



# Field Guide to the Threatened Species of the Seychelles Artisanal Fishery



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## **Introduction**

This guide was developed under the auspices of a GEF-Satoyama funded project entitled: *“The development of a co-management plan, designed by fishers, to minimise the impact of the Seychelles artisanal fishery on threatened species.”*

This project was conceptualised and implemented by the Green Islands Foundation, a Seychelles registered non-governmental organisation dedicated to the mainstreaming of sustainable development. GEF-Satoyama funds were administered by the offices of Conservation International, Japan.

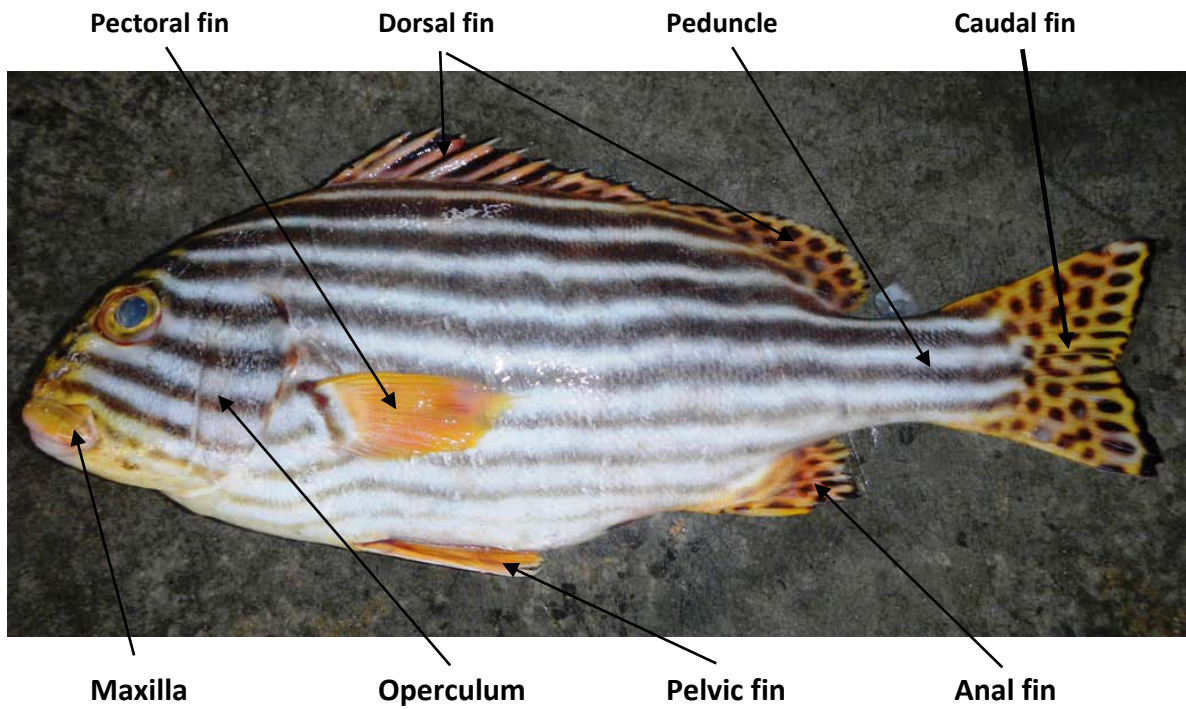
The project was implemented 2016-2018, with an inception phase in 2016, an intensive 12 month catch monitoring regime in 2017 and an extensive fisher consultation throughout. This project identified the Threatened Species (IUCN Red List criteria) caught in the artisanal fishery and established a detailed 12-month record of the catch demography for each species.

This data was presented to nominated representatives of the artisanal fishery and discussed through an iterative consultative process. This process resulted in fishers agreeing protective measures (i.e. minimum catch size, release etc...) for 13 threatened species. These measures were then submitted to the authorities for promulgation into regulations for a 3-year threatened species management plan.

