

NORTH ATLANTIC SHARKS RELEVANT TO FISHERIES MANAGEMENT

A POCKET GUIDE



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INTRODUCTION

This Pocket Guide presents a fully illustrated identification guide to a selection of shark species of the North Atlantic. It encompasses FAO fishing area 27 (Eastern North Atlantic) extending essentially from the North Pole to latitude 36°N in the central Atlantic, bordered on the west by the coast of eastern Greenland and longitude 40°W in the Central North Atlantic and area 21 (Western North Atlantic) from Eastern Greenland westwards to the Arctic waters of northern Canada at 120°W, and from northern Arctic waters at about 78° 10'N southwards to Cape Hatteras at 35°N.

The North Atlantic shark fauna is currently represented by eighty-four species, thirty of which occur in area 27, fourteen in area 21, while forty species are widespread throughout both areas. This pocket guide includes thirty-eight species selected as being most relevant to commercial fisheries, vulnerable to exploitation due to their life history characteristics, or taken in large numbers as discarded by-catch. Each species is described, illustrated and its distribution mapped. Key distinguishing features of similar-looking species occurring in the same area are highlighted allowing for easy and accurate identification in the field.

Most shark species are to date heavily depleted due to overfishing and to their biological characteristics that result in very low rates of potential population increase. Towards this direction, the EU, non-EU countries and Regional Fisheries Management Organizations (RFMOs) have adopted conservation and management measures to reduce the impact of fisheries on sharks in the North Atlantic. Correct identification is of primary importance in marine resource management. Therefore, this pocket guide is aimed at fishery workers for the specific purpose of improving data collection at the species level for North Atlantic sharks.

HOW TO USE THIS GUIDE

FAO Names (English - French - Spanish)

Scientific Name

Great white shark – Grand requin blanc – Jaquién blanco
Carcharodon carcharias (Linnaeus, 1758)

WSH

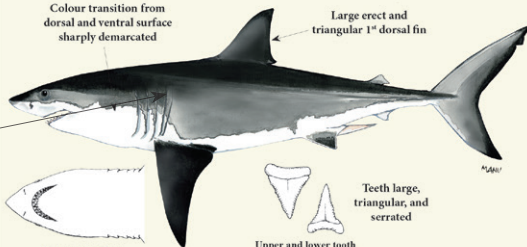
FAO 3-alpha code

Local names used in countries bordering on the region

Local names: White shark (USA, Canada); Weißer Hai (Germany); Tubarão branco (Portugal)

Colour transition from dorsal and ventral surface sharply demarcated

Large erect and triangular 1st dorsal fin



A different colour for each Order

Colour illustration and main field marks

LAMNIFORMES - LAMNIDAE

Additional diagnostic features

Distinctive characters

A stout spindle-shaped body, with a conical snout; minute second dorsal and anal fins; no secondary caudal keel, and a large crescent-shaped caudal fin.

Similar species

Isurus oxyrinchus
Upper teeth long, narrow, and without serrations. No lateral cusplets on teeth.

Upper and lower tooth

Upper and lower teeth

Lamna nasus

Teeth long, narrow, and without serrations but with lateral cusplets on teeth.

Upper and lower teeth

Size

Max. Length (N. Atlantic): estimated at 600 to 640 cm TL.



Size given as Total Length (TL)

Family

Order

Main distinctive characters of similar species occurring in the area

Photo of a specimen immediately after capture

EU, non-EU countries and RFMOs that have regulations in force in 2012

Information on fisheries and commercial importance



Photo by G.H. Burgess

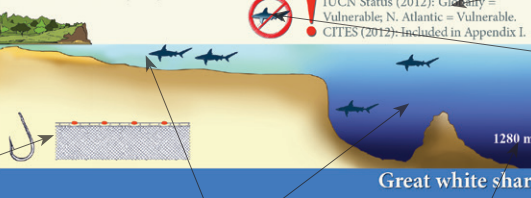
Fisheries

Great white sharks are a protected species by most countries fronting the North Atlantic in Areas 21 and 27, and as such are not targeted, but they are occasionally caught as bycatch by gillnets and longline fisheries targeting other fish species.

The EU has prohibited to fish for, to retain on board, to tranship or to land this species in EU and non-EU waters (2012).

Bio-Ecology

Males mature between 360 and 400 cm TL with a maximum length of about 550 cm; females maturity uncertain, but thought to be between 450 and 500 cm TL. Coastal nearshore waters, including bays and estuaries, but are also oceanic, in the open ocean far from landmasses and around islands far from any mainland.



Known (dark green) and uncertain (light green) geographic distribution

Conservation status

Prohibited species (2012)

Species whose fins are marketed

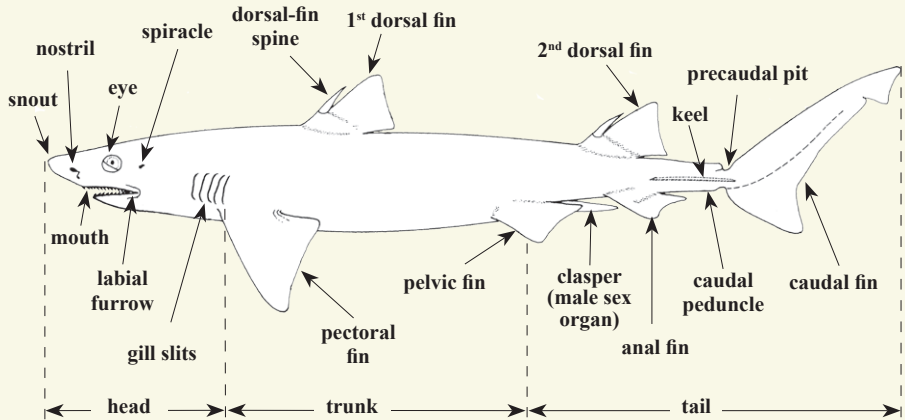
Regulations in force in 2012 (meant to alert the user and thereby encourage him to have a closer look at the subject and increase awareness about the vulnerability of sharks)

Fishing Methods

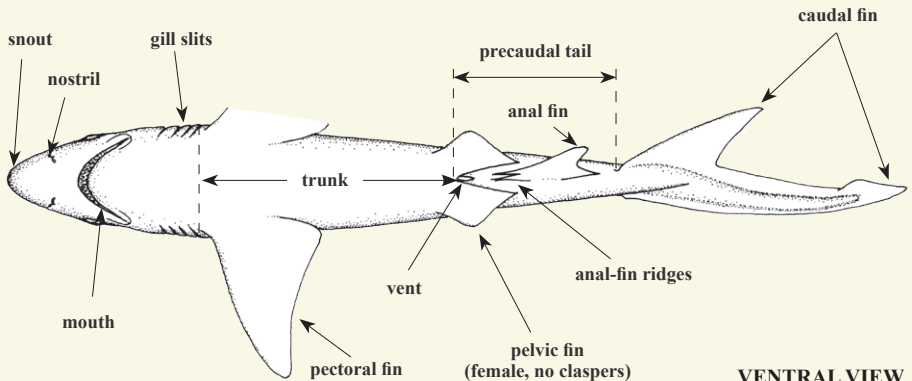
Zones of occurrence (neritic, epipelagic etc.)

Maximum depth of commonly caught specimens

PICTURE GUIDE OF EXTERNAL TERMINOLOGY OF SHARKS



LATERAL VIEW

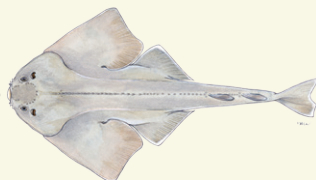


VENTRAL VIEW

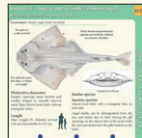
Sharks

No anal fin

Body flattened, raylike, mouth terminal, pectoral fins not attached to head



SQUATINIFORMES



Body not raylike, snout short, not sawlike



SQUALIFORMES



Anal fin present

5 gill slits, 2 dorsal fins, no fin spines

Nictitating eyelids, spiral or scroll intestinal valve



CARCHARHINIFORMES



No nictitating eyelids, ring intestinal valve



LAMNIFORMES



GUIDE TO NORTH ATLANTIC SHARKS ORDERS INCLUDED IN THE POCKET GUIDE

Photographing and preserving specimens for identification

by M. Stehmann and D. Ebert

Experience over many years has shown that the identification of cartilaginous fish species can be problematic; however, people interested in identifying unusual species that they may encounter while on board fishing vessels, at landing places, ports, fish markets, on angling tours, in souvenir shops, and underwater, can take digital images and send them to a local expert for possible identification. Sometimes rare species may be encountered, and if possible these specimens in addition to being photographed fresh, should be saved and forwarded to experts for possible identification. This can benefit both the scientist, most of whom are interested in these observations, and the public who is interested in having their specimen identified.

Taking photographs for easing identification:

If possible try and place a ruler or other measuring scale alongside the specimen; if no ruler is available, then some other object that may serve as a size reference, a lens cap, pencil or some object to show a size relationship. A handwritten label that includes a number, the date, location, and other relevant capture information, and may include the person's name. Plain coloured or an artificial background contrasting the specimen's colour is fine.

Sharks and chimaeras: Take photographs in total lateral, dorsal and ventral views, if possible with fins erected and spread. Add close-ups of details catching your eye, e.g. lateral and ventral view of head to gill slits or to origin of pectoral fins, mouth-nasal region, the jaws with dentition details, details of scale cover, individual fins, colour marks.



Photos of *Apristurus laurussonii* by J. Poulsen

Preservation of unknown, rare or strange specimens and where to send these:

Beyond, of course, taking photographs first of the fresh specimen, preserving and forwarding such individuals may be very important for science. These may document, e.g. first geographical records, first records of small young or fully grown adults in a given location, or you may have found even a species so far unknown to science.

On board a fishing or angling tour vessel, preservation by deep-freezing, on ice, or in a refrigerator will be given options. At other occasions, it may become difficult, and preserving in 4% formaldehyde (caution: dangerous to skin, eyes and when inhaled!), one may get in pharmacies or drugstores concentrated, will be the best. Use thick, water- and leakage-proof plastic bag or box for storage. Dilute concentrated formalin 1:9 with water and add the liquid to the specimen in the bag or box to be closed firmly – the liquid and its gas are caustic! If possible, inject before formalin into the belly cavity, or cut a small slit through belly to allow penetration of formalin to the innards to prevent from disintegration. Specimens need one to several days for being preserved, depending on their size and thickness. Then pour out liquid formalin, rinse specimen under water, wrap it in moist cloths or paper to prevent it from drying up and keep in plastic bag or box.

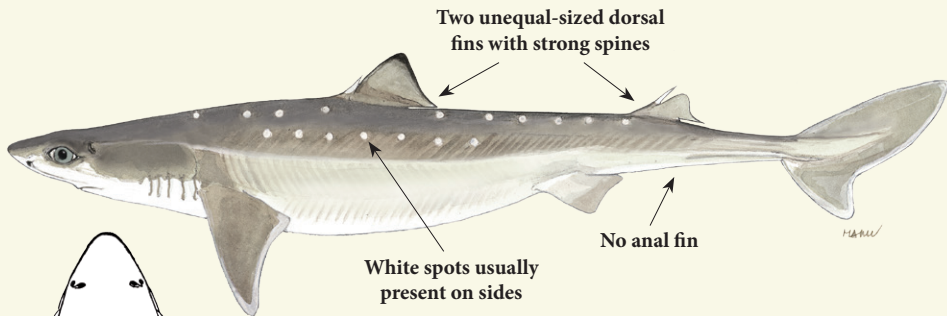
Make contact with the nearest marine or fishery institute, zoological institute or museum and bring the specimen there, or post it in leakage-proof packing. Internet search may help to find an appropriate addressee nearby. Public zoos and aquaria may also provide advice.

Picked dogfish - Aiguillat commun - Mielga

Squalus acanthias Linnaeus, 1758

DGS

Local names: Spiny dogfish (UK); Galudo (Portugal); Dornhai (Germany); Háfur (Iceland); Pigghå (Norway)



Underside of Head

Distinctive characters

Moderately long, narrow, angular or subangular snout. Pectoral fins narrow and falcate or semifalcate, with straight to concave posterior margins.

Size

Max. Length (N. Atlantic):
121 cm TL.



Similar species

Squalus megalops

A small dogfish with a wide head, a short, broad, rounded-parabolic snout. No white spots on sides.



Underside of Head

Squalus blainville

Wide head, moderately long snout. No white spots on sides.



Underside of Head



Photo by C. Nozères

Fisheries

Possibly the single most important species of shark for targeted and utilized bycatch fisheries. Flesh and fins are utilized for human consumption.

Under TAC regulation in EU (in 2012, TAC = 0). If accidentally caught this species shall not be harmed and specimens shall be promptly released.

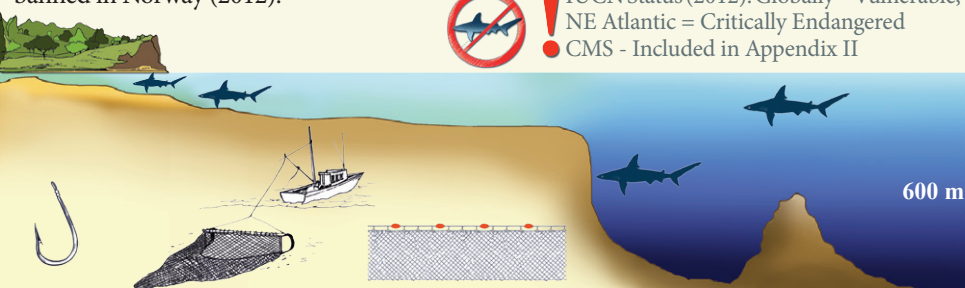
Under TAC regulation in Canada and USA and finning prohibited (2012). Directed fisheries banned in Norway (2012).

Bio-Ecology

Males mature from 52 to 70 cm, females at 66 to 82 cm. Often caught on soft bottom and often found in enclosed and open bays and estuaries but mostly on the shelf and upper slope from the surface down to the bottom.



- ! IUCN Status (2012): Globally = Vulnerable; NE Atlantic = Critically Endangered
- CMS - Included in Appendix II



Picked dogfish

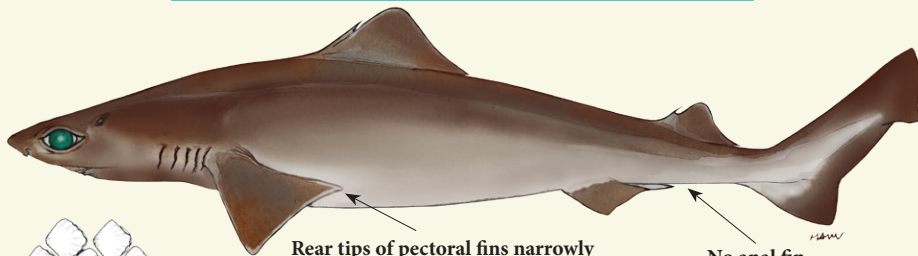


Gulper shark - Squale-chagrin commun - Quelvacho

Centrophorus granulosus (Bloch and Schneider, 1801)

GUP

Local names: Quelma (Azores); Barroso, Lixa-de-lei (Portugal)



Dermal denticles

Rear tips of pectoral fins narrowly angular and greatly elongated

No anal fin

Distinctive characters

Snout moderately long and thick; bladelike monocuspidate teeth in upper and lower jaws, with lowers much larger; first dorsal fin short and high, second dorsal fin with spine-base over pelvic-fin inner margins; flat sessile denticles.

Size

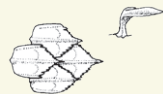
Max. Length (N. Atlantic): varies regionally between 110 to 166 cm TL.



Similar species

Centrophorus squamosus

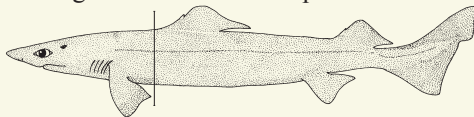
Leaf-like denticles.



Dermal denticles

Centrophorus niaukang

Free rear tips of pectoral fins usually not extending behind first dorsal spine.



Centrophorus lusitanicus

First dorsal fin very low and greatly elongated.

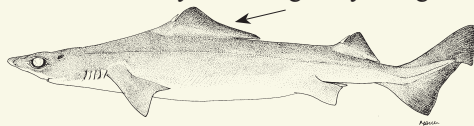




Photo by Cambraia Duarte, P.M.N. (c)ImagDOP

Fisheries

Primarily fished in the Eastern Atlantic; caught as discarded or utilized bycatch of deepwater slope fisheries. Relatively uncommon in the NW Atlantic, likely taken as bycatch.

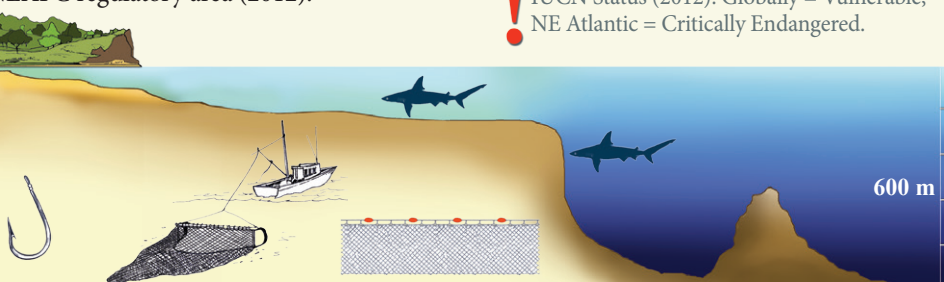
Flesh is utilized smoked and dried salted or processed for fishmeal and liver oil. Fins not utilized. Under TAC regulation in EU (in 2012, TAC = 0). Technical measures in force in EU waters and NEAFC regulatory area (2012).

Bio-Ecology

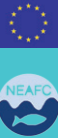
Males mature at 80 to 118 cm, females at 100 to 138 cm. Eastern North Atlantic males are reported to be mature at 118 cm. Usually found on or near the bottom on the outer continental shelves and upper slopes. Most records between 200 and 600 m.



! IUCN Status (2012): Globally = Vulnerable;
NE Atlantic = Critically Endangered.



Gulper shark

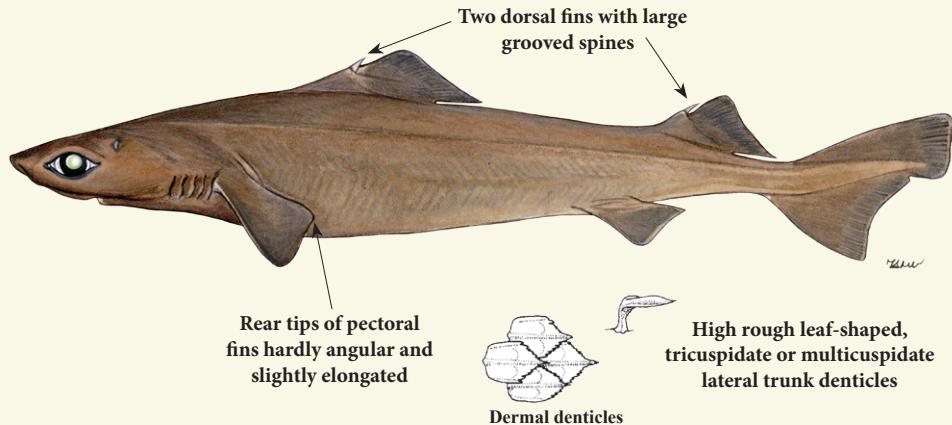


Leafscale gulper shark - *Squale-chagrin de l'Atlantique* - Quelvacho negro

Centrophorus squamosus (Bonnaterre, 1788)



Local names: Lixa, Xara branca (Portugal); Lixa de escama (Azores); Blattschuppen-Schlingerhai (Germany); Schubzweelghai (the Netherlands); Rauðháfur (Iceland)



Distinctive characters

Snout moderately long; first dorsal fin very long and low, usually slightly lower, although larger, than second dorsal; second dorsal fin with spine base usually opposite pelvic-fin inner margins or free rear tips.

Size

Max. Length (N. Atlantic):
about 164 cm TL.



Similar species

Centrophorus squamosus can be distinguished from all other *Centrophorus* species due to its leaf-like denticles compared to flat sessile denticles that occur on all other *Centrophorus* species that occur in the area.



