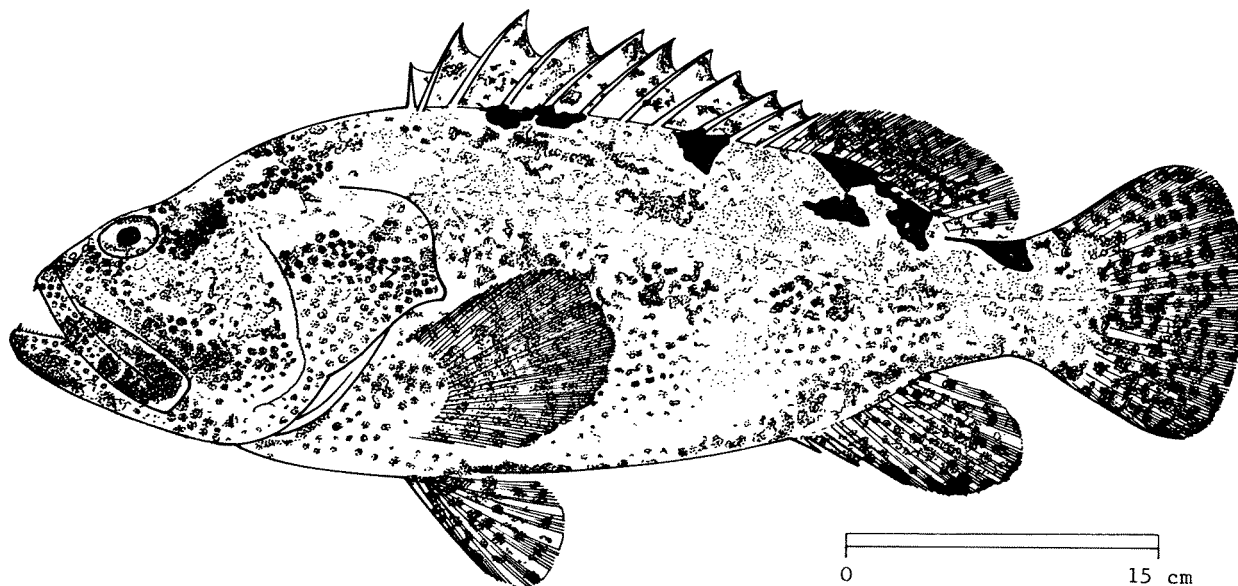


## FAO SPECIES IDENTIFICATION SHEETS

FAMILY: SERRANIDAE

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

SYNONYMS STILL IN USE: None



## VERNACULAR NAMES:

FAO: En - Brown-marbled grouper  
Fr -  
Sp -

## NATIONAL:

## DISTINCTIVE CHARACTERS:

A large serranid fish with an oblong and laterally compressed body. Preoperculum obtusely rounded and finely serrated along its upper edge; no enlarged spinules at angle. Operculum with upper border strongly convex and 3 flat spines, the upper and lower of which are poorly developed, the lower closest to edge of operculum. Gill rakers 17 to 20 on lower part of 1st arch. Teeth small, in narrow bands in young, in broad bands in adults, those of inner series longer and depressible; canines at front of jaws. Dorsal fin with 11 spines and 14 to 15 soft rays. Pectoral fin with 18 to 19 rays. Caudal fin rounded.

Colour: ground colour varying from olive/yellow to light brown, covered all over by numerous close-set dark brown spots, so that pale colour of narrow interspaces contrasts highly with dark spotting, especially on head; 4 black blotches, 3 along base of dorsal fin and 1 forming a black saddle on caudal peduncle.

DISTINGUISHING CHARACTERS OF SIMILAR SPECIES OCCURRING IN THE AREA:

*Epinephelus microdon*: pectoral fin rays 16 or more (usually 17) and lower gill rakers 15 to 16 (18 to 19 pectoral fin rays and 17 to 20 gill rakers in *E. fuscoguttatus*).

*Epinephelus corallicola*: spots more dispersed and all fins with a narrow white edge.

*Epinephelus areolatus*: spots dark green/brown and caudal fin truncate.

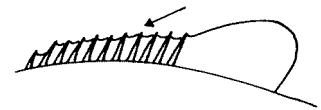
Other spotted *Epinephelus* species: spots red/brown, red, orange/red, yellow, white or blue; also, spots sometimes enlarged to form a honeycomb or reticulated pattern. (*E. megachir*, *E. merra*, etc.).

Other *Epinephelus* species: colour pattern wholly or partly striped.

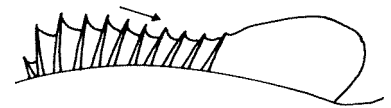
*Promicrops* species: dorsal fin spines increasing in length posteriorly, the longest spine shorter than soft rays.

*Cephatopholis*, *Cromileptes* and *Variola* species: 9 to 10 dorsal fin spines (11 in *Epinephelus*).

*Plectropomus* species: 6 to 8 dorsal fin spines.



*Promicrops*



*Epinephelus*  
dorsal fin

SIZE:

Maximum: 120 cm;  
common: 60 to 70 cm.

GEOGRAPHICAL DISTRIBUTION AND BEHAVIOUR:

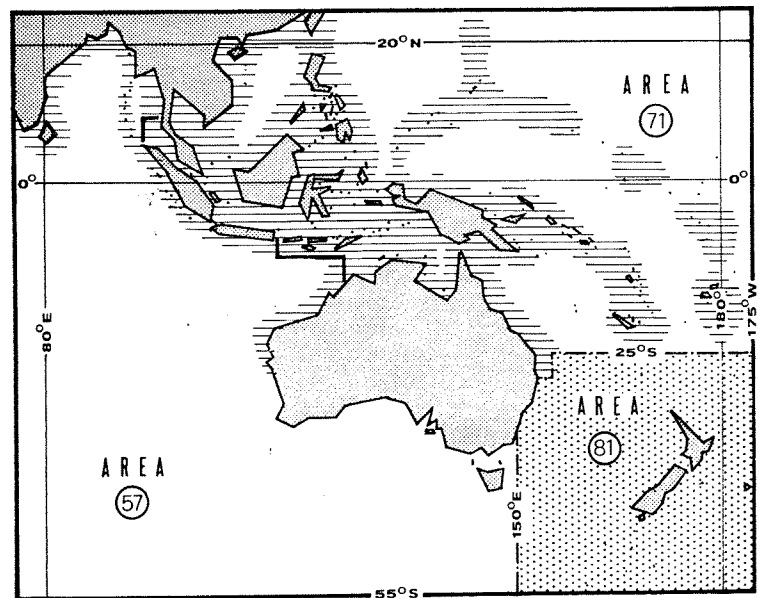
Throughout warm coastal waters of area.

Inhabits coastal areas and coral reefs, down to 60 m.

Feeds on bottom-living crustaceans and fishes.

PRESENT FISHING GROUNDS:

Throughout its range.



