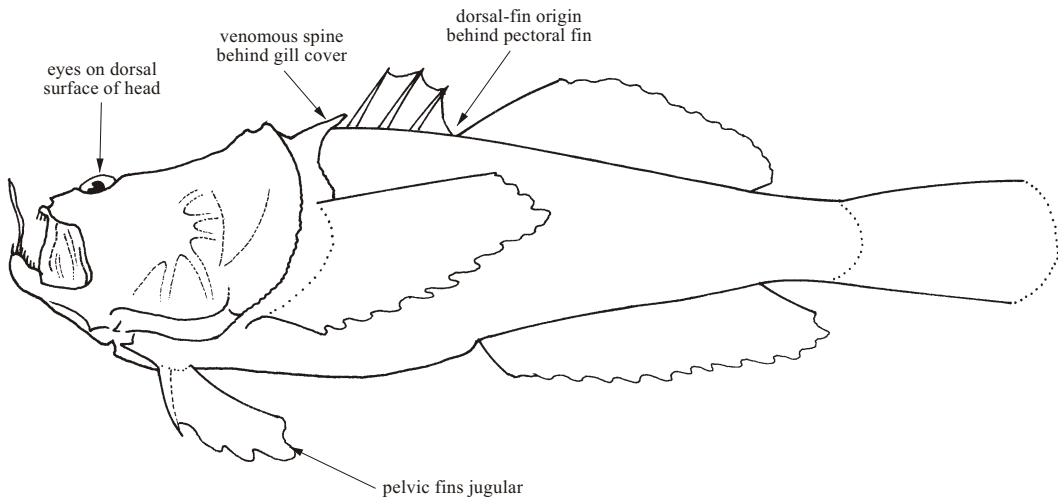


URANOSCOPIDAE

Stargazers

by W.L. Smith, The University of Kansas, Lawrence, KS, USA (after Roux, 1981, 1990)

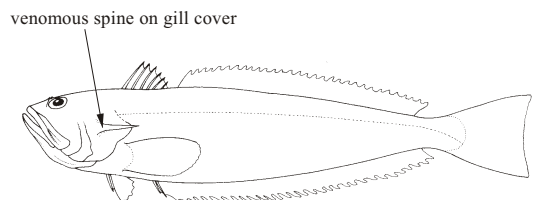
Diagnostic characters: Somewhat elongate, moderate sized (to 50 cm total length) perciform fishes with a subconical body. **Head broad, deep, cuboid, and flattened dorsally;** dorsal and lateral surfaces of head almost entirely encased in sculptured bones; **eyes small and on dorsal surface of head**, not protruding; mouth large, strongly oblique to vertical; lips fringed; small villiform teeth in jaws and on palate; premaxilla protrusible; retractile tentacle often inside of mouth, near symphysis of lower jaw. Gill openings large, gill membranes nearly separate and free from isthmus. Dorsal fins separate, **first fin (origin posterior to pectoral fin) short with 3 or 4 spines;** second fin long with 0 spines and 13 to 15 segmented soft rays; anal fin long with 0 or 1 spine and 12 to 14 segmented soft rays; pectoral fins broad based; **pelvic fins jugular with 1 spine and 5 segmented soft rays;** caudal fin truncate to rounded. Scales, when present, small and arranged in regular oblique rows; ventral surface naked. **Venomous cleithral spine behind opercle and above pectoral fin.** **Colour:** usually grey or reddish brown dorsally and laterally; whitish or yellowish ventrally; body often with light blotches, spots, or speckling.



Habitat, biology, and fisheries: Stargazers occur in littoral areas and waters of the continental shelf and upper slope to depths of 400 m. All species are bottom-dwelling, usually in sandy or muddy sediments leaving only their eyes exposed. They are carnivorous ambush predators. Some species are slightly electric, but they are not thought to be strong enough to be harmful to humans; the sharp humeral spine is venomous. Although stargazers are not abundant or commercially important, they are edible and appreciated as food fishes. They are typically taken as bycatch in trawl fisheries, but several species are also caught using bottom trawls, fixed bottom nets, and other artisanal gear. All species are marketed fresh and dried-salted. Additionally, some species are reduced for fishmeal.