©RV DR Fridtjof Nansen

Fisheries

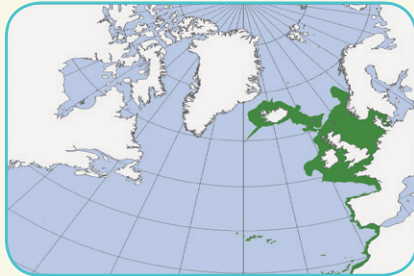
Main fisheries in Portugal, UK and Spain. Reported catches over the past decade declined by over 90% to 243 tonnes in 2009. The species is often reported under the “siki sharks” category (mixed deepwater shark species, in particular *C. squamosus* and *Centroscymnus coelolepis*).

Flesh is utilized for human consumption or processed for fishmeal. Fins not utilized.

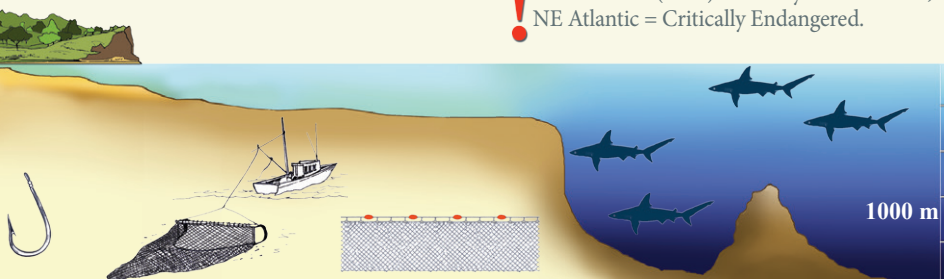
Under TAC regulation in EU (in 2012 TAC = 0). Technical measures in force in EU waters and NEAFC regulatory area (2012).

Bio-Ecology

Males maturing at 100 to 110 cm and adult females at 110 to 125 cm. Minimum depth 229 m; rare above 1000 m depth in the North Eastern Atlantic. Also found in the epipelagic or mesopelagic zones between the surface and 1250 m depth in the North Central Atlantic.



! IUCN Status (2012): Globally = Vulnerable;
NE Atlantic = Critically Endangered.



Leafscale gulper shark

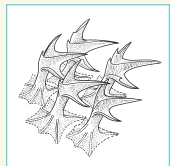
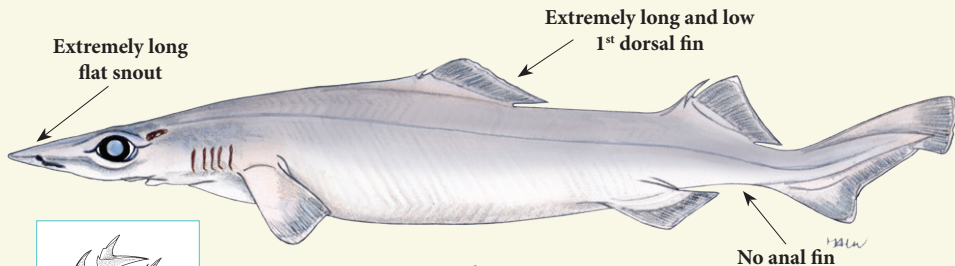


Birdbeak dogfish - *Squala savate* - Tollo pajarito

Deania calcea (Lowe, 1839)

DCA

Local names: Forreta, Sapata, Sapata branca (Portugal); Pffaro, Pife, Tutia, Shovel nosed shark (Azores); Vogelschnabel-Dornhai (Germany); Flatnefur (Iceland); Skednoshaj (Sweden)

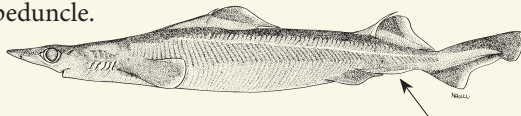


Dermal denticles

Similar species

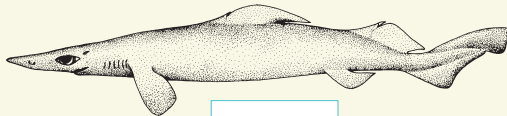
Deania profundorum

Subcaudal keel on the lower surface of the caudal peduncle.



Deania hystricosa

Very large lateral trunk denticles, with a length of about 1 mm, compared to *D. calcea* (~0.5 mm).



Dermal denticles

Distinctive characters

Grooved dorsal-fin spines with the second dorsal spine much higher than the first. Compressed cutting teeth in both jaws. Small pitchfork-shaped denticles make the skin rough.

Size

Max. Length (N. Atlantic):
about 122 cm TL.





©RV DR Fridtjof Nansen

Fisheries

Interest to fisheries moderate. Most reported catches were by Portugal (between 2000 and 2009 an average of 74 t), Spain (average 26 t) and the UK (average 17 t). However, these numbers are likely underestimated.

Under TAC regulation in EU (in 2012 TAC = 0). When accidentally caught with longlines, this species shall not be harmed. Specimens shall be promptly released.

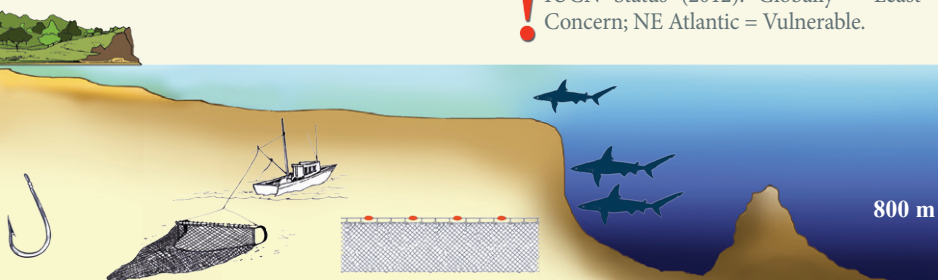
Technical measures in force in EU waters and NEAFC regulatory area (2012).

Bio-Ecology

Males mature at 81 to 94 cm, females at 99 to 106 cm. A common deepwater dogfish of the outer continental and insular shelves and upper, middle, and lower slopes, sometimes caught in large groups. In the Eastern North Atlantic this species is most abundant between 750 and 800 m.



! IUCN Status (2012): Globally = Least Concern; NE Atlantic = Vulnerable.



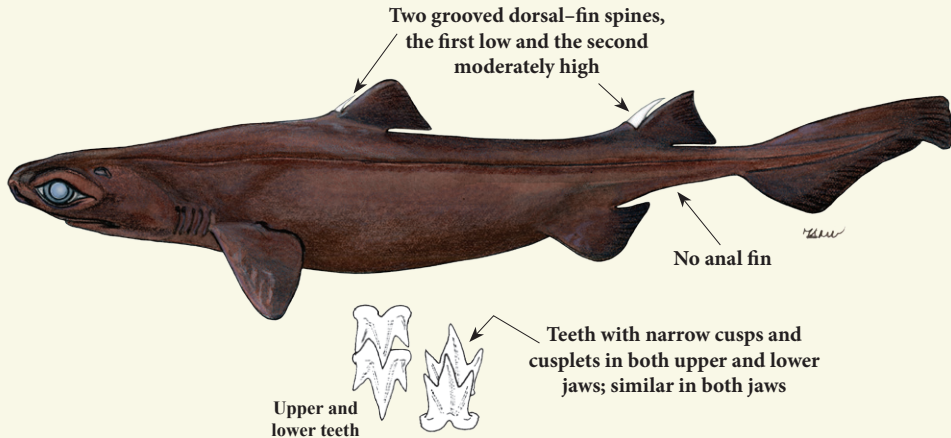
Birdbeak dogfish

Black dogfish - Aiguillat noir - Tollo negro merga

Centroscyllium fabricii (Reinhardt, 1825)

CFB

Local names: Svart pigghaj (Sweden); Fabricius-Dornhai (Germany); Svartháfur (Iceland)



Distinctive characters

Denticles high, conical and sharp-cusped, dense and numerous on dorsal and ventral surfaces of body; skin firm. Abdomen long, caudal peduncle short.

Size

Max. Length (N. Atlantic):
about 107 cm TL.



Similar species

Centroscyllium is most similar to the genus *Etmopterus*, but can be distinguished by its teeth being similar shaped in the upper and lower jaws, while the teeth in the *Etmopterus* species are dissimilar in the upper and lower jaws.





Photo by Gui Menezes (c)ImageDOP

Fisheries

Interest to fisheries limited; highest catches between 2000 and 2004 prior to TACs regulations.

Estimated landings are likely underestimated. In the NW Atlantic this species is very abundant and commonly taken as bycatch in a number of groundfish fisheries.

Under TAC regulation in EU (in 2012, TAC = 0). Technical measures in force in EU waters and NEAFC regulatory area (2012).

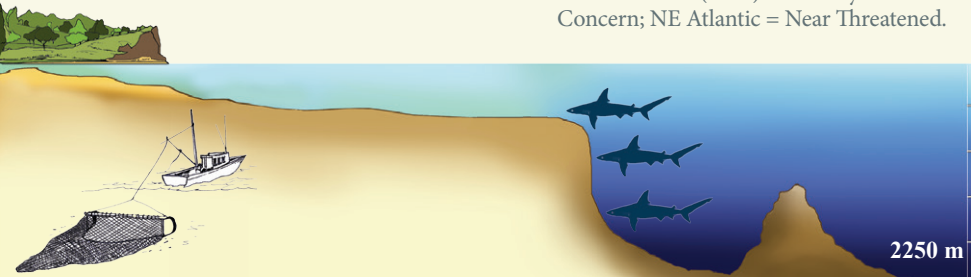
Bio-Ecology

Males mature at about 55 to 57 cm and females at about 65 to 70 cm.

An abundant deepwater schooling shark of the outermost continental shelves and slopes; occurs mostly below 275 m. At high latitudes in the North Atlantic it may move up to near the surface.



IUCN Status (2012): Globally = Least Concern; NE Atlantic = Near Threatened.



Black dogfish

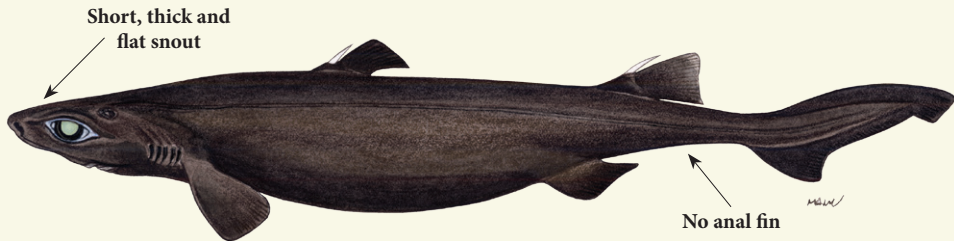


Great lanternshark - Sagre rude - Tollo lucero raspa

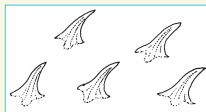
Etmopterus princeps Collett, 1904

ETR

Local names: Rough sagre (USA); Großer schwarzer Dornhai (Germany); Dökkháfur (Iceland)



Denticles on flanks, caudal peduncle and caudal bases wide-spaced, in regular longitudinal rows



Dermal denticles

Distinctive characters

A very large, heavy-bodied, broad-headed, short-tailed, uniform-colored, blackish lanternshark; first dorsal fin smaller than second dorsal fin; second dorsal-fin spine recurved and pointing posterodorsally in adults.

Similar species

Etmopterus princeps can be distinguished from *E. spinax*, *E. gracilispinis*, and *E. hillianus* by its flank denticles that are in regular longitudinal lines while these other species have denticles randomly scattered; *E. princeps* can be distinguished by its having a fuzzy textured skin versus a smooth skin in *E. pusillus*.

Size

Max. Length (N. Atlantic):
about 89 cm TL.



E. spinax



E. pusillus

Dermal denticles



Photo Courtesy of the Irish Deepwater Survey

Fisheries

Interest to fisheries limited. It is taken as bycatch and retained in groundfish fisheries in the Eastern Atlantic but species-specific details are poorly known.

Under TAC regulation in EU (in 2012, TAC = 0). When accidentally caught with longlines, this species shall not be harmed and specimens shall be promptly released.

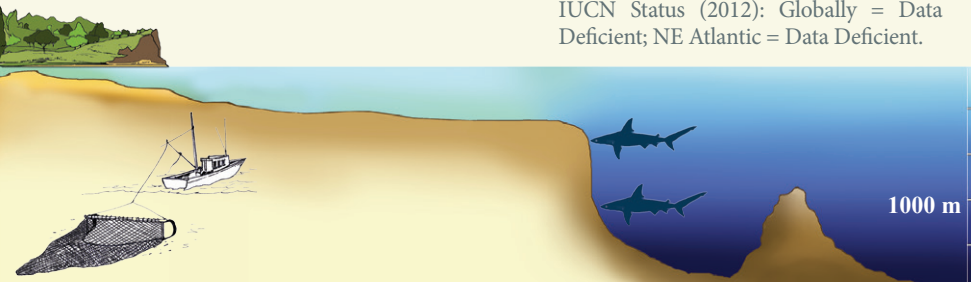
Technical measures in force in EU waters and NEAFC regulatory area (2012).

Bio-Ecology

Fifty-percent maturity is attained by males at about 57 cm and females at 62 cm. Found on the continental slopes on or near the bottom, most abundant between 800 and 1000 m. The population in the North Atlantic around Iceland appears to segregate by depth and size with larger individuals occurring shallower than 600 m.



IUCN Status (2012): Globally = Data Deficient; NE Atlantic = Data Deficient.



Great lanternshark

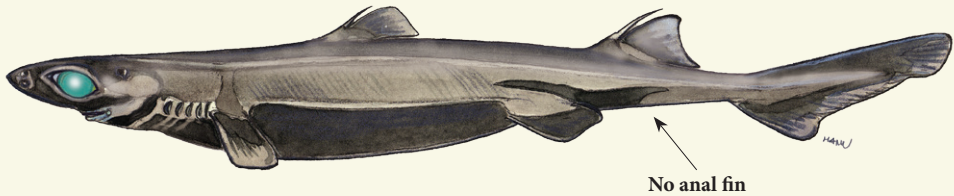


Velvet belly - Sagre comun - Negrito

Etmopterus spinax (Linnaeus, 1758)

ETX

Local names: Lantern shark (English); Kleiner schwarzer Dornhai (Germany); Svarthå (Norway); Blåkäxa (Sweden); Lixinha da fundura, Quelmazinha (Azores); Búksvarti hávur (Faroe Islands)



Dermal denticles

Distinctive characters

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

Size

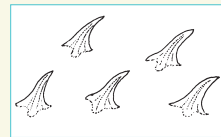
Max. Length (N. Atlantic):
about 40 cm TL.



Similar species

Etmopterus princeps

Denticles in regular longitudinal lines.



Dermal denticles

Etmopterus pusillus

Smooth skin.



Photo by E. Farrell

Fisheries

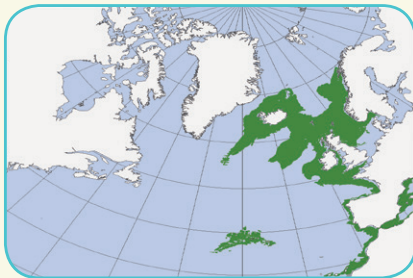
Interest to fisheries minor. Like other members of this genus are generally reported as part of a deepwater species complex with very little species-specific information available. Commonly taken as retained bycatch in several fisheries off southern Portugal but elsewhere in the North Atlantic are frequently discarded.

Under TAC regulation in EU (in 2012, TAC = 0). Technical measures in force in EU waters and NEAFC regulatory area (2012).

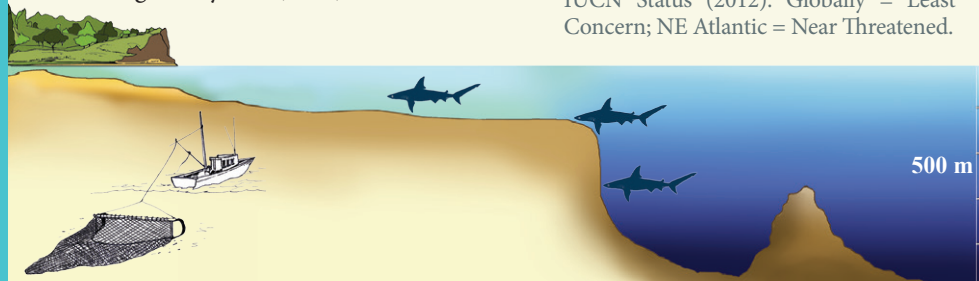
Bio-Ecology

Males mature at 24.2 to 33.9 cm and females at 30.5 to 41.1 cm.

A common lanternshark found on, near or well above the bottom on the outer continental shelves and upper slopes mostly between 200 and 500 m.



IUCN Status (2012): Globally = Least Concern; NE Atlantic = Near Threatened.



Velvet belly

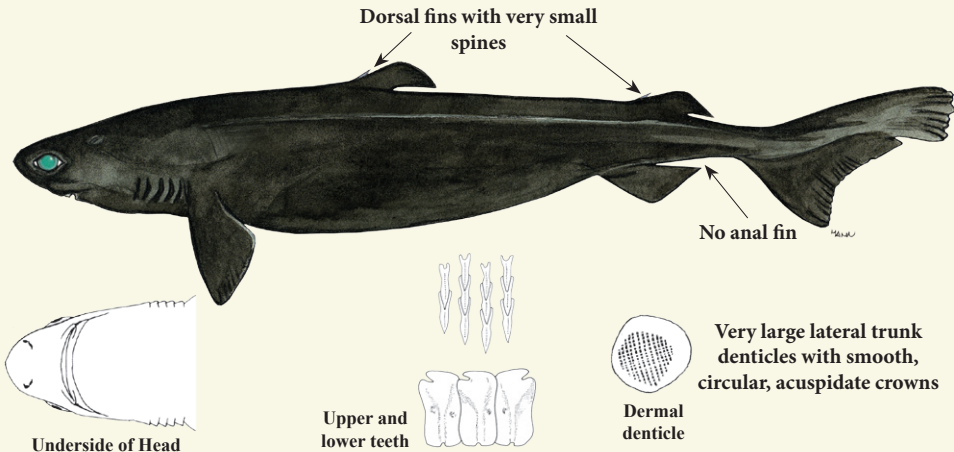


Portuguese dogfish - *Pailona commun* - *Pailona*

Centroscymnus coelelepis Bocage and Capello, 1864

CYO

Local names: Xara-preta, Tubarão português (Portugal); Portugiesenhai (Germany); Gljáháfur (Iceland)



Distinctive characters

Snout short, preoral length about $\frac{2}{3}$ as long as distance from mouth to first gill slits, and less than mouth width; stocky body that does not taper abruptly from pectoral region. Uniformly light to dark brown.

Size

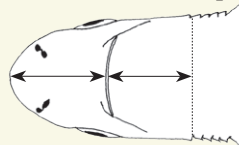
Max. Length (N. Atlantic):
about 122 cm TL.

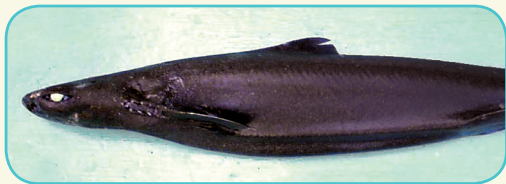


Similar species

Centroscymnus owstoni

Snout moderately long, preoral length about as long as distance from mouth to first gill slits, and about equal to mouth width.





©RV DR Fridtjof Nansen

Fisheries

Caught in targeted deepwater shark fisheries and as bycatch in other deepwater demersal fisheries. Over the past decade (2000 to 2009) an average of 2163 t (as reported to FAO) of this shark was landed in the NE Atlantic.

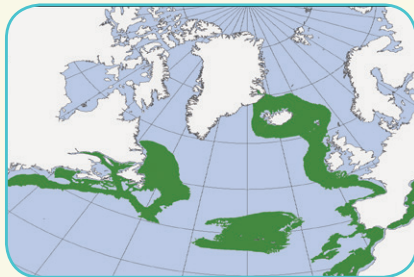
Flesh is utilized for human consumption or processed for fishmeal and liver oil.

