

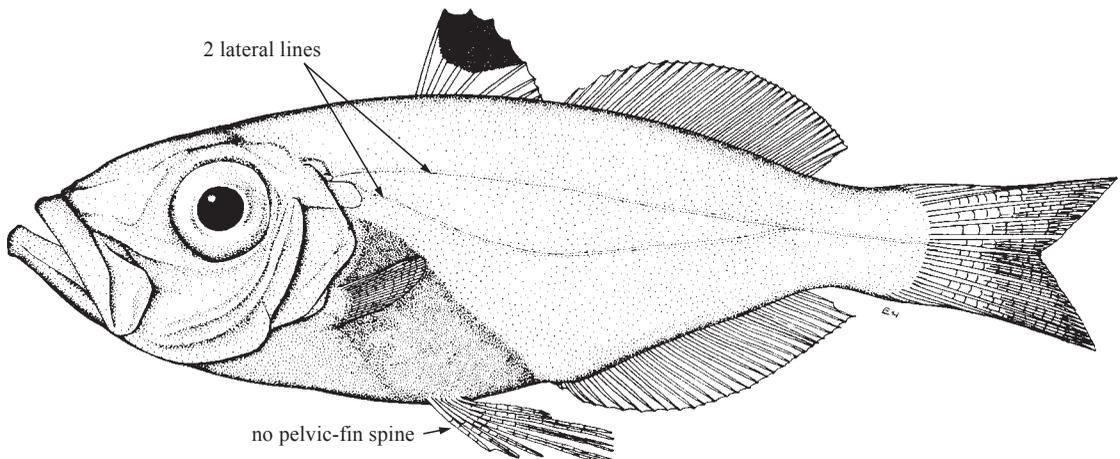
Order ZEIFORMES

PARAZENIDAE

Parazens

P.C. Heemstra, South African Institute for Aquatic Biodiversity, South Africa

Diagnostic characters: Small to moderate-sized (to 30 cm) oblong fishes, the head and body compressed; body depth slightly less than head length, contained 2.6 to 2.9 times in standard length; head naked, the bones thin and soft; opercular bones weakly serrate; mouth large, terminal, the upper jaw extremely protrusile; maxilla widely expanded posteriorly, and mostly exposed when mouth is closed; no supramaxilla; jaws with 1 or 2 rows of small, slender, conical teeth; vomer with a few short stout teeth; gill rakers (including rudiments) 2 on upper limb, 8 on lower limb. Eye diameter about 1/3 head length and slightly less than snout length. Branchiostegal rays 7. Dorsal fin divided, with 8 slender spines and 26 to 30 soft rays; anal fin with 1 minute spine and 30 to 32 soft rays; dorsal-, anal-, and pectoral-fin rays unbranched; caudal fin forked, with 11 principal rays and 9 branched rays; pectoral fin with 15 or 16 rays, shorter than eye diameter; pelvic fins with 1 unbranched and 5 or 6 branched soft rays, but no spine, fin origin posterior to a vertical at pectoral-fin base. Scales moderate in size, weakly ctenoid, and deciduous; 2 lateral lines originating on body at upper end of operculum and running posteriorly about 4 scale rows apart, gradually converging to form a single line on caudal peduncle. Caudal peduncle stout, the least depth about equal to its length and slightly less than eye diameter. Vertebrae 34. **Colour:** body reddish or silvery; large black blotch on anterior margin of dorsal fin.



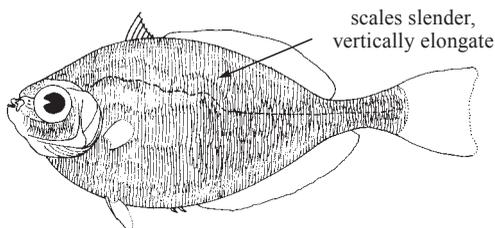
Habitat, biology, and fisheries: Caught with bottom trawls in depths of 150 to 600 m. The species is apparently too rare to be considered a fishery resource.

Remarks: This monotypic family is closely related to the Zeidae.

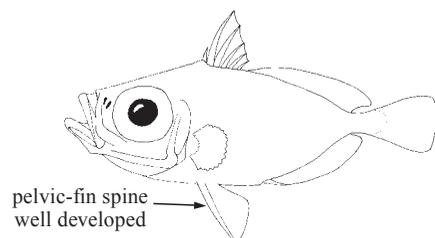
Similar families occurring in the area

Grammicolepidae: body depth 2 to 4 times head length; mouth small, upper-jaw length less than eye diameter; scales slender, greatly elongated vertically; single lateral line.

Zeniontidae: eye diameter much larger than snout length; body depth about equal to head length, contained 2.3 to 2.7 times in standard length; pelvic-fin spine well developed.



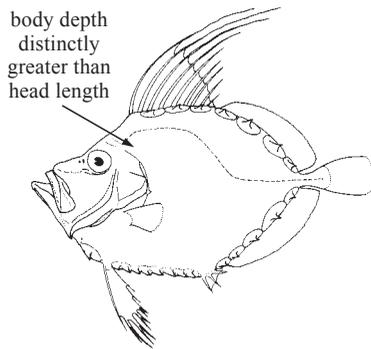
Grammicolepidae



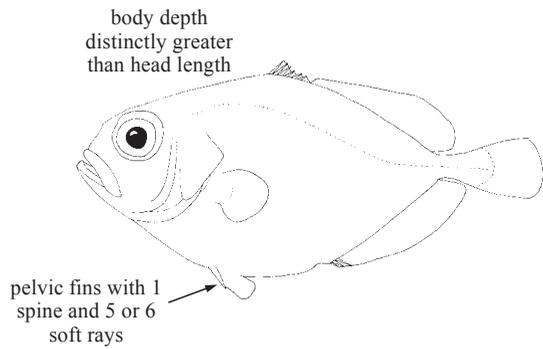
Zeniontidae

Zeidae: body depth distinctly greater than head length, contained 1.6 to 2.1 times in standard length; single lateral line; pelvic fins much longer than pectorals, about equal to head length.

Oreosomatidae: body depth distinctly greater than head length, contained 1.4 to 1.8 times in standard length; pelvic fin with 1 spine and 5 or 6 soft rays.



Zeidae



Oreosomatidae

List of species occurring in the area

Parazen pacificus Kamohara, 1935. Maximum 30 cm. Gulf of Mexico, Cuba, Puerto Rico, Colombia, South Africa, Tanzania, Japan.

Reference

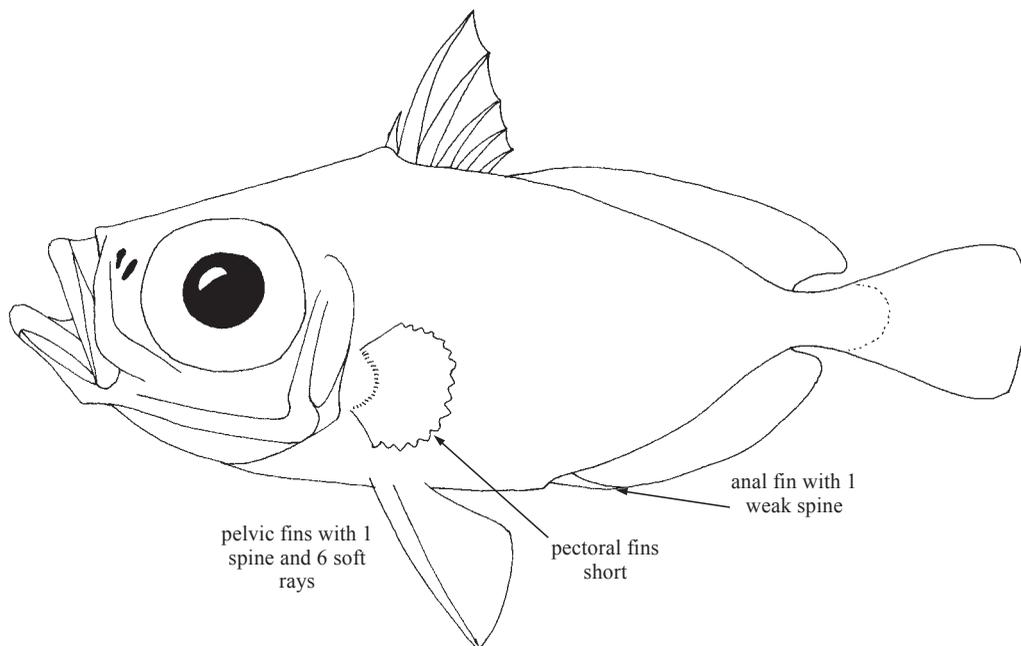
Mead, G. 1957. An Atlantic Record of the zeoid fish *Parazen pacificus*. *Copeia*, 1957(3):235-237.