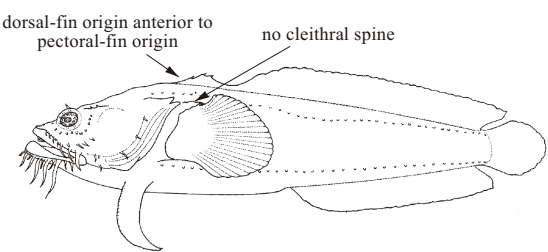
Similar families occurring in the area

Trachinidae: small, rounded head (large, dorsally flattened head in Uranoscopidae); strong venomous spine on gill cover; dorsal-fin origin equal to or in advance of pectoral origin; vertebrae 34 to 43.



Trachinidae

Batrachoididae: gill openings small, restricted to sides of body; cleithral spine lacking; dorsal-fin origin equal to or in advance of pectoral origin.



Batrachoididae

Key to species of Uranoscopidae occurring in the area

- 1a. Origin of first dorsal fin surrounded by a large, distinct white patch (Fig. 1) → 2
- 1b. Origin of first dorsal fin not surrounded by a large, distinct white patch (Fig. 2) → 3

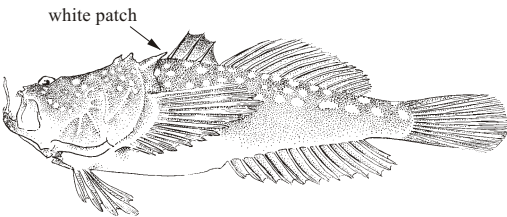


Fig. 1 *Uranoscopus polli*

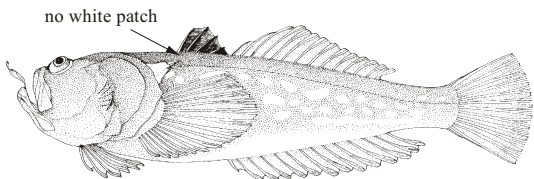


Fig. 2 *Uranoscopus scaber*

- 2a. Interorbital space wide, greater than 18.5% of head length (Fig. 3); scales below lateral line 58 to 60 ***Uranoscopus polli***
- 2b. Interorbital space narrow, less than 17.5% of head length (Fig. 4); scales below lateral line fewer than 58 ***Uranoscopus cadenati***
- 3a. Venomous cleithral spine long, greater than 32% of head length; mouth tentacle rounded and white (Fig. 5) ***Uranoscopus albesca***
- 3b. Venomous cleithral spine short, less than 25% of head length; mouth tentacle long, slender, and grey. ***Uranoscopus scaber***

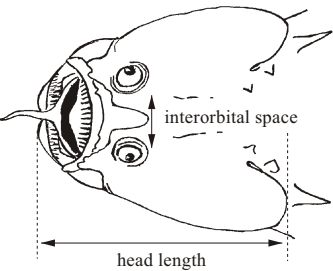


Fig. 3 *Uranoscopus polli*

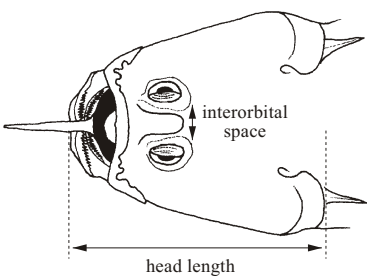


Fig. 4 *Uranoscopus cadenati*

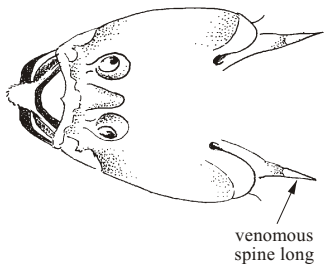



Fig. 5 *Uranoscopus albesca*


List of species occurring in the area

The symbol  is given when species accounts are included.

 *Uranoscopus albesca* Regan, 1915.

 *Uranoscopus cadenati* Poll, 1959.

 *Uranoscopus polli* Cadenat, 1951.

 *Uranoscopus scaber* Linnaeus, 1758.