CATCHES, MAIN FISHING GEAR AND PRINCIPAL FORMS OF UTILIZATION:

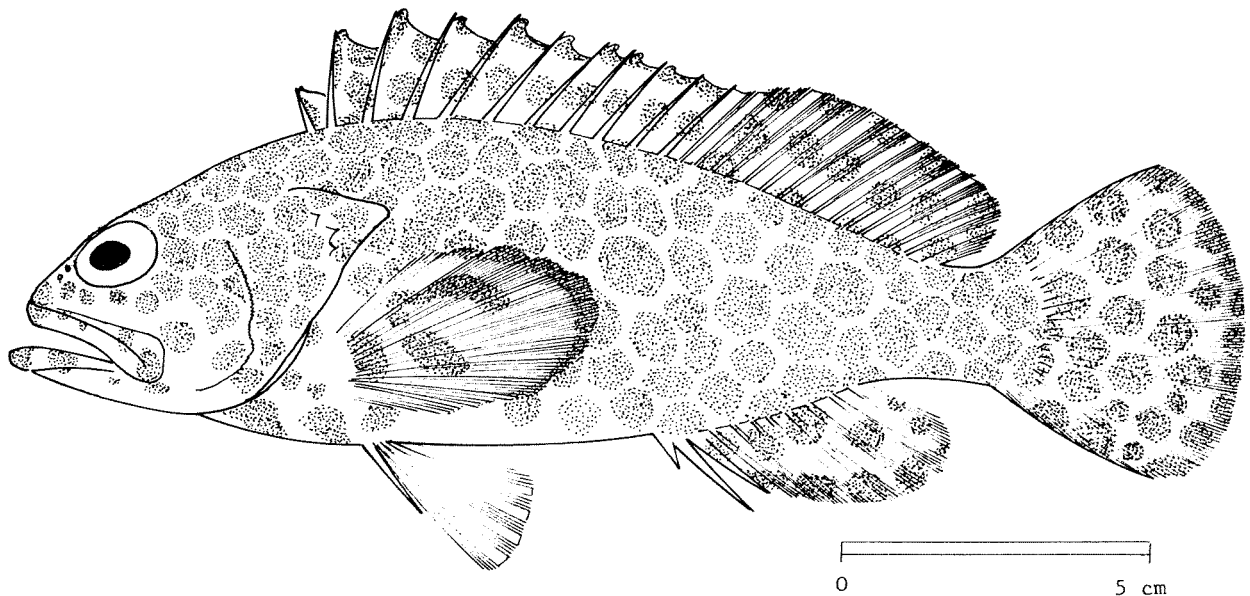
Separate statistics are not reported for this species. The total reported catch of *Epinephelus* species in 1972 was 7 900 tons (Philippines: 7 800 tons; Singapore: 100 tons).

Caught mainly with gill nets, traps, longlines and handlines.

Marketed mostly fresh.

## FAO SPECIES IDENTIFICATION SHEETS

FAMILY: SERRANIDAE

FISHING AREAS 57,71  
(E Ind. Ocean)  
(W Cent. Pacific)*Epinephelus megachir* (Richardson, 1846)SYNONYMS STILL IN USE: *Serranus megachir*: Fowler & Bean, 1930

## VERNACULAR NAMES:

FAO: En - Honeycomb grouper  
Fr -  
Sp -

NATIONAL:

## DISTINCTIVE CHARACTERS:

A small serranid fish with an oblong and laterally flattened body. Preoperculum with a convex, finely serrated upper edge and a wide shallow notch above its angle, the latter without enlarged spinules. Operculum with a straight upper edge and 3 flat spines, the middle spine equidistant from upper and lower ones. Teeth in narrow bands, in 2 series on sides of jaws, those of inner series longer and depressible; canines at front of jaws. Dorsal fin with 11 spines and 16 to 18 soft rays. Pectoral fins broad and long, slightly longer than head without snout. Caudal fin rounded.

Colour: ground colour of head, body and fins pale brown, overlain by large honeycomb-like red blotches; breast with a W-shaped mark; pectoral fins with several indistinct red blotches, a curved red band across upper half of fins and a broad dusky black margin; underside of head also with red blotches.

DISTINGUISHING CHARACTERS OF SIMILAR SPECIES OCCURRING IN THE AREA:

*Epinephelus merra*: small brown spots on all fins and spots of body red/brown (red in *E. megachir*).

*Epinephelus chlorostigma*: spots on body red/brown and very close-set.

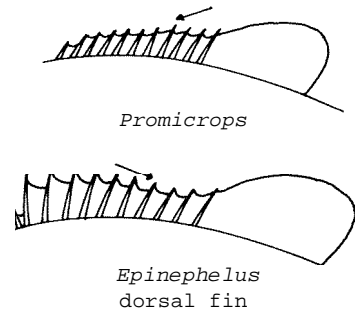
*Epinephelus hexagonatus*: white triangular spaces between blotches, 4 black blotches along base of dorsal fin and pectoral fins dusky orange (black-edged in *E. megachir*).

Other *Epinephelus* species: either small spots on body or else stripes dominate colour pattern.

*Promicrops* species: dorsal fin spines increasing in length posteriorly, the longest spine shorter than soft fin rays.

*Cephalopholis*, *Cromileptes* and *Variola* species: 9 to 10 dorsal fin spines (11 in *Epinephelus*).

*Plectropomus* species: 6 to 8 dorsal fin spines.



SIZE:

Maximum: 50 cm; common: 30 cm.

GEOGRAPHICAL DISTRIBUTION AND BEHAVIOUR:

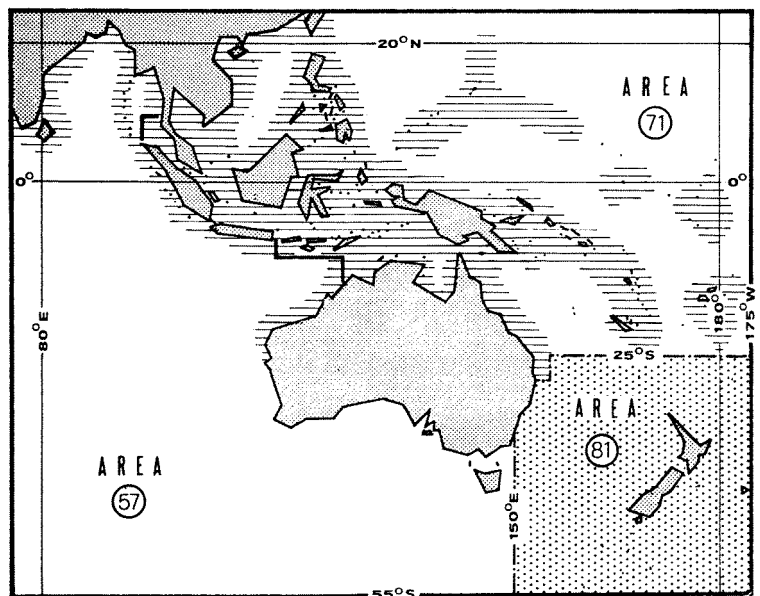
Throughout warm coastal waters of area.

Inhabits coastal waters, down to 80 m.

Feeds on bottom-living 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 *Epinephelus* species in 1972 was 7 900 tons (Philippines: 7 800 tons; Singapore: 100 tons).

Caught mainly with bottom longlines, handlines and bottom trawls.