ZENIONTIDAE

Zeniontids

by P.C. Heemstra, South African Institute for Aquatic Biodiversity, South Africa

Diagnostic characters: Small (to 16 cm) **oblong fishes, body compressed; body depth about equal to head length (with upper jaw retracted), contained 2.3 to 2.7 times in standard length; head bones thin and soft; mouth large, oblique, lower jaw projecting; upper jaw extremely protrusile, its length about equal to eye diameter;** jaws with a few minute, conical teeth, none on vomer or palatines. Eyes large, diameter contained 1.9 to 3.0 times in head. Scales minute. Branchiostegal rays 7. **Dorsal fin with 6 or 7 spines and 25 to 31 rays; anal fin with 1 weak spine and 23 to 28 rays; dorsal-, anal-, and pectoral-fin rays unbranched; caudal fin with 11 branched rays; pectoral fins with 15 to 17 soft rays, much shorter than head length; pelvic fins with a long slender spine and 6 soft rays, the fins widely separated from and much longer than pectoral fins.** Vertebrae 25 to 27. **Colour:** body dusky silver; head orange.

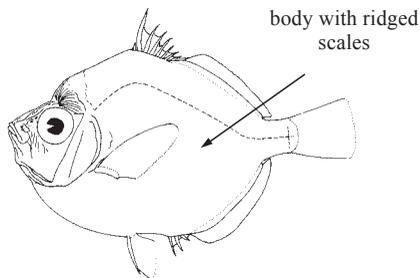


Habitat, biology, and fisheries: Zeniontids occur in depths of 300 to 600 m in a variety of habitats. Nothing has been published on the biology. They are usually caught near the bottom with trawls; because of their small size, zeniontids are of no commercial interest.

Remarks: The family comprises 2 or 3 genera and about 8 species; at least 1 species occurs in Area 31. If the genus *Macrurocyttus* Fowler, 1934 with 2 species, is included in this family, the correct family name may be Macrurocyttidae.

Similar families occurring in the area

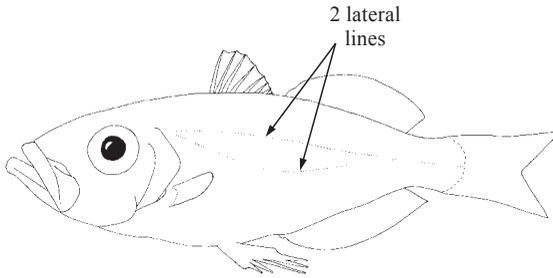
Caproidae: body oval, the depth 0.8 to 1.6 times in standard length and 2 to 3 times head length; body with ridged scales; pectoral fins about equal to head length; anal-fin spines 3.



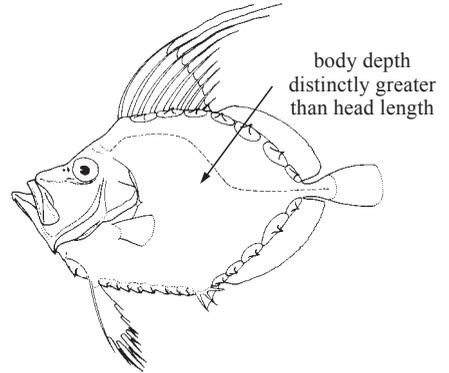
Caproidae

Parazenidae: 2 lateral lines; pelvic fins with 7 rays and no spine.

Zeidae: body depth distinctly greater than head length, 1.6 to 2.1 times in standard length.

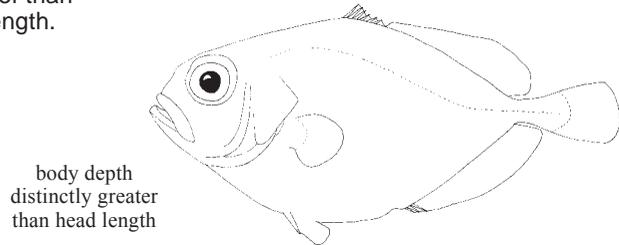


Parazenidae



Zeidae

Oreosomatidae: body depth distinctly greater than head length, 1.4 to 1.8 times in standard length.



Oreosomatidae

List of species occurring in the area

Zenion hololepis Goode and Bean, 1896. Maximum 10 cm. Nova Scotia, Bermuda, Bahamas, E coast Florida, Gulf of Mexico, Venezuela, Suriname, E Atlantic, Mozambique, Tanzania, Japan.

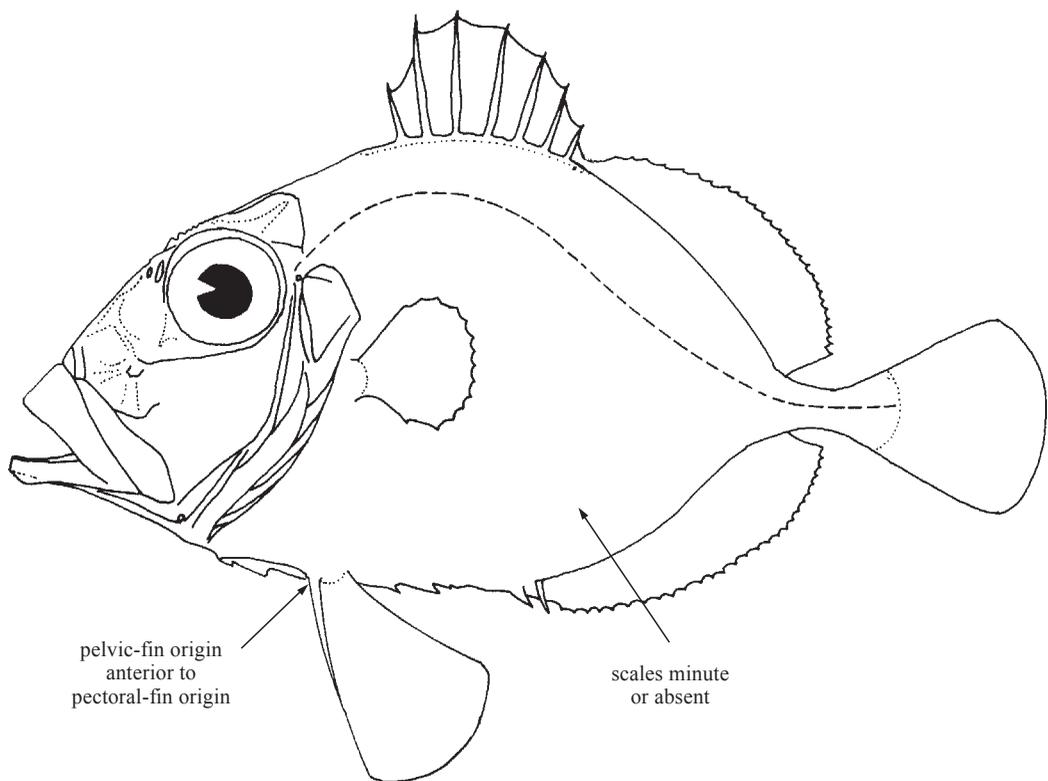
References

- Heemstra, P.C. 1986. Family No. 141: Zeniontidae. In *Smiths' Sea Fishes*, edited by M.M. Smith and P.C. Heemstra. Macmillan, South Africa, 1024 p.
- Karrer, C. 1990. Zeniidae. In *Check-list of the fishes of the eastern tropical Atlantic (CLOFETA)*, edited by J.C. Quéro, J.C. Bureau, C. Karrer, A. Post, and L. Saldanha. Lisbon, JNICT; Paris, SEI; and Paris, UNESCO, Vol.2:629-630.
- Uyeno, T., K. Matsuura, and E. Fujii. 1983. *Fishes Trawled off Suriname and French Guiana*. Japan Marine Fishery Resource Research Center. Tokyo, 491 p.

