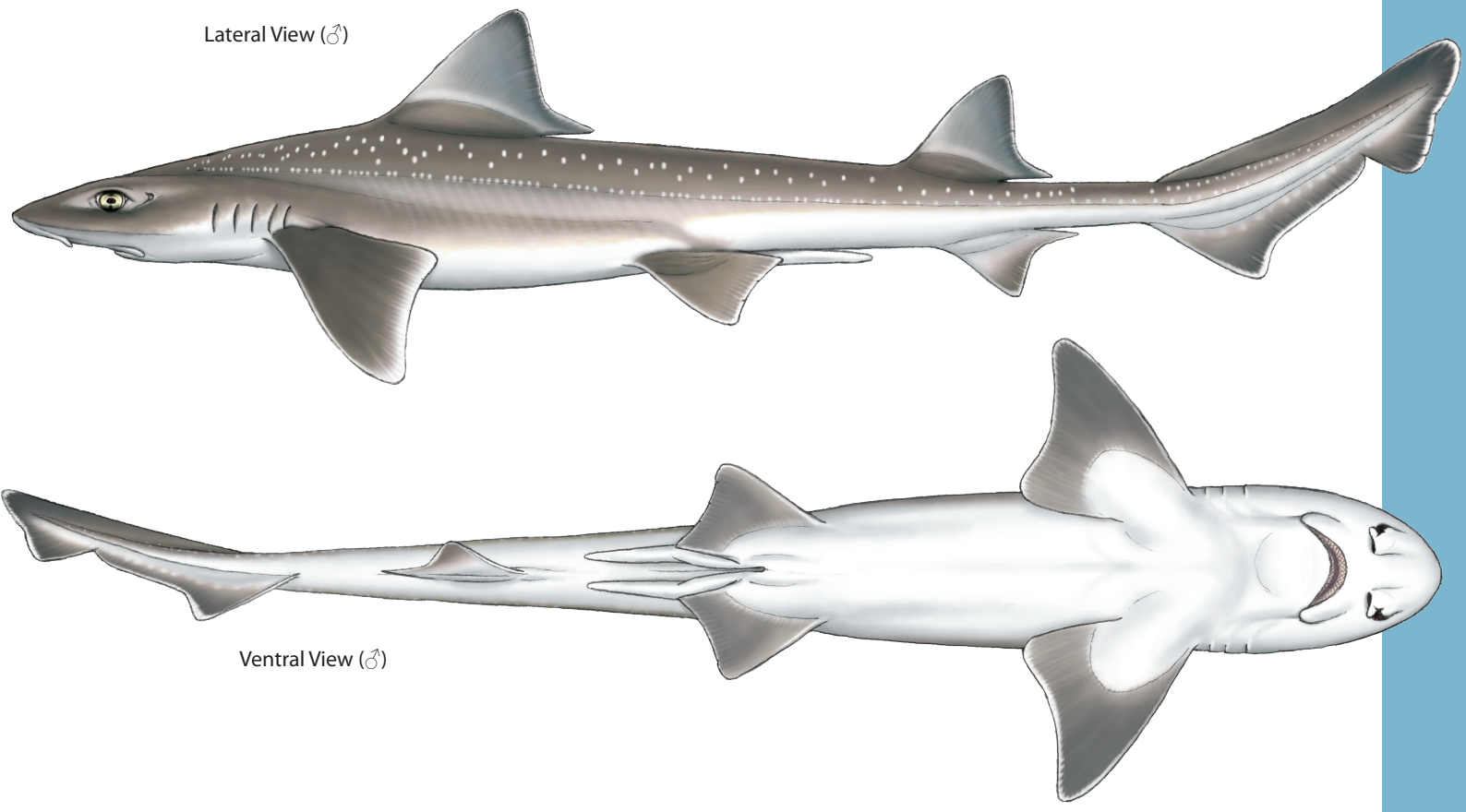
Starry Smoothhound

Mustelus asterias



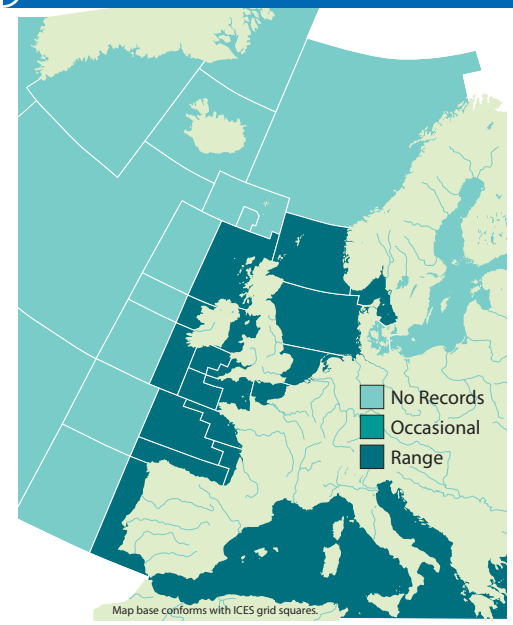
COMMON NAMES

Starry Smoothhound, Stellate Smoothhound, Aristotle's Shark, Emissole Tachetée (Fr), Musola Estrellada (Es).

SYNONYMS

Squalus hinnulus (Blainville, 1825), *Mustelus stellatus* (Risso, 1826), *Mustelus plebeius* (Bonaparte, 1834), *Mustelus equestris* (Bonaparte, 1834), *Squalus albomaculatus* (Plucar, 1846), *Squalus edentulus* (Doderlein, 1881).

DISTRIBUTION



The Starry Smoothhound is known in the northeast Atlantic from the British Isles and North Sea to Mauritania and the Canary Isles, including the Mediterranean Sea (Compagno, 1984). Confusion with the Common Smoothhound, *Mustelus mustelus*, may mean records are incomplete.

APPEARANCE

- Large, generally white spotted smoothhound.
- Both dorsal fins prominent, the first larger than the second.
- First dorsal fin originates over pectoral bases.
- No dorsal spines.
- Large pectoral fins.
- Anal fin present.
- Large dorsal caudal lobe with large subterminal notch and lobe.
- Grey or grey-brown dorsally.
- Sometimes with rows of white spots on flanks.
- Ventrally light.

The Starry Smoothhound is a slender species with two large, prominent dorsal fins, the first larger than the second. The first dorsal fin originates over the base of the pectoral fins, the second just forward of the anal fin. There are no dorsal spines and the free rear tips are small. The dorsal caudal lobe is large with a strong terminal notch and lobe (Compagno, 1984).

