United Nations Environment Programme
Mediterranean Action Plan
Regional Activity Centre For Specially Protected Areas

REPORT ON THE STATUS OF MEDITERRANEAN CHONDRICHTHYAN SPECIES


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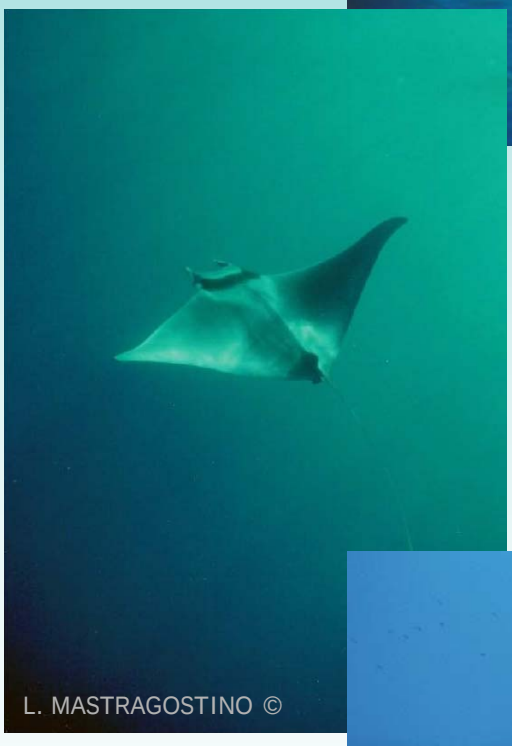
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1. Introduction

Sharks are a small, evolutionarily conservative group, comprising approximately 1000 species that have functioned successfully in diverse ecosystems for 400 million years. Despite their evolutionary success, some sharks may now be threatened with extinction as a result of human activity. Sharks are recognized as highly vulnerable to overexploitation leading to population depletion due to their life history strategies.

They are predominantly characterized as long-lived, slow growing and producing few offspring. These characteristics are associated with low productivity, close stock recruitment relationships, and long recovery times in response to overfishing. Late sexual maturity, few offspring, and complex spatial structures (size/sex segregation and seasonal migration) result in low biological productivity. Their low reproductive capacity is illustrated by the Grey Nurse Shark (*Carcharias taurus*) that has only two offspring per reproductive season or the Spiny Dogfish (*Squalus acanthus)* that has a gestation period of up to 24 months.

Such life histories make these species highly vulnerable to overexploitation and slow to recover once their populations have been depleted. As keystone predators at the top of marine food webs, sharks fulfil an important role in the ocean ecosystem by maintaining prey species diversity and abundance. Thus their removal can have harmful ecological implications. For example, the removal of tiger sharks may result in a decline in numbers of important commercial fish species because sharks keep populations of other fish predators in check.

Shark fisheries have expanded dramatically in size and number around the world since the mid-1980s, primarily in response to the rapidly increasing demand for shark fins, meat and cartilage. Despite the boom-and-bust nature of virtually all shark fisheries over the past century, most shark fisheries today still lack monitoring or management.

The Mediterranean region is known to be an important habitat for cartilaginous fish and is thought to encompass unique breeding grounds for species such as the White Shark *(Carcharodon carcharias)* and Thornback Ray *(Raja clavata)*. It may be surprising then that there is insufficient information for the majority of (up to 70%) Mediterranean species. Further research on the ecological status and exploitation of these populations is urgently needed.

2. Conservation and protection

Over the past 20 years human exploitation of sharks has substantially increased worldwide, with the result that some populations are now believed to be endangered in several areas. It is far from easy to estimate the impact of the fishing pressure and of worldwide population trends from the available figures. Hard data are scarce, but biologists think that of the 100 exploited species, 20 or so are in most trouble and are

considered vulnerable, endangered or critically endangered. There are signs that governments, too, are beginning to take the problem seriously.

Many shark species are particularly vulnerable to over-exploitation due to their biological characteristic of low reproductive potential and therefore limited capacity to recover from overfishing. Historically, there are documented decreases in shark stocks due to intensive catches, such as the California tope shark in the 1940s, the Australian schoolfin shark in the 1940s, 1950s and 1970s, the picked dogfish fishery of British Columbia (1940s) and in the North Sea (1960s), the porbeagle shark fishery in the Northwest Atlantic in the 1960s and the basking shark in the 1950-60s.

Limited knowledge of shark biology, of the size and status of their stocks, of the real volume of their captures and of their population dynamics presents serious difficulties for fishery management. Few nations sponsor shark research, monitor shark trade or conduct other sustainable management programs for sharks. No international treaties and management strategies exist for shark fished on the high seas, and only Australia, Canada, New Zealand, and the USA (Atlantic coast only) have begun to manage sharks within their coastal waters. Management plans are in development by Mexico and South Africa. Shark fishing restrictions are currently set up in South Africa, Australia, New Zealand, European Union, Canada, USA, Brazil, Philippines, and Israel.

A growing international concern over the possible effects of continued exploitation on marine food chains is emerging together with the need for improved control of fishing for shark species. CITES resolution on the biological and trade status of sharks (Conf. 9.17) and Decision 10.73 and respective related decisions by COFI XXI, XXII and the Kyoto Conference in 1995 resulted in an FAO work programme of which this book is one of the outputs and which led to the adoption of the IPOA (national plan of action for conservation and management of shark stocks) on sharks (full text in Appendix I).

Castro, Woodley and Brudeck have evaluated the status of all valid species of sharks listed by Compagno with a few additions or changes. The species have been divided into two groups: “Not-exploited species” (species that are not currently targeted by fisheries, and that are not normally found in the bycatch of any fisheries) and “Exploited species” (species that are directly exploited by fisheries or taken as bycatch). In turn, the exploited species have been divided into the following categories:

- **Category 1:** Exploited species that can not be placed on any of the subsequent categories, because of lack of data. The following species are classified as category 1: *Heptranchias perlo, Carcharhinus brevipinna, Carcharhinus melanopterus, Galeocerdo cuvier, Sphyrna zygaena.*

- **Category 2:** Species pursued in directed fisheries, and/or regularly found in bycatch, whose catches have not decreased historically, probably due to their higher reproductive potential.

- **Category 3:** Species that are exploited by directed fisheries or bycatch, and have a limited reproductive potential, and/or other life history characteristics that make them especially vulnerable to overfishing, and/or that are being fished in their nursery areas. The species listed below are considered as category 3: *Hexanchus griseus, Dalatias licha, Alopias superciliosus, Cetorhinus maximus, Carcharodon carcharias, Carcharhinus brachyurus, Carcharhinus falciformis, Carcharhinus limbatus, Prionace glauca, Sphyrna lewini, Sphyrna mokarran, Sphyrna tudes.*

- **Category 4:** Species in this category show substantial historical declines in catches and/or have become locally extinct. The species are considered as category 4: *Squalus acanthias, Carcharias Taurus, Alopias vulpinus, Isurus oxyrinchus, Lamna nasus, Galeorhinus galeus, Carcharhinus obscurus, Carcharhinus plumbeus.*

- **Category 5:** Species that have become rare throughout the ranges where they were formerly abundant, based on historical records, catch statistics, or expert's reports.

No species have been classified in the **category 5**.

The IUCN Red List assessments for *Elasmobranchii* (updated from the 2006 Red List of threatened animals) considered the following species as:

Critically Endangered, CR: Species considered to be facing an extremely high risk of extinction in the wild.

Pristis pristis
Pristis pectinata
Squatina squatina
Dipturus batis
Leucoraja melitensis

Endangered, EN: Species considered to be facing a very high risk of extinction.

Squatina oculata
Squatina aculeata
Rostroraja alba
Mobula mobular

Vulnerable, VU: Considered to be facing a high risk of extinction**.**

Carcharias taurus
Carcharodon carcharias
Centrophorus granulosus
Cetorhinus maximus
Galeorhinus galeus
Lamna nasus
Squalus acanthias

Near Treatened, NT:

Carcharhinus brachyurus
Carcharhinus brevipinna
Carcharhinus limbatus
Carcharhinus plumbeus
Carcharhinus obscurus
Centroscymnus coelolepis
Heptranchias perlo
Hexanchus griseus
Isurus oxyrinchus
Prionace glauca
Raja clavata
Sphyrna zygaena

Least Concern, LC:

Mustelus asterias
Mustelus mustelus
Scyliorhinus canicula

Data Deficient, DD: There is inadequate information to make a direct, or indirect, assessment of the species "risk of extinction based on its distribution and/or population status.

Alopias vulpinus
Dalatias licha
Echinorhinus brucus
Odontaspis ferox

Not Evaluated, NE:

Alopias superciliosus
Carcharhinus altimus
Chimaera monstrosa
Dasyatis centroura
Dasyatis pastinaca
Dasyatis chrysonota
Dipturus oxyrhynchus
Etmopterus spinax
Galeus atlanticus
Galeus melastomus
Gymnura altavela
Hexanchus nakamurai
Himantura uarnak
Leucoraja circularis
Leucoraja naevus
Leucoraja fullonica
Mustelus punctulatus
Myliobatis aquila
Oxynotus centrina
Pteroplatytrygon violacea
Raja asterias
Raja brachyura
Raja miraletus
Raja montagui
Raja polystigma
Raja radula
Raja undulata
Rhinobatos cemiculus
Rhinobatos rhinobatos
Rhinoptera marginata
Scyliorhinus stellaris
Somniosus rostratus
Taeniura grabata
Torpedo alexandrinis
Torpedo marmorata
Torpedo nobiliana

3. Human Impacts on Sharks

There are five main ways that people can adversely affect sharks.

3.1 Over-fishing

Sharks have traditionally provided resources such as meat, skin and liver oil, considered to be of relatively low economic value, for human use. However, today many sharks have become the target of directed commercial and recreational fisheries around the world due to intensive industrialization of the fishing sector and a growing demand for shark fins. Commercial fishing of sharks has thus increased in terms of effort, yield and area covered. Over-fishing is, however, difficult to manage due to a lack of available biological and catch data. The FAO's International Plan of Action for Sharks IPOA-Sharks) recognises the vulnerability of sharks to detrimental long-term commercial fishing. It also emphasises the need for international coordination in the management of both the direct and indirect catch of sharks given their wide-ranging distribution and long migrations, particularly on the high seas.