Under TAC regulation in EU (in 2012, TAC = 0). When accidentally caught with longlines, this species shall not be harmed. Specimens shall be promptly released. Technical measures in force in EU waters and NEAFC regulatory area (2012).

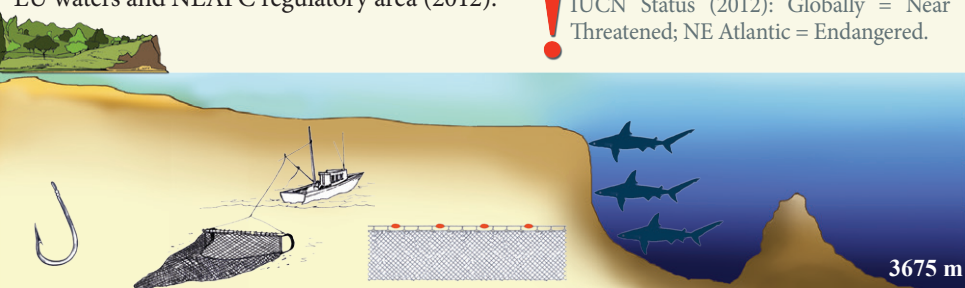
Bio-Ecology

Males mature at 85 to 100 cm, females at 95 to 110 cm.

A common, wide-ranging but little-known deepwater shark living on or near the bottom on the continental slopes and upper and middle rises, mostly at depths below 400 m.



! IUCN Status (2012): Globally = Near Threatened; NE Atlantic = Endangered.



3675 m

Portuguese dogfish

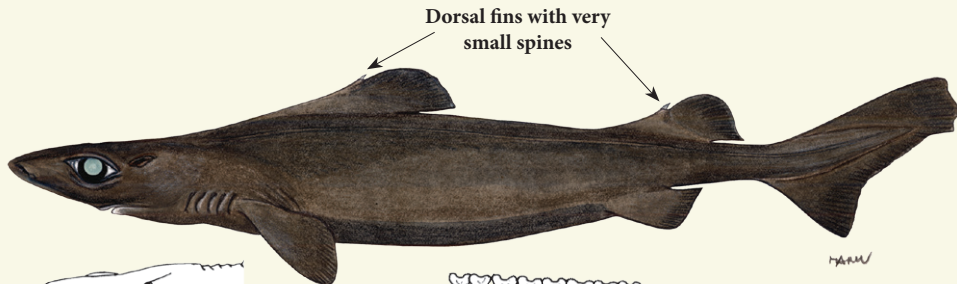


Longnose velvet dogfish - Pailona à long nez - Sapata negra

Centroselachus crepidater (Bocage and Capello, 1864)

CYP

Local names: Sapata-preta, Sapata-de-natura (Portugal); Þorsteinsháfur (Iceland); Langitrantur (Faroe Islands)



HANAU



Underside of Head



Upper and lower teeth

Distinctive characters

Very long snout; labial furrows greatly elongated that nearly encircle mouth; lanceolate upper teeth and bladelike lower teeth with moderately long, oblique cusps.

Size

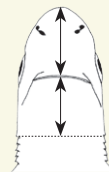
Max. Length (N. Atlantic): about 105 cm TL.



Similar species

Centroscymnus owstoni

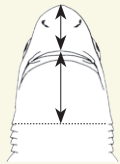
Snout moderately long, preoral length about as long as distance from mouth to first gill slits, and about equal to mouth width.



Underside of Head

Centroscymnus coelolepis

Snout short, preoral length about 2/3 as long as distance from mouth to first gill slits, and less than mouth width.



Underside of Head



Photo by S. Iglésias

Fisheries

Interest to fisheries limited, caught as bycatch. A reduction in reported catches in the last decade is likely due to a ban on deepwater set gillnets and a reduced TAC limit for deepwater sharks. The species is often reported under the “siki sharks” category (mixed deepwater shark species, in particular *Centrophorus squamosus* and *Centroscymnus coelolepis*).

Under TAC regulation in EU (in 2012, TAC = 0). Technical measures in force in EU waters and NEAFC regulatory area (2012).

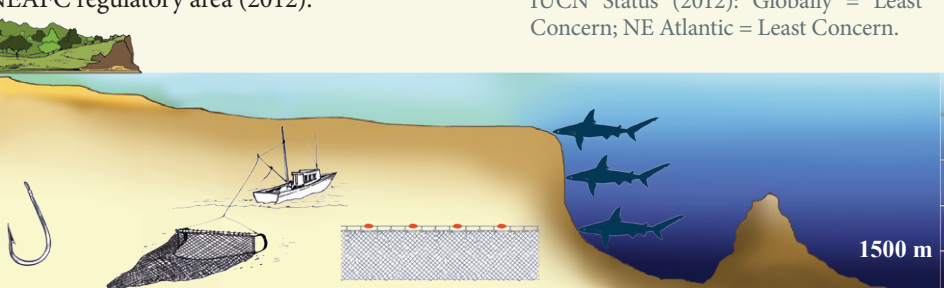
Bio-Ecology

Males mature at 60 to 68 cm, females at 77 to 88 cm.

Occurs along upper continental and insular slopes on or near the bottom at depths of 200 to 1500 m.



IUCN Status (2012): Globally = Least Concern; NE Atlantic = Least Concern.



Longnose velvet dogfish

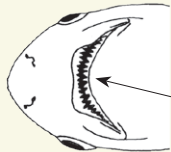


Knifetooth dogfish - *Squalogrognour commun* - Bruja *Scymnodon ringens* Bocage and Capello, 1864

SYR

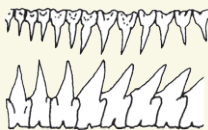
Local names: Arreganhada (Portugal); Knorrhaj (Sweden); Messerzahnhai (Germany)

Head high, robust,
snout broad, short



Mouth broadly
arched

Underside of Head



Upper and lower teeth

Distinctive characters

Caudal peduncle asymmetrical, not paddle-shaped, with weak subterminal notch and no lower lobe. Upper teeth small, lanceolate, without lateral cusplets; lower teeth relatively large, triangular, blade-like.

Size

Max. Length (N. Atlantic):
about 110 cm TL.



Similar species

Zameus squamulosus

Snout moderately long and mouth rather small and nearly transverse; caudal fin with a strong subterminal notch.

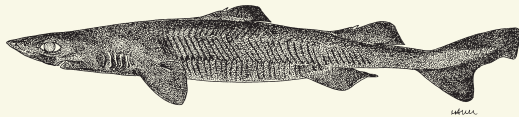




Photo by S. Iglésias

Fisheries

Limited fisheries interest. Caught as bycatch by various fishing gears. Since 2006 an average of 205 t in catches was reported to FAO with most of the landings coming from Portugal and Spain.

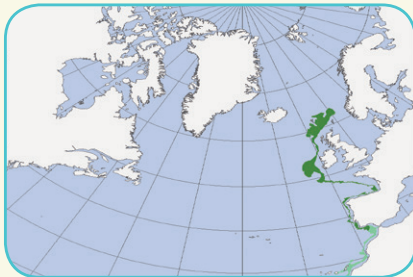
Flesh is utilized for human consumption or processed for fishmeal. Fins are not utilized.

Under TAC regulation in EU (in 2012, TAC = 0). Technical measures in force in EU waters and NEAFC regulatory area (2012).

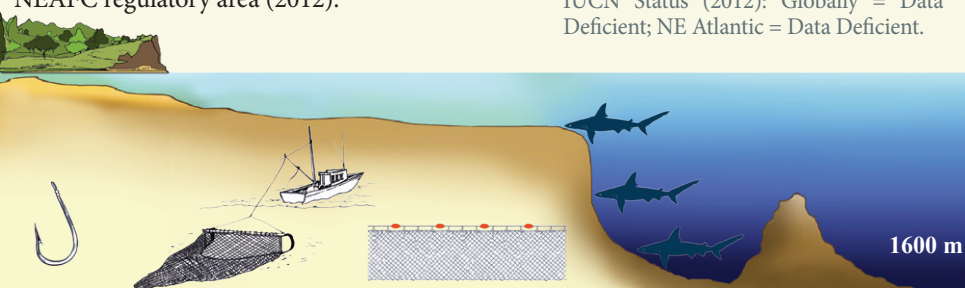
Bio-Ecology

A relatively common, little-known deepwater shark of the Eastern Atlantic continental slope, on or near the bottom at depths of 200 to 1600 m.

The large triangular, razor-edged lower teeth of this shark suggest that it is a formidable predator capable of attacking and dismembering large prey.



IUCN Status (2012): Globally = Data Deficient; NE Atlantic = Data Deficient.



Knifetooth dogfish

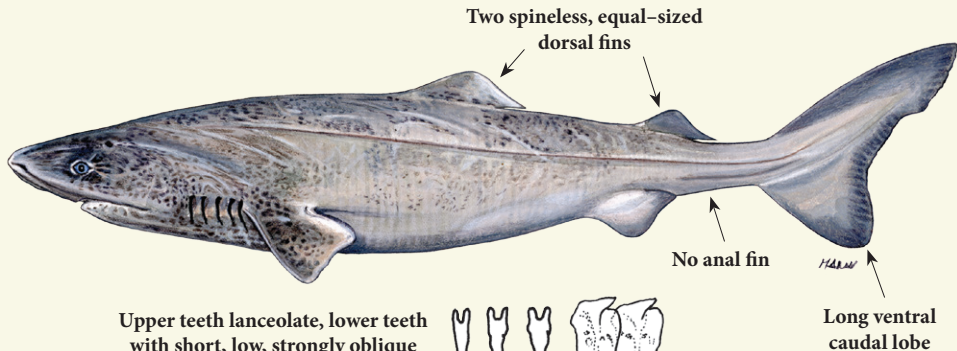


Greenland shark - Laimargue du Groenland - Tollo de Groenlandia

Somniosus microcephalus (Bloch and Schneider, 1801)

GSK

Local names: Gurry shark (USA); Eishai (Germany); Håkäring (Sweden); Håkjerring (Norway); Tiburón boreal (Spain); Tubarão da Gronelândia (Portugal); Hákarl (Iceland)



Upper teeth lanceolate, lower teeth with short, low, strongly oblique cusps and high, narrow roots



Upper and lower teeth

Long ventral caudal lobe

Distinctive characters

Short, rounded snout; heavy cylindrical body; first dorsal fin slightly closer to pelvis than pectoral fins; interdorsal space greater than distance from snout to second gill slits.

Size

Max. Length (N. Atlantic): at least 640 cm and possibly to 730 cm, but most adults between 300 and 450 cm TL.



Similar species

Somniosus rostratus

A small shark, with adults less than 140 cm long. Lower teeth with low roots and high, slender, semierect cusps.



Lower tooth

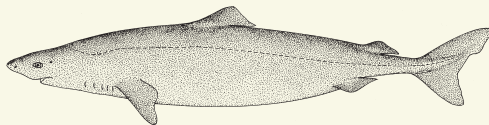




Photo by A. Lynghammar

Fisheries

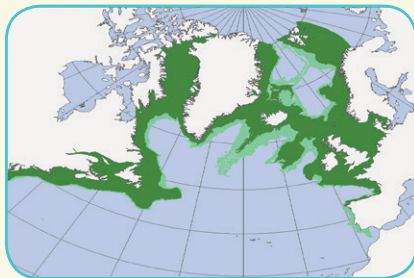
Small numbers of these sharks are landed mainly in Icelandic waters. Likely caught in much higher numbers as discarded bycatch. Historically, caught in large numbers for its liver oil in Greenland, Iceland, and Norway.

Although fished for its liver oil, its meat is also used fresh and dried for human and sled-dog food.

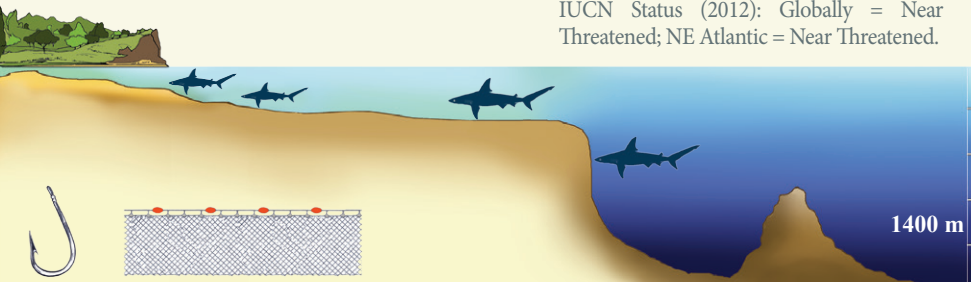
Under TAC regulation in EU (in 2012, TAC = 0).

Bio-Ecology

Adult males mature at about 300 cm or greater in length, adult females at about 450 cm or more. In the Arctic and boreal Atlantic it occurs inshore in the intertidal and at the surface in shallow bays and river mouths during the colder months but tends to retreat into water 180 to 550 m deep when the temperature rises.



IUCN Status (2012): Globally = Near Threatened; NE Atlantic = Near Threatened.



Greenland shark

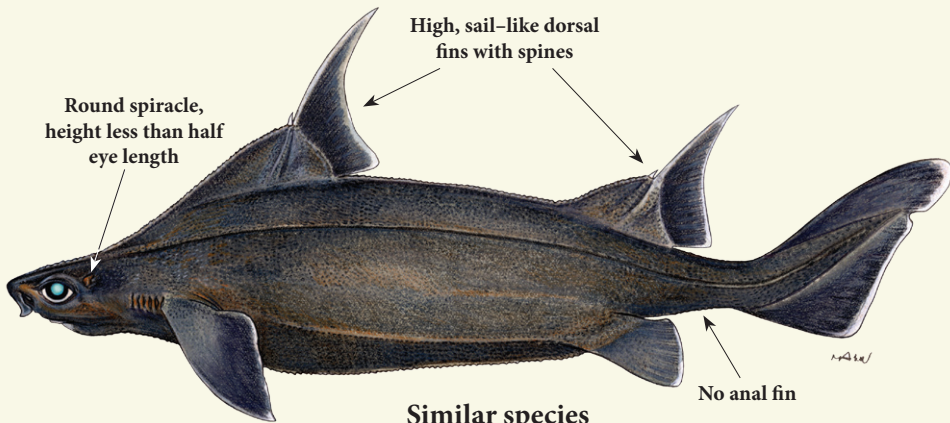


Sailfin roughshark - Humantin - Cerdo marino velero

Oxynotus paradoxus Frade, 1929

OXN

Local names: Graue Meersau (Germany); Peixe-porco-de-vela (Portugal); Spetsfenad haj (Sweden)



Similar species

Oxynotus centrina

Spiracle very large, vertically elongated and slit-like, height nearly equal to eye length. Supraorbital ridges greatly expanded posteriorly, forming a prominent rounded knob just in front of spiracle on each side that is covered with enlarged denticles.

Distinctive characters

Short, blunt snout; strongly falcate pectoral fins; supraorbital ridges not greatly expanded and not forming a rounded knob in front of spiracle.

Size

Max. Length (N. Atlantic):
about 118 cm TL.

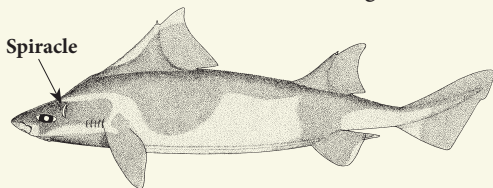




Photo by S. Iglésias

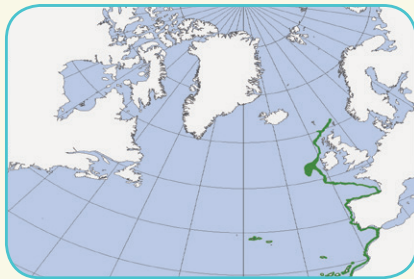
Fisheries

An uncommon bycatch of offshore trawling fleets and possibly longliners targeting deep-benthic squaloids.

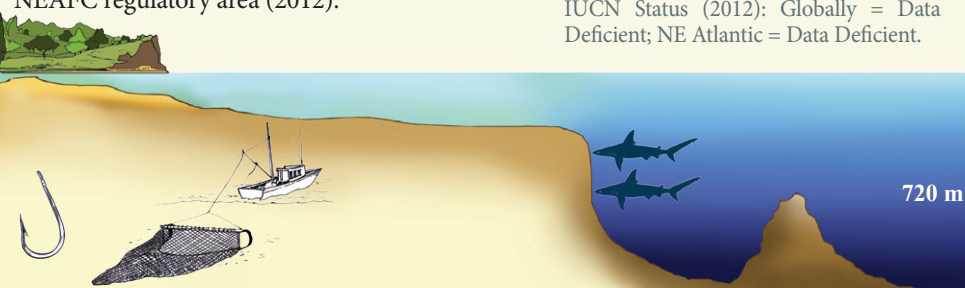
Under TAC regulation in EU (in 2012, TAC = 0). Technical measures in force in EU waters and NEAFC regulatory area (2012).

Bio-Ecology

Yolk-sac viviparous but nothing else known of its biology. This species was once filmed off the Azores by a remote operated vehicle which showed the shark swimming near the bottom and tipping its head downwards to the substrate.



IUCN Status (2012): Globally = Data Deficient; NE Atlantic = Data Deficient.

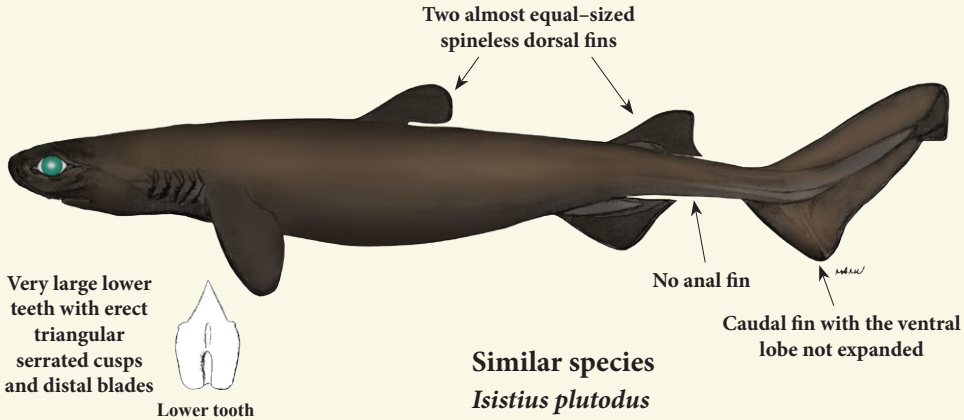


Kitefin shark - *Squale licha* - Carrocho

Dalatias licha (Bonnaterra, 1788)

SCK

Local names: Darkie charlie (UK); Schokoladenhai (Germany); Gata-lixia (Portugal); Chokladhaj (Sweden)



Distinctive characters

Short and blunt snout; papillose thick lips; first dorsal fin on back with its origin behind the pectoral rear tips and its base closer to the pectoral base than the pelvics.

Size

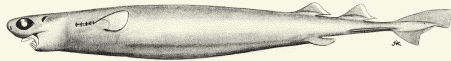
Max. Length (N. Atlantic):
Maximum to at least 159 cm,
possibly to 182 cm TL.



Similar species

Isistius plutodus

First dorsal insertion about over pelvic origins.



Squaliolus laticaudus

First dorsal fin with a spine (sometimes concealed by skin). Second dorsal base at least twice as long as first dorsal base; caudal paddle-shaped.





Photo by F. Serena

Fisheries

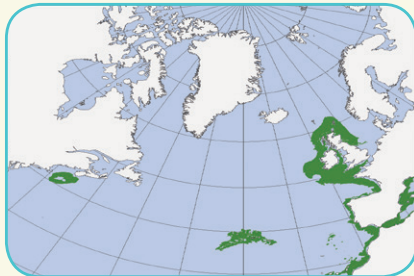
A directed fishery off the Azores collapsed after nearly 30 years of fishing pressure with catches declining from over 800 t in the mid-1980s to less than 1 t in 2000 and 2001.

Flesh is utilized for human consumption or processed for fishmeal and liver oil.