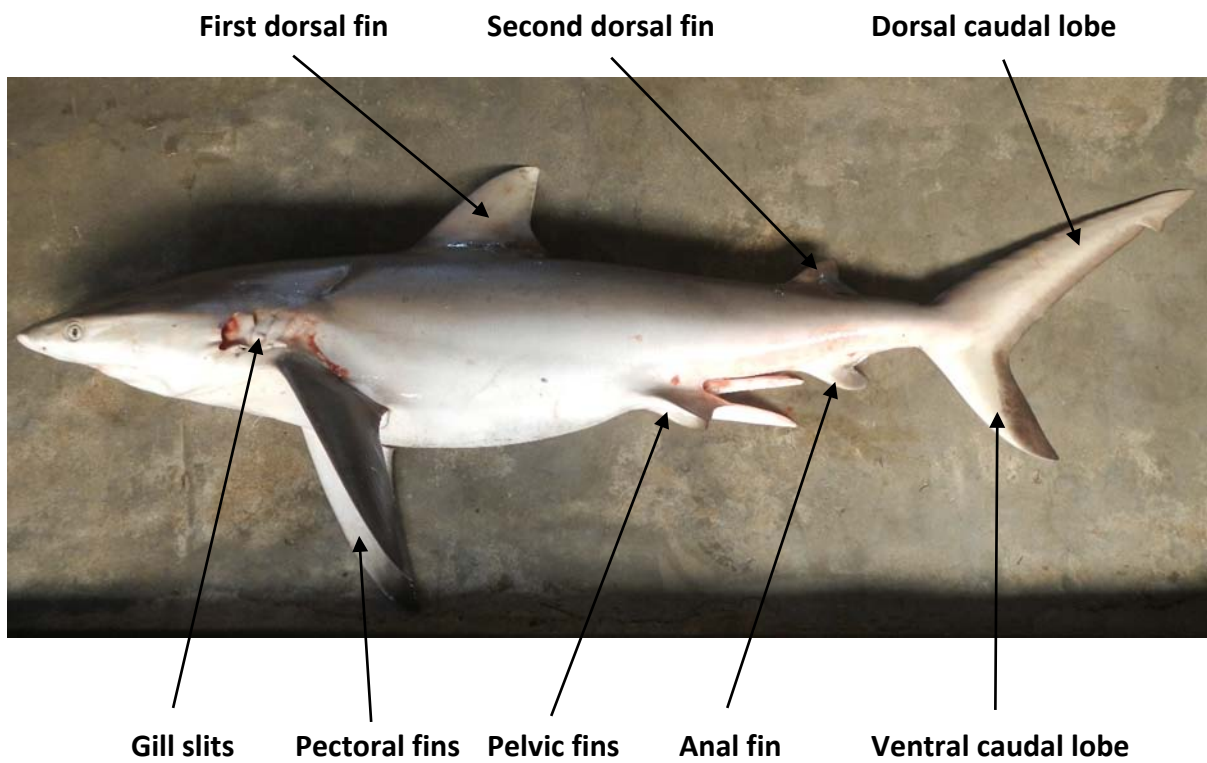
This book serves as an identification guide for threatened species caught in the artisanal fishery. It lists scientific, English, Creole and French names. It includes images and species descriptions to support identification and cites fishery measures where pertinent. The purpose of this guide is to enable fishers to meet their obligations under the management plan and for fishery technicians to monitor its implementation. It will also enable leisure fishers to lessen their impact by identifying and releasing threatened species.