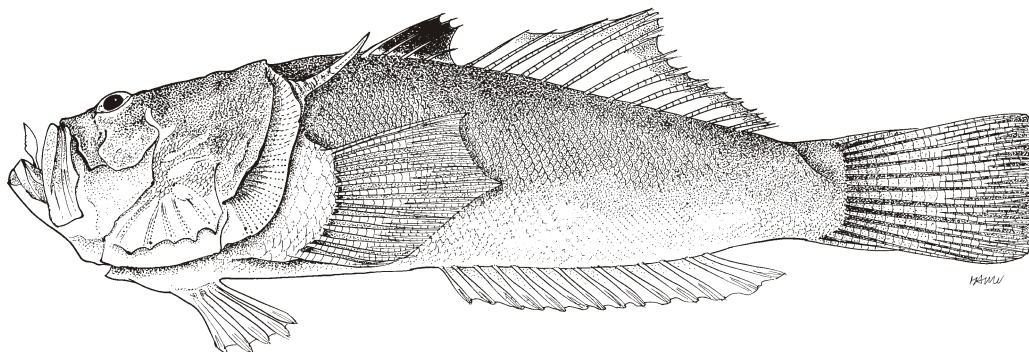
References

- Hureau, J.-C.** 1986. Uranoscopidae. In P.J.P. Whitehead, M.-L. Bauchot, J.-C. Hureau, J. Nielsen & E. Tortonese, eds. *Fishes of the northeastern Atlantic and the Mediterranean*, volume II. Paris, UNESCO, pp. 955–956.
- Pietsch, T.W.** 1989. Phylogenetic relationships of trachinoid fishes of the family Uranoscopidae. *Copeia* 1989: 253–303.
- Roux, C.** 1981. Uranoscopidae. In W. Fischer, G. Bianchi & W.B. Scott, eds. *FAO species identification sheets for fishery purposes. Eastern Central Atlantic; fishing areas 34, 47 (in part)*, volume IV. Rome, Department of Fisheries and Oceans Canada and FAO, pp. 1–10.
- Roux, C.** 1990. Uranoscopidae. In J.-C. Quéro, J.-C. Hureau, C. Karrer, A. Post & L. Saldanha, eds. *Check-list of the fishes of the eastern tropical Atlantic*. Paris, UNESCO, pp. 897–898.

Uranoscopus albesca Regan, 1915

Frequent synonyms / misidentifications None / None.

FAO names: En – Longspine stargazer; Fr – Uranoscope miou; Sp – Miracielo espinón.



Diagnostic characters: Body robust anteriorly, somewhat compressed posteriorly, its depth contained 3.5 (juveniles) to 4.0 times in standard length. Head large and flat dorsally, only slightly longer than wide [contained 2.7 (juveniles) to 3.1 times in standard length], eyes on top of head, small, their diameter 4.5 (juveniles) to slightly over 7.0 times in head length; **interorbital space small, contained 5.1 (juveniles) to 6.4 times in head length; postorbital length 3.6 to 4.4 times greater than snout length;** upper corners of gill openings close together (distance between them 2.2 and 2.6 times in head length); mouth vertical; **3 rows of teeth anteriorly in upper jaw and 2 rows in lower jaw;** teeth on vomer in 2 patches; **tentacle of lower jaw inside mouth rounded, as broad as long,** shorter than eye diameter; 4 or 5 spines on lower margin of preopercle and 1 on subopercle; **humeral spine long, contained 2.4 to 3.0 times in head length; a single, short occipital spine on each side near edge of gill cover.** First dorsal fin with 3 or 4 spines, second dorsal with 13 or 14 segmented soft rays; anal fin with 0 spines and 13 or 14 segmented soft rays. Scales in lateral line 50 to 55. **Colour:** light greyish brown dorsally and laterally, white ventrally; first dorsal fin mostly black, **its origin not surrounded by a white patch; mouth tentacle white.**

Size: Maximum 35 cm; common to 25 cm.

Habitat, biology, and fisheries: Lives buried in sand and mud bottoms of the continental shelf and upper slope, between about 30 and 350 m depth. Feeds primarily on fishes and cephalopods. Collected mainly as bycatch in trawl fisheries (bottom trawls). Separate statistics are not reported for this species. Marketed fresh, dried-salted, and reduced to fishmeal.

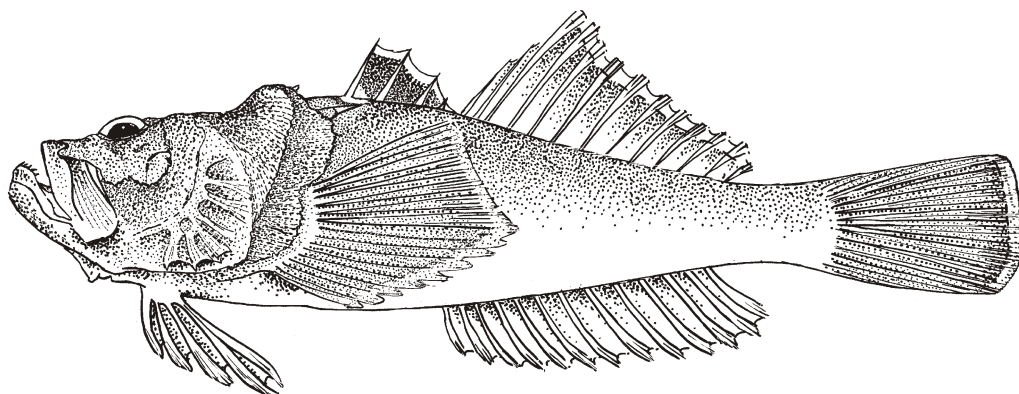
Distribution: Known from central Senegal to central Angola.