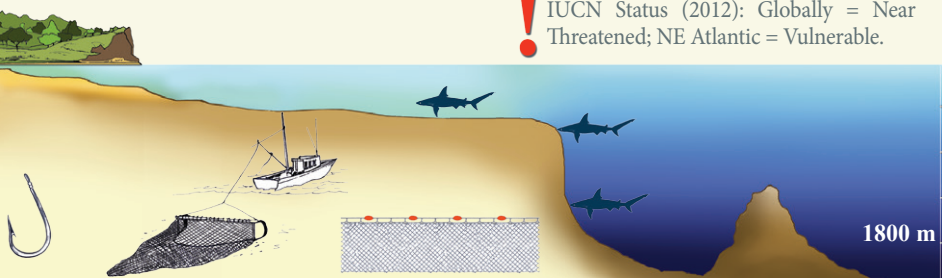
Under TAC regulation in EU (in 2012, TAC = 0). Technical measures in force in EU waters and NEAFC regulatory area (2012).

Bio-Ecology

Males mature at about 100 cm, females at about 120 cm. A common but sporadically distributed deepwater, warm-temperate and tropical shark of the outer continental and insular shelves and slopes from 37 to at least 1800 m; frequently on or near the bottom but readily ranges well off the substrate.



! IUCN Status (2012): Globally = Near Threatened; NE Atlantic = Vulnerable.



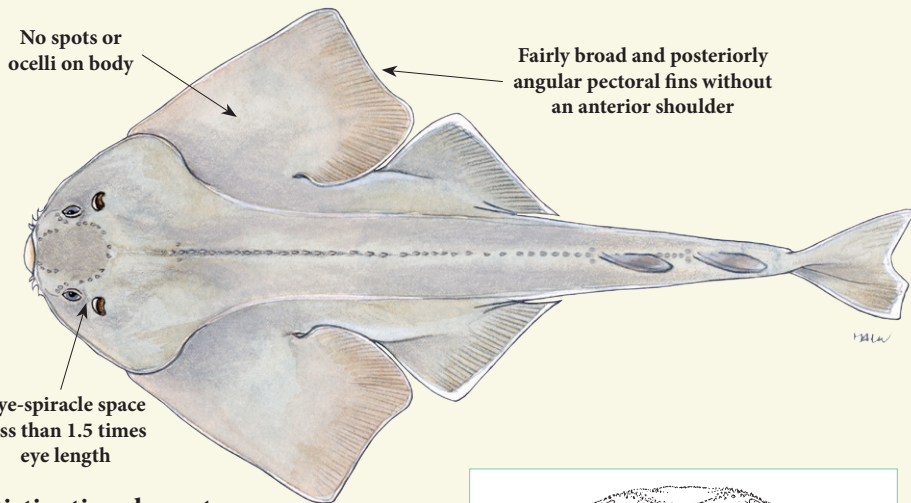
Kitefin shark

Sand devil - Ange de mer de sable - Tiburón ángel

Squatina dumeril Lesueur, 1818

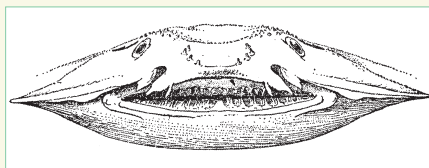
SUD

Local names: Atlantic angel shark, Monkfish (USA)



Distinctive characters

Simple, tapering nasal barbels and weakly fringed or smooth anterior nasal flaps; lateral head folds without triangular lobes.



Frontal view of head

Size

Max. Length (N. Atlantic): at least 134 cm, but possibly to 152 cm TL.





©NOAA

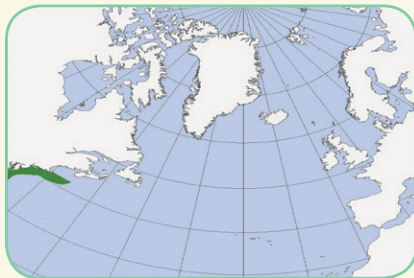
Bio-Ecology

Males mature at about 85 to 93 cm, a length slightly larger than females that mature at about 85 cm; viviparous with yolk-sac and only the left ovary functional. Found on the continental shelf and slope, on or near the bottom, from close inshore to 250 m.

Fisheries

Squatina dumeril is only taken as a bycatch species, mainly in the butterfish (*Peprilus burti*) bottom trawl fishery and to a lesser extent by shallow water shrimp trawls. Readily snaps at fishermen that catch it (hence the common name sand devil) and can inflict severe lacerations.

Listed as a prohibited species from directed commercial fisheries in the US (2012).



IUCN Status (2012): NW Atlantic = Data Deficient.



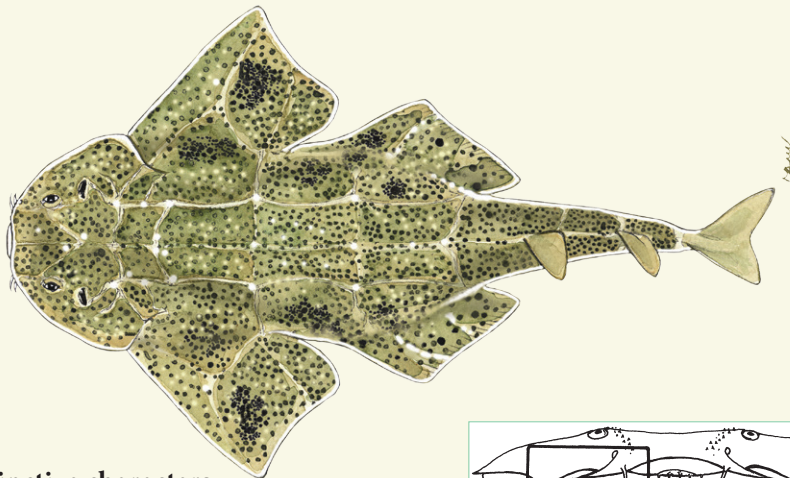
Sand devil

Angelshark - Ange de mer commun - Angelote

Squatina squatina (Linnaeus, 1758)

AGN

Local names: Monk fish (UK); Havengel (Denmark, Norway); Engelhai (Germany); Anjo (Portugal)

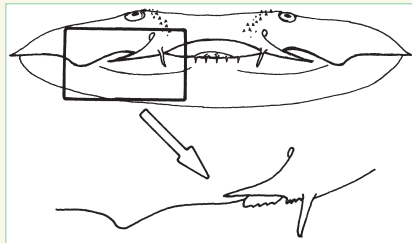


Distinctive characters

Broad trunk, simple; nasal barbels with a simple, straight or spatulate tip; smooth or weakly fringed anterior nasal flaps; lateral head folds with a single triangular lobe on each side.

Size

Max. Length (N. Atlantic): at least 183 cm and possibly to 244 cm TL.



Frontal view of head



Photo by S. Iglésias

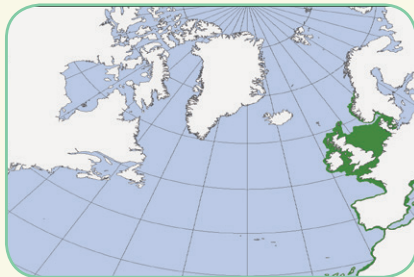
Bio-Ecology

Males mature between 80 and 132 cm, with a maximum length of 183 cm; females mature at 126 to 167 cm and generally larger than males. This shark prefers mud or sandy bottoms where it lies buried with little more than its eyes protruding.

Fisheries

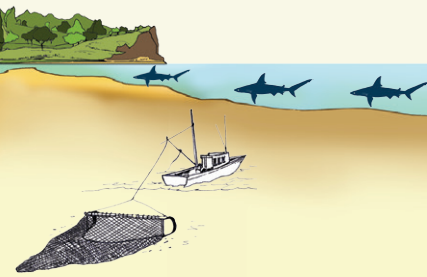
Fisheries for angel shark in the Eastern North Atlantic has largely ceased with the species having been extirpated from large areas of its distribution over the past 100 years.

The EU has prohibited the fishing for, retaining on board, transshipments or to land this species in and from EU waters (2012).



! IUCN Status (2012): NE Atlantic = Critically Endangered.

150 m



Angelshark

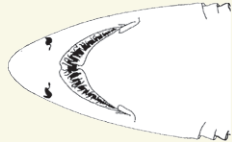
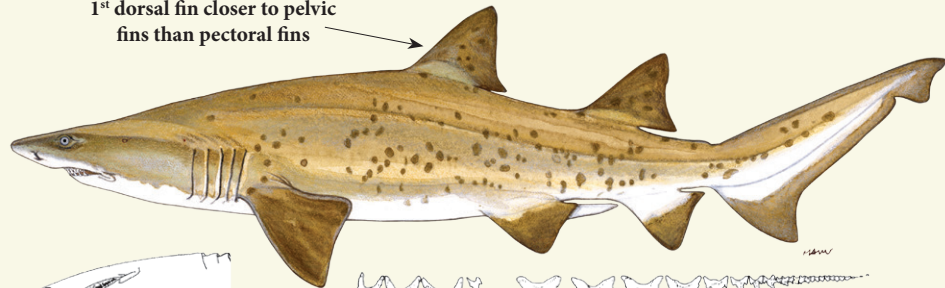
Sand tiger shark - Requin taureau - Toro bacota

Carcharias taurus Rafinesque, 1810

CCT

Local names: Sand tiger, Sand shark (USA)

1st dorsal fin closer to pelvic fins than pectoral fins



Underside of Head



Upper and lower teeth

Distinctive characters

A large stout bodied shark with a short, slightly flattened snout; mouth long with large distinctly prominent teeth; first dorsal fin similar in size to second dorsal and anal fins.

Size

Max. Length (N. Atlantic):
about 320 cm TL.



Similar species

Odontaspis ferox

First dorsal fin much larger than second dorsal and anal fins and closer to pectoral-fin bases than pelvic-fin bases; snout conical and long; two rows of large upper teeth on each side of jaw symphysis.

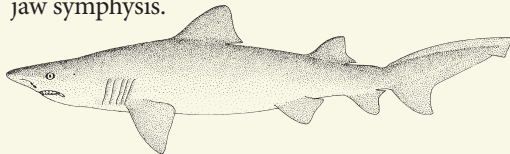




Photo by R. McAuley

Bio-Ecology

Males mature at 190 to 195 cm, females at 220 to 230 cm.

Found quite close inshore also in bays and estuaries, on sandy or muddy areas, and on rocky or coral reefs.

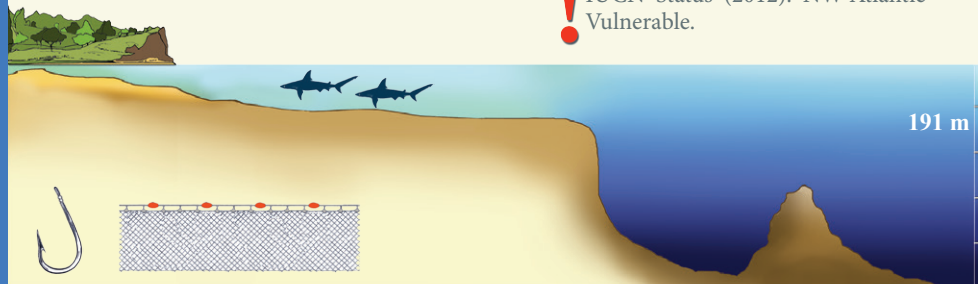
Fisheries

Once abundant in the U.S. these sharks experienced sharp declines.

Protected and managed in U.S. waters since 1997 under the Highly Migratory Species Fishery Management Plan (FMP) whereby it is illegal to land this species or any parts of it either by commercial or recreational fishers (2012).



 IUCN Status (2012): NW Atlantic = Vulnerable.



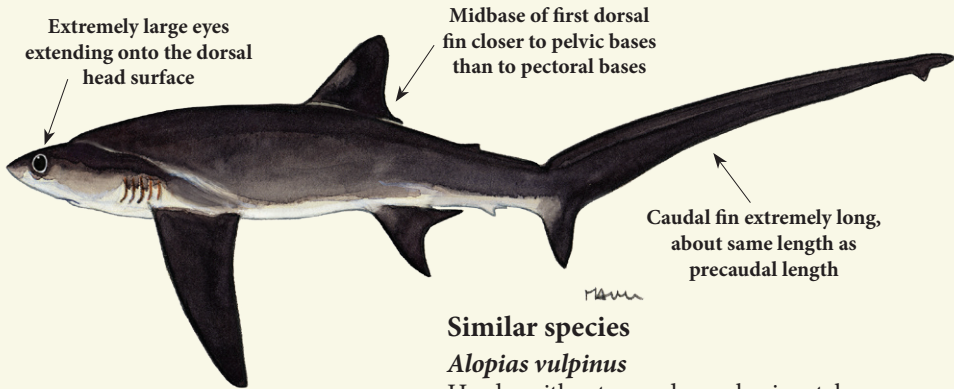
Sand tiger shark

Bigeye thresher – Renard à gros yeux – Zorro ojón

Alopias superciliosus Lowe, 1841

BTH

Local names: Bigeye thresher (UK, USA); Tubarão raposo (Portugal, Azores)



Distinctive characters

Head with distinct lateral grooves extending from above the eyes to behind the gill slits (appearing helmet-like).

Size

Max. Length (N. Atlantic):
about 484 cm TL.



Similar species

Alopias vulpinus

Head without a deep horizontal groove extending around each side. Eyes relatively smaller, with orbits not expanded onto the dorsal head surface. Base of first dorsal fin about equidistant between pectoral and pelvic-fin bases or closer to pectoral-fin bases.

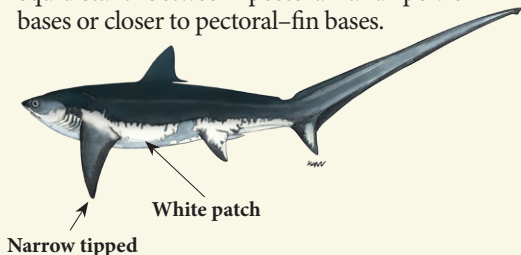




Photo by R. Bonfil

Fisheries

Landings are not generally reported to species. In the NE Atlantic relatively small numbers of this shark have been reported but this may be an underestimate as it is landed with the common thresher shark.

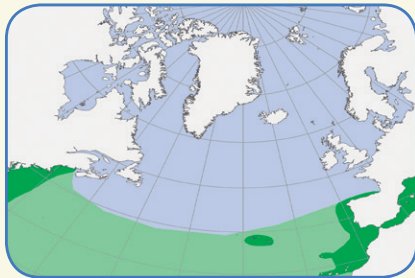
In the NW Atlantic this is a prohibited species in U.S. waters (2012). The EU has prohibited directed fishery and retaining on board, transshipping or landing any part or whole carcass of this species in the ICCAT Convention Area (2012).



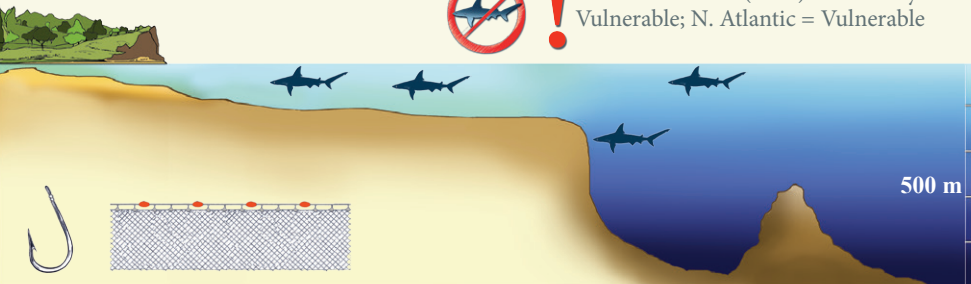
Bio-Ecology

Males mature between 270 and 290 cm, females between 332 and 356 cm.

It occurs on the continental shelf, but also in the open ocean far from land; it exhibits a strong diel movement pattern: during the day, between 300 and 500 m; at night moving to depths between 10 and 100 m.



! IUCN Status (2012): Globally = Vulnerable; N. Atlantic = Vulnerable



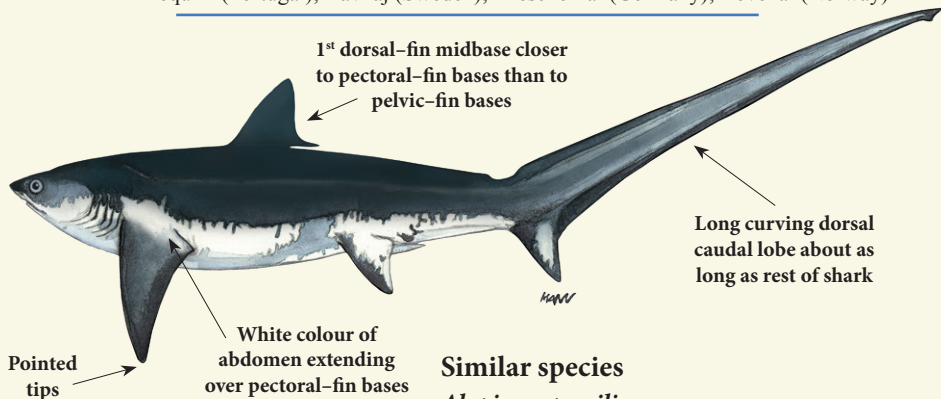
Bigeye thresher

Thresher – Renard – Zorro

Alopias vulpinus (Bonnaterre, 1788)

ALV

Local names: Common thresher shark (UK); Singe de mer (France); Tubarão raposo, Zorro (Azores); Arequim (Portugal); Rävhaj (Sweden); Drescherhai (Germany); Revehai (Norway)



Distinctive characters

Head broad, but without deep grooves extending along each side of head; eyes relatively small, with orbits not expanded onto the dorsal head surface.

Size

Max. Length (N. Atlantic):
at least 575 cm and possibly
635 cm TL.



Similar species

Alopias superciliosus

Head with a deep horizontal groove extending around each side. Eyes very large, with orbits expanded onto the dorsal head surface. Base of first dorsal fin closer to pelvic bases than to pectoral bases.

Deep groove





©RV DR Fridtjof Nansen

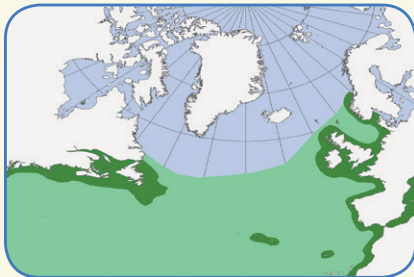
Fisheries

In U.S. Atlantic waters, recreational fishers have a limit of one shark per day and land relatively low numbers of this thresher shark. In the NE Atlantic they are retained as a bycatch in longline fisheries (for swordfish and tunas) and gillnet fisheries.

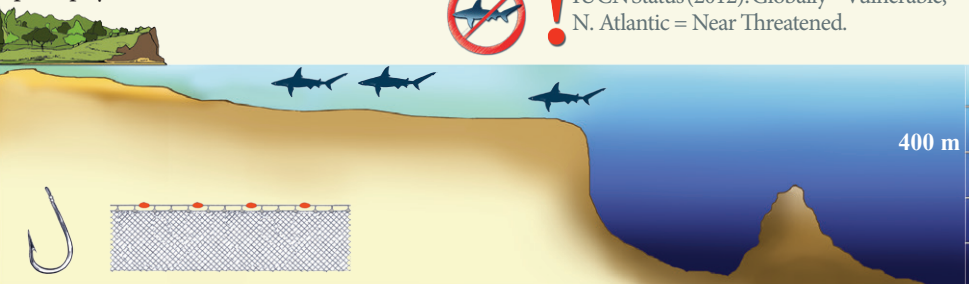
The EU has prohibited any directed fishery for thresher sharks (*Alopias* spp.) in the ICCAT area (2012). When accidentally caught it shall be promptly released.

Bio-Ecology

Males mature from 260 to 420 cm and females from 260 to 465 cm. Found inshore, including enclosed bays and lagoons; also occurs far from landmasses, but appears to be most abundant within 70 km of land. A strong swimming, active shark, that migrates northwards seasonally following warm-water masses.



! IUCN Status (2012): Globally = Vulnerable;
N. Atlantic = Near Threatened.



