

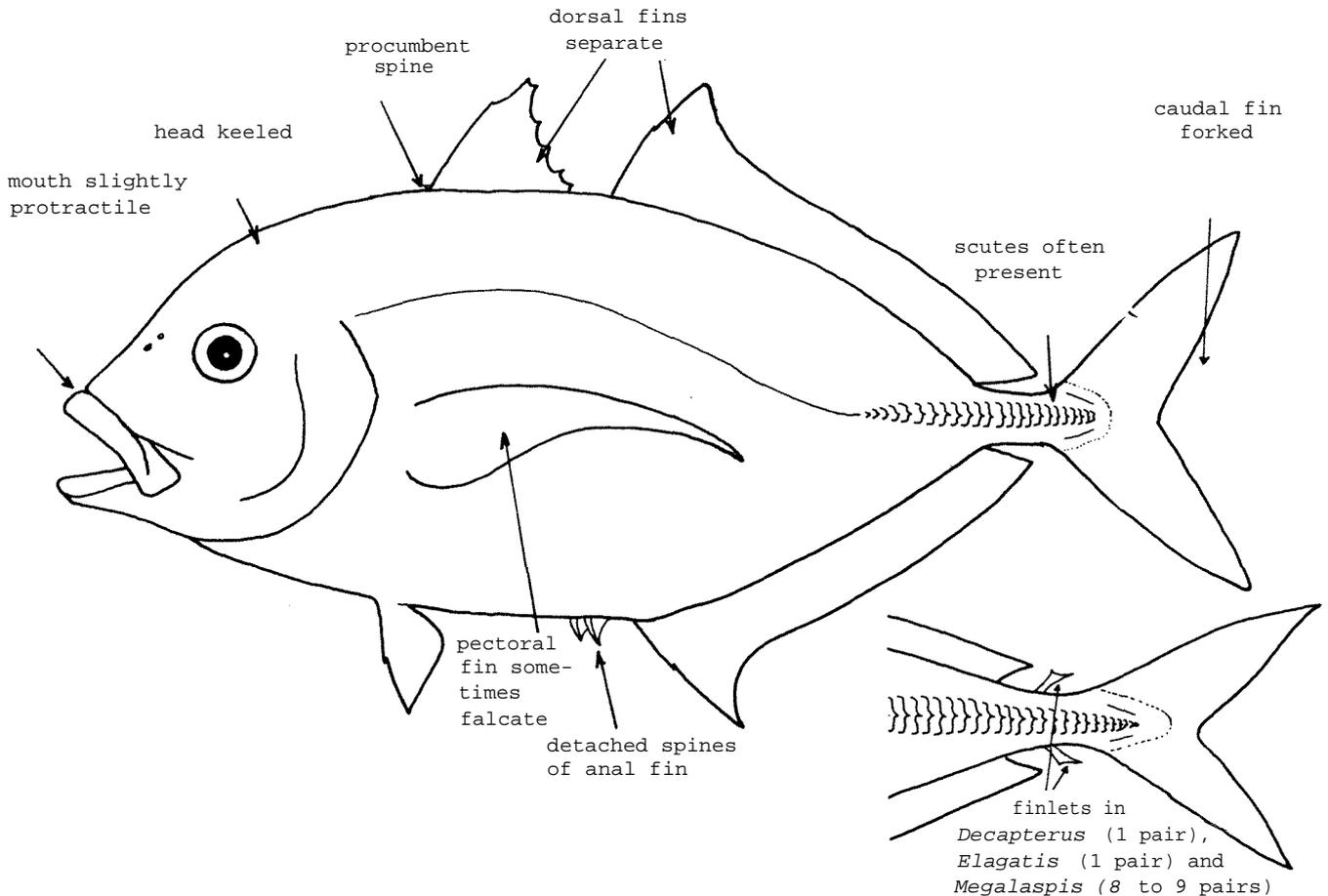
FAO SPECIES IDENTIFICATION SHEETS

FISHING AREAS 57,71
(E Ind. Ocean)
(W Cent. Pacific)

CARANGIDAE

Jacks, cavallas, crevalles, pompanos, queenfishes,
runners, scads, trevallies

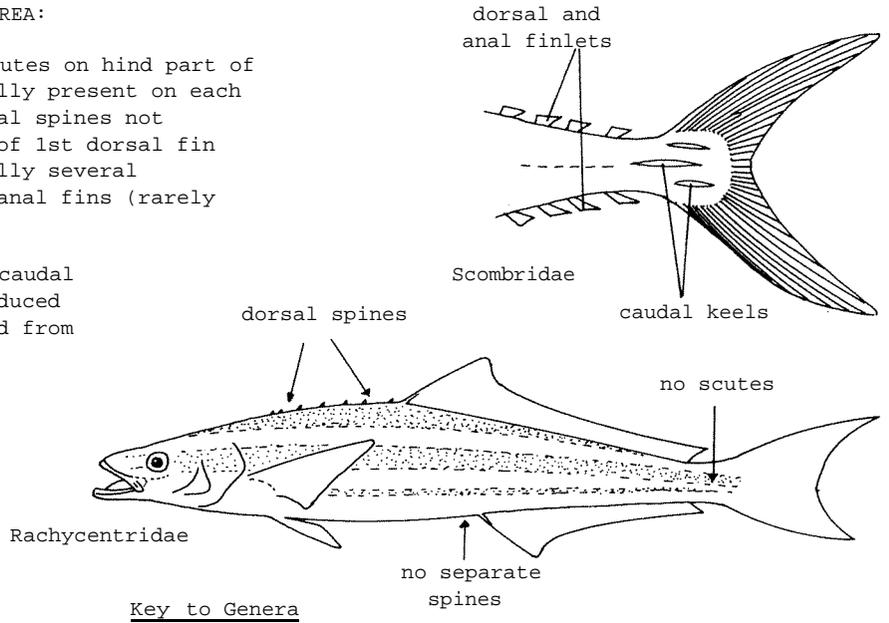
Body greatly or moderately compressed, varying from deep rhomboid to slender and elongate; caudal peduncle slender. Head compressed, usually keeled dorsally. Mouth slightly protractile; teeth in jaws usually small, either in a single series or in a villiform band; vomer, palatines and pterygoids (on roof of mouth) usually toothed, becoming smooth with age. Gill openings wide; gill membranes usually not united, free from isthmus; 6 branchiostegal rays. Gill rakers usually moderate-sized, occasionally either stumps or very long. Opercular bones thin, smooth, closely fitting; preoperculum not connected with infraorbital bones, its hind edge smooth in adults, but with 3 to 4 spines in small juveniles. 2 more or less separate dorsal fins; spinous dorsal fin short-based, with slender or short spines (sometimes disappearing with age) usually connected by a membrane, folding into a groove and often preceded by a procumbent (forward-pointing) spine; soft dorsal fin with a long base. Pectoral fins either long and falcate, or shorter and non-falcate. Anal fin preceded by 2 detached spines, at least in the young, its base long, equal to or shorter than that of soft dorsal fin. Posterior parts of soft dorsal and anal fins forming 1 to 7 finlets in some species. Caudal fin deeply forked. Scales small, thin and cycloid (smooth), sometimes absent. Lateral line arched anteriorly, becoming straight posteriorly. Scutes usually present along straight portion of lateral line, but sometimes also along curved portion; scutes entirely absent in some species.



SIMILAR FAMILIES OCCURRING IN THE AREA:

Scombridae, Gempylidae: no scutes on hind part of lateral line, but 2 to 3 keels usually present on each side of caudal peduncle, first 2 anal spines not detached from rest of fin and base of 1st dorsal fin longer than that of 2nd; also, usually several detached finlets behind dorsal and anal fins (rarely found in Carangidae).

Rachycentridae: no scutes on caudal peduncle, dorsal fin spines much reduced and first 2 anal spines not detached from rest of fin.



Key to Genera

- 1 a. At least some scutes present along lateral line; pectoral fins long and sickle-shaped; anal fin base about equal in length to soft dorsal fin base
- 2 a. Scutes present along entire lateral line *Traehurus*
- 2 b. Scutes present only on posterior part of lateral line (Fig. 1)
- 3 a. One or more finlets behind soft dorsal and anal fins
- 4 a. A single dorsal and anal finlet (Fig. 2) *Decapterus*
- 4 b. 8 to 9 dorsal and anal finlets *Megalaspis*
- 3 b. No detached finlets behind soft dorsal and anal fins
- 5 a. Scales small but visible, not embedded in skin; 7 to 8 dorsal fin spines, connected by a membrane; none of dorsal or anal fin rays as long as body
- 6 a. A groove along belly (accommodating pelvic fins, anus and anal fin spines (Fig. 3) *Atropus*
- 6 b. No groove along belly
- 7 a. Gill rakers long and feathery, reaching into mouth *Ulua*
- 7 b. Gill rakers normal, not reaching into mouth

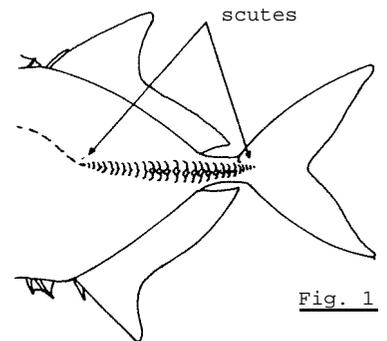
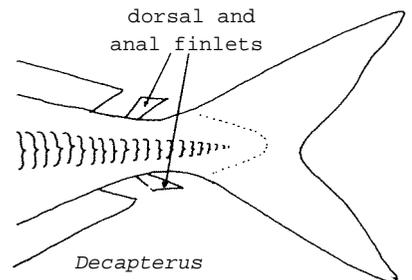
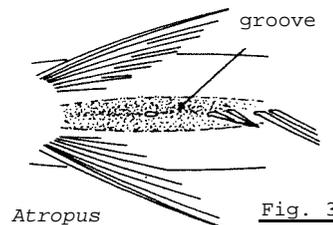


Fig. 1



Decapterus

Fig. 2



Atropus

Fig. 3

8 a. Teeth present in both jaws

9 a. Teeth present on roof of mouth (vomer and palatines)

10 a. Adipose tissue of eye covering all but central slit (Fig. 4a) *Atule*

10 b. Adipose tissue leaving anterior half of eye exposed (Fig. 4b)

11 a. A deep furrow on lower part of gill opening (Fig. 5) *Selar*

11 b. No furrow on lower part of gill opening

12 a. Jaw teeth in a single series (except cluster at tip of upper jaw), none enlarged; scutes prominent; breast scaled *Alepes*