ZEIDAE**Dories**

by P.C. Heemstra, South African Institute of Aquatic Biodiversity, South Africa

D diagnostic characters: Moderate-sized (to 90 cm) oval fishes, head and body greatly compressed; body depth greater than head length, contained 1.5 to 2.1 times in standard length. Head bones thin and soft. Mouth large, oblique, the upper jaw extremely protrusile; maxilla widely expanded posteriorly, and mostly exposed when mouth is closed; supramaxilla absent; jaws with a few minute, conical teeth, and a few similar teeth on vomer. No spines or serrae on opercular bones. Branchiostegal membranes separate, the gill openings unrestricted; branchiostegal rays 7. Gill rakers short, few. **Dorsal fin with 7 to 10 spines and 24 to 30 soft rays; anal fin with 1 to 3 spines and 24 to 30 soft rays; dorsal-, anal-, and pectoral-fin rays unbranched; caudal fin convex, with 13 or 14 principal rays and 11 or 12 branched rays; pectoral fin with 12 to 14 soft rays, much shorter than head length or pelvic fins; pelvic fins with 1 slender spine and 5 rays or no spine and 9 or 10 soft rays, fin origin anterior to a vertical at pectoral-fin base. Scales minute or absent. Vertebrae 29 to 34. Colour:** body reddish or silvery.



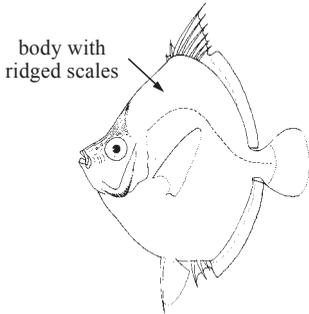
Habitat, biology, and fisheries: Zeids occur in depths of 100 to 400 m in a variety of habitats. They are usually caught near the bottom with trawls. Although zeids are good food fishes, they are not taken in sufficient quantities in the western Atlantic area to be considered an important fishery resource.

Remarks: Five genera, with a total of 9 species; 2 species in the western Atlantic.

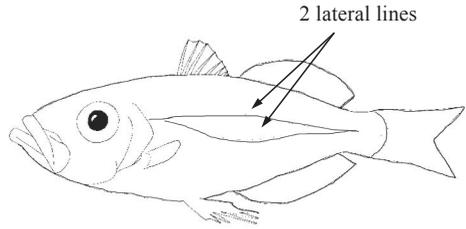
Similar families occurring in the area

Caproidae: mouth small, upper-jaw length not much greater than eye diameter; eye diameter about equal to snout length; body with ridged scales; pectoral fins longer than pelvic fins.

Parazenidae: 2 lateral lines; body depth slightly less than head length; pelvic-fin origin behind vertical at pectoral-fin base; caudal fin with 9 branched rays.



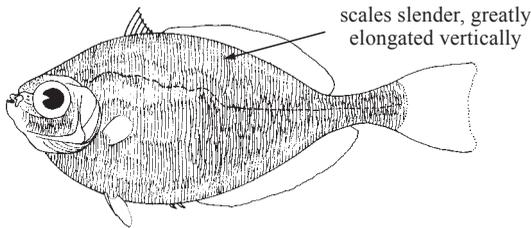
Caproidae



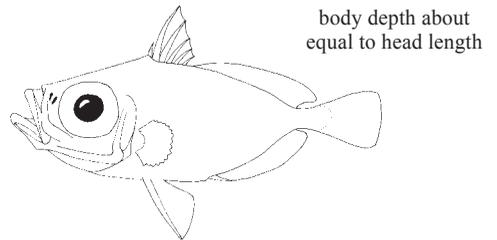
Parazenidae

Grammicolepidae: mouth small, upper jaw length about half eye diameter; scales slender, greatly elongated vertically.

Zeniontidae: Eye diameter much larger than snout length; body depth about equal to head length, contained 2.3 to 2.7 times in standard length.



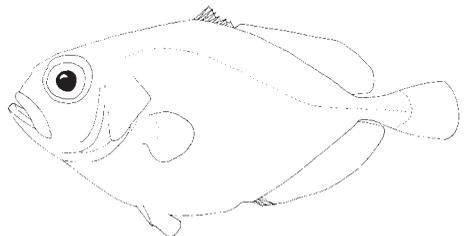
Grammicolepidae



Zeniontidae

Oreosomatidae: eye diameter greater than snout length; pelvic fins about equal to pectoral fins and about half head length.

eye diameter greater than snout length



Oreosomatidae

Key to the species of Zeidae occurring in the area

- 1a. Pelvic fins with 9 or 10 soft rays and no spine; thoracic region broad and flattened; no bony bucklers along bases of dorsal and anal fins; dorsal-fin with 7 or 8 stiff spines, shorter than head length *Cyttopsis rosea*
- 1b. Pelvic fins with 1 slender spine and 5 soft rays; thoracic region narrow; 7 large, bony bucklers along base of dorsal fin and 5 or 6 along base of anal fin; dorsal fin with 9 or 10 long, flexible spines, the third or fourth spines longer than head *Zenopsis conchifera*

List of species occurring in the area

The symbol  is given when species accounts are included.

 *Cyttopsis rosea* (Lowe, 1843).

 *Zenopsis conchifera* (Lowe, 1850).

References

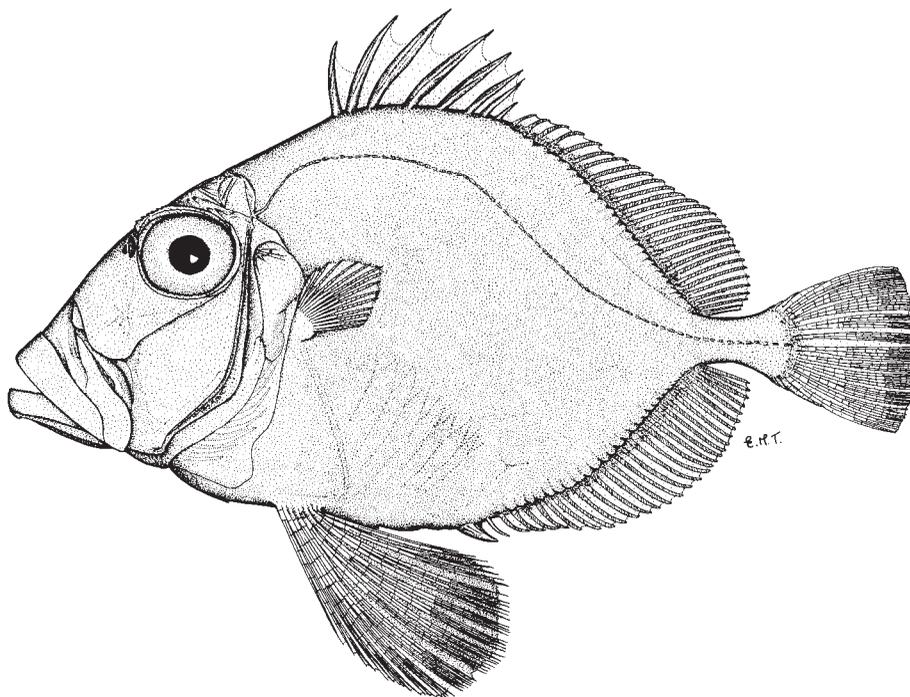
Heemstra, P.C. 1980. A revision of the zeid fishes (Zeiformes: Zeidae) of South Africa. *Ichthyol. Bull Rhodes Univ.*,41:1-18.

Heemstra, P.C. 1986. Family No. 138: Zeidae. In *Smiths' Sea Fishes*, edited by M.M. Smith and P.C. Heemstra. Johannesburg, Macmillan South Africa, pp. 435-438.

***Cyttopsis rosea* (Lowe, 1843)**

Frequent synonyms / misidentifications: *Cyttopsis roseus* / None.

FAO names: **En** - Red dory; **Fr** - Saint Pierre rouge; **Sp** - San Pedro colorado.



