

Halaelurus Gill, 1862	SCYL Hal
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Genus: Halaelurus Gill, 1862, Ann.Lyceum Nat.Hist.N.Y., 7(32):407-12.

Type Species : "Halaelurus buergeri Gill", by original designation, equals Scyllium buergeri Müller & Henle, 1838.

Synonymy : "Pseudogenus" (= Subgenus) Gammascyllium Leigh-Sharpe, 1926 (Genus Scyllium Cuvier, 1817).

Field Marks: Scyliorhinids with short and rounded or pointed snouts, no nasoral grooves, anterior nasal flaps small and not reaching mouth, upper and lower labial furrows short, sometimes absent, inner margins of pelvic fins not connected, second dorsal not greatly smaller than first, caudal fin short, without enlarged denticles on dorsal margin, no supraorbital crests on cranium, colour pattern variably present or absent.

Diagnostic Features : Body not tadpole-shaped, slender to moderately stout and cylindrical or fusiform, tapering slightly or moderately to caudal fin; body firm and thick-skinned, with dermal denticles well-calcified or weakly so; stomach not inflatable; tail fairly short to rather long, length from vent to lower caudal origin about 2/5 of total length, to about equal to snout-vent length. Head moderately to considerably depressed, narrowly rounded to wedge-shaped in lateral view; head short to moderately long, between 1/4 and 1/5 to less than 1/5 of total length in adults; snout short to moderately long, less than 4/5 of mouth width, thick and slightly flattened, bluntly to narrowly pointed in lateral view; snout not expanded laterally, rounded, parabolic, pointed, or somewhat bell-shaped in dorsoventral view; ampullar pores not greatly enlarged on snout; nostrils of moderate size, with incurved and excurrent apertures only partly open to exterior; anterior nasal flaps broadly triangular, narrow and elongated, or reduced and pointed, without barbels, well separate from each other and falling slightly to considerably anterior to mouth; internarial space about 0.6 to 1.1 times in nostril width; no nasoral grooves; eyes dorsolateral on head, broad subocular ridges present below eyes; mouth angular, semiangular, or rounded, short to moderately long, with lower symphysis well behind upper so that upper teeth are exposed in ventral view; labial furrows present along both upper and lower jaws, these short to very short and occasionally absent (H. buergeri), ending well behind level of upper symphysis of mouth when present; bronchial region not greatly enlarged distance from spiracles to fifth gill slits 1/3 to slightly less than 3/5 of head length; gill slits lateral or dorsolateral on head. Two dorsal fins present, about equal-sized or with the second slightly smaller or larger than first; origin of first dorsal varying from slightly in front of the pelvic midbases to about over their insertions; origin of second dorsal varies from slightly in front of anal midbase to about over anal insertion; pectoral fins moderately large, their width subequal to or somewhat greater than mouth width; inner margins of pelvic fins not fused over claspers in adult males; claspers moderately long, fairly slender to moderately stout, and distally pointed, extending about half of their lengths behind the pelvic fin tips; anal fin moderately large but not greatly elongated, about as large as pelvic fins or slightly smaller or larger, subequal to or larger than the dorsals, its base length subequal to about twice the second dorsal base; origin of anal well behind pelvic bases, and insertion separated from lower caudal origin by a narrow to very broad space less than a fourth to over the length of the anal base; caudal fin short and broad to narrow and moderately elongated, between 1/4 and 1/5 to less than 1/5 of total length in adults; no crests of denticles on the caudal margins. Supraorbital crests absent from cranium. Colour light grey or brown to blackish without markings, or variably patterned with dark spots, saddles and vertical bars.

Remarks : This genus has been revised by Springer (1966, 1979) and Springer & D'Aubrey (1972); the present arrangement is adopted from their work with some modifications. These revisions removed species with supraorbital crests on their crania from Halaelurus: H. bivius and H. chilensis were included in the genus Schroederichthys, and H. labiosus in Aulohalaelurus. In addition, two Australian species without supraorbital crests, H. analis and H. vincenti, were separated from Halaelurus and from each other in the Whitleyian genera Asymbolus and Juncrus, but these genera are defined only on minor clasper and associated pelvic fin characters, and appear to be not separable from each other. Although these Australian taxa appear not to be closely related to typical Halaelurus (H. buergeri and allied species), the differences that distinguish them might be better expressed by ranking them together as a subgenus of Halaelurus. Even without these Australian species, Halaelurus remains a heterogeneous assemblage that may bear subdivision into at least two subgenera. Typical Halaelurus includes a presumably closely related cluster of similar Indo-West Pacific sharks, H. buergeri, H. boesemani, H. natalensis, H. lineatus, and H. quagga; all these species have rather flat, short heads with more or less pointed and sometimes upturned snouts, similar fin shapes and positions, firm skins, barred and spotted colour patterns, and dorsolateral gill slits; they appear to be closely related to the aberrant 'satellite genera' Holohalaelurus and Haploblepharus which share many of their features but are more specialized. It is uncertain if the remainder of Halaelurus species, unspotted, deepwater, often soft-skinned sharks with lateral gills form a coherent group or not; some of these, especially H. canescens, are rather Parmaturus-like. H. alcocki is a poorly known black, canescens-like shark that may or may not belong to this genus. A provisional account of this species is included below, but due to uncertainties on its distinguishing characters it is not included in the key to species.

Key to Species

- 1a. Snout more or less pointed and wedge-shaped. Gill slits elevated above level of mouth, dorsolateral in position. Body firm, skin thick with low, flat, smooth denticles. A variegated colour pattern of dark saddles, bars, and spots
- 2a. Tip of snout definitely knoblike and upturned
- 3a. Colour pattern of about 26 narrow dark bars, the darkest in pairs with a light bar in between and numerous small brown spots and vermiculate marks between the bars. Head rather narrow, mouth small and short, mouth width 7% of total length or less, length 2.6% of total length or less **H. lineatus**
- 3b. Colour pattern of about 10 darker saddles consisting of dark bars surrounding a light centre, and with spots few or absent between the saddles. Head rather broad, mouth large and broad, mouth width 7.3 to 8.1% of total length, length 2.8 to 3.5% of total length **H. natalensis**
- 2b. Tip of snout variably pointed but not upturned
- 4a. Colour pattern of numerous vertical dark bars with few spots, with spots, where present, arranged in rows between bars **H. quagga**
- 4b. Colour pattern of dark spots, with saddles or vertical bars obscure or absent
- 5a. Dark spots few and mostly much larger than spiracles, sometimes in clusters around vague saddle blotches. Labial furrows reduced or absent, lowers 2 mm long or less **H. buergeri**
- 5b. Dark spots small and very numerous, usually not much larger than spiracles, over or between weak saddles or bars **H. boesemani**
- 1b. Snout bluntly rounded. Gill slits not elevated above mouth level, lateral in position. Body soft, skin thin with erect denticles that gives it a velvety texture. No colour pattern or at most a line of white spots or blotches
- 6a. Anal fin base as long as, or longer than interdorsal space
- 7a. Anterior nasal flaps narrow-based and lobate. Sides of body with a line of white spots or white fin tips; caudal fin with dark bands **H. dawsoni**
- 7b. Anterior nasal flaps triangular. Sides of body unspotted, fins plain **H. immaculatus**
- 6b. Anal fin base shorter than interdorsal space
- 8a. Anal fin base less than 1.3 times the second dorsal base. Colour dark brown or blackish above and below. Size greater, adults 44 cm and larger **H. canescens**
- 8b. Anal fin base 1.5 times the second dorsal base or more. Colour grey or brown, sometimes with light saddle markings. Size smaller, adults 35 cm or less
- 9a. Roof of mouth with numerous small papillae. Eye length less than 14 times in predorsal distance in adults. Adults 24 to 29 cm **H. hispidus**
- 9b. Roof of mouth without papillae. Eye length 14 or more times in predorsal distance in adults. Adults 30 to 35 cm **H. lutarius**