12 b. Jaw teeth fine, villiform, in bands in both jaws, outer row only occasionally enlarged; scutes often weakly developed; breast rarely fully scaled, often naked *Carangoides*

12 c. Jaw teeth in a band in upper jaw, outer row enlarged; a single series in lower jaw, with 2 to 4 anterior canines; scutes prominent; breast rarely naked *Caranx*

9 b. No teeth on roof of mouth (vomer, palatines); jaw teeth sharp and curved *Uraspis*

8 b. No teeth in upper jaw

13 a. A single series of minute teeth in lower jaw; rudimentary teeth on tongue *Selaroides*

13 b. No teeth in either jaw; lips papillose *Gnathanodon*

5 b. Scales not visible, embedded in skin; dorsal spines less than 7, small, not connected by a membrane; anterior dorsal and anal fin rays at least as long as body (Fig. 6) *Alectis*

1 b. No scutes along lateral line; pectoral fins short, not sickle-shaped

14 a. Soft dorsal and anal fin bases about equal in length (Fig. 7)

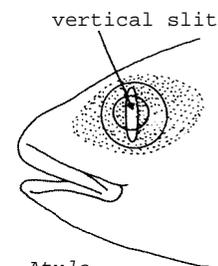


Fig. 4a

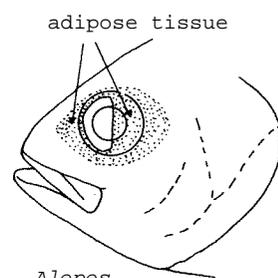


Fig. 4b

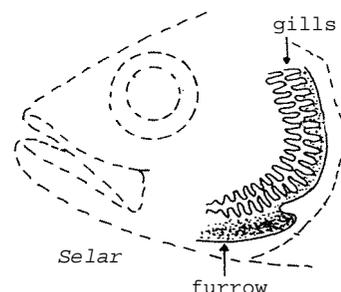


Fig. 5

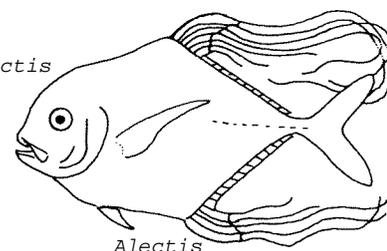


Fig. 6

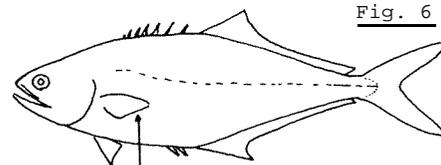


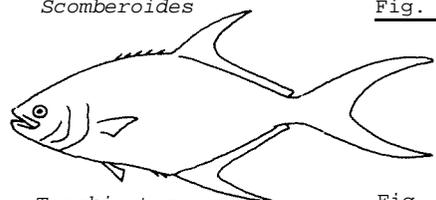
Fig. 7

- 15 a. Body slender, soft dorsal and anal fins not strongly falcate (Fig. 8a) scales elongate or needle-like ... *Scomberoides*
- 15 b. Body deep, soft dorsal and anal fins strongly falcate (Fig. 8b) scales circular *Trachinotus*
- 14 b. Anal fin base much shorter than soft dorsal fin base
 - 16 a. A two-rayed finlet behind dorsal and anal fins (Fig. 9) *Elagatis*
 - 16 b. No finlets behind dorsal and anal fins
 - 17 a. 5 to 7 dorsal fin spines, connected by a membrane
 - 18 a. Gill rakers knob-like; snout less than twice eye diameter *Seriolina*
 - 18 b. Gill rakers normal; snout twice eye diameter *Seriola*
 - 17 b. 4 to 5 dorsal fin spines, not connected by a membrane in adults *Naucrates*



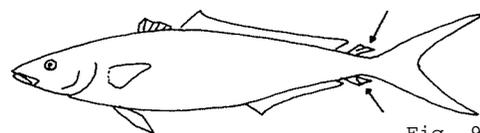
Scomberoides

Fig. 8a



Trachinotus

Fig. 8b



Elagatis

Fig. 9

* The family is in urgent need of revision and the key given here must be considered tentative.

List of Species occurring in the Area *
(Code numbers are given for those species
for which Identification Sheets are included)

<i>Alectis ciliaris</i>		<i>Elagatis bipinnulatus</i>	CARAN Elag 1
<i>Alectis indicus</i>	CARAN Alec 1		
<i>Alepes dieddaba</i>	CARAN Alep 1	<i>Gnathanodon speciosus</i>	CARAN Gnath 1
<i>Alepes kalla</i>			
<i>Alepes melanoptera</i>	CARAN Alep 2	<i>Megalaspis cordyla</i>	CARAN Megal 1
<i>Atropus atropus</i>	CARAN Atrop 1	<i>Naucrates ductor</i>	
<i>Atule mate</i>		<i>Scomberoides commersonianus</i>	CARAN Scom 1
		<i>Scomberoides lysan</i>	
<i>Carangoides auroguttatus</i>		<i>Scomberoides tata</i>	
<i>Carangoides chrysophrys</i>	CARAN Carang 1	<i>Scomberoides tol</i>	
<i>Carangoides ciliaris</i>	CARAN Carang 2		
<i>Carangoides coeruleopinnatus</i>		<i>Selar hoops</i>	CARAN Selar 1
<i>Carangoides dinema</i>		<i>Selar crumenophthalmus</i>	CARAN Selar 2
<i>Carangoides equuta</i>	CARAN Carang 3		
<i>Carangoides ferdau</i>	CARAN Carang 4	<i>Selaroides leptolepis</i>	CARAN Selard I
<i>Carangoides fulvoguttatus</i>			
<i>Carangoides gilberti</i>		<i>Seriola dumerili</i>	
<i>Carangoides gymnostethus</i>		<i>Seriola purpurascens</i>	
<i>Carangoides jordani</i>			
<i>Carangoides malabaricus</i>	CARAN Carang 5	<i>Seriolina nigrofasciata</i>	CARAN Seriol 1
<i>Carangoides nitidus</i>			
<i>Carangoides oblongus</i>		<i>Trachinotus baillonii</i>	
<i>Carangoides ophthalmotaenia</i>		<i>Trachinotus blochii</i>	CARAN Trachn 2
<i>Carangoides plagiotaenia</i>		<i>Trachinotus botla (T. russelii)</i>	
<i>Carangoides praeustus</i>			
<i>Carangoides sexfasciatus</i>			
<i>Carangoides uii</i>			
<i>Caranx bucculentus</i>		<i>Trachurus declivis</i>	
<i>Caranx carangus</i>		<i>Trachurus maccullochi</i>	
<i>Caranx celetus</i>		<i>Trachurus novaehollandiae</i>	
<i>Caranx cynodon</i>			
<i>Caranx ignobilis</i>	CARAN Caranx 1	<i>Ulua mentalis</i>	CARAN Ulua 1
<i>Caranx lessoni</i>			
<i>Caranx melarripygus</i>	CARAN Caranx 2		
<i>Caranx sansun</i>	CARAN Caranx 3	<i>Uraspis guptae</i>	
<i>Caranx sexfasciatus</i>	CARAN Caranx 4	<i>Uraspis helvolus</i>	
<i>Caranx stellatus</i>		<i>Uraspis secundus</i>	
<i>Caranx tille</i>			
<i>Decapterus kurroides</i>			
<i>Decapterus macareltus</i>			
<i>Decapterus macrosoma</i>	CARAN Deca 1		
<i>Decapterus maruadsi</i>	CARAN Deca 2		

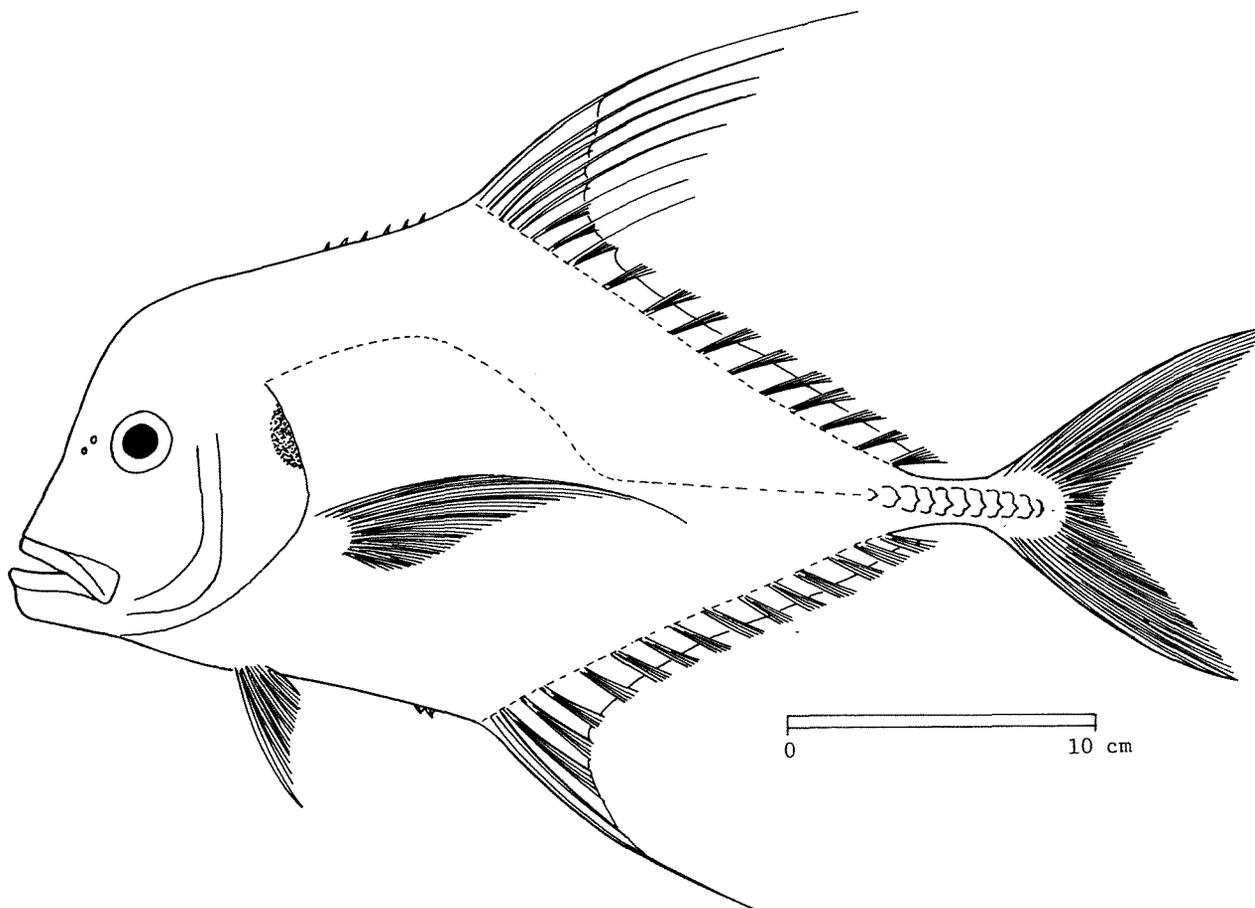
* Many of the genera are in great need of revision and this list must be considered tentative.

