BOTH

1983

FAO SPECIES IDENTIFICATION SHEETS

FISHING AREA 51
(W. Indian Ocean)

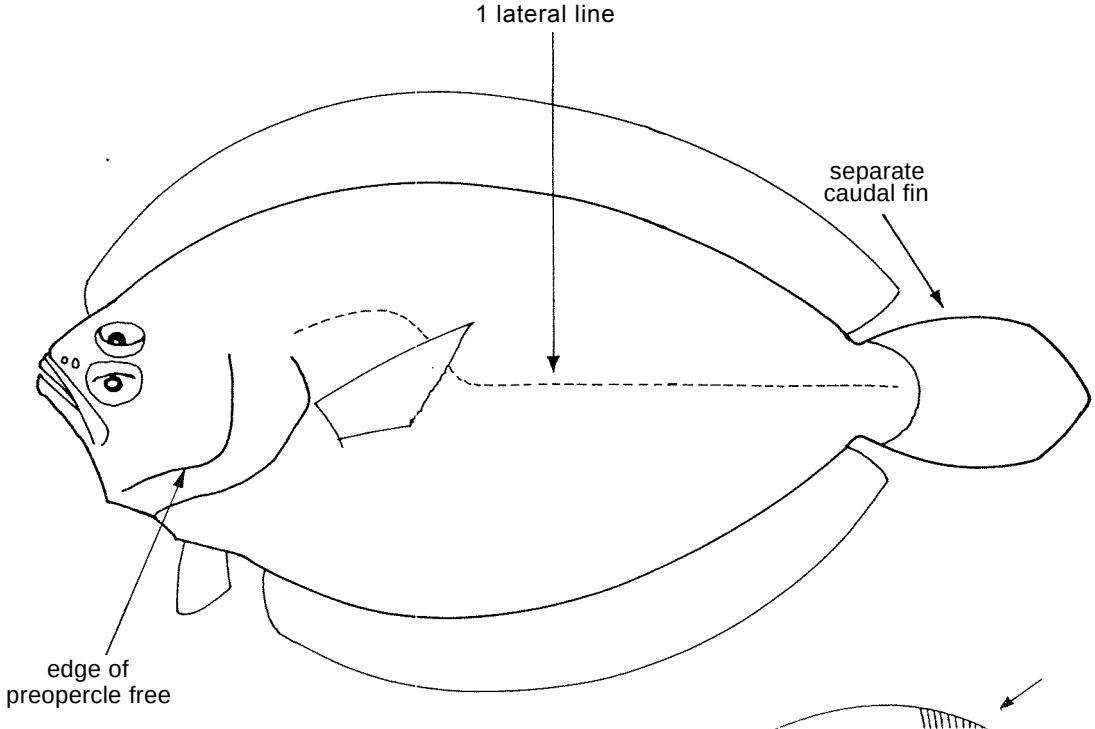
BOTHIDAE

Lefteye flounders

Flatfishes with eyes on left side of body; spines sometimes present before eyes in males. Mouth asymmetrical, teeth present in jaws, sometimes caniniform. Preopercle exposed, its hind margin free and visible. Pectoral fins present; pelvic fins present, that on eyed side the larger in some genera; dorsal fin origin above or in front of eyes; caudal fin free from dorsal and anal fins; no spiny rays in fins. A single lateral line, sometimes faint or absent on blind side.

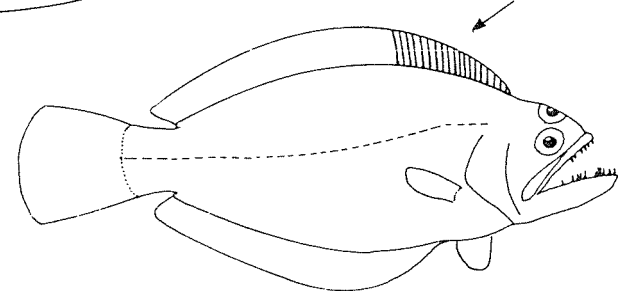
Colour: eyed side brownish, often with spots, blotches or ring-like markings; blind side pale.

Lefteye flounders are bottom dwelling predators which burrow into the mud or sand substrate. Bothids have the ability to change colour rapidly in order to more nearly match their background. Some species show sexual dimorphism in interorbital width, length of fin rays (dorsal, pectoral or pelvic), cephalic spination or colour pattern.



SIMILAR FAMILIES OCCURRING IN THE AREA:

Psettodidae: dorsal fin with spinous rays, its origin behind upper eye; eyes on left or right side of body.