* Excluding H. alcocki (see remarks of that species, page 321)

Halaelurus alcocki Garman, 1913

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Halaelurus alcocki Garman, 1913, Mem.Mus.Comp. Zool.Harv.Coll. , 36:87. Holotype: Indian Museum, Calcutta (Zoological Survey of India) 68/1. Type Locality: Arabian Sea, 1134 to 1262 m depth.

Synonymy : None.

FAO Names : En - Arabian catshark; Fr - Holbiche arabe; Sp - Pejegato arábigo.

Field Marks : See diagnostic features.

Diagnostic Features : Said to be similar to Halaelurus hispidus but differing in a longer snout, smaller eyes, larger labial furrows, cusplets on teeth about as long as median cusp, denticles slender and hooklike, without expanded crowns, second dorsal fin slightly larger than first, smaller anal fin, and black coloration with 'hoary grey surface' and white tips on some fins (Alcock, 1899).

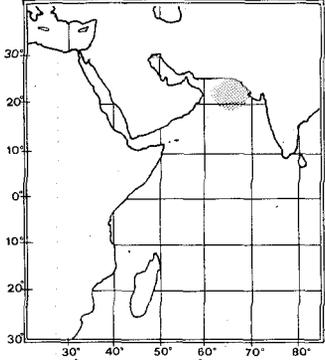
Geographical Distribution : Northern Indian Ocean: Arabian Sea.

Habitat and Biology : A poorly known shark of the continental slope of the Arabian Sea, caught on or near the bottom in water 1134 to 1262 m deep.

Size : Unknown; the only known specimen was small, presumably less than 30 cm long.

Interest to Fisheries : None.

Literature : Alcock (1899); Garman (1913); Fowler (1941).



Remarks : Garman (1913) based this species on the Scyllium canescens of Alcock (1896, 1899), which he found to be not conspecific with Scyllium canescens Günther, 1878, from South America. While this is presumably correct, the available descriptive information on the species is so scanty that it is difficult to determine if the species is a member of this genus or some other deepwater scyliorhinid such as Apristurus. The holotype of the species, originally in the Indian Museum, Calcutta, may be lost. Springer (1979) listed it as a species dubium under Halaelurus, which is followed here.

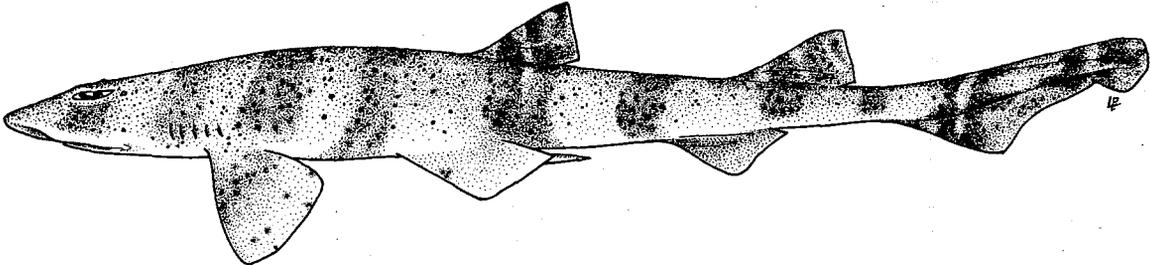
Halaelurus boesemani Springer & D'Aubrey, 1972

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Halaelurus boesemani Springer & D'Aubrey, 1972, Invest. Rep.Oceanogr.Res.Inst., Durban, (29):11, figs 1D, 2, 3A. Holotype: U.S. National Museum of Natural History, USNM-205136, 430 mm adult male. Type Locality: 11°37'N, 51° 27'E, off Somalia, from 67 to 72 m depth.

Synonymy : None.

FAO Names : En - Speckled catshark; Fr - Holbiche mouchetée; Sp - Pejegato pintado.



Field Marks: A *Halaelurus* with pointed snout, elevated gill slits, colour pattern of few broad dark saddles, a dark marking on dorsal and caudal fins, and numerous small dark spots scattered on the body and fins.

Diagnostic Features: Snout tip pointed but not upturned and knoblike; eyes in adults less than 14 times in distance from snout to first dorsal origin; anterior nasal flaps sub-triangular; labial furrows rather short, essentially confined to mouth corners, but lowers extending at least 5 mm onto lower jaw; mouth fairly narrow, its width 6 to 8% of total length, its length 3 to 4% of total length; status of papillae in pharynx unknown; gills directed dorsolaterally, elevated above level of mouth. First dorsal origin over last third of pelvic bases; second dorsal about as large as first, with origin over last third of anal base; abdomen short in adults, distance between pectoral and pelvic bases less than 1.5 times pectoral anterior margin; length of anal base about 1 to 1.3 times the second dorsal base, only 3/5 of distance between dorsal bases. Colour pattern prominent and variegated, with irregular dusky saddles on the back and caudal base, blotches on the dorsal and caudal fins, and numerous small black dots spread over the dorsal surface. Adults moderate-sized, to 46 cm.

Geographical Distribution : Indo-West Pacific: Somalia, Gulf of Aden, Western Australia, Amboina, the Philippines, Viet Nam.

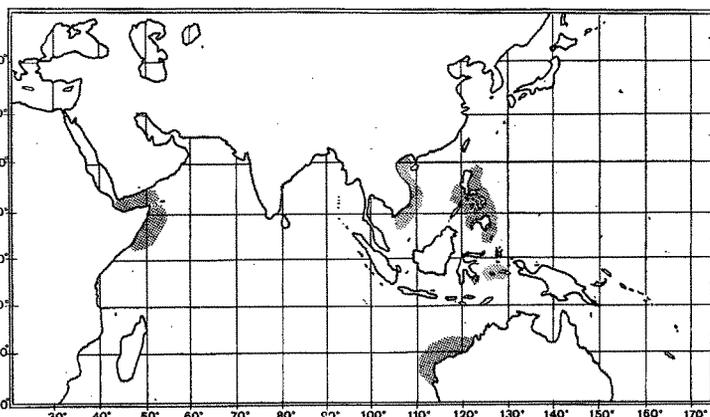
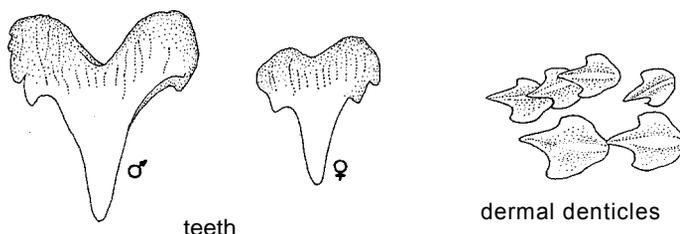
Habitat and Biology : A little-known but wide-ranging bottom-dwelling shark of the continental and insular shelves, at depths of 37 to 91 m. Up to four egg capsules may occur in an oviduct, but it is uncertain if these hatch inside the oviduct or if the eggs are laid. Young may occur at advanced stages while eggs are still in the oviduct.