FAO SPECIES IDENTIFICATION SHEETS

FAMILY: CARANGIDAE

FISHING AREAS 57,71
(E Ind. Ocean)
(W Cent. Pacific)*Alectis indicus* (Rüppell, 1828)

SYNONYMS STILL IN USE: None



VERNACULAR NAMES:

FAO: En - Threadfin trevally
Fr -
Sp -

NATIONAL:

DISTINCTIVE CHARACTERS:

An extremely deep-bodied, highly compressed carangid. Head profile almost vertical, with a marked hump above eyes. Eye diameter 3.8 to 4.3 times in head length and 1.4 to 1.7 times in sub-orbital space. Upper jaw reaching to below front edge of eye or middle of eye. Teeth in both jaws in villiform bands; minute teeth on tongue, vomer and palatines (roof of mouth). 16 to 18 short, stout gill rakers on lower limb of 1st arch. 1st dorsal fin with 6 spines (embedded in skin in large specimens); 2nd dorsal fin with 1 spine and 18 to 19 soft rays. Dorsal fin base slightly longer than anal fin base; dorsal and anal fins elongate anteriorly, with filamentous rays, especially in juveniles.

Pectoral fins long and falcate. Pelvic fins also falcate in large fishes. Anal fin with 2 detached spines (embedded in skin in adults) and 1 spine and 16 soft rays. Scales minute, deeply embedded and inconspicuous. Lateral line anteriorly with a strong, irregular arch, becoming straight under 9th to 12th dorsal fin rays; 5 to 12 feeble scutes.

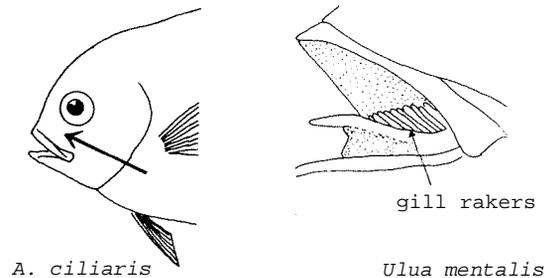
Colour: pale to dark blue above, silvery white below; a dark spot on upper edge of operculum in adults; fins pale in large adults; juveniles with elongate parts of dorsal and anal fins and pelvic fins with dusky tips.

DISTINGUISHING CHARACTERS OF SIMILAR SPECIES OCCURRING IN THE AREA:

Alectis ciliaris: eye diameter equal to or only slightly smaller than distance between eye and upper jaw.

Ulua mentalis: head profile much less arched and gill rakers elongate, visible in mouth.

Carangoides ciliarius: also has filamentous dorsal and anal fin rays, but 7 to 8 dorsal fin spines (6 in *Alectis*) and scales visible (embedded in skin in *Alectis*).



Other carangid species: either have scales visible and 7 to 8 dorsal fin spines, or lack scutes on lateral line.

Other very deep-bodied and compressed fishes: no scutes on caudal peduncle.

SIZE:

Maximum: 100 cm; common: 40 cm.

GEOGRAPHICAL DISTRIBUTION AND BEHAVIOUR:

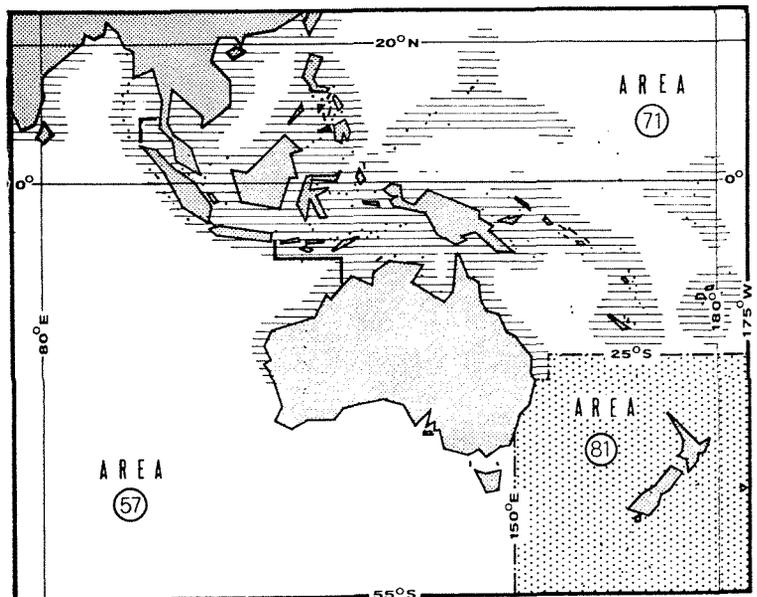
Throughout most warm coastal waters of area.

Inhabits shallow coastal areas.

Feeds on crustaceans and fishes.

PRESENT FISHING GROUNDS:

Coastal waters throughout its range.



CATCHES, MAIN FISHING GEAR AND PRINCIPAL FORMS OF UTILIZATION:

Separate statistics are not reported for this species. The total reported catch of miscellaneous unspecified carangids in 1972 was:

- area 57 (Eastern Indian Ocean): 1 400 tons (India only)
- area 71 (Western Central Pacific): 31 700 tons (Philippines: 26 800 tons; Malaysia 4 900 tons)

Caught mainly with gill nets and traps.

Marketed mostly fresh; also dried-salted.

DISTINGUISHING CHARACTERS OF SIMILAR SPECIES OCCURRING IN THE AREA:

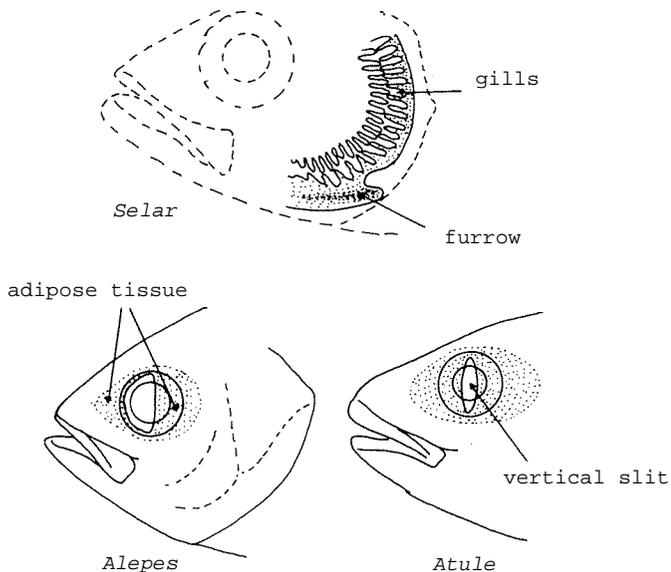
Alepes melanoptera: spinous dorsal fin black (pale in *A. dieddaba*).

Alepes kalla: straight part of lateral line beginning below 4th to 6th soft dorsal fin rays (below 2nd to 4th fin rays in *A. dieddaba*).

Selar species: a deep furrow on lower margin of gill opening (visible when gill cover lifted).

Atule mate: adipose tissue covering all but central slit of eye (anterior half of eye exposed in *Alepes*); also, last ray of soft dorsal and anal fins somewhat resembling a finlet, but not separate from rest of fin.

Other carangid genera: either lack scutes (e.g. *Trachinotus*), or scales embedded (*Alectis*), or possess finlets (*Decapterus*, *Megalaspis*), or jaw teeth enlarged and in more than one series in upper jaw (*Caranx*).



SIZE:

Maximum: 18 cm; common: 12 cm.

GEOGRAPHICAL DISTRIBUTION AND BEHAVIOUR:

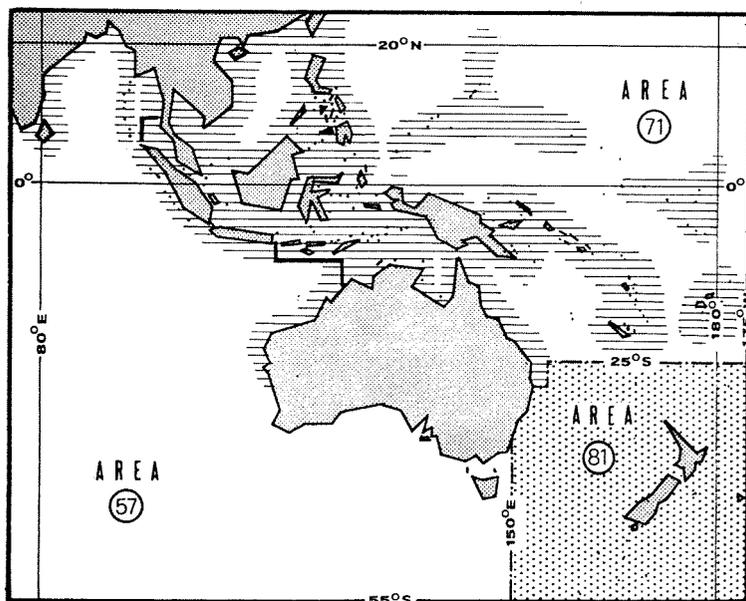
Throughout most warm coastal waters of area.

Inhabits shallow coastal waters.

Feeds on small crustaceans.

PRESENT FISHING GROUNDS:

Coastal waters throughout its range.