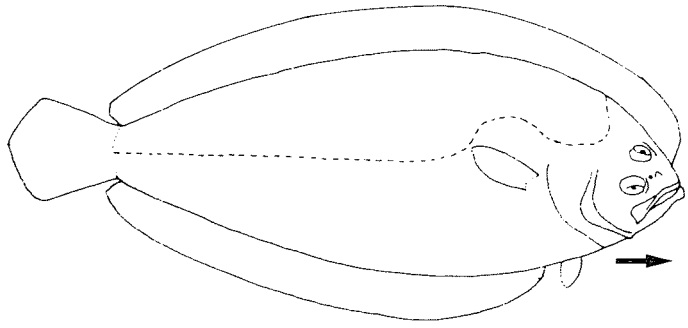


Psettodidae

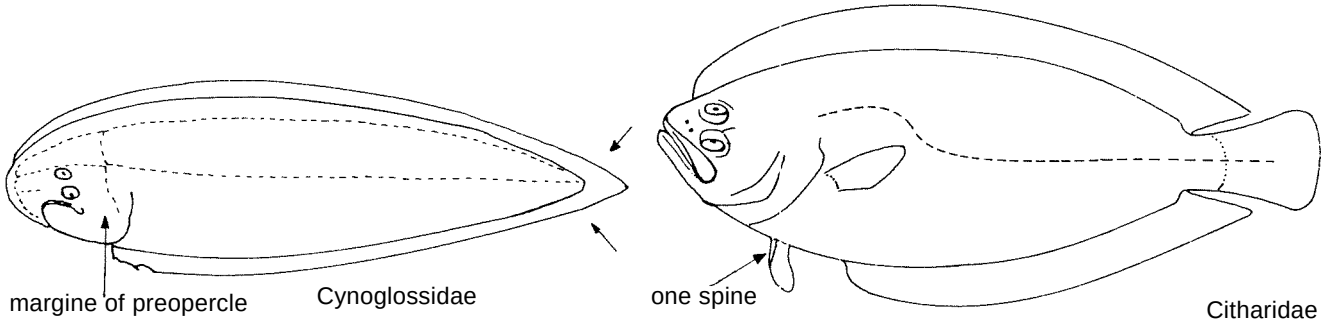
Pleuronectidae and Soleidae: both eyes on right side of body.

Citharidae: pelvic fins with one spine and 5 soft rays; anus placed on eyed side (no spines in Bothidae).

Cynoglossidae: margin of preopercle not free, hidden beneath skin; caudal fin joined to dorsal and anal fins.



Pleuronectidae



KEY TO GENERA OCCURRING IN THE AREA:

1a. Pelvic fin bases short, that of blind side almost as long as that of eyed side (Fig-1) ..... (subfamily Paralichthinae)

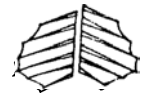
2a. Head length about 221 times in standard length; eye diameter contained 4 times in head length ..... Cephalopsetta

2b. Head length at least 3 times in standard length; eye diameter contained more than 4 times in head length

3a. Lateral line absent on blind side; maxilla contained more than 3 times in head length ..... Taeniopsetta

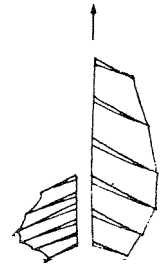
3b. Lateral line equally developed on both sides; maxilla contained less than 3 times in head length ..... Pseudorhombus

1b. Pelvic fin base of eyed side usually much longer than that of blind side (Fig.2) ..... (subfamily Bothinae)



pelvic fins seen from below
(arrows point toward head)

Fig.1



pelvic fins seen from below
(arrows point toward head)

Fig.2

4a. Mouth small, maxilla contained 3.4 to 4.6 times in head length; hardly any teeth on eyed side of jaws ..... Laeops

4b. Mouth larger; teeth on both sides of jaws

5a. Maxilla contained less than 2 times in head length; lower jaw very prominent ..... Chascanopsetta

5b. Maxilla contained more than 2 times in head length; lower jaw not prominent

6a. Lateral line equally developed on both sides; 3 prominent blotches forming a triangle on eyed side ..... Grammatobothus

6b. Lateral line absent or feebly developed on blind side

7a Eyes close together, separated by a bony ridge or narrow concave space

8a. Scales of eyed side cycloid (smooth) or feebly ctenoid (rough) ..... Arnoglossus

8b. Scales of eyed side strongly ctenoid ..... Psettina

7b. Eyes separated by a more or less concave space, larger in males (Fig.3)

9a Distance between eyes equal to ½ to 1 time eye diameter; males without distinct spines on :3nout ..... Parabothus

9b Distance between eyes more than eye diameter; males with distinct spine(s) on snout

l0a. Scales of eyed side strongly ctenoid ..... Crossorhombus

10b. Scales of eyed side feebly ctenoid

11a. Lateral line with a forked branch behind upper eye..... Bothus

11b. Lateral line without a forked branch behind upper eye ..... Engyprosopon

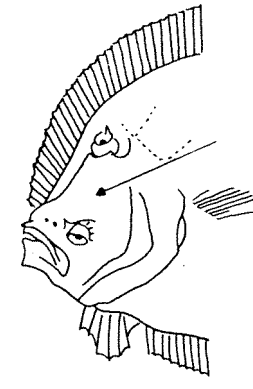


Fig.3

LIST OF SPECIES OCCURRING IN THE AREA:

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

Arnoglossus arabicus Norman, 1939	
Arnoglossus capensis Boulenger, 1898	
Arnoglossus dalgleishi (von Bonde, 1922)	
Arnoglossus intermedius (Bleeker, 1866)	
Arnoglossus microphthalmus (von Bonde, 1922)	
Arnoglossus profundus Kotthaus, 1977	
Arnoglossus tapeinosoma (Bleeker, 1866)	
Bothus bleekeri Steindachner, 1861	
Bothus budkeri Chabanaud, 1944	
Bothus mancus (Broussonet, 1782)	
Bothus myriaster (Temminck & Schlegel, 1846)	BOTH Both 6
Bothus pantherinus (Rüppell, 1828)	BOTH Both 1
Bothus tricirrhitus Kotthaus, 1977	
Bothus ypsigrammus Kotthaus, 1977	
Cephalopsetta ventrocellatus Dutt & Rao, 1965	
Chascanopsetta galatheae Nielsen, 1961	
Chascanopsetta lugubri Alcock, 1894	BOTH Chasc 1
Chascanopsetta prognathus Norman, 1939	
Crossorhombus azureus (Alcock, 1889)	
Crossorhombus valderostratus (Alcock, 1890)	
Engyprosopon filimanus (Regan, 1908)	
Engyprosopon grandisguamis (Temminck & Schlegel, 1846)	BOTH Engy 1
Engyprosopon latifrons (Regan, 1908)	
Engyprosopon macrolepis (Regan, 1908)	
Engyprosopon maldivensis (Regan, 1908)	
Engyprosopon natalensis Regan, 1920	
Engyprosopon sechellensis (Regan, 1908)	
Engyprosopon smithi Nielsen, 1964	
Grammatobothus polyophthalmus (Bleeker, 1866)	
Laeops guentheri Alcock, 1890	
Laeops macrophthalmus (Alcock, 1889)	
Laeops natalensis Norman, 1931	
Laeops nigrescens Lloyd, 1907	
Laeops nigromaculatus von Bonde, 1922	
Laeops pectoralis (von Bonde, 1922)	
Laeops sinusarabici Chabanaud, 1968	
Parabothus malhensis (Regan, 1908)	
Parabothus polylepis (Alcock, 1889)	
Parabothus thackwrayi Smith, 1967	
Psettina brevirictis (Alcock, 1890)	
Pseudorhombus annulatus Norman, 1927	
Pseudorhombus arsius (Hamilton, 1822)	BOTH Pseud 1
Pseudorhombus elevatus Ogilby, 1912	BOTH Pseud 3
Pseudorhombus javanicus (Bleeker, 1853)	BOTH Pseud 4
Pseudorhombus malayanus Bleeker, 1866	BOTH Pseud 5
Pseudorhombus natalensis Gilchrist, 1905	BOTH Pseud 6
Pseudorhombus triocellatus (Schneider, 1801)	BOTH Pseud 7
Taeniopsetta ocellata (Günther, 1880)	

