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Identification guide to requiem sharks of the Eastern Atlantic

Photo of an adult *C. brevipinna*

ALEX SALGADO

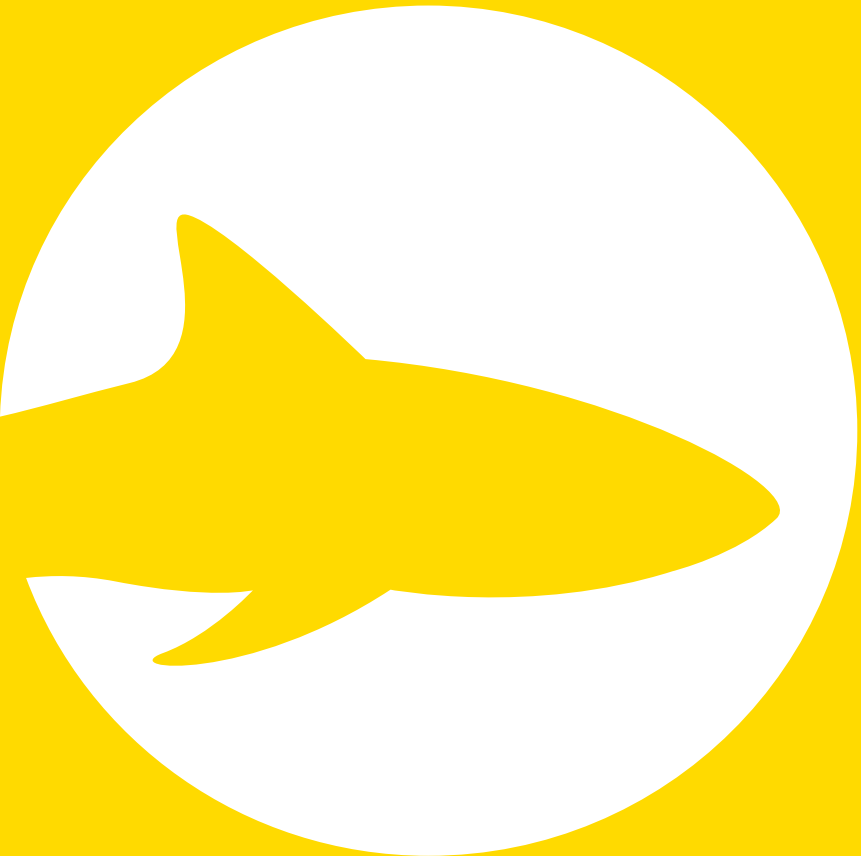
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INTRODUCTION

This identification guide is referred to people that works in marine research and on fisheries, to help improve catch data and statistics on sharks that interact with fisheries especially tuna vessels in the Eastern Atlantic Ocean. The most likely users of the guide are fisheries observers, samplers, fishing masters and crew on board fishing vessels targeting tuna, tuna-like species and sharks in the Eastern Atlantic Ocean. Fisheries training institutions and fishing communities are other potential users.

This guide is a simple way to identify a species within a **Family of sharks** (*Elasmobranchiomorphi: Carcharhinidae*) that have many physical similarities. The guide does not include sharks of different orders, or even sharks of the same order but different families that appear quite frequently in the captures or bycatch of fishing vessels.

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GLOSSARY

Apex - tip of the fins or teeth

Caudal keel - A ridge either side of the caudal fin base used for stability in some shark species

Caudal Peduncle - The narrow part of the shark to which the tail fins is attached- the tail stalk

Free rear tip - Part of the fins not attached to the body

Interdorsal ridge - A raised ridge of skin between the first and second dorsal fins of some sharks

Labial furrows - Grooves around the lips in the mouth of some sharks

Snout - Part of the head in front of the eyes

OVERVIEW

Class: Chondrichthyes

Order: Carcharhiniformes

Family: Scyliorhinidae
Proscylliidae
Pseudotriakidae
Leptochariidae
Triakidae
Hemigaleidae
Sphyrnidae

Carcharhinidae (17 species)

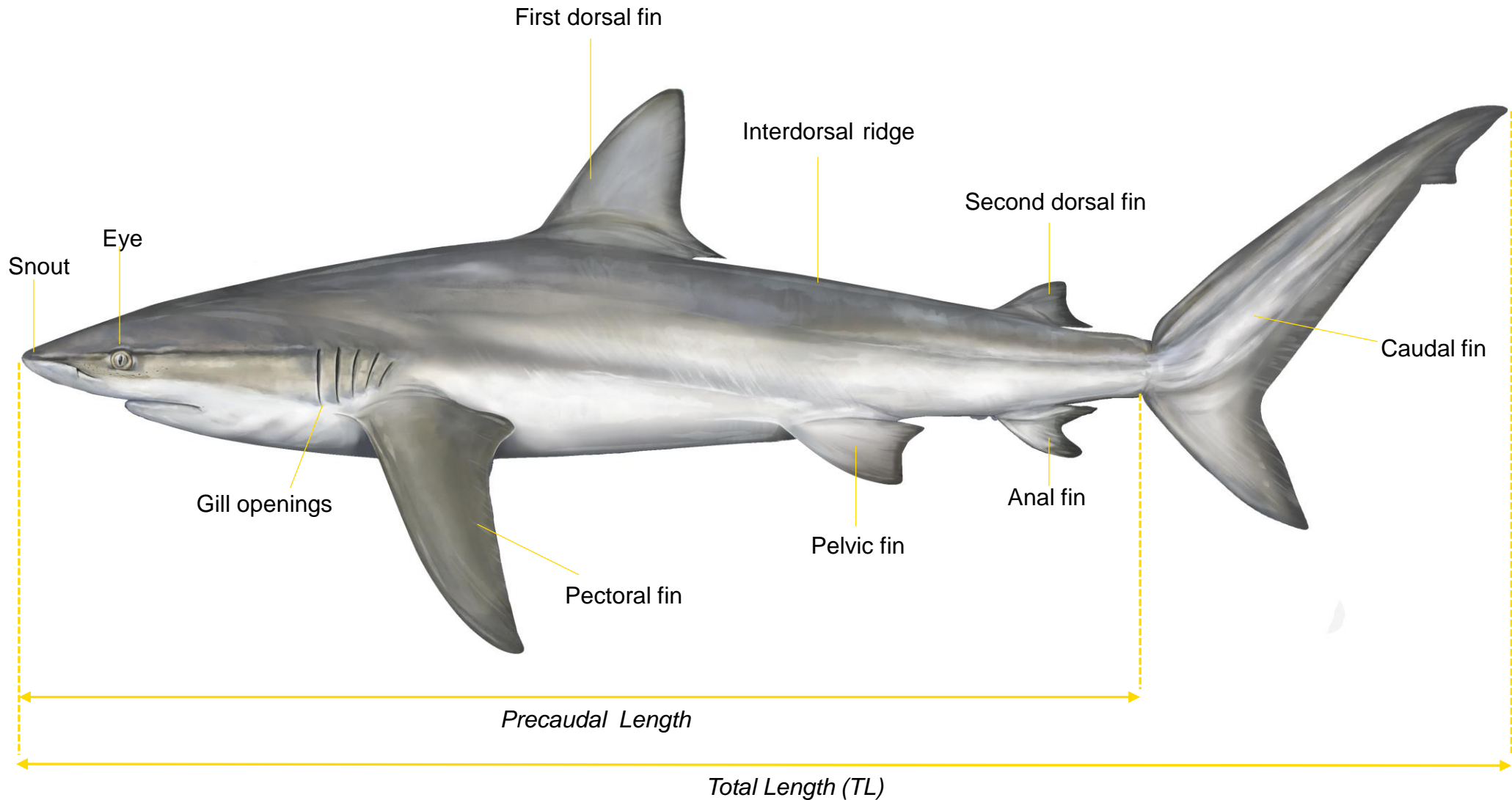
Carcharhinus altimus
Carcharhinus amboinensis
Carcharhinus brachyurus
Carcharhinus brevipinna
Carcharhinus falciformis
Carcharhinus galapagensis
Carcharhinus isodon
Carcharhinus leucas
Carcharhinus limbatus
Carcharhinus longimanus
Carcharhinus obscurus
Carcharhinus plumbeus
Carcharhinus signatus
Galeocerdo cuvier
Negaprion brevirostris
Prionace glauca
Rhizoprionodon acutus

Common characteristics of the Order

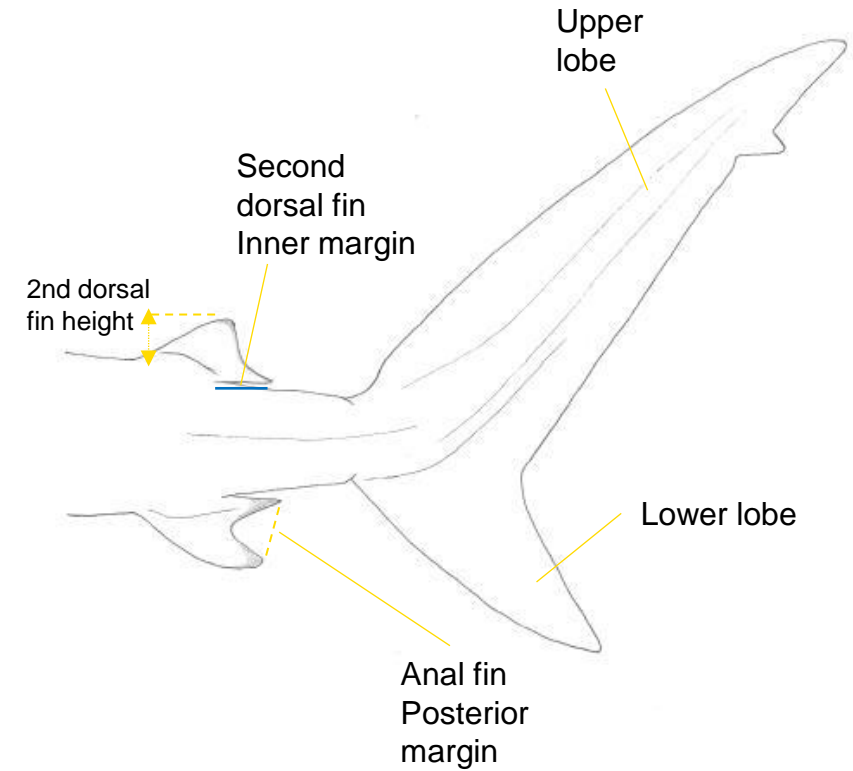
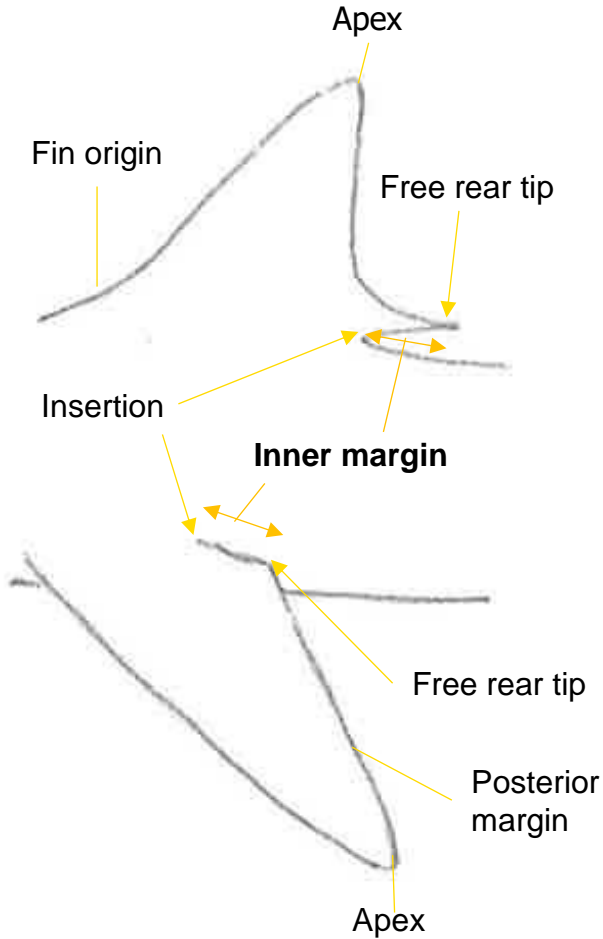
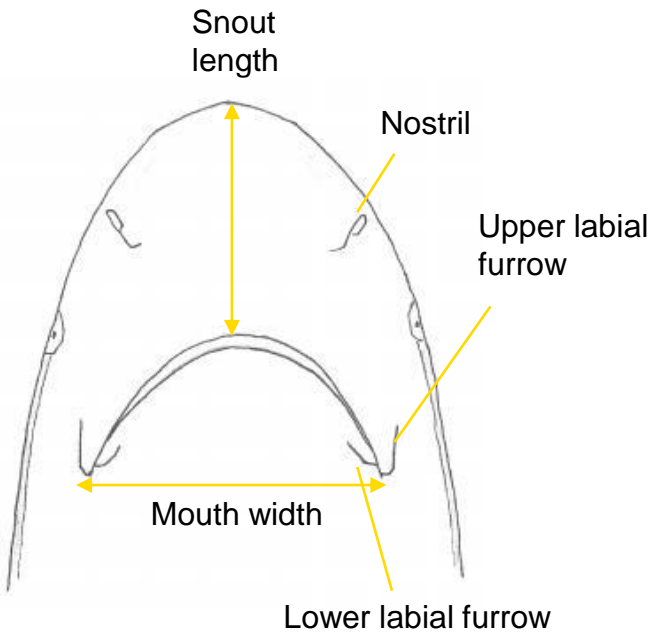
- 5 gills
- Anal fin present
- 2 dorsal fins
- Mouth behind the eyes
- Presence of a nictitating membrane