Diagnostic characters: Oval fishes, with head and body greatly compressed; body depth greater than head length, contained 1.7 to 2.0 times in standard length; thoracic region (between or in front of pelvic fins) broad and flattened ventrally. Head bones thin and soft; mouth large, oblique, the upper jaw extremely protrusile; maxilla widely expanded posteriorly and mostly exposed when mouth is closed; jaws with bands of villiform granular teeth; similar teeth on vomer. No spines or serrae on opercular bones. Gill rakers rudimentary, 1 on upper limb, 8 to 10 on lower limb. **Dorsal fin with 7 or 8 stiff spines and 28 to 30 short soft rays; anal fin with 1 or 2 spines (first short, broad, and immovable, second spine very small) and 29 or 30 soft rays; caudal fin convex, with 13 principal rays and 11 branched rays; pectoral fin with 13 or 14 soft rays, much shorter than head length or pelvic fins; pelvic fins with 9 or 10 soft rays and no spine. Scales small, cycloid, deciduous; a row of low bony ridges on each side of base of soft dorsal and anal fins; 2 keeled scutes between pelvic fins and anus. Colour:** body reddish silvery; pelvic fins reddish, the membranes black.

Size: Maximum to 22 cm.

Habitat, biology, and fisheries: Red dory are common in depths of 100 to 600 m in a variety of habitats. Biology little known. Usually caught near the bottom with trawls. Although the flesh is excellent, this species is too small to be considered an important fishery resource.

Distribution: Canada, South Carolina to Gulf of Mexico, Cuba, Costa Rica, Colombia, Venezuela, eastern Atlantic, France, Madeira, Mauritania to South Africa and western Indian Ocean north to India; Indo-West Pacific.

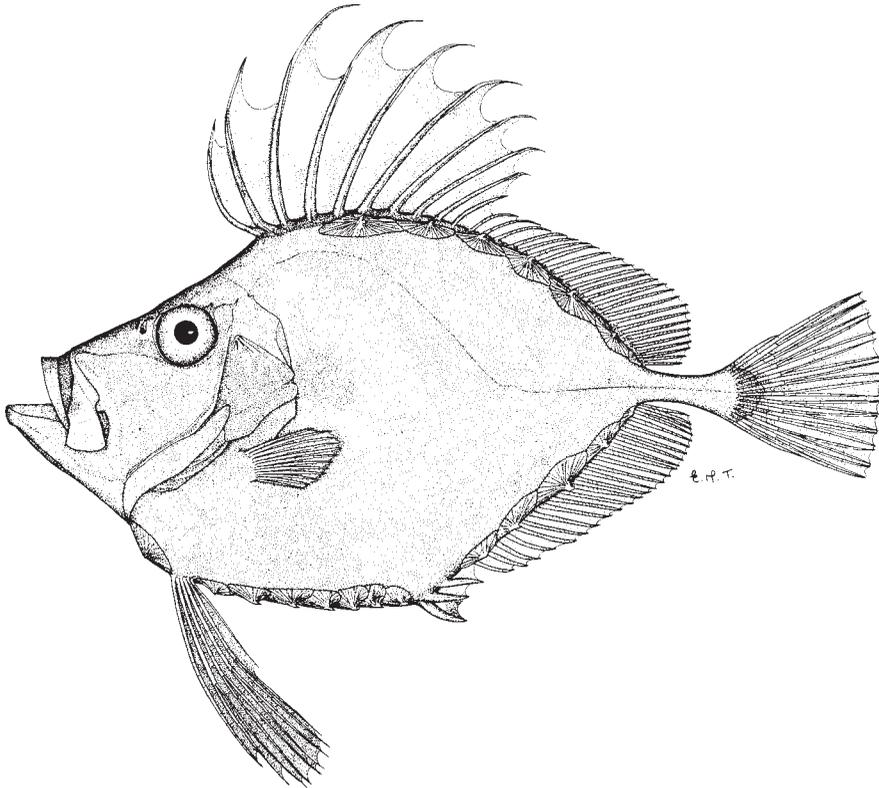


Zenopsis conchifer (Lowe, 1850)

JOS

Frequent synonyms / misidentifications: *Zenopsis ocellata* (Storer, 1859) / None.

FAO names: **En** - Silver John dory (AFS: Buckler dory); **Fr** - Saint Pierre argenté; **Sp** - San Pedro plateado.

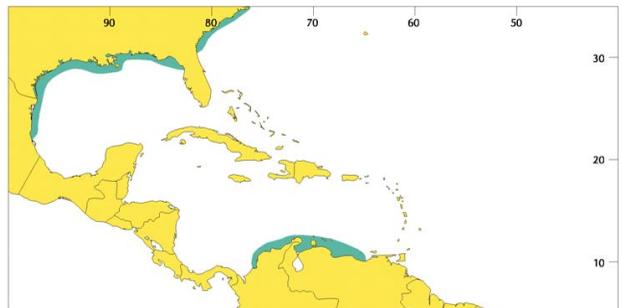


Diagnostic characters: Moderate-sized (to 90 cm) oval fishes, with head and body greatly compressed; body depth greater than head length, contained 1.5 to 2.1 times in standard length; head bones thin and soft; mouth large, oblique, the upper jaw extremely protrusile; maxilla widely expanded posteriorly, and mostly exposed when mouth is closed; jaws with a few minute, conical teeth. No spines or serrae on opercular bones. Dorsal fin with 9 or 10 long flexible spines and 24 to 26 short, soft unbranched rays; anal fin with 3 spines and 24 to 26 unbranched rays; caudal fin convex, with 13 principal rays and 11 branched rays; pectoral fin with 12 soft rays, much shorter than head length or pelvic fins; pelvic fins with 1 slender spine and 5 soft rays. Scales absent; 7 large bony bucklers along base of dorsal fin and 5 or 6 bucklers along anal-fin base; 2 rows of 7 or 8 keeled scutes, each ending in a small spine, between pelvic and anal fins. **Colour:** body silvery, with a dusky midlateral spot near head.

Size: Maximum to 90 cm, over 3 kg.

Habitat, biology, and fisheries: Buckler dory occur in depths of 100 to 400 m in a variety of habitats. Biology little known. Usually caught near the bottom with trawls. Although the flesh is excellent, this species is not taken in sufficient quantities to be of commercial importance.

Distribution: Gulf of Maine to Gulf of Mexico, Colombia, Venezuela, Brazil, eastern Atlantic, France, Madeira, Mauritania to South Africa, and western Indian Ocean north to India.

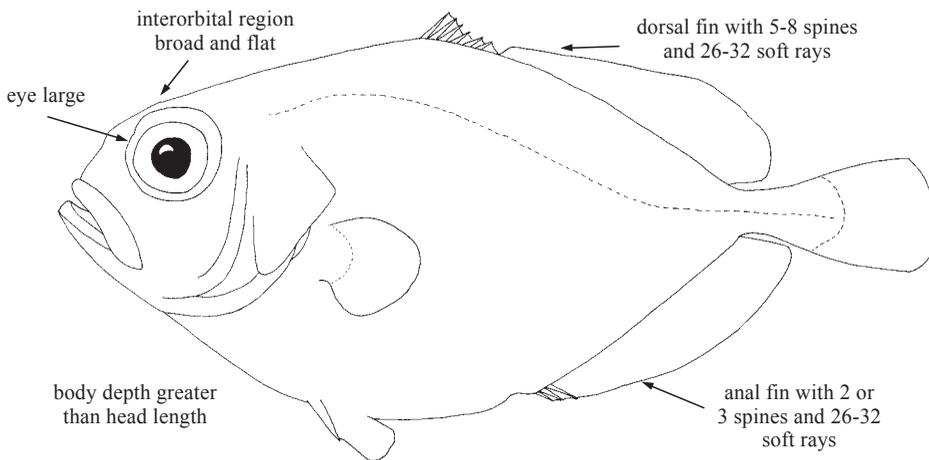


OREOSOMATIDAE

Oreos

by P.C. Heemstra, South African Institute for Aquatic Biodiversity, South Africa

Diagnostic characters: Moderate fishes (to 60 cm) with **deep, compressed body**; **depth distinctly greater than head length and 1.4 to 1.9 times in standard length**. **Head large, the interorbital region broad and flat, head length a third or more of standard length**; **eye large, the diameter 0.3 to 0.5 head length and 2 or 3 times more than depth of caudal peduncle**; upper jaw protrusile; 1 or 2 rows of tiny teeth on jaws. Branchiostegals rays 7. Gill rakers on first arch 3 to 6 on upper limb and 17 to 26 on lower limb. **Dorsal fin with 5 to 8 spines and 28 to 35 rays**; **anal fin with 2 or 3 spines and 26 to 32 rays**; caudal fin small and rounded, branched rays 11; caudal peduncle narrow, the depth less than half eye diameter; pectoral-fin length about 1/3 head length; dorsal-, anal-, and pectoral-fin rays unbranched; pelvic fins with 1 spine and 5 or 6 branched rays. Body covered with minute scales; head with scales on cheeks; operculum with or without scales; lateral line continuous, with 84 to 110 tubed scales, not extending onto caudal fin. **Colour:** adults dusky silver; pelagic prejuvenile (*Oreosoma*) stage quite different in shape, with expanded belly, groups of enlarged transformed scales, and a spotted or marbled colour pattern.