Prepared by J. Nielsen, Zoologisk Museum, Copenhagen, Denmark

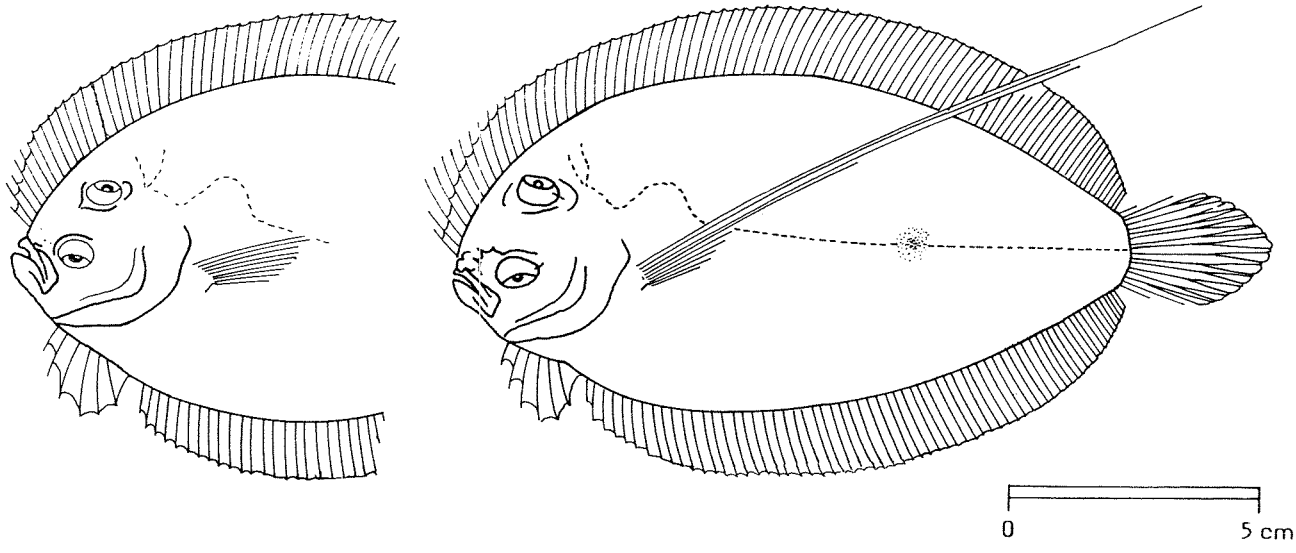
FAO SPECIES IDENTIFICATION SHEETS

FAMILY: BOTHIDAE

FISHING AREA 51
(W. Indian Ocean)

Bothis pantherinus (Rüppell, 1828)

OTHER SCIENTIFIC NAMES STILL IN USE: None



female male

VERNACULAR NAMES:

FAO : En - Leopard flounder
Fr - Rombou léopard
Sp - Lenguado

NATIONAL:

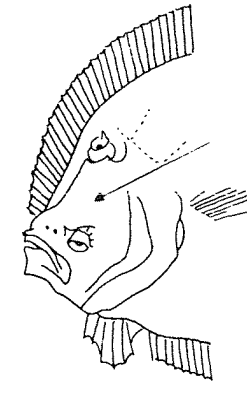
DISTINCTIVE CHARACTERS:

Body oval and flat, upper profile of head convex. Both eyes on left side, separated by a wide space (larger than one eye diameter in males); upper jaw contained about 3 times in head length, ending below front edge of lower eye; teeth in 2 or more rows; gillrakers 6 to 8 on lower limb of first arch. Pelvic fin base of blind side much shorter than that of eyed side. All scales on eyed side ctenoid rough to touch); 80 to 92 scales in lateral line. Males with spines near eyes, a larger space between eyes and much longer pectoral fin rays than females.

Colour: eyed side brown with paler and darker markings; generally a large dark blotch midway along straight mart of lateral line.

DISTINGUISHING CHARACTERS OF SIMILAR SPECIES OCCURRING IN THE AREA:

Bothus mancus: 9 to 11 rakers on lower limb of first gill arch (6 to 8 in B. pantherinus) and upper profile of head concave.



Bothus mancus (male)

B. myriaster: scales of eyed side cycloid, except edges of body where they are ctenoid (all scales ctenoid on eyed side in B. pantherinus).