Size: Maximum 48 cm, adult males 42 to 48 cm, adults females 43 to 47 cm; size at hatching (or birth?) over 7 cm.

Interest to Fisheries : None at present.

Literature : Springer & D'Aubrey (1972); Springer (1979).

Remarks: This species was confused with *H. buergeri* until Springer & D'Aubrey (1972) found it to be a separate species.



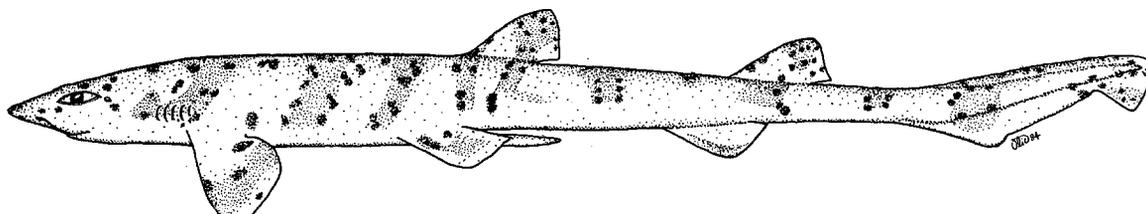
Halaelurus buergeri (Müller & Henle, 1838)

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Scylium buergeri Killer & Henle, 1838, *Syst.Beschr.Plagiost.*, (pt.1):8. Lectotype: Rijksmuseum van Natuurlijke Historie, Leiden, RMNH D2593. Type Locality: Japan.

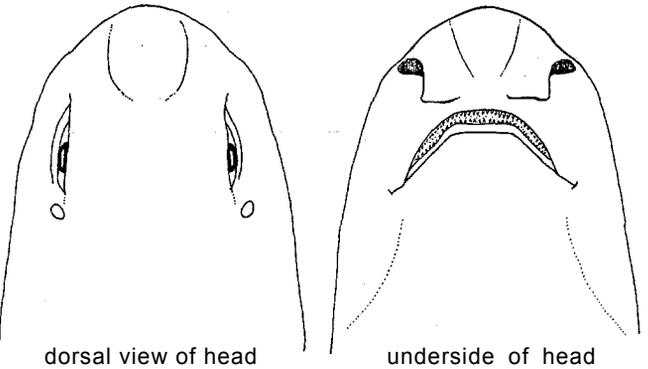
Synonymy : None.

FAO Names : En - Blackspotted catshark; Fr - Holbiche a taches noires; Sp - Pejegato de manchas negras.



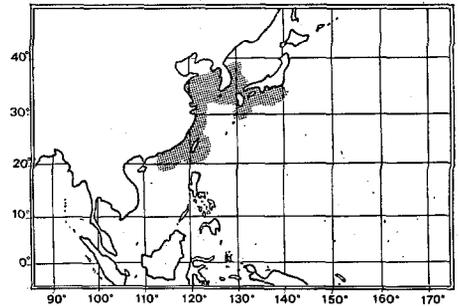
Field Marks : A Halaelurus with pointed snout, short abdomen, short anal base, and colour pattern of dusky bands flanked by large black spots.

Diagnostic Features: Snout tip not upturned and knoblike, pointed; eyes in adults less than 14 times in distance from snout to first dorsal origin; anterior nasal flaps subtriangular; labial furrows extremely short or absent, when present essentially confined to mouth corners and with lowers extending 2 mm or less onto lower jaw; mouth moderate-sized, its width 7% of total length, its length 3 to 4% of total length; status of papillae in pharynx unknown; gill slits directed dorso-laterally, elevated above level of mouth. First dorsal origin over last fourth of pelvic bases; second dorsal about as large as or slightly smaller than first, its origin over last third of anal base; abdomen short in adults, distance between pectoral and pelvic bases less than 1.5 times pectoral anterior margin; length of anal base about 1.3 times the second dorsal base, almost 2 times in distance between dorsal bases. Colour pattern variegated, with obscure dusky saddles and large black spots outlining their margins on a light background. Adults moderate-sized, to about 49 cm.



Geographical Distribution: Western North Pacific: Japan, the Koreas, China, including Taiwan Island.

Habitat and Biology : A little-known, but common tropical and temperate bottom-dwelling catshark of the western Pacific continental shelf, at depths down from 80 to 100 m. Oviparous, but with several egg-capsules retained in the oviduct until embryos reach an advanced stage before they are laid, which is a condition regarded by Nakaya (1975) as being intermediate between oviparity with one egg being laid per uterus at a time, with the embryo at an early stage, and ovoviviparity.



Size : Maximum about 49 cm, adolescent male 36 cm, adult males from 36 to 43 cm, female immature at 36 cm and gravid at 45 cm.

Interest to Fisheries : None at present, taken with bottom trawls in the Taiwan Straits.

Literature : Fowler (1941); Springer & D'Aubrey (1972); Nakaya (1975); Springer (1979).

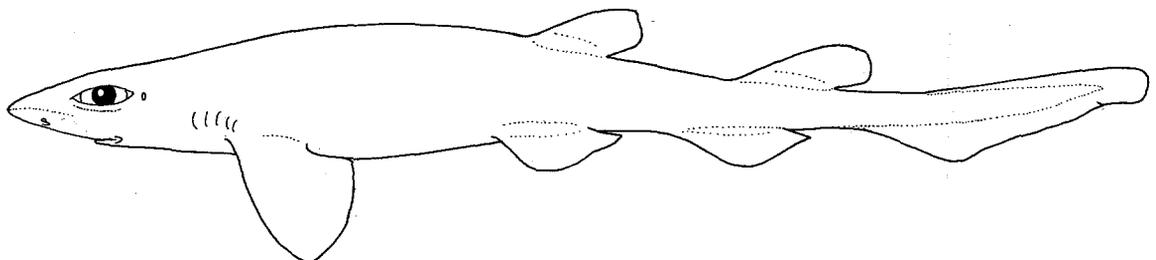
Halaelurus canescens (Günther, 1878)

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Scylium canescens Günther, 1878, Ann.Mag.Nat.Hist., ser. 5, 2(8):18. Holotype: British Museum (Natural History). Type Locality: "South-west coast of South America".

Synonymy : None.

FAO Names : En - Dusky catshark; Fr - Holbiche sombre; Sp - Pejegato oscuro.



Field Marks : A *Halaelurus* with rounded snout, long abdomen, short anal base, about 1.3 times the first dorsal base, usually plain dark brown coloration, and large size.