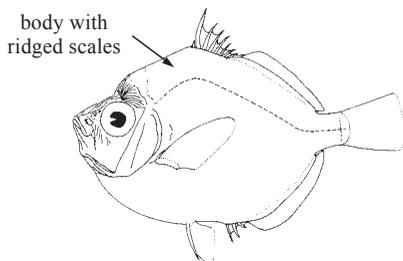
Habitat, biology, and fisheries: Adults benthopelagic on continental slope in 400 to 1 500 m. They feed on crustaceans, cephalopods, and fishes. Pelagic prejuveniles look very different from their respective adults and are rarely caught. Oreos have been caught in abundance off New Zealand, Australia, and Japan and are of commercial importance in the fisheries of these countries.

Remarks: The family comprises 4 genera, with a total of about 9 species.

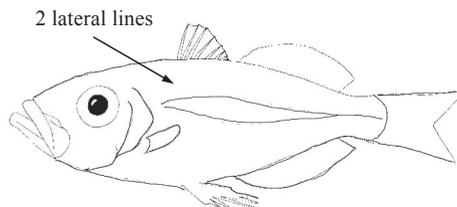
Similar families occurring in the area

Caproidae: body oval, the depth 0.8 to 1.6 times in standard length and 2 to 3 times head length; body with ridged scales; pectoral-fin length about equal to head length.

Parazenidae: body depth subequal to head length; 2 lateral lines; pelvic fins with 7 rays and no spine; caudal fin forked, with 11 branched rays.



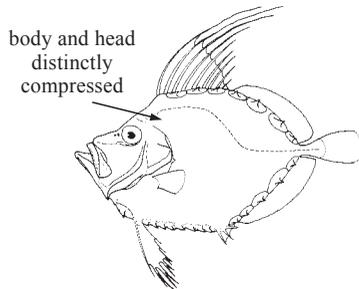
Caproidae



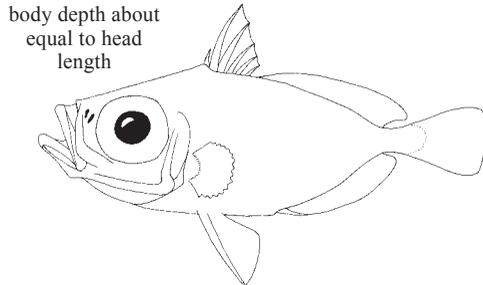
Parazenidae

Zeidae: body and head distinctly compressed; eye diameter less than snout or upper-jaw length.

Zeniontidae: body depth about equal to head length, 2.3 to 2.7 times in standard length.



Zeidae



Zeniontidae

Key to the species of Oreosomatidae occurring in the area

- 1a. Dorsal fin with 5 or 6 spines (first visible spine much longer than second) and 34 to 36 rays (Fig. 1); pelvic fin rays 5; anal fin with 2 or 3 spines and 31 to 34 rays; cheeks and operculum covered with weakly ctenoid adherent scales; midlateral body scales cycloid, deciduous; adults dark brown, fins darker. Prejuveniles (12 to 25 cm) with 3 small hillocks in a row on belly; body silvery, covered with dark spots of various sizes, becoming larger and fainter with age *Pseudocyttus maculatus*
- 1b. Dorsal fin with 5 to 8 spines and 28 to 33 rays; pelvic fin rays 6; anal fin with 2 or 3 spines and 26 to 31 rays (Fig. 2); operculum naked, covered with radiating bony ridges; scales strongly ctenoid and adherent; adults blackish violet. Prejuvenile (35 mm standard length) abdomen swollen, with 2 rows of enlarged, subrectangular plate-like scales on each side, less distinct with age but their remnants may still be seen on adults; prejuveniles silvery greenish dorsally, with dark grey blotches fading at about 12 cm; adults dark brown, blackish ventrally *Alloctytus verrucosus*

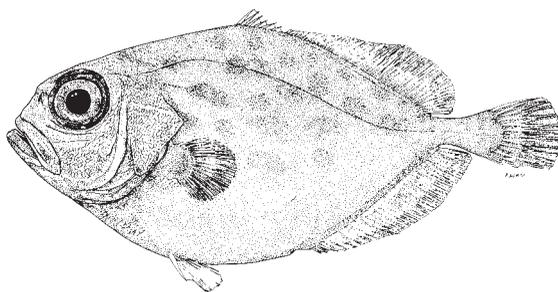


Fig. 1 *Pseudocyttus maculatus*

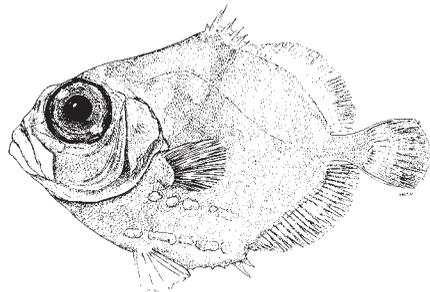


Fig. 2 *Alloctytus verrucosus*

List of species occurring in the area

- Alloctytus verrucosus* (Gilchrist, 1906). Warty oreo. Maximum to at least 38 cm. Suriname, Argentina, Namibia, S Africa, W. Indian Ocean, Australia, and New Zealand.
- Pseudocyttus maculatus* Gilchrist, 1906. Smooth oreo. Maximum 52 cm. Suriname, Argentina, Falkland Islands, S Africa, Kerguelen Island, Australia and New Zealand.

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James, G.D., T. Inada, and I Nakamura. 1988. Revision of the oreosomatid fishes (Family Oreosomatidae) from the southern oceans, with a description of new species. *New Zealand J. Zool.*, 15:291-326.

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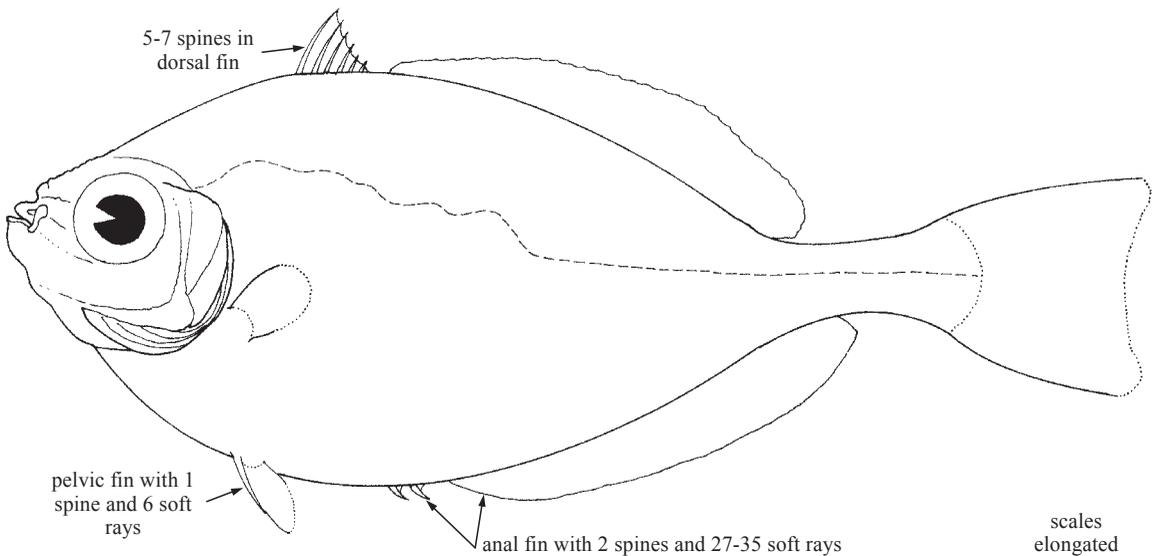
Shimizu, T. 1983. Oreosomatidae (pp 288-289). In *Fishes Trawled off Surinam and French Guiana*, edited by T. Uyeno, K. Matsuura, and E. Fuji. Tokyo, Japan Marine Fishery Resource Research Centre, pp. 288-289.