Other Bothus species: no dark blotch midway on straight part of lateral line; also, a different number of gillrakers (6 to 8 in B. pantherinus), and/or cycloid (smooth) scales on eyed side, and/or upper head profile not convex.

Engyprosopon species: lateral line without a forked branch behind upper eye.

Crossorhombus species: scales of eyed side strongly ctenoid.

Parabothus species: eyes separated by a space equal to or smaller than eye diameter.

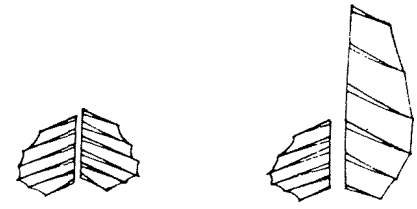
Arnoglossus and Psettina species: eyes close together, separated by a bony ridge or a narrow concave space.

Grammatobothus polyophthalmus: lateral line equally developed on both sides.

Chascanopsetta lugubris: lower jaw very prominent, maxilla contained less than 2 times in head length.

Laeops guentheri: mouth small, maxilla contained 3.4 to 4.6 times in head length contained about 3 times in B. pantherinus); eyed side of jaws almost toothless.

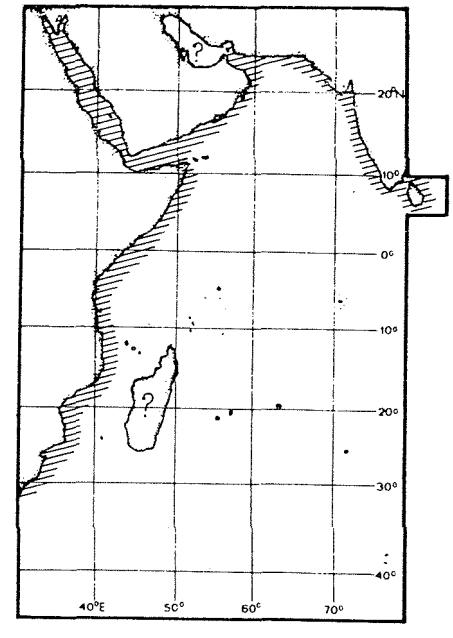
All other genera of lefteye flounders have the pelvic fin base of blind side almost equal in length to that of eyed side.



pelvic fins seen from below
(arrows point toward head)

Pseudorhombus, Paralichthys, etc.

Bothus, Engyprosopon, etc.



SIZE:

Maximum: 25 cm; common to 20 cm.

GEOGRAPHICAL DISTRIBUTION AND BEHAVIOUR:

Continental shelf throughout the area, but apparently absent from the "Gulf". Elsewhere, eastward extending to New Guinea, northern half of Australia and to Hawaii.

Inhabits the shallower muddy and sandy bottoms of the continental shelf.

Feeds on bottom-living animals.

PRESENT FISHING GROUNDS:

Muddy and sandy trawling grounds of the continental shelf.

CATCHES, FISHING GEAR AND FORMS OF UTILIZATION :

Separate statistics are not reported for this species.

Caught mainly with bottom trawls.

Marketed mostly fresh.

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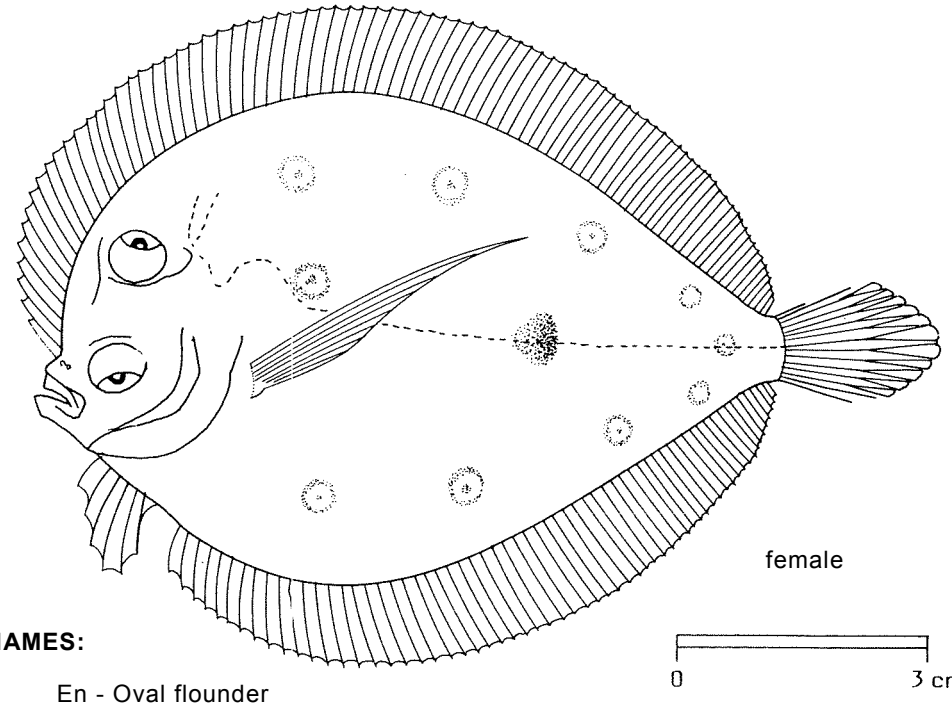
FAO SPECIES IDENTIFICATION SHEETS

FAMILY: BOTHIDAE

FISHING AREA 51
(W. Indian Ocean)

Bothus myriaster (Temminek & Schlegel, 1846)

OTHER SCIENTIFIC NAMES STILL IN USE: Bothus ovalis (Regan, 1908) and Bothus bleekeri Steindachner, 1861, described from the Western Indian Ocean, are probably conspecific with B. myriaster



VERNACULAR NAMES:

FAO : En - Oval flounder
Fr - Rombou oval
Sp - Lenguado ovalado

NATIONAL:

DISTINCTIVE CHARACTERS:

Body oval and flat. Head profile concave above snout; both eyes on left side, separated by a wide space (larger than eye diameter in males); upper jaw contained about 3 or 4 times in head length; lower limb of anterior gill arch with 6 to 8 short rakers. Pelvic fin base of blind side much shorter than that of eyed side. Scales on eyed side cycloid (smooth), except at extreme upper and lower edges of body, where they are ctenoid (rough); scales on blind side cycloid; lateral line scales 72 to 108.

