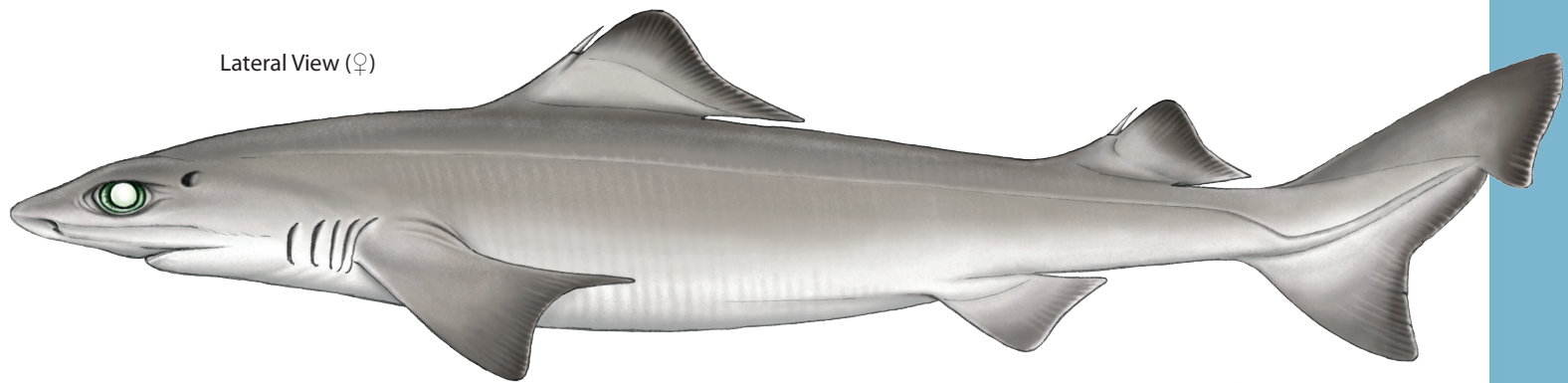
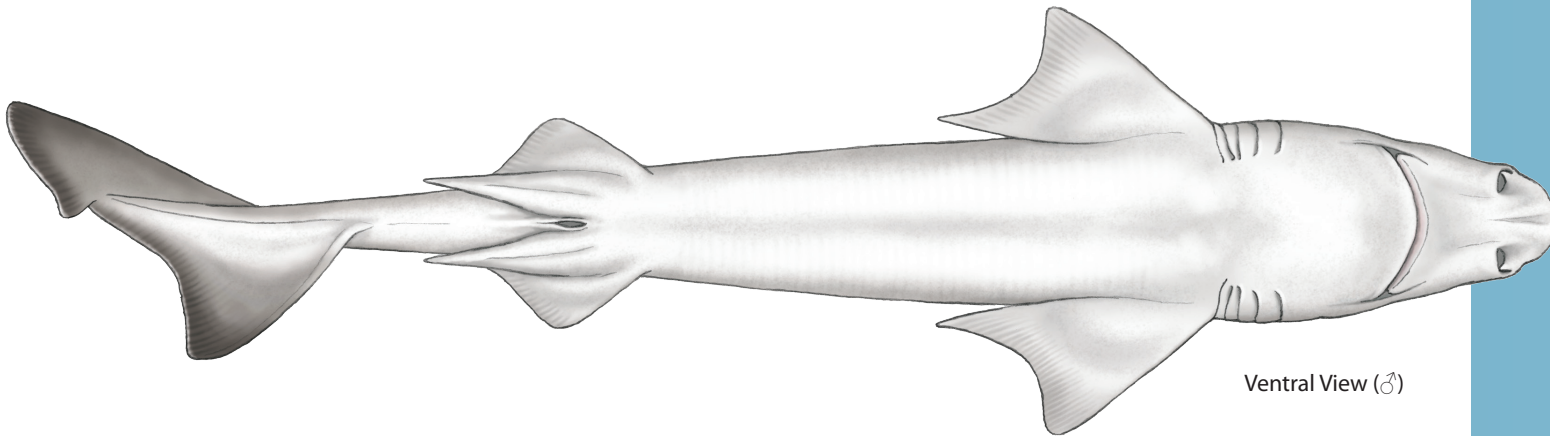


