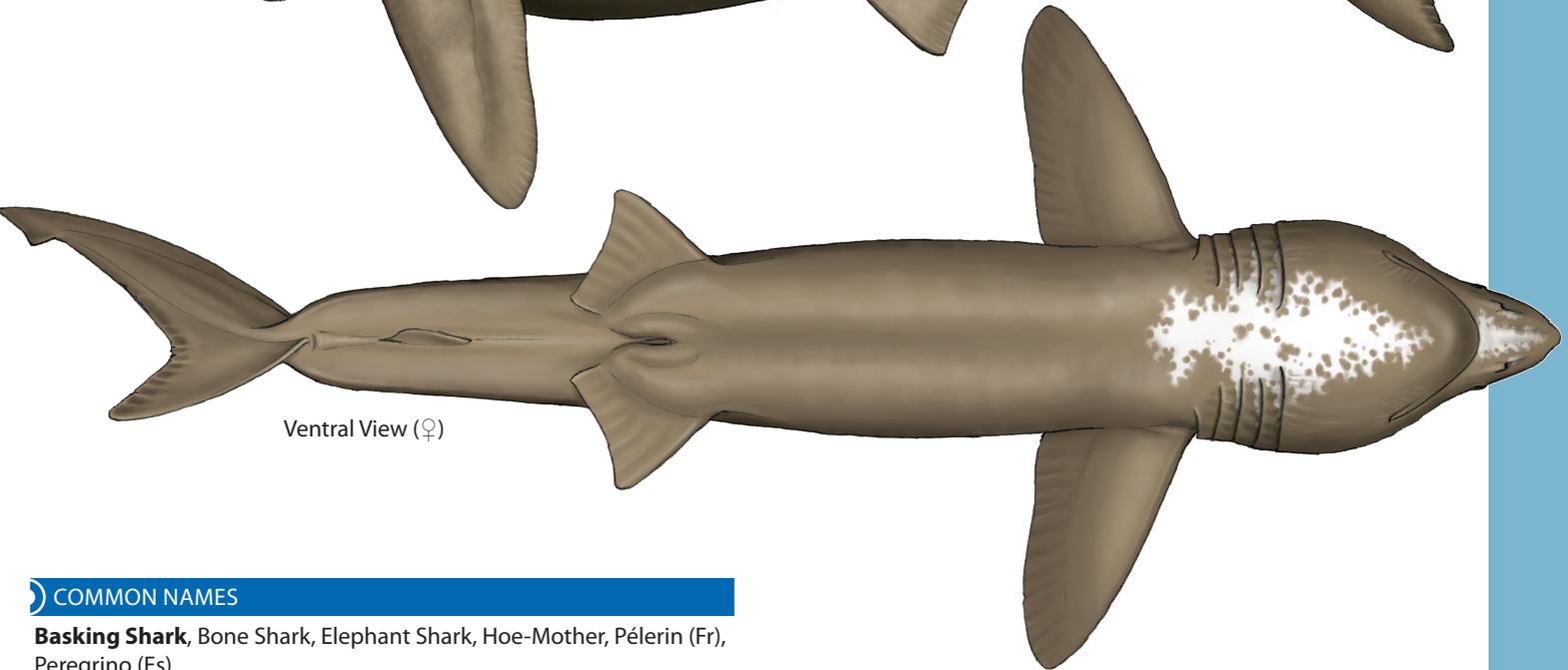


Lateral View (♀)



Ventral View (♀)



COMMON NAMES

Basking Shark, Bone Shark, Elephant Shark, Hoe-Mother, Pélerin (Fr), Peregrino (Es).