MORPHOLOGY OF SHARKS



MORPHOLOGY OF SHARKS



IMPORTANT CHARACTERISTICS

to be considered in species identification

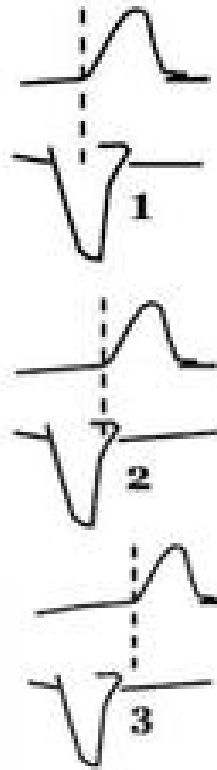


- Examples of an **Interdorsal ridge**: *photo 1 and 2*
- Example of absence of **Interdorsal ridge**: *photo 3*

IMPORTANT CHARACTERISTICS

to be considered in species identification

ORIGIN OF THE FIRST DORSAL FIN WITH RESPECT TO THE PECTORAL FIN

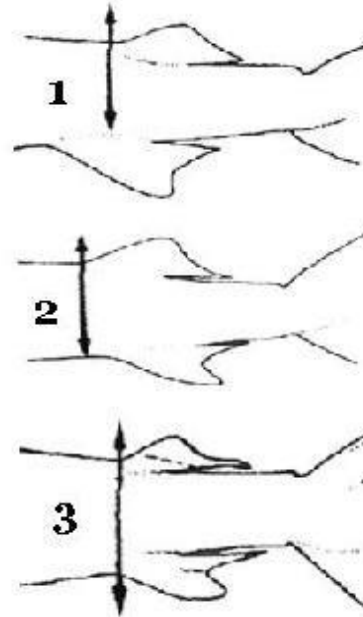


First dorsal fin origin anterior to or over pectoral fin insertion

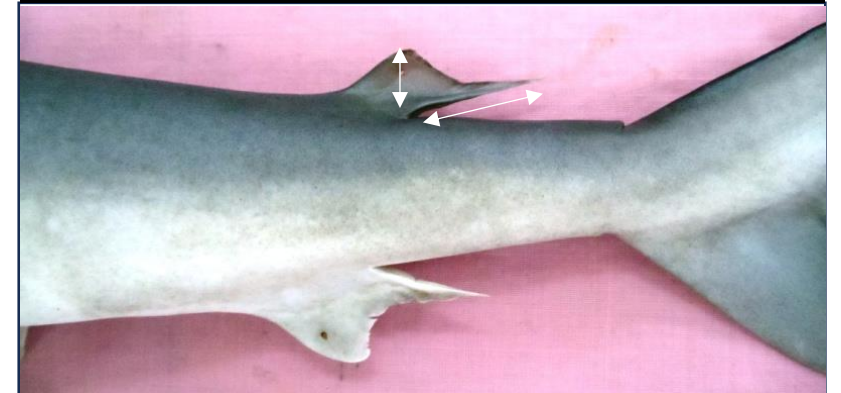
First dorsal fin origin over pectoral fin inner margin

First dorsal fin origin posterior to pectoral fin inner corner

ORIGIN OF THE SECOND DORSAL FIN WITH RESPECT TO ORIGIN OF THE ANAL FIN



INNER MARGIN OF THE SECOND DORSAL FIN RESPECT TO THE HEIGHT OF THE SECOND DORSAL FIN



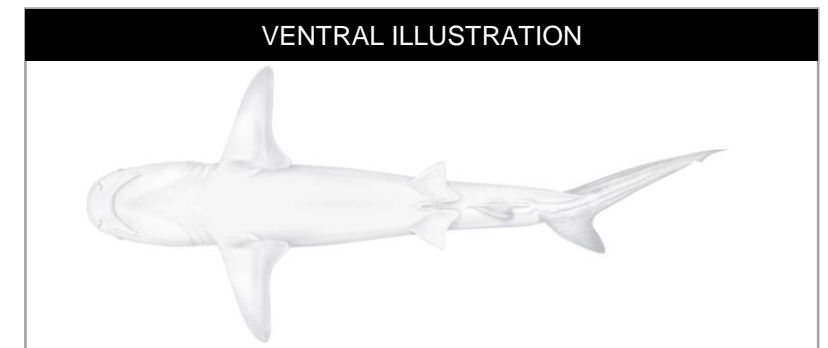
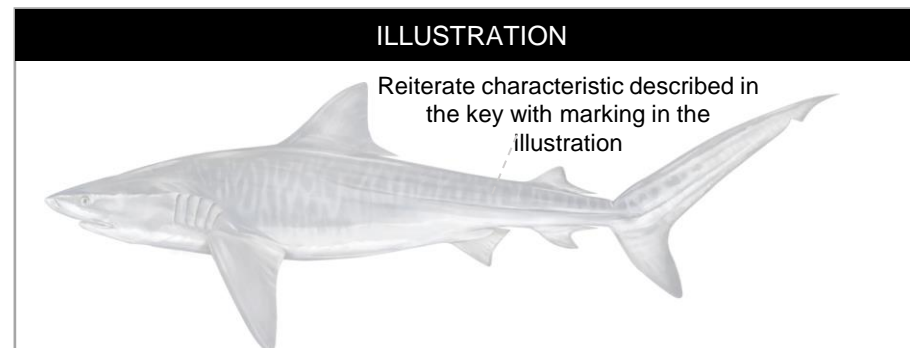
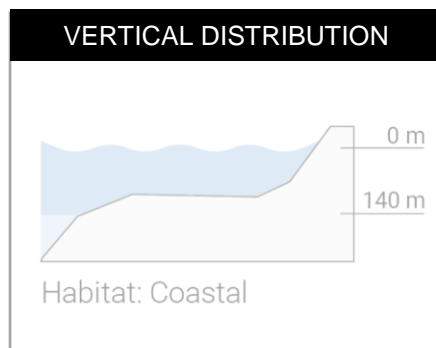
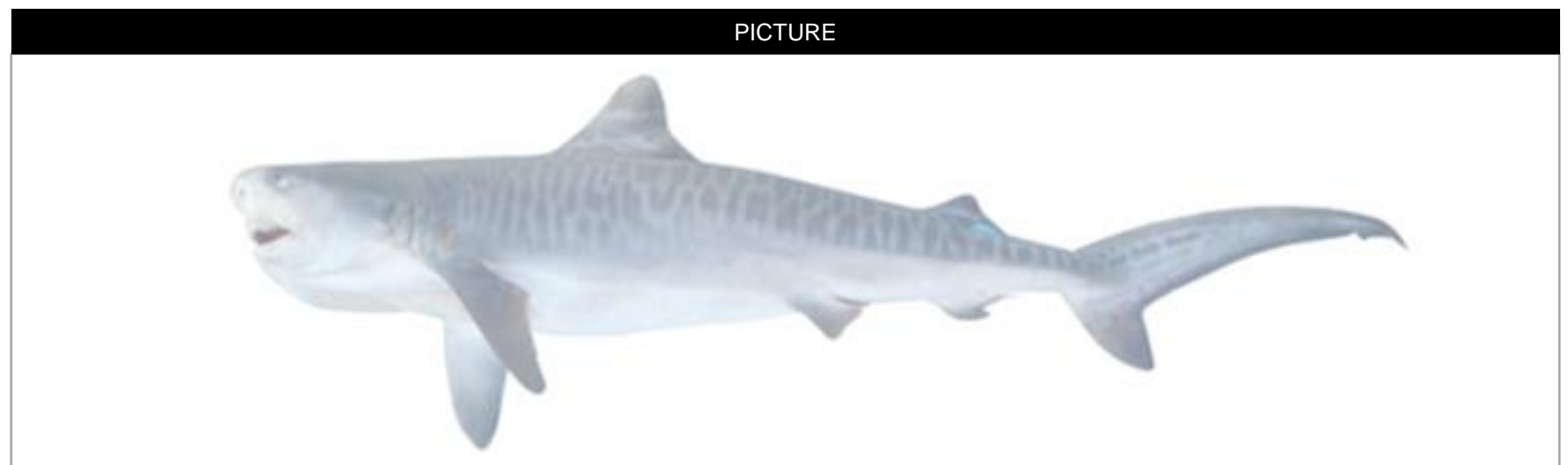
Important to note the origin of the 2nd dorsal fin with respect to the origin of the anal fin. In this case it would be Number 1 in the picture on the left (*Rhizoprionodon acutus*)

How to use_

IDENTIFICATION KEY

Read the feature carefully and follow the number that corresponds.

If this characteristic leads to the species, below the text you will find images and information about the species.

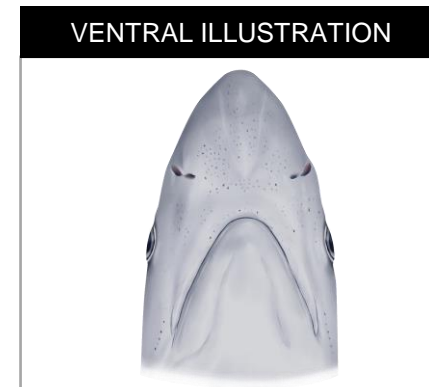
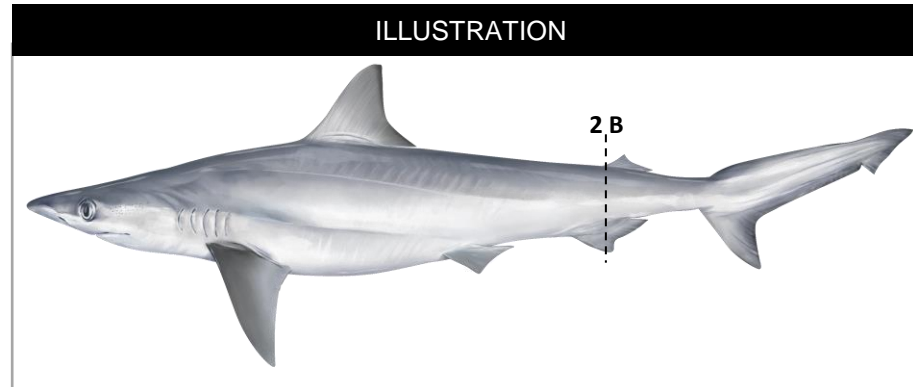
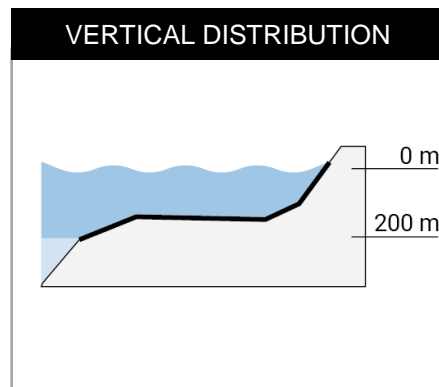


Rhizoprionodon acutus

EN: Milk Shark | **ES:** Cazón lechoso, tiburón hocicudo

Max TL: 174 cm

	IDENTIFICATION KEY	GO TO
1 A	Without interdorsal ridge	2
1 B	With interdorsal ridge, prominent or non prominent	10
2 A	Origin of the second dorsal fin on or very close to anal fin origin	3
2 B	Origin of the second dorsal fin behind anal fin origin	✓

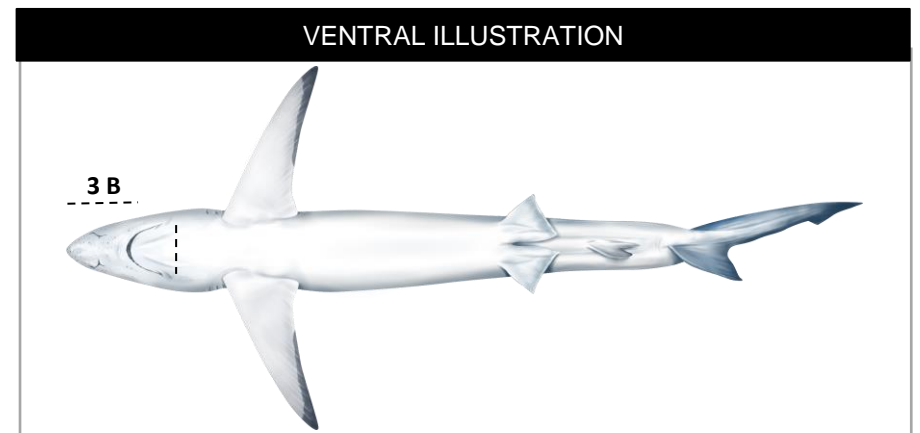
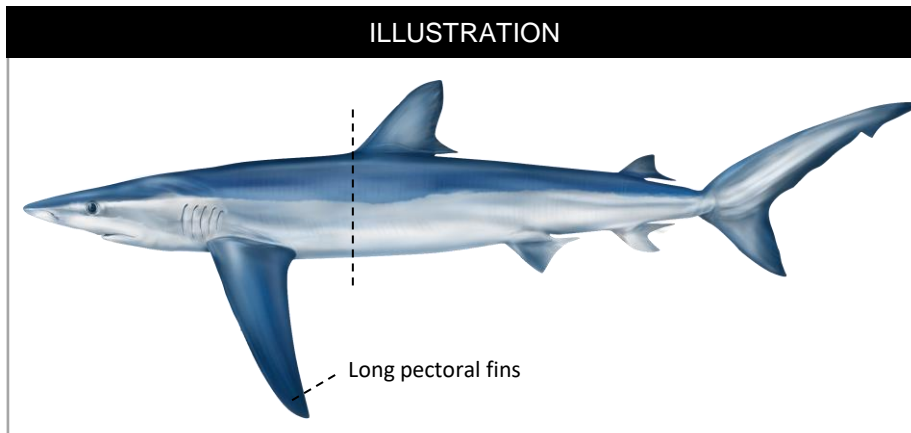
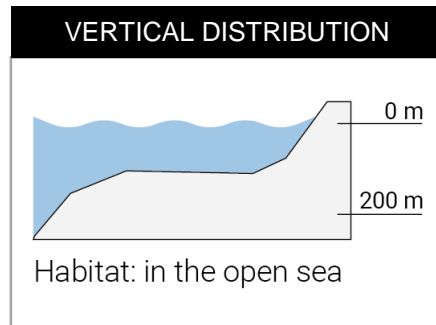
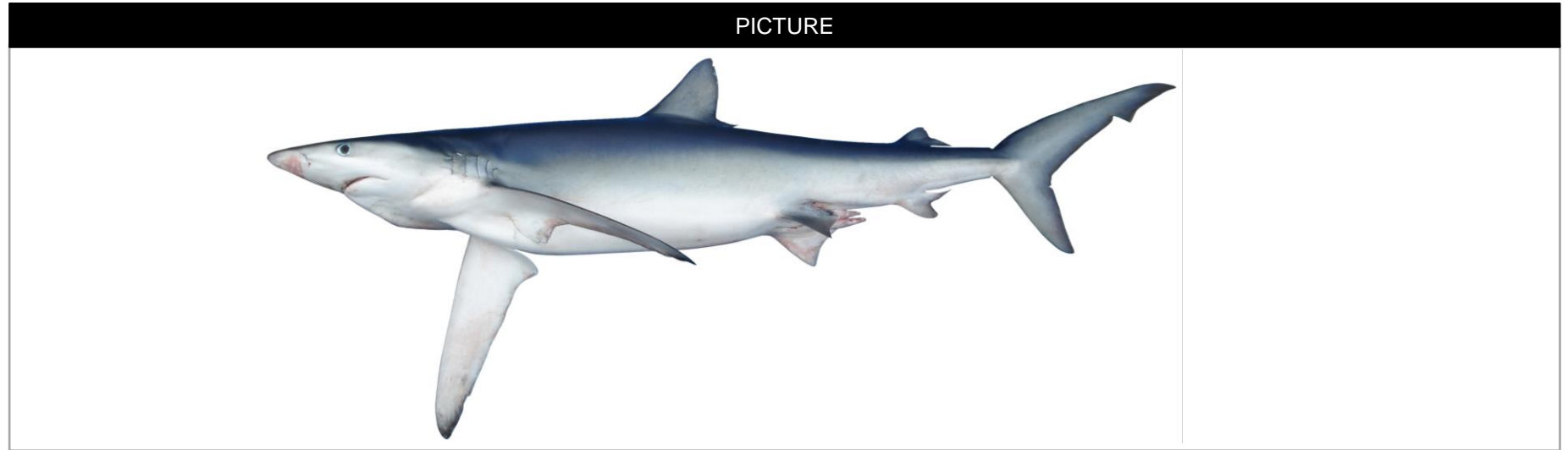