Thresher

Basking shark - Pèlerin - Peregrino

Cetorhinus maximus (Gunnerus, 1765)

BSK

Local names: Brugde (Denmark, Norway); Reuzenhaai (the Netherlands); Tubarão frade (Portugal, Azores)
Riesenshai (Germany); Beinhákarl (Iceland); Brugda (Faroe Islands)



Distinctive characters

Huge, subterminal mouth with minute hooked teeth; caudal peduncle with strong lateral keels, and lunate caudal fin.

Size

Max. Length (N. Atlantic):
about 1000 to 1200 cm TL.



Similar species

The great size, enormous gill slits that virtually encircle the head, gill arches with well developed gill rakers for filter feeding, pointed snout, huge, subterminal mouth with minute hooked teeth, caudal peduncle with strong lateral keels, and lunate caudal fin distinguish this shark from all others.



Photo by F. Serena

Fisheries

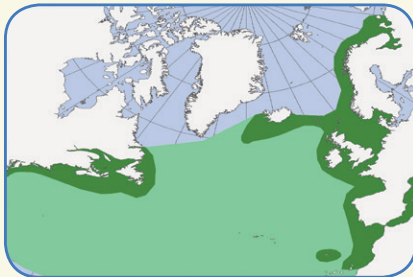
Fisheries for basking sharks historically began at least during the 17th and 18th centuries primarily for their liver oil (for vitamin A and lamp oil), skin for leather and flesh for human consumption. In recent years, their fins have become quite valuable in the shark-fin trade industry.

The EU has prohibited to fish for, to retain on board, to tranship or to land this species in EU and non-EU waters (2012). Directed fishery banned in Norway (2012).

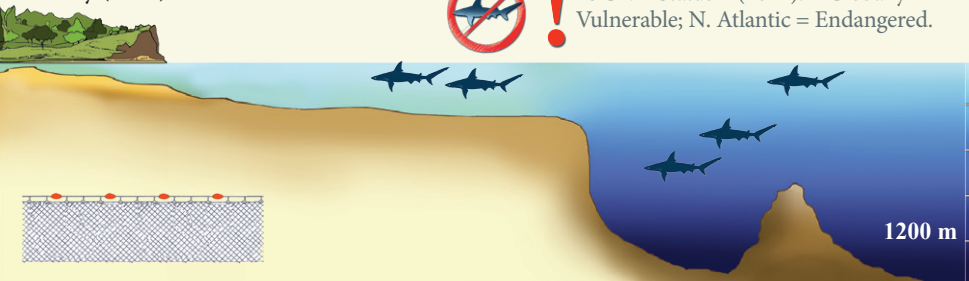


Bio-Ecology

Males mature at about 400 to 500 cm and females at about 800 to 900 cm. May be found from coastal waters to beyond the edge of the continental shelf, and from the surface to depths of over 1200 m. Often associated with oceanographic features such as fronts.



! IUCN Status (2012): Globally = Vulnerable; N. Atlantic = Endangered.

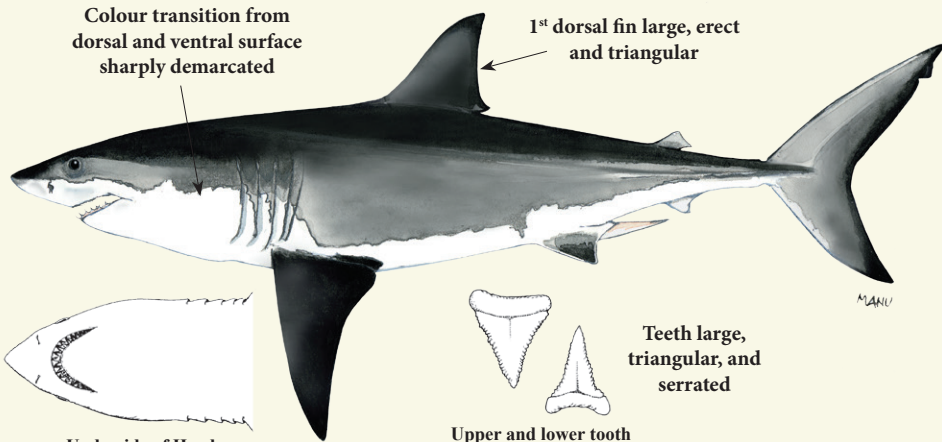


Great white shark – Grand requin blanc – Jaquetón blanco

Carcharodon carcharias (Linnaeus, 1758)

WSH

Local names: White shark (USA, Canada); Weißer Hai (Germany); Tubarão branco (Portugal)



Underside of Head

Upper and lower tooth

Teeth large,
triangular, and
serrated

Distinctive characters

A stout spindle-shaped body, with a conical snout; minute second dorsal and anal fins; no secondary caudal keel, and a large crescent-shaped caudal fin.

Size

Max. Length (N. Atlantic):
estimated at 600 to 640 cm TL.



Similar species

Isurus oxyrinchus

Upper teeth long, narrow, and without serrations. No lateral cusplets on teeth.

Upper and
lower tooth



Lamna nasus

Teeth long, narrow, and without serrations but with lateral cusplets on teeth.

Upper and
lower teeth



Photo by G. Burgess

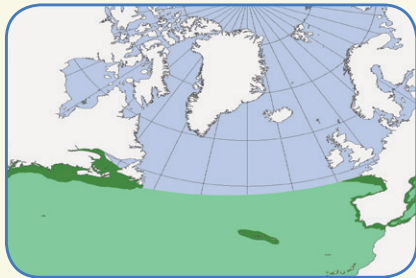
Bio-Ecology

Males mature between 360 and 400 cm with a maximum length of about 550 cm; females maturity uncertain, but thought to be between 450 and 500 cm. Coastal nearshore waters, including bays and estuaries, but are also oceanic, in the open ocean far from landmasses and around islands far from any mainland.

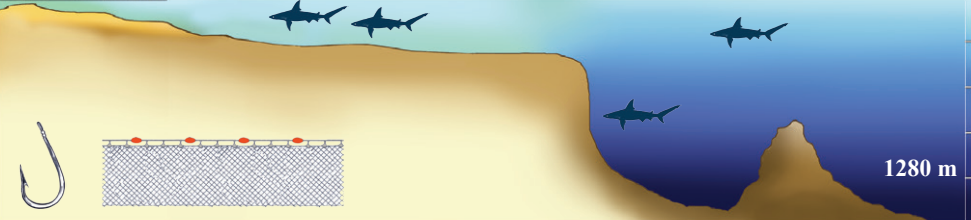
Fisheries

Great white sharks are a protected species by most countries fronting the North Atlantic in Areas 21 and 27, and as such are not targeted, but they are occasionally caught as bycatch by gillnets and longline fisheries targeting other fish species.

The EU has prohibited to fish for, to retain on board, to tranship or to land this species in EU and non-EU waters (2012).



- ! IUCN Status (2012): Globally = Vulnerable; N. Atlantic = Vulnerable.
- CITES (2012): Included in Appendix I.



1280 m

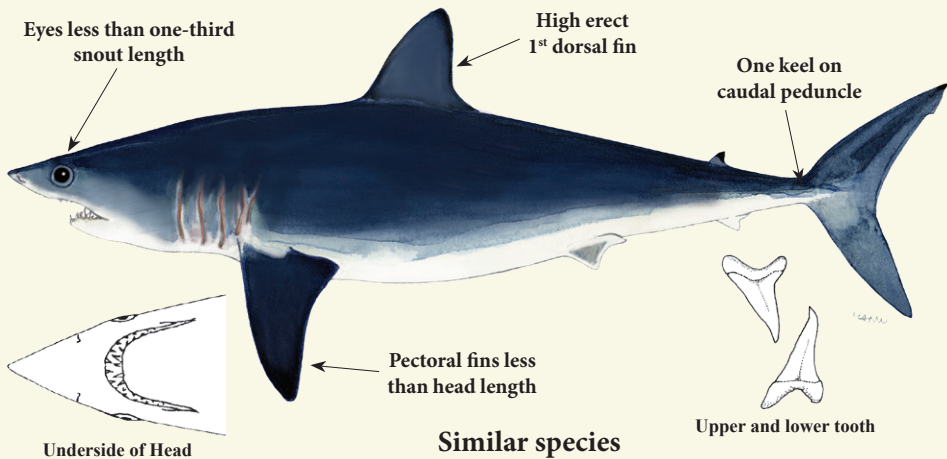
Great white shark

Shortfin mako – Taupe bleue – Marrajo dientuso

Isurus oxyrinchus Rafinesque, 1810

SMA

Local names: Mako shark, Mackerel shark (USA); Anequin, Rinquin (Portugal, Azores); Makrellhai (Norway)



Distinctive characters

Body moderately slender to relatively robust (especially in very large females), with a long, acutely pointed snout. Ventral surface of snout white.

Size

Max. Length (N. Atlantic):
about 400 cm TL.



Similar species

Isurus paucus

Ventral surface of snout and mouth dusky coloured; pectoral fins about equal to head length, and anal fin origin below or posterior to second dorsal-fin insertion.





Photo by S. Iglésias

Fisheries

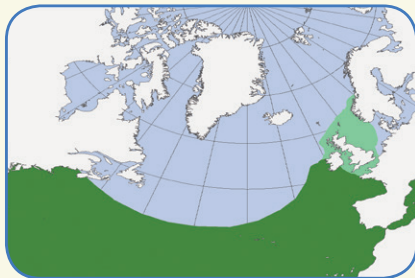
An important shark species in open ocean pelagic fisheries, taken in both target and non-target fisheries. Landing records historically underestimated due to a lack of accurate species identification, but recently they have improved due to increased reporting requirements adopted by ICCAT.

No catch limitations imposed by EU, but removal of fins and discarding of body is prohibited by EU and non-EU vessels in EU waters (2012).

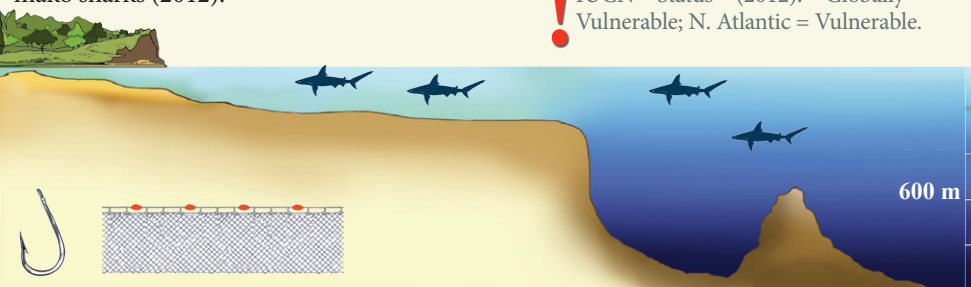
NMFS encourages the live release of shortfin mako sharks (2012).

Bio-Ecology

In the North Atlantic males mature at about 195 cm and females between 270 and 300 cm. Common in oceanic waters from the surface to at least 600 m.



 IUCN Status (2012): Globally = Vulnerable; N. Atlantic = Vulnerable.



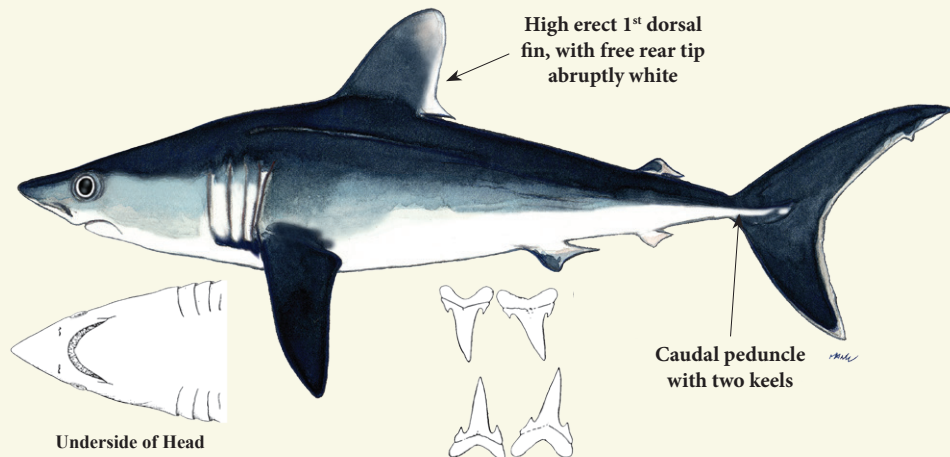
Shortfin mako

Porbeagle – Requin-taupe commun – Marrajo sardinero

Lamna nasus (Bonnaterre, 1788)

POR

Local names: Beaumaris shark (UK); Sildehaj (Denmark); Sillhaj (Sweden); Neushaai (the Netherlands); Marracho (Azores); Heringshai (Germany); Hámeri (Iceland); Håbrann (Norway)



Underside of Head

Upper and lower teeth

Distinctive characters

Stout fusiform-shaped body, with a relatively long, conical snout; prominent secondary caudal keels on crescent-shaped caudal fin.

Size

Max. Length (N. Atlantic):
355 cm TL.



Similar species

Lamna nasus can be distinguished from other similar mackerel sharks by its secondary keel on the caudal peduncle; the narrow teeth of *L. nasus* have small lateral cusps which are not present in *Isurus oxyrinchus*, although these small lateral cusps can be partly hidden in juveniles.



Photo by S. Iglésias

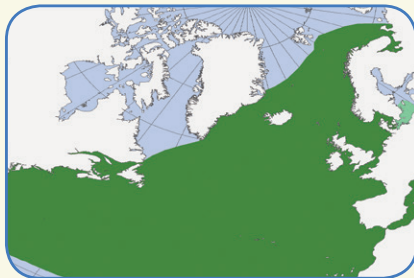
Bio-Ecology

Males mature at about 195 cm in the North Atlantic, females at about 245 cm. Coastal and oceanic found at high latitudes in the North Atlantic and in the southern oceans. This is one of the few shark species that readily occurs at high latitudes and in Arctic waters.

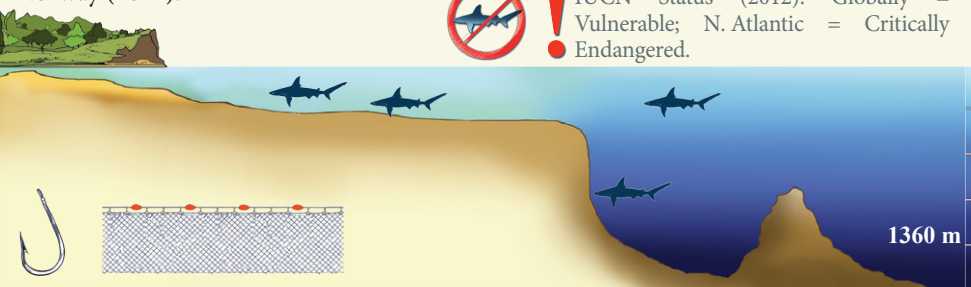
Fisheries

The main fishing countries in recent years have been France, and to a lesser extent Spain, the UK, and Norway. Also taken as bycatch in mixed fisheries in the UK, Ireland, France, and Spain (ICES, 2010).

The EU has prohibited to fish for, to retain on board, to tranship or to land this species in EU and non-EU waters (2012). When accidentally caught, specimens shall be unharmed and promptly released. Directed fishery banned in Norway (2012).



! IUCN Status (2012): Globally = Vulnerable; N. Atlantic = Critically Endangered.



Porbeagle

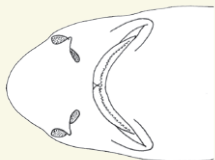
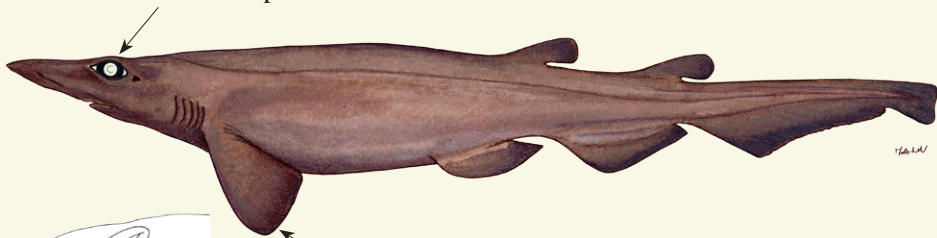
Iceland catshark – Roussette d’Islande – Pejegato islándico

Apristurus laurussonii (Saemundsson, 1922)

APQ

Local names: Atlantic ghost catshark (UK); Gíslaháfur (Iceland); Pejegato atlántico (Spain)

Eyes small, diameter more than
one-half interorbital space



Underside of head

Pectoral fins relatively large,
broad, and subquadrangular

Similar species

Scyliorhinus spp.

Supraorbital crests present on cranium, above eyes.

Galeus spp.

Labial furrows short or absent, when present not reaching upper symphysis.

Apristurus spp.

Body stout. Upper labial furrows subequal to or shorter than lowers.

Apristurus melanoasper

Pectoral fins relatively small, narrow, and subquadrangular.

Distinctive characters

Head broad and rather flattened, snout relatively short, with broad nostrils; labial furrows extremely long, uppers longer than lowers and reaching symphysis.

Size

Max. Length (N. Atlantic):
about 72 cm TL.





Photo by J. Poulsen

Fisheries

Relatively common as bycatch in deepsea bottom trawl fisheries but like most other members of this genus they are generally discarded at sea because they have no commercial value.

All *Apristurus* species are under TAC regulation in EU waters (in 2012, TAC = 0).

Prohibited species in the NEAFC Regulatory Area (2012).

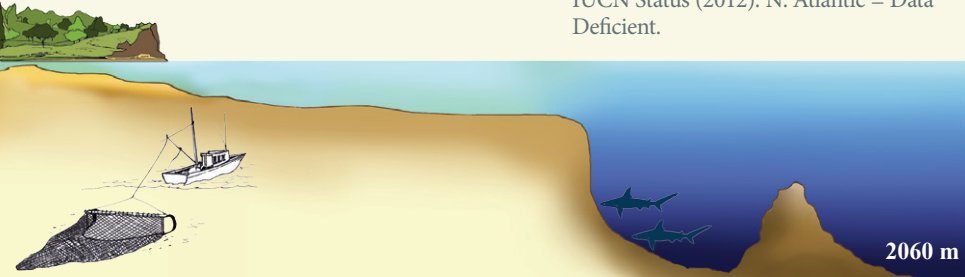
Bio-Ecology

Oviparous but nothing else known. Size at birth unknown but smallest known specimen measured 24.7 cm in length. Fairly common on the upper continental slopes, on or near the bottom below 560 m.

Bottom temperatures where this shark has been captured range from 1.7 °C to 4.3 °C.



IUCN Status (2012): N. Atlantic = Data Deficient.



2060 m

Iceland catshark



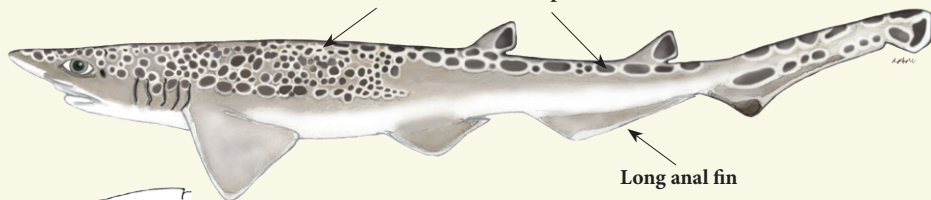
Blackmouth catshark - Chien espagnol - Pintarroja bocanegra

Galeus melastomus Rafinesque, 1810

SHO

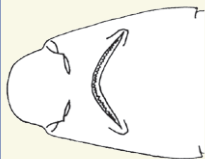
Local names: Blackmouthed dogfish, Blackmouth shark (UK); Ringhaj (Denmark); Hågäl (Sweden); Pata roxa (Portugal); Rodhaae (the Netherlands); Schwarzmaul-Katzenhai (Germany)

15-18 large, dark saddles and numerous smaller spots



Long anal fin

Labial furrows moderately long, not confined to mouth corners



Underside of head

Distinctive characters

Snout moderately long and pointed. Precaudal tail with base noticeably compressed. No crest of denticles on the preventral caudal margin. Labial furrow grooves white. Inside of mouth dark.

Size

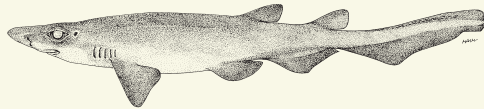
Max. Length (N. Atlantic): about 90 cm TL.



