**FAO Names**: En - Longsnout dogfish; Fr - Squale-savate à long nez; Sp - Tollo trompalarga.

**Field Marks**: Extremely long snout, no anal fin, grooved dorsal fin spines, compressed cutting teeth in both jaws, moderately large, pitchfork-shaped denticles, no subcaudal keel on underside of caudal peduncle, first dorsal fin short and high.

**Diagnostic Features**: First dorsal fin short and high, origin over inner margins of pectoral fins; distance from origin of first dorsal spine to first dorsal rear tip much less than distance from free rear tip to second dorsal spine. No subcaudal keel on underside of caudal peduncle. Denticles moderately large, crown length about 75 mm long. Colour dark brown. Maximum size about 114 cm.

**Geographical Distribution**: Eastern South Atlantic and western Indian Ocean: Namibia, South Africa, southern Mozambique. Western Pacific: Australia (South Australia, Victoria, New South Wales).

**Habitat and Biology**: A little-known deepwater dogfish of the outer continental shelves and upper slopes at 150 to 732 m depth. Eats bony fishes.

**Size**: Maximum total length about 114 cm, adult female 110 cm.

**Interest to Fisheries**: None.

**Literature**: Whitley (1940); Bass, d'Aubrey & Kistnasamy (1976).


**Type Species**: *Etmopterus aculeatus* Rafinesque, 1810, by monotypy, equals *Squalus spinax* Linnaeus, 1758.

**Synonymy**: Subgenus *Spinax* Cuvier, 1817 (Cloquet, 1816 ?); Genus *Centrina* Lowe, 1833 (not *Centrina* Cuvier, 1817 = *Oxynotus* Rafinesque, 1810); Genus *Acanthidium* Lowe, 1839; Genus *Acanthidium* Sollas, 1906 (error).

**Field Marks**: Moderate snout, upper teeth with cusp and cusplets, lower teeth bladelike, no anal fin, second dorsal fin and fin spine larger than first dorsal fin and spine.
Diagnostic Features: Anterior nasal flaps short, not expanded into barbels; snout short to moderately elongated, flattened or subconical, length half head length or less and subequal to or less than distance from mouth to pectoral origins; gill openings small to moderately broad and about equally wide; lips thin, not fringed or pleated, not suctorial; teeth strongly different in upper and lower jaws, uppers small, with narrow erect cusps and mesial and distal cusplets, not bladelike, lowers larger, bladelike, interlocked, with a short, narrow, oblique cusp and distal blade; tooth rows 16 to 36/24 to 52. Both dorsal fins with grooved spines, the second very large, strongly curved, and elongated, the first short but strong; first dorsal origin varying from over inner margins of pectorals to well posterior to pectoral free rear tips, insertion well anterior to pelvic origins and varying from about equidistant between pectoral and pelvic bases or closer to pectorals; second dorsal fin considerably larger than first, its base up to twice length of first dorsal base; pectoral fins with broadly rounded free rear tips, not broadly lobate or acutely attenuate; caudal fin asymmetrical, not paddle-shaped, upper lobe long, lower lobe hardly differentiated or short, subterminal notch well-developed. No precaudal pits or lateral keels on caudal peduncle. Dermal denticles either with stout to slender pedicels and acute, erect, ridged thornlike crowns or very flat and blocklike, with truncated crowns. Cloaca without a luminous gland. Colour variable, from blackish to tan, often with prominent dark markings on underside of head and caudal peduncle.

Remarks: The arrangement of species follows Bigelow & Schroeder (1957) in many particulars. Several of the species are poorly known and are of uncertain validity and the present arrangement must be considered as highly tentative. Several new species await description, including a long-snouted pusillus-like lanternshark from near Japan (Nakaya, 1982), at least one new species from the western Atlantic (S. Springer, pers. comm.), and possibly one or more from the eastern Pacific. Etmopterus paessleri Lönnberg, 1907 is generally placed in this genus, but consideration of its characters led me to place it in tentative synonymy of Centroscymnus macracanthus (see Remarks under that species). The vernacular name 'lantern shark' indicates the minute photophores of these sharks, also found in the closely related Centroscyllium.