Diagnostic Features: Snout tip not upturned and knoblike, bluntly rounded; eyes in adults 9 to 12 times in distance from snout to first dorsal origin; anterior nasal flaps subtriangular; labial furrows rather short, essentially confined to mouth corners, but lowers extending at least 5 mm onto lower jaw; mouth large, its width 8 to 10% of total length, its length 4 to 5% of total length; oral papillae probably present in pharynx unknown; gills directed laterad, not elevated above level of mouth. First dorsal origin over first third of pelvic bases; second dorsal slightly larger than first, its origin anterior to anal midbase; abdomen moderately elongated in adults, distance between pectoral and pelvic bases 1.2 to 1.5 times the pectoral anterior margin; length of anal base about 1.3 times the second dorsal base, slightly shorter than distance between dorsal bases. Colour dark chocolate brown, without markings except for white fin tips in young. Adults moderately large, 45 to 66 cm long.

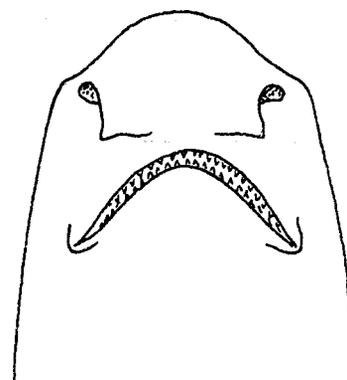
Geographical Distribution : Eastern South Pacific: Peru, Chile, Straits of Magellan.

Habitat and Biology : A common temperate deepwater catshark of the upper continental slopes of South America, primarily on mud, but also on rock bottoms at 250 to 700 m depth. Oviparous, apparently laying a single egg per oviduct at a time. Feeds on bottom invertebrates.

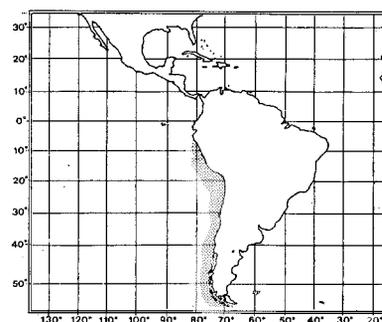
Size : Maximum 70 cm, adult males 59 to 65 cm, adult females 59 to 66 cm.

Interest to Fisheries : None at present, abundant in deepwater trawl hauls.

Literature : Kato, Springer & Wagner (1967); Springer & D'Aubrey (1972); Springer (1979).



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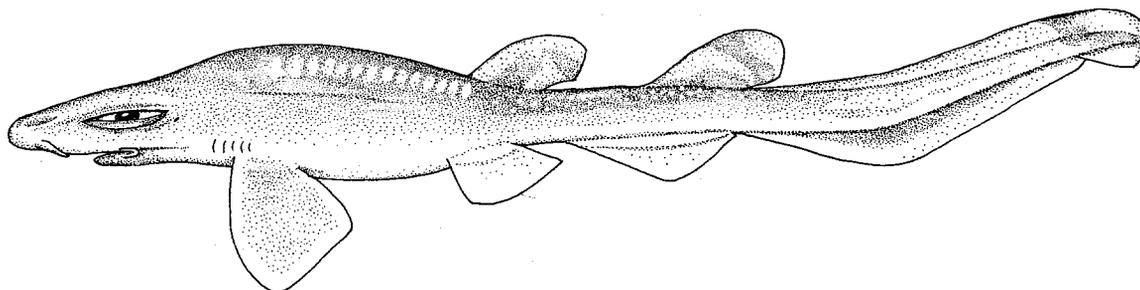
Halaelurus dawsoni Springer, 1971

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Halaelurus dawsoni Springer, 1971, *Rec.Dom.Mus.Wellington*, 7(18):235-41, fig. 1. Holotype: National Museum of New Zealand (formerly Dominion Museum), DM (or NMNZ) 5188.1, 349 mm subadult male. Type Locality: West of southern South Island, New Zealand, 44°32.5'8", 166°41'E, 389 to 420 m depth.

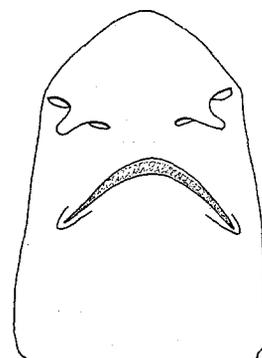
Synonymy : None.

FAO Names : En - New Zealand catshark; Fr - Holbiche kiwi; Sp - Pejegato neozelandés.



Field Marks: A Halaelurus with rounded snout, elongated lobate anterior nasal flaps, moderately long abdomen, moderately long anal base, light coloration with white spots.

Diagnostic Features : Snout tip not upturned and knoblike, thick and bluntly rounded; eyes 9 to 11 times in distance from snout to first dorsal origin. Anterior nasal flaps narrowly lobate and elongate; labial furrows moderately long, lowers extending at least 5 mm onto lower jaw; mouth moderately large, its width 8% of total length, its length about 3% of total length; papillae present in pharynx; gills directed laterad, not elevated above level of mouth. First dorsal origin over first fourth of pelvic bases; second dorsal considerably larger than first, its origin anterior to anal midbase; abdomen moderately short, distance between pectoral and pelvic bases 1.1 to 1.4 times the pectoral anterior margin; length of anal base about 1.3 to 1.5 times the second dorsal base, considerably longer than distance between dorsal bases. Colour light brown or grey above, whitish below, white spots on sides of small specimens.



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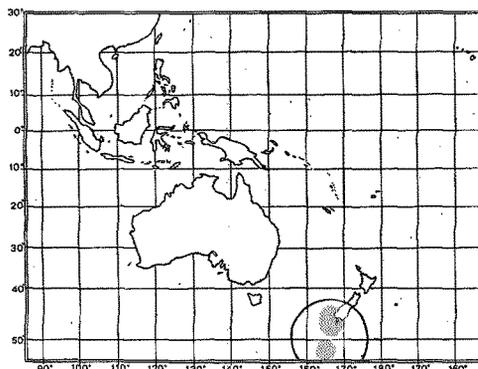
Geographical Distribution : Western South Pacific: New Zealand, Auckland Island.

Habitat and Biology : A little-known but common deepwater temperate catshark of the upper insular slopes, on or near the bottom from 371 to 420 m. Development mode uncertain. Feeds on bottom crustaceans, including shrimp, crabs, euphausiid shrimp, and amphipods.

Size : Largest known specimen 34.9 cm (subadult male holotype), estimated size at maturity 35 to 45 cm total length.

Interest to Fisheries : None.

Literature : Springer (1971, 1979).



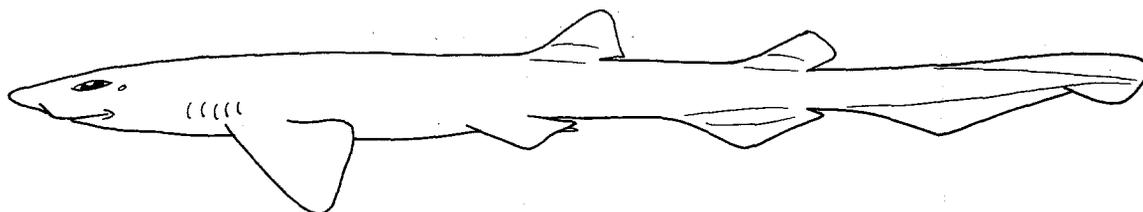
Halaelurus hispidus (Alcock, 1891)

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Scyllium hispidum Alcock, 1891, Ann. Mag. Nat. Hist. (Ser. 6), 8:21. Holotype: Zoological Survey of India, ZSI-13120, 220 mm adolescent or immature male. Type Locality: Andaman Sea, 344 to 402 m depth.