Similar species

Galeus murinus

A crest of denticles present on the preventral caudal margin as well as the dorsal margin.



Galeus atlanticus

No crest of denticles on the preventral caudal margin; labial furrow grooves black.





Photo by A. Lynghammar

Fisheries

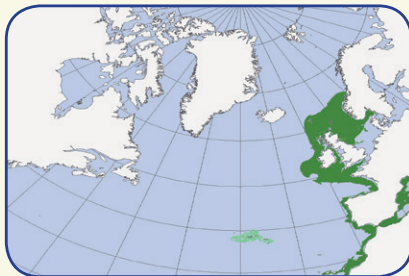
Caught as bycatch in bottom trawls in the Eastern North Atlantic. Reported landings between 2000 and 2009 averaged 154 t/year (FAO landings statistics), with Spain (average 114 t/year) reporting the majority of the landings followed by Portugal (average 35 t/year).

Under TAC regulation in EU waters (in 2012, TAC = 0) and prohibited species in the NEAFC Regulatory Area (2012).

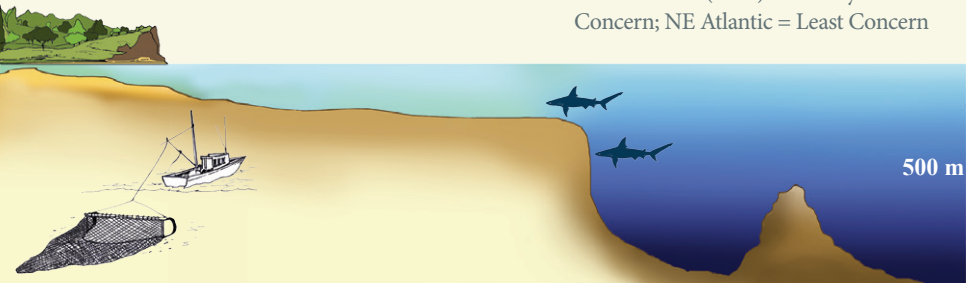
Bio-Ecology

Males mature between 34 and 42 cm, females between 39 and 45 cm.

Found in outer continental shelves and upper slopes mainly between 200 and 500 m but occasionally up to 55 m and down to 2000 m.



IUCN Status (2012): Globally = Least Concern; NE Atlantic = Least Concern



Blackmouth catshark



Small-spotted catshark - Petite roussette - Pintarroja

Scyliorhinus canicula (Linnaeus, 1758)

SYC

Local names: Lesser spotted dogfish (UK, USA); Katzenhai (Germany); Hondshaai (the Netherlands); Deplaháfur (Iceland); Smáplettet rødhaj (Denmark); Pata-roxa (Portugal); Småfläckig rødhaj (Sweden)



Labial furrows on lower jaw only

Underside of head

Distinctive characters

A slender, dark-spotted catshark with greatly expanded anterior nasal flaps, reaching mouth and covering shallow nasoral grooves.

Size

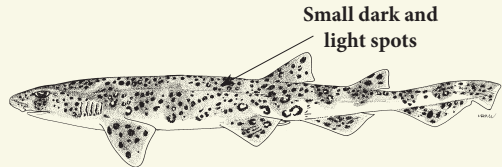
Max. Length (N. Atlantic):
about 80 cm TL.



Similar species

Scyliorhinus stellaris

Anterior nasal flaps not contacting each other at upper symphysis; no nasoral grooves between nostrils and mouth.





©RV DR Fridtjof Nansen

Fisheries

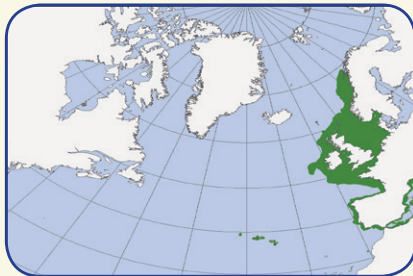
Moderately important commercial species in European waters. It is primarily taken by bottom trawls, but also by gillnets and longlines. It is utilized fresh and dried-salted for human consumption, and also landed for use as pot bait.

No catch limitations imposed by EU in 2012.

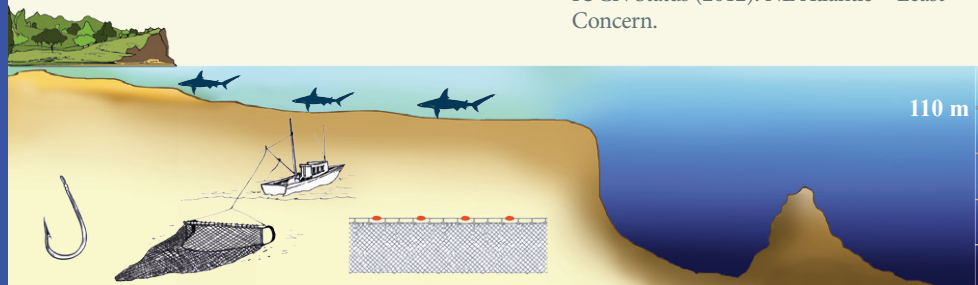
Bio-Ecology

North Eastern Atlantic males mature at 49 to 55 cm, females at 52 to 65 cm.

Abundant on the bottom of the continental shelves and uppermost slopes, on sandy, coralline algal, gravelly or muddy bottoms at depths from a few meters commonly down to 110 m; exceptionally to 400 m.



IUCN Status (2012): NE Atlantic = Least Concern.



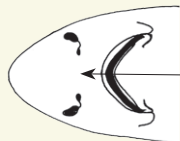
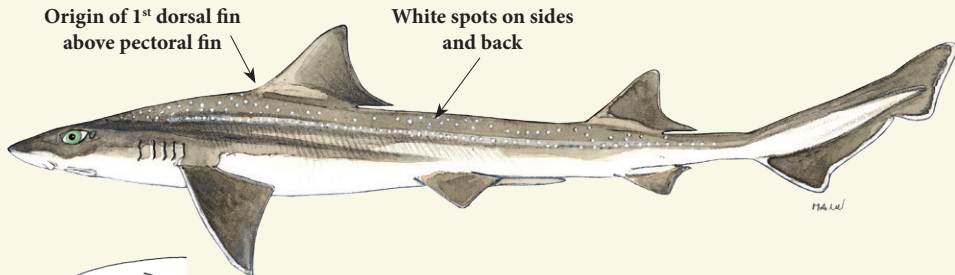
Small-spotted catshark

Starry smooth-hound - Émissole tachetée - *Musola dentuda*

Mustelus asterias Cloquet, 1821

SDS

Local names: Smooth hound (UK); Stjernehaj (Denmark); Nordlig hundhaj (Sweden); Caneja (Portugal)



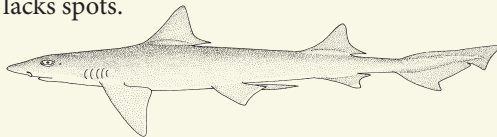
Underside of head

Relatively narrow internarial space

Similar species

Mustelus asterias is the only Eastern North Atlantic hound shark that has numerous white spots on the dorsal surface of the body, although these can be faint or lacking.

Mustelus mustelus (Eastern North Atlantic) lacks spots.



Galeorhinus galeus

Second dorsal fin small and of the same size of anal fin; very large caudal-fin lobe.

Distinctive characters

Body fairly slender. Head short. Upper labial furrows considerably longer than lowers. Buccopharyngeal denticles covering almost entire oral cavity.

Size

Max. Length (N. Atlantic): about 140 cm TL.



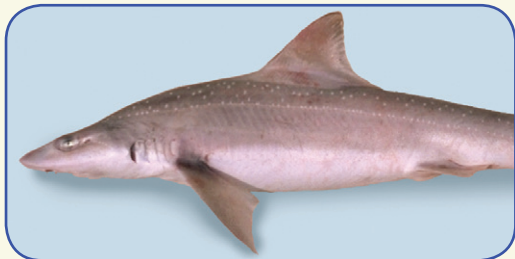


Photo by S. Iglésias

Fisheries

Smoothhound sharks are caught by bottom trawls, gillnets and occasionally longline; also taken by shore anglers. Both smoothhound shark species are reported in fishery landings, but these species are often misidentified.

Flesh is utilized for human consumption. Fins not utilized.

No catch limitations imposed by EU and other coastal states in 2012.

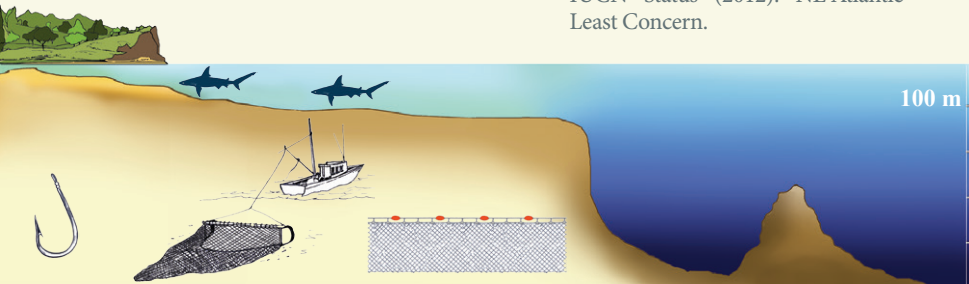
Bio-Ecology

Males mature between 72 and 85 cm, females at about 83 to 91 cm.

A common inshore and offshore shark of the continental and insular shelves, on or near bottom at depths from the intertidal down to at least 100 m. Prefers sandy and gravelly bottoms.



IUCN Status (2012): NE Atlantic = Least Concern.



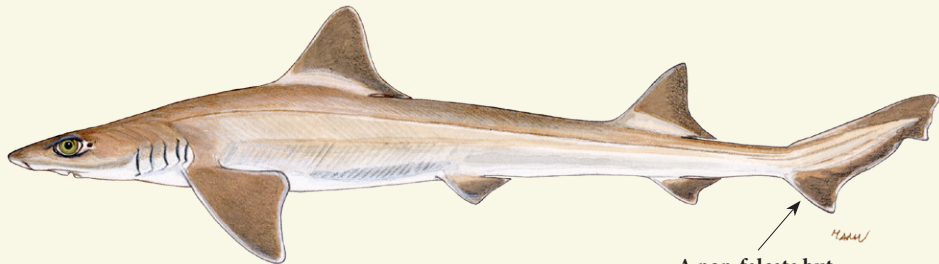
Starry smooth-hound

Dusky smooth-hound - Émissole douce - Boca dulce

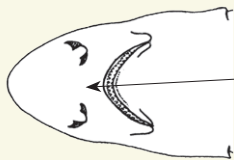
Mustelus canis (Mitchill, 1815)

CTI

Local names: Smooth houndshark, Smooth dogfish, Smooth dog (USA)

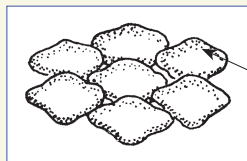


A non-falcate but moderately expanded ventral caudal lobe



Relatively broad internarial space

Underside of head



Low-crowned teeth with weak cusps

Teeth

Distinctive characters

A usually unspotted, large *Mustelus* with a short head and snout. Upper labial furrows somewhat longer than lowers.

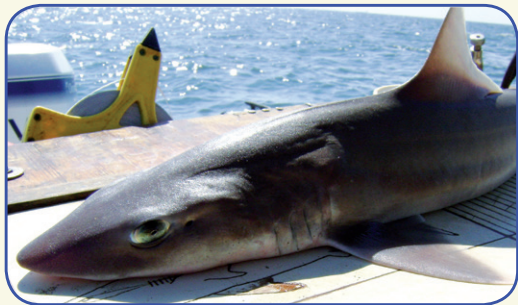
Size

Max. Length (N. Atlantic):
about 150 cm TL.



Similar species

This is the only smooth-hound shark that occurs in Area 21 (NW Atlantic).



©NOAA

Fisheries

Interest to fisheries considerable. Common to abundant where it occurs. Over the past decade (2000 to 2009) an average of about 400 t was landed annually in the United States (FAO landings statistics).

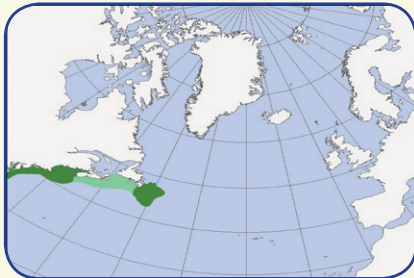
Flesh is utilized for human consumption.

No catch limitations imposed in 2012.

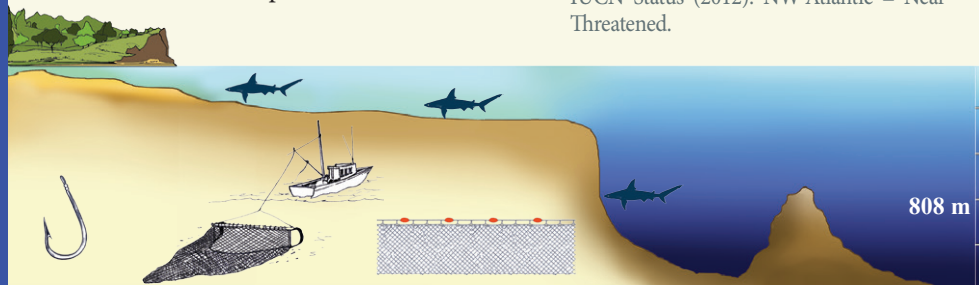
Bio-Ecology

Males mature at about 82 to 86 cm and females at about 90 to 102 cm.

A mostly bottom-dwelling shark of the continental and insular shelves and upper slopes ranging from shallow inshore waters and the intertidal zone down to 808 m.



IUCN Status (2012): NW Atlantic = Near Threatened.



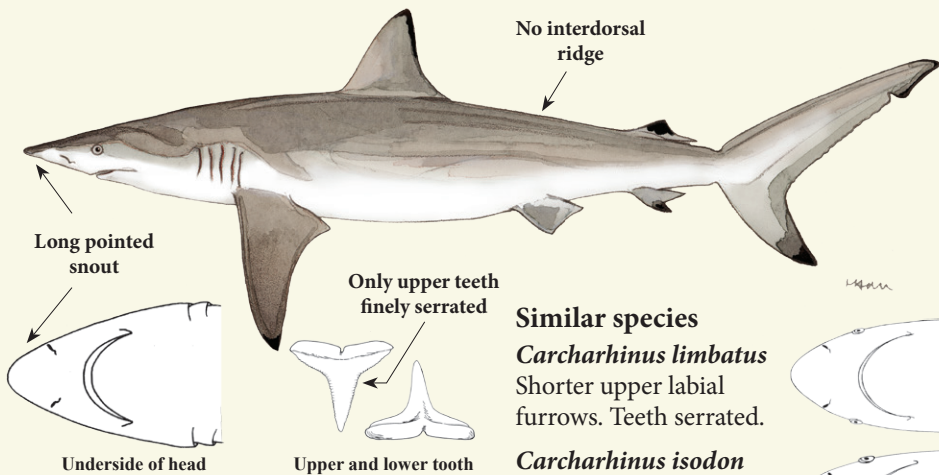
Dusky smooth-hound

Spinner shark - Requin tisserand - Tiburón aleta negra

Carcharhinus brevipinna (Müller and Henle, 1839)

CCB

Local names: Large black-tipped shark, Large blacktip shark (Western Atlantic); Tubarão-tecelão (Portugal)



No interdorsal ridge

Long pointed snout

Only upper teeth finely serrated

Underside of head

Upper and lower tooth

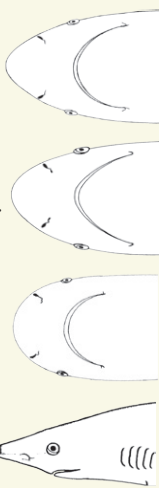
Similar species

Carcharhinus limbatus
Shorter upper labial furrows. Teeth serrated.

Carcharhinus isodon
Shorter upper labial furrows. Teeth smooth or weakly serrated in adults.

Carcharhinus leucas
Shorter and less pointed snout.

Carcharhinus acronotus
Tip of snout black.



Distinctive characters

A large fairly slender gray shark with unusually long (for a gray shark) upper labial furrows; usually black tips on most fins in juveniles to adults.

Size

Max. Length (N. Atlantic):
at least 278 cm TL.



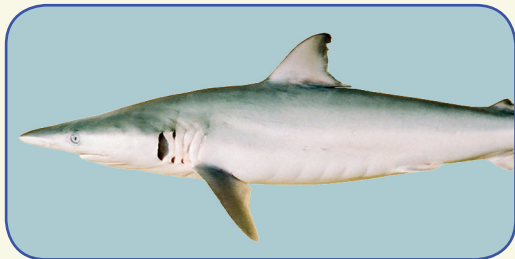


Photo by S. Iglésias

Fisheries

This is one of the more common inshore to offshore coastal sharks taken in recreational and commercial fisheries from about North Carolina to Florida.

Flesh is utilized for human consumption. Fins are utilized.

No catch limitations imposed by EU, but removal of fins and discarding of body is prohibited on EU vessels in all waters and non-EU vessels in EU waters (2012).

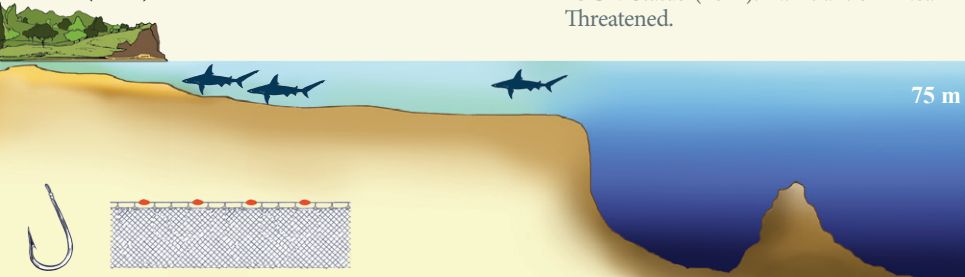
Bio-Ecology

Males mature at 159 to 203 cm and females at 170 to 200 cm.

A common coastal-pelagic shark of warm temperate and tropical seas occurring from close inshore to offshore; most common in shallow water. Highly migratory.



IUCN Status (2012): N. Atlantic = Near Threatened.



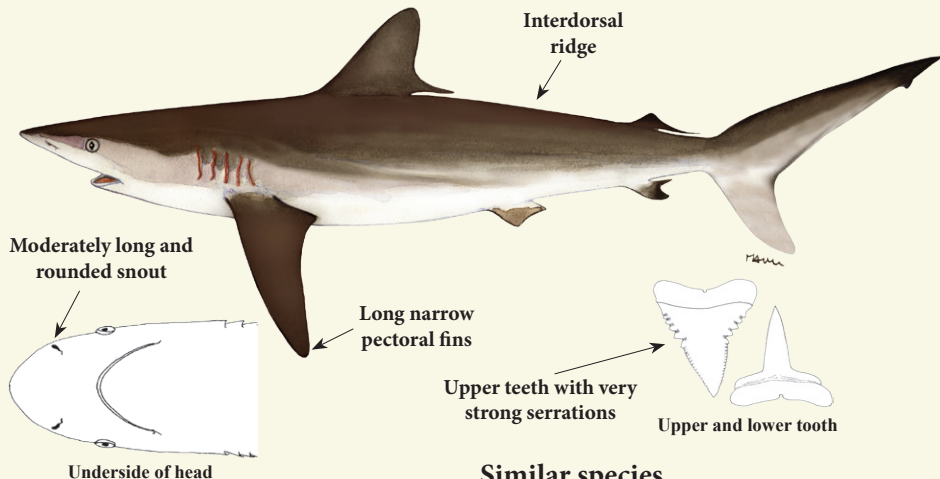
Spinner shark

Silky shark - Requin soyeux - Tiburón jaquetón

Carcharhinus falciformis (Müller and Henle, 1839)

FAL

Local names: Tubarão-luzidio (Portugal); Tiburón lustroso (Spain)



Distinctive characters

A large, dark, slim, oceanic gray shark; first dorsal-fin origin well behind pectoral-fins free rear tips; inner margin of second dorsal fin very long, usually over twice fin height.