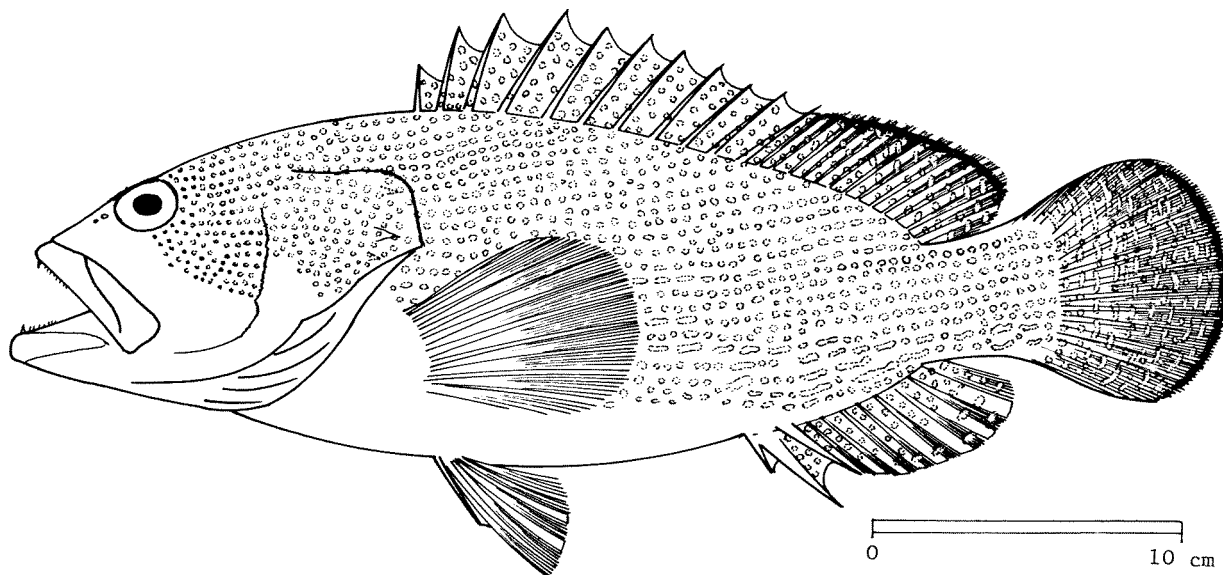
Marketed mostly fresh; also dried-salted.

## FAO SPECIES IDENTIFICATION SHEETS

FAMILY: SERRANIDAE

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

SYNONYMS STILL IN USE: None



## VERNACULAR NAMES:

FAO: En - Summan grouper  
Fr -  
Sp -

## NATIONAL:

## DISTINCTIVE CHARACTERS:

A small serranid fish with an oblong and laterally compressed body. Preoperculum with a convex and finely serrated upper edge and a shallow notch above its angle, the latter without enlarged spinules. Operculum with a strongly convex upper edge and 3 flat spines, the middle spine closer to the lower one. Teeth in narrow bands, in 2 series on sides of jaws, the inner ones longer and depressible; canines at front of jaws. Dorsal fin with 11 spines and 14 to 15 soft rays. Caudal fin rounded.

Colour: ground colour dark brown, overlain by numerous pale yellow or white dots on head, body and median fins, sometimes forming short, uneven pale lines; dark brown vertical bands may be present; caudal fin, soft part of dorsal fin and anal fin with a dark brown margin and a fine, but distinct, white edge; pale yellow or white dots considerably larger in the young.

DISTINGUISHING CHARACTERS OF SIMILAR SPECIES OCCURRING IN THE AREA:

*Epinephelus coeruleopunctatus*: spots on head and body blue; angle of preoperculum with enlarged spinules.

*Epinephelus bleekeri*, *E. maculatus*, *E. areolatus* and *E. tauvina*. spots on body respectively orange/red, red with black centres, dark green/brown and red/brown (also, dark bands in *E. tauvina*).

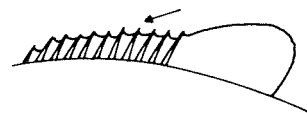
*Epinephelus fuseoguttatus* and *E. corallicola*: 3 to 4 black blotches along back at base of dorsal fin.

Other *Epinephelus* species: distinct stripes on body, or spots much larger, sometimes forming a reticulated honeycomb pattern.

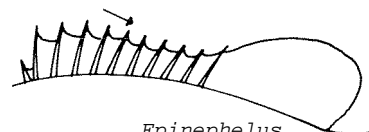
*Promicrops* species: dorsal fin spines increasing in length posteriorly, the longest spine shorter than soft fin rays.

*Cephalopholis*, *Cromileptes* and *Variola* species: 9 to 10 dorsal fin spines (11 in *Epinephelus*).

*Plectropomus* species: 6 to 8 dorsal fin spines.



Promicrops



Epinephelus  
dorsal fin

SIZE:

Maximum: 50 cm; common: 30 cm.

GEOGRAPHICAL DISTRIBUTION AND BEHAVIOUR:

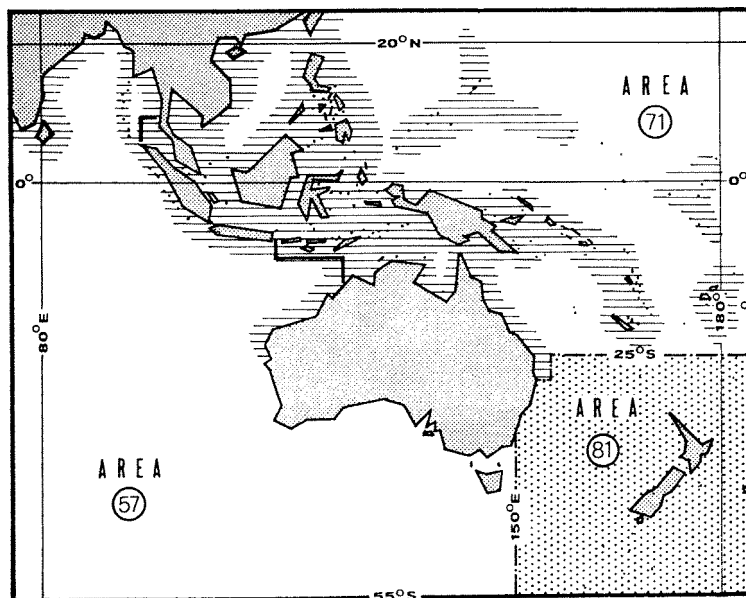
Throughout warm coastal waters of area.

Inhabits shallow coral and rocky areas.

Feeds on bottom-living crustaceans and fishes.

PRESENT FISHING GROUNDS:

Throughout its range.