Lateral View (♀)



Ventral View (♂)



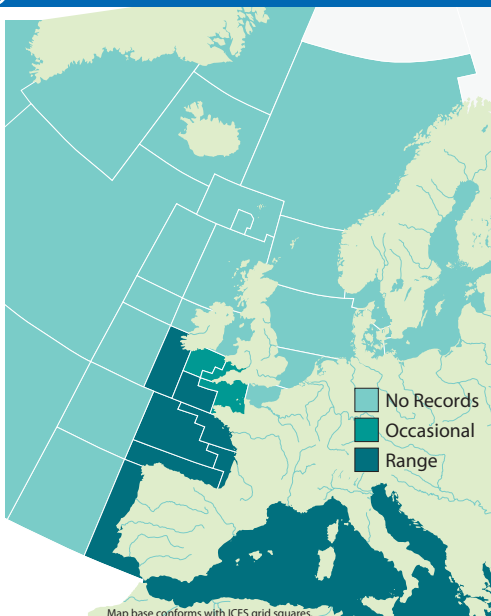
COMMON NAMES

Gulper Shark, Rough Shark, Squale-Chagrin Commun (Fr), Quelvacho (Es).

SYNONYMS

Squalus granulosus (Bloch and Schneider, 1801), *Acantllorhinus granulosus* (Blainville, 1816), *Spinax ugatus* (Bonaparte, 1834), *Centrophorus bragancae* (Regan, 1906), *Centrophorus atomarginatus* (Garman, 1913), *Centrophorus machenquensis* (Maul, 1955).

DISTRIBUTION



The Gulper Shark can be found from southwest England to South Africa, including the Mediterranean Sea. It is also found in the western Atlantic, the Indian Ocean and the western Pacific (Jennings, Unknown).

APPEARANCE

- Long, slender dogfish.
- Up to 150cm total length.
- Two dorsal fins bearing long grooved spines.
- Second dorsal fin smaller than first.
- No anal fin.
- Long snout with short anterior nasal flap.
- Dermal denticles non-overlapping, widely spaced and block like.

The Gulper Shark is a slender dogfish with a long snout and large, green eyes. Both dorsal fins have long grooved spines. The second dorsal fin is smaller than the first with a base around $\frac{3}{4}$ of the length. There is no anal fin. The upper lobe of the caudal fin is long and well developed, the lower lobe is shorter and sturdy (Jennings, Unknown).

The dermal denticles are widely spaced and block-like with crowns sessile on bases without pedicels. These crowns are broad and transversely rhomboidal in adults. It is the subtle differences between dermal denticles which allows positive identification between species in the family Centrophoridae (Jennings, Unknown).

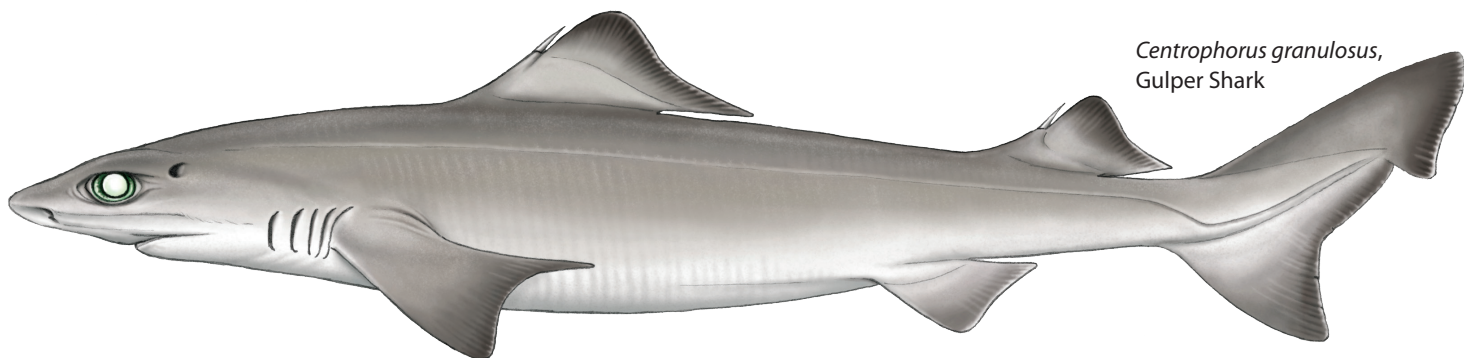
The dorsal surface colouration varies from olive-grey, sandy-grey, grey-brown to brown. The ventral surface is similar but lighter. There are no obvious patterns or markings on adults, juveniles may be lighter and have dusky white tips on the dorsal and caudal fins (Jennings, Unknown).