Colour: eyed side brownish, with numerous spots ringed with yellowish smaller spots; 2 or 3 diffuse dark blotches along lateral line.

DISTINGUISHING CHARACTERS OF SIMILAR SPECIES OCCURRING IN THE AREA:

All other Bothus species: all scales of eyed side either cycloid or ctenoid (extreme upper and lower scales an eyed side ctenoid and the rest cycloid in Bothus myriaster).

Engyprosopor, species: lateral line without a forked branch behind upper eye.

Crossorhombus species: scales of eyed side strongly ctenoid.

Parabothus species: eyes separated by a space equal to or smaller than eye diameter.

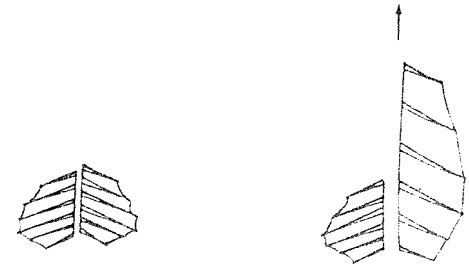
Arnoglossus and Psettina species: eyes close together, separated by a bony ridge or a narrow concave space.

Grammatobothus Polyophthalmus: lateral line equally developed on both sides.

Chascanopsetta lugubris: lower jaw very prominent maxilla contained less than 2 times in head length.

Laeops guentheri: mouth small, maxilla contained 3.4 to 4.6 times in head length (contained 3 to 4 times in B. myriaster); eyed side of jaws almost toothless.

All other genera of lefteye flounders have the pelvic fin base of blind side almost equal in length to that of eyed side.



pelvic fins seen from below
(arrows point toward head)

Pseudorhombus. Paralichythys, etc.

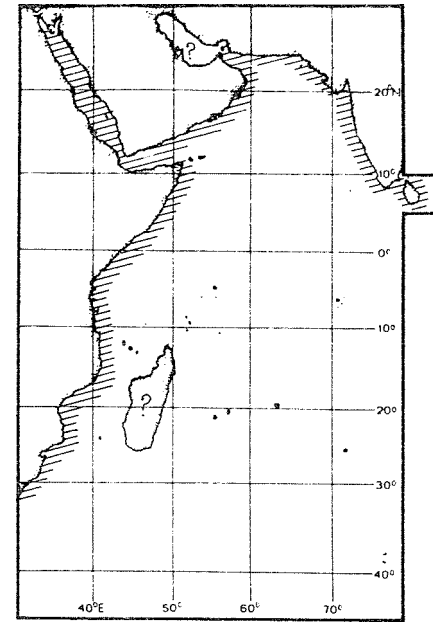
Bothus, Engyprosopon, etc.

SIZE:

Maximum: reaches about 20

GEOGRAPHICAL DISTRIBUTION AND BEHAVIOUR:

Continental shalf throughout the area, eastward to Japan.



PRESENT FISHING GROUNDS:

Muddy and sandy trawling grounds of the continental shelf.

CATCHES, FISHING GEAR AND FORMS OF UTILIZATION:

Separate statistics are not reported for this species.

Caught in trawls on the continental shelf.

Marketed fresh or dried salted.

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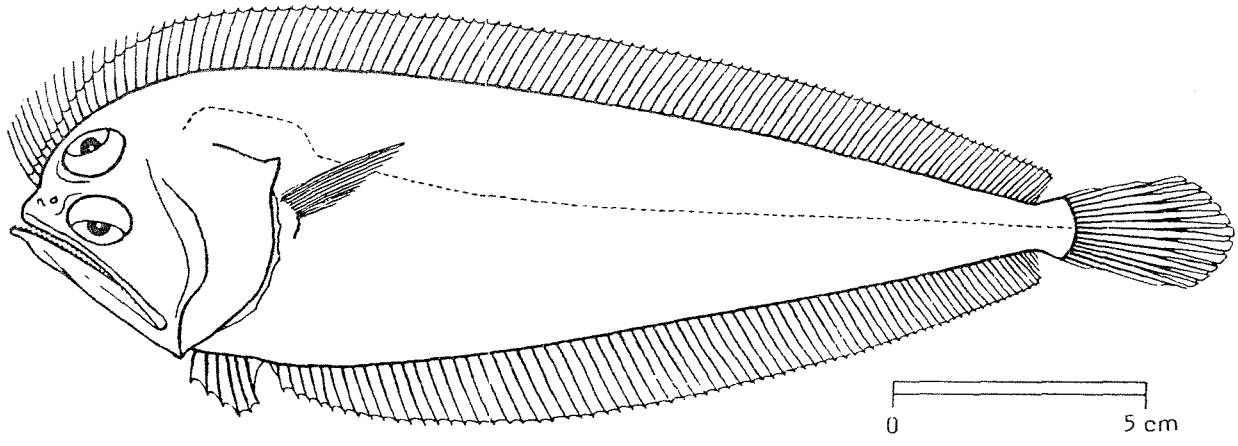
FAO SPECIES IDENTIFICATION SHEETS