Prionace glauca

EN: Blue shark | FR: Requin peau bleue | ES: Tintorera, Tiburón azul

Max TL: 380 cm

	IDENTIFICATION KEY	GO TO
3 A	Snout shorter than or equal to mouth width	4
3 B	Snout longer than mouth width	✓



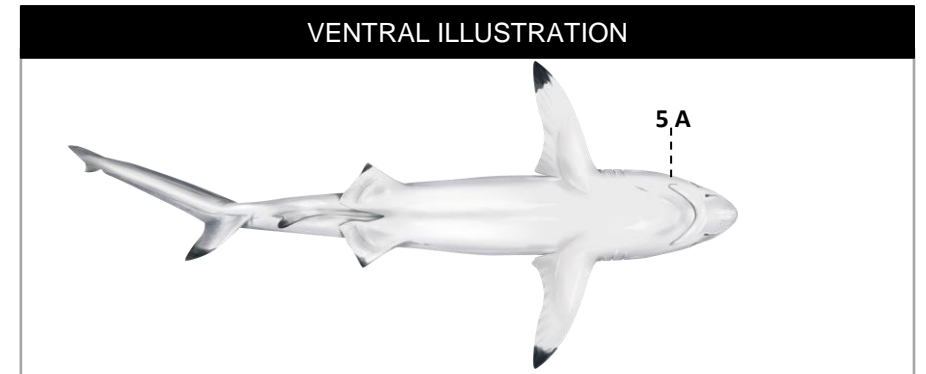
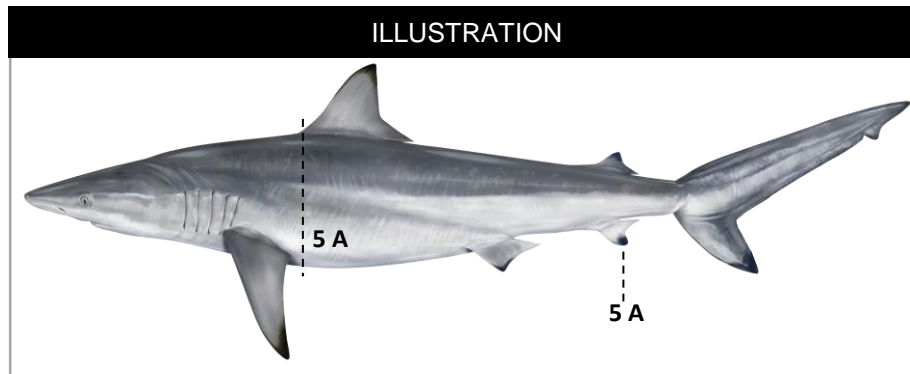
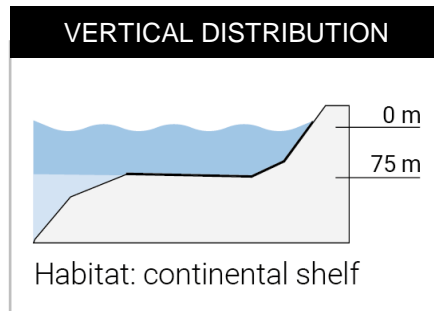
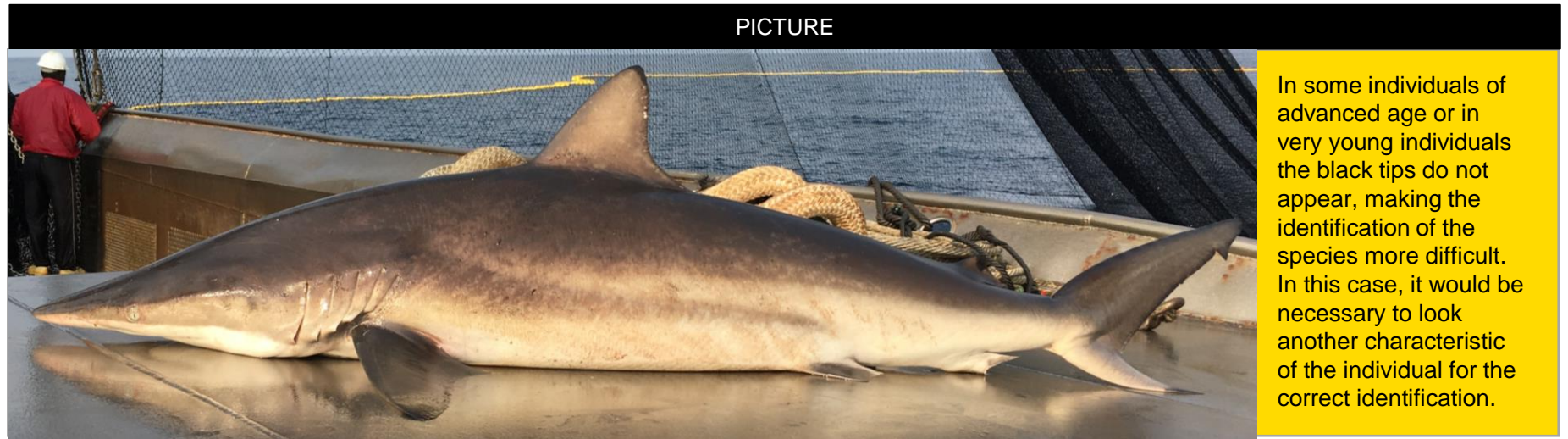
Carcharhinus brevipinna

EN: Spinner Shark | **FR:** Requin tisserand | **ES:** Tiburón

picudo o de aleta negra

Max TL: 275-300 cm

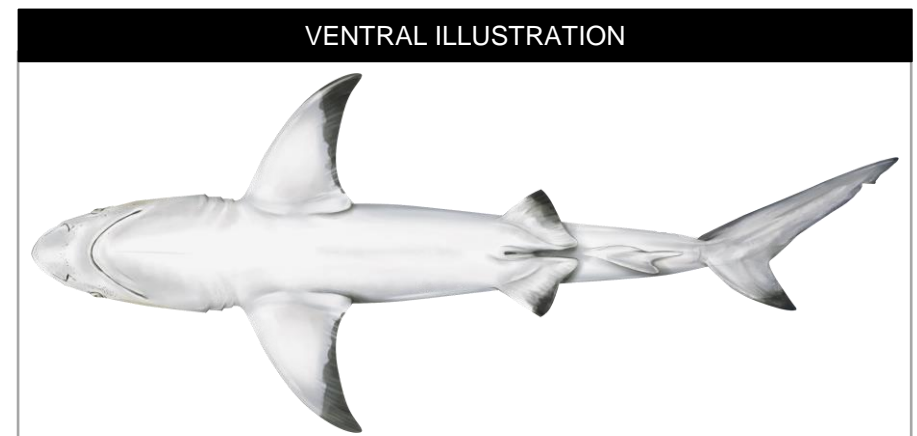
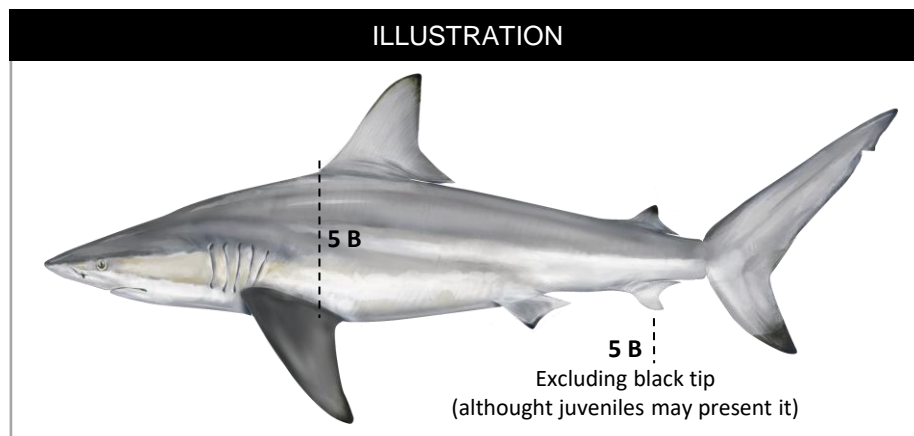
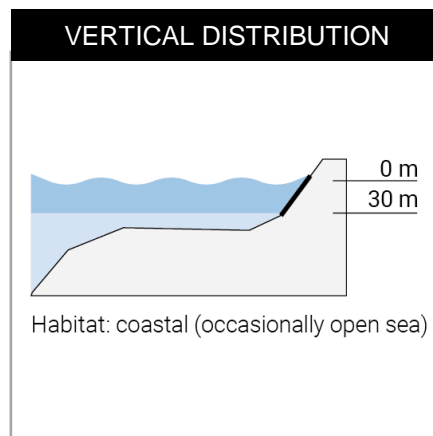
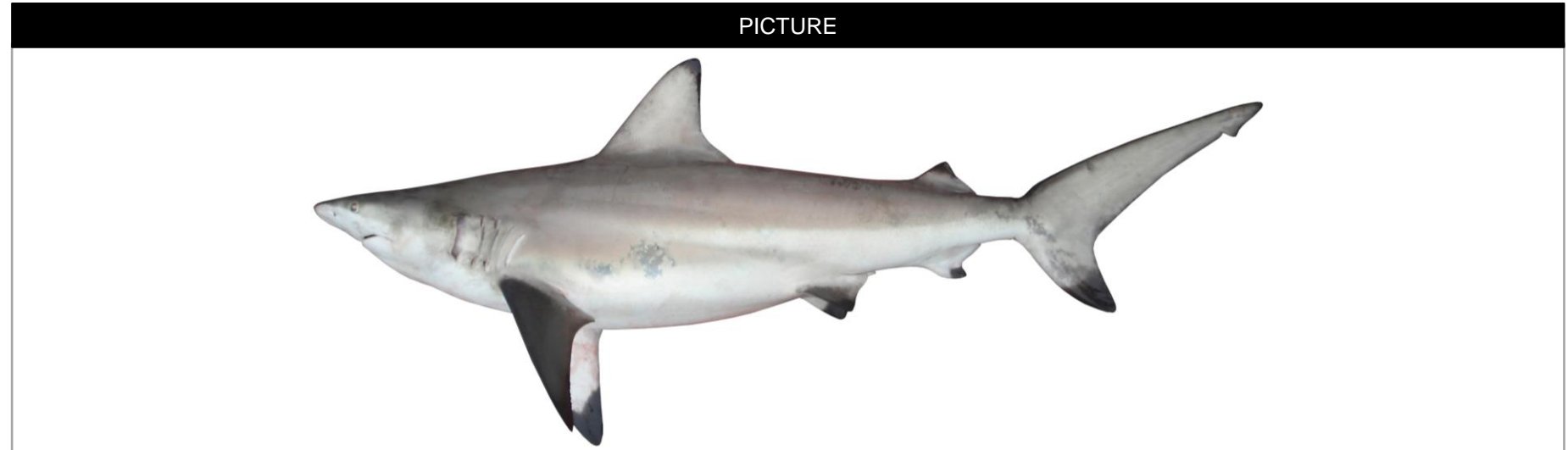
IDENTIFICATION KEY		GO TO
4 A	With prominent black tips on the fins (always on the pectoral fins, second dorsal fin and lower lobe, on the other fins only sometimes)	5
4 B	Other characters	6
5 A	Origin of the first dorsal fin on or behind free rear tip of the pectoral fins (to differentiate with <i>C. limbatus</i> only in adults). Fins with black tips, including the anal fin (in individuals > 80 cm; in juveniles fins without markings). Prominent labial furrows (longer than any other <i>Carcharhinus</i>)	✓



Carcharhinus limbatus

EN: Blacktip Shark | **FR:** Requin bordé | **ES:** Tiburón macuira, Tiburón de puntas negras
Max TL: 275 cm