3.2 Shark Finning

Shark finning is widespread and largely unmonitored. The practise of finning is wasteful of protein and other potential products derived from sharks, only utilising 2-5% of the shark, the remainder being thrown away. This wastage can be a threat to the food security of developing states and prevents socio-economic benefits from accruing when other shark products are processed on shore. Finning causes the death of tens of millions of sharks, directly threatening rare and vulnerable shark species and indirectly impacting other commercial species due to the effects of removal of top predators from these food webs. Finally finning impedes the collection of speciesspecific data essential for monitoring in order to implement sustainable management.

3.3 Bycatch

Sharks are caught incidentally as bycatch whilst fishing for other more productive species. Bycatch rates are poorly documented but it is estimated that in the late 1980s approximately 12 million sharks were being caught as bycatch every year on the high seas alone, mainly from long-line tuna fisheries. This mortality may exceed mortality from directed fisheries. Observer programs provide the best available information but these are limited in the high seas. Bycatch data is rarely incorporated into national and international (FAO) statistics. Locally batoids and small coastal shark populations are seriously affected by bycatch in bottom trawl fisheries. A study on the Basking Shark in the Gulf of Cadiz and the Alborán Sea has shown there is a high percentage of incidental catch of this threatened species through trawling and artisanal fisheries.

3.4 Pollution

As top marine predators, long-lived chondrichthyan species are significant bioaccumulators of pollutants. The Mediterranean Sea receives run-off containing heavy metals, pesticides and other products. Adult sharks accumulate such high levels of mercury that some shark fisheries in Australia have maximum size limits on sharks landed for human consumption. High mercury concentrations have been found in some Mediterranean sharks such as the Spiny Dogfish. The breakdown of pesticides (DDT, HCB and PCB) also results in high concentrations of organochlorine residues; these residues have been found in the eggs, muscles and liver of the Gulper Shark

(*Centrophorus granulosus)* and the Longnose Spurdog *(Squalus blainvillei)*. There is little information as to how contaminated habitats and bioaccumulation of pollutants affect the health and productivity of sharks or the overall dynamics of the marine food web.

3.5 Habitat Loss and Degradation

Habitat requirements vary for different species during different stages of their lifecycles. Critical shark habitats range from shallow estuarine sloughs and coastal bays, to coral reefs, kelp forests and the deep sea. Sharks are generally unable to adapt to rapidly changing environmental conditions. The use of inshore coastal nursery grounds (estuarine or freshwater) has become a particular liability as direct and indirect fishing pressures have intensified and coastal habitat loss and degradation have accelerated. Human activity threatens coastal habitats through development, fisheries activities, chemical and nutrient pollution, freshwater diversion from incoming rivers, and dumping of plastic and other manmade garbage.

4. Conservation Priorities for Mediterranean Sharks

1. Identifying and mapping critical habitat.

2. Developing research programs on general biology, ecology and population dynamics for species of concern, specifically reproductive and growth parameters.

3. Initiating fisheries management strategies for commercially exploited species.

4. Developing National Action Plans as per UN FAO IPOA-Sharks.

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Frans Teutscher, FAO, Chondrichthyes.

ANNEX I. List of Chondrichthyan of the Mediterranean Sea

SHARKS

Order **HEXANCHIFORMES**. Cow & frilled sharks
- Family HEXANCHIDAE. Sixgill & sevengill sharks
  - *Heptranchias perlo* (Bonnaterre, 1788). Sharpnose sevengill shark
  - *Hexanchus griseus* (Bonnaterre, 1788). Bluntnose sixgill shark
  - *Hexanchus nakamurai* Teng, 1962. Bigeye sixgill shark

Order **SQUALIFORMES**. Dogfish sharks
- Family ECHINORHINIDAE. Bramble sharks
  - *Echinorhinus brucus* (Bonnaterre, 1788). Bramble shark
- Family SQUALIDAE. Dogfish sharks
  - *Squalus acanthias* Linnaeus, 1758. Piked dogfish
  - *Squalus blainvillei* (Risso, 1826). Longnose spurdog
  - *? Squalus megalops* (Macleay, 1881). Shortnose spurdog
- Family CENTROPHORIDAE. Gulper sharks
  - *Centrophorus granulosus* (Bloch & Schneider, 1801). Gulper shark
  - *? Centrophorus uyato* (Rafinesque, 1810) : an undetermined species of *Squalus ?*
- Family ETMOPTERIDAE. Lantern sharks
  - *Etmopterus spinax* (Linnaeus, 1758). Velvet belly
- Family SOMNIOSIDAE. Sleeper sharks
  - *Centroscymnus coelolepis* Bocage & Capello, 1864. Portugese dogfish
  - *Somniosus rostratus* (Risso, 1810). Little sleeper shark
- Family OXYNOTIDAE. Roughsharks
  - *Oxynotus centrina* (Linnaeus, 1758). Angular roughshark
- Family DALATIIDAE. Kitefon sharks
  - *Dalatias licha* (Bonnaterre, 1788). Kitefin shark

Order **SQUATINIFORMES**. Angel sharks
- Family SQUATINIDAE. Angel sharks
  - *Squatina aculeata* Dumeril, *in* Cuvier, 1817. Sawback angelshark
  - *Squatina oculata* Bonaparte, 1840. Smoothback angelshark
  - *Squatina squatina* (Linnaeus, 1758). Angelshark.

Order **LAMNIFORMES**. Mackerel sharks
- Family ODONTASPIDIDAE. Sand tiger sharks
  - *Carcharias taurus* Rafinesque, 1810. Sand tiger shark
  - *Odontaspis ferox* (Risso, 1810). Smalltooth sand tiger
- Family ALOPIIDAE. Thresher sharks
  - *Alopias superciliosus* (Lowe, 1839). Bigeye thresher
  - *Alopias vulpinus* (Bonnaterre, 1788). Thresher shark

Family CETORHINIDAE. Basking sharks
Cetorhinus maximus (Gunnerus, 1765). Basking shark.
Family LAMNIDAE. Mackerel sharks
Carcharodon carcharias (Linnaeus, 1758). Great white shark
Isurus oxyrinchus Rafinesque, 1810. Shortfin mako
Isurus paucus Guitart Manday, 1966. Longfin mako
Lamna nasus (Bonnaterre, 1788). Porbeagle shark.

Order **CARCHARHINIFORMES**. Ground sharks
Family SCYLIORHINIDAE. Cat sharks
Scyliorhinus canicula (Linnaeus, 1758). Smallspotted catshark
Scyliorhinus stellaris (Linnaeus, 1758). Nursehound
? Galeus atlanticus (Vaillant, 1888). Atlantic catshark
Galeus melastomus Rafinesque, 1810. Blackmouth catshark
Family TRIAKIDAE. Hound sharks
Galeorhinus galeus (Linnaeus, 1758). Tope shark
Mustelus asterias Cloquet, 1821. Starry smoothhound
Mustelus mustelus (Linnaeus, 1758). Smoothhound
Mustelus punctulatus Risso, 1826. Blackspot smoothhound
Family CARCHARHINIDAE. Requiem sharks
Carcharhinus altimus (Springer, 1950). Bignose shark
Carcharhinus brachyurus (Günther, 1870). Bronze whaler shark
Carcharhinus brevipinna (Müller & Henle, 1839). Spinner shark
Carcharhinus falciformis (Bibron, *in* Müller & Henle, 1839). Silky shark
Carcharhinus limbatus (Valenciennes, *in* Müller & Henle, 1839). Blacktip shark
Carcharhinus melanopterus (Quoy & Gaimard, 1824). Blacktip reef shark
Carcharhinus obscurus (Lesueur, 1818). Dusky shark
Carcharhinus plumbeus (Nardo, 1827). Sandbar shark
? Galeocerdo cuvier (Peron & Lesueur, *in* Lesueur, 1822). Tiger shark
Prionace glauca (Linnaeus, 1758). Blue shark
? Rhizoprionodon acutus (Rüppell, 1837). Milk shark
Family SPHYRNIDAE. Hammerhead sharks
Sphyrna lewini (Griffith & Smith, *in* Cuvier *et al.* 1834). Scalloped hammerhead
Sphyrna mokarran (Rüppell, 1837). Great hammerhead
Sphyrna tudes (Valenciennes, 1822). Smalleye hammerhead
Sphyrna zygaena (Linnaeus, 1758). Smooth hammerhead.

BATOIDS (SKATES & RAYS)

Order **PRISTIFORMES**. Sawfishes
Family PRISTIDAE. Sawfishes
Pristis pectinata Latham, 1794. Smalltooth sawfish
Pristis pristis (Linnaeus, 1758). Common sawfish

