SCOMBR

1983

FAO SPECIES IDENTIFICATION SHEETS

FISHING AREA 51
(W. Indian Ocean)

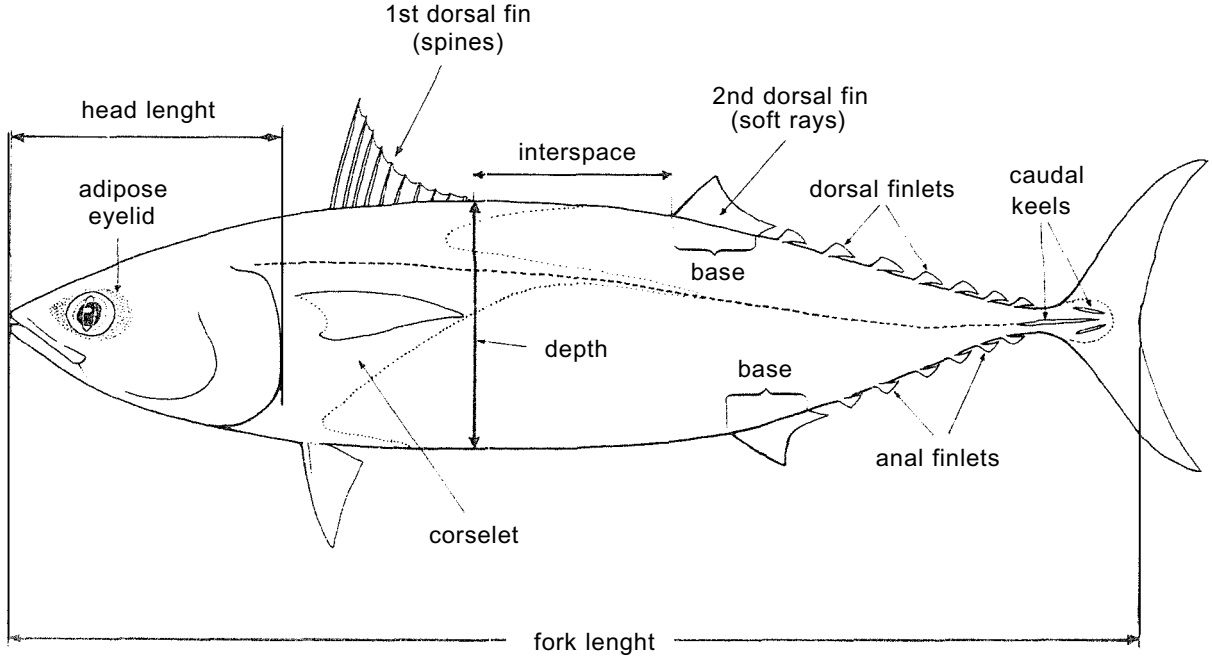
SCOMBRIDAE

Albacores, bonitos, kawakawas, mackerels, seerfishes, tunas and wahoos

Body elongate and fusiform, moderately compressed in some genera. Snout pointed; adipose eyelid sometimes present (Rastrelliger, Scomber);premaxillae beak-like, free from nasal bones which are separated by ethmoid bone; mouth rather large; teeth in jaws strong, moderate or weak; no true canines; palate and tongue may be toothed. Two dorsal fins; anterior fin usually short and separated from posterior fin; finlets present behind dorsal and anal fins; pectoral fins placed high; pelvic fins moderate or small; caudal fin deeply forked with supporting caudal rays completely covering hypural plate. At least 2 small keels on each side of caudal peduncle a larger keel in between in man species. Lateral line simple. Vertebrae 31 to 66. Body either uniformly covered with small to moderate scales (e.g. Rastrelliger, Scomber, Scomberomorus) or a corselet developed (area behind head and around pectoral fins covered with moderately large, thick scales) and rest of body naked (Auxis, Euthynnus, Katsuwonus), or covered with small scales (Thunnus).

Colour: various Scomber species are usually bluish or greenish above with a pattern of wavy bands on upper sides and silvery below; Scomberomorus and Acanthocybium are blue-grey above and silvery below with dark vertical bars or spots on sides (Grammatorcynus is green above, silvery below with dark spots along belly); Sarda has 5 to 11 dark oblique stripes on back; Euthynnus has a striped pattern on back and several dark spots between pectoral and pelvic fins; Katsuwonus has 4 to 6 conspicuous longitudinal stripes on belly; Auxis and Thunnus are deep blue/black above; most species of Thunnus have bright yellow finlets with black borders.