	IDENTIFICATION KEY	GO TO
5 B	Origin of the first dorsal fin on the inner margin of the pectoral fins (only to differentiate in adult individuals, not in juveniles). Fin with black tips, excluding the anal fin, although they tend to lose them with age	✓



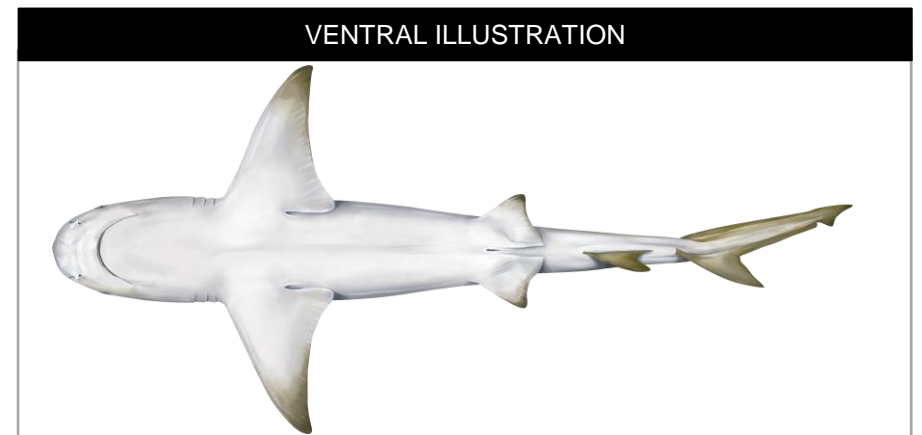
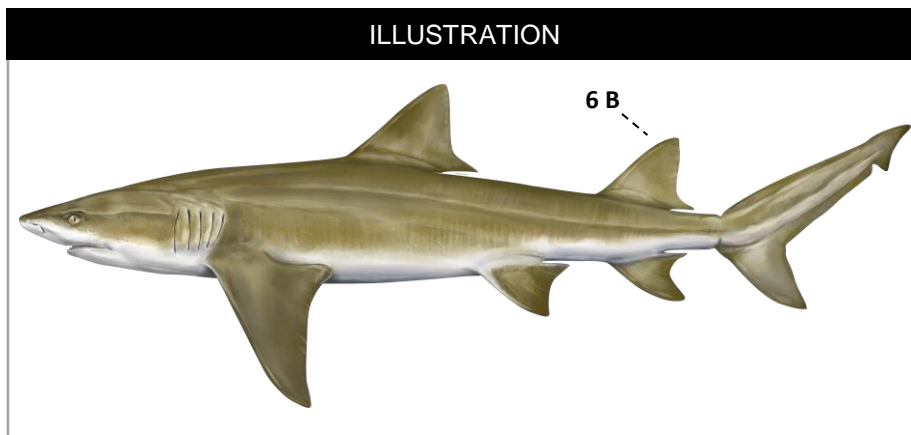
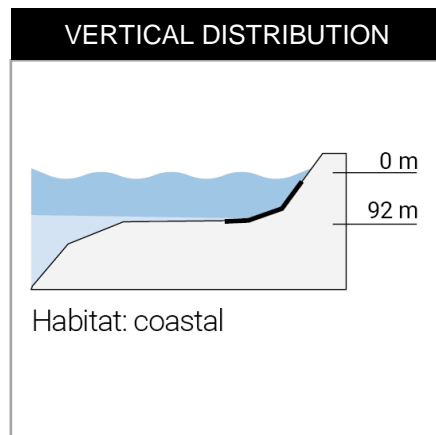
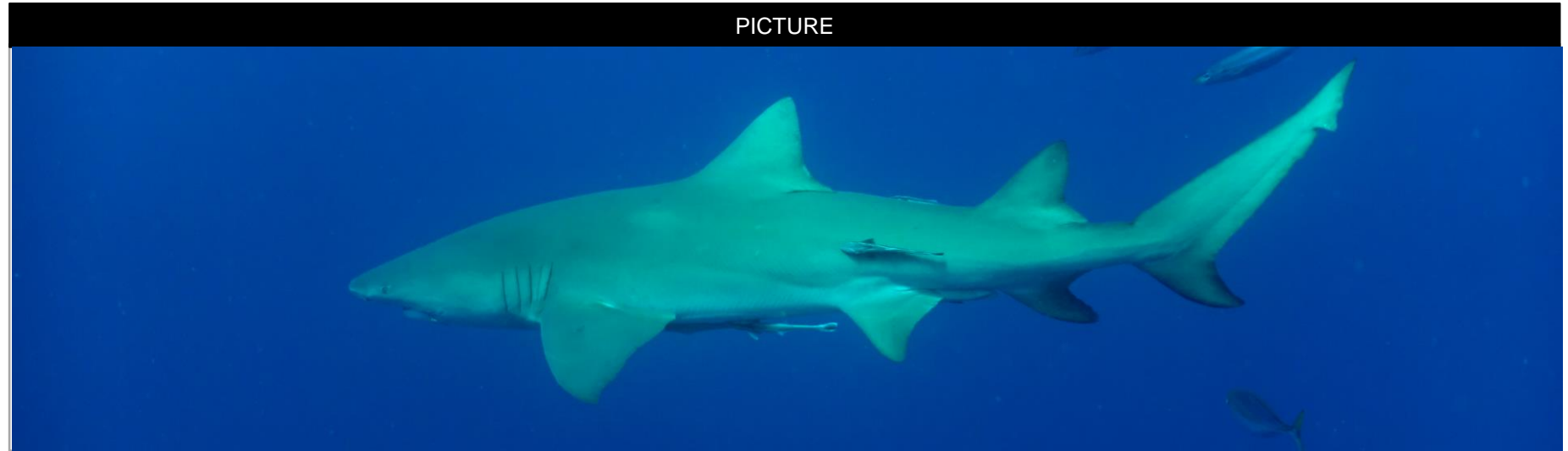
Negaprion brevirostris

EN: Lemon shark | FR: Requin limon | ES: Tiburón limón

- Tiburón galano

Max TL: 340 cm

	IDENTIFICATION KEY	GO TO
6 A	First dorsal fin significantly larger than the second dorsal fin	7
6 B	Second dorsal fin approximately as large as the first dorsal fin	✓




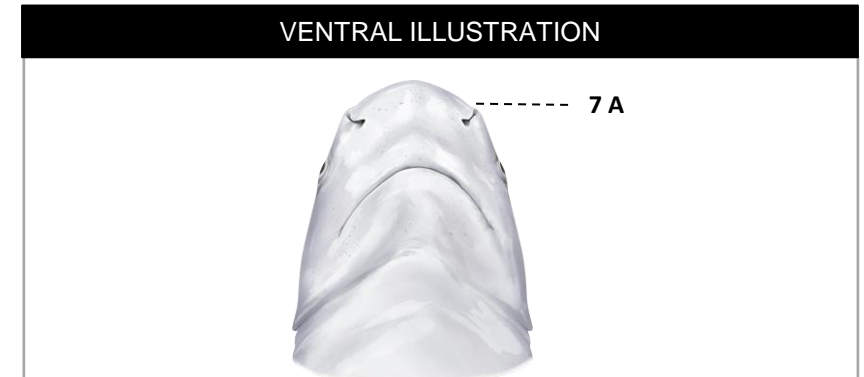
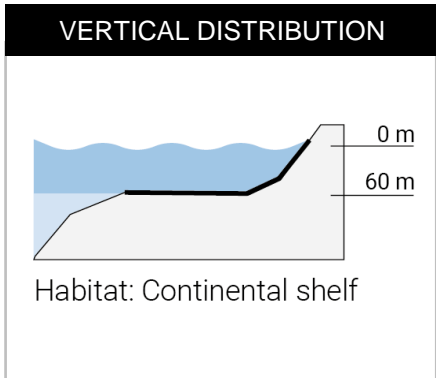
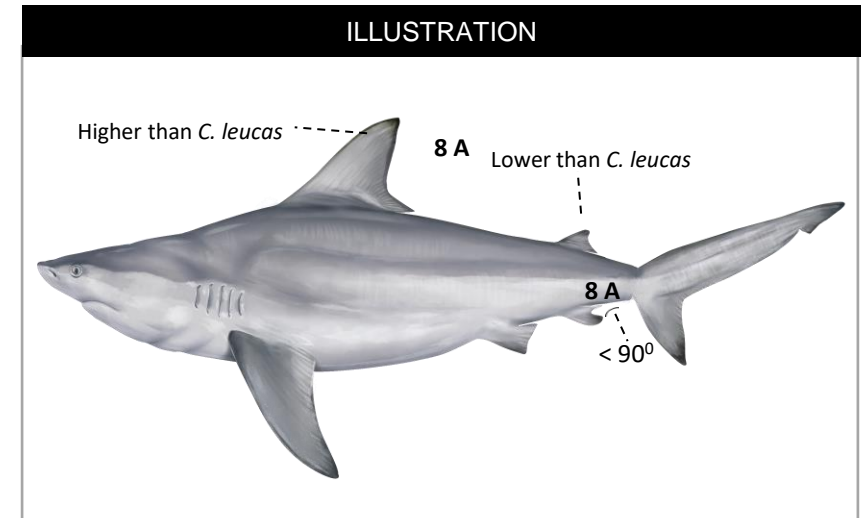
Carcharhinus amboinensis

EN: Pigeye shark | **FR:** Requin balestrine

ES: Tiburón chato -Tiburón de Java

Max TL: 280 cm


	IDENTIFICATION KEY	GO TO
7 A	Very short and wide snout (flat)	8
7 B	Moderately long and more pointed snout	9
8 A	First dorsal fin height more than 3 times second dorsal fin height. Notch on posterior margin of anal fin relatively acute (< 90°). Number of vertebrae to the precaudal between 89-95	

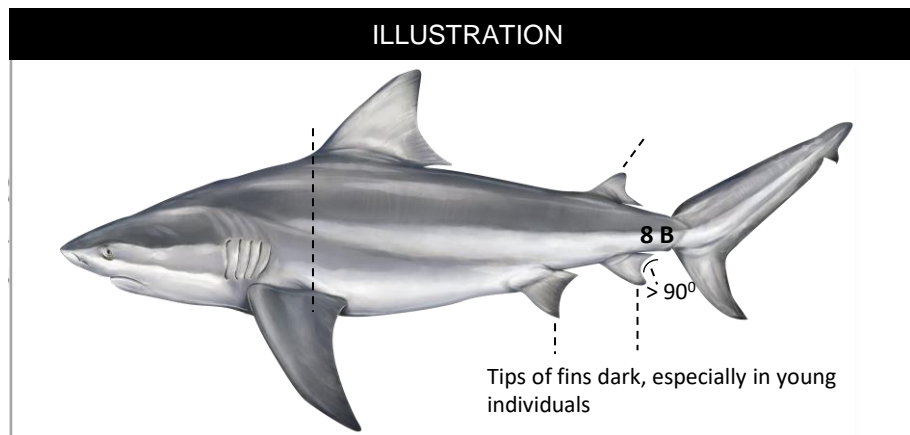
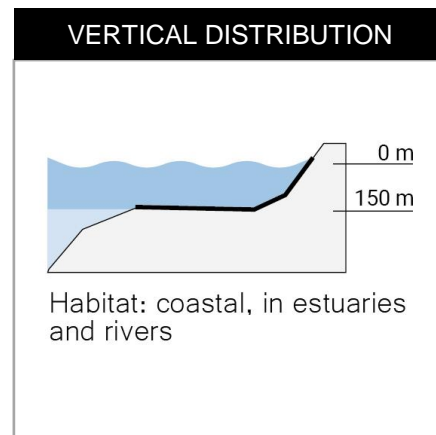
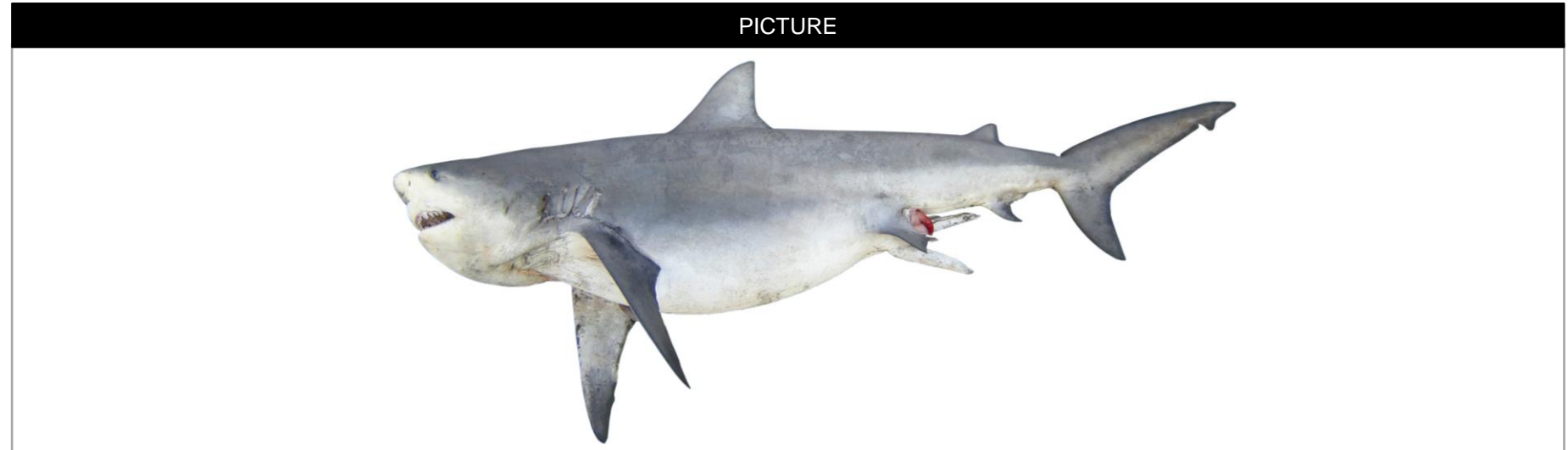
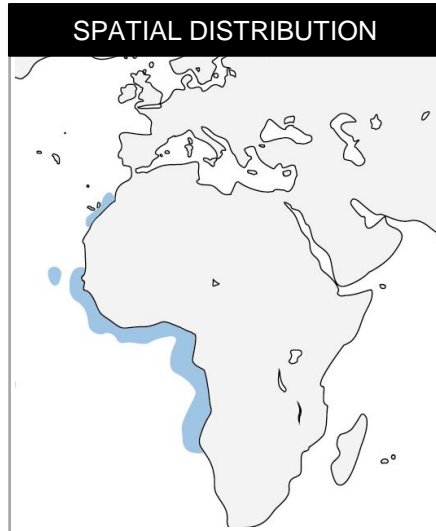


