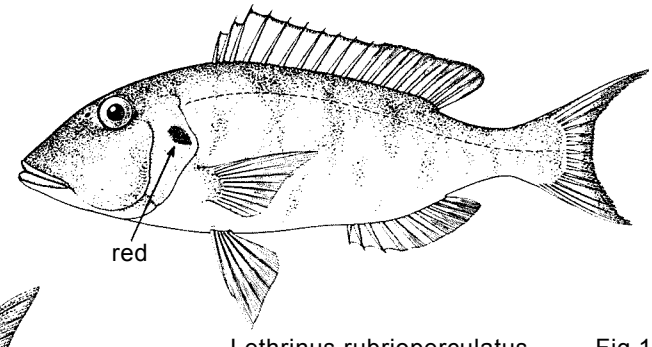
7b. Upper margin of eye well separated from dorsal profile; interorbital space moderately to strongly convex

11a. No red coloration present; oblique bluish lines from eye to snout tip, and a few broken streaks connecting eyes on top of head (Fig.15) ..... Lethrinus microdon

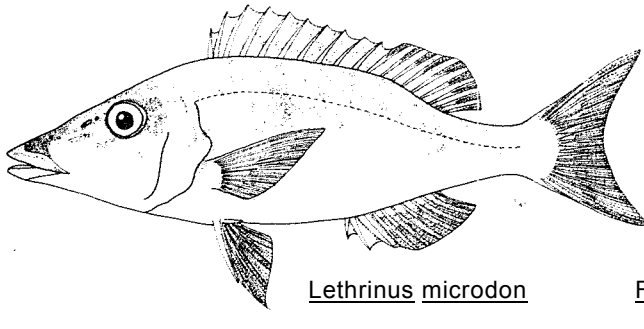


Lethrinus xanthochilus Fig.13

11b. Red coloration present on lips, pectoral fin base or opercular edge

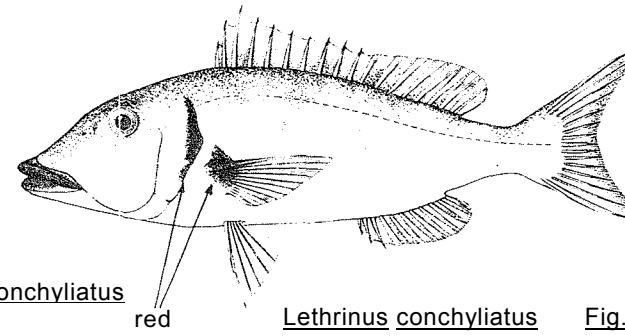


Lethrinus rubrioperculatus Fig.14



Lethrinus microdon Fig.15

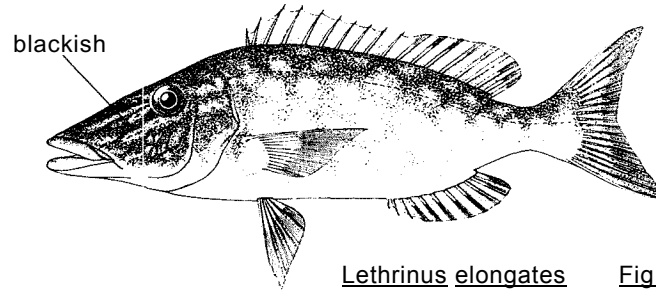
12a. A single, subtriar,gular, bright red blotch above pectoral fin base; opercular edge and pectoral fir, base also red; lips large arid bright red; profile of snout concave, snout bulbous (Fig.1b) ..... Lethrinus conchyliatus



Lethrinus conchyliatus Fig.16

12b. No red coloration on and above pectoral firs base or opercular edge; a red line sometimes present above and below lips; often 2 or 3 blackish streaks radiating from eye; profile of snout straight (Fig.17)..... Lethrinus elongatus

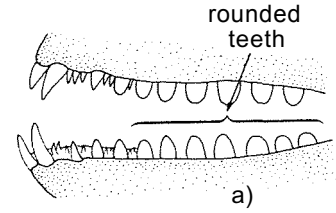
6b. Snout not elongate; body depth greater than head length (sometimes equal or a little less in young); anterior teeth caninoid, but postero-lateral teeth obtuse, rounded (L. kallopterus, L. ramak, Fig.18a), or distinctly molar-like (all other species, Fig.18b)