Key to Species

1a. Denticles with low, flat, concave, sessile crowns atop low bases ........................................... E. pusillus
1b. Denticles with erect, thornlike, cuspidate crowns, more or less elevated from bases.

2a. Two rows of conspicuous, enlarged denticles on flanks above pectoral fins ......................... E. sentosus
2b. No enlarged denticles on flanks above pectoral fins

3a. Upper teeth with 4 or 5 pairs of cusplets on each side ............................................ E. decacuspidatus
3b. Upper teeth usually with 3 or fewer pairs of cusplets on each side

4a. Denticles on sides of body in regular lines
4b. Denticles on sides of body randomly arranged, not in regular lines

5a. Colour dark above and below, no conspicuous flanks markings

6a. Distance from snout tip to first dorsal spine about as long as spine to upper caudal origin. Caudal fin short, much less than head ........................................... E. villosus
6b. Distance from snout tip to first dorsal spine much less than distance from spine to upper caudal origin. Caudal fin longer, greater than head........................................... E. bullisi

5b. Colour light above and conspicuously dark an the underside, with prominent black flank markings

7a. Black flank marking without a long anterior branch, extending in front of pelvic fins ........................................... E. ranulosus
7b. Black flank marking with a long anterior branching in front of pelvic fins

8a. Body very slim. Tail very long, distance from pelvic insertions to lower caudal origin equal to head. Posterior branch of flank marking very narrow and greatly expanded, longer than anterior branch ........................................... E. brachyurus
8b. Body rather stout. Tail short, distance from pelvic insertions to lower caudal origin much less than head. Posterior branch of flank marking rather broad and short, shorter than anterior branch ........................................... E. Lucifer
9a. Pectoral fins and to a lesser extent other fins with a broad fringe of exposed ceratotrichia ......................................................................................................................... E. schultzi

9b. Pectoral fins either unfringed or narrowly or irregularly fringed with ceratotrichia

10a Distance from pelvic insertions to lower caudal origin at least 2/3 and often as long as distance between pectoral and pelvic bases

11a. Distance from pectoral origins to pelvic origins not longer than head length ...................... E. polli

11b. Distance from pectoral origins to pelvic origins longer than head length

12a. Lateral trunk denticles with low, conical cusps. Underside of snout naked ............................................................................................................................... E. virens

12b. Lateral trunk denticles with long, slender cusps. Underside of snout scaled

13a. Black markings on sides of tail and underside of head distinct. Prespiracular head about as long as distance from spiracles to pectoral insertions. Interdorsal space about as long as snout tip to pectoral insertions .......................................................... E. hillianus

13b. Dark markings on body indistinct. Prespiracular head about as long as distance from spiracles to pectoral origins. Interdorsal space much less than snout tip to pectoral origins ........................................ E. gracilispinis

10b. Distance from pelvic insertions to lower caudal origin only about half as long as distance between pectoral and pelvic bases

14a Interdorsal space longer than distance from snout tip to pectoral insertions. Distance from second dorsal insertion to upper caudal origin about a third as long as interdorsal space ................................................................. E. baxteri

14b Interdorsal space about equal to head length. Distance from second dorsal insertion to upper caudal origin about half length of interdorsal space

15a. Head width about equal to preoral length. Gill openings short, a third eye length or less. Conspicuous black flank markings present ........................................ E. spinax

15b. Head width nearly 1.5 times preoral length. Gill openings broad, over a third of eye length. No conspicuous flank markings

16a. Dermal denticles on sides with fairly thick cusps ........................................................................ E. rinse

16b. Dermal denticles on sides with slender, bristle-like cusps .......................................................... E. unicolor

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Etmopterus baxteri Garrick, 1957


Synonymy: None.