Order **RHINOBATIFORMES**. Guitarfishes

Family RHINOBATIDAE. Guitarfishes

Rhinobatos (Glaucostegus) cemiculus St. Hilaire, 1817. Blackchin guitarfish

Rhinobatos (Rhinobatos) rhinobatos (Linnaeus, 1758). Common guitarfish

Order **TORPEDINIFORMES**. Electric rays

Family TORPEDINIDAE. Torpedo rays

Torpedo (Tetronarce) nobiliana Bonaparte, 1835. Great torpedo

? *Torpedo (Torpedo) alexandrinis* Mazhar, 1982. Alexandrine torpedo

? *Torpedo (Torpedo) fuscomaculata* peters, 1855. Blackspotted torpedo

Torpedo (Torpedo) marmorata Risso, 1810. Spotted torpedo

Torpedo (Torpedo) torpedo (Linnaeus, 1758). Ocellate torpedo

Order **RAJIFORMES**. Skates

Family RAJIDAE. Skates

Dipturus batis Linnaeus, 1758. Gray skate

Dipturus oxyrhynchus Linnaeus, 1758. Sharpnose skate

Leucoraja circularis Couch, 1838. Sandy skate

Leucoraja fullonica Linnaeus, 1758. Shagreen skate

Leucoraja melitensis Clark, 1926. Maltese skate

Leucoraja naevus Müller & Henle, 1841. Cuckoo skate

Leucoraja undulata Lacepede, 1802. Undulate skate

?*Raja africana* Capape, 1977. African skate

Raja asterias Delaroche, 1809. Atlantic starry skate

Raja brachyura Lafont, 1873. Blonde skate

Raja clavata Linnaeus, 1758. Thornback skate

Raja miraletus Linnaeus, 1758. Twineye skate

Raja montagui Fowler, 1910. Spotted skate

Raja polystigma Regan, 1923. Speckled skate

Raja radula Delaroche, 1809. Rough skate

? Raja rondeleti Bougis, 1959. Rondelet's skate

Rostroraja alba Lacepede, 1803. White skate

Order **MYLIOBATIFORMES**. Stingrays

Family DASYATIDAE. Whiptail stingrays

Dasyatis centroura (Mitchill, 1815). Roughtail stingray

Dasyatis chrysonota (Smith, 1828). Blue stingray

Dasyatis pastinaca (Linnaeus, 1758). Common stingray

?*Dasyatis tortonesei* Capape, 1977. Tortonese's stingray

Himantura uarnak (Forsskael, 1775). Honeycomb whipray

Pteroplatytrygon violacea (Bonaparte, 1832). Pelagic stingray

Taeniura grabata (Geoffroy St. Hilaire, 1817). Round fantail stingray

Family GYMNURIDAE. Butterfly rays

Gymnura altavela (Linnaeus, 1758). Spiny butterfly ray

Family MYLIOBATIDAE. Eagle rays

Myliobatis aquila (Linnaeus, 1758). Common eagle ray
Pteromylaeus bovinus (Geoffroy St. Hilaire, 1817). Bullray
Family RHINOPTERIDAE. Cownose rays
Rhinoptera marginata (Geoffroy St. Hilaire, 1817). Lusitanian cownose ray
Family MOBULIDAE. Devil rays
Mobula mobular (Bonnaterre, 1788). Giant devilray

CHIMAEROIDS

Order **CHIMAERIFORMES**. Chimaeras
Family CHIMAERIDAE. Shortnose chimaeras
Chimaera monstrosa Linnaeus, 1758. Rabbitfish

Heptranchias perlo

picture (Heper_u3.jpg) by Flescher, D.

Map

KINGDOM: ANIMALIA

PHYLUM: CHORDATA

CLASS: ELASMOBRANCHII

ORDER: HEXANCHIFORMES

FAMILY: HEXANCHIDAE

COMMON NAME/S:
Albanian - Peshkagen me dhembe (Albania); Peshkaqen me dhembe (Albania);
Arabic - Kalb (Morocco); Kelb bhar (Tunisia); Qarsh (Lebanon);
Catalan - Bocadolça (Spain);
inglés - One-finned shark (Australia); Perlon shark (Australia); Sevengill cow shark (Cuba); Seven-gilled Mediterranean shark (United Kingdom); Sevengilled shark (United States of America); Sharp snouted sevengill (New Zealand); Sharpnose sevengill shark (Australia, New Zealand, South Africa, United Kingdom); Sharpnose seven-gill shark (Portugal); Sharpsnout sevengill shark (Australia); Slender sevengill shark (Australia);
francés - Chien de mer (Morocco); Monge gris (France); Mounge (France); Perlon (France); Pesciu angiu (France); Pesciu boiu (France); Pesciu mansu (France); Requin perlon (France); Requin-griset (France);
griego - Aletre (Greece); Epta carcharias (Greece);
Hebrew - Sheva-zim (Israel);
italiano - Angiolo (Italy); Murruna (Italy); Squalo manzo (Italy);
Maltese - Morruna (Malta); Murrana ta' Seba Gargi (Malta); Murruna (Malta); Murruna Ta' Seba Gargi (Malta); Murruna ta' seba' gargi (Malta);
Serbian - Pas glavonja (Yugoslavia); Pas volohja (Yugoslavia);
español - Alcatriña (Spain); Boca dolça (Spain); Bocadû (Spain); Bocadul (Spain); Bocadulce (Spain); Boquidulce (Spain); Cañabota (Spain); Cañabota bocadulce (Spain); Peix xovato (Spain); Tiburón de 7 branchias (Cuba); Tiburón de siete agallas (Peru);

SPECIES AUTHORITY: (Bonnaterre, 1788)

DISTRIBUTION: Circum-global in tropical and temperate seas, excluding the northeast Pacific. Western Atlantic: North Carolina, USA and northern Gulf of Mexico to Cuba, then from Venezuela to Argentina . Eastern Atlantic: Morocco to Namibia, **including the Mediterranean Sea, but not in the Black Sea.** Indian Ocean: South-western India, Aldabra Island, southern Mozambique, and South Africa. Western Pacific: Japan to China, Indonesia, Australia and New Zealand. Southeast Pacific: off northern Chile.

MEDITERRANEAN COUNTRY NAMES: Algeria, Egypt, France, Greece, Italy, Libyan Arab Jamahiriya, Morocco, Spain, Tunisia; Turkey.

HABITAT AND ECOLOGY: Marine, demersal to semi-pelagic, probably ranging well into midwater, on the upper continental slope, most commonly taken in 100–600 m, sometimes deeper, recorded to 1,000 m. Possibly aggregated near seamounts. Occasionally reports from shallow water are possible misidentifications. Undoubtedly an agile, voracious predator on small sharks and rays, small bony fish, shrimps, crabs, lobsters, squid, and cuttlefish.

BIOLOGY: Maximum size approximately 140 cm. Matures 75-85 cm (males), 90-105 (Females). Ovoviviparous, number of young 6 to 20 in a litter, size at birth 25 cm. May breed year-round, but gestation time and reproductive periodicity unknown. Otherwise virtually no information on biology, intrinsic rate of increase etc. Very active and aggressive when captured and quick to bite but too small to be very dangerous to people . Liver utilized as a source of oil. Maximum length may reach 214 cm, but this is uncertain.
Resilience: Very Low, minimum population doubling time more than 14 years (Fec=9).

MORPHOLOGY: Dorsal spines (total): 0; Anal spines: 0; Vertebrae: 125-161. A narrow-headed, big-eyed small seven-gilled shark. Body fusiform and slender; dorsal fin small, originating over inner margins of pelvic fins; anal fin small. Teeth wide, low and comb-shaped . Brownish grey above, paler below, sometimes with indistinct dark blotches on body; juveniles with dark-tipped dorsal and caudal fins, adults with light fin margins. Live specimens with fluorescent green eyes.

THREATS: A bycatch in some deepwater fisheries. Caught in small to moderate numbers as a bycatch of fisheries utilizing bottom or midwater trawls or as part of deepwater fisheries using bottom longlines to catch sharks or tilefish (Gulf of Mexico), but of minor commercial importance. Used for human consumption and presumably for fishmeal. Said to be good eating. Occasionally kept in captivity in Japan. Aggressive when captured, and even if not retained is likely to be killed.
Population status uncertain, but it is suspected that declines may have occurred in places where deepwater demersal trawl fisheries for shrimp and bony fishes have been operational over the past few decades (such as southern Mozambique). This shark is wide-ranging but relatively uncommon in most places where it occurs, and is taken by a wide variety of demersal fisheries. There are no data available on current and past catches, and species-specific catch data are needed.

HUMAN IMPACT: of some interest to fisheries, caught as by-catch by bottom trawls and longlines; in Category 1 (FAO, 1999) as there is insufficient data to evaluate impact.

CONSERVATION STATUS: On the IUCN Mediterranean status assessment as VU (A2d+3d+4d) (2007)

REASONS: A wide ranging, but relatively uncommon species where it occurs. Its centers of abundance may be at outer shelf, slope, and oceanic seamounts where commercial fisheries for other target species are likely to develop. It is likely to have a low intrinsic rate of increase, and poor resilience to depletion. This species is of minor commercial importance, but bycatch in bottom trawl and longline fisheries may have

caused population declines where deepwater fisheries have been underway for several decades. Increased deepwater fishing effort in many regions is likely to affect populations in the future. The species is assessed as Near Threatened due to concern that it may meet the Vulnerable A2d+A3d+4d criteria. .

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Hexanchus griseus:

picture (Hegri_u3.jpg) by Hofinger, E.

Map

KINGDOM: ANIMALIA

PHYLUM: CHORDATA

CLASS: ELASMOBRANCHII

ORDER: HEXANCHIFORMES

FAMILY: HEXANCHIDAE

COMMON NAME/S:
Albanian - Peshkagen kokeshtypur (Albania); Peshkaqen kokeshtypur (Albania);
Arabic - Kalb (Morocco); Kelb bhar (Tunisia); Qarsh (Lebanon);
Catalan - Peix xovato (Spain);
inglés - Atlantic mud shark (United Kingdom); Atlantic mudshark (United States of America); Bluntnose sixgill shark (Australia, United Kingdom); Brown shark (United Kingdom); Bull dog shark (United Kingdom); Bull shark (Australia); Cow shark (United Kingdom, United States of America); Gray shark (Cuba, United States of America); Grey shark (United States of America); Mud shark (Canada, Cuba, United States of America); Sixgill cow shark (Cuba); Sixgill shark (Australia, Canada, New Zealand, South Africa, United States of America); Six-gill shark (Portugal); Sixgilled shark (United States of America); Six-gilled shark (Papua New Guinea, Spain);
francés - Arbano (France); Bouca douça (France); Bouche douce (France); Chien de mer (Morocco); Griset (Morocco); Mounge gris (France); Requin grisé (France); Requin griset (France);
griego - Aletra (Greece); Bambakaris (Cyprus); Carcharias (Greece); Exacarcharias (Greece); Karharías (Greece);
Hebrew - Shez-zim (Israel);
italiano - Squalo capopiatto (Italy);
Maltese - Morruna (Malta); Murruna (Malta); Murruna b'sitt gargi (Malta);
polaco - Szescioszpar (Poland);
Romanian - Rechin sur (Romania);
Serbian - Pas glavonja (Yugoslavia); Pas sivonja (Yugoslavia);
español - Albafara (Spain); Albajar (Spain); Bastriuvaca (Spain); Boca dolça (Spain); Boquidulce (Spain); Cañabota (Cuba, Spain); Cañabota cañabota gris (Spain); Cañabota gris (Spain); Gato de mar (Spain); Marfara (Spain); Marrajo (Cuba); Peix xovato (Spain); Tiburón cañabota (Mexico); Tiburón de seis agallas (Peru); Tiburón gris (Spain);
Turkish - Boz camgöz (Turkey);

SPECIES AUTHORITY: (Bonnaterre, 1788)

DISTRIBUTION: Found both in tropical and temperate marine systems, the range of this species is almost circumglobal. It occurs in the western Atlantic from North Carolina to Florida, USA, northern Gulf of Mexico, Cuba, Nicaragua, Costa Rica, Venezuela, and southern Brazil to northern Argentina; eastern Atlantic from Iceland and

Norway to Senegal, possibly the Ivory Coast and Nigeria, Angola and Namibia; Mediterranean Sea but not in the Black Sea; Indian Ocean from South Africa, southern Mozambique, Madagascar, the Aldabra Island group, and the Comores Islands; western Pacific from the east coast of Japan, Taiwan (Province of China), Malaysia, Sumatra, Australia, and New Zealand; Central Pacific around the Hawaiian Islands; eastern Pacific from the Aleutian Islands, USA, to Baja California, Mexico, and Chile. Highly migratory species, Annex I of the 1982 Convention on the Law of the Sea.