Carcharhinus leucas

EN: Bull shark | **FR:** Requin bouledogue | **ES:** Tiburón sarda

Max TL: 360 cm


	IDENTIFICATION KEY	GO TO
8 B	First dorsal fin triangle and < 3 higher than the second dorsal fin. Notch on posterior margin of anal fin obtuse (forming a right angle 90° or more). Vertebral counts (precaudal) between 101-123	

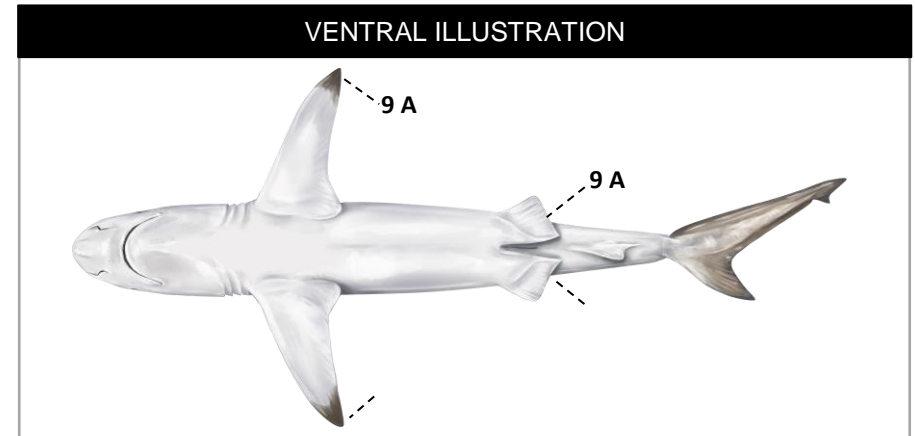
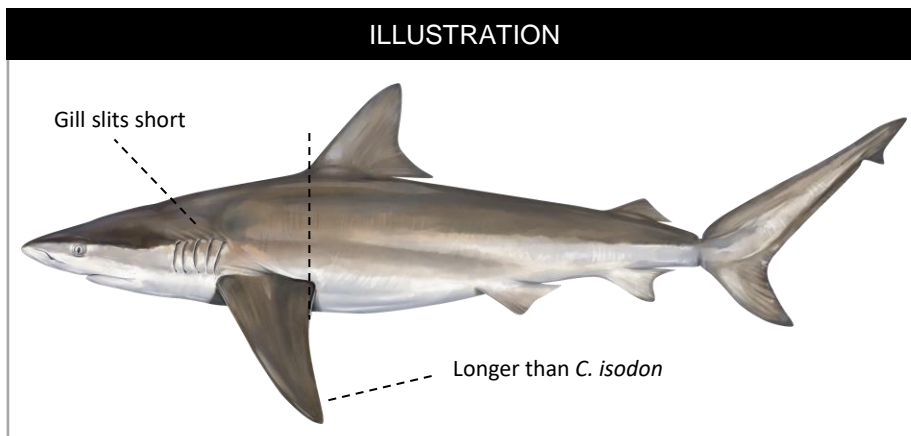
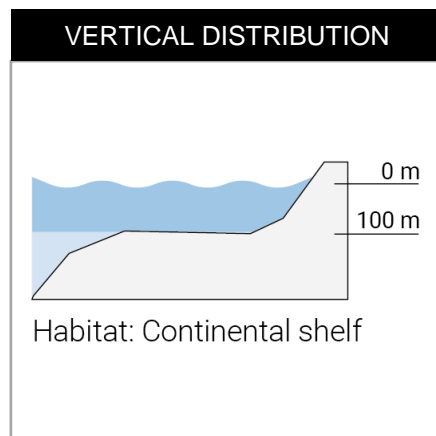
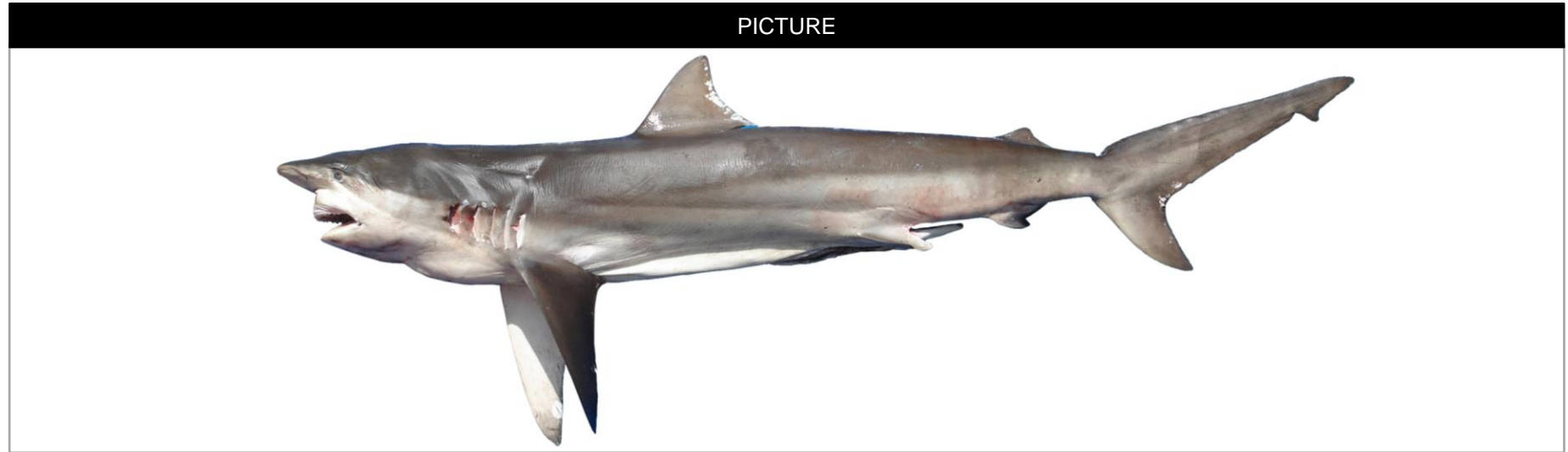
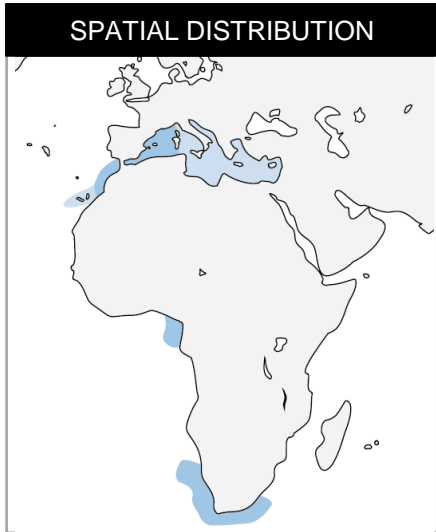


Carcharhinus brachyurus

EN: Copper shark | FR: Requin cuivre | ES: Tiburón cobrizo

Max TL: 294 cm

	IDENTIFICATION KEY	GO TO
9 A	Moderately long pectoral fins with inconspicuous dark tips (not very pronounced) especially on the pelvic fin and pectoral fins	



Carcharhinus isodon

EN: Finetooth shark | ES: Tiburón dentiliso

Max TL: 190 cm

IDENTIFICATION KEY

GO TO

9 B

Small pectoral fins and without prominent fin markings.
Very long gill slits

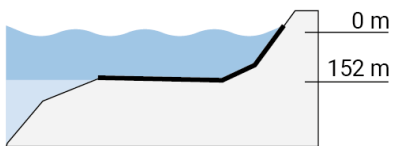


SPATIAL DISTRIBUTION



Records in the Central Eastern Atlantic, from Senegal to Guinea Bissau although unconfirmed and probably erroneous

VERTICAL DISTRIBUTION

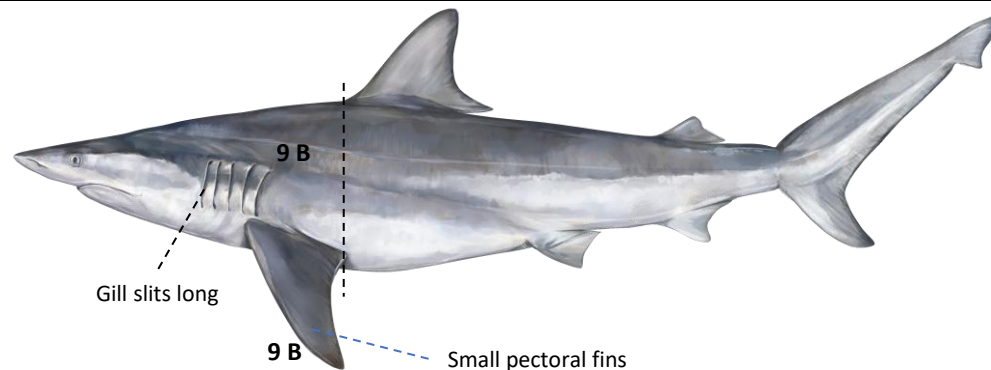


Habitat: coastal

PICTURE



ILLUSTRATION



VENTRAL ILLUSTRATION

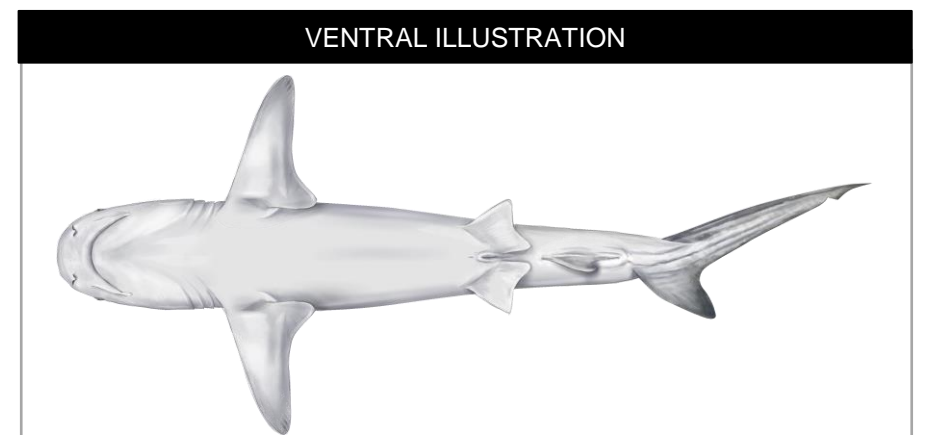
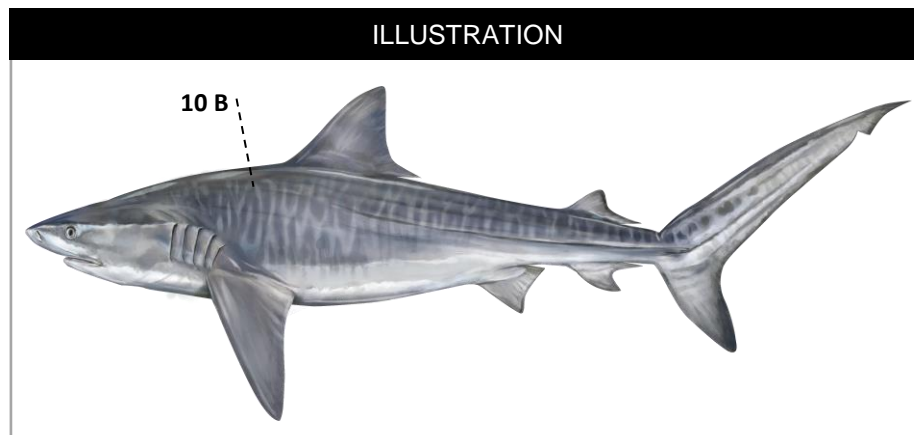
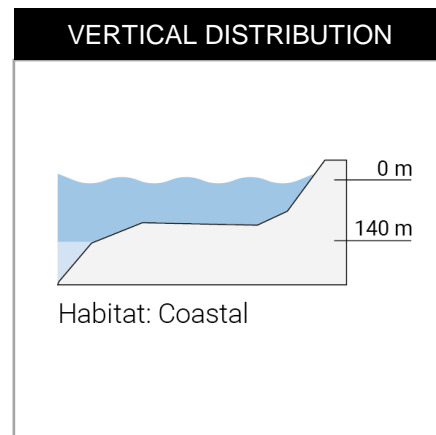
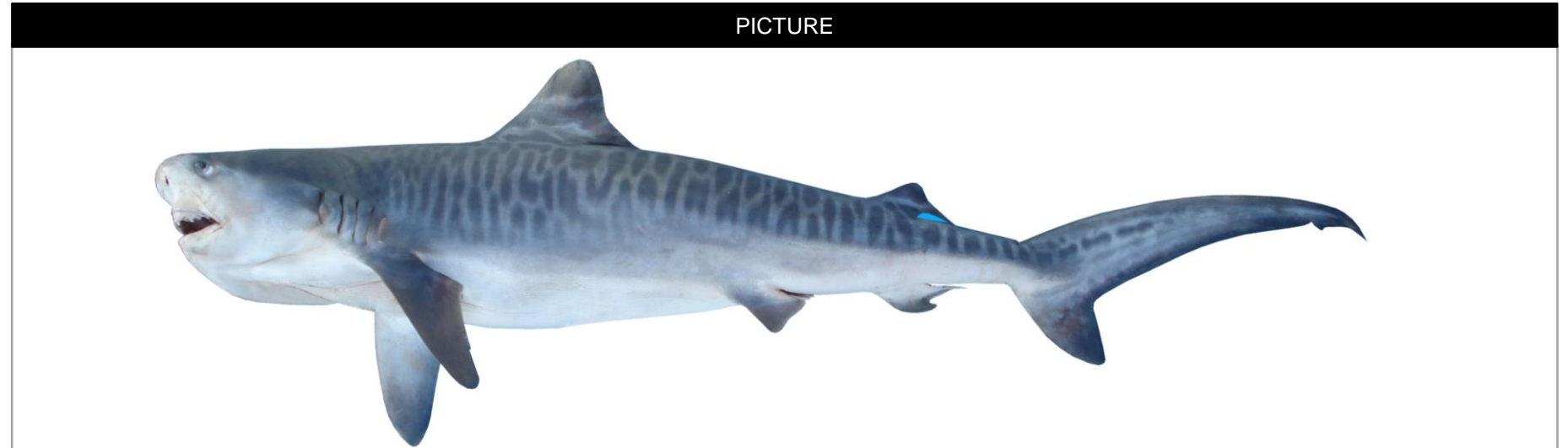