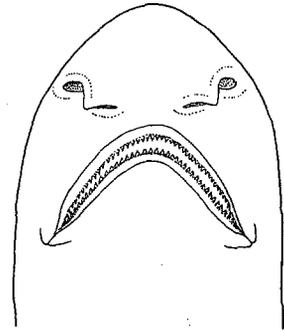
Synonymy : None.

FAO Names : En - Bristly catshark; Fr - Holbiche mignonne; Sp - Pejegato erizado.



Field Marks : A *Halaelurus* with rounded snout, long abdomen, short anal base, plain light coloration, large size (see diagnostic features and remarks, below).

Diagnostic Features: Snout tip not upturned and knoblike, broadly parabolic; eyes in adults less than 14 times in distance from snout to first dorsal origin; anterior nasal flaps subtriangular; labial furrows rather short, essentially confined to mouth corners, but lowers extending at least 5 mm onto lower jaw; mouth moderately large, its width 8 to 10% of total length, its length 4 to 5% of total length; papillae present in pharynx; gills directed laterad, not elevated above level of mouth. First dorsal origin over last third of pelvic bases; second dorsal slightly smaller than first, its origin over or slightly in front of anal midbase; abdomen moderately long in adults, distance between pectoral and pelvic bases 1.3 to 1.4 times the pectoral anterior margin; length of anal base about 1.5 to 1.7 times the second dorsal base, slightly shorter than distance between dorsal bases. Colour pale brown or whitish, sometimes with obscure grey crossbands, white spots, or dusky spots. Adults very small, 29 cm or less.



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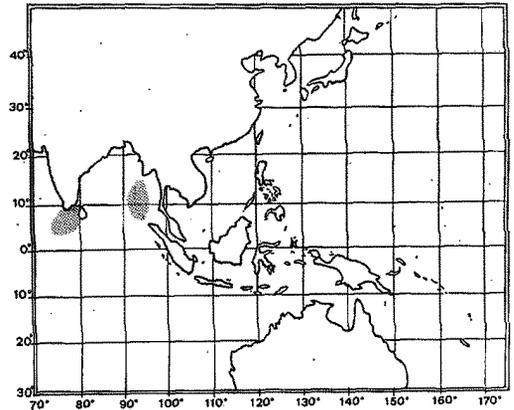
Geographical Distribution : Indian Ocean: Southeastern India, Andaman Islands.

Habitat and Biology : A common deepwater bottom-dwelling catshark of the upper continental slopes at depths of 293 to 766 m. Mode of development uncertain. Eats small fishes, squid and crustacea.

Size : Maximum 29 cm, adult males 24 to 26 cm, adult females about 22 to 29 cm.

Interest to Fisheries : None at present.

Literature : Nair & Lal Mohan (1973); Nair & Appucuttan (1973, 1974).



Remarks : The holotype of this species is in the Zoological Survey of India in Calcutta, and is not the 237 mm specimen in the British Museum (Natural History) stated to be the holotype by Springer (1979), according to P.K. Talwar (pers.comm.). The writer examined the holotype of this species in the Zoological Survey of India collection upon which the illustration is based.

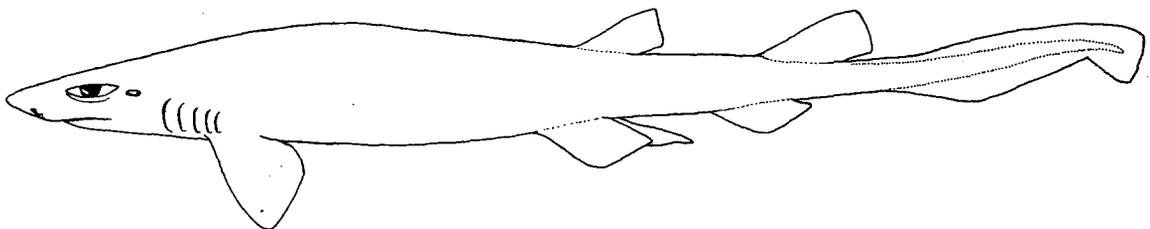
Halaelurus immaculatus Chu & Meng, 1982

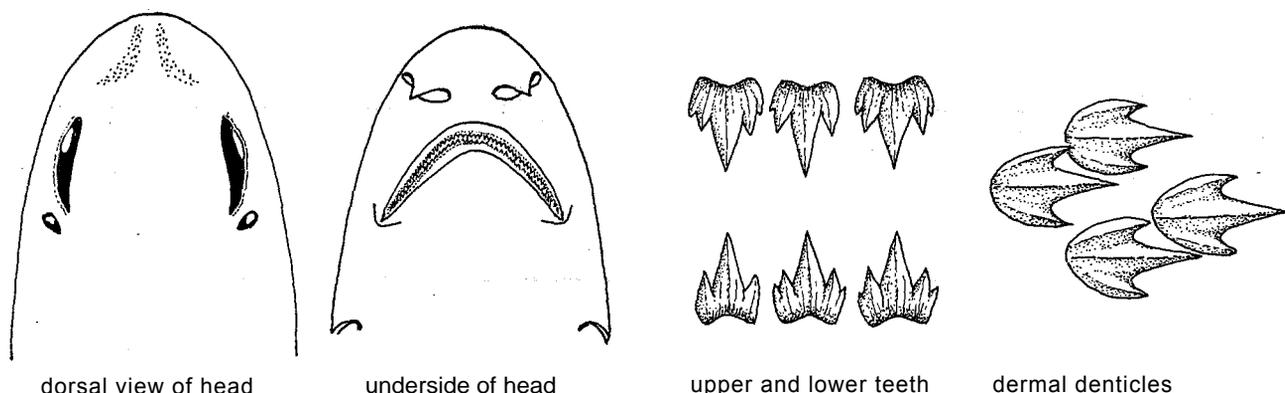
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Halaelurus immaculatus Chu & Meng, in Chu et al., 1982, *Oceanol.Limnol.Sinica*, 13(4):301, fig. 1. Holotype: South China Seas Fisheries Research Institute No. 00094, 708 mm adult male. Type Locality: South China Sea at 19°39.6'N, 114°23.6'E, about 400 km east of Hainan Island; depth 1020 m.

Synonymy : None (but see remarks below).

FAO Names: En - Spotless catshark; Fr - Holbiche glabre; Sp - Pejegato immaculado.





Field Marks : A *Halaelurus* with rounded snout, long abdomen, short anal base, plain light coloration, large size (see diagnostic features and remarks, below).