FAMILY: BOTHIDAE

FISHING AREA 51
(W. Indian Ocean)

Chascanopsetta lugubris Alcock, 1894

OTHER SCIENTIFIC NAMES STILL IN USE: None



VERNACULAR NAMES:

FAO:
En - Pelican flounder
Fr - Perpeire pélican
Sp - Lenguado pelícano

NATIONAL:

DISTINCTIVE CHARACTERS:

Body rather elongate, and thin. Eyes on left side; interorbital space narrow; maxilla long (70% of head length or rather) extending backward well beyond posterior edge of eye; teeth small, slender no distinct canines), depressible on lower jaw; gillrakers absent, although 1 or 2 rudiments may be present on lower limb of first arch. Dorsal fin rays 114 to 122, origin of fin well in front of eyes; anal fin rays 71 to 85; pelvic fin bases unequal in length, that on eyed side much longer. Scales small, cycloid (smooth) on both sides, about 190 in lateral line.

Colour: eyed side greyish or yellowish brown, with or without numerous spots; fins dusky; peritoneum black, visible through the thin abdominal walls. Blind side uniformly light.

DISTINGUISHING CHARACTERS OF SIMILAR SPECIES OCCURRING IN THE AREA:

Chascanopsetta prognathus: maxilla and head of same length (maxilla never exceeding 80% of head length in C. lugubris).

C. galatheae: more than 122 rays in dorsal and 84 in anal fin (114 to 122 rays in dorsal and less than 86 in anal fin in C. lugubris).

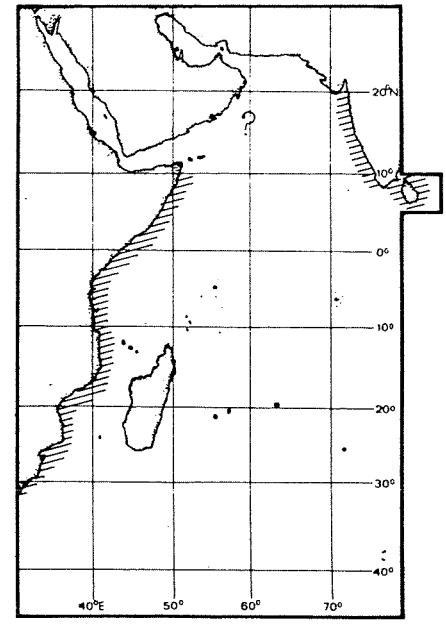
No other flatfish has the maxilla longer than half the head length.

SIZE:

Maximum: 40 cm; common to 25 cm.

GEOGRAPHICAL DISTRIBUTION AND BEHAVIOUR:

In the area, known to occur off the east coast of Africa and off India and Sri Lanka, but not reported from the Red Sea, Gulf of Aden and the "Gulf". Elsewhere, found on both sides of the Atlantic Ocean and in the Eastern Indian Ocean/Western Central Pacific to Japan.



A benthic fish that occurs from about 60 m down to 600 m depth.

Feeds on large bottom living animals.

PRESENT FISHING GROUNDS:

Continental shelf and slope; caught throughout its range.

CATCHES, FISHING GEAR AND FORMS OF UTILIZATION:

Separate statistics are not reported for this species.

Caught with bottom trawls.

Marketed fresh and dried salted.

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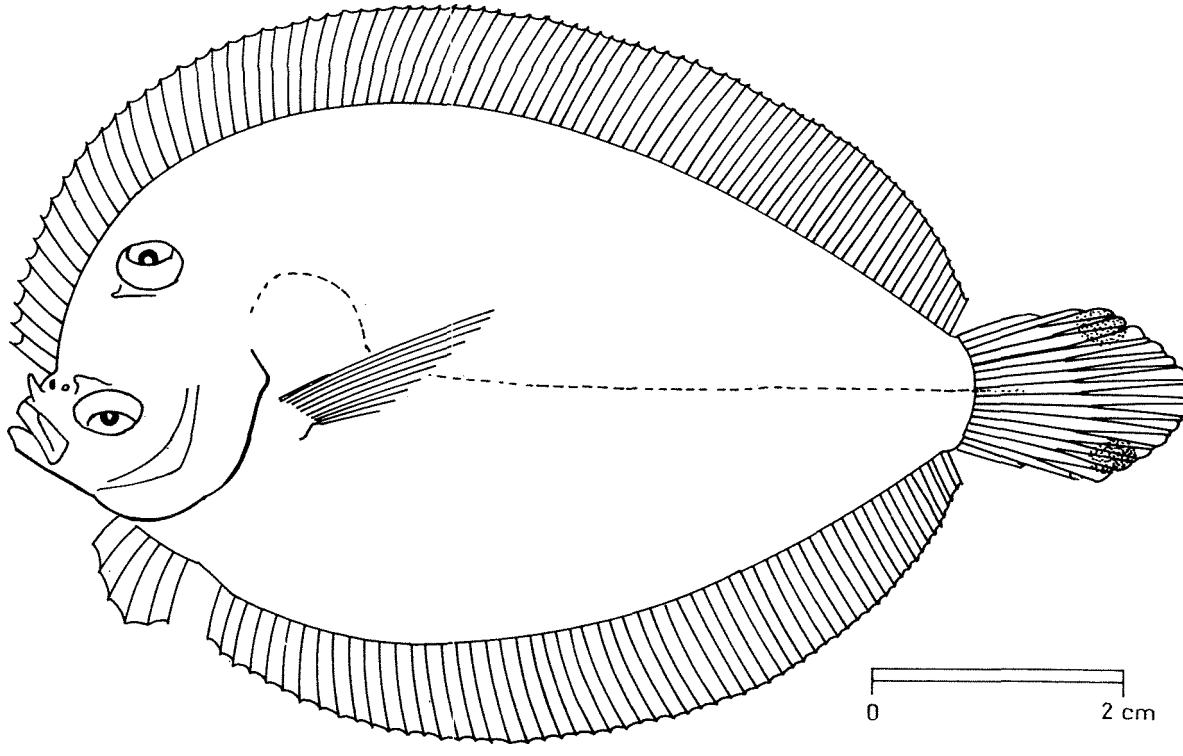
FAO SPECIES IDENTIFICATION SHEETS