SIMILAR SPECIES

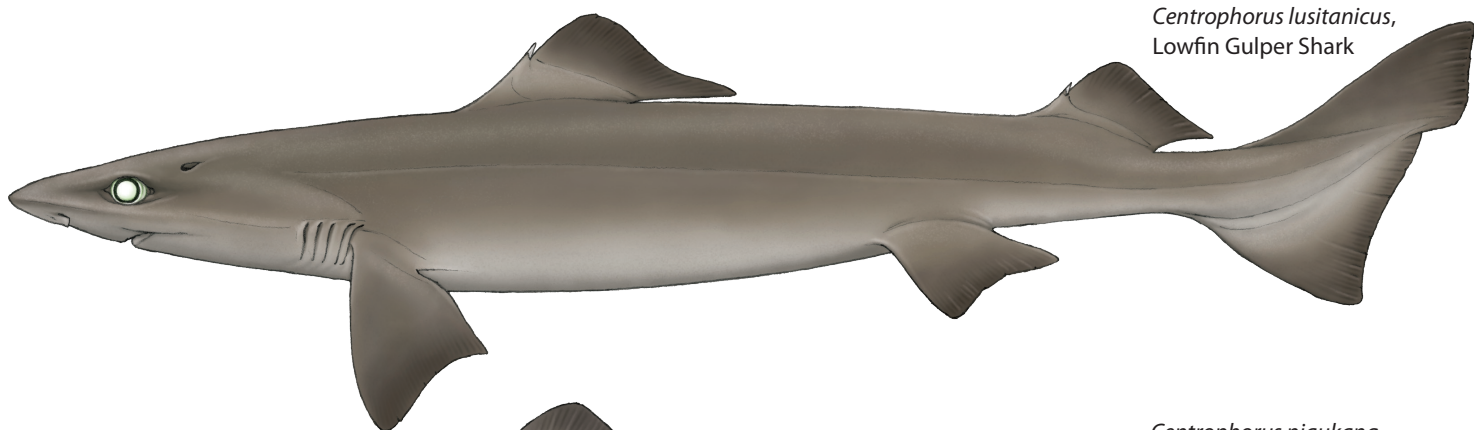
Centrophorus lusitanicus, Lowfin Gulper Shark

Centrophorus niaukang, Taiwan Gulper Shark

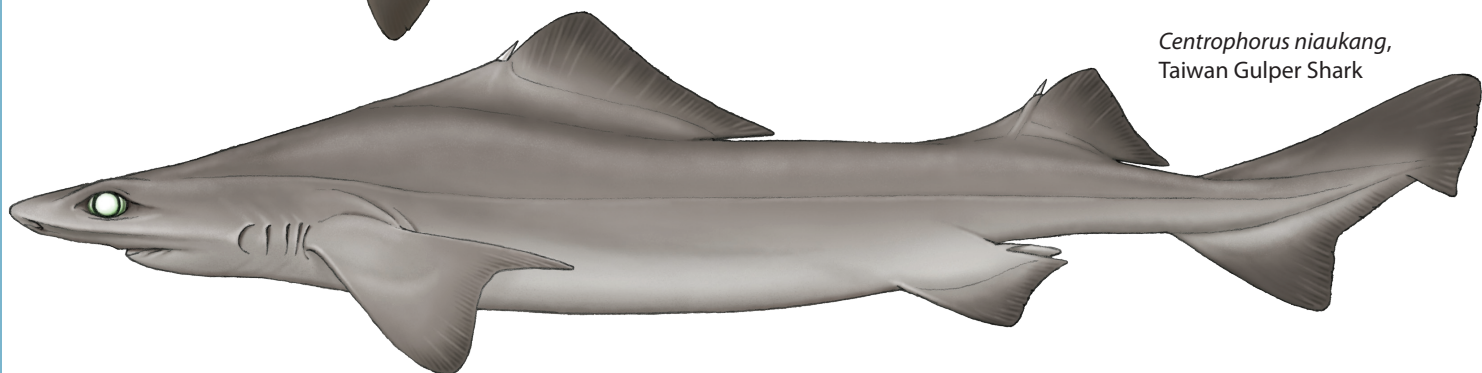
Centrophorus squamosus, Leafscale Gulper Shark