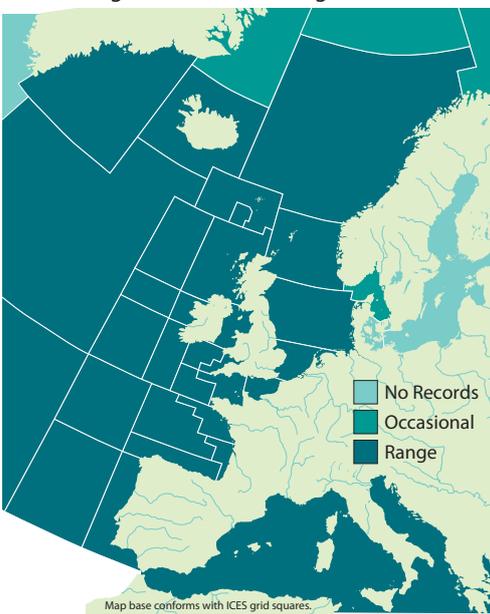
SYNONYMS

Squalus maximus (Gunnerus, 1765), *Halsydrus pontoppidani* (Neill, 1809), *Tetoras angiova* (Rafinesque, 1809), *Squalus aunnerianus* (Blainville, 1810), *Squalus homianus* (Blainville, 1810), *Squalus pelegrinus* (Blainville, 1810), *Squalus peregrinus* (Blainville, 1811), *Squalus qunneri* (Blainville, 1816), *Squalus shavianus* (Blainville, 1816), *Scoliophis atlanticus* (Anon., 1817), *Squalus isodus* (Macri, 1819), *Squalus rostratus* (Macri, 1819), *Squalus elephas* (LeSueur, 1822), *Squalus rasleighanus* (Couch, 1838), *Squalus rhinoceros* (Mitchell,

in DeKey, 1842), *Squalus cetaceus* (Gronow, 1854), *Polyprosopus macer* (Couch, 1962), *Cetorhinus blainvillei* (Brito Capello, 1870), *Selachus pennantii* (Cornish, 1885), *Cetorhinus maccoyi* (Barrett, 1933), *Cetorhinus maximus forma infanuncula* (Deinse and Adriani, 1953), *Cetorhinus maximus normani* (Siccardi, 1960), *Halsydrus maximus* (Gunnerus, 1765), *Halsydrus maccoyi* (Barrett, 1933), *Cetorhinus rostratus* (Macri, 1819), *Cetorhinus normani* (Siccardi, 1960)

DISTRIBUTION

The Basking Shark has a circumglobal distribution although it appears to be fairly disjunct with limited genetic exchange between populations. In the east Atlantic it is known from Russia and northern Norway, Iceland, the British Isles, all through the Mediterranean Sea and as far south as Senegal. It is also found in Namibia and South Africa. In the northwest Atlantic it is found from Canada to the northern Gulf of Mexico and in the southwest Atlan-



tic it is known from southern Brazil to southern Argentina and the Falkland Islands.

In the west Pacific it can be found in south Australia and New Zealand, further north in Japan, the Korean Peninsula, Taiwan and China. In the northeast Pacific It is known from the Gulf of Alaska to the Gulf of California, including the Aleutian Islands and further out, the Hawaiian Islands. In the southeast Pacific it can be found from Ecuador to southern Chile.

Currently only one species of Cetorhinidae is recognised but Siccardi (1960, 1961) suggested that there are four distinct species; *C. maximus* and *C. rostratus* in the North Atlantic and Mediterranean, *C. normani* in the western South Atlantic and *C. maccoyi* from southern Australia. While most authors disagree with this assessment it appears that due to limited genetic interchange between stocks, distinct sub-populations may exist. These could be a North Pacific population (with possible distinction between the northeast and northwest Pacific), a North Atlantic population (with possible distinction between the northeast and northwest Atlantic and the Mediterranean Sea), a South American population (with possible distinction between the southwest Atlantic and the southeast Pacific), a South African population (including Namibia) and an Australia-New Zealand population (if not separate) (Compagno, 2001).

APPEARANCE

- Enormous gill slits which nearly encircle the head.
- Pointed snout.
- Huge subterminal mouth with minute hooked teeth.
- Eyes tiny relative to body size.
- Large first dorsal, pectoral and pelvic fins.
- Small second dorsal and anal fin.
- Lunate caudal fin with subterminal notch and lobe.
- Blackish to grey-brown, grey or blue-grey dorsally.
- Similar although sometimes lighter ventrally.
- Often irregular light blotches on underside of head and abdomen.
- Flanks sometimes with lighter striping and spots.
- To a maximum of 1,220cm but most do not exceed 980cm.