FAMILY : BOTHIDAE

FISHING AREA 51
(W. Indian Ocean)

Engyprosopon grandisquamis (Temminck & Schlegel, 1846)

OTHER SCIENTIFIC NAMES STILL IN USE: Bothus poecilurus (Bleeker, 1852)



VERNACULAR NAMES:

FAO : En - Largescale flounder
Fr - Perpeire à grandes écailles
Sp - Lenguado escamoso

NATIONAL

DISTINCTIVE CHARACTERS:

Body oval and flat. Both eyes on left side, in adults separated by a more or less concave space (wider than one eye diameter); upper jaw more than 2.5 times in head length; gilirakers 5 to 7 on lower limb of first arch. Pelvic fin base of blind side much shorter than than of eyed side. Lateral line curved above pectoral fin and absent on head; scales of eyed side feebly ctenoid rough to touch); 36 to 48 scales in lateral line. Adult males have spines on snout and near eyes, and a larger space between eyes than females.

Colour: eyed side brown; caudal fin with 2 large, dark spots. Dorsal, anal and caudal fins usually with small brown spots.

DISTINGUISHING CHARACTERS OF SIMILAR SPECIES OCCURRING IN THE AREA:

Other Engyprosopon species: lack the 2 distinct spots on caudal fin.

Bothus species lateral line with a forked branch behind upper eye.

Crossorhombus species: scales of eyed side strongly ctenoid

Parabothus species: eyes separated by a space equal to or smaller than eye diameter.

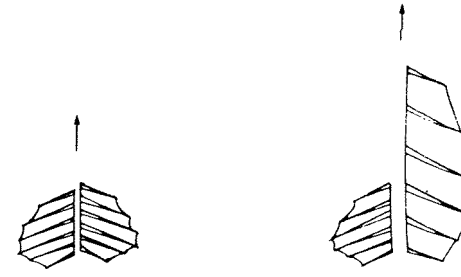
Arnoglossus and Psettina species: eyes close together, separated by a bony ridge or a narrow concave space.

Grammatobothus polyophthalmus: lateral line equally developed on both sides.

Chascanopsetta lugubris: lower jaw very prominent, maxilla contained less than 2 times in head length.

Laeops guentheri: mouth small, maxilla contained 3.4 to 4.6 times in head length (contained less than 3.4 times in E grandisquamis); eyed side of jaws almost toothless.

All other genera of lefteye flounders have the pelvic fin base of blind side almost equal in length to that of eyed side.

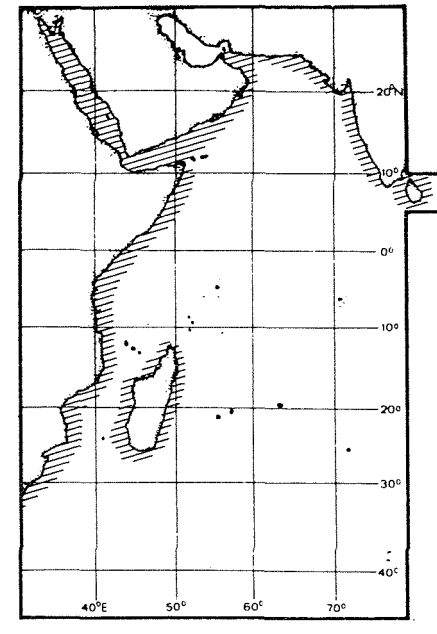


pelvic fins seen from below
(arrows point towards head)

Pseudorhombus, Paralichthys — **Engyprosopon,** Bothus

SIZE:

Maximum: about 15 cm; common to 10 cm.



GEOGRAPHICAL DISTRIBUTION AND BEHAVIOUR:

Continental shelf throughout the area and Madagascar. Elsewhere, eastward extending to New Guinea and northern Australia.

Inhabits the shallower muddy and sandy bottoms of the continental shelf.

Feeds on bottom-living animals.

PRESENT FISHING GROUNDS:

Muddy and sandy trawling grounds of the continental shelf.

CATCHES, FISHING GEAR AND FORMS OF UTILIZATION:

Separate statistics are not reported for this species.

Caught mainly with bottom trawls.

Marketed mostly fresh.