Lethrinus elongates Fig.17

13a. A characteristic series of bright blue lines radiating across cheek from eye; centres of scales with white spots; often longitudinal yellowish streaks on body (Fig.19) .. Lethrinus nebulosus

13b. No blue radiating lines on head



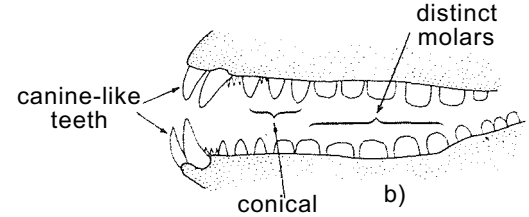
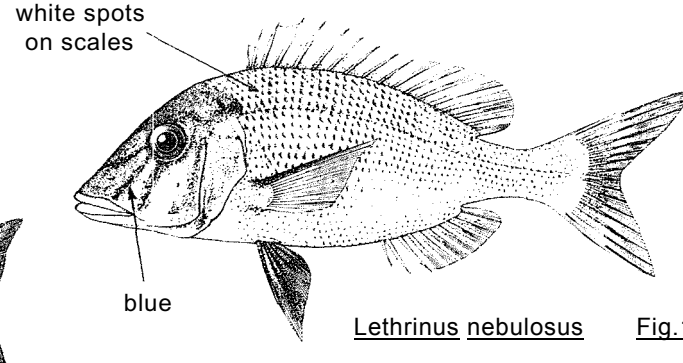


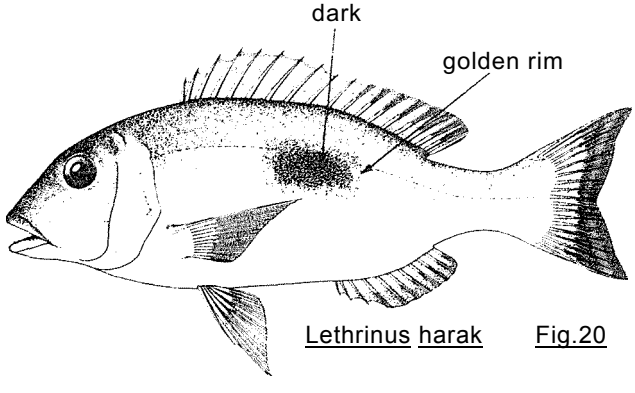
Fig.18

14a. A persistent, oblong blotch present or, sides, usually encircled with a golden rim (Fig.20)

14b. No obvious large dark blotch present on sides of body



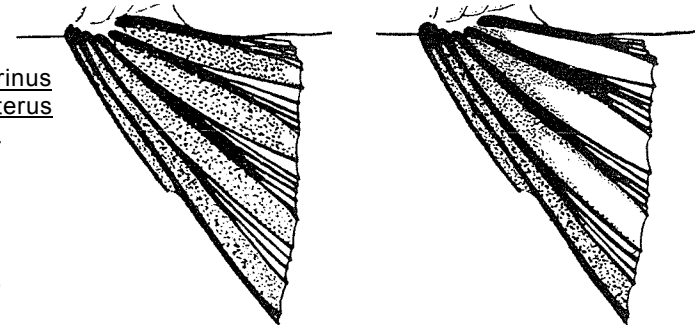
Lethrinus nebulosus Fig.19



Lethrinus harak Fig.20

15a. Hind tip of maxilla usually on vertical from anterior margin of eye; pelvic fin membrane with dense, uniformly distributed melanophores (dark pigment cells) (Fig.21a); posterioriateral teeth in jaws wide and roundish, but not distinct molars; small orange spots on sides of head (Fig.22) ..... Lethrinus kallopterus

15b. Hind tip of maxilla on vertical from posterior nostril; pelvic fin membrane with fewer melanophores, especially sparse between the 4th and 5th ray and toward the margin between 3rd and 4th ray (Fig.21b); posterolateral teeth in jaws include strong molars in adults; no orange spots on head