The Basking Shark is an enormous species which is difficult to confuse with any other in the northeast Atlantic. Its gills are elongated and stretch almost completely around the head. Whilst feeding these gills billow out in a way reminiscent of spinnakers, revealing the modified

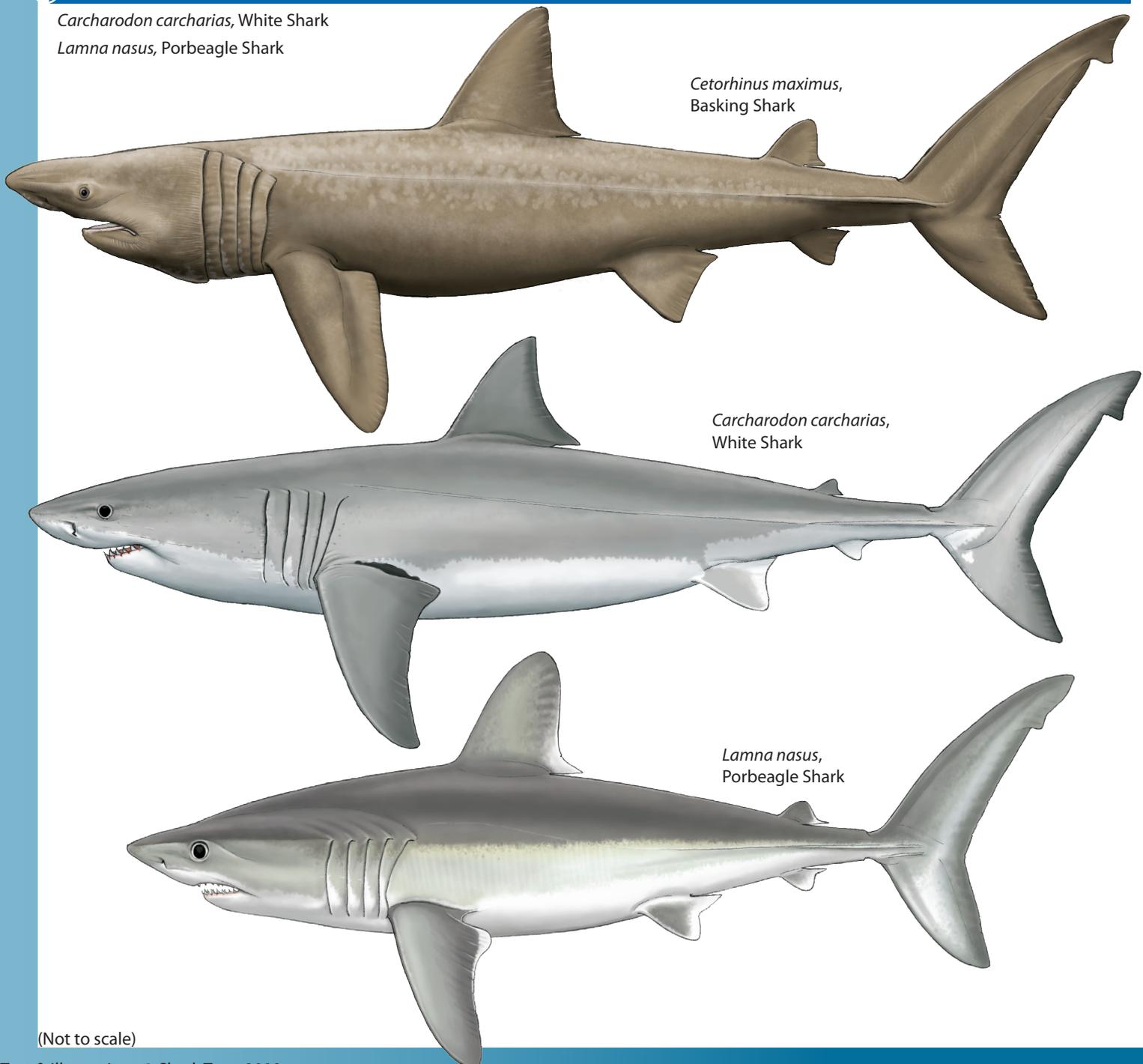
dermal denticle gill rakers used to filter the sea water for plankton. The pectoral fins are large and originate very close to the fifth gill slits. The first dorsal fin is large with a rounded tip and a free rear tip. It originates behind the pectoral fins with no overlap. The pelvic fins are large with straight edges and a fairly acute tip. The second dorsal fin is small and set slightly in front of the anal fin. The caudal fin is lunate with a strong subterminal notch and lobe (Compagno, 2001).