***Uranoscopus cadenati* Poll, 1959**

Frequent synonyms / misidentifications: None / None.

FAO names: **En** – West African stargazer; **Fr** – Uranoscope boeuf; **Sp** – Miracielo africano.



Diagnostic characters: Body robust anteriorly, somewhat compressed posteriorly, its depth contained 3.7 to 4.5 times in standard length. Head large and flat dorsally, its length 1.2 to 1.3 times greater than the width; eyes on top of head, moderate-sized, their diameter 5.0 to 5.6 times in head length; **interorbital space narrow, contained 5.8 to 6.1 times in head length; postorbital length 3.6 to 4.2 times greater than snout length;** upper corners of gill openings rather close together (distance between them 2.3 and 2.6 times in head length); mouth vertical; 2 rows of teeth in upper and 1 row in lower jaw; teeth on vomer in 2 patches; **tentacle of lower jaw inside mouth narrow, almost as long as eye diameter;** 4 to 6 spines on lower margin of preopercle and 1 on subopercle; **humeral spine contained 4.3 to 5.0 times in head length; hind margin of head with 2 almost contiguous flat and rough areas.** First dorsal fin with 3 or 4 spines; second dorsal with 13 or 14 segmented soft rays; anal fin with 0 spines and 14 segmented soft rays. **About 50 scales in lateral line;** no scales on ventral surface, nape, and area surrounding first dorsal fin. **Colour:** reddish brown dorsally and laterally, white ventrally; young individuals with white spots on head and body. First dorsal fin black edged with white, its origin surrounded by a distinct white patch; mouth tentacle grey.

Size: Maximum 50 cm; common to 30 cm.

Habitat, biology, and fisheries: Lives buried in sand and mud bottoms of the continental shelf and upper slope, between about 30 and 300 m depth. Feeds primarily on crustaceans and fishes. Collected mainly as bycatch in trawl fisheries (bottom trawls and fixed bottom nets) or occasionally with artisanal gear. Separate statistics are not reported for this species. Marketed fresh, dried-salted, and reduced to fishmeal.

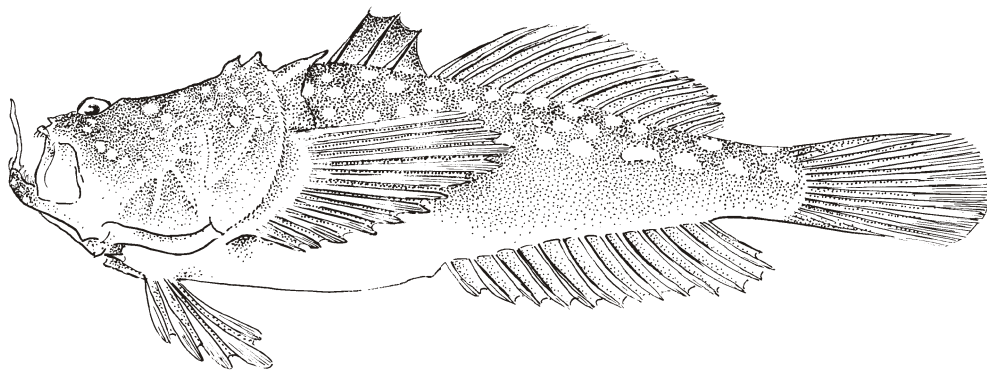
Distribution: Known from northern Senegal to central Angola.



Uranoscopus polli Cadenat, 1951

Frequent synonyms / misidentifications: None / None.

FAO names: **En** – Whitespotted stargazer; **Fr** – Uranoscope à points blancs; **Sp** – Miraciolo moteado.