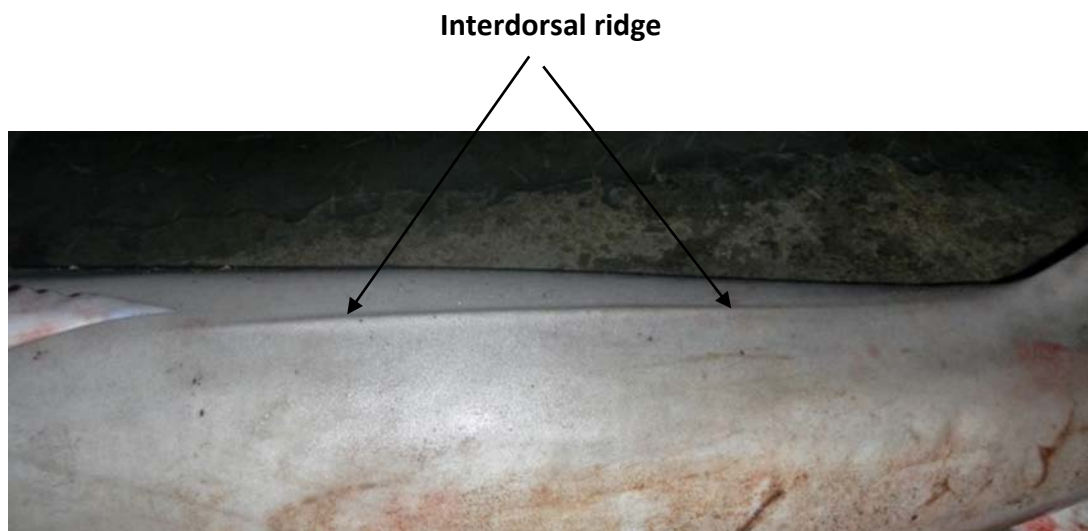
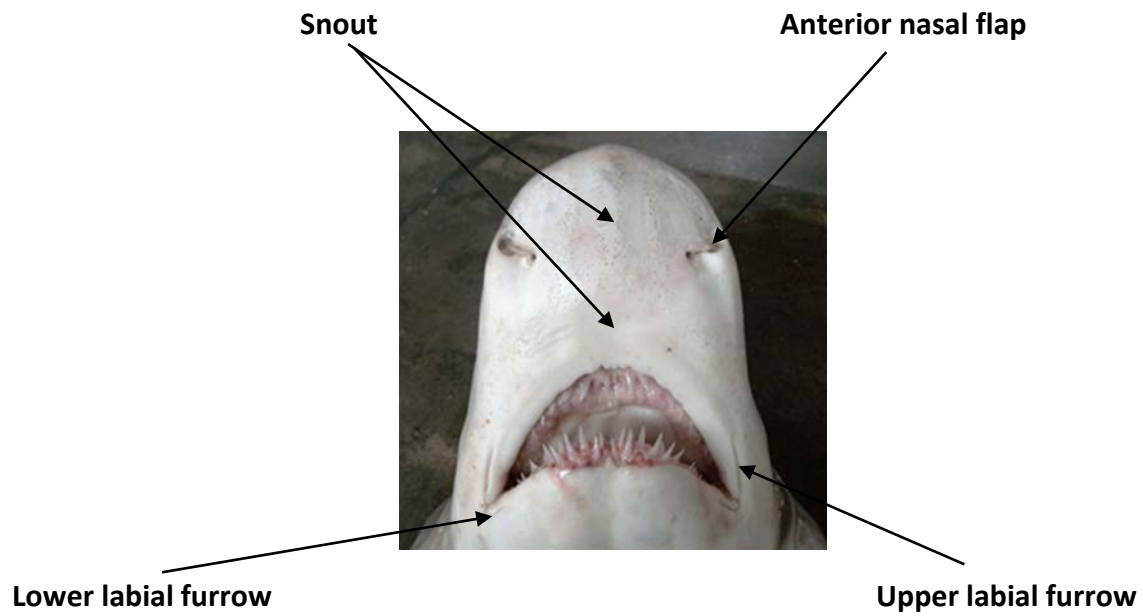
## Morphology

### Teleosts



### Sharks





### Glossary of Terms

- Barbels: Long, slender “whisker-like” sensory organ near the mouth.
- Denticles: Tooth-like dermal scale giving skin rough texture.
- Disc width: The measurement laterally from tip to tip (“wingspan”) of a ray.
- Spiracles: Respiratory openings behind the eye of cartilaginous fish.
- Total Length: The measurement of length from tip of nose to tip of tail.

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3	<i>Epinephelus lanceolatus</i>	Vyey Krab	Giant grouper	Vulnerable
4	<i>Plectropomus laevis</i>	Babonn	Blacksaddled coralgrouper	Vulnerable
5	<i>Sphyrna lewini</i>	Marto Rouz	Scalloped hammerhead	Endangered
6	<i>Sphyrna mokarran</i>	Marto Blan	Great hammerhead	Endangered
7	<i>Carcharhinus albimarginatus</i>	Reken Waro	Silvertip shark	Vulnerable
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10	<i>Nebrius ferrugineus</i>	Landormi	Tawny nurse shark	Vulnerable
11	<i>Negaprion acutidens</i>	Kabo Roz	Sharptooth lemon shark	Vulnerable
12	<i>Rhina ancylostoma</i>	Gitar/Pantouf	Bowmouth ray	Vulnerable
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20	<i>Urogymnus asperrimus</i>	Lare Boukle	Porcupine ray	Vulnerable



**Scientific Name***Cheilinus undulatus* (Ruppel, 1835)**English**

Humphead/Napoleon wrasse

**Creole**

Aya zerar

**French**Napoléon**Photo A****Photo B****IUCN Red List Status:**

Endangered (EN)

**Description:** This species is readily identifiable. It is the largest species in the wrasse family. It has remarkable colouration ranging from bright metallic blue-green (Photo A) to dull blue green for males and red-orange to olive green for females (Photo B). The scale colouration gives a distinctive tessellated pattern to the flanks. Two black lines run posteriorly from the eyes. There is an intricate pattern of orange-brown lines and spots on the face. Adults exhibit a large prominent hump on the forehead and large fat lips. The caudal fin of juveniles has a prominent yellow margin.