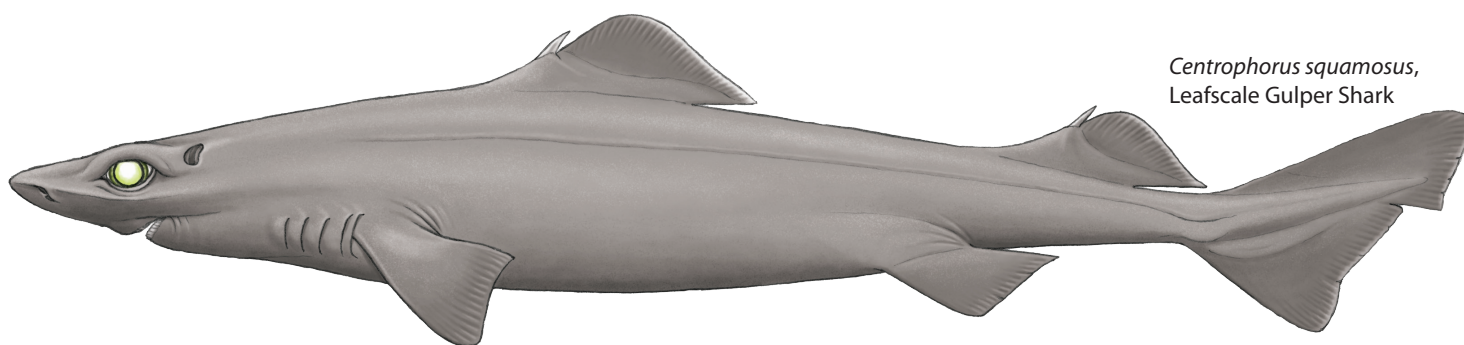
Centrophorus granulosus,
Gulper Shark



Centrophorus lusitanicus,
Lowfin Gulper Shark



Centrophorus niaukang,
Taiwan Gulper Shark

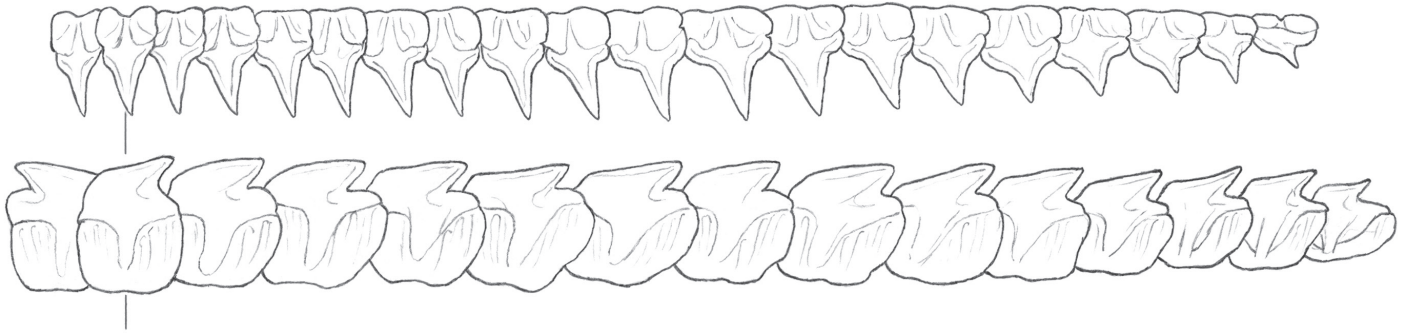


Centrophorus squamosus,
Leafscale Gulper Shark

(Not to scale)