MEDITERRANEAN COUNTRY NAMES: Albania, Algeria, Bosnia and Herzegovina, Croatia, Cyprus, Egypt, France, Greece, Israel, Italy, Lebanon, Lybia Arab Jamahiriya, Malta, Monaco, Morocco, Serbia and Montenegro, Slovenia, Spain, Syrian Arab Republic, Tunisia and Turkey.

HABITAT AND ECOLOGY: A marine bethic or pelagic species found in the waters of continental and insular shelves and upper slopes. Young animals are often found close inshore, while adults occupy deeper waters. Found on the bottom by day, moving to the surface at night to feed, and where it may take longlines set for other species.

BIOLOGY: Feeds on a wide range of marine organisms, including other sharks, rays, chimaeras, bony fish, squids, crabs, shrimps, carrion, and even seals. Ovoviviparous, with 22 to 108 pups in a litter. Marketed fresh, frozen, or dried salted; also utilized as a source of oil and fishmeal. Not known to have attacked people without provocation. Give birth to almost 100 young.
Resilience: Low, minimum population doubling time 4.5 - 14 years (Fec= 22-108).

MORPHOLOGY: Dorsal spines(total): 0; Anal spines: 0. A heavily-bodied, broad-headed sixgill shark, mouth ventral with 6 rows of lower, bladelike, comb-shaped teeth on each side. Snout broadly rounded, body fusiform. Anal fin smaller than dorsal fin. Brown or grey above, paler below, with a light stripe along side. Fins with white edges. Live specimens with fluorescent green eyes. Six gill slits are very long.

THREATS: A valuable food and sports fish, the species seems unable to sustain target fisheries and is taken as bycatch (e.g., in *Centrophorus* liver oil fisheries now underway over large areas of the Indo-Pacific). Fisheries activity in parts of its range, including the Northeast Pacific, have led to the depletion of regional populations.

HUMAN IMPACT: caught as by-catch by bottom trawls and longlines, also sometimes targeted by recreational anglers; in Category 3 (FAO, 1999). Sometimes displayed in public aquariums.

CONSERVATION STATUS: On the IUCN Mediterranean status assessment as NT (2007)

REASONS: A valuable food and sports fish, the species seems unable to sustain target fisheries and is taken as bycatch (e.g., in *Centrophorus* liver oil fisheries now underway over large areas of the Indo-Pacific). Fisheries activity in parts of its range, including the Northeast Pacific, have led to the depletion of regional populations, some of which may be Vulnerable (A1bd+2bd). However, because population and fisheries data are lacking from many regions, a worldwide population depletion of over 20% is not proven for this wide-spread species.

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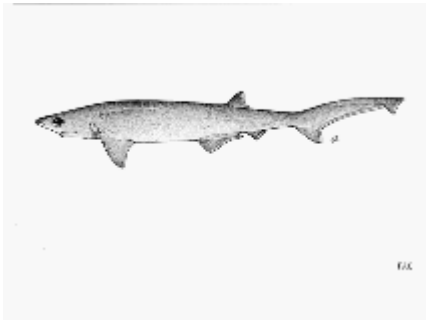
Hexanchus nakamurai



picture (Henak_m0.jpg) by picture Harris, M.

KINGDOM:ANIMALIA

PHYLUM: CHORDATA

CLASS: ELASMOBRANCHII

ORDER: HEXANCHIFORMES

FAMILY: HEXANCHIDAE

COMMON NAME/S:
inglés - Bigeye sixgill shark (Australia, South Africa, United Kingdom);
francés - Griset (Réunion); Requin vache (France);
español - Cañabota ojigrande (Spain); Cazón de fondo (Cuba);

SPECIES AUTHORITY:(Teng, 1962).

DISTRIBUTION: Western Central Atlantic: Mexico, off Bahamas, northern Cuba, Nicaragua and Costa Rica. Eastern Atlantic: France to Morocco, including Mediterranean Sea; possibly Côte d'Ivoire and Nigeria. Indian Ocean: off eastern and southern Africa, Aldabra Island (India); Western Australia. Western Pacific: Japan, Taiwan, Philippines, New Caledonia and eastern Australia.

MEDITERRANEAN COUNTRY NAMES: France, Morocco and Spain.

HABITAT AND ECOLOGY: benthic, on continental and insular shelves and upper slopes, from 90 to 600 m depth, usually on or near bottom, may move to the surface at night.

BIOLOGY: Probably feeds on bony fish and crustaceans. Ovoviviparous, with 13 young in a litter. Not dangerous to people as far as is known. Resilience: Very low, minimum population doubling time more than 14 years (Fec = 13).

MORPHOLOGY: Dorsal spines(total): 0; Anal spines: 0; Vertebrae: 155. A small, slim, six-gilled cowshark, with a narrow head and large eyes. Snout bluntly pointed, body fusiform. Dorsal fin relatively small, origin varying from over posterior half of pelvic fin base to just behind pelvic fin insertion. Anal fin smaller than dorsal fin. Live specimens with fluorescent green eyes. Brownish grey dorsally, paler ventrally. Fins with white trailing edges.

HUMAN IMPACT: weak, since rarely caught

CONSERVATION STATUS: On the IUCN Mediterranean status assessment as DD (2007)

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http://www.unep-wcmc.org/species/index.htm

Echinorhinus brucus

picture (Ecbru_m0.jpg) by Gadig, O.B.F.

Map

KINGDOM: ANIMALIA

PHYLUM: CHORDATA

CLASS: ELASMOBRANCHII

ORDER: SQUALIFORMES

FAMILY: ECHINORHINIDAE

COMMON NAME/S:
Albanian - Peshkagen therrës (Albania); Peshkaqen therrës (Albania);
Arabic - Kalb (Morocco);
inglés - Bramble shark (Australia, New Zealand, Portugal, South Africa, United Kingdom, United States of America); Mango-tara (New Zealand); Spinous shark (Australia, United Kingdom); Spiny shark (United States of America);
francés - Chenille (France); Squale bouclé (France);
griego - Achinoskylopsaro (Greece); Karcharias (Greece); Kavouromana (Greece);
italiano - Ronco (Italy);
Maltese - Murruna tal-fosos (Malta); Murruna tax-xewk (Malta); Murruna xewwikija (Malta);
polaco - Rekin kolczasty (Poland);
Serbian - Pas zvjezdas (Yugoslavia);
español - Pex tachuela (Spain); Pez clavo (Spain); Pez tachuela (Spain); Rubioca (Spain); Tiburón de clavos (Spain);
Turkish - Civili köpek baligi (Turkey);

SPECIES AUTHORITY: (Bonnaterre, 1788)

DISTRIBUTION: Western Atlantic: Virginia, Massachusetts, USA; Argentina. Eastern Atlantic: North Sea to Mediterranean, Morocco to Cape of Good Hope, South Africa. Western Indian Ocean: India, Mozambique, South Africa. Western Pacific: Japan, southern Australia, New Zealand. Records from Oman and Kiribati uncertain. Apparently absent in the Eastern Pacific.

MEDITERRANEAN COUNTRY NAMES: Algeria, Cyprus, Egypt, France, Greece, Italy, Libyan Arab Jamahiriya, Morocco, Spain, Tunisia and Turkey.

HABITAT AND ECOLOGY: Marine, living on or near the seafloor (as far as is known), on the upper and middle continental slope, mainly in 400–900 m (based on relatively few captures) but has also been taken in shallower water. Considered a sluggish shark, but may be capable of short rushes to capture prey (fishes, crustaceans).

BIOLOGY: Feeds on smaller sharks, bony fishes, and crabs. Born 30-90 cm. Mature ~160 cm M, ~200 cm F. (these sizes are poorly known.) Maximum size ~310 cm. Ovoviviparous, with 15-26 young in a litter, gestation period and reproductive cycle

unknown. Never recorded as attacking people. Sometimes hooked by shore anglers. Processed into fishmeal. May be used in traditional medicine in southern Africa.
Resilience: Very low, minimum population doubling time more than 14 years (Fec= 15-24).
Otherwise, almost nothing is known of the species' biology.

MORPHOLOGY: Dorsal spines (total): 0; Anal spines: 0. The bramble shark *Echinorhinus brucus* has thorn-like denticles on body which are very large (single denticles up to about 15mm in basal diameter in adults), sparse irregularly distributed and thorn-like with smooth basal margins, some bases fused into compound plates. Dorsal surface dark purplish-grey to brown with white denticles, ventral surface paler; sides and back may have dark spots. Tooth count 20-26/21-26.As with the other member of the family Echinorhinidae, it has a relatively short snout and stout body; two small spineless dorsal fins, close together, towards posterior part of body and originating behind pelvic fin origin. No anal fin and subterminal notch on caudal fin. Small spiracles, very short labial furrows and teeth on both jaws alike, with a central oblique bladelike cusps with up to 3 cusplets on each side (absent in juveniles).

THREATS: Although rarely encountered, almost certainly an unreported bycatch in several deepwater trawl and line fisheries. Reportedly only used for fishmeal, but the liver oil has been used medicinally in at least South Africa. No population baseline or trends available, apart from a reported reduction in numbers in the north-east Atlantic (Quero and Emmonnet 1993, Quero and Cendrero 1996, Quero 1998).