Diagnostic Features : Snout tip not upturned and knoblike; eyes in adults less than 11 times in distance from snout to first dorsal origin; anterior nasal flaps subtriangular; labial furrows rather short, essentially confined to mouth corners, but lowers extending at least 5 mm onto lower jaw; mouth moderately large, its width 9% of total length, its length 5% of total length; status of papillae in pharynx unknown; gills directed ventrad, not elevated above level of mouth. Origin of first dorsal about over pelvic midbases; second dorsal considerably larger than first, its origin about over anal midbase; abdomen elongated in adults, distance between pectoral and pelvic bases over 2.5 times the pectoral anterior margin; length of anal base about 1.3 times the second dorsal base, slightly longer than distance between dorsal bases. Colour drab yellowish-brown, without markings. Adults moderately large, 71 to 76 cm.

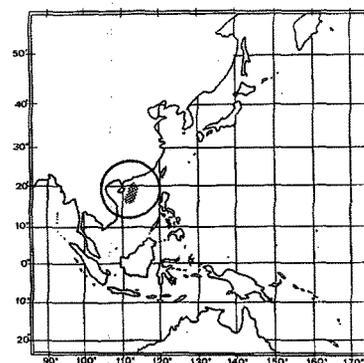
Geographical Distribution : Western North Pacific: Only known from the South China Sea at about 380 to 400 km east of Hainan Island.

Habitat and Biology : A recently described benthic catshark of the western Pacific continental slope, at depths of 534 to 1020 m.

Size : Maximum 76 cm; two females, presumably adult, 75 to 76 cm; adult male 71 cm.

Interest to Fisheries: None at present.

Literature : Chu *et al.* (1982).



Remarks : Generic placement and recognition of this species is provisional and is based on Chu *et al.* (1982). The species is close to and possibly a synonym of the New Zealand *Halaelurus dawsoni* but differs in possibly having less lobate nasal flaps, shorter labial furrows, a longer abdomen, and possibly greater size. No material of this shark was available for examination, nor could the writer examine adult specimens of *H. dawsoni*.

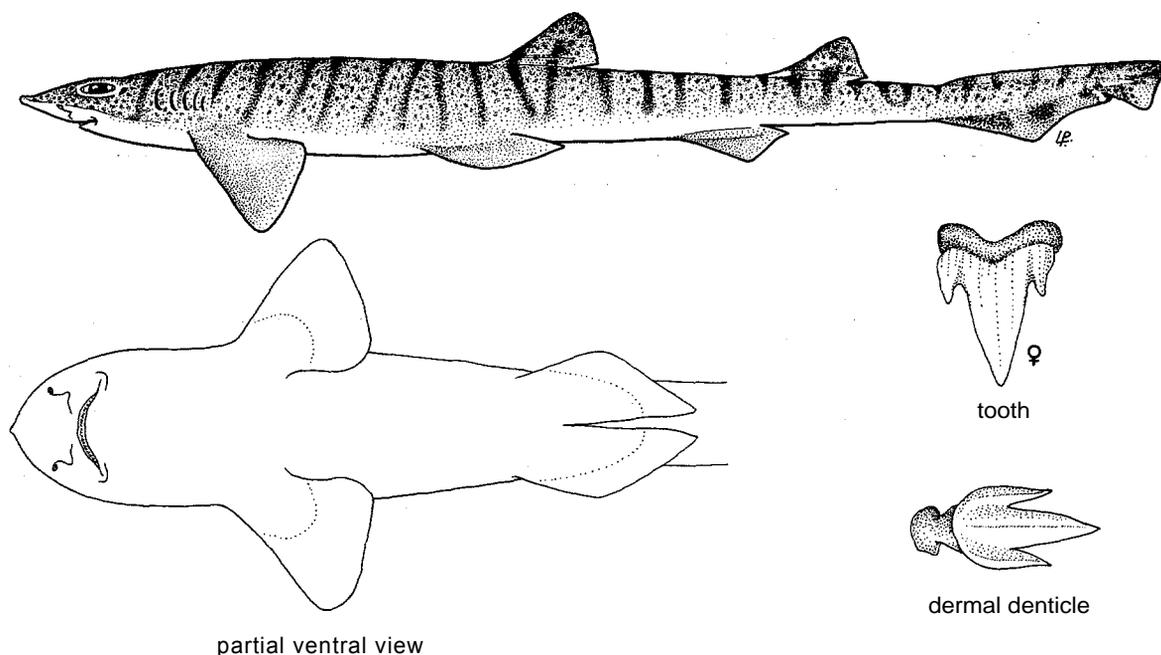
Halaelurus lineatus Bass, D'Aubrey & Kistnasamy, 1975

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Halaelurus lineatus, Bass, D'Aubrey & Kistnasamy, 1975, *Invest. Rep. Oceanogr. Res. Inst., Durban*, (37):12, figs 8, 20E. Holotype: Oceanographic Research Institute, Durban, South Africa, ORI 2935, now J.L.B. Smith Institute of Ichthyology, RUSI 6148, 500 mm adult female. Type Locality: Close inshore off Durban, South Africa (collected from shore with rod and reel).

Synonymy : None.

FAO Names : En - Lined catshark; Fr - Holbiche des plages; Sp - Pejegato playero.



partial ventral view

Field Marks : A catshark with upturned knob on snout, narrow head, and barred and spotted coloration.

Diagnostic Features : Snout tip pointed, upturned and knoblike; eyes in adults 11 to 15 times in distance from snout to first dorsal origin; anterior nasal flaps subtriangular; labial furrows rather short, essentially confined to mouth corners, but lowers extending at least 5 mm onto lower jaw; mouth fairly small, its width 6 to 7% of total length, its length about 2% of total length; papillae absent from much of pharynx except around jaws; gills directed dorsolaterad, elevated above level of mouth. Origin of first dorsal about over midbases of pelvic fins; second dorsal considerably larger than first, its origin over rear fourth or insertion of anal base; abdomen moderately short in adults, distance between pectoral and pelvic bases 1.1 to 1.4 times pectoral anterior margin; length of anal base about 0.9 to 1.5 times second dorsal base, much longer than distance between dorsal bases. Colour pale brown above, cream below, with about 26 bold vertical dark brown and narrow stripes, arranged in pairs and outlining obscure dusky saddles, with numerous small spots and vermiculate marks between saddles. Adults moderately large, to at least 56 cm.

Geographical Distribution : Western Indian Ocean: South Africa and Mozambique.

Habitat and Biology : A common warm-temperate to tropical catshark of the southern African continental shelf, from close inshore at the surf line to 290 m depth. Very few adult males and young of either sex have been taken off Natal, with most individuals caught there being gravid females, which may indicate strong geographic or bathymetric segregation.

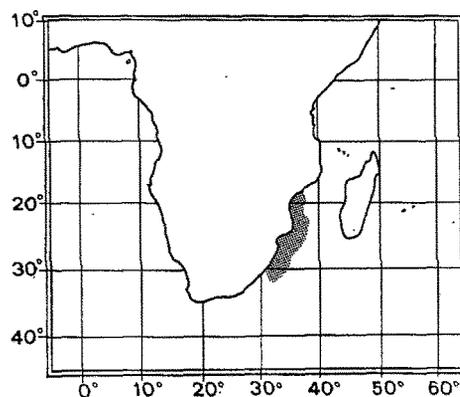
Possibly oviparous, but with up to 8 egg-cases per oviduct, which are retained there until embryos are at an advanced stage of development. Eggs laid and kept in aquaria hatched in 23 to 36 days (in water with a temperature of 19 to 20°C). Gravid females commonly occur in the surf in Natal during late winter, but egg-cases have not been found, leading one to suspect that normally egg-cases are retained in the oviducts until young hatch, and that eggs laid in aquaria may be premature. These sharks are readily kept in aquaria.