CATCHES, MAIN FISHING GEAR AND PRINCIPAL FORMS OF UTILIZATION:

Separate statistics are not reported for this species. The total reported catch of miscellaneous unspecified carangids in 1972 was:

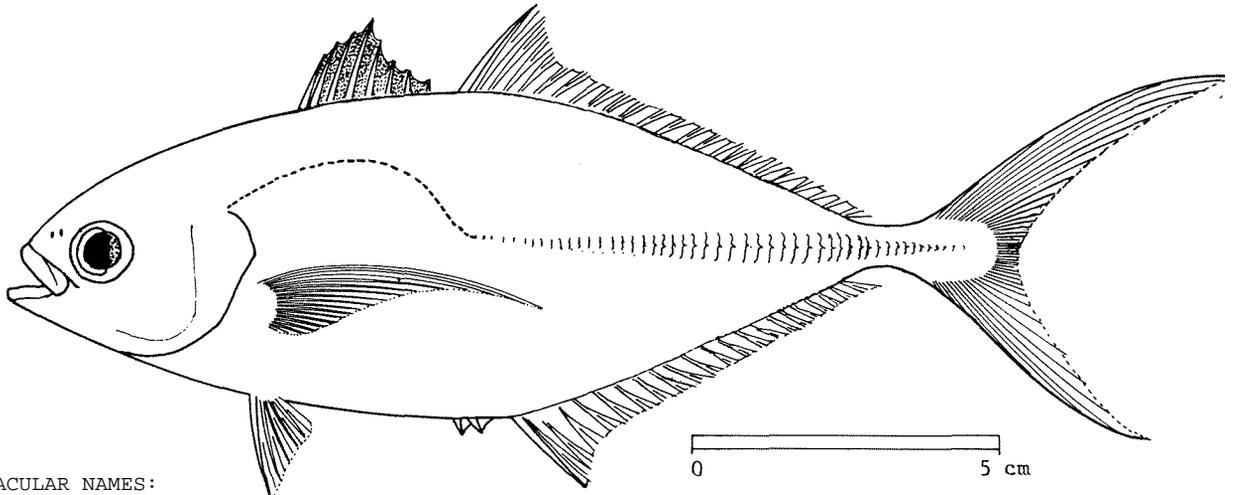
area 57 (Eastern Indian Ocean): 1 400 tons (India only)
 area 71 (Western Central Pacific): 31 700 tons (Philippines: 26 800 tons;
 Malaysia: 4 900 tons)

Caught mainly with bottom trawls, purse seines and traps.

Marketed mostly fresh.

FAO SPECIES IDENTIFICATION SHEETS

FAMILY: CARANGIDAE

FISHING AREAS 57,71
(E Ind. Ocean)
(W Cent. Pacific)*Alepes melanoptera* Swainson, 1839SYNONYMS STILL IN USE: *Atule malam* Bleeker, 1851
Atule pectoralis Chu & Cheng, 1958

VERNACULAR NAMES:

FAO: En - Blackfin crevalle
Fr -
Sp -

NATIONAL:

DISTINCTIVE CHARACTERS:

An oblong, moderately compressed carangid. Dorsal and ventral profiles equally and evenly convex. Eye diameter 4.0 to 4.5 times in head length. Upper jaw reaching to below anterior part of eye. Teeth in a single series in each jaw; vomer and palatines (roof of mouth) toothed. 1st dorsal fin with 1 forward-pointing spine (partially embedded in skin) and 8 normal spines; 2nd dorsal fin with 1 spine and 23 to 24 soft rays. Anal fin base shorter than 2nd dorsal fin base. Pectoral fins falcate. Anal fin with 2 detached spines, followed by 1 spine and 20 to 21 soft rays. Breast fully scaled. Lateral line strongly arched anteriorly, arched portion half the length of straight portion, the latter beginning under 2nd to 4th rays of 2nd dorsal fin; 48 to 56 scutes present, deepest scute 9 to 10 times in body depth.

Colour: blue/green above, silvery below; spinous dorsal fin distinctly black; other fins pale yellow; juveniles with a number of dusky bands from back to midline of body.

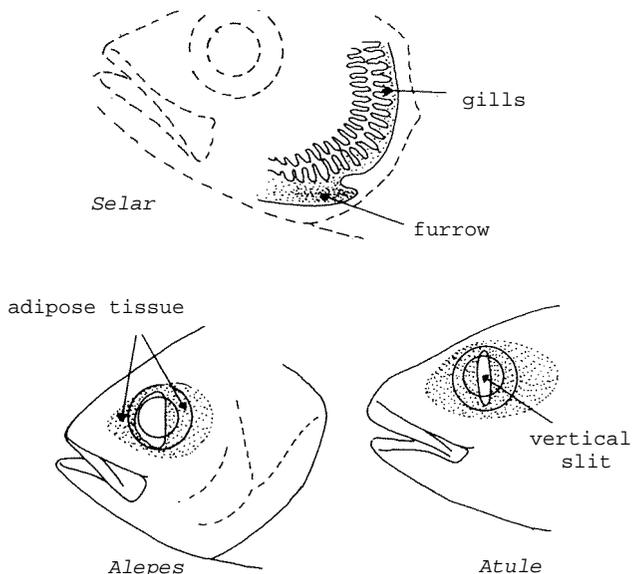
DISTINGUISHING CHARACTERS OF SIMILAR SPECIES OCCURRING IN THE AREA:

Alepes djeddaba and *A. kalla*: spinous dorsal fin pale (black in *A. melanoptera*).

Selar species: a deep furrow on lower margin of gill opening (visible when gill cover lifted).

Atule mate: adipose tissue covering all but central slit of eye (anterior half of eye exposed in *Alepes*); also, last ray of dorsal and anal fins somewhat resembling a finlet, but not separate from rest of fin.

Other carangid genera: either lack scutes (e.g. *Trachinotus*), or scales embedded (*Alectis*), or possess finlets (*Decapterus*, *Megalaspis*), or jaw teeth enlarged and in more than one series in upper jaw (*Caranx*).



SIZE:

Maximum: 30 cm; common: 20 cm.

GEOGRAPHICAL DISTRIBUTION AND BEHAVIOUR:

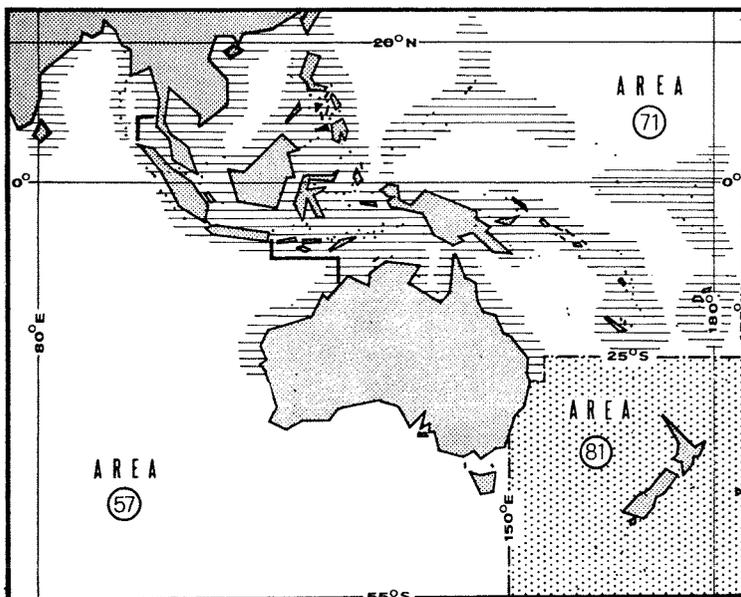
Throughout most warm coastal waters of area.

Inhabits shallow coastal waters.

Feeds on crustaceans and fishes.

PRESENT FISHING GROUNDS:

Coastal waters throughout its range.



CATCHES, MAIN FISHING GEAR AND PRINCIPAL FORMS OF UTILIZATION:

Separate statistics are not reported for this species. The total reported catch of miscellaneous unspecified carangids in 1972 was:

area 57 (Eastern Indian Ocean):	1 400 tons (India only)
area 71 (Western Central Pacific):	31 700 tons (Philippines: 26 800 tons; Malaysia: 4 900 tons)

Caught mainly with bottom trawls, traps and purse seines.

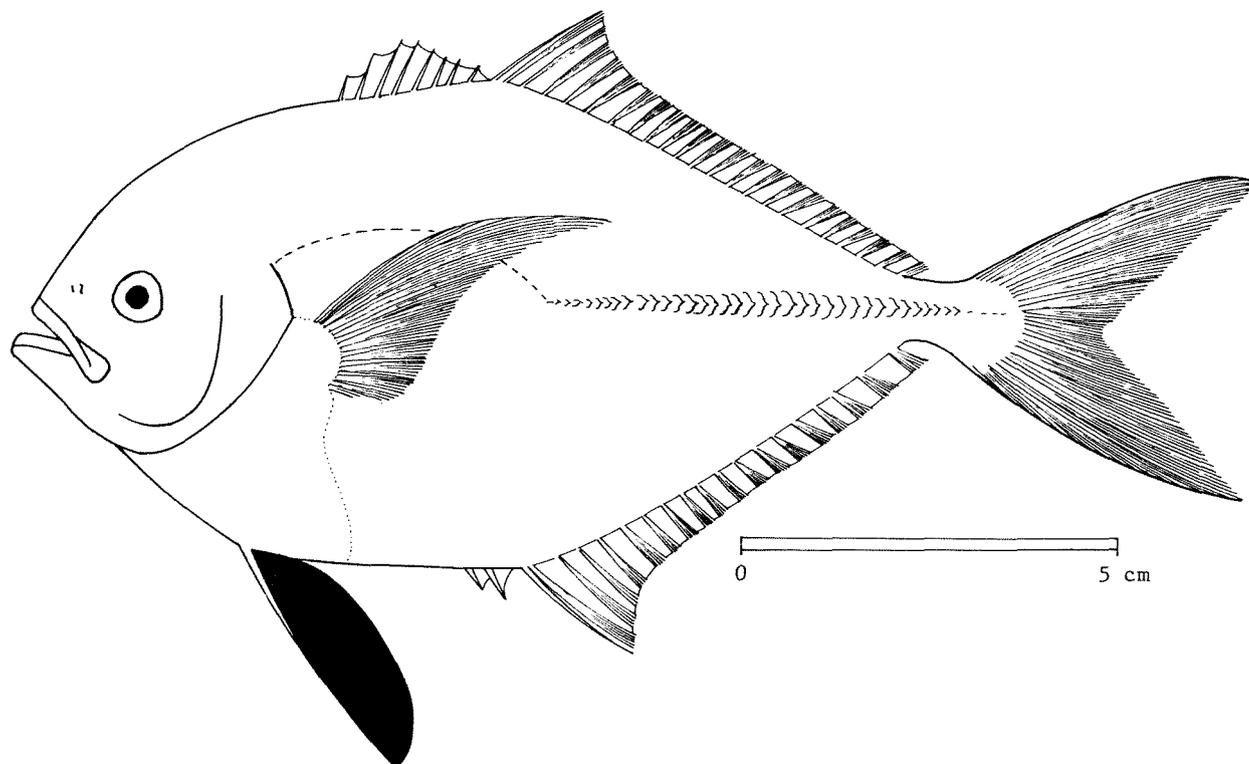
Marketed mostly fresh.