HUMAN IMPACT: relatively common in the past, this shark is now very rarely caught in the eastern Atlantic fisheries.

CONSERVATION STATUS: On the IUCN Mediterranean status assessment as DD (2007).

REASONS: An apparently rare deepwater shark, recorded sporadically and usually singly at widely dispersed localities. It may be present at greater depths than are commercially fished, but this is only speculative. It reaches a large size and, although very little is known of its life history, it is likely to be a slow-growing, late-maturing species of low overall productivity. In the Northeast Atlantic there is published qualitative information on a decline in this species over recent decades. At present there is inadequate information to assess the conservation status of this species, however, since it is a known (albeit infrequent) component of fisheries bycatch with probable limiting life history characteristics and likely rare status, the species may well meet the criteria for a threatened category as more information becomes available.

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http://www.unep-wcmc.org/species/index.htm

Squalus acanthias

KINGDOM: ANIMALIA

PHYLUM: CHORDATA

CLASS: ELASMOBRANCHII

ORDER: SQUALIFORMES

FAMILY: SQUALIDAE

picture (Sqaca_u0.jpg) by Flescher, D.

COMMON NAME/S:
Albanian - Peshkagen (Albania);
Arabic - Abou shoka (Egypt); Kalb bouchouika (Morocco); Kelb bahr (Tunisia); Kelb el bahr (Lebanon); Wâwy (Lebanon);
Bulgarian - Akula (Bulgaria); Chernomorska akula (Bulgaria); Kuceska akula (Bulgaria); Morsko kuce (Bulgaria);
Catalan - Agullat (Spain);
inglés - Blue dog (United Kingdom); Common spiny fish (United Kingdom); Darwen salmon (United Kingdom); Dogfish (Namibia); Flake (United Kingdom); Grayfish (Cuba); Huss (United Kingdom); Pacific dogfish (Canada); Piked dogfish (Australia, United Kingdom, United States of America); Rigg (United Kingdom); Rock salmon (United Kingdom); Southern spiny dogfish (New Zealand); Spiky dog (New Zealand); Spiny dogfish (Australia, Canada, New Zealand, Portugal, Puerto Rico, United Kingdom, United States of America); Spotted spiny dogfish (Australia, South Africa); Spring dogfish (United Kingdom); Spurdog (Australia, Ireland, New Zealand, Portugal, Spain, United Kingdom); Victorian spotted dogfish (Australia); White-spotted dogfish (Australia); White-spotted spurdog (Australia);
francés - Aiguillat (Morocco); Aiguillat commun (France); Aiguillat tacheté (France);
griego - Skyllos (Greece); Skylópsaro (Greece); Stictokentroni (Greece);
Hebrew - Kotsan ktan kotz (Israel); Qozan qetan (Israel);
italiano - Spinarolo (Italy);
Maltese - Mazzola (Malta); Mazzola bix-xewka (Malta); Mazzola griza (Malta);
polaco - Kolen (Poland);
Romanian - Câine de mare (Romania); Rechin (Romania);
ruso - Katran (Ukraine); Kolyuchaya akula; Obyknovennaya kolyuchaya akula (Russian Federation);
Serbian - Koscenjak (Yugoslavia); Pas kostelj (Yugoslavia);
español - Galludo (Mexico, Spain); Galludo espinoso (Cuba); Mielga (Spain); Pinchudo (Spain);
Turkish - Köpek baligi (Turkey); Mahmuzlu camgöz (Turkey);

SPECIES AUTHORITY: Linnaeus, 1758

DISTRIBUTION: Western Atlantic: Greenland to Argentina. Eastern Atlantic: Iceland and Murmansk Coast (Russia) to South Africa, including the Mediterranean and Black

Sea. Western Pacific: Bering Sea to New Zealand. Reports from off New Guinea are doubtful. Eastern Pacific: Bering Sea to Chile.

MEDITERRANEAN COUNTRY NAMES: Albania, Algeria, Cyprus, Egypt, France, Greece, Israel, Italy, Lebanon, Libyan Arab Jamahiriya, Malta, Monaco, Romania, Russian Federation, Serbia and Montenegro, Slovenia, Spain, Syrian Arab Republic, Tunisia, Turkey and Ukraine.

HABITAT AND ECOLOGY: Possibly the most abundant living shark. *Squalus acanthis* is a boreal to warm-temperate species, occurring inshore and offshore in continental and insular shelf waters and on the upper slopes. It can be found from the surface down to the bottom but usually occurs near the bottom. Found from the intertidal area down to at least 900 m. The piked dogfish is described as a slow, inactive swimmer, which nevertheless keeps a steady pace in its nomadic, erratic and regular movements. The species forms immense feeding aggregations or packs in rich foraging grounds and may be present in thousands. Although the piked dogfish is often found in enclosed bays and estuaries, and can tolerate brackish water, it apparently cannot survive fresh water for more than a few hours and does not occur there. An important correlate of dogfish movements seems to be water temperature; the sharks favour a temperature range with a minimum of 7-8°C and maximum of 12-15°C, and apparently make latitudinal and depth migrations to stay within their optimum range. This is apparently a slow-growing and maturing species, that is very long-lived.

BIOLOGY: Schools mainly segregated by size and sex; mixed schools also reported. Feeds primarily on bony fishes, also mollusks, crustaceans and other invertebrates. Growth is slow. Ages at maturity may vary regionally, and has been variously reported as 10-20 years for females and 11 or more years for males. At sexual maturity, males are 60-70 cm long, females 75-90 cm. Gestation period is 2 years. Ovoviviparous, with 1 to 20 young in a litter. The only species of horned sharks that can inflict toxins with its tail. Utilized for human consumption, liver oil, vitamins, sand paper, leather, fertilizer, etc. Eaten fried, broiled, and baked..

MORPHOLOGY: Dorsal spines (total): 2; Anal spines: 0. A slim dogfish with a narrow, pointed snout and characteristic white spots; two dorsal fins with ungrooved large spines, 1st dorsal fin spine origin behind pectoral fin rear tips. Grey above, white below; occasionally without spots.

THREATS: It is captured primarily in bottom trawls and with longlines and handlines, but also commonly with gill nets seines, fish traps, and other gear; it is also readily taken by rod and reel. It is utilized fresh, fresh-frozen, smoked, boiled-marinated, dried-salted, and in the form of fish cakes for human consumption. It is also used for liver oil, fish meal, pet food, fertilizer and leather (Compagno 1984).

HUMAN IMPACT: target of very important fisheries around the world, most of which have recently collapsed. Caught by trawls and longline and gill-nets. Utilized for its flesh, liver oil and fishmeal. In Category 4 (FAO, 1999) as the north-eastern Atlantic catches have declined by about 50 % since 1985.

CONSERVATION STATUS: On the IUCN Mediterranean status assessment as EN (A2bd+4bd and VU in the Black Sea (2007).

REASONS: This important and wide-ranging commercial species is particularly vulnerable to overfishing because of its late maturity, low reproductive capacity and longevity. Fished populations in the North Atlantic have a well-documented history of over-exploitation followed by near-collapse, suggesting that 'Vulnerable' might be an appropriate assessment for some regions. However, the species is still landed commercially in significant numbers from target fisheries (some of which are managed) in many parts of the world and is of high value in international trade.

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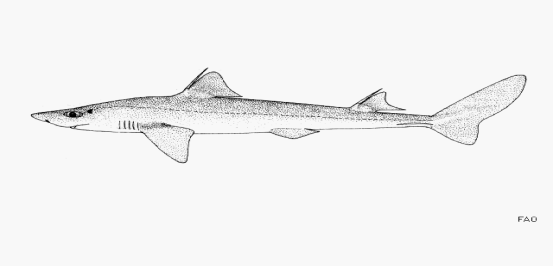
http://www.unep-wcmc.org/species/index.htm

Squalus blainvillei:



Squalus blainville *picture (Sqbla_u0.gif), Ref. No. 247, Contact info.*

KINGDOM: ANIMALIA

PHYLUM: CHORDATA

CLASS: ELASMOBRANCHII

ORDER: SQUALIFORMES

FAMILY: SQUALIDAE

COMMON NAME/S:
Albanian - Peshkagen dy gjilperesh (Albania);
Arabic - Irsh (Egypt);
Bulgarian - Malka kuceska akula (Bulgaria);
Catalan - Agullat xato (Spain);
inglés - Dogfish (Namibia); Longnose dogshark (Papua New Guinea); Longnose spurdog (United Kingdom);
francés - Aiguillat coq (France);
griego - Grisokentroni (Greece); Kocalas (Greece);
Hebrew - Kotsan caton (Israel); Qozan mazuz (Israel);
italiano - Spinarolo bruno (Italy);
Maltese - Mazzola tax-xewka (Malta); Ujatu (Malta);
ruso - Malaya kucheshka akula;
Serbian - Kostily (Yugoslavia); Pas kostelj (Yugoslavia);
español - Galludo (Spain); Pinchuo (Spain);
Turkish - Mahmuzlu camgöz (Turkey);

SPECIES AUTHORITY: (Risso, 1827).

DISTRIBUTION: Eastern Atlantic: Bay of Biscay to Mediterranean, Morocco, Senegal to Namibia (these records may include other species in addition to *Squalus blainvillei*). Although reported from the Canary Islands, it is most likely based on misidentifications of *Squalus megalops*. Western Pacific: southern Japan and Taiwan. Nominal records of *Squalus blainvillei* or *Squalus fernandinus* from the western Atlantic (North Carolina, USA to northern Gulf of Mexico; Argentina), Indian Ocean (South Africa, Mozambique, Madagascar, Tanzania and India) and the Pacific (Australia, New Zealand, New Caledonia, Hawaii and northern Chile), as well as some records from the northwest Pacific and eastern Atlantic are based at least in part on *Squalus mitsukurii* and possibly other species. Whether *Squalus blainvillei* itself is as wide-ranging as reported for *blainvillei*-group dogfishes.