Size

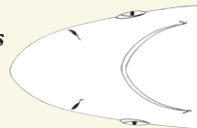
Max. Length (N. Atlantic):
about 330 cm TL.



Similar species

Carcharhinus signatus

Snout very long,
narrow and pointed.



Carcharhinus obscurus, *C. plumbeus* and *C. altimus*

First dorsal-fin origin over or anterior to pectoral-fin free rear tips. Inner margin of second dorsal fin shorter and generally less than twice fin height.



Photo by R. Bonfil

Fisheries

One of the most important shark species due to its abundance. It is regularly caught as a bycatch of offshore fisheries for large bony fishes.

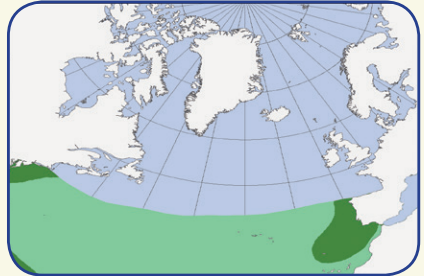
Flesh is utilized for human consumption. Fins are utilized. Liver is extracted for liver oil.

No catch limitations imposed by EU, but removal of fins and discarding of body is prohibited on EU vessels in all waters and non-EU vessels in EU waters (2012). Its retaining on board shall be prohibited in the ICCAT Convention Area (2012).

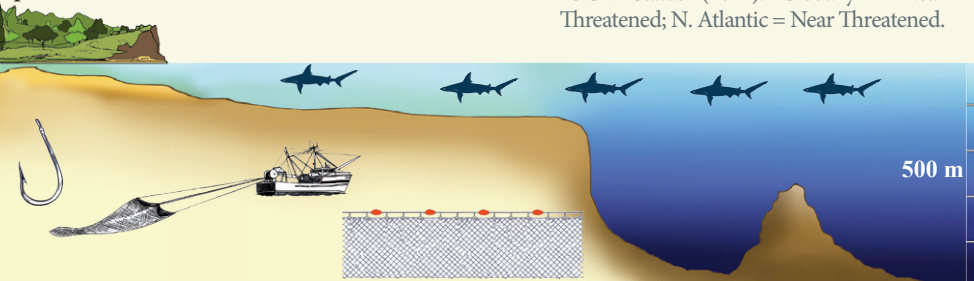
Bio-Ecology

Males mature at about 210 to 220 cm and females at 225 cm.

It occasionally occurs inshore where the water is as shallow as 18 m, but usually found beyond the 200 m isobath in the epipelagic zone.



IUCN Status (2012): Globally = Near Threatened; N. Atlantic = Near Threatened.



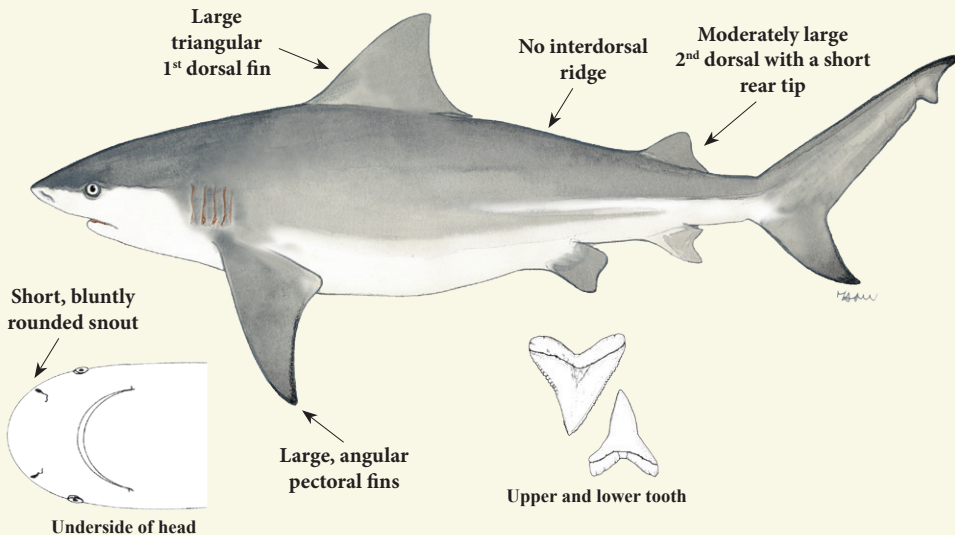
Silky shark

Bull shark - Requin bouledogue - Tiburón sarda

Carcharhinus leucas (Müller and Henle, 1839)

CCE

Local names: Roundnose shark, Ground shark (USA)



Distinctive characters

A large, stout gray shark; fins with dusky tips but not strikingly marked.

Size

Max. Length (N. Atlantic):
about 340 cm TL.



Similar species

Among those *Carcharhinus* shark without an interdorsal ridge:

Carcharhinus acronotus and *C. isodon* are relatively small sharks, while *C. brevipinna* and *C. limbatus* have relatively longer, pointed snouts, and are relatively slender bodied sharks.

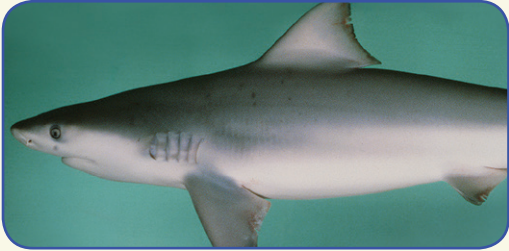


Photo by J.E. Randall

Fisheries

The bull shark is generally not targeted in North Atlantic fisheries due to it being less abundant relative to other species, but rather it is taken mostly as bycatch.

Flesh is utilized for human consumption. Fins are utilized. Liver is extracted for liver oil.

No catch limitations imposed by EU, but removal of fins and discarding of body is prohibited on EU vessels in all waters and non-EU vessels in EU waters (2012).

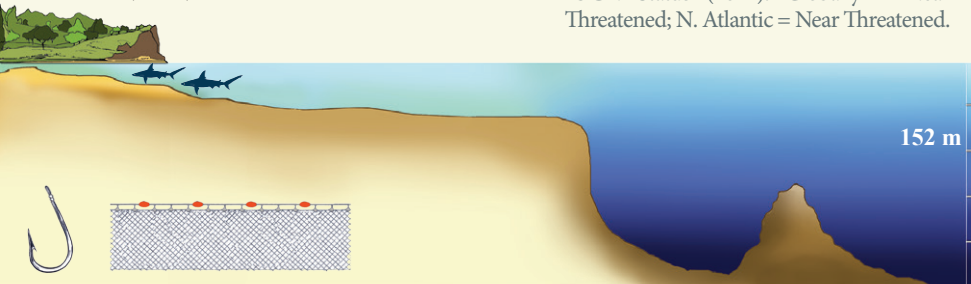
Bio-Ecology

Males mature at 157 to 226 cm and females between 180 and 230 cm.

A coastal, estuarine, riverine and lacustrine, tropical and subtropical shark usually found close inshore in marine habitats in water less than 30 m deep. Often found in muddy areas.



IUCN Status (2012): Globally = Near Threatened; N. Atlantic = Near Threatened.



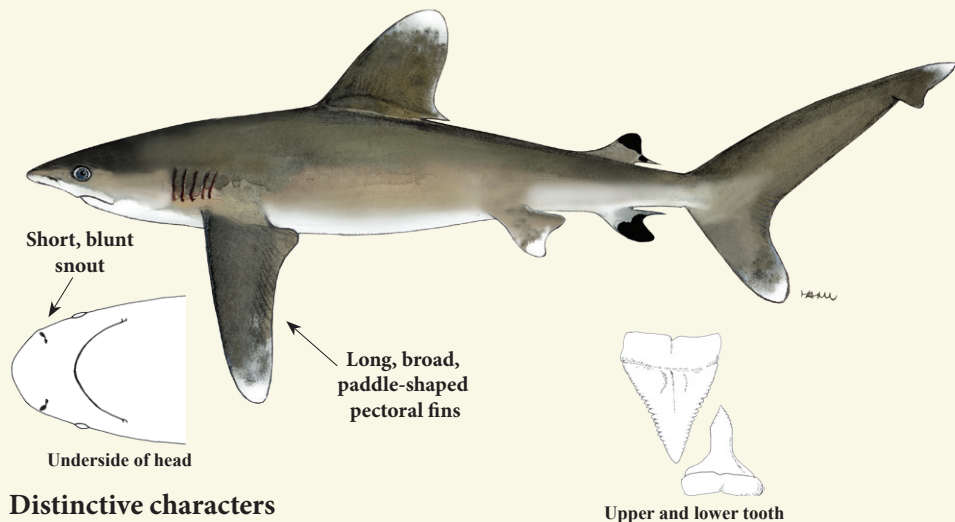
Bull shark

Oceanic whitetip shark - Requin océanique - Tiburón oceánico

Carcharhinus longimanus (Poey, 1861)

OCS

Local names: Whitetip shark (USA); Tubarão-de-pontas-brancas, Marracho (Portugal, Azores)



Distinctive characters

Large stocky shark; white tips and black markings on fins; black dorsal saddle-marks on the caudal peduncle in juveniles.

Size

Max. Length (N. Atlantic): possibly 350 to 395 cm, but mostly below 300 cm TL.



Similar species

All other *Carcharhinus* species have pectoral and first dorsal fins tapering distally and usually pointed or narrowly rounded. Fins not mottled white, often black tipped but without black saddles on the caudal peduncle.



©Apex Predators Program, NOAA/NEFSC

Bio-Ecology

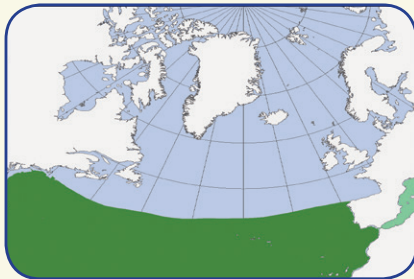
Males mature at 168 to 198 cm and females at about 175 to 200 cm. A common oceanic-epipelagic, occasionally coastal, tropical and warm-temperate shark usually found far offshore in the open sea.

Fisheries

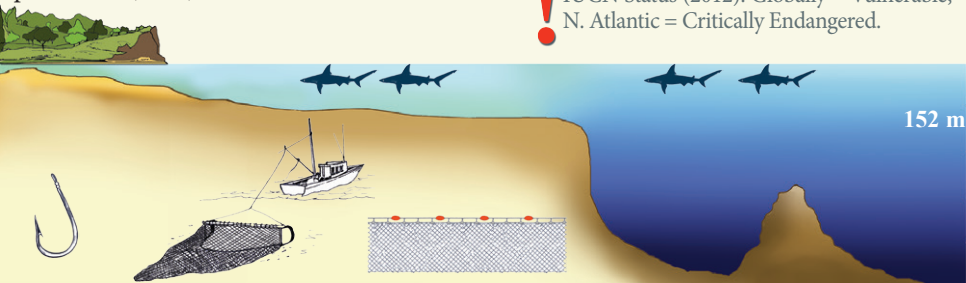
Regularly caught with pelagic longlines, probably pelagic gillnets, also handlines and occasionally pelagic and even bottom trawls.

Flesh is utilized for human consumption. Fins are utilized and of high value. Liver is extracted for liver oil.

Retaining on board, transshipping or landing any part or whole carcass of this species taken in any fishery in the ICCAT Convention Area shall be prohibited (2012).



! IUCN Status (2012): Globally = Vulnerable;
N. Atlantic = Critically Endangered.



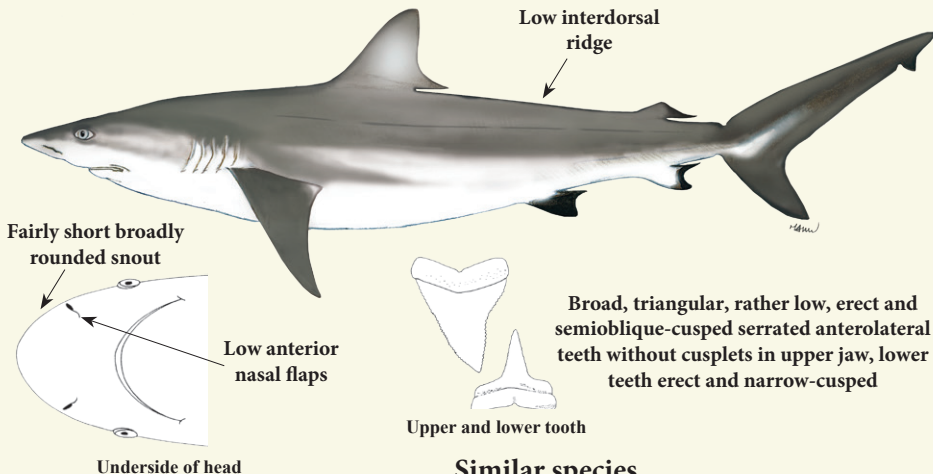
Oceanic whitetip shark

Dusky shark - Requin de sable - Tiburón arenero

Carcharhinus obscurus (Lesueur, 1818)

DUS

Local names: Bay shark, Brown shark, Shovelnose (USA); Tubarão-faqueta (Portugal)



Distinctive characters

A large gray shark with fairly large eyes. A moderate-sized first dorsal fin with a short rear tip and origin about opposite to free rear tips of pectoral fins.

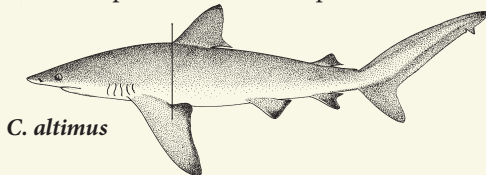
Size

Max. Length (N. Atlantic): possibly over 400 cm TL.



Similar species

Carcharhinus altimus and *C. plumbeus* have the first dorsal fin in front or over the pectoral insertions or at least nearer to them than to the pectoral free rear tips.





©Apex Predators Program, NOAA/NEFSC

Fisheries

A common offshore shark regularly caught with longlines, hook-and-line and set bottom nets. Flesh is utilized for human consumption. Fins are utilized and of high value.

No catch limitations imposed by EU, but removal of fins and discarding of body is prohibited on EU vessels in all waters and non-EU vessels in EU waters (2012).

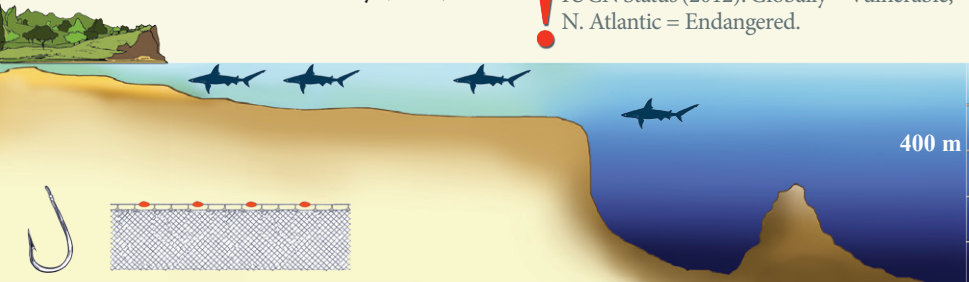
This species is protected in US Atlantic waters and must be released immediately (2012).

Bio-Ecology

Males mature at about 280 to 290 cm and females between 257 and 300 cm. A common, coastal-pelagic, inshore and offshore warm-temperate to tropical shark species of continental and insular shelves and oceanic waters adjacent to them.



! IUCN Status (2012): Globally = Vulnerable;
N. Atlantic = Endangered.



Dusky shark

Sandbar shark - Requin gris - Tiburón trozo

Carcharhinus plumbeus (Nardo, 1827)

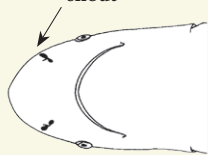
CCP

Local names: Brown shark (USA); Tubarão-corre-costa (Portugal); Tiburón de Milberto (Spain)

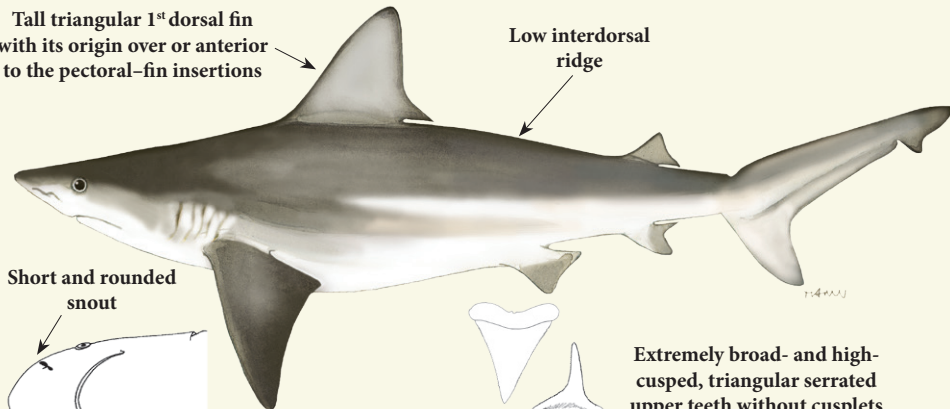
Tall triangular 1st dorsal fin with its origin over or anterior to the pectoral-fin insertions

Low interdorsal ridge

Short and rounded snout



Underside of head



Extremely broad- and high-cusped, triangular serrated upper teeth without cusplets

Upper and lower tooth

Distinctive characters

A medium-sized gray shark with large pectoral fins and no conspicuous markings on fins.

Size

Max. Length (N. Atlantic): possibly to 300 cm, usually to 239 cm TL or less for adults.



Similar species

Carcharhinus altimus

High interdorsal ridge and first dorsal fin lower, with height much less than half predorsal space.

Carcharhinus obscurus

First dorsal fin located opposite or in front of the pectoral-fin rear tips, or at least closer to them than the pectoral insertions.



Photo by J.E. Randall

Fisheries

Abundant inshore and offshore species and at one time formed an important targeted shark fisheries in the NW Atlantic.

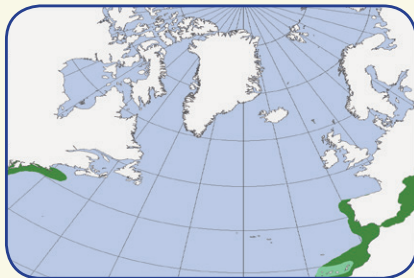
No catch limitations imposed by EU, but removal of fins and discarding of body is prohibited on EU vessels in all waters and non-EU vessels in EU waters (2012).

Prohibited from being taken under the U.S. Fishery Management Plan for Atlantic sharks (2012).

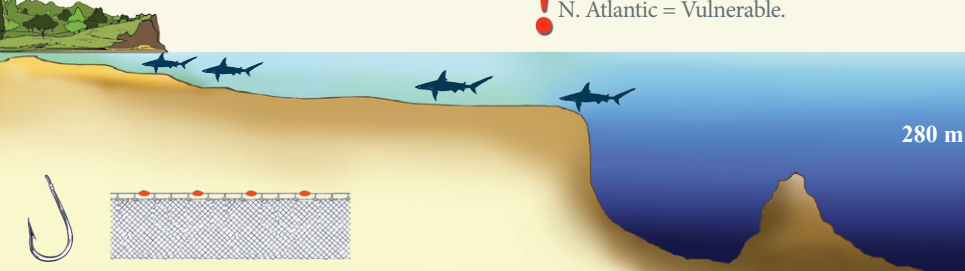
Bio-Ecology

Males mature at 131 to 178 cm and females at 144 to 183 cm.

Coastal-pelagic, found on continental and insular shelves and in deep water adjacent to them and oceanic banks; common at bay mouths, in harbors, inside shallow muddy or sandy bays, and at river mouths.



! IUCN Status (2012): Globally = Vulnerable;
● N. Atlantic = Vulnerable.