Galeocerdo cuvier

EN: Tiger shark | FR: Requin tigre | ES: Tiburón tigre

Max TL: > 550 cm

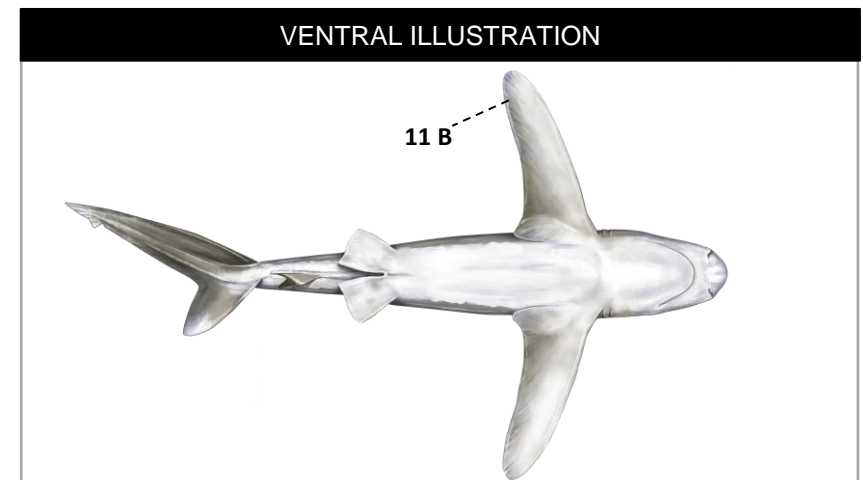
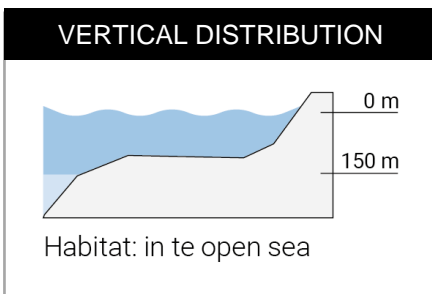
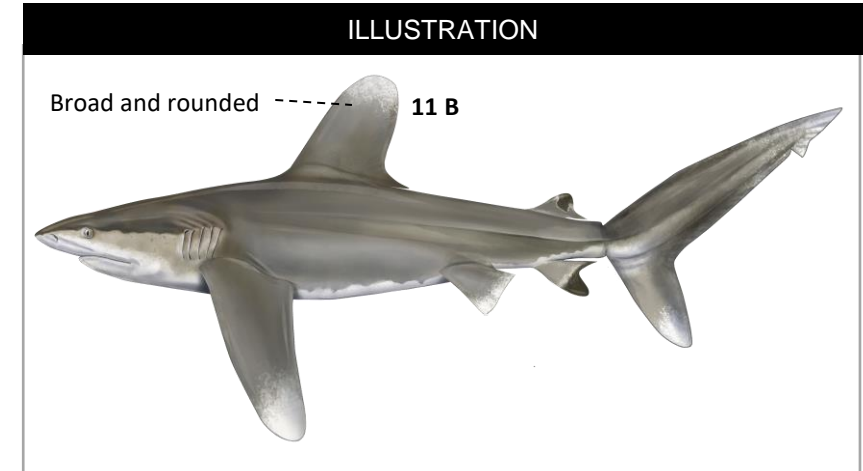
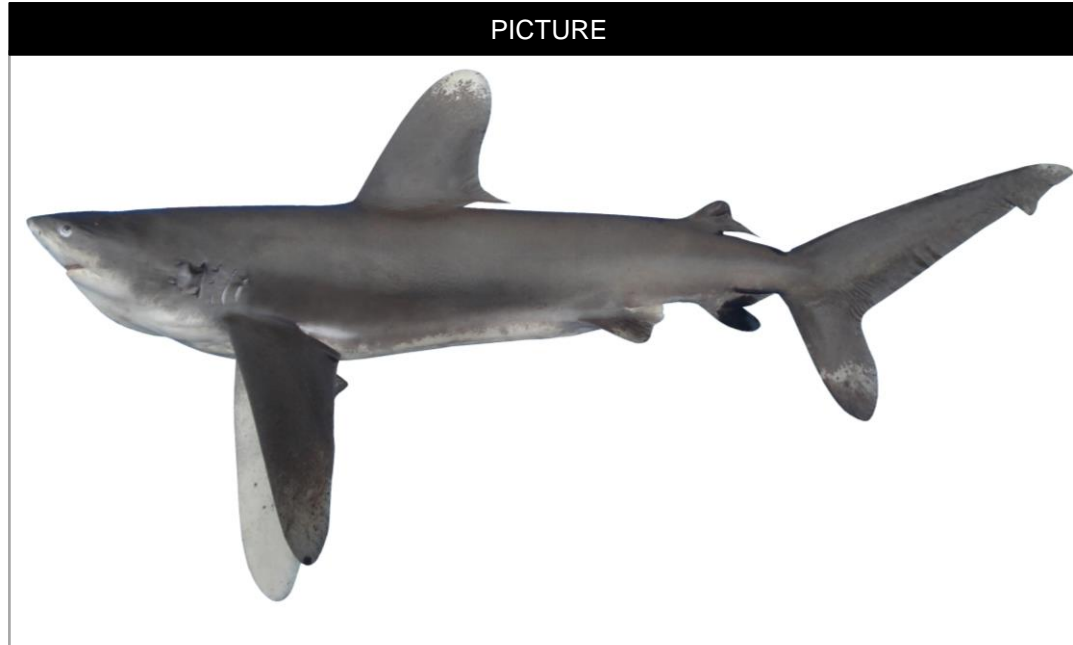
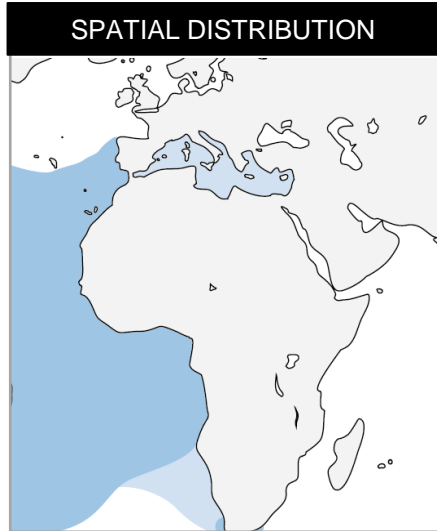
	IDENTIFICATION KEY	GO TO
10 A	No elongated dark spots on the body	11
10 B	Vertical stripes and elongated dark spots on the body	✓



Carcharhinus longimanus

EN: Oceanic whitetip shark | **FR:** Requin océanique, longimane |
ES: Tiburón oceánico de puntas blancas
Max TL: 350-400 cm

	IDENTIFICATION KEY	GO TO
11 A	No white spots on fins	11
11 B	Enormously rounded dorsal fin and long, paddle-like pectoral fins, with apices visibly mottled white	✓

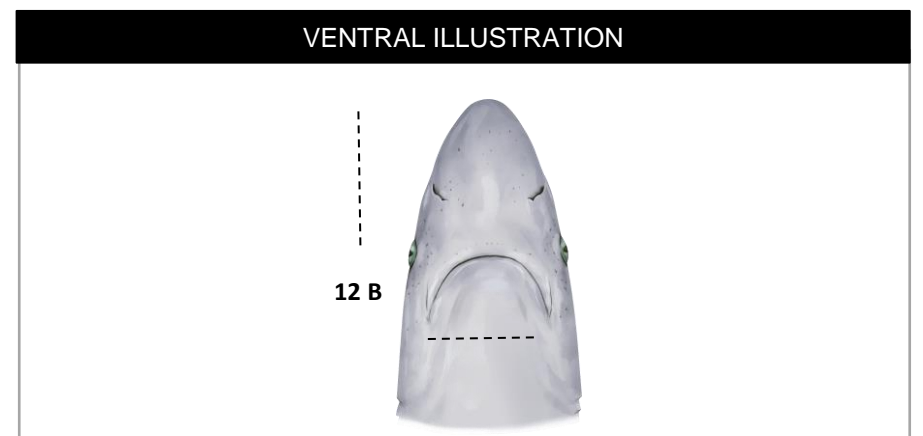
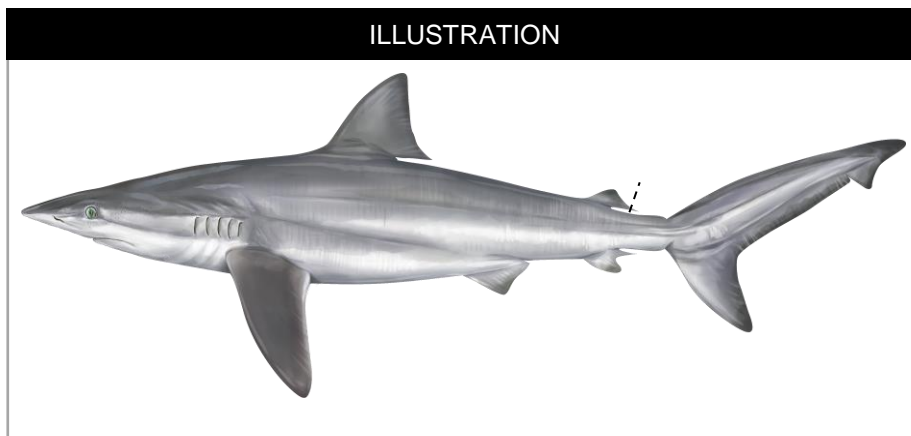
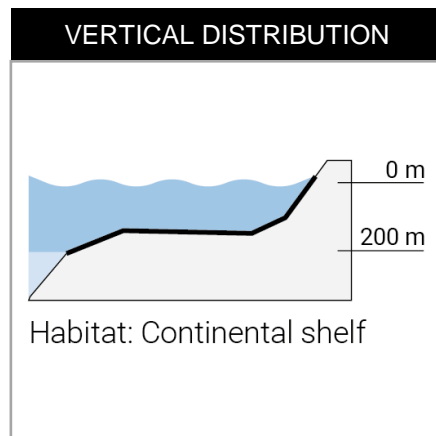
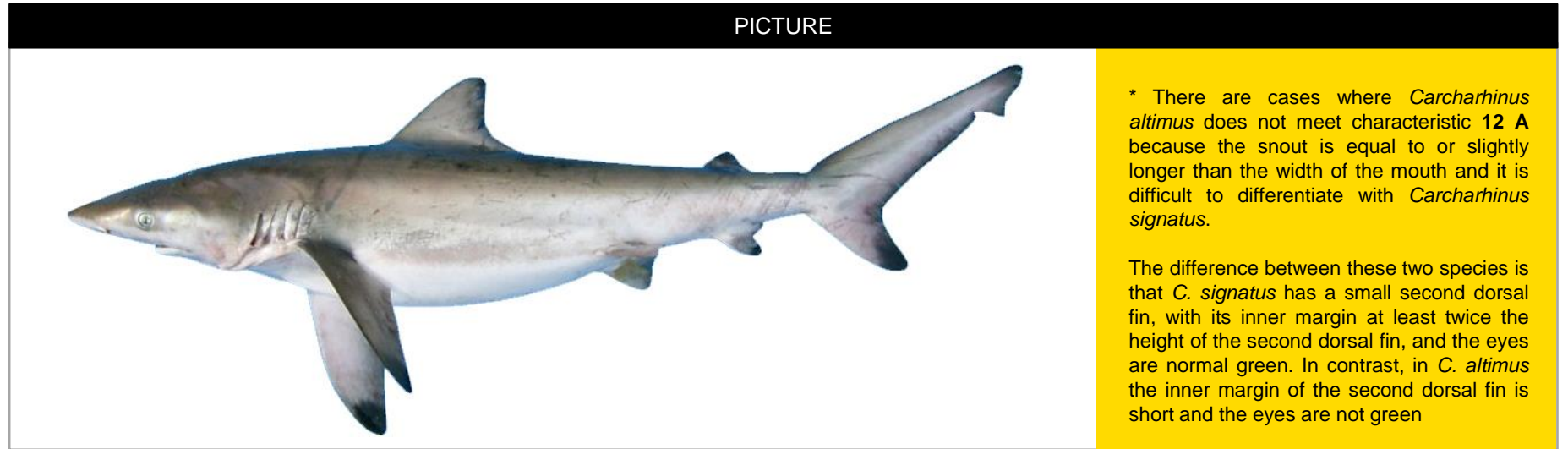