MEDITERRANEAN COUNTRY NAMES: Albania, Algeria, Bulgaria, Cyprus, Egypt, France, Greece, Israel, Italy, Lebanon, Libyan Arab Jamahiriya, Malta, Monaco, Morocco, Serbia and Montenegro, Slovenia, Spain, Syrian Arab Republic, Tunisia and Turkey.

HABITAT AND ECOLOGY: Benthic, found on the continental shelves and upper slopes to at least 440 m. Forms schools.

BIOLOGY: Feeds on bony fishes, like denticids, mackerel and percichthyids, as well as crabs, lobsters, and octopi. Ovoviviparous, with 3 to 4 young per litter; a slow-swimming shark of 95cm TL, sometimes found in large schools. Utilized fresh, dried salted and smoked for human consumption. Resilience: Very Low, minimum population doubling time more than 14 years (K=0.10-0.14; Fec=3).

HUMAN IMPACT: caught as by-catch by trawls and longline

CONSERVATION STATUS: Not in IUCN Red List (NL).

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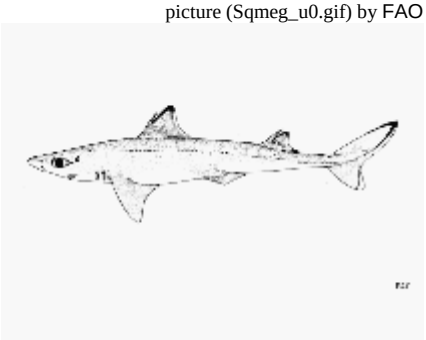
http://www.unep-wcmc.org/species/index.htm

Squalus megalops

picture (Sqmeg_u0.gif) by FAO



KINGDOM: ANIMALIA

PHYLUM: CHORDATA

CLASS: ELASMOBRANCHII

ORDER: SQUALIFORMES

FAMILY: SQUALIDAE

COMMON NAME/S:
inglés - Bluntnose spiny dogfish (South Africa); Dogfish (Namibia); Dogshark (Australia); Piked dogfish (Australia); Piked spurdog (Australia); Shortnose spiny dogfish (Australia); Shortnose spurdog (Australia, United Kingdom); Skittle dog (Australia); Spiked dogfish (Australia); Spikey dogfish (Australia); Spiny dogshark (Papua New Guinea); Spurdog (Australia); Tasmanian dogfish (Australia);
francés - Aiguillat nez court (France); Requin aiguillat (Réunion); Requin trois piquants (Mauritius);
español - Galludo (Spain); Galludo chato (Spain); Galludo ñato (Spain); Pinchudo (Spain);

SPECIES AUTHORITY: (Macleay, 1881)

DISTRIBUTION: Eastern Atlantic and Mediterranean (Alboran Sea and western Mediterranean), western Indian Ocean, western Pacific (Sea of Japan and Yellow Sea south to Gulf of Tonkin), southern Australia, New Caledonia and New Hebrides.
There are unresolved taxonomic problems with this species. Dogfishes referred to in the literature as *Squalus megalops* appear to belong to a complex of similar species rather than a single, very wide-ranging species that spans the Eastern Atlantic and Indo-West Pacific. Compagno (in prep) reports that Last and Stevens (1994) statement: that typical *Squalus megalops* is an Australian endemic, may be correct, but their account does not suggest any obvious differences between the typical Australian *S. megalops* and the very similar nominal *S. megalops* from off southern Africa, the Eastern North Atlantic, or the Western North Pacific. The typical Australian *S. megalops* needs to be critically compared with nominal *S. megalops* from elsewhere, but for the moment, pending a revision of *S. megalops* complex worldwide the various nominal records of *S. megalops* and likely synonyms are considered as a single species. It is likely that as with certain other dogfish there are discrete populations, stocks or subpopulations of *S. megalops*, with differences in size at maturity and maximum size.

MEDITERRANEAN COUNTRY NAMES: Morocco and Spain.

HABITAT AND ECOLOGY: Found on the outer continental shelves and upper slopes, on or near the bottom; sublittoral below 130 m. Young mostly pelagic off the outer shelves. Aggregations by sex are regularly observed.

BIOLOGY: . Ovoviviparous (aplacental viviparous), with number of young per litter 1-6 and generally two or three. There may be a lack of birth seasonality with no obvious peaks in fetal size during the year. The gestation period is uncertain although it has been estimated as two years. Adult females are apparently continuously reproductive, without a gap between pregnancies. This shark eats a variety of bony fishes, and more rarely elasmobranchs. Invertebrate prey includes a variety of crustaceans, mollusks, cephalopods, brittle stars and especially bristleworms (Polychaeta). which are common prey items. Maximum total length is about 77 cm, with most smaller than 65 cm. Term fetuses about 20 to 25 cm long, size at birth about 23 to 25 cm, freeliving young with yolk scars 23 to 28 cm; males maturing at about 34 to 51 cm, females mature at 37 to 62 cm. Age at maturity has been estimated at 22 years for females and 15 years for males in the South Africa population (Watson and Smale 1999).Utilized for human consumption, the flesh most appealing dried salted or smoked. Also consumed fresh. Minimum depth reported from.
Resilience: Very low, minimum population doubling time more than 14 years (Fec=2).

MORPHOLOGY: Dorsal spines (total): 2; Anal spines: 0. A small dogfish with a short, angular snout and a small mouth almost as wide as the snout is long; body without spots; 1st dorsal fin spine over pectoral fins. Bronze-grey above, white below; dorsal fins with black tips and white edges but markings inconspicuous in adults.

THREATS: This species is of considerable interest to fisheries and is taken in considerable quantities in demersal trawls but also on lines and nets. It is commonly caught as bycatch of the trawl fishery off southern Africa but is largely discarded.

HUMAN IMPACT: caught sometimes in large quantities by trawls, and also caught with lines and mesh nets; and too in gamefish.

CONSERVATION STATUS: DD (2003).

REASONS: A common to abundant dogfish of temperate and tropical seas, this species is of considerable interest to fisheries. It is taken in significant quantities in bottom trawls and also caught with lines and mesh nets. *Squalus megalops* is one of the most abundant chondrichthyan species on the outer continental shelf and upper slope. Due to taxonomic uncertainty, the global assessment is Data Deficient, pending further study.

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http://www.unep-wcmc.org/species/index.htm

Centrophorus granulosus

picture (Cegra_m0.jpg) by JAMARC

KINGDOM: ANIMALIA

PHYLUM: CHORDATA

CLASS: ELASMOBRANCHII

ORDER: SQUALIFORMES

FAMILY: CENTROPHORIDAE

COMMON NAME/S:
Albanian - Peshk derr (Albania);
Arabic - Kalb (Morocco);
inglés - Gulper shark (Australia, Portugal, United Kingdom);
francés - Aiguillat gros yeux (France); Chien gris (France); Requin chagrin (France); Squale-chagrin commun (France);
griego - Agathitis (Greece); Kentroni (Greece); Kokkoagathitis (Greece);
Hebrew - Kotsan khad snapir (Israel);
italiano - Centroforo comune (Italy); Sagri (Italy);
Maltese - Pixxinotte (Malta); Sagru (Malta); Zaghrun (Malta);
polaco - Kewaczo (Poland);
Serbian - Pas kostelj dubljinac (Yugoslavia);
español - Galludo manchado (Cuba); Negra (Spain); Quelme (Spain); Quelvacho (Spain); Quelve (Spain);

SPECIES AUTHORITY: (Bloch & Schneider, 1801)

DISTRIBUTION: *Centrophorus granulosus* is found in the northern part of the Gulf of Mexico in the western Atlantic; in the eastern Atlantic from France to South Africa; the Mediterranean Sea and also in the Black Sea; the Indian Ocean around the Aldabra Islands, Mozambique, South Africa, and western Australia; and in the western Pacific around Japan, Papua New Guinea, and Australia. Taxonomic status of its populations has to be reviewed.

MEDITERRANEAN COUNTRY NAMES: Albania, Algeria, Egypt, France, Greece, Israel, Italy, Lebanon, Libyan Arab Jamahiriya, Malta, Monaco, Morocco, Serbia and Montenegro, Spain, Syrian Arab Republic, Tunisia and Turkey.

HABITAT AND ECOLOGY: A common deepwater dogfish of the outer continental shelves and upper slopes, commonest below 200 m. Solitary. Also mesopelagic.

BIOLOGY: Feeds mainly on bony fishes such as hake, epigonids and lanternfish. Ovoviviparous. A deep-water shark of 160 cm TL (male/unsexed). Smoked and dried salted for human consumption; also processed into fishmeal and a source of liver oil. Resilience: Low, minimum population doubling time 4.5 - 14 years (Fec assumed to be <100) ..

MORPHOLOGY: Dorsal spines (total): 2; Anal spines: 0. Light grayish brown dorsally, paler ventrally; eyes greenish. Adults with tips of dorsal fins dusky, not prominently marked.

THREATS:
Harvesting (hunting/gathering) - Food (ongoing)
Harvesting (hunting/gathering) - Materials (ongoing)

HUMAN IMPACT: caught as by-catch but also as targeted species with trawls, for its flesh, liver oil, cartilage and skin
.
CONSERVATION STATUS: On the IUCN Mediterranean status assessment as VU (A3d+4d) (2007).

REASONS: This wide-spread species is being heavily fished in deepwater fisheries in the Northeast Atlantic, Northwest Pacific and other regions. Its life history makes it highly vulnerable to overexploitation and population depletion. The 'Vulnerable' assessment for the gulper shark may well be applicable to most other poorly known deep sea species that are now being exploited by unmanaged expanding fisheries. Studies are required to determine their life history characteristics and other parameters necessary for management.