GRAMMICOLEPIDAE

Tinselfishes

by P.C. Heemstra, South African Institute for Aquatic Biodiversity, South Africa

Diagnostic characters: Moderate-sized (to 65 cm) **oblong or diamond-shaped fishes, the head and body greatly compressed; body depth much greater than head length, contained 0.8 to 2.3 times in standard length; head bones thin and soft; mouth minute, upper jaw length contained twice in eye diameter;** maxilla ridged, bound to ascending process of premaxilla and loosely connected to palatines; jaws with a few minute, conical teeth, none on vomer or palatines. **Scales much elongated vertically, covering body and most of head; a row of small spines on body along each side of dorsal- and anal-fin bases.** Branchiostegal rays 7, the membranes joined to the isthmus. **Dorsal fin with 5 to 7 spines and 27 to 34 soft rays; anal fin with 2 spines and 27 to 35 soft rays; dorsal-, anal-, and pectoral-fin soft rays unbranched; caudal fin with 13 branched rays; pectoral fin with 14 or 15 soft rays, much shorter than head length; pelvic fins with 1 slender spine and 6 soft rays.** Vertebrae 36 or 37 (*Xenolepidichthys*) or 43 to 46 (*Grammicolepis*). In young specimens, first anal-fin spine greatly elongated, reaching to or well beyond caudal fin, second dorsal-fin spine usually longer than head; these elongated spines become greatly shortened in adults. **Colour:** body silvery, young with irregular black spots or blotches.

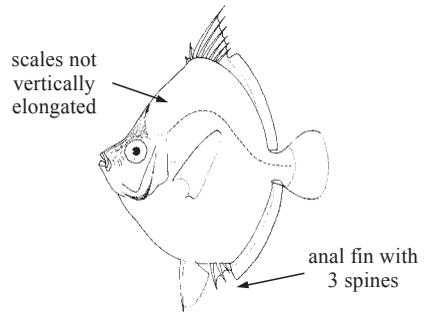


Habitat, biology, and fisheries: Grammicolepids occur in depths of 100 to 800 m in a variety of habitats. Nothing has been published on the biology of tinselfishes. They are usually caught near the bottom with trawls. Not common. Of no commercial interest.

Remarks: The family comprises 2 genera, each with a single species.

Similar families occurring in the area

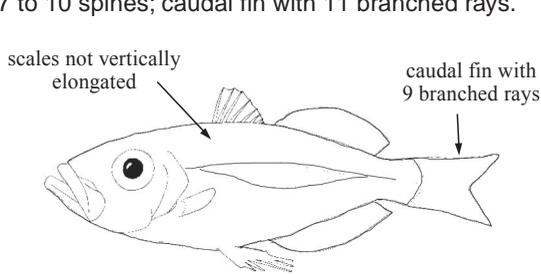
Caproidae: scales not vertically elongated; body with ridged scales; pectoral fins about equal to head length; anal fin with 3 spines.



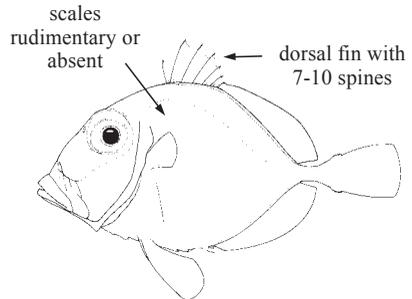
Caproidae

Parazenidae: scales not vertically elongated; mouth large; 2 lateral lines; body depth slightly less than head length, contained 2.6 to 2.8 times in standard length; caudal fin with 9 branched rays.

Zeidae: scales rudimentary or absent; mouth large, upper jaw length greater than eye diameter; dorsal fin with 7 to 10 spines; caudal fin with 11 branched rays.



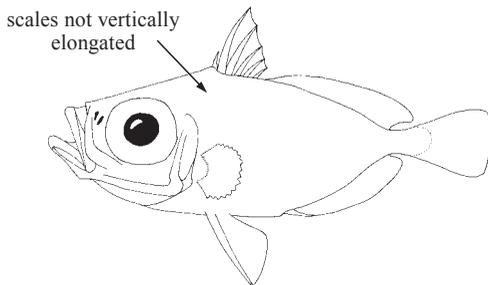
Parazenidae



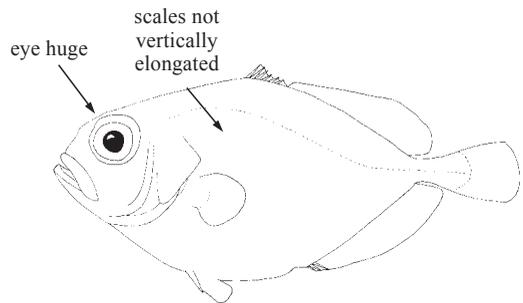
Zeidae

Zeniontidae: scales not vertically elongated; body depth about equal to head length, 2.3 to 2.7 times in standard length; distance from pectoral-fin base to pelvic-fin base less than eye diameter.

Oreosomatidae: scales not vertically elongated; head length half or more of body depth; eye huge, 2 or more times depth of caudal peduncle.



Zeniontidae



Oreosomatidae

Key to the species of Grammicolepididae occurring in the area

- 1a. Total dorsal-fin rays 32 to 35; no spiny scutes on body at any stage; 29 spinous protuberances along base of dorsal fin *Xenolepidichthys dalgleishi*
- 1b. Total dorsal-fin rays 39 to 41; young (less than 24 cm standard length) with 10 or 11 widely separated spiny scutes on sides of body and caudal peduncle which disappear with growth; 34 to 36 spinous protuberances along base of dorsal fin *Grammicolepis brachiusculus*

List of species occurring in the area

The symbol is given when species accounts are included.

Grammicolepis brachiusculus Poey, 1873
(= *Xenolepidichthys americanus* Nichols and Firth, 1939).

Xenolepidichthys dalgleishi Gilchrist, 1922.

References

Karrer, C. and P.C. Heemstra. 1986. Grammicolepididae. In *Smith's Sea Fishes*, edited by M.M. Smith and P.C. Heemstra. Johannesburg, Macmillan South Africa, pp. 440-441.

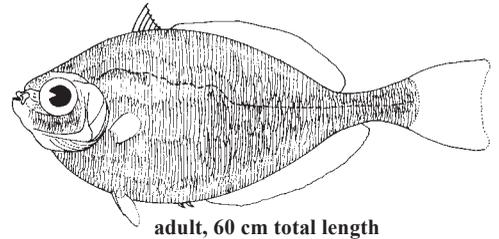
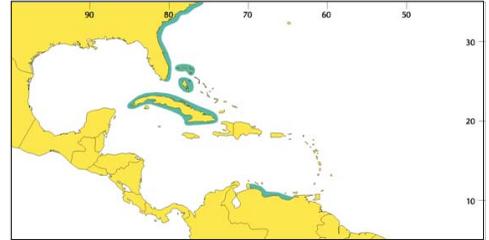
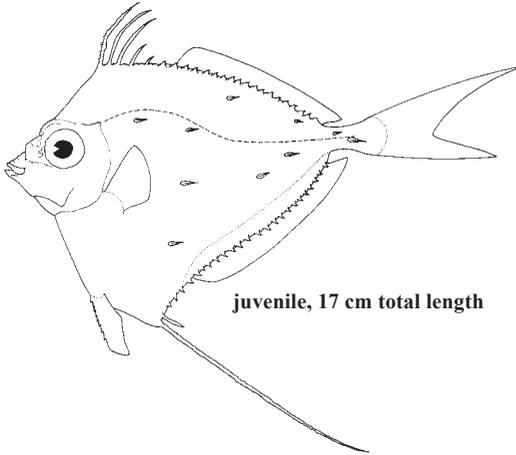
Shimizu, T. 1983. Grammicolepididae. In *Fishes Trawled off Suriname and French Guiana*, edited by T. Uyeno, K. Matsuura, and E. Fuji. Tokyo, Japan Marine Fishery Resource Research Centre, 591 p.