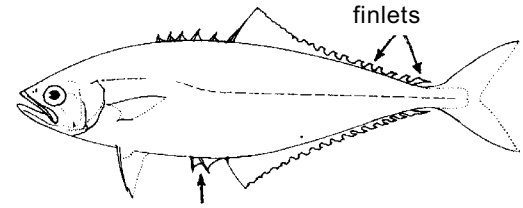
A rather diverse group of pelagic fishes ranging in size from about 45 cm to over 3 m in length. Some of the smaller species inhabit coastal waters while the larger ones, especially Thunnus maccoyii, T. obesus, T. alalunga and T. tonggol carry out wide, transoceanic migrations. All scombrids are excellent foodfishes and many of them are of significant importance in coastal pelagic or oceanic commercial and sports fisheries. The annual catch of tunas and mackerels from Fishing Area 51 exceeds 200 000 t (about 210 000 t in 1981).



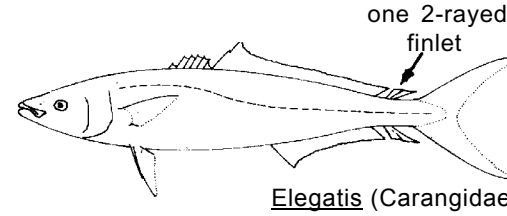
SIMILAR FAMILIES OCCURRING IN THE AREA:

Carangidae: dorsal fin spines 3 to 8 (9 to 27 in Scombridee); frequently soutes developed along the posterior part of the lateral line and usually no well developed finlets (except in Oligoplites with a series of dorsal and anal finlets; Elagatis and Decapterus with one dorsal and one anal finlet); they also have 2 detached spines in front of anal fin.

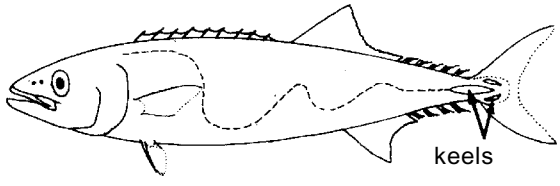
Gempylidae: back usually brown, rarely blue-brown; never distinct markings on body; no keels on caudal peduncle, except in Lepidocybium.



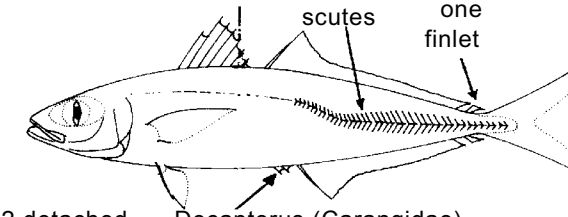
Oligoplites (Carangidae)



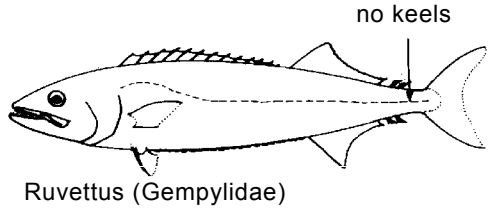
Elegatis (Carangidae)



Lepidocybium (Gempylidae)



Decapterus (Carangidae)



Ruvettus (Gempylidae)

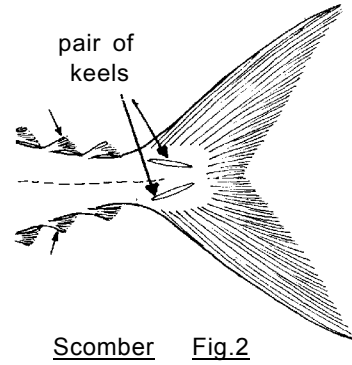
KEY TO GENERA OCCURRING IN THE AREA:

1a. Two small keels on either side of caudal peduncle (Fig.1); 5 dorsal and 5 anal finlets