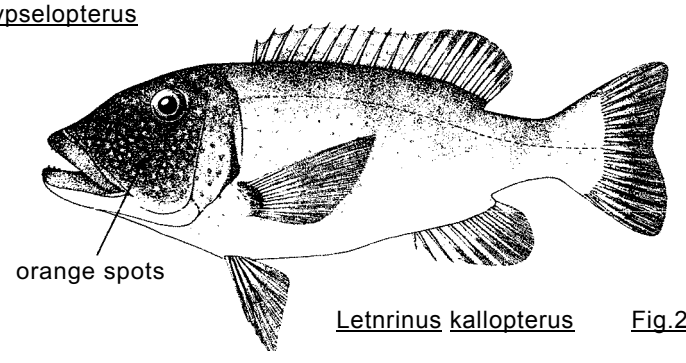


a) Letnrinus kallopterus b) Letnrinus hypselopterus
Lethrinus mahsena

(pelvic fin showing pigmentation) Fig.21

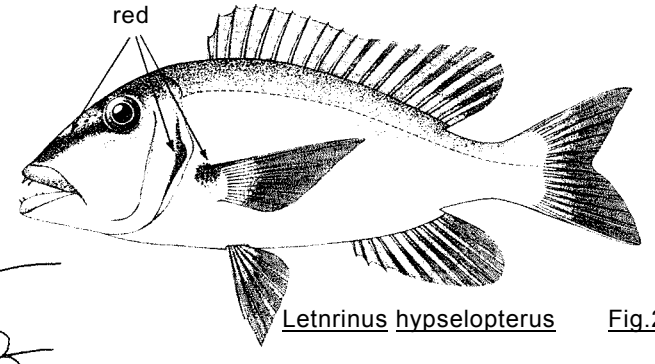
16a. Longest soft anal ray distinctly longer than soft anal fin base; a red stripe from eye to tip of snout, a red line backward from corner of mouth and a red spot on upper half of pectoral fin base; opercular margin also red (Fig. 23) ..... Lethrinus hypselopterus

16b. Longest soft anal ray not longer than soft anal fin base; no red stripes on head

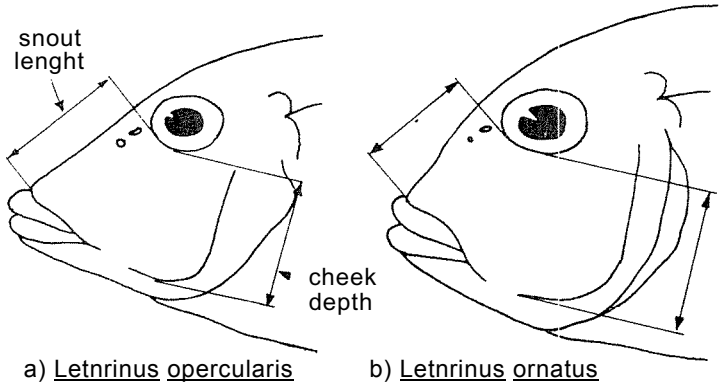


Letnrinus kallopterus Fig.22

17a. Snout length (excluding upper lip) distinctly greater than cheek depth (Fig. 24a)



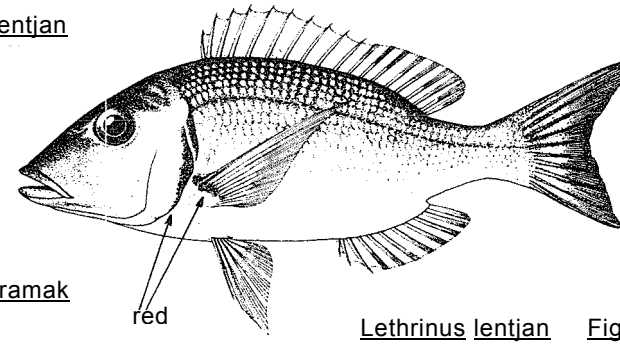
Letnrinus hypselopterus Fig.23



a) Letnrinus opercularis b) Letnrinus ornatus
Lethrinus ramak Fig.24

18a. Posterolateral teeth in jaws include strong molars in adults; red spot on opercular margin and on pectoral fin base; no conspicuous yellow stripes on body (Fig.25) ..... Lethrinus lentjan