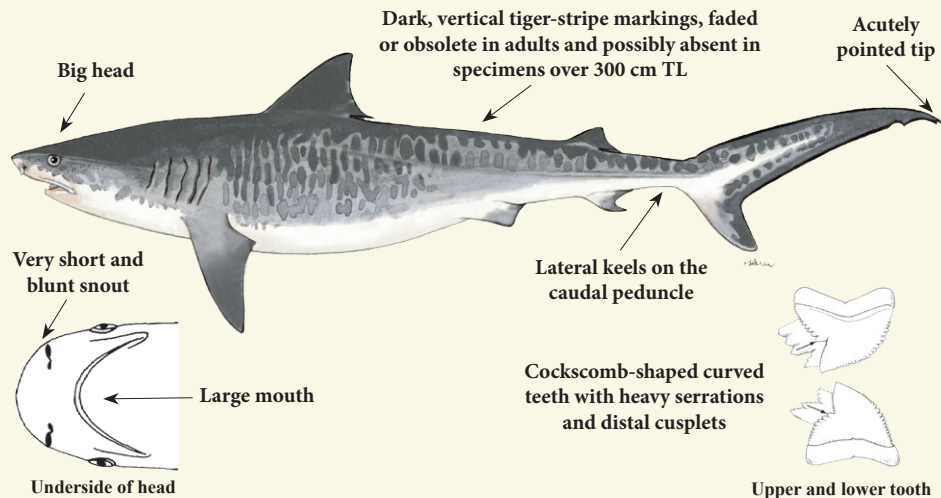
Sandbar shark

Tiger shark - Requin tigre commun - Tintorera tigre

Galeocerdo cuvier (Péron and Lesueur, 1822)

TIG

Local names: Spotted shark (UK); Tubarão tigre (Azores); Tigrisháfur (Iceland)



Distinctive characters

A large shark with a rather slender body behind the pectoral fins; long upper labial furrows that reach the eyes.

Size

Max. Length (N. Atlantic):
about 740 cm TL (unconfirmed);
most smaller than 500 cm TL.



Similar species

Galeocerdo cuvier is very distinctive and can be separated from other large local sharks by its vertical black or dusky striped pattern, large head, and prominent lateral keels on the caudal peduncle. Also, unlike other requiem sharks the tiger shark has spiracles.



Photo of a juvenile by R. Bonfil

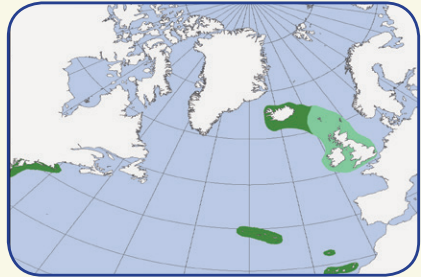
Bio-Ecology

Males mature between 226 and 292 cm and females between 250 and 350 cm. Wide-ranging coastal–pelagic shark, with a wide tolerance for different marine habitats. Not considered to be a truly oceanic species.

Fisheries

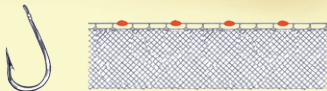
The tiger shark is commonly caught in coastal and offshore fisheries with longlines, hook and line, and fixed bottom nets as well as other gear. Flesh is utilized for human consumption. Fins are utilized and are of high value.

No catch limitations imposed by EU, but removal of fins and discarding of body is prohibited on EU vessels in all waters and non-EU vessels in EU waters (2012).



IUCN Status (2012): Globally = Near Threatened; N. Atlantic = Near Threatened.

140 m



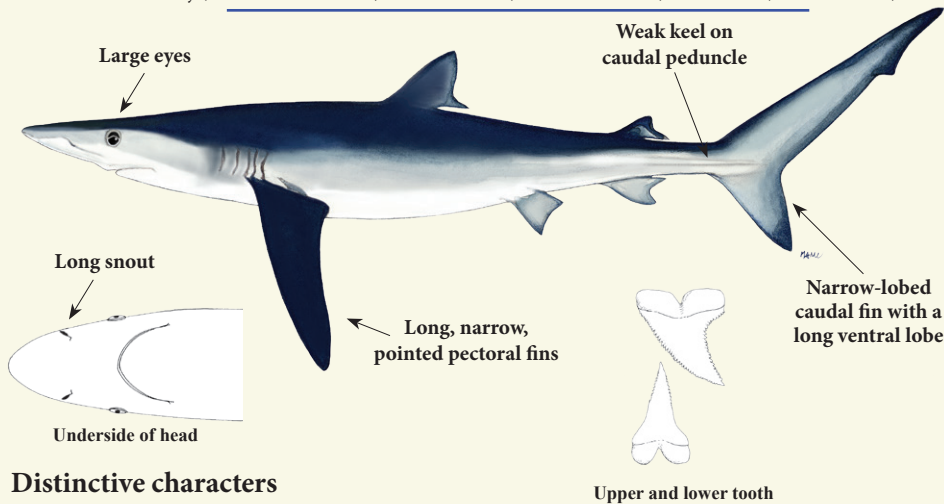
Tiger shark

Blue shark - Peau bleue - Tiburón azul

Prionace glauca (Linnaeus, 1758)

BSH

Local names: Blauer hai (Germany); Quelha, Tintureira, Veletina (Portugal); Tubarão azul (Azores); Blåhaj (Denmark, Sweden); Blauwe haai (the Netherlands); Bláhákur (Faroe Islands)



Distinctive characters

Dorsal coloration dark blue, bright blue on sides and abruptly white on the undersides. First dorsal fin closer to pelvic-fin bases than pectoral fins.

Size

Max. Length (N. Atlantic): about 383 cm; up to 480 cm, and possibly to 650 cm TL (unconfirmed).



Similar species

The very long pectoral fins and brilliant blue color distinguishes this shark from all others in the region.



Photo by G. Morey

Bio-Ecology

Males mature between 182 and 281 cm and females at 173 to 221 cm.

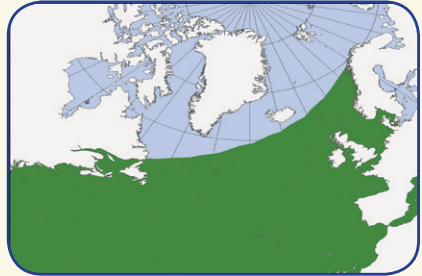
A wide-ranging, oceanic–epipelagic and fringe–littoral shark, occurring from the surface to at least 350 m depth; deeper in warm temperate and subtropical waters.

Fisheries

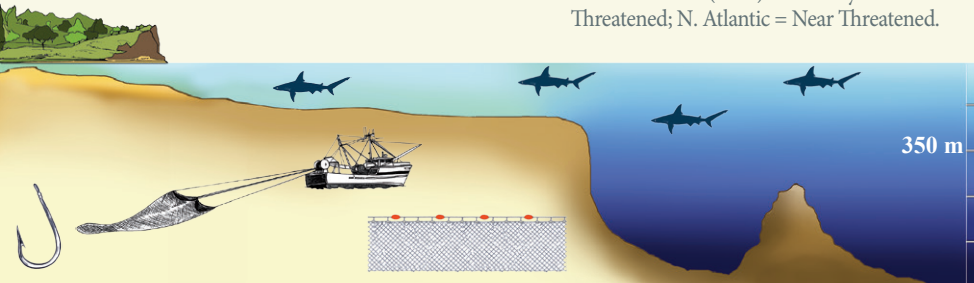
This common oceanic shark is usually caught with pelagic longlines, hook and lines and pelagic trawls.

Flesh is utilized for human consumption. Fins are utilized and are of high value.

No catch limitations imposed by EU, but removal of fins and discarding of body is prohibited on EU vessels in all waters and non–EU vessels in EU waters (2012).



IUCN Status (2012): Globally = Near Threatened; N. Atlantic = Near Threatened.



Blue shark

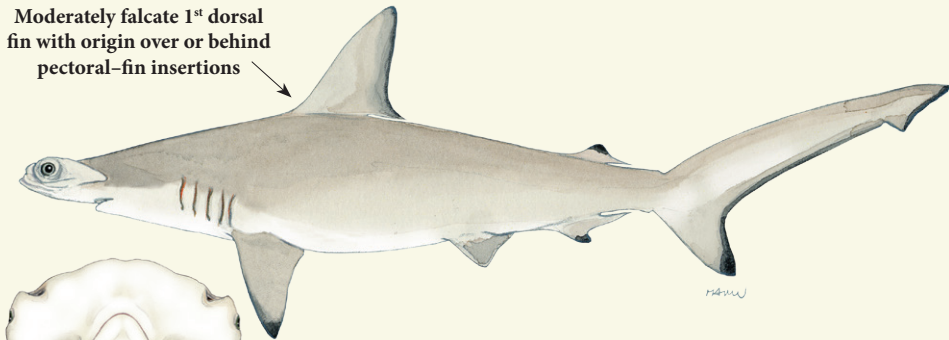
Scalloped hammerhead - Requin-marteau halicorne - Cornuda común

Sphyrna lewini (Griffith and Smith, 1834)

SPL

Local names: Tubarão-martelo-recortado (Portugal)

Moderately falcate 1st dorsal fin with origin over or behind pectoral-fin insertions



Underside of head

Distinctive characters

A large hammerhead with a broad, narrow-bladed head; anterior margin of head very broadly arched in adults and with a prominent median indentation.

Size

Max. length (N. Atlantic): about 370 cm TL.



Similar species

Sphyrna tiburo

Head shovel-shaped and narrow.



Sphyrna mokarran

Anterior margin of head nearly straight in adults.



Sphyrna zygaena

No median indentation on anterior margin of head.



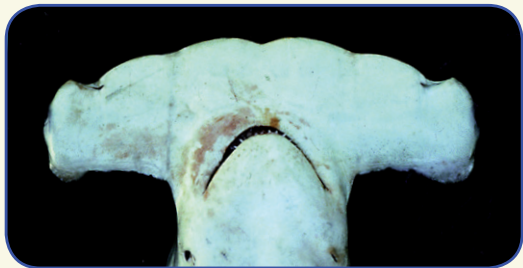


Photo by R. Bonfil

Fisheries

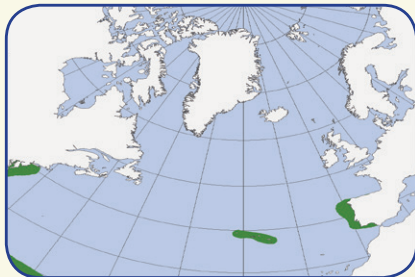
In the temperate waters of the Eastern North Atlantic this shark, is not very common. This species is very abundant in the Western North Atlantic.

Flesh is utilized for human consumption. Fins are utilized.

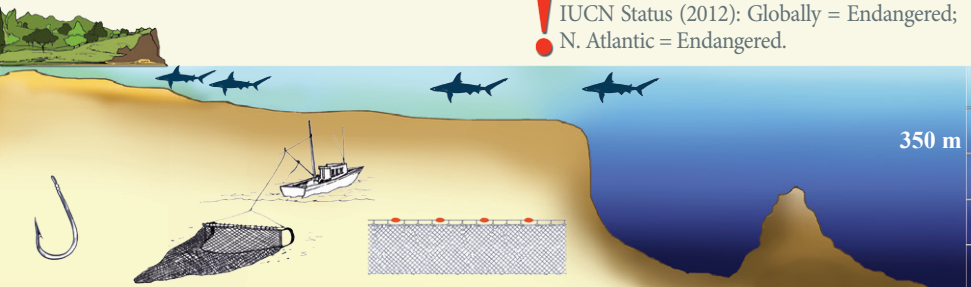
No catch limitations imposed by EU and other coastal states in 2012.

Bio-Ecology

Males mature at 140 to 165 cm and reach at least 295 cm; females mature at about 212 to 250 cm and reach at least 370 cm. A coastal-pelagic, semi-oceanic species occurring over continental and insular shelves and in deepwater adjacent to them, often approaching close inshore and entering enclosed bays and estuaries.



! IUCN Status (2012): Globally = Endangered;
● N. Atlantic = Endangered.



Scalloped hammerhead

Great hammerhead - Grand requin-marteau - Cornuda gigante

Sphyrna mokarran (Rüppell, 1837)

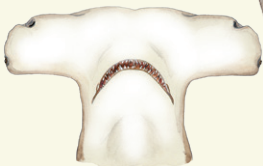
SPK

Local names: Marieau millet, Poisson pantouflier, Sorosena (France); Cornudo (Spain)

Strongly falcate 1st dorsal fin with rear tip in front of pelvic-fin origins

High 2nd dorsal fin with a strongly concave posterior margin

Deeply notched posterior anal-fin margin



Underside of head

Distinctive characters

A large hammerhead with anterior margin of head nearly straight in adults and with a median indentation.

Size

Max. Length (N. Atlantic):
between 550 and 610 cm TL.



Similar species

Sphyrna lewini

A prominent median indentation on anterior margin of head.



Sphyrna zygaena

No median indentation on anterior margin of head.





Photo by R. Bonfil

Fisheries

Interest to fisheries more limited than other large hammerheads, especially in the North Atlantic where this typically tropical hammerhead shark is relatively rare.

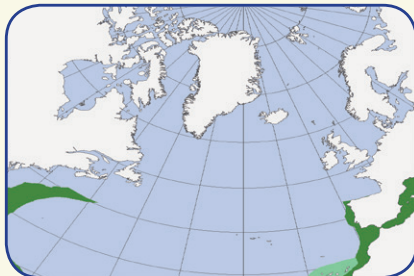
Flesh is utilized for human consumption. Fins are utilized.

No catch limitations imposed by EU and other coastal states in 2012.

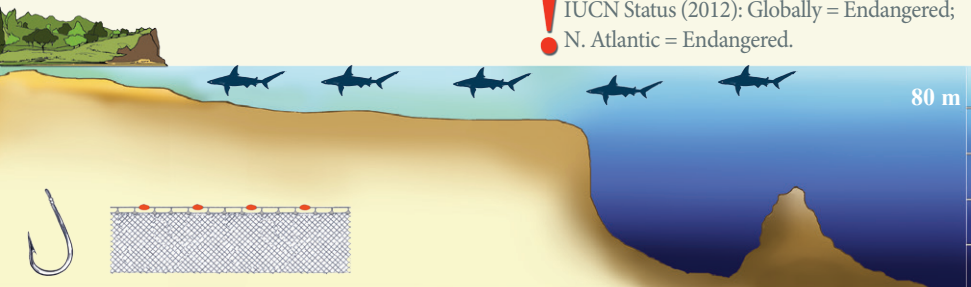
Bio-Ecology

Males mature at 234 to 269 cm, and grow to at least 380 cm; females mature at 250 to 300 cm and grow to at least 550 cm, possibly larger.

Can occur close inshore or well offshore, over the continental shelves, island terraces, and in passes and lagoons of coral atolls, as well as over deep water near land.



! IUCN Status (2012): Globally = Endangered;
● N. Atlantic = Endangered.



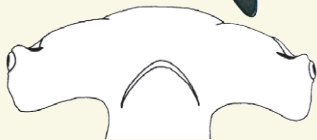
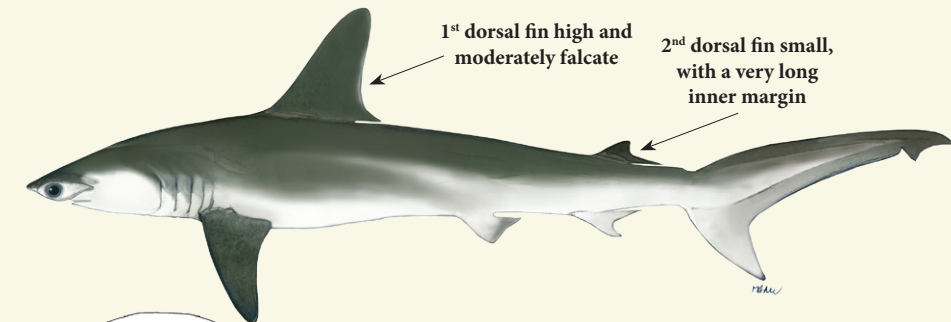
Great hammerhead

Smooth hammerhead - Requin-marteau commun - Cornuda cruz

Sphyrna zygaena (Linnaeus, 1758)

SPZ

Local names: Round-headed hammerhead shark (UK); Gemeiner Hammerhai, Schlägelfisch (Germany)
Cornuda (Portugal); Pez martillo, Tailandano (Spain)



Underside of head

Distinctive characters

A large hammerhead with a broad, narrow-bladed head, anterior margin of head broadly arched in adults and without a median indentation.

Size

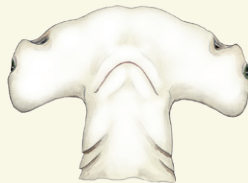
Max. Length (N. Atlantic):
about 370 to 400 cm TL.



Similar species

Sphyrna lewini

A prominent median indentation on anterior margin of head.



Sphyrna mokarran

Anterior margin of head nearly straight in adults.





Photo by R. McAuley

Fisheries

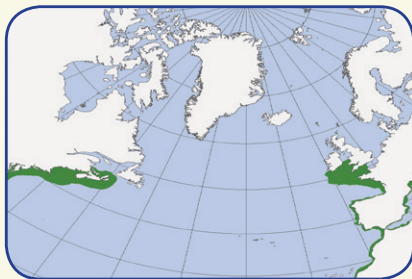
Taken in fisheries worldwide where it occurs. Along the Atlantic coast of the U.S. it is far less common than *Sphyrna lewini* by a ratio of about 10 to 1. In the Eastern North Atlantic it is recorded as part of the hammerhead shark complex.

Flesh is utilized for human consumption. Fins are utilized.

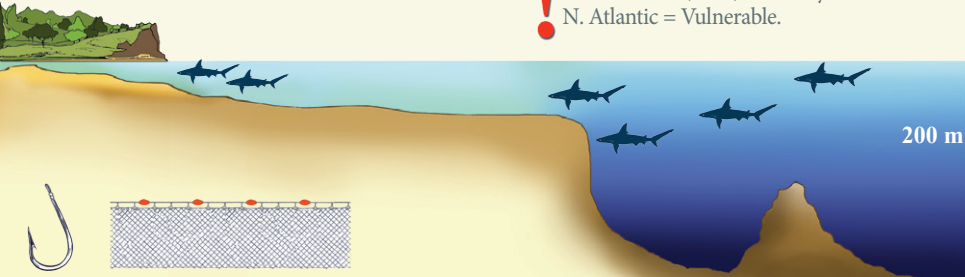
No catch limitations imposed by EU and other coastal states in 2012.

Bio-Ecology

Adults maturing at about 210 to 240 cm. The most cool water tolerant member of the family; rarely found in tropical waters. This active swimming coastal-pelagic and semi-oceanic hammerhead is found close inshore and in shallow water over continental and insular shelves to well offshore.



! IUCN Status (2012): Globally = Vulnerable;
N. Atlantic = Vulnerable.



Smooth hammerhead

POCKET GUIDE INDEX

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Centrophorus squamosus - Leafscale gulper shark
Deania calcea - Birdbeak dogfish
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Etmopterus princeps - Great lanternshark
Etmopterus spinax - Velvet belly
Centroscymnus coelolepis - Portuguese dogfish
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Prionace glauca - Blue shark
Sphyrna lewini - Scalloped hammerhead
Sphyrna mokarran - Great hammerhead
Sphyrna zygaena - Smooth hammerhead

A fully illustrated Catalogue of the Sharks, Batoid Fishes, and Chimaeras of the North Atlantic is included in a CD attached to this pocket guide. The volume includes detailed information of the 11 orders, 32 families, 66 genera, and 148 species of cartilaginous fishes occurring in the North Atlantic.

This Pocket Guide presents a fully illustrated identification guide to a selection of shark species of the North Atlantic, encompassing FAO Fishing Areas 21 and 27. It includes 38 species selected as being most relevant to commercial fisheries, vulnerable to exploitation due to their life history characteristics, or are taken in large numbers as discarded bycatch. Information under each species account includes FAO common names, local names, scientific name, FAO 3-alpha code, a colour illustration of the species lateral view and often illustrations of anatomical details, main field marks and diagnostic features, size and main distinctive characters of similar species occurring in the area. Moreover, it includes a photograph of the species, information on fisheries, fishing methods, EU, non-EU, and RFMOs regulations in force in 2012, geographic distribution, conservation status, whether it is a prohibited species, if the fins are marketed, zones of occurrence and maximum depth of commonly caught specimens. The pocket guide is aimed at providing a quick reference and identification tool for the sharks of the North Atlantic. The pocket format and the plastic support make it an easy-to-carry tool that can be used in wet environments and underwater.

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