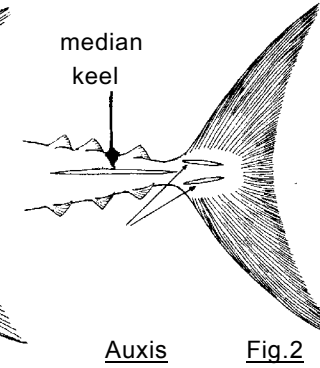
2a. Vertically zig-zag or wavy lines on back; anal fin spine fairly stiff and strong (Fig.3); teeth present on roof of mouth ..... Scomber

2b. Two horizontal rows of spots on each side of back; anal fin spine thin, rudimentary (Fig.4); no teeth on roof of mouth ..... Rastrelliger

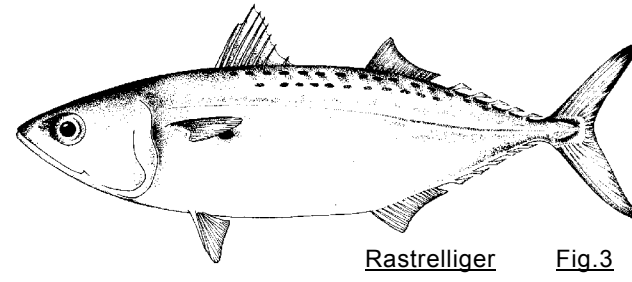
1b. Two small keels and a large median keel between them on either side of caudal peduncle (Fig.2); 7 to 10 dorsal and 7 to 10 anal finlets



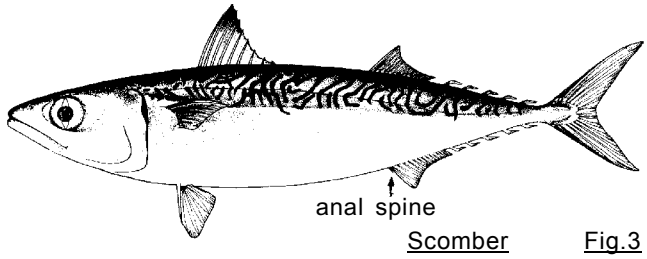
Scomber Fig.2



Auxis Fig.2



Rastrelliger Fig.3



Scomber Fig.3

3 a. Two lateral lines, the lower joining the upper behind pectoral fin base and at base of caudal fin (Fig.5); interpelvic process (scaly process between pelvic fin bases) single..... Grammatorcynus

3b. Single (upper) lateral line; interpelvic process single or double

4 a. Teeth in jaws strong, compressed, almost triangular or knife-like; corselet of scales obscure

5 a. Snout as long as rest of head (Fig. 6); no gillrakers; 23 to 27 spines in first dorsal fin ..... Acanthocybium

5 b. Snout much shorter than rest of head (Fig. 7); at least 3 gillrakers present; 14 to 22 spines in first dorsal fin ..... Scomberomorus

4 b. Teeth in jaws slender, conical, hardly compressed; corselet of scales well developed (Figs 9 to 12)

6 a. Upper surface of tongue without cartilaginous longitudinal ridges (Fig. Sa)

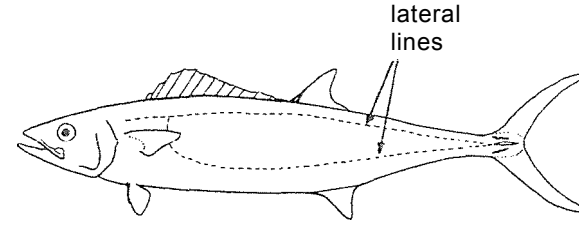
7 a. Jaw teeth tiny, 40 to 55 on each side; gillrakers fine, numerous, 70 to 80 on first arch..... Allothunnus

7 b. Jaw teeth larger, only 10 to 30 on each side; gillrakers fewer, 8 to 21 on first arch

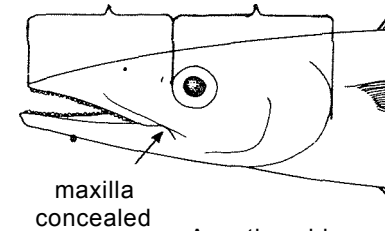
8a. Five to 10 narrow, dark longitudinal stripes on upper part of body (Fig. 9); no teeth on tongue ..... Sarda

8 b. Upper part of body without stripes; 2 patches of teeth on tongue ..... Gymnosarda