It can be an easily identifiable species as it is the only member of the *Mustelus* genus with white spots in European waters. However, these spots can be faded or completely absent, meaning that any *Mustelus* spp. with no white spots cannot automatically be attributed to the Common Smoothhound, *Mustelus mustelus* (Farrell *et al.*, 2009). Positive identification can be made physically in three ways. Firstly, the buccopharyngeal denticles cover the entire palate and floor of the mouth in the Starry Smoothhound but only the tongue tip and extreme anterior end of palate in the Common Smoothhound. Secondly, the longitudinal ridges of the dermal denticles extend only half way along their length in the Starry Smoothhound whereas in the

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Starry Smoothhound

SIMILAR SPECIES

Common Smoothhound they extend along their entire length (Compagno, 1984). Lastly, the connection between the female and the embryo is different between the species.

None of these methods are particularly useful for live specimens or large numbers of sharks. The last in particular only works for pregnant females landed whole. Genetic identification methods are therefore becoming more widespread (Farrell *et al*., 2009). Amongst similar species from different genus, it can be distinguished from the Tope Shark, *Galeorhinus galeus*, by the large second dorsal fin and from the Spiny Dogfish, *Squalus acanthias*, by the presence of an anal fin and absence of dorsal spines (Compagno, 1984).

On the back and flanks it is grey to grey-brown commonly, but not always, with white spots. There are no dark spots or bands. Ventrally it is lighter to white (Farrell *et al*., 2009).