**Size:** Max Length: 229 cm. Common length: 60 cm TL. Males are typically larger than females, with females rarely exceeding 100 cm TL.

**Fishery Status. Minimum catch size 60 cm TL**

**Scientific Name**

*Bolobometopon muricatum*  
( Valenciennes, 1840 )

**English**

Green humphead parrotfish

**Creole**

Filanbaz

**French**

Perroquet bossu vert

**Photo A**



**Photo B**



**IUCN Red List Status:**

Vulnerable (VU)

**Description:** Distinct hump on head, dark green colouration (dark blue edges to operculum and fins) and large size of adults make them easy to identify (Photo A). Juveniles are a dull grey with scattered white spots (Photo B), gradually transitioning to dark green.

**Size:** Max Length: 130cm TL. Common Length: 70cm TL. Largest of all the parrotfishes.  
**Maturity:** Range 62cm - ? FL.

**Fishery Status. Minimum catch size 60cm TL**



**Scientific Name**

*Epinephelus lanceolatus* (Bloch, 1790)

**English**  
Giant grouper

**Creole**  
Vyey krab

**French**  
Mérou lancéolé



**IUCN Red List Status:**

Vulnerable (VU)

**Description:** Very large, heavy set grouper. Adults are dark olive green-brown to dark grey colouration with variable amount of grey blotches. Fins yellow with black spots, fins becoming darker in larger individuals. Juveniles (no photo) are yellow with broad dark bars and irregular dark spots on the fins. Caudal fin is rounded.

**Size:** Largest member of the Grouper family and largest of all coral reef dwelling teleosts.

**Maturity:** Lm unknown. Range 129cm - ? Max Length: 270 cm TL; Common Length: 190 cm TL.

**Fishery Status. Minimum catch size 60cm TL**

**Scientific Name***Plectropomus laevis* (Lacepède, 1801 )**English**

Blacksaddled coralgroupers

**Creole**

Babonn

**French**Mérou sellé**Photo A****Photo B****IUCN Red List Status:**

Vulnerable (VU)

**Description:** Elongate body 3-4 times as long as deep. Occurs in two distinct colour forms. The pale black-saddled form (Photo A) is whitish or pale yellowish with 5 dorsolateral dark brown to black saddles or wedge-shaped bars. Small dark-edged blue spots may be visible on the body particularly inside the "saddle" edges. Snout, jaws, fins and caudal peduncle are yellow. The dark form (Photo B) is red to blackish red with numerous dark-edged blue spots on head, back, flanks (not ventrally) and dorsal rays, caudal, anal and pectoral fins. Pectoral fins dark distally. The saddles fade in the dark form and maybe difficult to perceive.

**Size. Maturity:** Lm unknown, range 60 - ? cm. Max length: 125 cm TL; Common length: 80 cm SL.

**Fishery Status:** No Restrictions.

**Scientific Name***Sphyrna lewini* (Griffith & Smith, 1834)**English**

Scalloped hammerhead

**Creole**

Marto rouz

**French**

Requin-marteau halicorne

**IUCN Red List Status:**

Endangered (EN)

**Description:** A large hammerhead light grey-brown dorsally (mature females often a much darker olive-grey shade) fading to cream or white ventrally. The anterior edge of the cephalophoil (head) has a distinctive central notch flanked either side by two further indentations giving the head its characteristic scalloped appearance. The body has a laterally flattened fusiform (spindle) shape. The first dorsal fin is high and moderately falcate. The pectoral fins are ventrally black-tipped and there is a terminal dark blotch on the lower caudal lobe. Black tips fading to dusky or just dark edged in adults. No interdorsal ridge. Mid-sized gills. Large round eyes placed in middle of lateral cephalophoil processes. Mouth quite acutely arched.