FAO Names: En - New Zealand lanternshark; Fr - Sagre porte-feu; Sp - Tolle lucero.
Field Marks: See diagnostic features.

Diagnostic Features: A stout-bodied lanternshark with a short tail, distance from pelvic insertions to lower caudal origins somewhat less than prebranchial length, about twice in distance between pectoral and pelvic bases and nearly twice in interdorsal space; distance between pectoral and pelvic bases long in adults, about 1.5 times head length; distance from snout tip to first dorsal spine about equal to distance from first dorsal spine to second dorsal midbase. Head width slightly less than prebranchial length; prespiracular length slightly greater than distance from spiracles to pectoral origins; gill openings moderately wide, much greater than spiracle width and about half eye length. Origin of first dorsal fin well behind free rear tips of pectoral fins, first dorsal base considerably closer to pectoral bases than pelvics; interdorsal space long, about as long as distance from snout tip to pectoral insertions; second dorsal fin much larger than first and about twice its area; distance between second dorsal base and upper caudal origin slightly over 3 times in interdorsal space; caudal fin short and broad, length of dorsal caudal margin about equal to distance from snout tip to pectoral origins. Lateral trunk denticles with hooked conical crowns, not arranged in regular longitudinal rows; snout probably covered with denticles; no greatly enlarged denticles on flanks above pectoral fins. Distal margins of fins largely covered with skin, not fringed with naked ceratotrichia. Colour dark above and below, with vague blackish markings on underside of head and abdomen, with an elongated narrow black mark running above and behind pelvic fins, and other elongated black marks at caudal fin base and along its axis.

Geographical Distribution: Western South Pacific: New Zealand.

Habitat and Biology: A little-known lanternshark from the upper insular slopes of New Zealand, found on or near the bottom at depths of 878 to 1427 m.

Size: Maximum total length 75 cm, males adult at 66 cm, females at 75 cm.

Interest to Fisheries: None at present.

Literature: Garrick (1957); Bigelow & Schroeder (1957).

_Etmopterus brachyurus_ Smith & Radcliffe, 1912


Synonymy: None.
FAO Names: En - Shorttail lanternshark; Fr - Sagre porte-feu à queue courte; Sp - Tollo lucero mocho.

Field Marks: Two spined dorsal fins, no anal fin, bladelike unicuspitate teeth in lower jaw and teeth with cusps and cusplets in upper jaw, conspicuous lines of denticles on body, slender body, prominent ventral and very long tail markings.

Diagnostic Features: A very slender-bodied lanternshark with a long tail, distance from pelvic insertions to ventral caudal origin about as long as from tip of snout to pectoral origins, about 1.2 times distance between pectoral and pelvic bases, and slightly greater than interdorsal space; distance between pectoral and pelvic bases short in adults, less than head length; distance from snout tip to first dorsal spine about equal to distance from first dorsal spine to second dorsal insertion, first dorsal base considerably closer to pectoral bases than pelvics. Head width about equal to preoral snout. Prespiracular length slightly greater than distance from spiracles to pectoral origins; gill openings very short, about as wide as spiracle, 1/3 eye length or less; upper teeth with 3 pairs of cusplets. Origin of first dorsal fin above inner margins of pectoral fins. Interdorsal space short, slightly less than distance from snout tip to pectoral origins; second dorsal fin much larger than first and about twice its area; distance between second dorsal base and upper caudal origin about 1.4 in interdorsal space; caudal fin long and slender, length of dorsal caudal margin about equal to distance from snout tip to pectoral origins. Lateral trunk denticles with slender, hooked conical crowns, arranged in prominent regular longitudinal rows on dorsal surface of head, sides of body and tail that give the shark an etched, engraved appearance; snout largely covered with denticles; no rows of greatly enlarged denticles on flanks above pectoral fins. Distal margins of fins largely covered with skin, not fringed with naked ceratotrichia. Colour brown above, with underside of snout and abdomen abruptly black, with an extremely narrow elongated black mark running above, in front and behind pelvic fins, and other elongated black marks at caudal fin base and along its axis.