Carcharhinus signatus

EN: Night shark | ES: Tiburón nocturno

Max TL: 280 cm

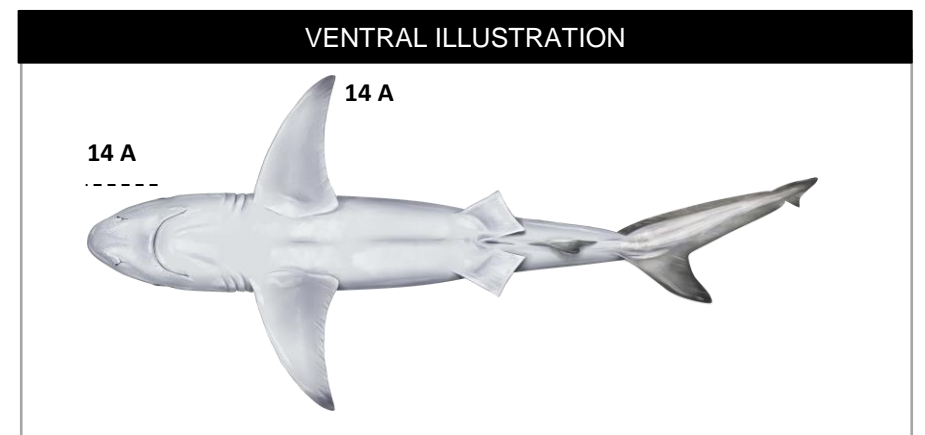
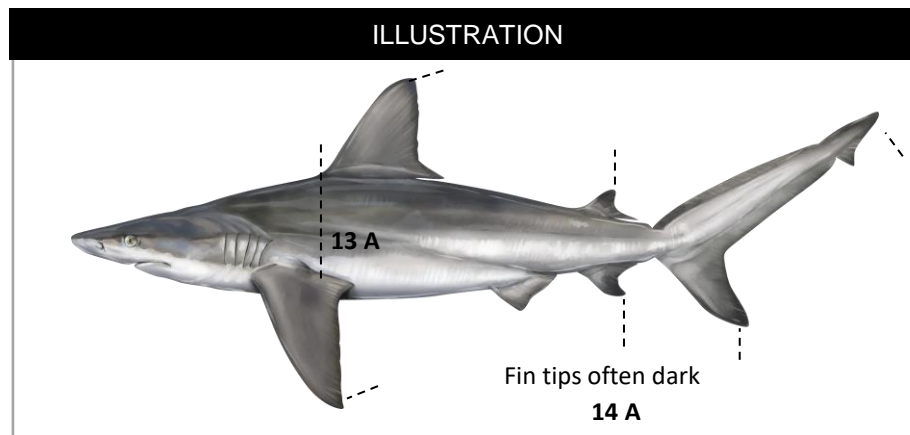
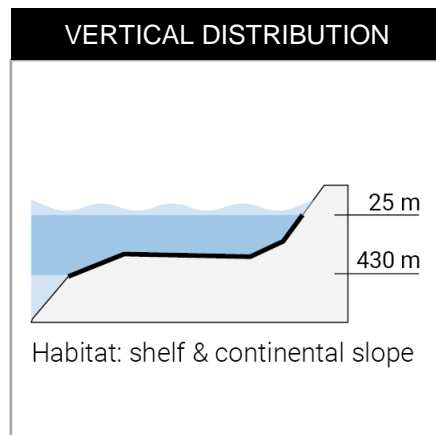
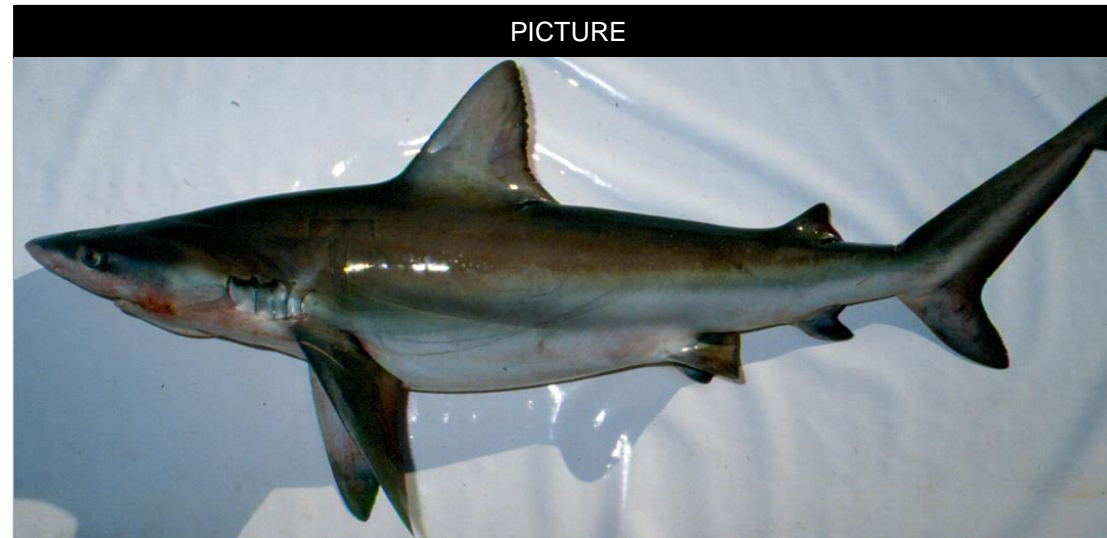
	IDENTIFICATION KEY	GO TO
12 A	Snout more rounded and usually equal to or shorter than the width of the mouth*	13
12 B	Snout pointed or beaked and considerably longer than the width of the mouth. Green eyes when alive	✓



Carcharhinus altimus


EN: Bignose shark | **FR:** Requin babosse |
ES: Tiburón baboso-jaquetón picoto
Max TL: 300 cm

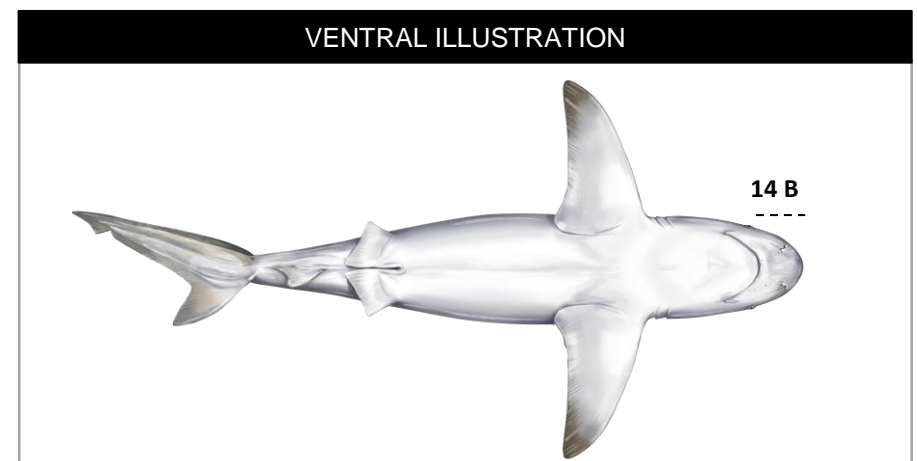
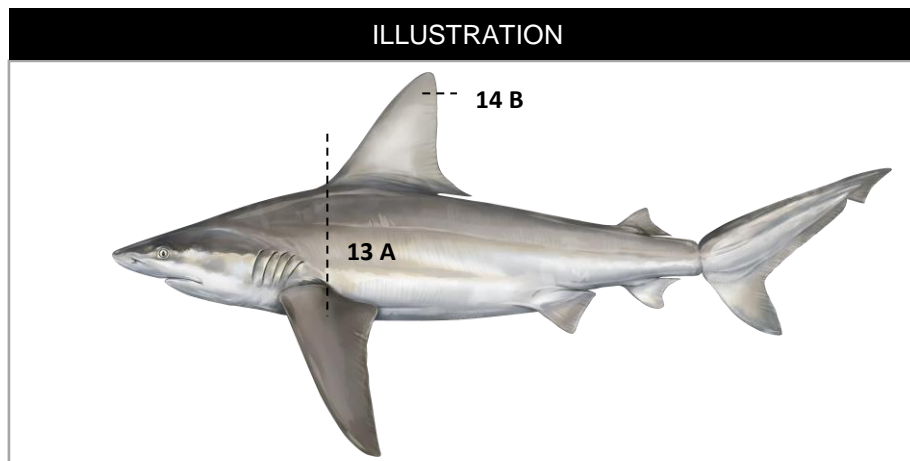
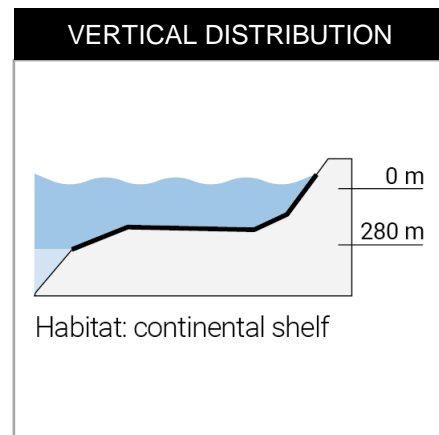
	IDENTIFICATION KEY	GO TO
13 A	Origin of the first dorsal fin on or next to the insertion of the pectoral fins	14
13 B	Origin of the first dorsal fin on or behind the free rear tip of the pectoral fins	15
14 A	Fairly long snout with long nostrils, high interdorsal ridge and dark fin tips (except for the pelvic fin)	✓



Carcharhinus plumbeus

EN: Sandbar shark | **FR:** Requin gris á haute dorsale |
ES: Jaquetón de Milberto - Tiburón trozo
Max TL: 250-300 cm

	IDENTIFICATION KEY	GO TO
14 B	Snout shorter than the width of the mouth. First dorsal fin triangular and very large	

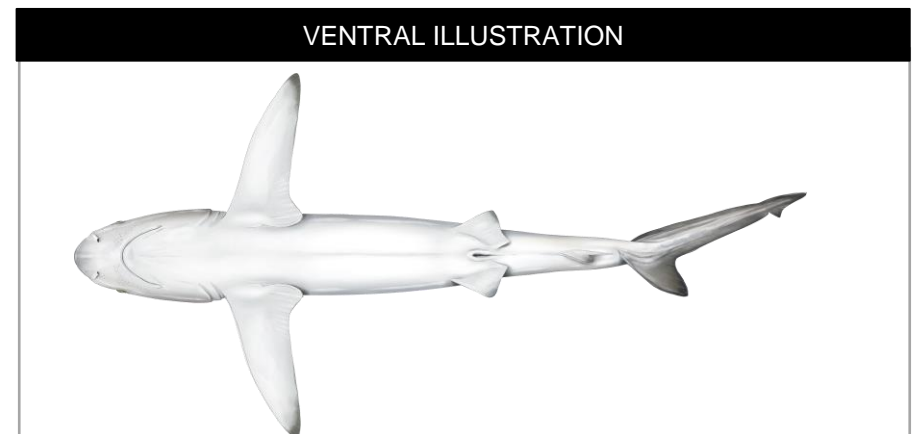
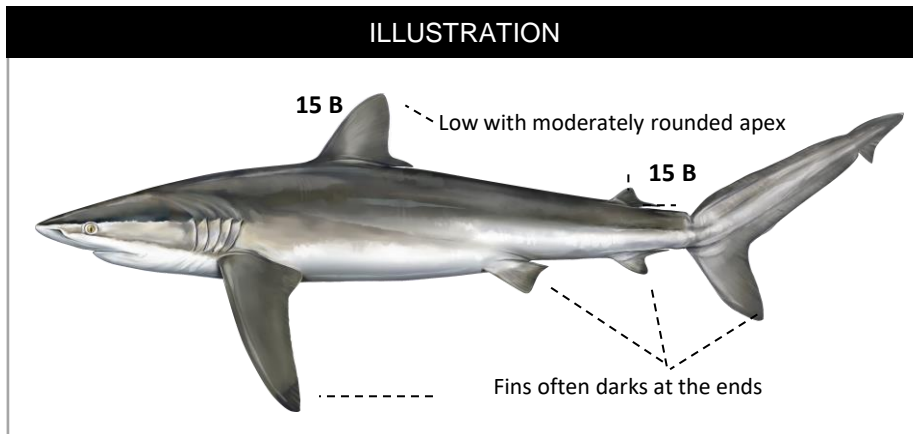
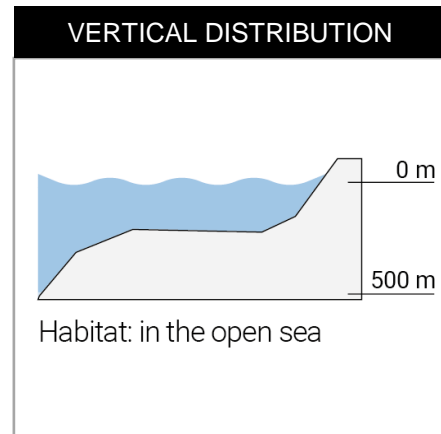
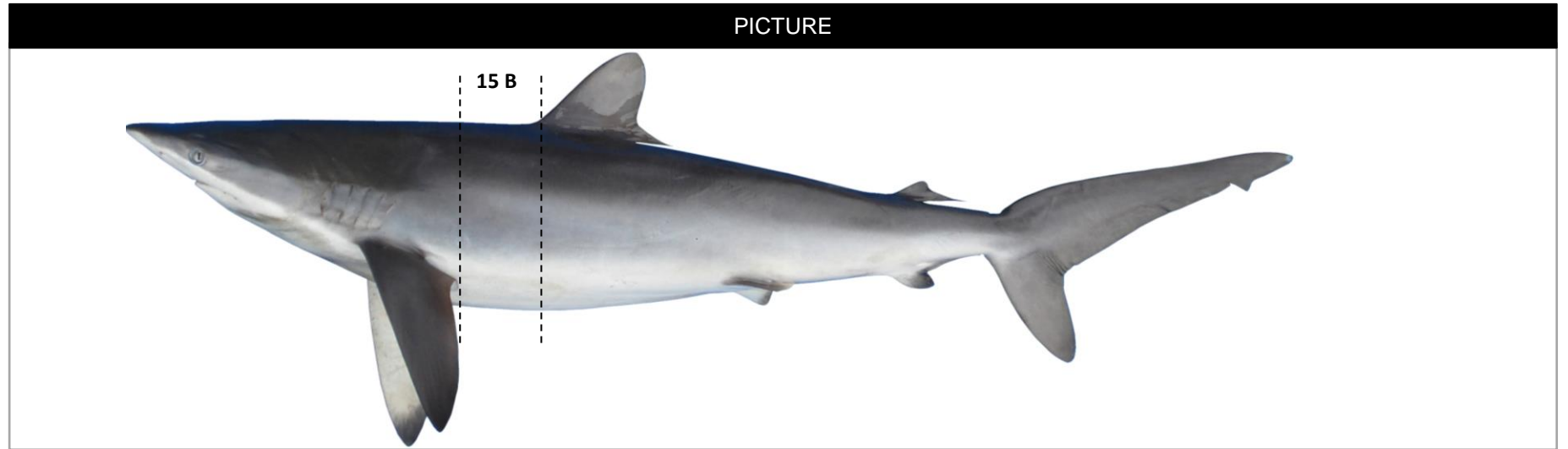