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Fisheries and fishbreeding in Israel. Haifa [FISH. FISHBREED. ISR.],
vol. 17, no. 3, pp. 39-42, 1984

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UNEP(DEC)/MED/WG.211/inf.3. RAC/SPA Tunis. 24pp.

http://www.unep-wcmc.org/species/index.htm

Centrophorus cf. uyato

KINGDOM:ANIMALIA

PHYLUM: CHORDATA

CLASS: ELASMOBRANCHII

ORDER: SQUALIFORMES

FAMILY: CENTROPHORIDAE

COMMON NAME/S:
inglés - Endeavor dogfish (Australia); Little gulper shark (Australia, United Kingdom); Southern dogfish (Australia);
francés - Petit squale-chagrin (France);
griego - Agathitis (Greece); Microagathitis (Greece);
italiano - Centroforo boccanera (Italy);
Maltese - Mazzola bix-xewka (Malta);
polaco - Gelba (Poland);
español - Galludito (Spain); Quelva (Spain); Quelvacho negro (Spain);

SPECIES AUTHORITY: (Rafinesque, 1810)

DISTRIBUTION: The taxonomy of *C. uyato* has not been adequately resolved and the Australian populations may be distinct from those outside of Australia (J. Stevens, pers. comm., Daley *et al.* 2002).
Ranges from Meditteranean and Black Sea, Atlantic, Indian Ocean, and southwest Pacific. Australian populations may be taxonomically distinct from those elsewhere. Australian populations are documented as being from Esperance to Geraldton (Western Australia) and Fowlers Bay (South Austrlia) to Port Stephens (New South Wales), including Tasmania (Last and Stevens 1994), but further study of this distribution is necessary given the taxonomic problems in this genus (J. Stevens CSIRO, pers. comm., Daley *et al.* 2002). The population size (although suspected to be much reduced) and number and size of subpopulations are unknown.

HABITAT AND ECOLOGY: Demersal on the continental shelf and upper-middle continental slope in depths of 50-1,400 m.

BIOLOGY: Ovoviviparous, usually producing one pup. The diet consists of bony fishes and cephalopods (Last and Stevens 1994), but also includes crustaceans (Daley *et al.* 2002). Length at first maturity is 80 cm for males (Last and Stevens 1994) and 100 cm for females (Daley *et al.* 2002). Size at birth is 35-45 cm (Last and Stevens 1994, Daley *et al.* 2002).
Preliminary ageing studies by Fenton (2001) suggest that *C. uyato* lives to at least 46 years of age (n=8). The low fecundity, high longevity and probable late age at first maturity of this species prevent it from quick recovery after sustained fishing of its populations in the last 20-30 years (Graham *et al.* 2001, Daley *et al.* 2002).

CONSERVATION STATUS: DD (2003)

REASONS: This species is currently Data Deficient globally due to the taxonomic problems. However, deepwater demersal trawl fisheries are expanding in other parts of its potential range, and with the observed declines described above, together with the knowledge that its biology is similar to other deepwater shark species, this, and related species warrants urgent conservation attention globally.

CONSERVATION MEASURES: Recent (Jan 2003) management changes to the SETF by the Australian Fisheries Management Authority limit the combined catch of *Centrophorus* dogfishes to a maximum of 150 kg trunked weight per trip. In addition, livers of *Centrophorus* are not to be retained unless the individual carcasses from which they were obtained are also landed (J. Stevens CSIRO, pers. comm.).
Centrophorus uyato has also been nominated for listing as a Vulnerable species on the Commonwealth Environment Protection and Biodiversity Conservation Act 1999 (EPBC Act). If listed as Vulnerable, the EPBC Act requires that a Recovery Plan be put in place within a five year period (Sara Williams, Environment Australia, pers. comm.).

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Etmopterus spinax

picture (Etspi_u1.jpg) by Svensen, R.

KINGDOM: ANIMALIA

PHYLUM: CHORDATA

CLASS: ELASMOBRANCHII

ORDER: SQUALIFORMES

FAMILY: DALATIIDAE

COMMON NAME/S:
Albanian - Peshkagen (Albania);
Arabic - Kalb (Morocco);
inglés - Velvet belly (Portugal, Spain, United Kingdom); Velvet belly lantern shark (South Africa); Velvet-belly Lanternshark;
francés - Epineux de fond (France); Sagre commun (France);
griego - Marcoagathitis (Greece);
italiano - Pesce diavolo (Italy); Sagri nero (Italy);
Maltese - Djavlu (Malta); Mazzola tal-fanal (Malta); Mazzola tal-fond (Malta); Mazzola tax-xewka (Malta); Sagru (Malta);
ruso - Nochnaya (Russian Federation);
Serbian - Kosljivac (Yugoslavia); Pas kostelj crnac (Yugoslavia);
español - Negrito (Spain);

SPECIES AUTHORITY: (Linnaeus, 1758)

DISTRIBUTION: Eastern Atlantic: Iceland, Norway, and the western Mediterranean to Morocco, Senegal, Sierra Leone, Côte d'Ivoire to Nigeria, Cameroon to Gabon, Azores, Cape Verde, and Cape Province, South Africa.

MEDITERRANEAN COUNTRY NAMES: Albania, Algeria, France, Greece, Italy, Libyan Arab Jamahiriya, Malta, Monaco, Morocco, Slovenia, Spain, Tunisia and Turkey.

HABITAT AND ECOLOGY: bathydemersal, near or well above the bottom, between 70 and 2000m depth.

BIOLOGY: a common-deep water lantern shark of 60.0 cm TL (male/unsexed) and max. published weight: 850 g. Feeds on small fishes, squids, and crustaceans. Ovoviviparous, with number of young from 6 to 20 in a litter. Utilized for fishmeal and prepared dried salted for human consumption.
Resilience: Very low, minimum population doubling time more than 14 years (Fec=6).

HUMAN IMPACT: caught as by-catch with trawls, utilized as fishmeal.

CONSERVATION STATUS: On the IUCN Mediterranean status assessment as LC (Least Concern) (2007).

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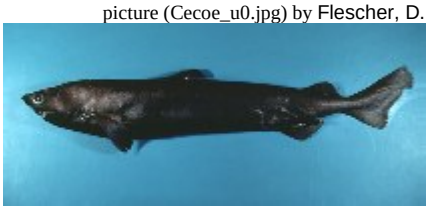
Centroscymnus coelolepis

picture (Cecoe_u0.jpg) by Flescher, D.



KINGDOM: ANIMALIA

PHYLUM: CHORDATA

CLASS: ELASMOBRANCHII

ORDER: SQUALIFORMES

FAMILY: SOMNIOSIDAE

COMMON NAME/S:
Arabic - Kalb (Morocco);
inglés - Portugese dogfish (South Africa); Portuguese dogfish (Australia, New Zealand, Portugal, United Kingdom); Portuguese shark (Portugal, Spain, United States of America);
francés - Pailona commun (France);
italiano - Centroscimno (Italy);
español - Pailona (Spain); Palluda (Spain); Rasqueta (Spain); Tiburón portugués (Cuba);

SPECIES AUTHORITY: (Bocage & Capello, 1864)

DISTRIBUTION: A wide but patchy distribution in the Atlantic (Iceland to South Africa, and including the western Mediterranean; Grand Banks to Delaware Bay) and western Pacific (off Japan, New Zealand and Australia (from Cape Hawke, New South Wales to Beachport (South Australia), including Tasmania). Relatively common in the eastern North Atlantic where it is targeted off Portugal. Also relatively common off Japan, south eastern Australia and New Zealand. No data are available on population sizes or on long term trends in abundance.

MEDITERRANEAN COUNTRY NAMES: France, Morocco and Spain.

HABITAT AND ECOLOGY: On or near the bottom of the continental slope and abyssal plain in depths from 270-3,700 m. There appears to be sex and size segregation by depth.

BIOLOGY:). Feeds mainly on fish (including sharks) and cephalopods, also gastropods and cetacean meat. Ovoviviparous, with 13 to 29 young per litter, born at 27-31 cm. A deep-water shark of 120 cm TL (male/unsexed). Utilized as fishmeal, dried and salted for human consumption, or as a source of squalene.
Resilience: Low, minimum population doubling time 4.5 - 14 years (Fec=13-29).

MORPHOLOGY: Dorsal spines (total): 2; Anal spines: 0. Dorsal fins with very small spines, very short snout, lanceolate upper teeth and bladelike lower teeth with short, oblique cusps, stocky body that does not taper abruptly from pectoral region, very large

lateral trunk denticles with smooth, circular, acuspidate crowns in adults and subadults. Uniformly golden brown to dark brown in color.

THREATS: This shark has been exploited commercially for a long time.

Harvesting (hunting/gathering) - Food - Regional/international trade (ongoing)
Harvesting (hunting/gathering) - Materials - Subsistence use/local trade (ongoing)
Harvesting (hunting/gathering) - Materials - Sub-national/national trade (ongoing)
Harvesting (hunting/gathering) - Materials - Regional/international trade (ongoing)
Harvesting (hunting/gathering) - Food - Subsistence use/local trade (ongoing)
Harvesting (hunting/gathering) - Food - Sub-national/national trade (ongoing)
Accidental mortality - Bycatch - Fisheries-related - Hooking (ongoing)
Accidental mortality - Bycatch - Fisheries-related - Netting (ongoing)

CONSERVATION MEASURES: 2002 regulations in the South East Trawl fishery in Australia prohibits the landings of livers unless the accompanying carcass is also landed.

HUMAN IMPACT: caught as by-catch but also as targeted species with trawls and lines.

CONSERVATION STATUS: On the IUCN Mediterranean status assessment as LC (Least Concern) (2007).

REASONS: Mainly a bycatch species taken by trawl and hook, although with some limited targeting, for its flesh and oil. Catches in Australia have been increasing in the last few years with relaxation of mercury laws and fishers looking for non-quota species in the South East Trawl Fishery. However, appropriate data on biomass or trends in abundance are lacking. The productivity of this species is likely to be low (although age estimates and annual fecundity are currently unknown) and further increases in catches should be viewed with concern. This species is of much lower abundance than *D. calcea* or *C. crepidater* and, although the quantitative data on populations are lacking, its lower abundance, demersal habits (not appearing to range into midwater) and suspected low productivity warrant a Near Threatened assessment.

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Compagno, Leonard L.J.V.. 1984.

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Somniosus rostratus

picture (Soros_m0.jpg) by Cambraia Duarte, P.M.N. (c)ImagDOP

KINGDOM: ANIMALIA

PHYLUM: CHORDATA

CLASS: ELASMOBRANCHII

ORDER: SQUALIFORMES

FAMILY: DALATIIDAE

COMMON NAME/S:
Albanian - Peshkagen (Albania);
inglés - Little sleeper shark (New Zealand, United Kingdom);
francés - Laimargue de la Méditerranée (France);
italiano - Lemargo (Italy);
español - Tiburón boreal (Spain); Tollo boreal (Spain);

SPECIES AUTHORITY: (Risso, 1810)

DISTRIBUTION: Northeast Atlantic: Madeira, France, and western Mediterranean. Western Pacific: off New Zealand and Japan.