FAMILY: CARANGIDAE

FISHING AREAS 57,71
(E Ind. Ocean)
(W Cent. Pacific)

Atropus atropus (Bloch & Schneider, 1801)

SYNONYMS STILL IN USE: None



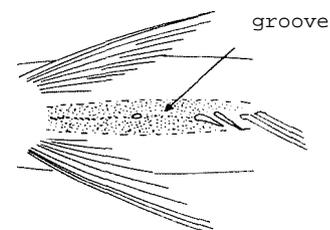
VERNACULAR NAMES:

FAO: En - Kuweh trevally
Fr -
Sp -

NATIONAL:

DISTINCTIVE CHARACTERS:

A deeply ovate, strongly compressed carangid. Profile of head above eye strongly convex. A deep groove between bases of anal and pelvic fins, accommodating anus, pre-anal spines and pelvic fins. 1st dorsal fin with 1 forward-pointing spine (partially embedded in skin) and 8 normal spines; 2nd dorsal fin with 1 spine and 22 soft rays. Pectoral fins falcate. Anal fin with 2 detached spines in abdominal grooves, followed by 1 normal spine and 18 soft rays. Weak scutes along straight part of lateral line, the latter much longer than anterior arched portion.



Atropus
(viewed from below)

Colour: blue/green above, silvery white below; pelvic fins black, other fins pale or light yellow.

DISTINGUISHING CHARACTERS OF SIMILAR SPECIES OCCURRING IN THE AREA:

Other carangid genera: lack deep groove along belly.

SIZE:

Maximum: 30 cm; common: 20 cm.

GEOGRAPHICAL DISTRIBUTION AND BEHAVIOUR:

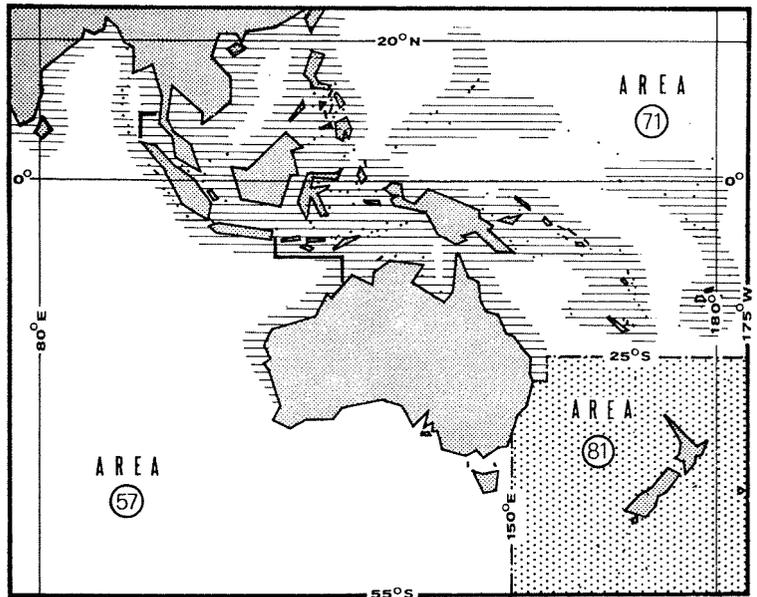
Throughout most warm coastal waters of area.

Inhabits coastal areas of various marine habitats.

Feeds on crustaceans and fishes.

PRESENT FISHING GROUNDS:

Coastal waters throughout its range.



CATCHES, MAIN FISHING GEAR AND PRINCIPAL FORMS OF UTILIZATION:

Separate statistics are not reported for this species. The total reported catch of miscellaneous unspecified carangids in 1972 was:

area 57 (Eastern Indian Ocean): 1 400 tons (India only)
area 71 (Western Central Pacific): 31 700 tons (Philippines: 26 800 tons;
Malaysia: 4 900 tons)

Caught mainly with bottom trawls and traps.

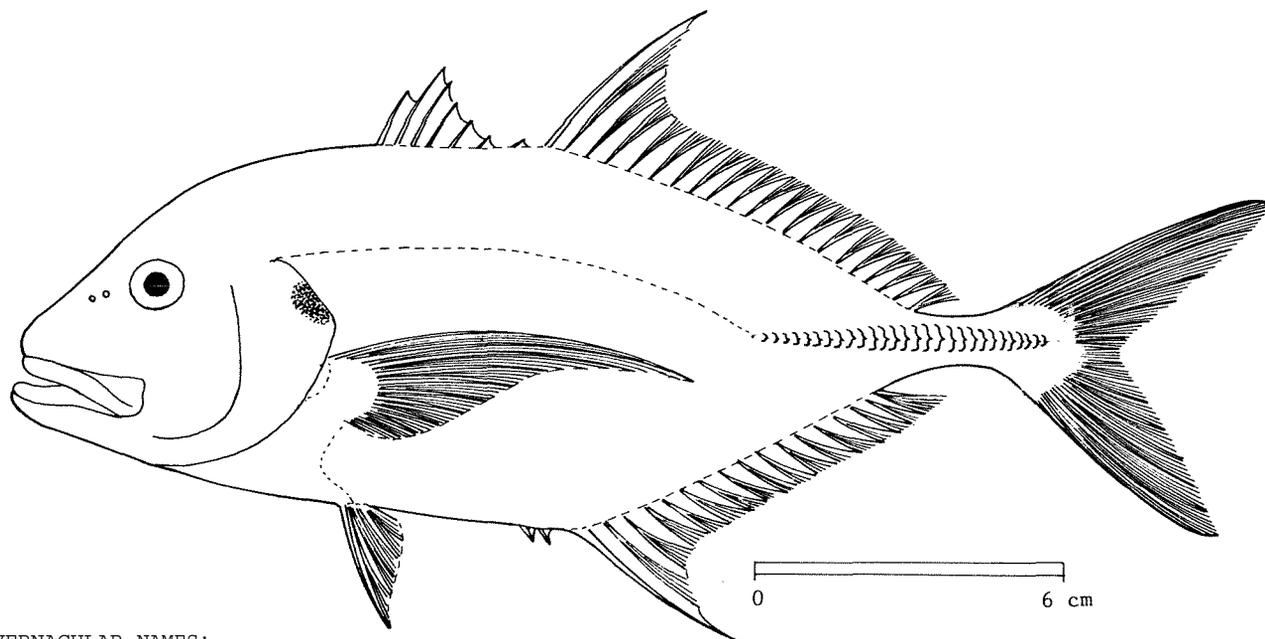
Marketed mostly fresh.

FAO SPECIES IDENTIFICATION SHEETS

FAMILY: CARANGIDAE

FISHING AREAS 57,71
(E Ind. Ocean)
(W Cent. Pacific)*Carangoides chrysophrys* Valenciennes, 1833

SYNONYMS STILL IN USE: None



VERNACULAR NAMES:

FAO: En - Longnose cavalla
Fr -
Sp -

NATIONAL:

DISTINCTIVE CHARACTERS:

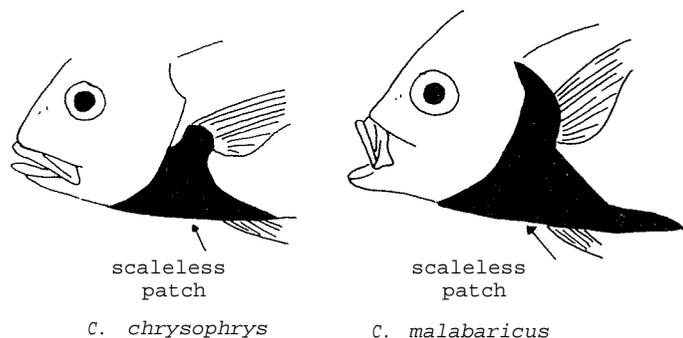
A compressed, ovoid carangid. Head profile smoothly convex at nape but straight anteriorly. Eye diameter 4.5 to 5.0 times in head length and twice in snout length. Upper jaw reaching to below front 1/4 of eye. Teeth in jaws in villiform bands; a few outer teeth may be enlarged; minute teeth on vomer and palatines (roof of mouth) and tongue. Gill rakers 16 on lower limb of 1st arch. 1st dorsal fin with 1 forward-pointing spine (partially embedded in skin) and 8 normal spines; 2nd dorsal fin with 1 spine and 19 to 20 soft rays; 1st dorsal fin ray 0.9 to 1.7 times in head length. Dorsal and anal fin bases nearly equal. Pectoral fins falcate. Anal fin with 2 detached spines, followed by 1 spine and 15 to 16 soft rays. Breast naked from anterior third of pelvic fin up to and including base of pectoral fin and forward to isthmus. Anterior part of lateral line forming a long, low arch, much longer than straight portion, becoming straight under 12th to 14th soft dorsal fin rays; 17 to 26 feeble scutes.

Colour: green/blue above, silvery white below; a black spot on gill cover; fins pale.

DISTINGUISHING CHARACTERS OF SIMILAR SPECIES OCCURRING IN THE AREA:

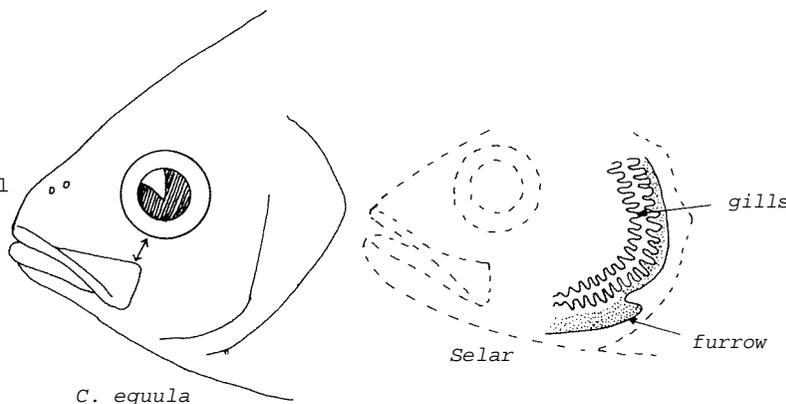
Carangoides malabaricus: head profile more strongly arched, 20 to 23 soft dorsal fin rays and 17 to 18 soft anal fin rays (19 to 20 and 15 to 16 in *C. chrysophrys*); also, scaleless patch on breast extending dorsally to lateral line (only to pectoral fin base in *C. chrysophrys*).