Geographical Distribution: Western Pacific: Philippines, and probably elsewhere in the western Pacific.

Habitat and Biology: A little-known lanternshark, found near the bottom in the Philippine Islands at 481 m depth.

Size: Maximum total length over 22.7 cm (male holotype with damaged caudal fin, probably at least 24 cm long with complete tail).

Interest to Fisheries: None at present.

Literature: Smith & Radcliffe (1912); Fowler (1941); Bigelow & Schroeder (1957).

Remarks: This lanternshark is close to E. lucifer but has usually been recognized as a valid species on the primary character of its shorter caudal fin (Fowler, 1941; Bigelow & Schroeder, 1957). However, examination and radiography of the holotype convinced me that this is based on an anomaly. Apparently this specimen had its caudal fin damaged in life; the terminal lobe was apparently severed (perhaps by a predator), and the caudal fin was partially regenerated distal to its truncated vertebral column to form a false terminal lobe. This species may be a synonym of E. lucifer but is tentatively recognized here. As indicated by the illustrations of this species and E. lucifer (both made from holotypes, with the caudal fin of E. brachyurus restored from other Philippine examples of the species), E. brachyurus may be a slenderer shark with a longer interdorsal space, shorter head, smaller second dorsal fin, and longer posterior branch on its black tail marking. It is uncertain at present if all these differences are valid. If so, some records of E. lucifer may be based on E. brachyurus.
**Etmopterus bullisi** Bigelow & Schroeder, 1957


**Synonymy**: None.

**FAO Names**: En - Lined lanternshark; Fr - Sagre chien; Sp - Tollo lucero rayado.

**Field Marks**: Two spined dorsal fins, no anal fin, bladelike unicuspitate teeth in lower jaw and teeth with cusps and cusplets in upper jaw, conspicuous longitudinal rows of denticles, slender body, dark uniform colour with inconspicuous markings.

**Diagnostic Features**: A slender-bodied lanternshark with a long tail, distance from pelvic insertions to ventral caudal origin about as long as from tip of snout to first gill openings, slightly less than distance between pectoral and pelvic bases, and slightly greater than interdorsal space; prespiracular length 1.6 times distance from spiracles to pectoral origins; distance between pectoral and pelvic bases short in adults, about 0.7 times head length; distance from snout tip to first dorsal spine about equal to distance from first dorsal spine to second dorsal rear tip. Gill openings very short, about as wide as spiracle. 1/3 eye length of less. Origin of first dorsal fin over inner margins of pectoral fins, first dorsal base considerably closer to pectoral bases than pelvic; interdorsal space very short, about as long as distance from snout tip to spiracles; second dorsal fin much larger than first but less than twice its area; distance between second dorsal base and upper caudal origin about 1.3 in interdorsal space; caudal fin long and slender, length of dorsal caudal margin about equal to head length. Lateral trunk denticles with slender, hooked conical crowns, wide-spaced and arranged in regular longitudinal rows on sides and dorsal surface of head, body, and tail; snout largely covered with denticles; no greatly enlarged denticles on flanks above pectoral fins. Distal margins of fins largely covered with skin, not fringed with naked ceratotrichia. Colour dark grey above, with underside of snout and abdomen abruptly black; with an elongated narrow black mark running above and behind pelvic fins, and other elongated black marks at caudal fin base and along its axis.

**Geographical Distribution**: Western North Atlantic: North Carolina to northern Florida (USA), Honduras.

**Habitat and Biology**: A little-known lanternshark, from the western Atlantic continental slopes on or near the bottom at about 366 m depth.

**Size**: Maximum total length recorded 23 cm for an immature male, adults size unknown.

**Interest to Fisheries**: None.

**Literature**: Bigelow & Schroeder (1957); Cadenat & Blache (1981).