***Grammicolepis brachiusculus* Poey, 1873**

GMG

En - Thorny tinselfish.

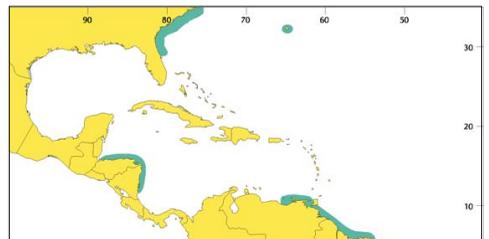
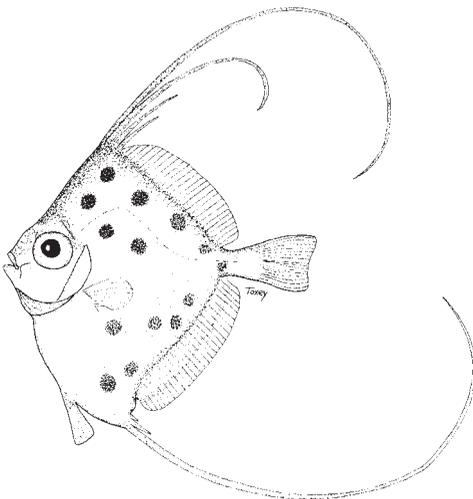
Maximum size to 65 cm. Prejuveniles (less than 20 cm standard length) have body depth contained 1.4 to 1.6 (2.0 to 2.3 in adult) in standard length, head length 3.2 to 3.8 (4.2 to 4.4 in adult) times in standard length and conspicuous, horizontally flattened spiny scutes on body; body silvery with irregular black blotches on body, black spots on caudal fin and 4 or 5 black bars on anal fin. Metamorphosis from the prejuvenile stage occurs at about 25 to 30 cm standard length, at which time the body becomes more elongate, the spiny scutes are lost and the elongate fin spines are greatly shortened. Caught with trawls in depths of 300 to 900 m. East coast of USA from Georges Bank off Canada to Florida, Bahamas, Cuba, Venezuela, eastern Atlantic, Mediterranean, southern Africa, Japan, and Hawaii.

***Xenolepidichthys dalgleishi* Gilchrist, 1922**

XED

En - Tinselfish (AFS: Spotted tinselfish).

Maximum size to 15 cm. Body depth contained 0.8 to 1.2 times, head length 2.9 to 3.7 times in standard length; body silvery, with round black spots; anterior pelvic-fin rays and rear margin of caudal fin black. Caught with trawls in depths of 90 to 900 m. Emerald Bank Nova Scotia, Gulf of Maine to Florida, Bermuda, Nicaragua, Honduras, Venezuela, Suriname, southern Africa, and western Pacific.

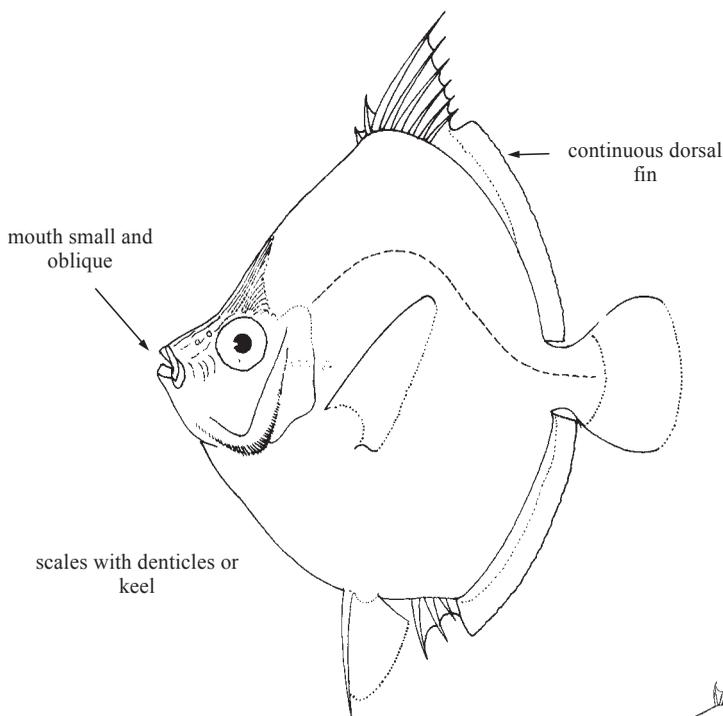


CAPROIDAE

Boarfishes

by N.V. Parin, Shirshov Institute of Oceanology, Russia (after Berry, 1978)

Diagnostic characters: Moderately-sized fishes (to 30 cm total length). Body moderately to extremely deep, compressed laterally, with convex dorsal and abdominal profiles. Head small, with radiating bony ridges. Eyes large. **Mouth small and oblique.** Upper jaw protrusible. Teeth small and conical in narrow bands in both jaws. Gill membranes free from isthmus. **Dorsal fin continuous;** its spinous portion short, **with 8 or 9 spines** (third the longest), separated from much longer soft-ray portion by a notch. Anal fin with 3 spines (first the longest) and long soft-ray portion similar to that of dorsal fin. Caudal fin truncate to rounded. Pectoral fins bluntly pointed, with 1 spine and 12 or 13 soft rays. **Pelvic fins with 1 spine and 5 soft rays.** **Scales** covering most of body, **with denticulated posterior ridge or keel and small denticles.** Scale rows 44 to 57. Both dorsal- and anal-fin bases with scaly sheaths. Vertebrae 22. **Colour:** fresh specimens red to pinkish on upper body and sides, blending into silver on lower side. Juveniles (about 60 mm standard length) mostly silver with a few red bars on body.

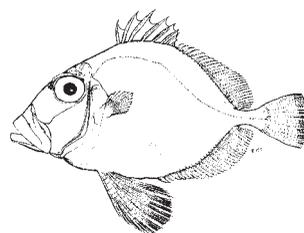


Habitat, biology, and fisheries: Benthopelagic, live near rocky bottom in depths of 65 to 600 m and occur in relatively small schools. Feed on plankton and benthic invertebrates. Edible but not fished commercially.

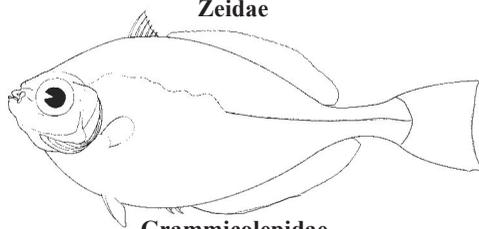
Similar families occurring in the area

Zeidae: mouth large. Pelvic fins with 1 spine and 6 to 8 soft rays. Scales, when present, never keeled.

Grammicolepidae: gill membranes joined to isthmus. Dorsal-fin spines 5 to 7. Pelvic fins with 1 spine and 6 rays. Scales linear, vertically elongated, without keels.



Zeidae



Grammicolepidae

Key to the species of Caproidae occurring in the area

- 1a. Dorsal-fin spines 8 (rarely 7 or 9), soft rays 31 to 37; pectoral fins with 13 (rarely 12) soft rays; body depth equal to or more than standard length (0.8 to 1.0 in standard length) *Antigonia capros*
- 1b. Dorsal-fin spines 9 (rarely 10), soft rays 26 to 30; pectoral fins with 12 (rarely 13) soft rays; body depth less than standard length (1.2 to 1.6 times in standard length) *Antigonia combatia*

List of species occurring in the area

The symbol  is given when species accounts are included.

-  *Antigonia capros* Lowe, 1843.
-  *Antigonia combatia* Berry and Rathjen, 1959.