**Size.** Maturity: male 140-165 TL, female approx. 210 cm TL.

Max Length: males 370cm TL, females 420cm TL.

**Fishery Status:** No Size restrictions. Illegal to fish with gill nets.



**Scientific Name***Sphyrna mokarran* (Ruppell, 1837)**English**

Great hammerhead

**Creole**

Marto blan

**French**

Grand requin marteau

**IUCN Red List Status:**

Endangered (EN)

**Description:** A very large hammerhead. Grey-brown dorsally white ventrally. Shallow notch at the centre of an otherwise near straight cephalofoil (head) in adults (gently curved in juveniles). This gives an overall somewhat rectangular appearance to the cephalofoil particularly when viewed from the ventral surface. Mid-sized gill slits. Medium sized eyes situated towards the front of the lateral cephalofoil processes. The first dorsal fin is very high and strongly falcate with a narrow rounded to pointed apex. The trailing edges of the pelvic fins are concave. Interestingly international accounts state that Great hammerhead fins are plain and unmarked. This is not the case in Seychelles where the pectoral (underside), pelvic, anal, lower caudal and second dorsal have distinct dark/black tips. These markings are retained by adults particularly on the pectoral and pelvic fins, with others fading somewhat to dusky.

**Size. Maturity:** Male approx. 235-270cm TL, Female 250-300cm TL

Max Length: > 600cm TL.

**Fishery Status:** No size restrictions. Illegal to fish with gill nets.



**Scientific Name**

*Carcharhinus albimarginatus* (Ruppell, 1837)

**English**  
Silvertip shark

**Creole**  
Reken waro

**French**  
Requin corail



**IUCN Red List Status:**

Vulnerable (VU)

**Description:** Large, slim shark with dark grey back and white stomach. Conspicuous white tips and trailing edges to all fins except the second dorsal fin. Defined interdorsal ridge. First dorsal fin exhibits narrowly rounded apex, originates over or slightly in front of free tips of pectoral fins. Faint white band on side. Long, broadly rounded snout. Large round eyes (sometimes pale blue in colour). Labial furrows short and inconspicuous. Upper teeth are triangular. Gill slits short.

**Size:** Maturity: Male 160-180cm TL, Female 160-200 cm TL,  
Max Length: 300cm TL

**Fishery Status: Minimum catch size 100cm Total Length**  
Illegal to fish with gill nets.

**Scientific Name***Carcharhinus plumbeus* (Nardo, 1827)**English**

Sandbar shark

**Creole**

Zelron

**French**

Requin gris

**IUCN Red List Status:**

Vulnerable (VU)

**Description:** A stout grey-brown shark with no prominent markings. A moderately long, rounded snout and high, triangular, saw-edged upper teeth. A prominent broad interdorsal ridge. First dorsal fin very large with bluntly pointed or rounded apex and anteriorly positioned with origin over or slightly in front of insertion point of pectoral fin. Pectoral fins large and long. Head has a moderately long, broadly rounded snout, large circular eyes with anterior margin above to slightly anterior to front of mouth. Upper teeth are broad, triangular semi-erect to oblique with some serrations towards the base.

**Size:** Maturity: 140-180cm TL

Max Length: approx. 240cm TL (possibly to 300cm TL).

**Fishery Status: Release if caught.**

**Scientific Name**

*Hemipristis elongata* (Klunzinger, 1871)

**English**

Snaggletooth shark

**Creole**

Ledan deor

**French**

Milandre faucille



**IUCN Red List Status:**

Vulnerable (VU)

**Description:** A slender-bodied, light grey shark with a long broadly rounded snout and no prominent markings. Strongly curved concave fins. Large curved, serrated teeth in upper jaw. Hooked lower teeth protrude from mouth. Large circular eyes and long gill slits. Prominent and long upper and lower labial furrows.

**Size:** Maturity: males at 110-145 cm TL, females at 120-170cm TL.  
Max Length: 240 cm TL.

**Fishery Status: Release if caught.**



**Scientific Name**

*Nebrius ferrugineus* (Lesson, 1831)

**English**

Tawny nurse shark

**Creole**

Landormi

**French**

Requin nourrice fauve



**IUCN Red List Status:**

Vulnerable (VU)

**Description:** A large, rough skinned sand brown nurse shark (colour brown, from tan to rufous or yellowish to dark grey-brown according to habitat, and slowly changeable by the individual). First dorsal fin posteriorly positioned, large second dorsal and long upper caudal fin give distinctive lateral view. Blunt angular snout and small mouth, with prominent barbels, positioned anterior to lateral eyes. Small comb-like teeth. Spiracles much smaller than eye.