18b. Some posterolateral teeth in jaws roundish but small; no distinct molars; no red spot on opercular margin or on pectoral fin base; several yellow stripes on body, the one at level of pectoral fin base most conspicuous (Fig.26) ..... Lethrinus ramak

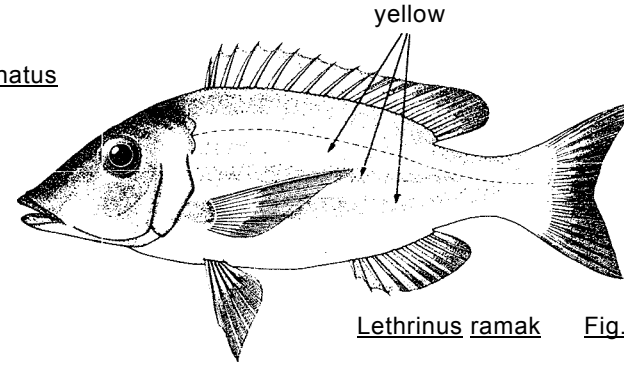


Lethrinus lentjan Fig.25

17b. Snout length (excluding upper lip) equal to, or less than cheek depth (Fig.24b)

19a. Several prominent bright orange stripes present on body; opercular and preopercular margins bright red (Fig.27) ..... Lethrinus ornatus

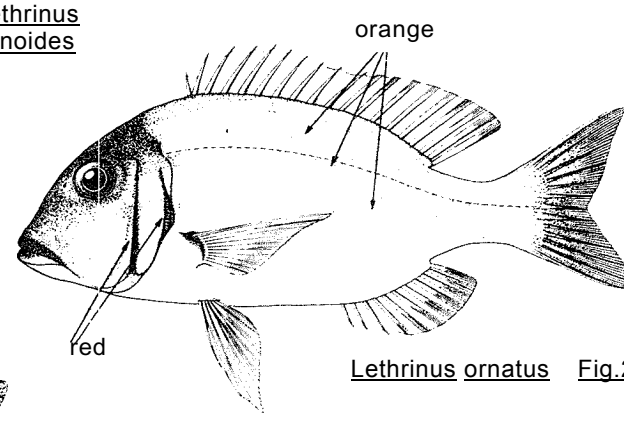
19b. No bright orange stripes on body; no red colour on preopercle



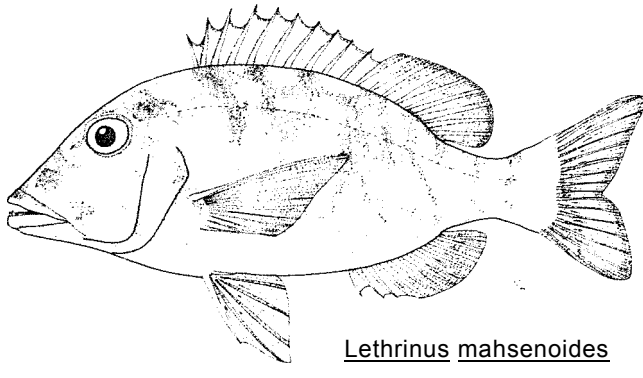
Lethrinus ramak Fig.26

20a. Six scale rows between lateral line and median dorsal fin spines (Fig.28) ..... Lethrinus mahsenoides

20b. Less than 6 scale rows between lateral line and median dorsal fin spines; opercular margin not red