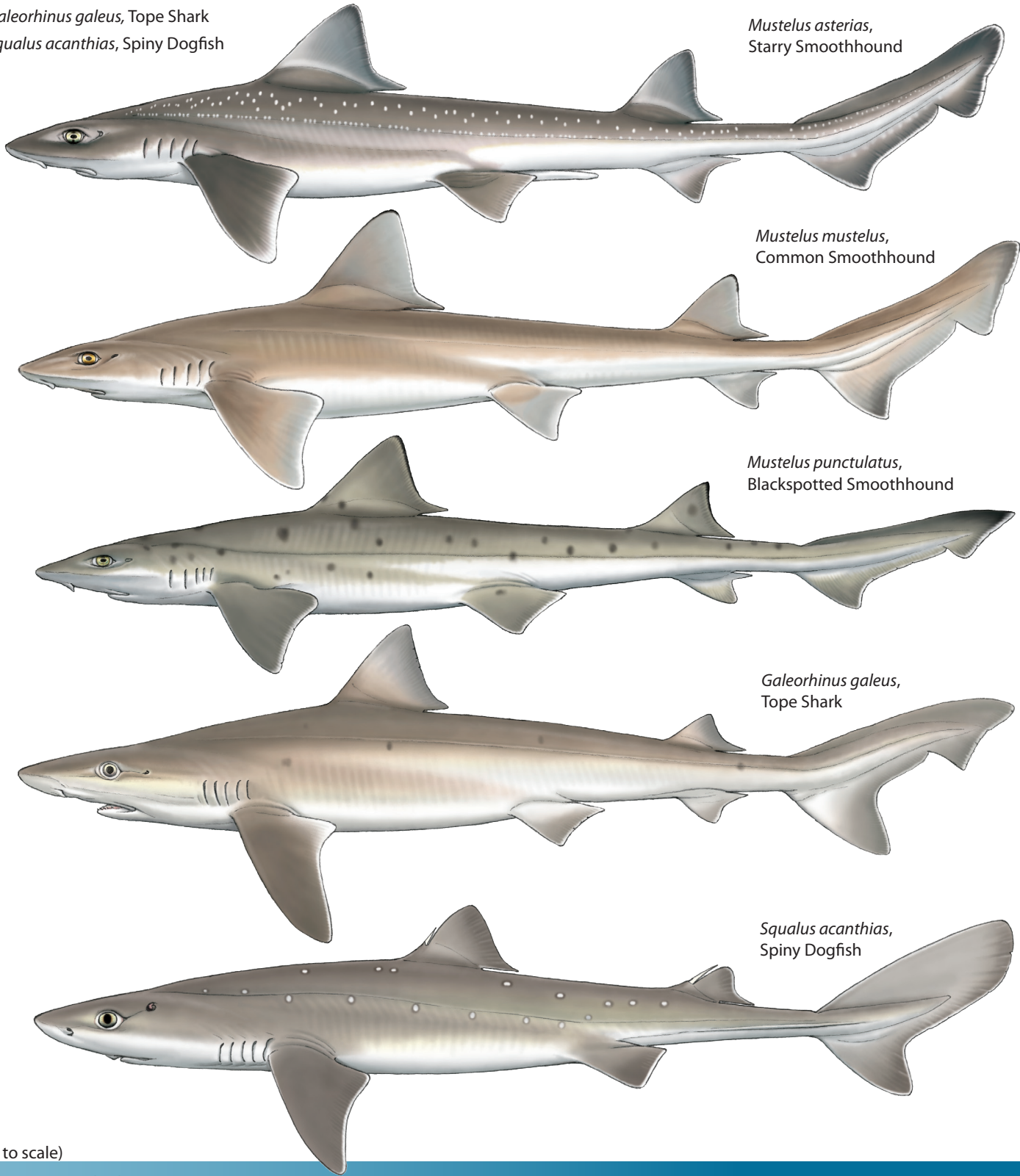
SIMILAR SPECIES

Mustelus mustelus, Common Smoothhound

Mustelus punctulatus, Blackspotted Smoothhound

Galeorhinus galeus, Tope Shark

Squalus acanthias, Spiny Dogfish



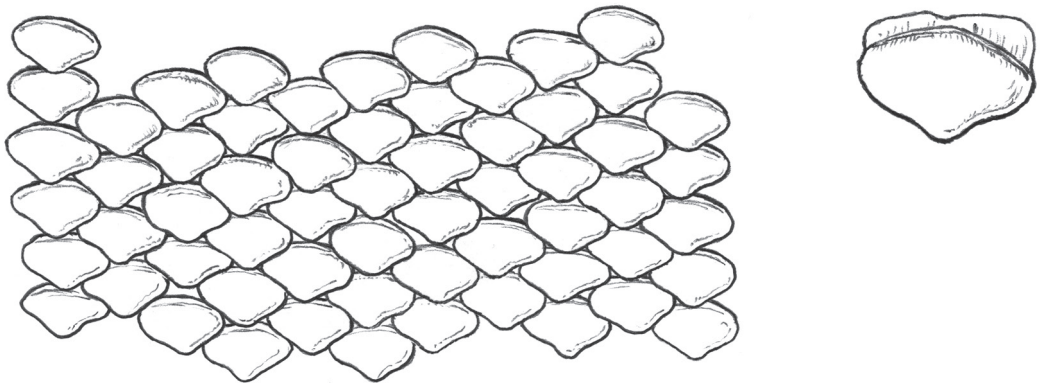
(Not to scale)

Starry Smoothhound

Mustelus asterias

TEETH

The teeth are asymmetric with the cusps reduced to a low point. Very young individuals may also have cusplets (Compagno, 1984). The entire oral cavity is covered in buccopharyngeal denticles (Farrell *et al*., 2009).