Carcharhinus falciformis

EN: Silky shark | **FR:** Requin soyeux | **ES:** Tiburón sedoso

Max TL: 330-350 cm

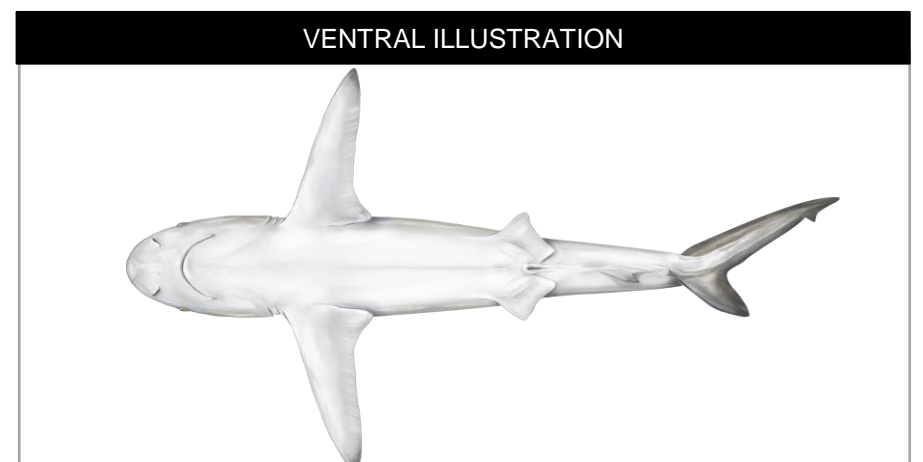
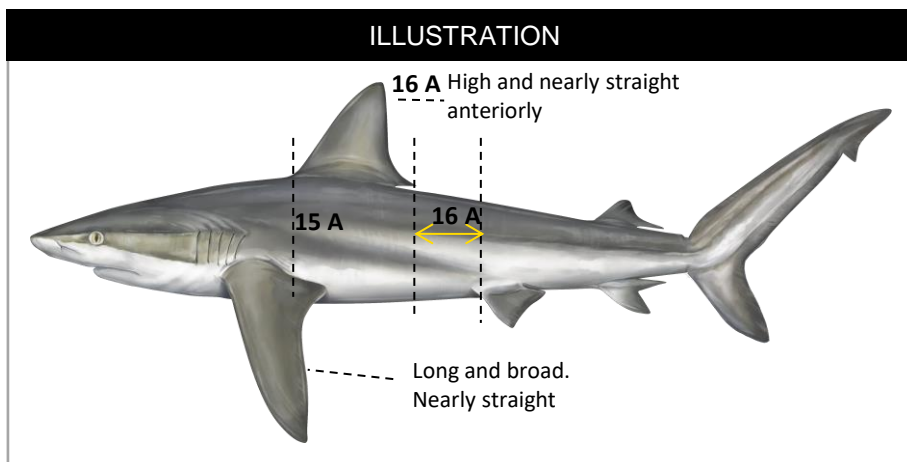
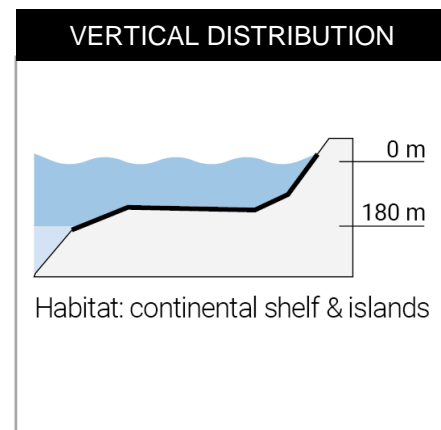
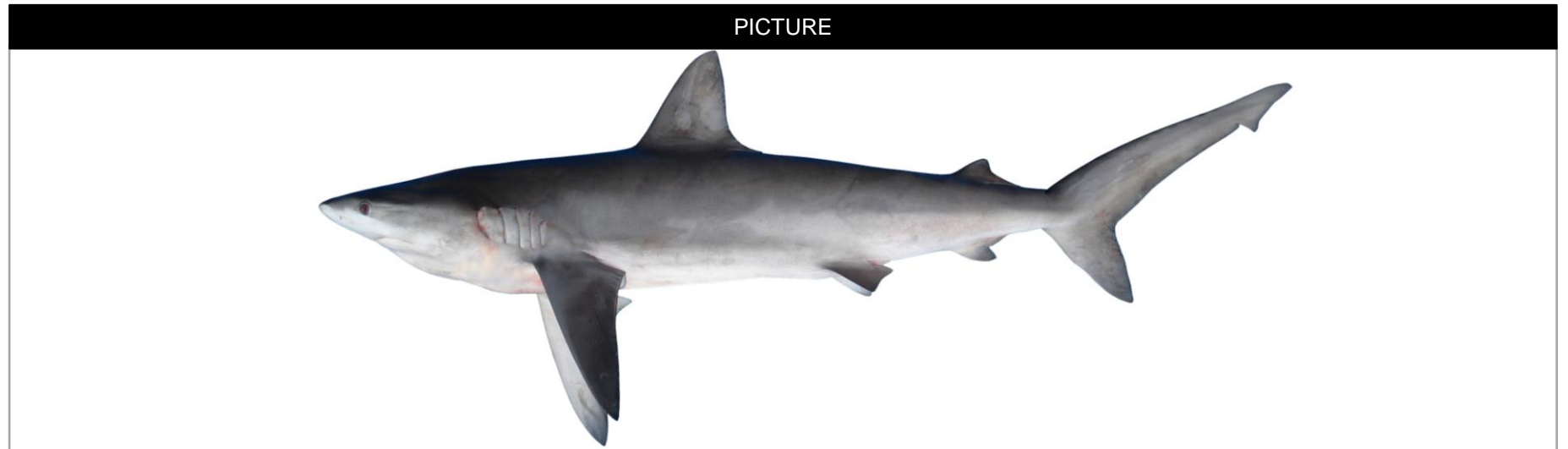
	IDENTIFICATION KEY	GO TO
15 A	First dorsal fin origin about over free rear tip of pectoral fins	16
15 B	First dorsal fin origin behind the free rear tip of pectoral fins. First dorsal fin rounded, and the second dorsal fin small, normally with its inner margin greater than twice the height of the fin	✓



Carcharhinus galapagensis

EN: Galapagos shark | **FR:** Requin de Galapagos |
ES: Tiburón de Galápagos
Max TL: 370 cm

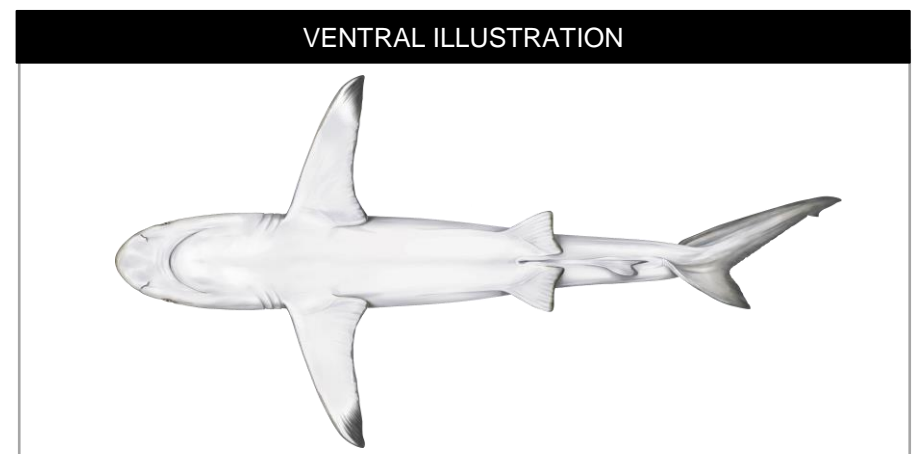
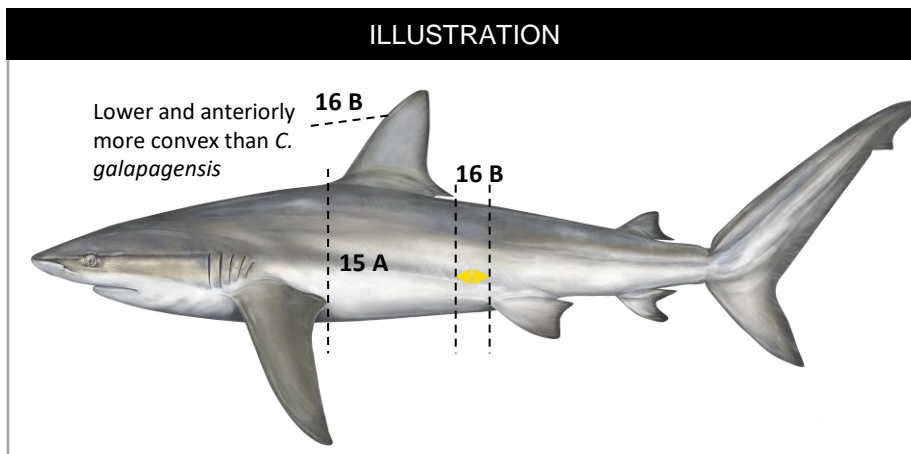
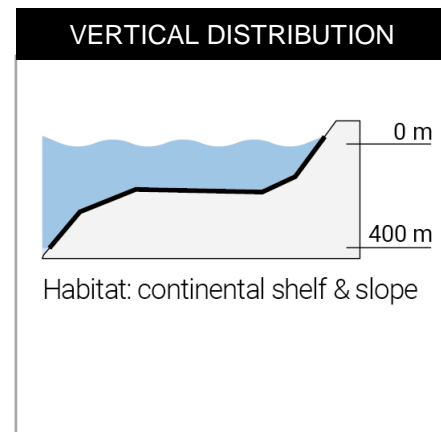
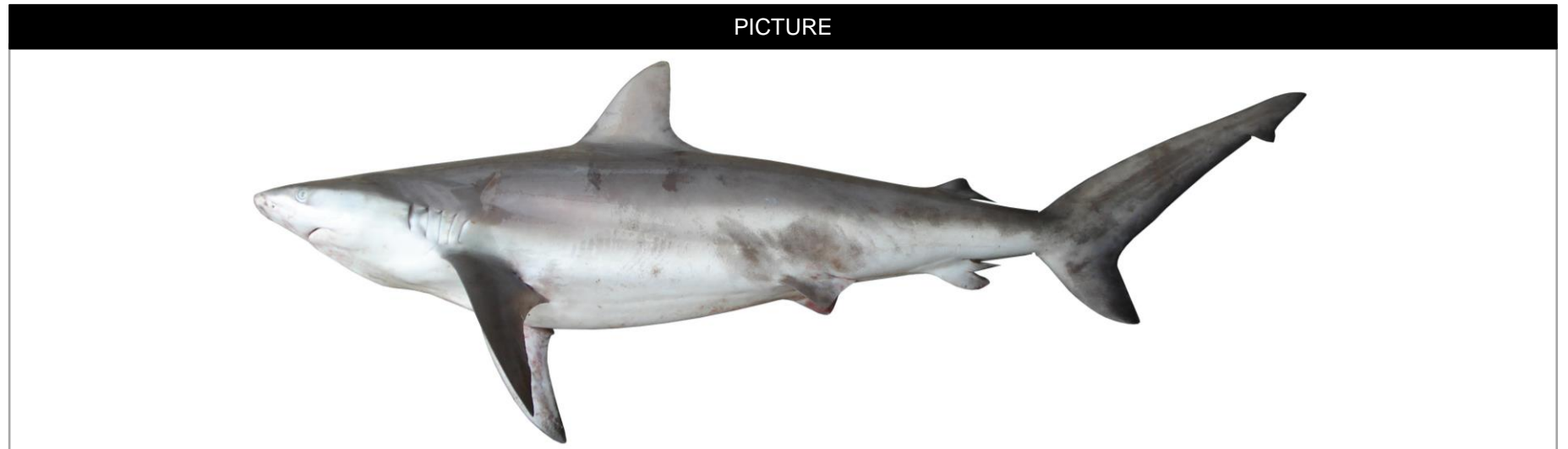
	IDENTIFICATION KEY	GO TO
16 A	First dorsal fin more erect, and origin of the pelvic fin well behind the first dorsal fin. Teeth longer	



Carcharhinus obscurus

EN: Dusky shark | **FR:** Requin sombre | **ES:** Tiburón arenero - Jaquetón lobo
Max TL: 360-380 cm

	IDENTIFICATION KEY	GO TO
16 B	First dorsal fin not as erect, and origin of pelvic fin only slightly behind the first dorsal fin	✓



Acknowledgements

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Shark photos credits

- Bignose shark_Apex Predators Program, NOAA/NEFSC
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- Milk shark_Hamid Badar
- Lemon shark_Maite Erauskin-Extramiana
- Pigeye shark_Tassapon Krajangdara (CC by 3.0)
- Blue shark, Blacktip shark, Bull shark, Copper shark, Tiger shark, Oceanic Whitetip shark, Night shark, Silky shark, Galapagos shark, Dusky shark_Colombo Estupiñan-Montaño (Alium Pacific)





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