Diagnostic characters: Body robust anteriorly, somewhat compressed posteriorly, its depth contained 3.9 to 4.3 times in standard length. Head large and flat dorsally, its length 1.1 to 1.3 times greater than the width (2.8 to 2.9 times in standard length); eyes on top of head, small, their diameter 5.7 to 6.1 times in head length; **interorbital space broad, contained 5.2 to 5.4 times in head length; postorbital length 4.6 to 5.0 times greater than snout length;** upper corners of gill openings widely separated (distance between them 1.9 and 2.2 times in head length); mouth vertical, lips fringed; 2 rows of teeth anteriorly in upper and lower jaw; teeth on vomer in 2 patches; **tentacle of lower jaw inside mouth almost thread-like, about as long as eye diameter;** 4 spines on lower margin of preopercle and 1 on subopercle; **humeral spine contained 4.8 to 5.1 times in head length; 3 occipital spines on each side.** First dorsal fin with 4 spines, second dorsal with 14 segmented soft rays; anal fin with 0 spines and 14 segmented soft rays. **Scales in lateral line 58 to 60.** **Colour:** dorsally and laterally reddish brown with diffuse white spots, white ventrally. **First dorsal fin black, except for a white base of first spine, its origin surrounded by a distinct white patch; mouth tentacle edged with black.**

Size: Maximum 35 cm; common to 30 cm.

Habitat, biology, and fisheries: Lives buried in sand and mud bottoms and occasionally on rocky substrates. Feeds primarily on fishes. Collected mainly as bycatch in trawl fisheries (bottom trawls and fixed bottom nets). Marketed fresh, dried-salted, and used for fishmeal by industrial offshore fleets.

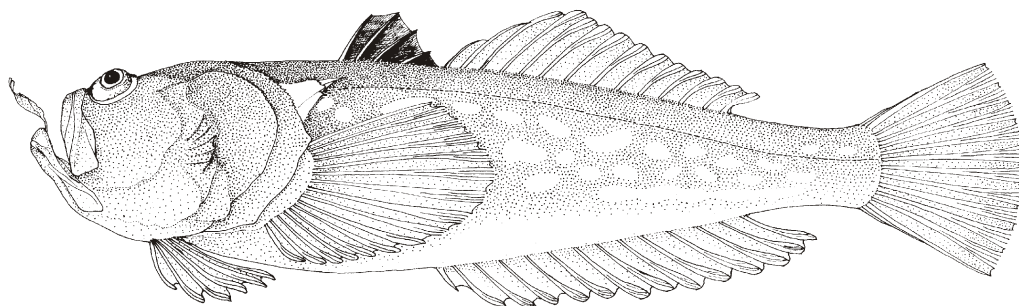
Distribution: Known from Guinea to the Congo and the Cape Verde Islands.



***Uranoscopus scaber* Linnaeus, 1758**

Frequent synonyms / misidentifications: *Uranoscopus bufo* Valenciennes, 1843; *U. occidentalis* Agassiz, 1831 / None.

FAO names: En – Stargazer; Fr – Uranoscope; Sp – Rata.



Diagnostic characters: Body robust anteriorly, somewhat compressed posteriorly, **its depth contained 4.5 to 5.0 times in total length**. Head large and flat dorsally, **its length 3.0 to 3.3 times in standard length**; eyes on top of head, small, **their diameter 6 to 8 times in head length**; interorbital space contained 5.0 to 5.7 times in head length; postorbital length 4.0 to 4.8 times greater than snout length; upper corners of gill openings widely separated (distance between them 1.6 and 1.8 times in head length); mouth vertical, the lower lip fringed; **tentacle of lower jaw inside mouth long and narrow** (as long as, or longer than eye diameter); **humeral spine contained 4.0 to 4.4 times in head length**. First dorsal fin with 3 or 4 spines, second dorsal with 13 to 15 segmented soft rays; anal fin with 1 spine and 12 to 14 segmented soft rays. **Scales in lateral line 76 to 90**. **Colour:** greyish brown dorsally and laterally, speckled with white, yellowish white ventrally. **First dorsal fin black, its origin not surrounded by a distinct white patch; mouth tentacle greyish.**

Size: Maximum 40 cm; common to 30 cm.

Habitat, biology, and fisheries: Lives buried in sand and mud of the continental shelf and upper slope, between 15 and about 400 m depth. Feeds primarily on fishes. Collected mainly with bottom trawls. Marketed fresh and dried-salted.

Distribution: Widespread in the Mediterranean and Black seas as well as along the Atlantic coast of Europe up to Portugal and the Bay of Biscay. Within the area, known from Morocco with reports of the species being collected along the African coast down to Senegal.