CATCHES, MAIN FISHING GEAR AND PRINCIPAL FORMS OF UTILIZATION:

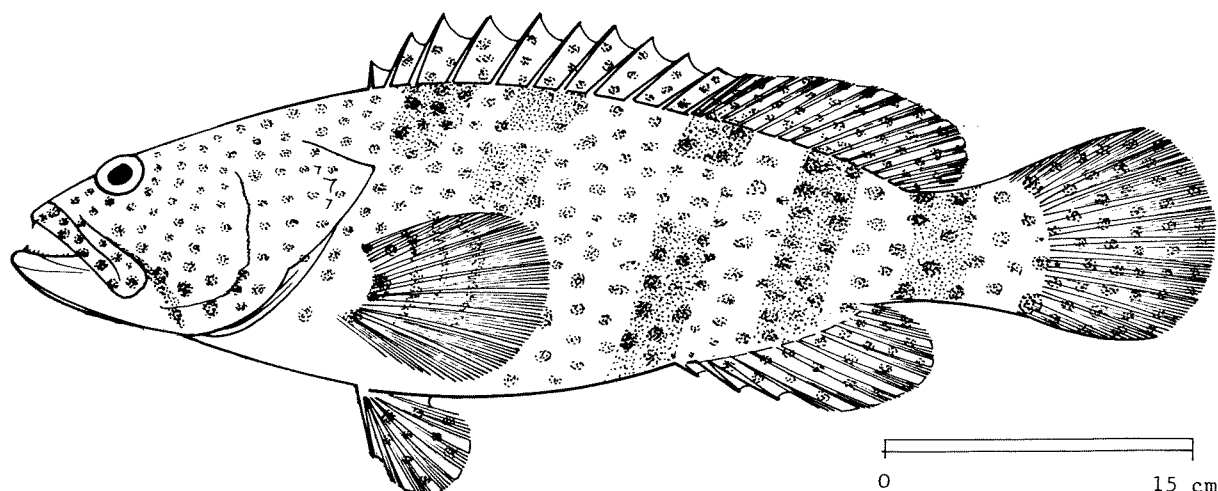
Separate statistics are not reported for this species. The total reported catch of *Epinephelus* species in 1972 was 7 900 tons (Philippines: 7 800 tons; Singapore: 100 tons).

Caught mainly with handlines and traps.

Marketed mostly fresh.

## FAO SPECIES IDENTIFICATION SHEETS

FAMILY: SERRANIDAE

FISHING AREAS 57,71  
(E Ind. Ocean)  
(W Cent. Pacific)*Epinephelus tauvina* (Forsskål, 1775)SYNONYMS STILL IN USE: *Epinephelus elongatus* Schultz, 1953

## VERNACULAR NAMES:

FAO: En - Greasy grouper  
Fr -  
Sp -

## NATIONAL:

## DISTINCTIVE CHARACTERS:

A large serranid fish with an elongate and thick-set body. Preoperculum with a slightly convex serrated upper edge and several strong spinules at lower angle. Operculum with straight upper edge and 3 spines, the middle spine closer to the lower one. Gill rakers 27 to 30 on lower part of 1st gill arch. Teeth in narrow bands, in 2 series on sides of jaws, those of the inner series longer and depressible. Dorsal fin with 11 spines and 15 to 16 soft rays. Caudal fin rounded.

Colour: ground colour light brown, with darker vertical or oblique bands; upper parts of head and body and base of pectoral fins covered by red/brown spots; spots on cheek arranged in regular series from eye to preopercular angle; spots in large adults obscure or absent.

## DISTINGUISHING CHARACTERS OF SIMILAR SPECIES OCCURRING IN THE AREA:

*Epinephelus merra* and *E. hexagonatus* (small specimens): 16 soft dorsal fin rays and 20 to 23 or 23 to 27 gill rakers (15 to 16 and 27 to 30 in *E. tauvina*); also, deeper-bodied (depth 3.2 to 3.3 times in standard length; 3.3 to 3.7 in *E. tauvina*).

*Epinephelus bleekeri* and *E. maculatus*: spots on body respectively orange/red or red with black centres.

*Epinephelus fuscoguttatus* and *E. corallicola*: spots on body dark brown; also, no spinules at angle of preoperculum.

*Epinephelus areolatus*: spots on body dark green/brown; also, caudal fin truncate or emarginate (rounded in *E. tauvina*).

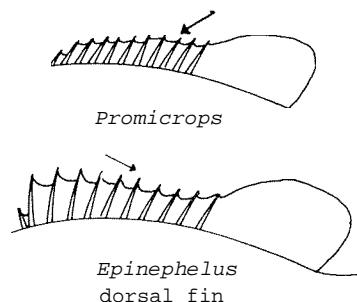
*Epinephelus summana* and *E. caeruleopunctatus*: spots on body respectively pale yellow (or white) or blue.

Other *Epinephelus* species: stripes dominate colour pattern, or spots much larger, forming a honeycomb or reticulated pattern (larger specimens of *E. merra*, *E. hexagonatus*, etc.).

*Promicrops* species: dorsal fin spines increasing in length posteriorly, the longest spine shorter than soft fin rays.

*Cephalopholis*, *Cromileptes* and *Variola* species: 9 to 10 dorsal fin spines (11 in *Epinephelus*).

*Plectropomus* species: 6 to 8 dorsal fin spines.



#### SIZE:

Maximum: 150 cm;  
common: 60 to 70 cm.

#### GEOGRAPHICAL DISTRIBUTION AND BEHAVIOUR:

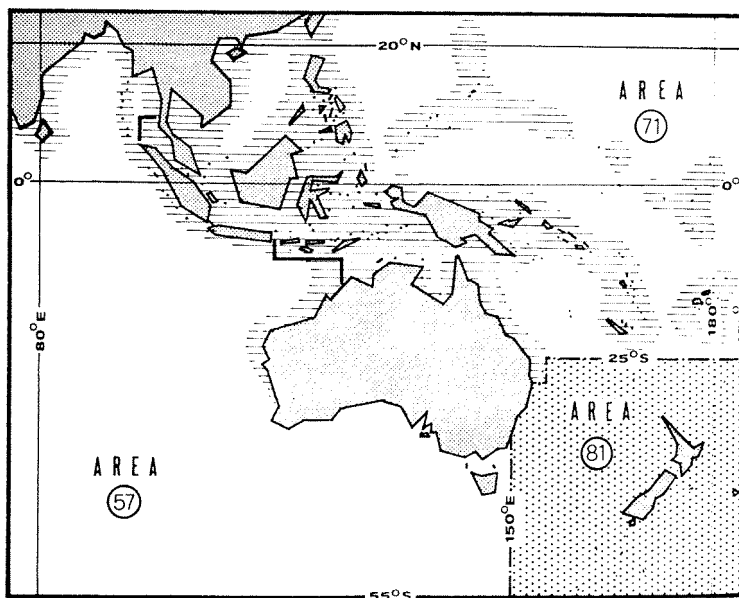
Throughout warm coastal waters of area.

Inhabits shallow areas, down to 60 m.

Feeds on bottom-living 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 *Epinephelus* species in 1972 was 7 900 tons (Philippines: 7 800 tons; Singapore: 100 tons).