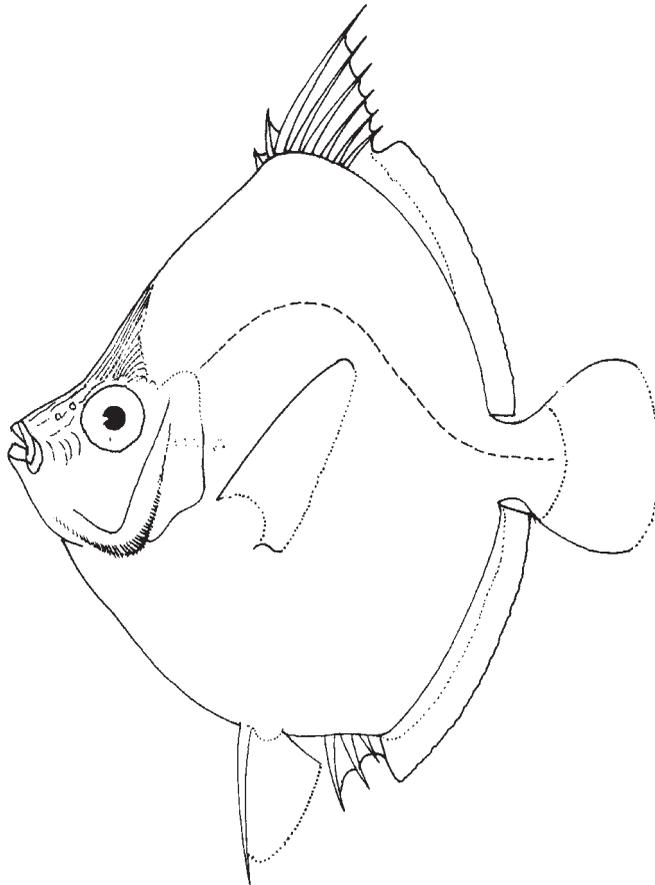
References

Berry, F.H.1959. Boarfishes of the genus *Antigonia* of the Western Atlantic. *Bull.Fla.State Mus.*, 4(7):205-250.

Parin, N.V. and O.D. Borodulina.1986. Preliminary review of the benthopelagic fish genus *Antigonia* Lowe (Zeiformes, Caproidae). *Trudy Inst.Okeanol.*,131:141-172.

Antigonia capros Lowe, 1843

ZAC

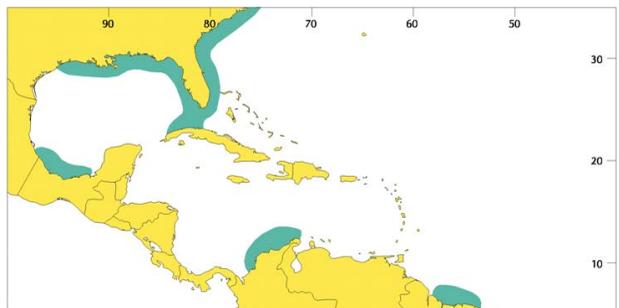
Frequent synonyms / misidentifications: None / None.**FAO names:** En - Deepbody boarfish.

Diagnostic characters: **Body very deep** (depth 0.8 to 1.0 in standard length), almost rhomboid, strongly compressed. Head 2.5 to 3.0 in standard length, with upper profile steeply rising, concave over eye but convex behind it. Eye moderate, 2.0 to 2.6 in head length. Mouth subvertical. Gill rakers on first arch 19 to 22. **Dorsal fin with 8 strong spines (rarely 7 or 9) and 31 to 37 soft rays.** **Anal fin with 3 strong spines and 29 to 34 soft rays.** Caudal-fin rounded. **Pectoral fins bluntly rounded with 1 spine and 13 (rarely 12 or 14) soft rays.** Pelvic-fin spine reaching well beyond anal-fin origin. Scales rough, 47 to 54 in longitudinal row. **Colour:** body pink to reddish, vertical fins hyaline.

Size: Maximum 22 cm total length, typically 15 to 18 cm.

Habitat, biology, and fisheries: Benthopelagic at 65 to 600 m, mainly at 100 to 300 m; juveniles pelagic. Feeds on gastropods, cephalopods, and crustaceans. Of no importance to fisheries.

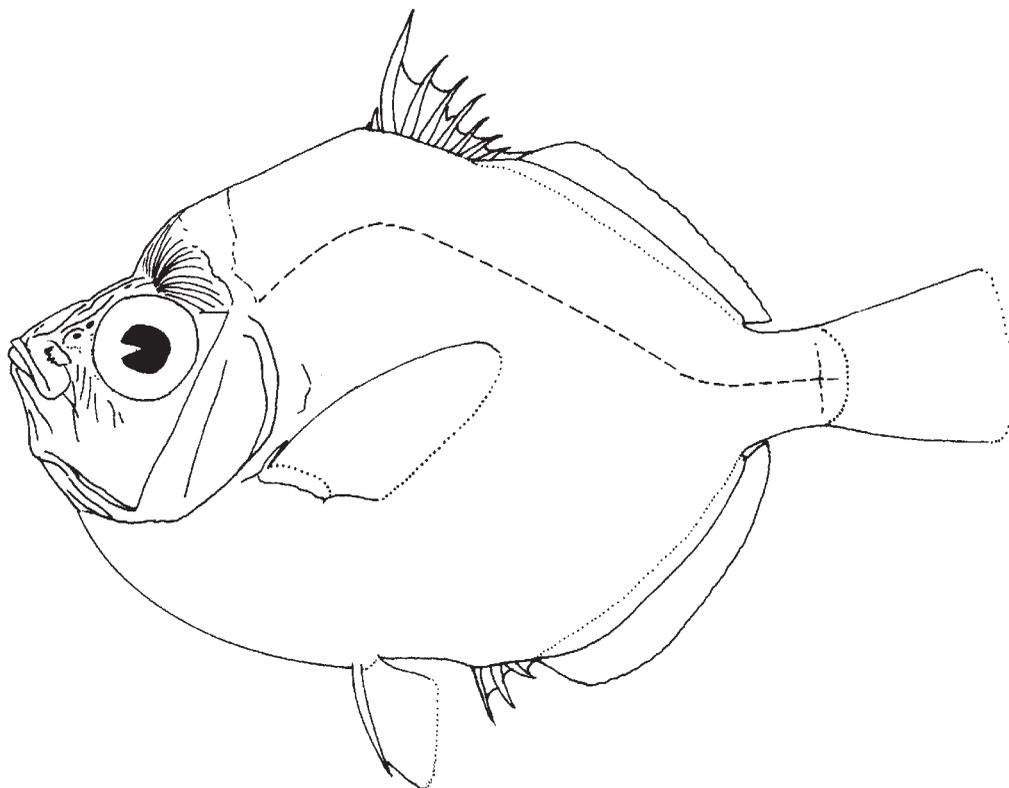
Distribution: Worldwide in subtropical and tropical oceans except the eastern Pacific. Within Area 31 from off southern Massachusetts to Rio de la Plata (Argentina), including the Gulf of Mexico and the Caribbean Sea.



Antigonia combatia Berry and Rathjen, 1959

Frequent synonyms / misidentifications: None / None.

FAO names: En - Shortspine boarfish.



Diagnostic characters: **Body moderately deep** (depth 1.2 to 1.6 in standard length); nearly oval, strongly compressed. Head 2.4 to 2.7 in standard length, with upper profile not steeply rising, slightly concave over eye. Eye moderate, 2.3 to 2.4 in head length. Mouth oblique, not subvertical. Gill rakers on first arch 18 to 20. **Dorsal fin with 9 strong spines (rarely 10) and 26 to 30 soft rays. Anal fin with 3 strong spines and 23 to 27 soft rays.** Caudal fin truncated. **Pectoral fins bluntly rounded with 1 spine and 12 (rarely 11 or 13) soft rays.** Pelvic-fin spine not or barely reaching anal-fin origin. Scales rough, 51 to 56 in longitudinal row. **Colour:** pink to reddish, silver ventrally.

Size: Maximum 12 cm standard length.

Habitat, biology, and fisheries: Benthopelagic at 115 to 580 m; juveniles pelagic. Feeds on small invertebrates. Of no importance to fisheries.

Distribution: Restricted by the Western Central Atlantic between 40° N and the equator, including the Gulf of Mexico and the Caribbean Sea.