**Size.** Maturity: males about 225cm, females about 230cm TL.  
Max Length: 320 cm TL

**Fishery Status:** No Size Restrictions. Illegal to fish with gill nets.



**Scientific Name***Negaprion acutidens* (Ruppell, 1837)**English**

Sharptooth lemon shark

**Creole**

Kabo roz

**French**

Requin limon faucille

**IUCN Red List Status:**

Vulnerable (VU)

**Description:** Large, stocky yellowish to yellow-brown shark dorsally and whitish ventrally with broad blunt snout. Distinctive narrow pointed teeth originating from a broad base.

Eyes are small relative to head size with distinctive yellow colouration. First dorsal fin large and falcate with origin significantly posterior to free rear tips of pectoral fins. Second dorsal fin distinctively large and not much smaller than first. No interdorsal ridge. Pectoral fins long broad and falcate with origin between the 3<sup>rd</sup> and 4<sup>th</sup> gill slits. Pelvic fins are large with concave trailing edge. Anal fin is large with trailing edge strongly recurved. Caudal fin is quite large, the lower lobe quite pronounced.

**Size.** Maturity: both sexes mature at about 220-240 cm TL.

Max Length: 310 cm TL (possibly to 380 cm).

**Fishery Status: Minimum catch size 150 cm Total Length****Illegal to fish with gill nets**

**Scientific Name**

*Rhina ancylostoma* (Bloch & Schneider, 1801)

**English**

Bowmouth guitarfish

**Creole**

Gitar/Pantouf

**French**

Angelot



**IUCN Red List Status:**

Vulnerable (VU)

**Description:** Unmistakable deep-bodied guitarfish with a broad, blunt snout and distinctive heavy thorny ridges over the eyes, above the “shoulders” and in a central dorsal ridge. Grey to sandy brown colour dorsally with white spots on fins, body and tail. Ventral surface is pale cream to white. Large spiracles positioned behind the eyes. The mouth has plates of crushing teeth. Tail considerably longer than disk, with large, shark like dorsal fins and well-developed caudal fin.

**Size. Maturity:** Males mature 150-175 cm TL, females ~ 180 cm TL. Max Length: 270 cm TL.

**Fishery Status: Release if caught.**



**Scientific Name**

*Rhynchobatus australiae* (Whitley, 1939)

**English**

Whitespotted wedgefish

**Creole**

Vyolon

**French**

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**IUCN Red List Status:**

Vulnerable (VU)

**Description:** A large guitarfish with a triangular head form to pointed snout. Sandy brown in colour with white spots dorsally and white ventrally, occasionally a black spot can be discerned on the dorsal surface of the base of each pectoral fin. Spines present dorsally along mid-line, on shoulder (in 2-3 short rows) beside spiracle and around upper margin of eye. Long bodied with large shark-like dorsal fins. Large pectoral fins give body wedge-shaped form. Ventral mouth with teeth flattened to crushing plates. Large spiracle behind eyes.

**Size. Maturity:** Males 130-145 cm TL, Max Length: Females to approx. 300cm TL.

**Fishery Status: Minimum catch size 100cm Total Length**

**Scientific Name**

*Aetomylaeus vespertilio* (Bleeker, 1852)

**English**

Ornate eagle ray

**Creole**

Lare dore

**French**

-



**IUCN Red List Status:**

Endangered (EN)

**Description:** Large eagle ray, grey dorsally colour numerous transverse black lines anteriorly transitioning to rings posteriorly and continuing with barring or spotting effect on to tail. Head with several black spots and stripes. The tail has no spine. Ventral surface white. Disc broad but short, length about half DW. Pectoral fins weakly falcate.

**Size:** Maturity: Males mature at approx. 170 cm DW, female size at maturity unknown.

Max: attains at least 300 cm DW, possibly 350 cm DW (up to 600 cm TL)

**Fishery Status: Minimum catch size 100 cm Disc Width**



**Scientific Name**

*Mobula mobular* (Bonnaterre, 1788)

**English**  
Giant devil ray

**Creole**  
Swarko

**French**  
Diable de mer



**IUCN Red List Status:** Endangered (EN)

**Description:** Large devilray with a broad, subterminal mouth, anterior margins of disc straight to slightly convex. Dorsal surface bluish black ventral surface white. Dorsal fin with prominent white tip. Serrated caudal spine usually present behind dorsal fin.