Dorsally it is normally grey although it can be blackish, grey-brown or blue grey. Ventrally it is very similar although sometimes lighter. There is usually a pattern of light blotches on the underside of the head and abdomen and lighter striping and spots on the flanks. There are two reports of albino specimens from the North Atlantic (Knickle *et al.*, Unknown). The maximum reported size of the Basking Shark is 1,220cm and the existence of 1,520cm long specimens has been hypothesised. Most adults do not exceed 980cm however (Compagno, 2001).

SIMILAR SPECIES

Carcharodon carcharias, White Shark

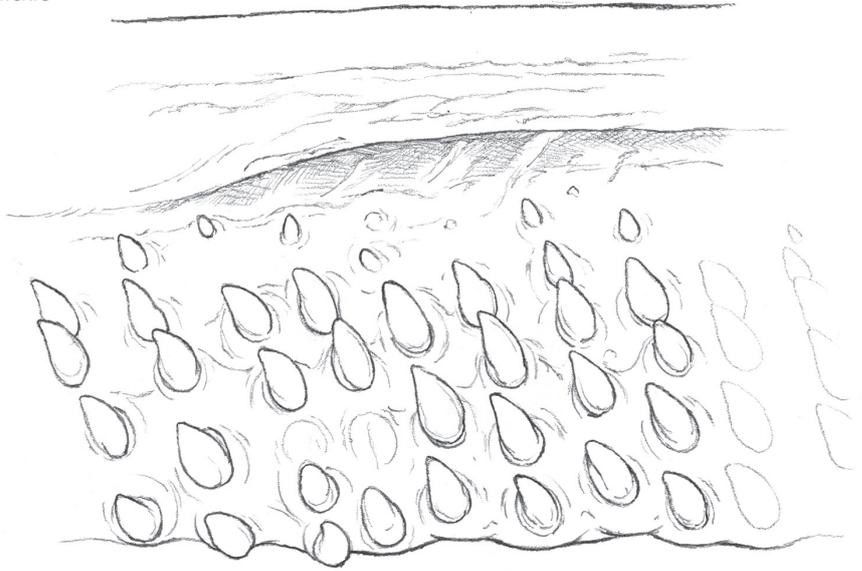
Lamna nasus, Porbeagle Shark



(Not to scale)

TEETH

The teeth are minute and hooked. There is a wide space on the centre of the upper jaw with only scattered teeth (Knickle *et al.*, Unknown).



ECOLOGY AND BIOLOGY

HABITAT

A coastal to oceanic species, the Basking Shark is normally encountered at or near the surface but has been recorded as deep as 1,264m (Gore *et al.*, 2008). It is known to venture inshore to shallow bays, almost to the surf line, and is regularly sighted from land at certain times of the year. Records from the open ocean are rarer but aerial surveys and pelagic driftnet catches show that it is found over the oceanic basins. The majority of records from the United Kingdom, Japan and Newfoundland are from water 8–14°C in temperature, although most records from New England are in water from 11–24°C with most of these over 16°C. It seems to prefer ocean fronts where different masses of water meet and where plankton may flourish. These areas include headlands, islands and bays with strong tidal flow (Compagno, 2001).

REPRODUCTION

As with other species in the family Lamnidae, the Basking Shark reproduces viviparously with embryos nourished by a continuous supply of unfertilised ova, a process known as oophagy or oviphagy. Very little else is known as only one gravid female has been recorded, suggesting that these animals segregate from the general population. Gestation periods of 1–3.5 years have been proposed with estimates of the size at birth from 100–170cm (Pauly, 2002; Martin, Unknown). It is believed that males reach maturity around 460–610cm in length at an age of 12–16 years. No data for female maturity or the longevity of either sex is available, although extrapolation from other Lamnoids would suggest a female maturity of around 20 years and an age of at least 50 years (Martin, Unknown).