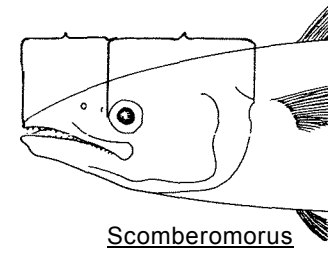
6 b. Upper surface of tongue with 2 longitudinal ridges (Fig. 8b)



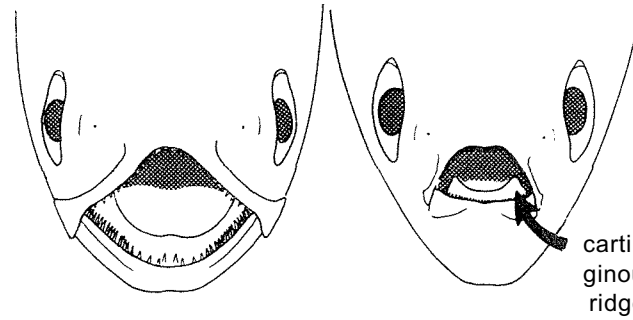
Grammatorcynus Fig.5



Acanthocybium Fig.6

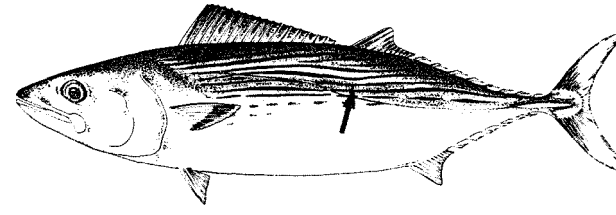


Scomberomorus Fig.7



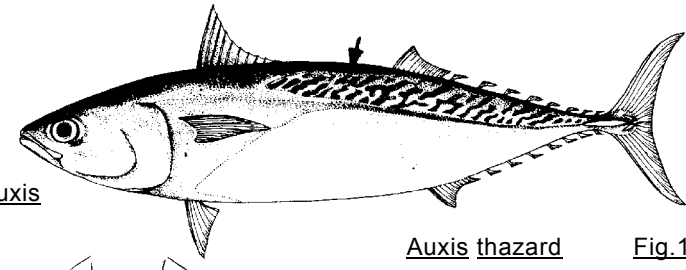
a) Sarda orientalis b) Katsuwonus pelamis

Fig.8



Sarda orientalis Fig.9

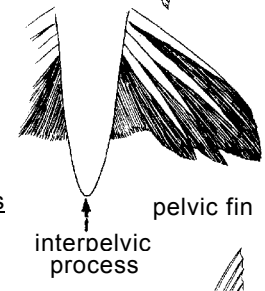
9 a. first artel second dorsal fins widely separated, the space between them equal to length of first. dorsal fin base; 10 to 12 spines in first dorsal fin (Fig.10); interpelvic process single and large, longer than pelvic fins..... Auxis



Auxis thazard Fig.10

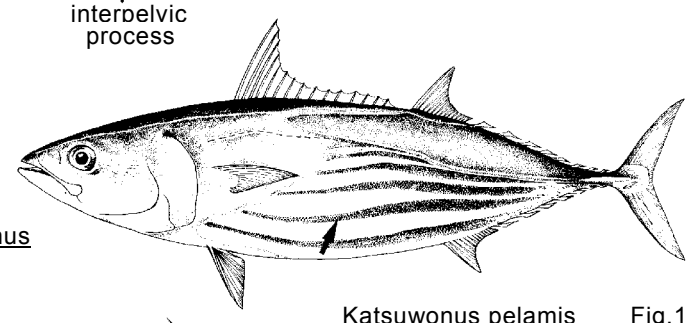
9 b. First and second dorsal fins barely separated, at most by eye diameter (Figs 8 to 10); 12 to 16 spines in first dorsal fin; interpelvic process bifid and short, shorter than pelvic fins

10a. Three to 5 prominent dark longitudinal stripes on belly; gillrakers 53 to 63 on first arch (Fig.11)..... Katsuwonus



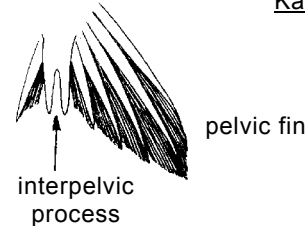
10b. No dark longitudinal stripes on belly; gillrakers 19 to 45 on first arch