**Size:** Males mature at 198-205 cm DW, females at around 236cm DW.  
Max Length: attains at least 520cm DW

**Fishery Status:** No Restrictions

**Scientific Name**

*Aetobatus ocellatus* ( Kuhl, 1823)

**English**

Spotted/Ocellated eagle ray

**Creole**

Lare sousouri

**French**

Raie léopard



**IUCN Red List Status:**

Vulnerable (VU)

**Description:** Very large eagle ray with a dark grey to almost black, greyish or reddish-brown dorsal colouration variably white spotted (rarely with ocelli), spots often confined to rear of disc. Ventral surface white. Disc very broad, short and angular and entirely smooth. Tail elongate and whip-like. Usually 1 or 2 caudal stings (rarely up to 5).

**Size:** Maturity: males at 100-130cm DW, females at ~ 150-160cm DW.  
Max Length: 300cm DW (880cm TL)

**Fishery Status:** No restrictions.



**Scientific Name**

*Mobula alfredi* (Krefft, 1868)

**English**  
Reef manta ray

**Creole**  
Dyab

**French**  
-



**IUCN Red List Status:**

Vulnerable (VU)

**Description:** Large devil ray with a very broad and short disc. Dorsal surface black with paler to white shoulder patches curving inwards from spiracles. Ventral surface white with variable dark blotches/spots; small black semi-circular spot emanating from the fifth gill slits. Denticles on dorsal and ventral surfaces give rough texture. Dorsal fin small and triangular. Tail longer than disc, if intact, and bears no spine. Very broad, terminal mouth.

**Size.** Maturity: males mature at ~ 300cm DW, females at ~390cm DW.  
Max size: Attains ~ 500cm DW

**Fishery Status:** No Restrictions.



**Scientific Name**

*Pateobatis fai* (Jordan & Seale, 1906)

**English**  
Pink whipray

**Creole**  
Lare Bannan

**French**  
Raie fouet



**IUCN Red List Status:**

Vulnerable (VU)

**Description:** Large plain coloured ray whipray with a rhombic disc. Dorsal surface light tan brown, ventral surface white. Lacks obvious band of denticles on central disc or enlarged thorny denticles on mid-line of disc and tail before caudal sting. Disc broad through trunk, pectoral fin apex rounded. Snout short, very broad, with an enlarged triangular apical lobe. Very long narrow tail with caudal sting tail.

**Size:** Maturity: males mature at approx. 112cm DW, female size at maturity unknown.  
Max: attains at least 146 DW exceeding 308 cm TL.

**Fishery Status: Release**

**Scientific Name***Taeniurops meyeri* (Muller & Henle, 1841)**English**

Blotched Stingray

**Creole**

Lare Brizan

**French**

Pastenague éventail

**IUCN Red List Status:**

Vulnerable (VU)

**Description:** Large stingray with subcircular disc, mottled grey and black dorsal colouration and dull to creamy white ventrally. Snout short, very obtuse, tip not pointed. The tail slightly exceeds disc width in length has a very broad base tapering to the sting. The tail bears a deep and prominent skin fold along the underside. Thornlets short, clustered in narrow band along mid-body and in 2 small patches on each shoulder, absent in young.

**Size:** Maturity: Males mature at 100-110cm Disc Width, Female maturation size unknown.  
Max Length: Attains approx. 180cm Disc Width.

**Fishery Status: Release**



**Scientific Name**

*Urogymnus asperrimus*  
(Bloch & Schneider, 1801)

**English**

Porcupine ray

**Creole**

Lare Boukle

**French**

Pastenague sans dard



**IUCN Red List Status:**

Vulnerable (VU)

**Description:** Large whipray with robust oval to subcircular disc dorsal surface very rough and prickly due to plate-like denticles and sharp upright thorns. Disc greatly thickened usually slightly narrower than long. Snout short, obtuse, tip with short lobe. Tail slender, about equal to disc length with no caudal stings or cutaneous folds. The ray is brown to grey dorsally with scattered white blotches and uniformly white ventrally.

**Size:** Maturity: Males mature >90cm DW and females > 100cm DW.

**Fishery Status: Release**