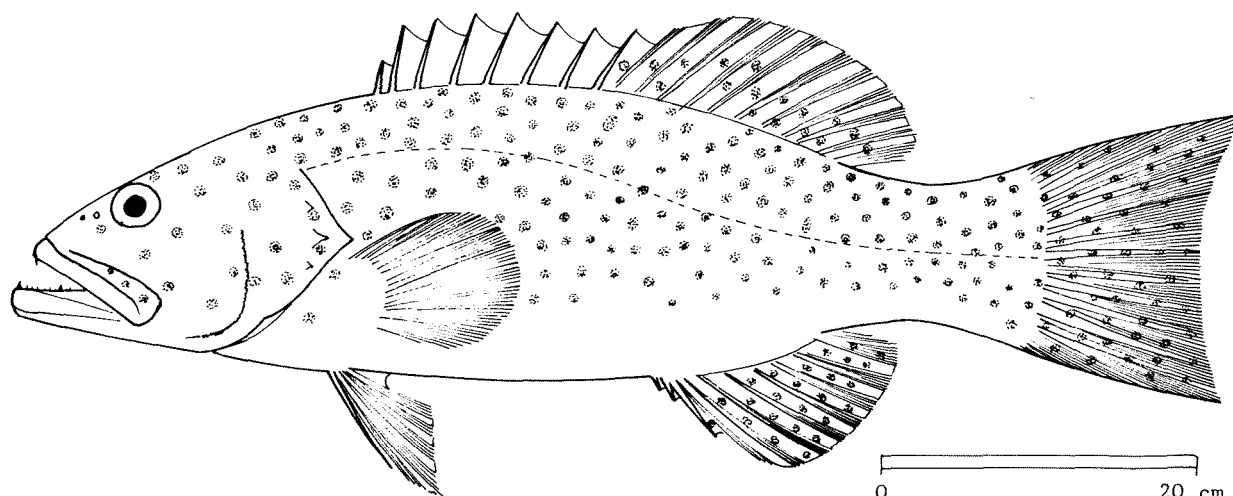
Caught mainly with longlines, handlines and bottom trawls.

Marketed mostly fresh.



## FAO SPECIES IDENTIFICATION SHEETS

FAMILY: SERRANIDAE

FISHING AREAS 57,71  
(E Ind. Ocean)  
(W Cent. Pacific)*Plectropomus leopardus* (Lacepède, 1802)SYNONYMS STILL IN USE: *Plectropoma maculatum* (not of Bloch): Munro, 1967

## VERNACULAR NAMES:

FAO: En - Blue-spotted seabass  
Fr -  
Sp -

## NATIONAL:

## DISTINCTIVE CHARACTERS:

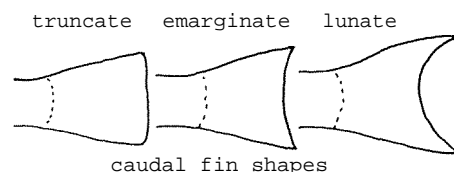
A medium-sized serranid fish with a robust and slightly compressed body. A pair of canine teeth near symphysis of each jaw and two more canines on each side of lower jaw; villiform teeth on vomer in a V-shaped band, villiform palatine teeth in a narrow streak. Maxilla reaching to below posterior half of eye. Preoperculum finely serrated posteriorly, with 3 or 4 small antrorse (forward-pointing) spines on lower edge; 3 spines on operculum, equidistant from each other. Dorsal fin with 8 spines and 10 to 12 soft rays; spines short, very low and slender. Anal fin with 3 spines and 7 to 8 soft rays. Anal and pelvic fin spines weak and short. Caudal fin emarginate.

Colour: variable; usually light red/brown on back, becoming paler toward belly; numerous dark-edged, pale blue spots, usually oval-shaped, on upper parts of head, body and fins (except pectoral and pelvic fins); spots absent on lower parts of body and head.

## DISTINGUISHING CHARACTERS OF SIMILAR SPECIES OCCURRING IN THE AREA:

*Plectropomus truncatus*: caudal fin emarginate and soft part of dorsal and caudal fins with a white margin.

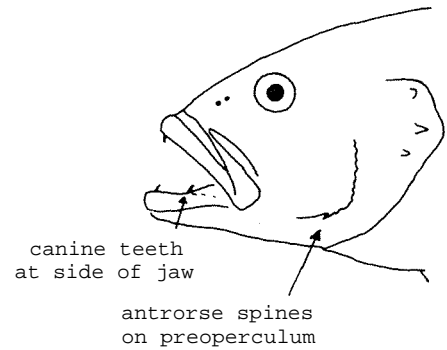
Other *Plectropomus* species: either colour pattern different (e.g. blue lines in *P. oligacanthus*) or caudal fin truncate or lunate.



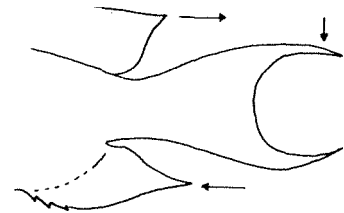
*Cephalopholis* species: no antrorse spines at angle of preoperculum, 9 dorsal fin spines, and no enlarged canine teeth at sides of lower jaw.

*Epinephelus* and *Promicrops* species: dorsal fin spines 11 (6 to 8 in *Plectropomus*).

*Variola* and *Cromileptes* species: dorsal fin spines respectively 9 and 10; also, caudal fin lunate (*Variola*) or upper head profile concave (*Cromileptes*).



*Plectropomus*



*Variola*

SIZE:

Maximum: 120 cm; common: 80 cm.

GEOGRAPHICAL DISTRIBUTION AND BEHAVIOUR:

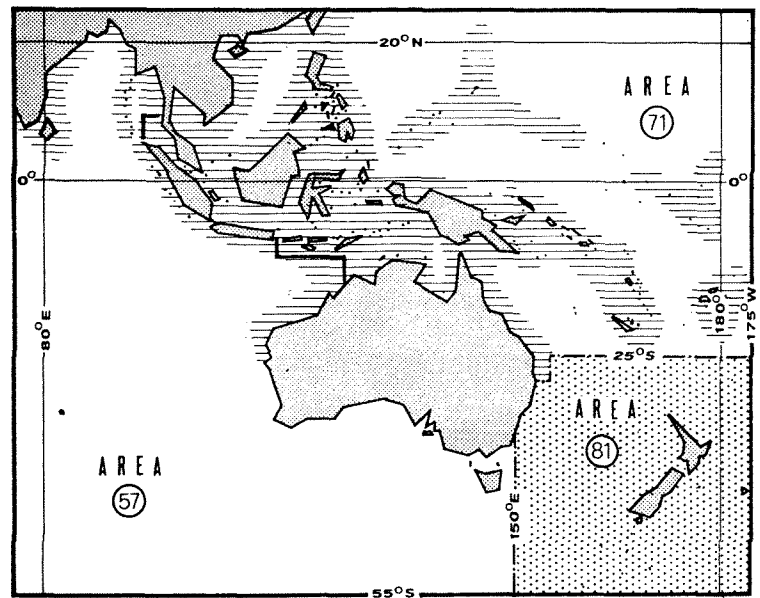
Throughout warm coastal waters of area.

Inhabits coral reefs and coastal rocky shores.

Feeds on bottom-living 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.

Caught mainly with handlines, gill nets and traps.