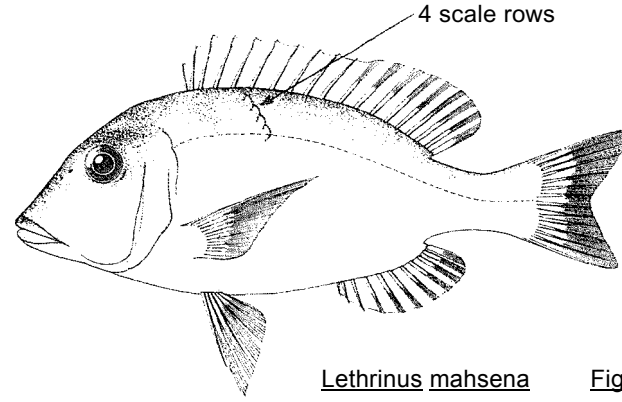
Lethrinus ornatus Fig.27



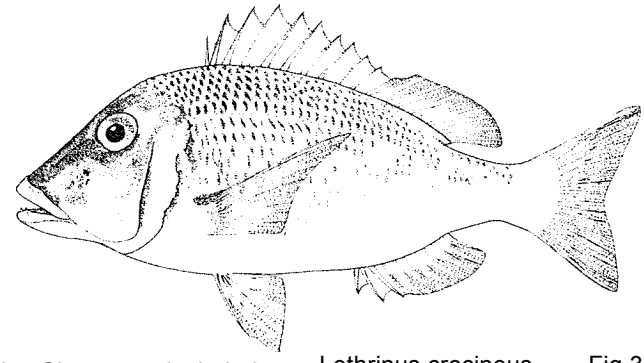
Lethrinus mahsenoides Fig.28

21a. Four scale rows between lateral line and median dorsal fir, spines (excluding the very small scales at base of dorsal fin) (Fig.29)..... Lethrinus mahsena

21b. Five scale rows between lateral line and median dorsal fin spires (excluding the very small scales at base of dorsal fin) (Fig.30) ..... Lethrinus crocineus



Lethrinus mahsena Fig.29



Lethrinus crocineus Fig.30

LIST OF SPECIES OCCURRING IN THE AREA

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

Gnathodentex aurolineatus (Lacepède, 1802)	LETH Gnath 1	(= PENTAP Gnath 1 of areas 57/71)
Gymnocranius griseus (Temminck & Schegel, 1843)	LETH Gymno 1	(= PENTAP Gymno 1 of areas 57/71)
Gymnocranius rivulatus (Rüppell, 1838)		
Gymnocranius robinsoni (Gilchrist & Thompson, 1908)	LETH Gynuio 2	(= PENTAP Gymno 2 of areas 57/71)
Lethrinus corichyliatus Smith, 1959	LETH Leth 9	
Lethrinus crocineus Smith, 1959	LETH Leth 10	
Lethrinus elongatus Valenciennes, 1830	LETH Leth 5	(= Lethrinus miniatus LETH Leth 5 of areas 57/71)
Lethrinus harak (Forsskål, 1775)		
Lethrinus hypselopterus Bleeker, 1873	LETH Leth 11	
Lethrinus kallopterus Bleeker, 1856	LETH Leth 3	
Lethrinus lentjan (Lacepède, 1802)	LETH Leth 4	
Lethrinus mahsena (Forsskål, 1775)	LETH Leth 12	
Lethrinus Mahsenoides Valenciennes, 1830	LETH Leth 13	
Lethrinus microdori Valenciennes, 1830	LETH Leth 14	
Lethrinus nebulosus (Forsskål, 1775)	LETH Leth 15	
Lethrinus ornatus Valenciennes, 1830	LETH Leth 7	
Lethrinus ramak (Forsskål, 1775)	LETH Leth 16	
Lethrinus reticulatus Valenciennes, 1830		
Lethrinus rubrioperculatus Sato, 1978	LETH Leth 17	
Lethrinus semicinctus Valenciennes, 1830	LETH Leth 18	
Lethrinus variegatus Valenciennes, 1830	LETH Leth 19	
Lethrinus xanthochilus Klurizinger, 1870	LETH Leth 20	
Monotaxis grandoculis (Forsskål, 1775)	LETH Mono 1	(= PENTAP Mono 1 of areas 57/71)
Wattsia mossambica (Smith, 1957)	LETH Watt 1	(= PENTAP Gnath 2 of areas 57/71)

Schematic outline drawings mostly taken from Sato, 1978

Prepared by T. Sato, Misaki Marine Biological Station, Faculty of Science, University of Tokyo, Japan and M. Walker, Western Australian Marine Research Laboratories, Waterman, W. Australia. Revised by J.E. Randall, Bishop Museum, Honolulu, Hawaii, USA

*Probably distinct from G. robinsoni, but further evidence on this matter is needed

**A doubtful species, probably the young of sorne other species of the genus

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