DIET

The Basking Shark is a passive filter feeder, swimming with its mouth open and straining the water through its pharynx for plankton. Modified dermal denticles called gill rakers, coated in mucus secreted in the pharynx helps capture these organisms (Compagno, 2001). It varies in this respect from other filter feeding elasmobranchs (*Rhincodon typus*, *Megachasma pelagios*, *Manta birostris*, *Mobula* spp.) which actively pump seawater across their filtering mechanisms and as such, may take more active nektonic prey such as small schooling fish and crustaceans (Pauly, 2002). Compagno (2001) lists the main food items as small copepods (including calanids), barnacles, decapoda, stomatopod larvae and fish eggs (Compagno, 2001). The common name of the Basking Shark comes from the fact that whilst feeding it appears to be basking at the surface, its first dorsal fin fully exposed and its back partly exposed. Feeding in this way it has been estimated it can filter 2,000 tons of water per hour (Knickle *et al.*, Unknown).

COMMERCIAL IMPORTANCE

The Basking Shark was historically hunted for its liver oil and to a lesser extent its meat and fins. It is still sought for its large fins which are extremely valuable in the Asian fin trade. Traditionally its liver oil was processed for vitamin A, tanning leather and as lamp oil. It is still processed for its squalene which is used for medicinal and cosmetic purposes. In addition, the skin can be used for leather, the cartilage for medicinal use and the carcass can be processed into fishmeal (Compagno, 2001).

THREATS, CONSERVATION, LEGISLATION

In the United Kingdom, the Basking Shark was first protected around the Isle of Man and later around Guernsey. In April 1998, it was listed on the Wildlife and Countryside Act (1981) and completely protected in British waters out to the 12 mile limit (Defra, 2007). A UK Biodiversity Action Plan for this species was implemented in 1999 (JNCC, 2007).

In the Mediterranean, the Basking Shark was protected in Maltese waters in 1999. It is listed on Annex II (as an Endangered or Threatened species) of the Protocol of the Barcelona Convention for the Protection of the Mediterranean Sea, and on Appendix II of the Bern Convention on Conservation of European Wildlife and Natural Habitats.

In the USA, the Basking Shark is fully protected from fisheries in Florida state waters and in Federal US Atlantic and Gulf waters by the US Marine Fisheries Service (Shark Trust, 2007). The Shark Finning Act (HR 5461) prohibits the landing or possession of fins without the entire shark carcass and since 1997 fishermen are prohibited from keeping 19 species of shark, including the Basking Shark. In New Zealand, the Basking Shark has some protection; targeted fishing is illegal, but sharks taken as bycatch may be landed (Shark Trust, 2007).

Since 2007, the EU has prohibited fishing for, retaining on board, transshipping or landing the Basking Shark by any vessel in EU waters or by an EU vessel anywhere. Norway has also banned directed fisheries for Basking Sharks and any live specimens taken as bycatch must be released. However dead and dying sharks caught as bycatch can still be landed and sold, severely limiting the effectiveness of the ban (CPOA Shark, 2009).

The Basking Shark is listed in Appendix II of the Convention on International Trade in Endangered Species (CITES), Annex B of the EU Wildlife Trade Regulation (No. 338/97) and it is also covered by the Convention on Migratory Species (CMS). Since 2004, it has been included in the Convention on the Protection of the Marine Environment of the North-East Atlantic (OSPAR) list of threatened and/or declining species (CPOA Shark, 2009).

IUCN RED LIST ASSESSMENT

Vulnerable (2000).

Endangered in northeast Atlantic.

HANDLING AND THORN ARRANGEMENT

- Handle with care.
- Enormous, powerful shark.
- Abrasive skin.

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Text: Richard Hurst.
Illustrations: Marc Dando.

Citation

Shark Trust; 2010. An Illustrated Compendium of Sharks, Skates, Rays and Chimaera. Chapter 1: The British Isles and Northeast Atlantic. Part 2: Sharks.

Any amendments or corrections, please contact:
The Shark Trust
4 Creykes Court, The Millfields
Plymouth, Devon PL1 3JB
Tel: 01752 672008/672020
Email: enquiries@sharktrust.org

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