ECOLOGY AND BIOLOGY

HABITAT

An inshore species of the continental and insular shelves, the Starry Smoothhound is most commonly found on or near the bottom from the intertidal zone to at least 100m. It seems to have a preference for sand and gravel bottoms (Compagno, 1984).

EGGCASE

N/A

DIET

A 1996 study in the Irish Sea showed crustaceans make up 97.4% of the diet of the Starry Smoothhound. Of these, *Liocarcinus* spp. (56.1%) are the most important prey items followed by *Pagurus* spp. (7.1%). Fish made up only 1.86% of the stomach contents examined and Holothuroidea (0.7%) were the only molluscs recorded (Ellis *et al*., 1996). It has been noted that hermit crabs are eaten complete with the shell and any associated anemones (Compagno, 1984).

REPRODUCTION

Unlike the Common Smoothhound, *Mustelus mustelus*, the Starry Smoothhound is an aplacental viviparous, or ovoviviparous, species (Farrell *et al*., 2009). It has been recorded from Tunisia that females and males mature at 96cm and 75cm total length respectively. Mating and birth both occur during the summer after a gestation period of 12 months. Litters are small (10–35 foetuses) and the number of young is proportional to the size of the mother (Capape, 1983). At birth, the pups measure around 30cm in length (Compagno, 1984).

Supported by:

Starry Smoothhound

COMMERCIAL IMPORTANCE

The Starry Smoothhound is mainly a bycatch species in the northeast Atlantic taken by bottom trawls, longlines and gillnets (Compagno, 1984). It has little or no commercial importance in northern Europe but is targeted throughout the Mediterranean and is one of the most valuable shark species there (Anon, 1997). It is popular with recreational anglers (Anon, 2007).

IUCN RED LIST ASSESSMENT

Least Concern (2000).

THREATS, CONSERVATION, LEGISLATION

The Starry Smoothhound is a widespread although not abundant species. It is taken as bycatch in trawl and gillnet fisheries but there does not appear to be any immediate threat from overexploitation in the Atlantic (Ellis, 2000). In the Mediterranean it is targeted for its flesh so is under more intensive fishing pressure. Widespread population trends are poorly understood but it has been extirpated from the Gulf of Lions, northwest Mediterranean (Aldebert, 1997). It is not considered to be in any immediate threat of over exploitation (Ellis, 2000).

HANDLING AND THORN ARRANGEMENT

- Handle with care.
- Sharp teeth and powerful jaws.
- Abrasive skin.

REFERENCES

ALDEBERT, Y. 1997. Demersal resources of the Gulf of Lions (NW Mediterranean). Impact of exploitation on fish diversity. *Vie et Milieu*, Vol. 47 (4): 275-284.

ANONYMOUS. 1997. Shark Fisheries and Trade in Europe. TRAFFIC.

ANONYMOUS. 2007. Examination of the Ecology and Biology of the Smooth hound (*Mustelus mustelus, Mustelus asterias*) in Irish Waters. Central Fisheries Board, Ireland.

CAPAPE, C; 1983. New Data on the Biological of the Reproduction of *Mustelus asterias* Cloquet, 1821 (Pisces, Pluerotremata, Triakidae) from Tunisian Coasts. *Vie et Milieu*, Vol. 33 (3-4): 143–152.

COMPAGNO, L. J. V. 1984. Sharks of the World: An Annotated and Illustrated Catalogue of Shark Species Known to Date. Volume 4, Part 1. Hexanchiformes to Lamniformes. FAO. Rome, Italy.

ELLIS, J. 2000. Mustelus asterias. In: IUCN 2008. 2008 IUCN Red List of Threatened Species. www.iucnredlist.org.

ELLIS, J. R., PAWSON, M. G., SHACKLEY, S. E. 1996. The Comparative Feeding Ecology of Six Species of Sharks and Four Species of Ray (Elasmobranchii) in the North-East Atlantic. *J. Mar. Biol. Ass. UK*. 76: 89–106.

FARRELL, E. D., CLARKE, M. W., MARIANI, S. 2009. Short Communication. A Simple Genetic Identification Method for Northeast Atlantic Smoothhound Sharks (*Mustelus* spp.). *ICES Journal of Marine Science*. Vol. 66 (3): 561-565.

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