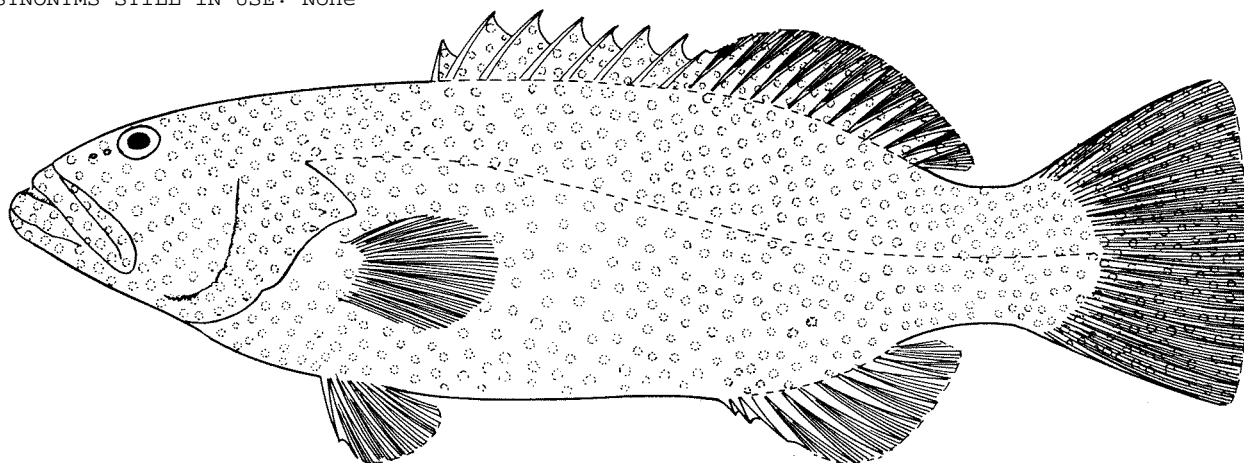
Marketed mostly fresh.

## FAO SPECIES IDENTIFICATION SHEETS

FAMILY: SERRANIDAE

FISHING AREAS 57,71  
(E Ind. Ocean)  
(W Cent. Pacific)*Plectropomus truncatus* Fowler & Bean, 1930

SYNONYMS STILL IN USE: None



VERNACULAR NAMES:

FAO: En - Squaretail seabass  
Fr -  
Sp -

NATIONAL:

DISTINCTIVE CHARACTERS:

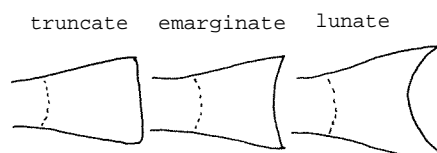
A medium-sized serranid fish with a robust and slightly compressed body. A pair of canine teeth near symphysis of each jaw, and two more canines on each side of lower jaw; villiform teeth on vomer in a V-shaped band, villiform palatine teeth in a narrow streak. Maxilla reaching to below posterior half of eye. Preoperculum finely serrated posteriorly, with 3 or 4 small antrorse (forward-pointing) spines on lower edge; 3 spines on operculum, the median spine closer to the lower. Dorsal fin with 8 spines and 11 to 13 soft rays; spines short, very low and slender. Anal fin with 3 spines and 8 soft rays. Anal and pelvic fin spines weak and short. Caudal fin truncate, without pointed tips.

Colour: red/brown on back, light brown toward belly; numerous small, dark-edged, pale blue spots everywhere except outer part of pectoral fins; spots more numerous, smaller and more closely set on caudal fin and soft part of dorsal fin; a white border to soft part of dorsal and caudal fins.

DISTINGUISHING CHARACTERS OF SIMILAR SPECIES OCCURRING IN THE AREA:

*Plectropomus leopardus*: caudal fin emarginate and no white border to soft part of dorsal and caudal fins.

Other *Plectropomus* species: either colour pattern different (e.g. blue lines in *P. oligacanthus*) or caudal fin emarginate or lunate.

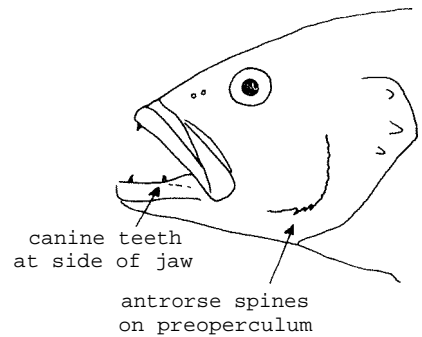


caudal fin shapes

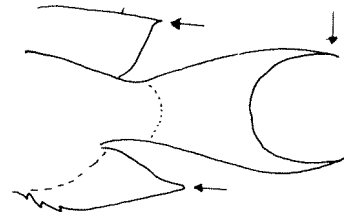
*Cephalopholis* species: no antrorse spines at angle of preoperculum, 9 dorsal fin spines, and no canine teeth at sides of lower jaw.

*Epinephelus* and *Promicrops* species: dorsal fin spines 11 (6 to 8 in *Plectropomus*).

*Variola* and *Cromileptes* species: dorsal fin spines respectively 9 and 10; also, caudal fin lunate (*Variola*) or upper head profile strongly concave (*Cromileptes*).



*Plectropomus*



*Variola*

SIZE:

Maximum: 120 cm; common: 70 cm.

GEOGRAPHICAL DISTRIBUTION AND BEHAVIOUR:

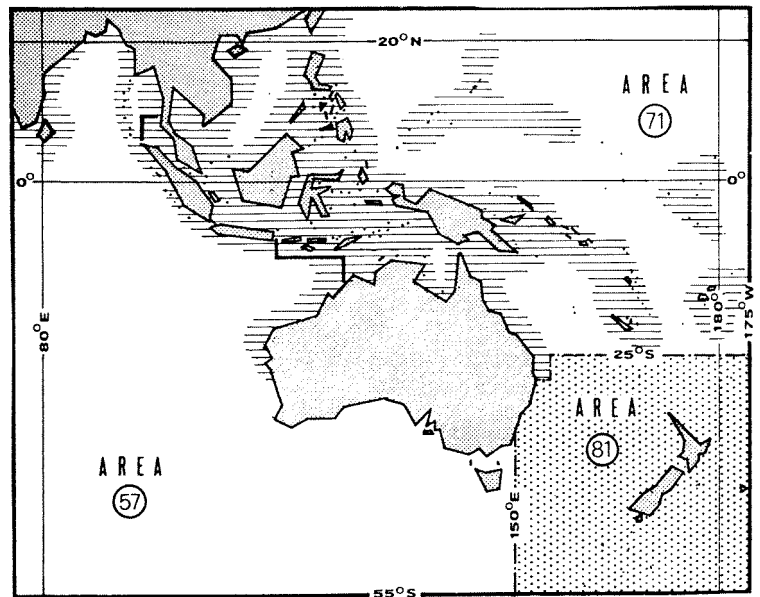
Throughout warm coastal waters of area.

Inhabits coral reefs and shallow rocky shores.

Feeds on bottom-living invertebrates and fishes.

PRESENT FISHING GROUNDS:

Throughout its range.