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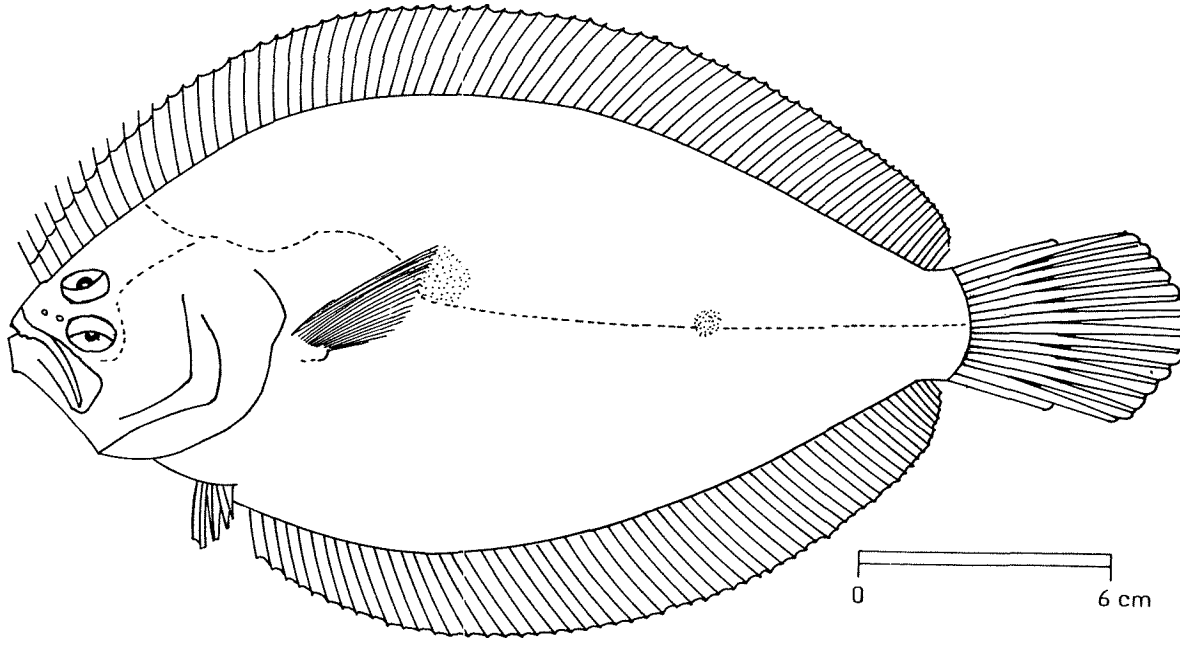
FAO SPECIES IDENTIFICATION SHEETS

FAMILY : BOTHIDAE

FISHING AREA 51
(W. Indian Ocean)

Rhombus arsius (Hamilton, 1822)

OTHER SCIENTIFIC NAMES STILL IN USE : Pseudorhombus polyspilus (Bleeker, 1853)



VERNACULAR NAMES:

FAO : En - Largetooth flounder
Fr - Rite dentu
Sp - Lenguado dentudo

NATIONAL:

DISTINCTIVE CHARACTERS:

Body oval and flat. Both eyes on left side; upper jaw ending below posterior edge of lower eye; gillrakers pointed, longer than broad; canine teeth present, 6 to 13 in lower jaw of blind side. Dorsal fin origin in front of upper eye; pelvic fin base of blind side almost equal in length to that of eyed side; anal fin with more than 53 rays. Lateral line curved above pectoral fin, forming 2 branches on head, the upper ending between 8th and 12th dorsal fin rays. Scales cycloid (smooth) on blind side.

Colour: eyed side with a varying pattern of brown spots and blotches, but always a larger blotch on anterior end of straight part of lateral line and a smaller blotch halfway to caudal fin base.

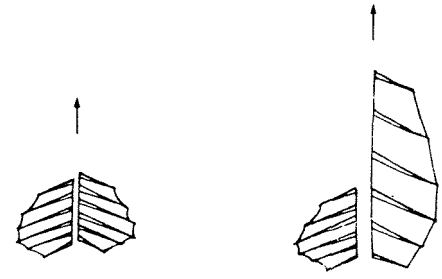
DISTINGUISHING CHARACTERS OF SIMILAR SPECIES OCCURRING IN THE AREA:

Pseudorhombus natalensis: numerous spots symmetrically arranged on body; less than 53 rays in anal fin (more than 53 in P. arsius); more than 20 teeth (no canines) in lower jaw of blind side 6 to 13 canines in P. arsius).

P. malayanus: scales ctenoid (rough to touch) on blind side.

Other Pseudorhombus species: lack the 2 distinctive blotches along straight part of lateral line.

Other lefteye flounders have pelvic fin base of blind side much shorter than than of eyed side and/or no forked lateral line on head reaching to dorsal profile.



pelvic fins seen from below
(arrows point toward head)

Pseudorhombus Bothus, Engyprosopon, etc.

SIZE:

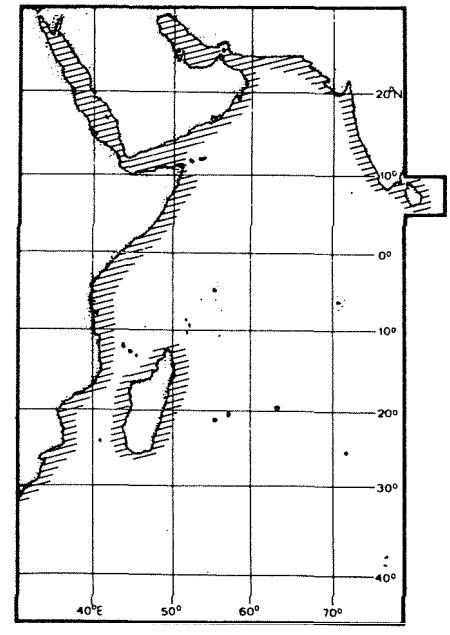
Maximum: about 35 cm; common to 30 cm.

GEOGRAPHICAL DISTRIBUTION AND BEHAVIOUR:

Continental shelf throughout the area and Madagascar. Elsewhere, eastward extending to the Eastern Indian Ocean/ Western Central Pacific.

Inhabits the shallower muddy and sandy bottoms of the continental shelf.

Feeds on bottom-living animals.



PRESENT FISHING GROUNDS:

Muddy and sandy trawling grounds of the continental shelf.

CATCHES, FISHING GEAR AND FORMS OF UTILIZATION:

Separate statistics are not reported for this species.

Caught mainly with bottom trawls.

Marketed mostly fresh.