Feeds mostly on crustaceans, but also on bony fishes and cephalopods; in captivity it prefers crustacean meat to that of fishes or squid.

Size : Maximum about 56 cm, adult males 48 to 56 cm, adult females 46 to 52 cm.

Interest to Fisheries : None at present, caught in the surf in Natal by sports anglers with rod and reel.

Literature : Springer & D'Aubrey (1972); Bass, D'Aubrey & Kistnasamy (1975a); Springer (1979).



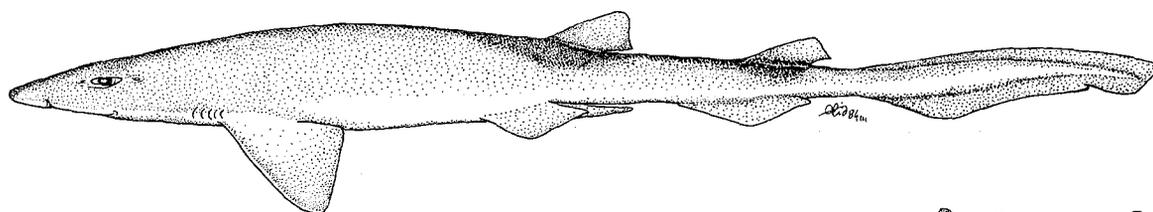
Halaelurus lutarius Springer & D'Aubrey, 1972

SCYL Hal 9

Halaelurus lutarius Springer & D'Aubrey, 1972, *Invest. Rep. Oceanogr. Res. Inst., Durban*, (29):6, figs 1A, 2. Holotype: U.S. National Museum of Natural History, USNM-205135, 326 mm adult male. Type Locality: Off Delagoa Bay, Mozambique, 25°32'S, 33°24'E, 450 to 455 m depth.

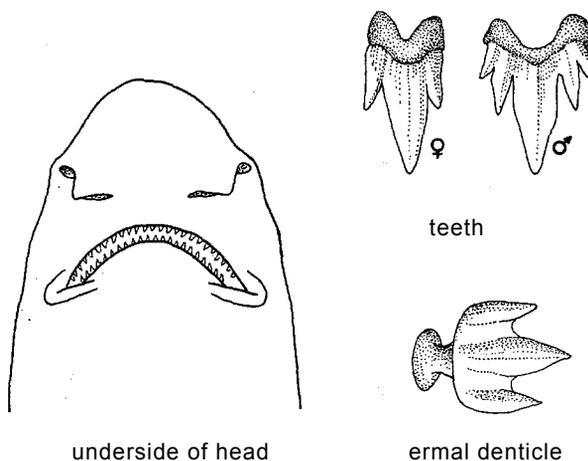
Synonymy : None.

FAO Names : En - Mud catshark; Fr - Holbiche des vases; Sp - Pejegato fanguero.



Field Marks : A *Halaelurus* with rounded snout, moderate-sized abdomen, fairly long anal base, plain light coloration, large size (see diagnostic features and remarks below).

Diagnostic Features: Snout tip not upturned and knoblike, narrowly rounded; eyes in adults 14 or more times in distance from snout to first dorsal origin; anterior nasal flaps subtriangular; labial furrows rather short, essentially confined to mouth corners, but lowers extending at least 5 mm onto lower jaw; mouth moderately large, its width 6 to 8% of total length, its length 4% of total length; papillae absent from pharynx; gills directed laterad, not elevated above level of mouth. Origin of first dorsal fin over or slightly in front of pelvic insertions; second dorsal somewhat smaller than first, its origin about over anal midbase; abdomen moderately long in adults, distance between pectoral and pelvic bases 1.3 to 1.6 times pectoral anterior margin; length of anal base about 1.5 times the second dorsal base, slightly shorter than distance between dorsal bases. Colour grey-brown above and light below, sometimes with obscure saddle bands. Adults small, to about 37 cm.



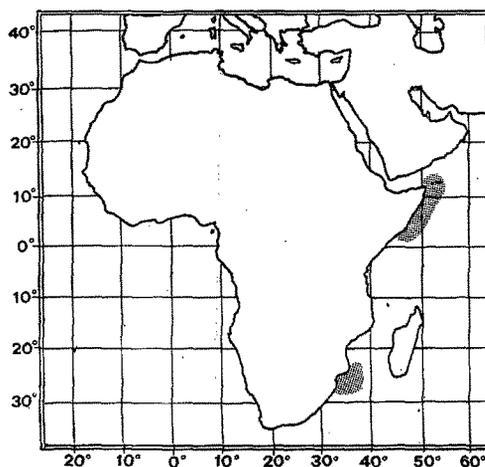
Geographical Distribution : Western Indian Ocean: Mozambique and Somalia.

Habitat and Biology : A deepwater tropical catshark of the continental slope of the western Indian Ocean, on or just above muddy bottom, at 338 to 766 m depth. Apparently ovoviviparous, as egg-cases are thin-walled, extremely fragile baglike structures unlike the stout egg-cases of typical oviparous species, and would be of little protection to developing young. Eats cephalopods, small bony fishes, and crustaceans.

Size : Maximum 39 cm, adult males 31 to 34 cm, and adult females 31 to 39 cm. Size at birth about 10 cm.

Interest to Fisheries : None at present.

Literature : Springer & D'Aubrey (1972); Bass, D'Aubrey & Kistnasamy (1975a); Springer (1979).



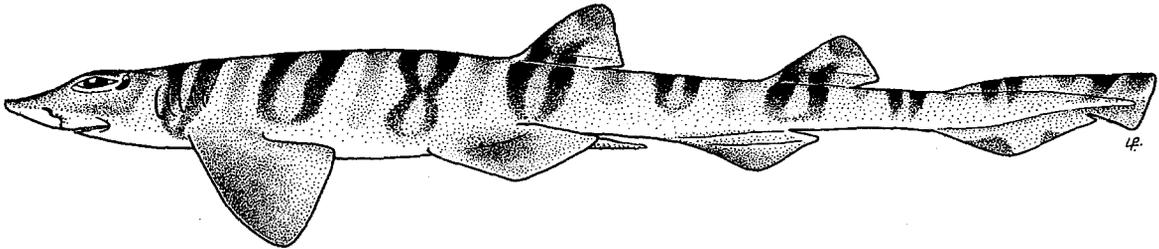
Halaelurus natalensis (Regan, 1904)

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Scyllium natalense Regan, 1904, *Ann.Mag.Nat.Hist.(Ser. 7)*, 14(80):128. Holotype: In British Museum (Natural History), 2 syntypes?. Type Locality: Natal, South Africa.