CATCHES, MAIN FISHING GEAR AND PRINCIPAL FORMS OF UTILIZATION:

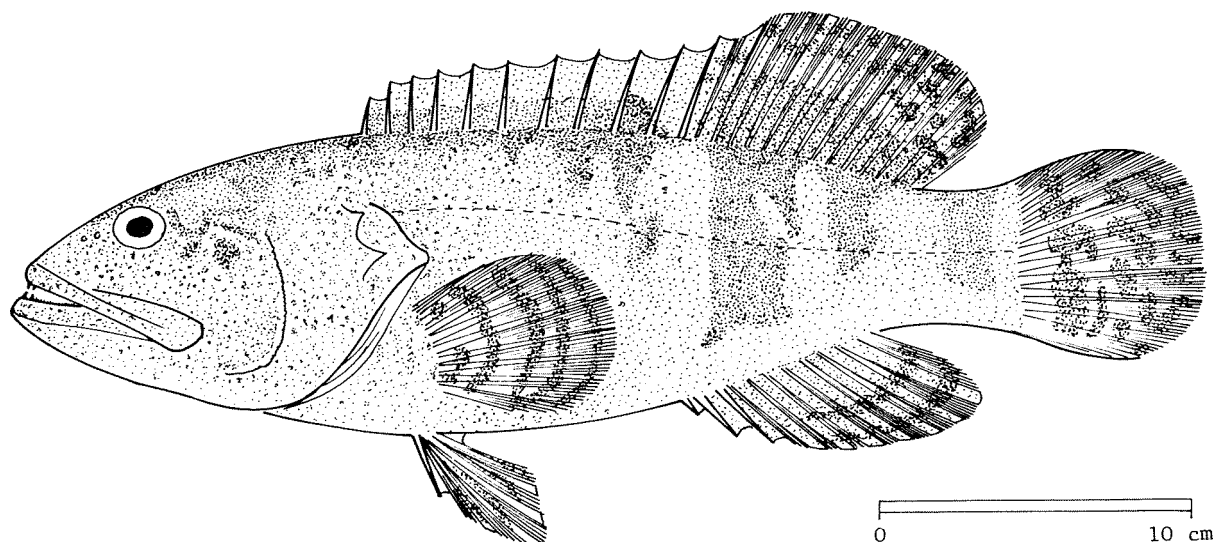
Separate statistics are not reported for this species.

Caught mainly with handlines, gill nets and traps.

Marketed mostly fresh.

## FAO SPECIES IDENTIFICATION SHEETS

FAMILY: SERRANIDAE

FISHING AREAS 57,71  
(E Ind. Ocean)  
(W Cent. Pacific)*Promicrops lanceolatus* (Bloch, 1790)SYNONYMS STILL IN USE: *Serranus lanceolatus*: Fowler & Bean, 1930

## VERNACULAR NAMES:

FAO: En - Mottled brown seabass  
Fr -  
Sp -

## NATIONAL:

## INSTINCTIVE CHARACTERS:

A large serranid fish with a robust body. Preoperculum with a rounded border, its upper edge finely serrated or smooth. Two pairs of canine teeth at front of each jaw. Dorsal fin with 11 spines and 14 to 15 soft rays; spines short, increasing in length from 1st to 11th; soft rays comparatively long, about twice the length of longest spine. Anal fin with 3 spines and 5 soft rays. Caudal fin rounded.

Colour: in large adults of 90 cm or more, entire fish uniformly dark brown; in smaller fish, ground colour grey with broad irregular dark brown bands, often broken up to form dark patches or a mottling of grey blotches and irregular dark, variegated bars; unpaired fins with yellow and irregular dark bands, blotches and spots; paired fins lemon yellow, with dark spots and band-like markings.

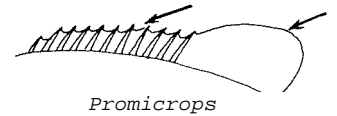
DISTINGUISHING CHARACTERS OF SIMILAR SPECIES OCCURRING IN THE AREA:

*Epinephelus* species: dorsal fin spines about as long as soft rays (almost half length in *Promicrops*), and decreasing in length posteriorly.

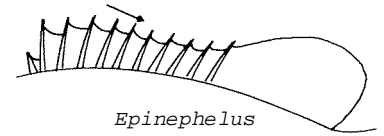
*Cephalopholis* and *Variola* species: dorsal fin spines 9; also, caudal fin lunate (emarginate in young) in *Variola*.

*Plectropomus* species: dorsal fin spines 8 to 9 (11 in *Promicrops*).

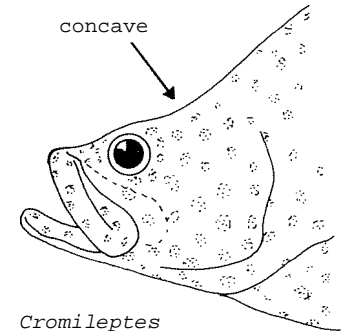
*Cromileptes* species: dorsal fin spines 10 and upper profile of head concave.



*Promicrops*



*Epinephelus*  
dorsal fin



*Cromileptes*

SIZE:

Maximum: 75 cm; common: 50 cm.

GEOGRAPHICAL DISTRIBUTION AND BEHAVIOUR:

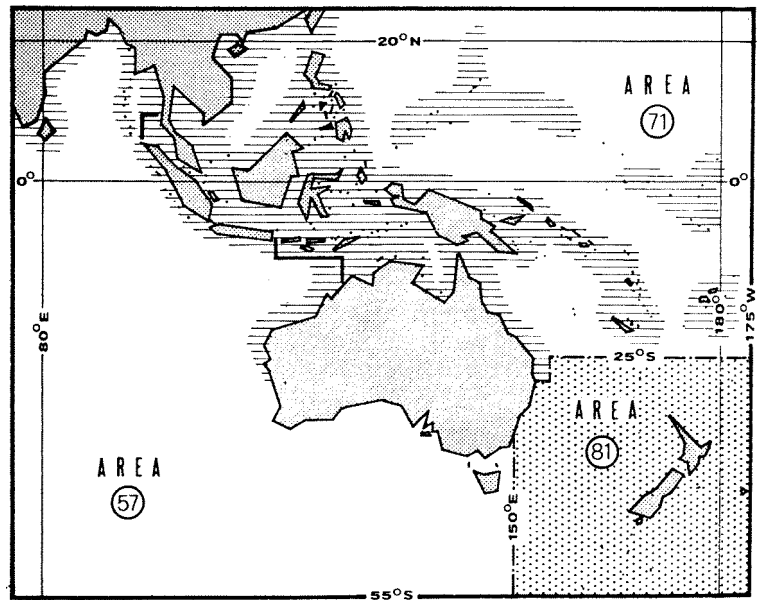
Throughout warm coastal waters of area.

Inhabits coral reef areas, down to 80 m.

Feeds chiefly on bottom-living fishes.

PRESENT FISHING GROUNDS:

Throughout its range.



CATCHES, MAIN FISHING GEAR AND PRINCIPAL FORMS OF UTILIZATION:

Separate statistics are not reported for this species.

Caught mainly with handlines and traps.

Marketed only fresh.