Carangoides ciliaris: head profile strongly arched, with hump at nape, anterior lobes of dorsal and anal fins produced and filamentous, other fin rays filamentous in large fishes; also, gill rakers 20 to 23 on lower part of 1st gill arch (16 in *C. chrysophrys*).



Carangoides equula: eye much larger (3.5 times in head length; 4.5 to 5.0 times in *C. chrysophrys*) and less than 1 eye diameter from mouth.

Caranx species: enlarged conical teeth in jaws and large, strong scutes along straight portion of lateral line.



Other carangid genera: either lack scutes (*Trachinotus*, etc.), or scales embedded in skin (*Alectis*), or dorsal and anal finlets present (*Decapterus*, etc.) or deep furrow present on lower margin of gill opening (*Selar*).

SIZE:

Maximum: 60 cm; common: 30 cm.

GEOGRAPHICAL DISTRIBUTION AND BEHAVIOUR:

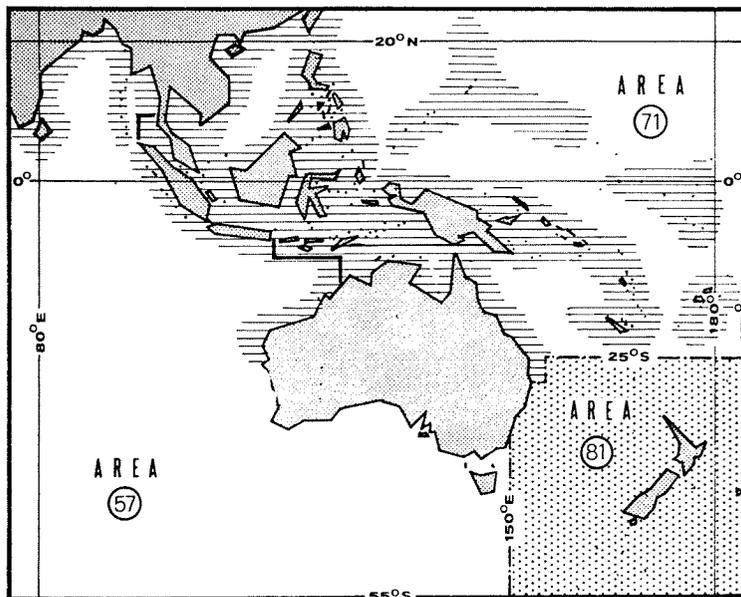
Throughout most warm coastal waters of area.

Inhabits shallow coastal waters down to 60 m; juveniles occur in inshore areas.

Feeds on crustaceans and fishes.

PRESENT FISHING GROUNDS:

Coastal waters throughout its range.



CATCHES, MAIN FISHING GEAR AND PRINCIPAL FORMS OF UTILIZATION:

Separate statistics are not reported for this species. The total reported catch of miscellaneous unspecified carangids in 1972 was:

area 57 (Eastern Indian Ocean): 1 400 tons (India only)
 area 71 (Western Central Pacific): 31 700 tons (Philippines: 26 800 tons;
 Malaysia: 4 900 tons)

Caught mainly with bottom trawls, gill nets and traps.

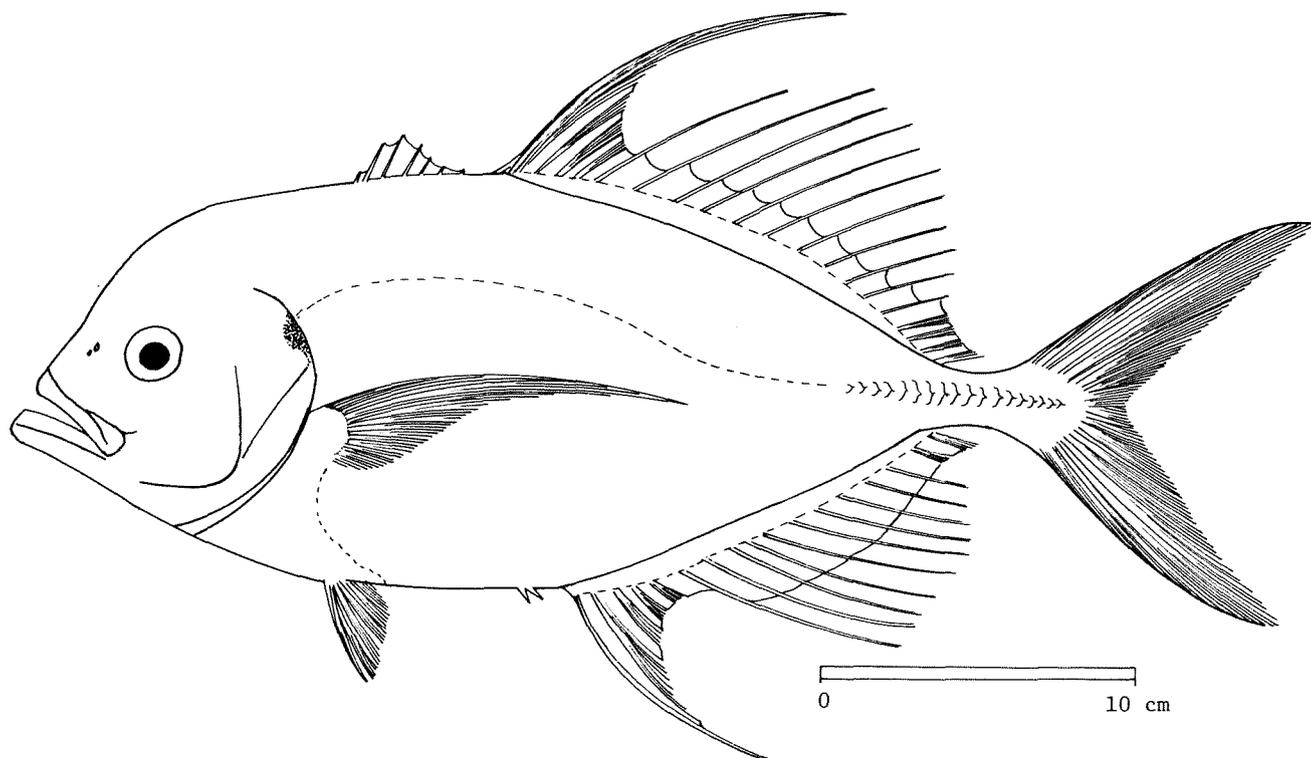
Marketed mostly fresh; also dried-salted.

FAO SPECIES IDENTIFICATION SHEETS

FAMILY: CARANGIDAE

FISHING AREAS 57,71
(E Ind. Ocean)
(W Cent. Pacific)*Carangoides ciliaris* (Rüppell, 1830)

SYNONYMS STILL IN USE: None



VERNACULAR NAMES:

FAO: En - Longfin cavalla
Fr -
Sp -

NATIONAL:

DISTINCTIVE CHARACTERS:

An ovate, strongly compressed carangid. Head profile steep, with a slight notch before eye and a hump at nape. Teeth in jaws in villiform bands; teeth present on vomer and palatines (roof of mouth). Gill rakers 20 to 23 on lower limb of 1st arch. 1st dorsal fin with 1 forward-pointing spine (partially embedded in skin) and 8 normal spines; 2nd dorsal fin with 1 spine and 20 to 21 soft rays; 1st dorsal fin ray 0.5 to 0.7 times in head length. Anal and dorsal fin bases subequal; dorsal and anal fins elongate anteriorly, forming falcate lobes (specimens larger than 26 cm have soft dorsal and anal fin rays filamentous). Pectoral fins long and falcate. Anal fin with 2 detached spines followed by 1 spine and 16 to 17 soft rays. Breast naked to behind pelvic fin and up to and including base of pectoral fin; 15 to 20 feeble scutes on straight portion of lateral line, which starts below 13th dorsal fin ray; curved portion moderately arched, 1/4 longer than posterior straight portion.

Colour: blue above, silvery below; occasional darker bands across body in juveniles; fins pale or yellow; black spot on operculum.

DISTINGUISHING CHARACTERS OF SIMILAR SPECIES OCCURRING IN THE AREA:

Carangoides malabaricus: 20 to 23 soft dorsal fin rays, 17 to 18 soft anal fin rays (20 to 21 and 16 to 17 in *C. ciliaris*); also, scaleless patch on breast extending dorsally to lateral line (to pectoral fin base in *C. ciliaris*) and fin rays never filamentous.

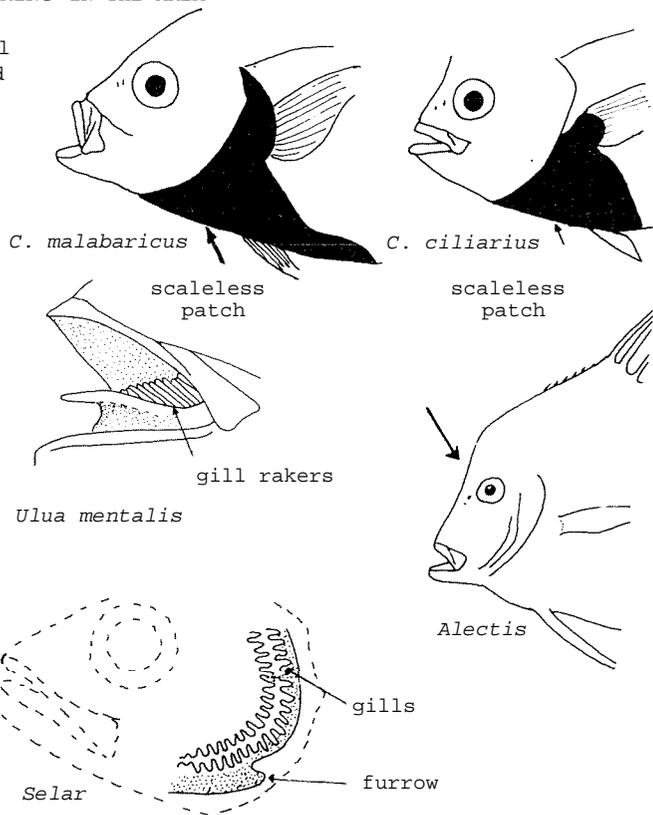
Carangoides chrusophrus: gill rakers, 16 on lower branch of the 1st arch (20 to 23 in *C. ciliaris*), and a straight profile in front of eye, without prominent hump at nape.