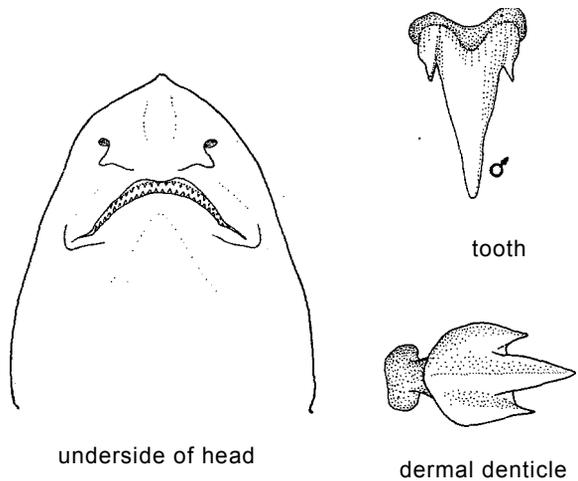
Synonymy : None.

FAO Names : En - Tiger catshark; Fr - Holbiche tigrée; Sp - Pejegato atigrado.



Field Marks: A catshark with pointed, upturned snout tip, broad head, coloration of broad bars and no spots.

Diagnostic Features: Snout tip pointed, upturned and knoblike; eyes in adults 11 to 14 times in distance from snout to first dorsal origin; anterior nasal flaps subtriangular or semilobate; labial furrows rather short, essentially confined to mouth corners, but lowers extending at least 5 mm onto lower jaw; mouth moderately large, its width 7 to 9% of total length; its length 2 to 3% of total length; papillae present in pharynx; gills directed dorsolaterally, elevated above level of mouth. Origin of first dorsal over last third of pelvic bases; second dorsal considerably larger than first, its origin about over anal insertion; length of anal base about 1.3 times the second dorsal base, slightly longer than distance between dorsal bases. Colour yellow-brown above, cream below, with 10 pairs of broad dark brown bars enclosing lighter areas, without spots or vermiculated markings between them. Adults to 47 cm.



Geographical Distribution : Western Indian Ocean: South Africa (Cape and Natal coasts) and Mozambique.

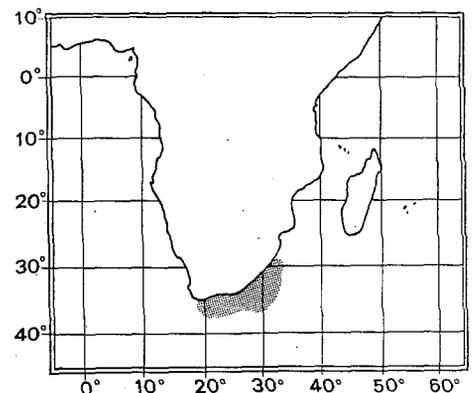
Habitat and Biology : An inshore to offshore temperate catshark of the southern African continental shelf, found on or near the bottom, from close inshore to possibly 172 m depth. Individuals caught offshore in trawls are mostly adult.

Oviparous, can have 6 to 11 egg-cases per oviduct (more usually 6 to 9) at a time. Each egg-case is about 4 by 1.5 cm long, with strong, thick tendrils to attach them to the substrate. Although the eggs are eventually laid, they are apparently retained inside the oviducts until the embryos inside them are fairly advanced (at least 43 mm long), which lowers their hatching time and exposure to egg-predators.

Feeds primarily on small bony fishes and crustaceans, but also cephalopods and small elasmobranchs.

Size : Maximum 47 cm, adult males 42 to 45 cm, adult females 47 cm.

Interest to Fisheries : None at present, commonly taken by bottom trawlers and also taken by sports anglers with rod and reel.



Literature : Fowler (1941); Springer & D'Aubrey (1972); Bass, D'Aubrey & Kistnasamy (1975a); Springer (1979).

Remarks: Until recently two species were confused under this name, the present one and the recently described H. lineatus. Hence there are few dependable depth records for H. natalensis.

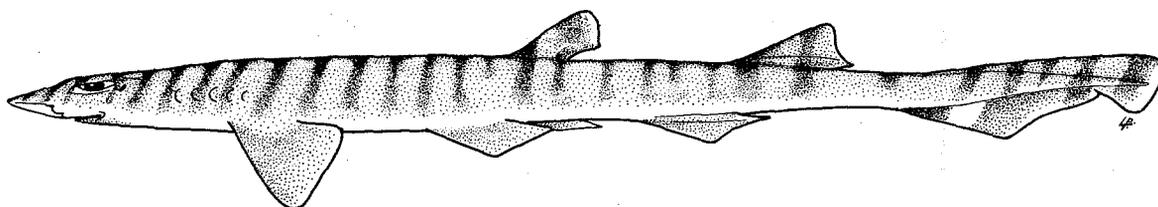
Halaelurus quagga (Alcock, 1899)

SCYL Hal 11

Scyllium quagga Alcock, 1899, Descr.Cat.Indian deep-sea fish., Indian Mus., Calcutta, 1:17. Holotype: Zoological Survey of India, ZSI F751/1, 273 mm adult male. Type Locality: Laccadive Sea, India, 187 m.

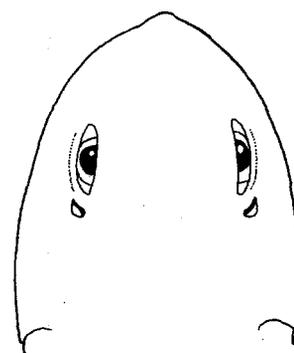
Synonymy : None.

FAO Names : En - Quagga catshark; Fr - Holbiche quagga; Sp - Pejegato quagga.



Field Marks: A Halaelurus with pointed but not upturned snout, short abdomen, and bold vertically striped zebra colour pattern.

Diagnostic Features: Snout tip pointed, but not strongly upturned and knoblike; eyes in adults 12 to 13 times in distance from snout to first dorsal origin; anterior nasal flaps subtriangular; labial furrows rather short, essentially confined to mouth corners, but lowers extending at least 5 mm onto lower jaw; mouth moderately large, its width 6 to 9% of total length, its length 4% of total length; papillae absent from pharynx?; gills directed dorsolaterad, elevated above level of mouth. First dorsal origin about opposite pelvic insertions; second dorsal somewhat larger than first, with origin about opposite or slightly behind anal insertion; abdomen short in adults, distance between pectoral and pelvic bases 1.2 times pectoral anterior margin; length of anal base about 1.1 to 1.3 times the second dorsal base, considerably shorter than distance between dorsal bases. Colour light brown above, lighter below, with over 20 dark brown narrow vertical bars, with pairs forming saddles under dorsal fins but otherwise single, no spots between bars. Adults small, 35 cm or less.



underside of head

Geographical Distribution : Indian Ocean: Somalia, India.

Habitat and Biology : A little-known tropical offshore catshark of the continental shelves of the northwestern Indian Ocean, found on or near the bottom at 54 to 186 m depth.

Size : Maximum about 35 cm, adult males 28 to 35 cm, size at hatching (or birth?) about 8 cm.

Interest to Fisheries : None at present.

Literature : Fowler (1941); Springer & D'Aubrey (1972); Springer (1979).

Remarks : The writer examined the holotype of this species in the Zoological Survey of India, Calcutta, from which the illustration is derived. This has a pointed, knoblike but not prominently upturned snout-tip. There are some differences in colour pattern between the holotype, from southwestern India, and the Somalian material described by Springer & D'Aubrey (1972) and Springer (1979).