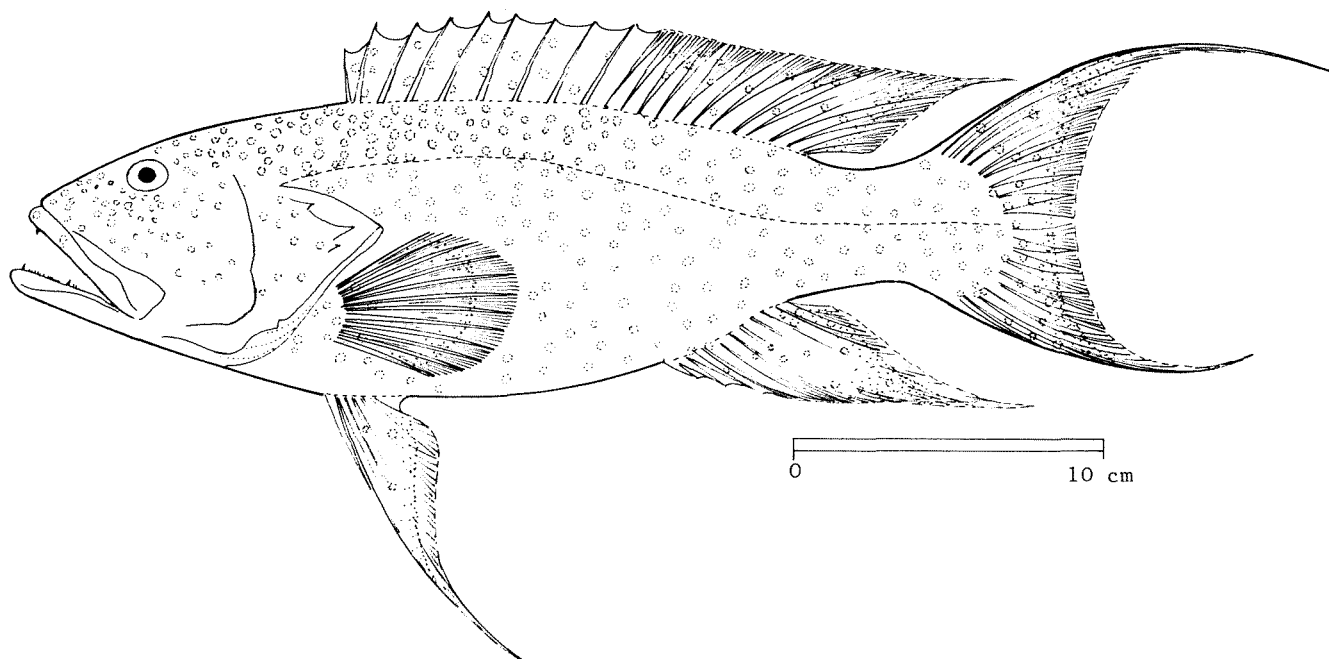
## FAO SPECIES IDENTIFICATION SHEETS

FAMILY: SERRANIDAE

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

Variola louti (Forsskål, 1775)

SYNONYMS STILL IN USE: None



## VERNACULAR NAMES:

FAO: En - Moontail seabass  
Fr -  
Sp -

## NATIONAL:

## DISTINCTIVE CHARACTERS:

A medium-sized serranid fish with oblong and compressed body. Teeth in jaws villiform with outer row enlarged; 1 or 2 curved canines on each side of upper jaw; lower jaw with a canine on each side anteriorly and 2 to 3 canines half-way along jaw; villiform teeth on vomer and palatines (roof of mouth). Preoperculum edge weakly serrated, its angle rounded and devoid of enlarged spinules. Dorsal fin with 9 spines and 13 to 14 soft rays; anal fin with 3 spines and 8 soft rays. Dorsal, anal and pelvic fins ending posteriorly in a point. Caudal fin deeply lunate (emarginate in young).

Colour: body red with blue spots; fins also red and blue-spotted and with a broad yellow margin; occasionally black blotches present on body and head.

DISTINGUISHING CHARACTERS OF SIMILAR SPECIES OCCURRING IN THE AREA:

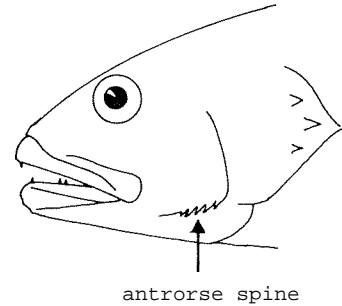
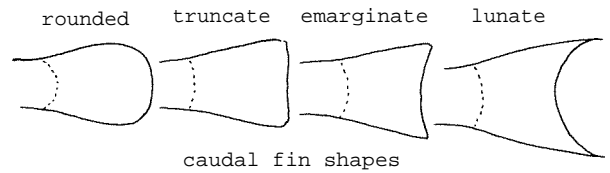
All other serranid genera: lack the characteristic lunate caudal fin and pointed tips to dorsal, anal and pelvic fins.

*Cephalopholis* species: no enlarged canine teeth at sides of lower jaw.

*Epinephelus* and *Promicrops* species: dorsal fin spines 11 (9 in *Variola*).

*Plectropomus* species: dorsal fin spines 6 to 8; also, antrorse (forward-pointing) spines on lower edge of preoperculum.

*Cromileptes* species: dorsal fin spines 10 and upper head profile strongly concave.



*Plectropomus*

SIZE:

Maximum: 60 cm; common: 40 cm.

GEOGRAPHICAL DISTRIBUTION AND BEHAVIOUR:

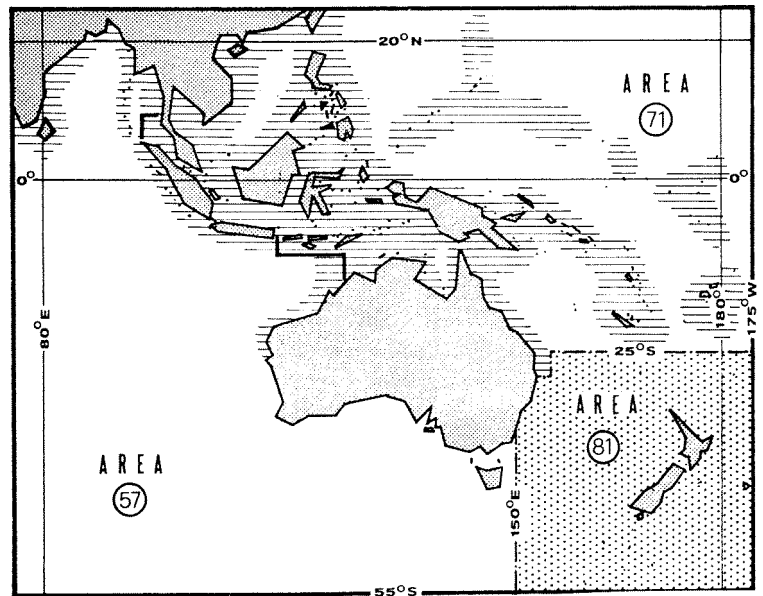
Throughout warm coastal waters of area.

Inhabits coral reef areas, down to 60 m.

Feeds chiefly on bottom-living fishes.

PRESENT FISHING GROUNDS:

Throughout its range.



CATCHES, MAIN FISHING GEAR AND PRINCIPAL FORMS OF UTILIZATION:

Separate statistics are not reported for this species.

Caught mainly with handlines and traps.

Marketed only fresh.