Caranx species: enlarged conical teeth in jaws and large, strong, scutes along straight portion of lateral line.

Ulua mentalis: gill rakers long and feathery, reaching into mouth; also, an angulate, heavy lower jaw.

Aleeticus species: head profile even steeper; also, scales embedded in skin.

Other carangid genera: either lack scutes (*Traehinotus*, etc.), or dorsal and anal finlets present (*Decapterus*, etc.) or deep furrow present on lower margin of gill opening (*Selar*).



SIZE:

Maximum: 60 cm; common: 30 cm.

GEOGRAPHICAL DISTRIBUTION AND BEHAVIOUR:

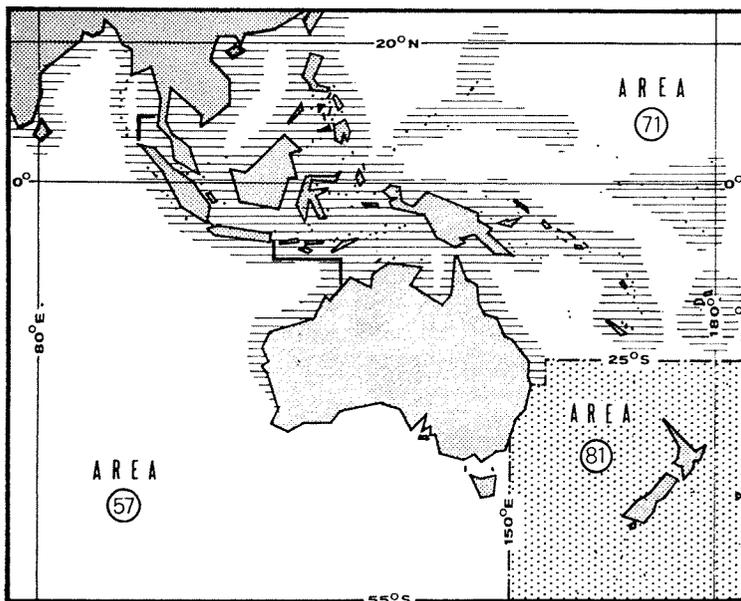
Throughout most warm coastal waters of area.

Inhabits coastal waters and coral and rocky reefs; juveniles occur in shallow inshore areas.

Feeds on crustaceans and fishes.

PRESENT FISHING GROUNDS:

Coastal waters throughout its range.



CATCHES, MAIN FISHING GEAR AND PRINCIPAL FORMS OF UTILIZATION:

Separate statistics are not reported for this species. The total reported catch of miscellaneous unspecified carangids in 1972 was:

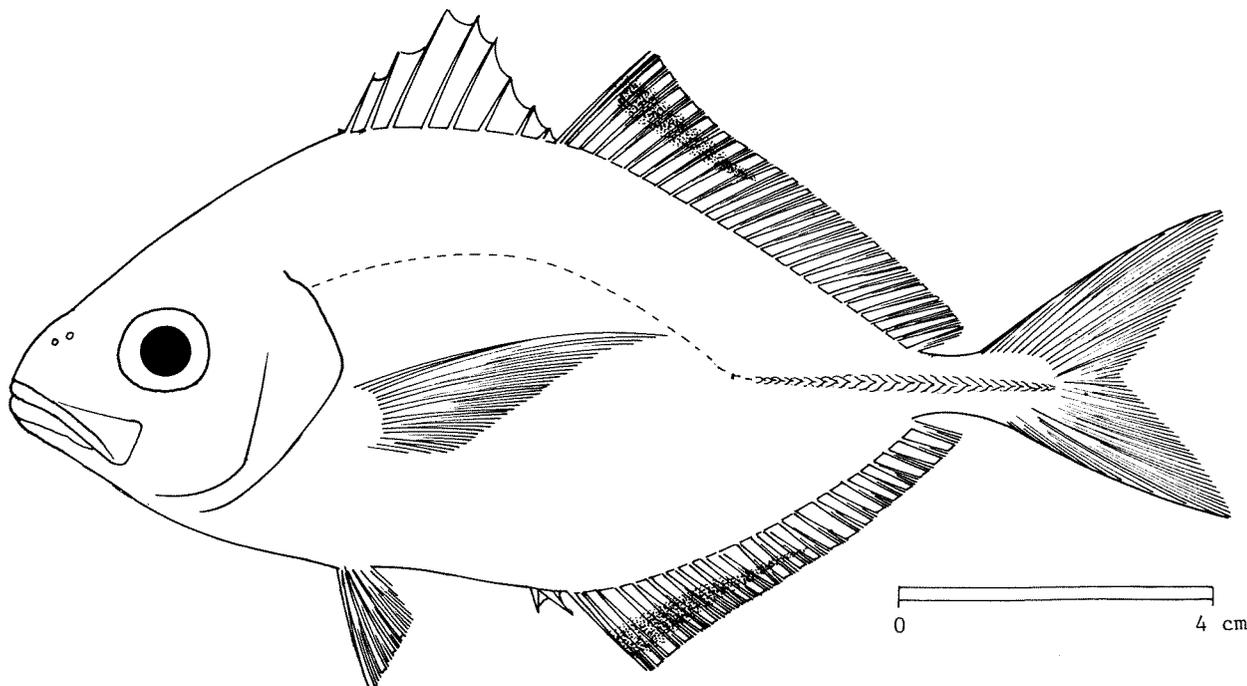
- area 57 (Eastern Indian Ocean): 1 400 tons (India only)
- area 71 (Western Central Pacific): 31 700 tons (Philippines: 26 800 tons; Malaysia: 4 900 tons)

Caught mainly with bottom trawls, gill nets and traps.

Marketed mostly fresh; also dried-salted.

FAO SPECIES IDENTIFICATION SHEETS

FAMILY: CARANGIDAE

FISHING AREAS 57,71
(E Ind. Ocean)
(W Cent. Pacific)*Carangoides equula* (Temminck & Schlegel, 1842)SYNONYMS STILL IN USE: *Carangoides acutus* Kotthaus, 1974

VERNACULAR NAMES:

FAO: En - Whitefin cavalla
Fr -
Sp -

NATIONAL:

DISTINCTIVE CHARACTERS:

A deep-bodied, much compressed carangid. Head profile almost straight. Eye diameter 3.5 times in head length. Upper jaw reaching to below anterior half of eye. Teeth in both jaws in villiform bands. 1st dorsal fin with 1 forward-pointing spine (partially embedded in skin) and 8 normal spines; 2nd dorsal. fin with 1 spine and about 25 soft rays. Pectoral fins long and falcate. Anal and dorsal fin bases about equal in length. Anal fin with 2 detached spines, followed by 1 spine and 23 soft rays. Breast fully sealed. Anterior part of lateral line strongly arched, becoming straight under 13th soft dorsal fin ray, arched portion much longer than straight portion.

Colour: blue/green above, silvery below; soft dorsal and anal fins yellow but dusky black below fin margin on anterior half of fins, and chalky white anterior tips; caudal and pelvic fins yellow; vertical bands present on body, sometimes vague.

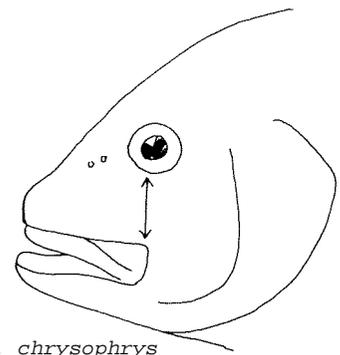
DISTINGUISHING CHARACTERS OF SIMILAR SPECIES OCCURRING IN THE AREA

Carangoides chrysophrys: eye much smaller (diameter 4.5 to 5.0 times in head length; 3.5 times in *C. equula*) and more than 1 eye diameter from mouth.

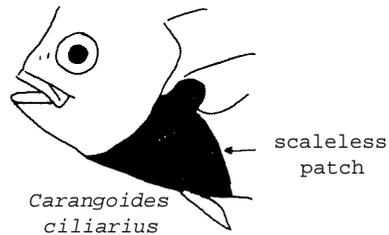
Other *Carangoides* species: head profile usually steeper and more convex; also, dorsal and anal fins not so distinctively coloured and scales often absent on breast.

Caranx species: enlarged conical teeth in jaws and large, strong scutes along straight portion of lateral line.

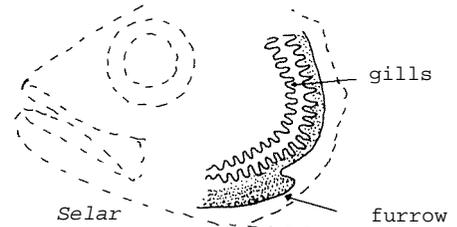
Other carangid genera: either lack scutes (*Trachinotus*, etc.), or scales embedded in skin (*Alectis*), or dorsal and anal finlets present (*Decapterus*, etc.) or deep furrow on lower margin of gill opening (*Selar*).



C. chrysophrys



Carangoides ciliaris



Selar

SIZE:

Maximum: 22 cm; common: 16 cm.

GEOGRAPHICAL DISTRIBUTION AND BEHAVIOUR:

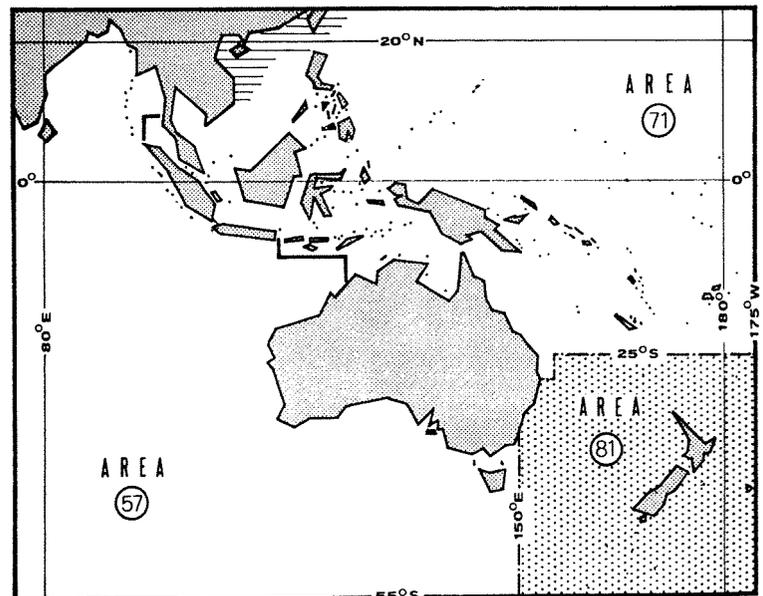
Confined to the northern parts of the South China Sea, and the East China Sea.