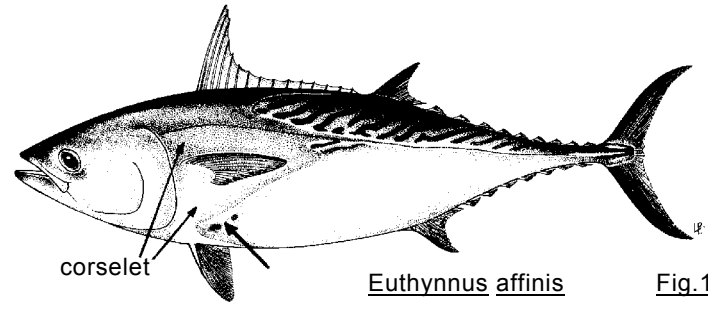
11a. Body naked behind corselet of enlarged and thickened scales; black spots usually present between pectoral and pelvic fin bases (Fig.12); 26 or 27 pectoral fin rays ..... Euthynnus



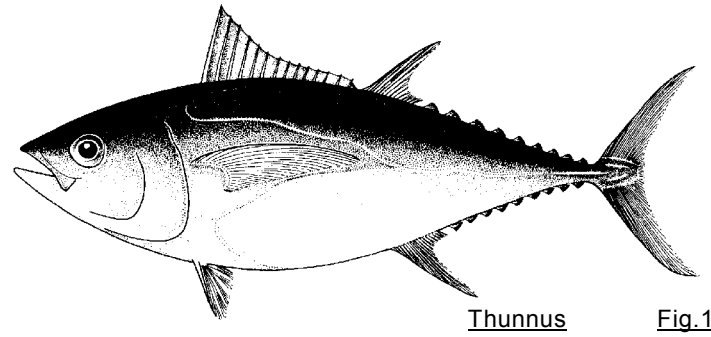
Katsuwonus pelamis Fig.11

116. Body covered with very small scales behind corselet; no black spots on body (Fig.13) 30 to 36 pectoral fin rays .....Thunnus





Euthynnus affinis Fig.12



Thunnus Fig.13

LIST OF SPECIES OCCURRING IN THE AREA:

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

Acanthocybium solandri (Cuvier, 1831)	SCOMBR Acan 1
Allothunnus fallai Serventy, 1948	SCOMBR Alla 1
Auxis rochei (Risso, 1810)	SCOMBR Aux 2
Auxis thazard (Lacepéde, 1800)	SCOMBR Aux 1
Euthynnus affinis (Cantor, 1849)	SCOMBR Euth 2
Grammatorcynus bilineatus (Rüppell, 1836)	SCOMBR Gram 2
Gymnosarda unicolor (Rüppell, 1838)	SCOMBR Gymno 1
Katsuwonus pelamis (Linnaeus, 1758)	SCOMBR Kats 1
* Rastrelliger kanagurta (Cuvier, 1817)	SCOMBR Rast 3
Sarda orientalis (Temminck & Schlegel, 1844)	SCOMBR Sarda 2
Scomber japonicus Houttuyn, 1782	SCOMBR Scom 2
Scomberomorus commerson (Lacepède, 1800)	SCOMBR Scombm 1
Scomberomorus guttatus (Bloch & Schneider, 1801)	SCOMBR Scombm 3
Scomberomorus koreanus (Kishinouye, 1915)	SCOMBR Scombm 11
Scomberomorus lineolatus (Cuvier; 1831)	SCOMBR Scombm 2
Scomberomorus plurilineatus Fourmanoir, 1966	SCOMBR Scombm 15
Thunnus alalunga (Bonnaterre, 1788)	SCOMBR Thun 1
Thunnus albacares (Bonnaterre, 1788)	SCOMBR Thun 3
Thunnus maccoyii (Castelnau, 1872)	SCOMBR Thun 4
Thunnus obesus (Lowe, 1839)	SCOMBR Thun 5
Thunnus tonggol (Bleeker, 1851)	SCOMBR Thun 6

Prepared by B.B. Collette, NMFS Systematics Laboratory, NORA, National Museum of Natural History, Washington, O.C., USA

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* Two other Rastrelliger species, R. brachysoma (Sleeker, 1851) and R. faughni Matsui, 1967 may be expected to occur in the area sporadically, although they have not been recorded as yet