TEETH

The teeth are blade-like and unicuspidate, the uppers larger than the lower. The upper teeth are symmetrical to nearly symmetrical along the centre of the jaw. The lower teeth have finely serrated or smooth cutting edges (Compagno, 1984).



ECOLOGY AND BIOLOGY

HABITAT

The Gulper Shark is a deep water species found from 100–1,490m, most common between 300–800m. Bathydemersal, it is normally found either on or near the substrate. It is thought to form schools due to its abundance in certain hauls and not others. It is also known to appear at baited cameras several at a time and not individually as would be expected from solitary animals. These schools are believed to be segregated by size and sex, with the majority of individuals in the lower half of the depth range juveniles (Gullart *et al.*, 2006). In the intermediate depths (550–800m) males seem to dominate whilst in the upper part of its range, females dominate (200–400m) (Golani and Pisanty, 2000).

EGGCASE

N/A

DIET

The diet of the Gulper Shark is poorly understood but it is thought to prey on hake, lanternfish, squid and epigonids, as well as a variety of other benthic and mesopelagic bony fish and invertebrates (Gullart *et al.*, 2006).

REPRODUCTION

Little is known of the reproduction of the Gulper Shark except that it is ovoviparous with a gestation period of approximately 2 years. At birth the single pup measures 30–42cm in length (Jennings, Unknown). Immature males of 45–58cm are known and fully mature males of 80–94cm are also known, suggesting a total length at maturity of 60–80cm for males. Immature females up to 96cm in total length have been found (Carpenter, 2009).

COMMERCIAL IMPORTANCE

The Gulper Shark is taken as bycatch throughout its range by bottom trawls, pelagic trawls and hook and line. Some deepwater longline fisheries do target the Gulper Shark. It can be smoked, dried or salted for human consumption and can be processed for fishmeal and liver oil (Jennings, Unknown).

THREATS, CONSERVATION, LEGISLATION

The Gulper Shark is believed to have the lowest reproductive potential of all elasmobranchs. Females do not reach maturity until 12–16 years of age, there is only a single pup to a litter and the gestation period is around 2 years with occasional resting periods. This makes it extremely vulnerable to fishing pressure. The IUCN has listed the species as critically endangered in the northeast Atlantic meaning a population decline of 80–95% from virgin biomass has been observed due to overfishing with bottom trawls, long lines, fixed bottom nets, hook and line and pelagic trawls (Gullart *et al.*, 2006).

In ICES sub-areas V, VI, VII, VIII and IX a Total Allowable Catch (TAC) of 1,646 tons (2008) applies to the deepwater sharks *Centroscymnus coelolepis*, *Centrophorus granulosus*, *C. squamosus*, *Deania calcea*, *Dalatias licha*, *Etmopterus princeps*, *E. spinax*, *Centroscyllium fabricii*, *Galeus melastomus*, *G. murinus* and all *Apristurus* spp. Additionally, these species have a TAC of 20 tons in sub-area X and a TAC of 49 tons (including *Deania histricosa* and *D. profundorum*) in sub-area XII (CPOA Shark, 2009).

The only current conservation action in the Mediterranean is a restriction on bottom trawling below 1,000m. However, the Gulper Shark is most commonly found within this depth (to 800m) so this legislation is likely to at best preserve only a small percentage of the virgin biomass (Gullart *et al.*, 2006).

IUCN RED LIST ASSESSMENT

Vulnerable (2006).

Critically Endangered in northeast Atlantic.

HANDLING AND THORN ARRANGEMENT

- Handle with care.
- Large, venomous dorsal spines.
- Abrasive skin and sharp teeth.

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Text: Richard Hurst.
Illustrations: Marc Dando.

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