Inhabits coastal offshore areas down to 100 m, primarily over mud.

Feeds on small crustaceans and fishes.

PRESENT FISHING GROUNDS:

Offshore areas throughout its range.



CATCHES, MAIN FISHING GEAR AND PRINCIPAL FORMS OF UTILIZATION:

Separate statistics are not reported for this species. The total reported catch of miscellaneous unspecified carangids in 1972 was:

area 57 (Eastern Indian Ocean): 1 400 tons (India only)
 area 71 (Western Central Pacific): 31 700 tons (Philippines: 26 800 tons;
 Malaysia: 4 900 tons)

Caught only with bottom trawls.

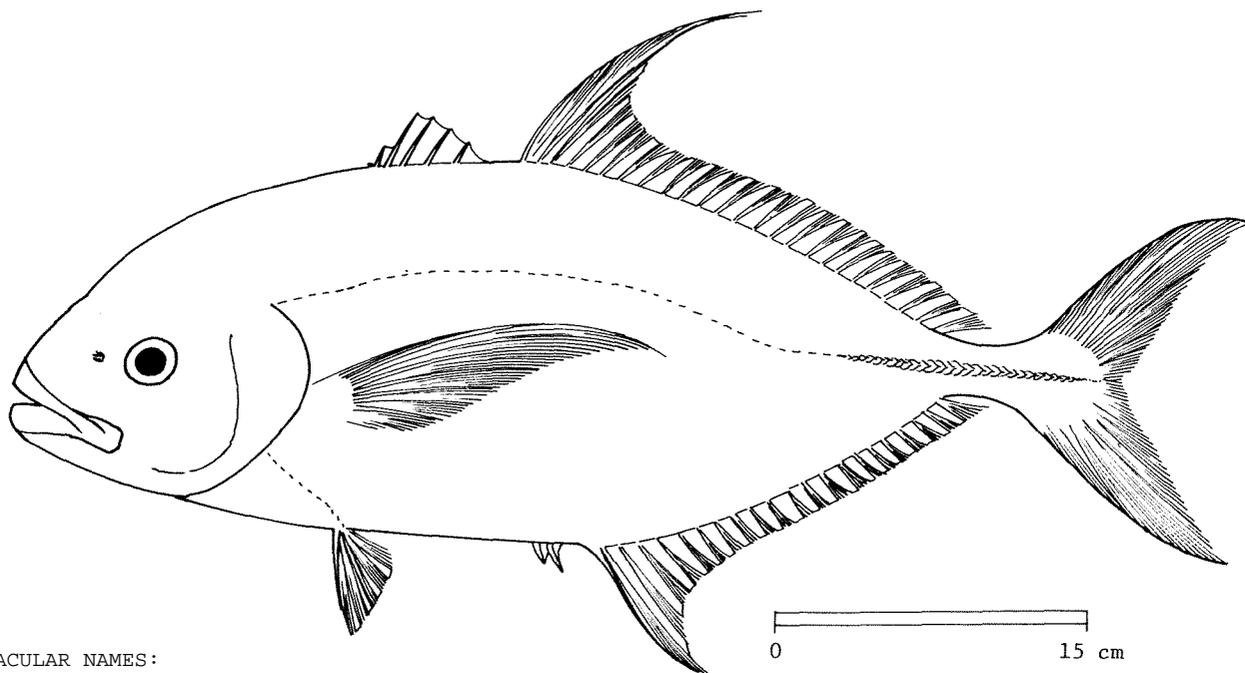
Marketed mostly fresh.

FAO SPECIES IDENTIFICATION SHEETS

FAMILY: CARANGIDAE

FISHING AREAS 57,71
(E Ind. Ocean)
(W Cent. Pacific)*Carangoides ferdau* (Forsskål, 1775)

SYNONYMS STILL IN USE: None



VERNACULAR NAMES:

FAO: En - Ferdau's cavalla
Fr -
Sp -

NATIONAL:

DISTINCTIVE CHARACTERS:

An oblong, compressed carangid. Head profile evenly convex. Eye low-set, at level of snout tip. Teeth in jaws in villiform bands; vomer and palatines (roof of mouth) toothed. Gill rakers 18 to 19 on lower limb of 1st gill arch. 1st dorsal fin with 1 forward-pointing spine (partially embedded in skin) and 7 normal spines; 2nd dorsal fin falcate, with 1 spine and 25 to 29 soft rays. Pectoral fins falcate. Anal fin falcate, with 2 detached spines, followed by 1 spine and 21 to 23 soft rays. Breast with a triangular scaleless area from pelvic fin to halfway between the isthmus and pectoral fin base. Lateral line arched anteriorly, straight part shorter than arched portion, commencing below posterior third of 2nd dorsal; 24 to 26 feeble scutes on lateral line.

Colour: blue on back, silvery white on sides; fins green or dusky purple with a white edge to anal and caudal fins; juveniles with darker vertical cross-bars.

DISTINGUISHING CHARACTERS OF SIMILAR SPECIES OCCURRING IN THE AREA:

Carangoides equula: dorsal and anal fins not falcate, breast fully scaled.

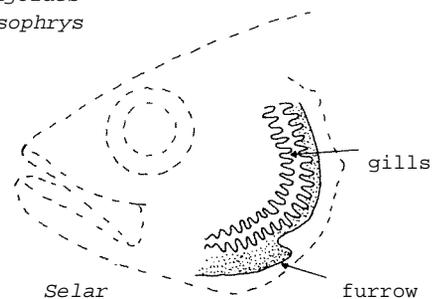
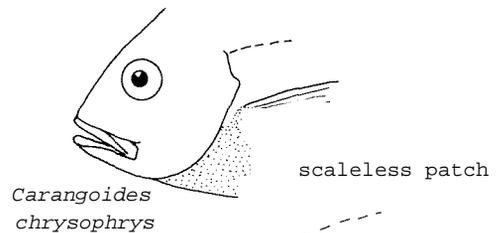
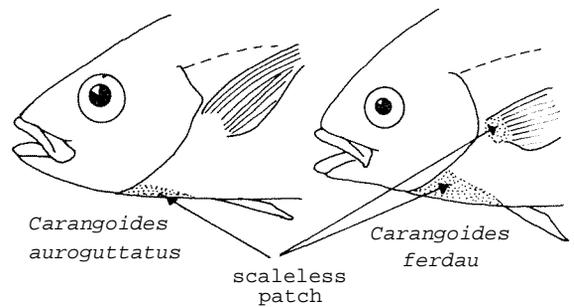
Carangoides jordani: gill rakers 32 to 33 (18 to 19 in *C. ferdau*); also, 29 to 32 soft dorsal fin rays and 24 to 26 soft anal fin rays (25 to 29 and 21 to 23 in *C. ferdau*).

Other *Carangoides* species: scaleless patch on breast either extends to pectoral base (or beyond), or reaches at most only 1/3 distance to pectoral base.

Caranx ignobilis: smaller scaleless area on breast (as in *Carangoides auroguttatus*); also, only 16 to 17 soft anal fin rays (21 to 23 in *C. ferdau*).

Caranx species: breast usually fully scaled, enlarged conical teeth in jaws and large, strong scutes along straight portion of lateral line.

Other carangid genera: either lack scutes (*Trachinotus*, etc.), or scales embedded (*Alectis*), or dorsal and anal finlets present (*Decapterus*, etc.) or deep furrow on lower margin of gill opening (*Selar*).



SIZE:

Maximum: 70 cm; common: 50 cm.

GEOGRAPHICAL DISTRIBUTION AND BEHAVIOUR:

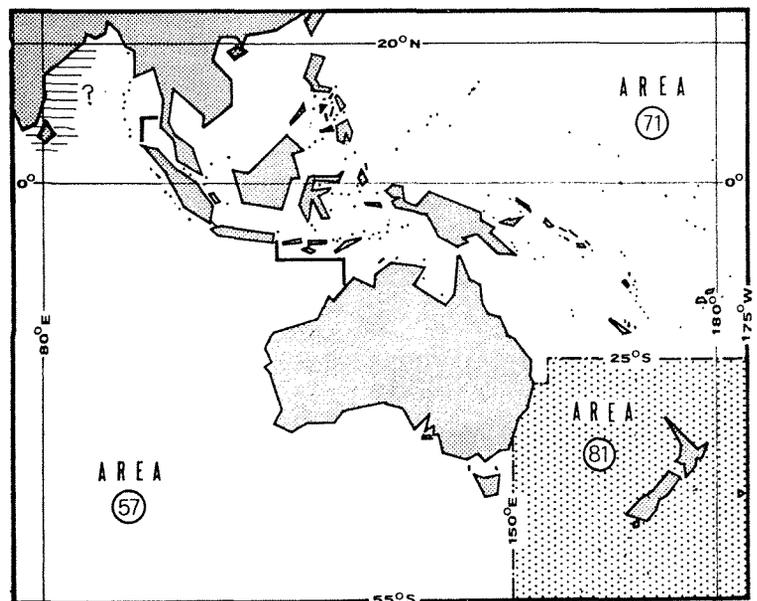
Records unreliable; possibly in western part of area, but perhaps replaced by *C. jordani* in Indonesia and western Pacific; confused with *C. nitida* in western Indian Ocean.

Inhabits coral and rocky reefs down to 60 m.

Feeds on crustaceans and fishes.

PRESENT FISHING GROUNDS:

Throughout its range.



CATCHES, MAIN FISHING GEAR AND PRINCIPAL FORMS OF UTILIZATION:

Separate statistics are not reported for this species. The total reported catch of miscellaneous unspecified carangids in 1972 was:

- area 57 (Eastern Indian Ocean): 1 400 tons (India only)
- area 71 (Western Central Pacific): 31 700 tons (Philippines: 26 800 tons; Malaysia: 4 900 tons)

Caught mainly with gill nets, handlines and traps.

Marketed mostly fresh; also dried-salted.