MEDITERRANEAN COUNTRY NAMES: Albania, Algeria, France, Italy, Libyan Arab Jamahiriya, Malta, Monaco, Morocco, Serbia and Montenegro, Spain and Tunisia.

HABITAT AND ECOLOGY: A rare benthic species found on outer continental shelves and upper slopes, between 200 and 1000m depth.

BIOLOGY: Probably feeds on deepwater bottom fishes and invertebrates. Ovoviviparous, length at birth 21-28 cm TL. Utilized as fishmeal and possibly as food fish.
Resilience: Low, minimum population doubling time 4.5 - 14 years (Fec assumed to be <100).

MORPHOLOGY: Dorsal spines (total): 0; Anal spines: 0. Grey or brown in color. Short, rounded snout; equal-sized dorsal fins, first dorsal fin on back closer to pectorals than pelvic fins; long ventral caudal lobe; short keels on base of caudal fin.

HUMAN IMPACT: weak, since it is a rare shark.

CONSERVATION STATUS: On the IUCN Mediterranean status assessment as LC (Least Concern) (2007).

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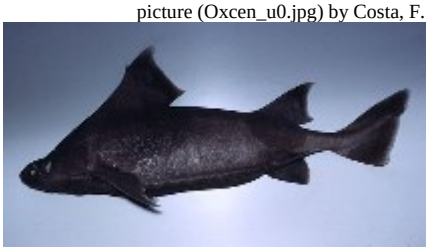
Compagno, Leonard L.J.V.. 1984.

http://www.unep-wcmc.org/species/index.htm

Oxynotus centrina

picture (Oxcen_u0.jpg) by Costa, F.



KINGDOM: ANIMALIA

PHYLUM: CHORDATA

CLASS: ELASMOBRANCHII

ORDER: SQUALIFORMES

FAMILY: DALATIIDAE

COMMON NAME/S:
Albanian - Peshkderr (Albania);
Arabic - Kalb (Morocco);
inglés - Angular rough shark (United Kingdom); Angular roughshark (United Kingdom); Flatiron shark (South Africa); Humantin (United States of America);
francés - Centrine commune (France);
griego - Gourounópsara (Greece); Kentroni (Greece);
Hebrew - Terizan qozani (Israel); Trizan (Israel);
italiano - Pesce porco (Italy);
Maltese - Far (Malta); Gurdien (Malta); Gurdien il-bahar (Malta); Pixxiporku (Malta);
español - Cerdo marino (Spain);
Turkish - Domuz baigi (Turkey);

SPECIES AUTHORITY: (Linnaeus, 1758).

DISTRIBUTION: Eastern Atlantic: Bay of Biscay and Mediterranean Sea to Senegal, north to Cornwall, England (apparently as a stray). Compagno et al. reports this species as ranging south to Cape Point, South Africa but Springer 1990 notes Bass et al. 1976 as considering specimens from Walvis Bay distinct from *Oxynotus centrina* calling attention to the considerably greater distance between dorsal fins in Mediterranean specimens than in specimens taken south of the equator.

MEDITERRANEAN COUNTRY NAMES: Albania, Algeria, Cyprus, Egypt, France, Greece, Israel, Italy, Lebanon, Libyan Arab Jamahiriya, Malta, Monaco, Morocco, Serbia and Montenegro, Slovenia, Spain, Syrian Arab Republic, Tunisia and Turkey.

HABITAT AND ECOLOGY: benthic, on the continental shelf and slope between 60 and 660m depth.

BIOLOGY: Feeds on polychaetes. A sluggish shark of 150 cm TL (male/unsexed). Ovoviviparous. Utilized for fishmeal, oil, and smoked and dried salted for human consumption. Resilience: Very low, minimum population doubling time more than 14 years (Fec=7).

MORPHOLOGY: Dorsal spines (total): 2; Anal spines: 0. A small bizarre-looking shark with an unmistakable high body and bristly textured skin. Uniformly grey to grey-brown.

HUMAN IMPACT: caught as by-catch by deep-water trawlers.

CONSERVATION STATUS: On the IUCN Mediterranean status assessment as CR (A2bd) (Critically endangered) (2007).

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Compagno, Leonard L.J.V.. 1984.

http://www.unep-wcmc.org/species/index.htm

Dalatias licha

picture (Dalic_f0.jpg) by Ticina, V.

KINGDOM: ANIMALIA

PHYLUM: CHORDATA

CLASS: ELASMOBRANCHII

ORDER: SQUALIFORMES

FAMILY: DALATIIDAE

COMMON NAME/S:
Albanian - Peshkagen (Albania);
Arabic - Kalb (Morocco);
inglés - Black shark (Australia, New Zealand); Darkie charlie (Portugal, Spain, United Kingdom); Kitefin shark (Australia, New Zealand, Portugal, United Kingdom, United States of America); Seal shark (Australia, New Zealand, South Africa, United Kingdom, United States of America);
francés - Squale liche (France);
griego - Skylopsaro (Greece); Skymnoskylopsaro (Greece);
Hebrew - Simnus (Israel);
italiano - Zigrino (Italy);
Maltese - Murruna sewda (Malta);
polaco - Liksa (Poland);
Serbian - Drkovina (Yugoslavia); Pas mrkalj (Yugoslavia);
español - Carocho (Spain); Gata (Spain); Gata tramolla (Spain); Lija (Spain); Lija negra (Spain);

SPECIES AUTHORITY: (Bonnaterre, 1788)

DISTRIBUTION: Western Atlantic: Georges Bank and northern Gulf of Mexico. Eastern Atlantic: Iceland, Scotland, and Irish Atlantic slope to Morocco, western Mediterranean, Madeira to Cameroon. Western Indian Ocean: Mozambique and South Africa. Western Pacific: Japan, Australia, and New Zealand. Central Pacific: Hawaii.

MEDITERRANEAN COUNTRY NAMES: Albania, Algeria, France, Greece, Italy, Libyan Arab Jamahiriya, Malta, Monaco, Morocco, Spain, Tunisia and Turkey.

HABITAT AND ECOLOGY: Found on outer continental and insular shelves and slopes, between 37 to 1800m depth. Mainly found on or near the bottom but readily occurs well off the substrate. Found singly or in small schools.

BIOLOGY: an active deep-water shark of 182cm TL (male/unsexed), never found forming schools in the Mediterranean. Feeds mainly on deepwater bony fish, but also skates, other sharks, cephalopods and crustaceans. Ovoviviparous, with 10-20 young born at 30-42 cm. Used for its squalene liver oil, leather and meat, as well as for

fishmeal. Resilience: Low, minimum population doubling time 4.5 - 14 years (Fec=10-20).

MORPHOLOGY: Dorsal spines (total): 0; Anal spines: 0. Moderately sized, short- and blunt-snouted shark with two almost equal-sized dorsal fins; papillose thick lips; small slender-cusped upper teeth and very large lower teeth with erect triangular serrated cusps and distal blades; first dorsal fin on back with its origin behind the pectoral rear tips and its base closer to the pectoral base than the pelvic fins; and caudal fin with the ventral lobe not expanded. Dark grey-brown to black; trailing edges of fins translucent.

HUMAN IMPACT: caught as by-catch and also as targeted species by deep-sea trawlers, for its flesh, liver oil and cartilage; in Category 3 (FAO, 1999), since catches are close to MSY in the north-east Atlantic.

CONSERVATION STATUS: On the IUCN Mediterranean status assessment as DD (2007).

REASONS: Records of yields from the Portuguese/Azores kitefin shark fishery suggest that targeted fisheries are capable of reducing populations quite rapidly. The life history of this species is expected to result in a slow recovery after depletion. An increasing trend for fisheries to move into deeper water on continental shelves and slopes suggests that fishing pressure on this species will likely increase over the next decade or more. However, because the kitefin shark is widely distributed and data on fisheries and populations are lacking from most of its range, it is not possible to reach a global assessment.

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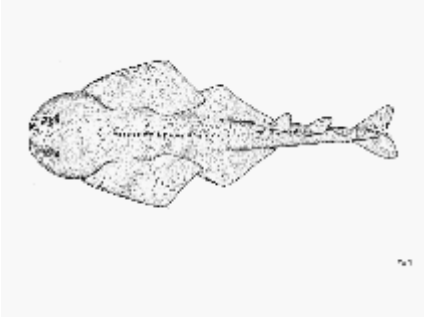
Squatina aculeata

picture (Sqacu_u0.gif) by FAO



KINGDOM: ANIMALIA

PHYLUM: CHORDATA

CLASS: ELASMOBRANCHII

ORDER: SQUATINIFORMES

FAMILY: SQUATINIDAE

COMMON NAME/S:
inglés - Sawback angel shark (South Africa); Sawback angelshark (United Kingdom);
francés - Ange de mer épineux (France);
italiano - Squadrolino (Italy);
español - Angelote espinoso (Spain); Angelote espinudo (Spain);

SPECIES AUTHORITY: (Cuvier, 1817).

DISTRIBUTION: Eastern Atlantic: western Mediterranean, but not in the Black Sea, Morocco, Senegal, Guinea to Nigeria, Gabon to Angola.

MEDITERRANEAN COUNTRY NAMES: Algeria, Egypt, France, Greece, Italy, Libyan Arab Jamahiriya, Monaco, Morocco and Tunisia.

HABITAT AND ECOLOGY: demersal, on the continental shelf and upper slope between 30 and 500m depth.

BIOLOGY: a sluggish shark of 188cm TL(male/unsexed). Feeds on small sharks and jacks. Ovoviviparous. Utilized dried salted and fresh for human consumption; liver oil and hide also utilized. Resilience: Low, minimum population doubling time 4.5 - 14 years (Fec assumed to be <100).

HUMAN IMPACT: caught with bottom trawls for its greatly esteemed flesh; relatively common in the past, becoming rare in the landings.

CONSERVATION STATUS: On the IUCN Mediterranean status assessment as CR (A2bcd+3cd+4bcd) (Critically endangered) (2007).

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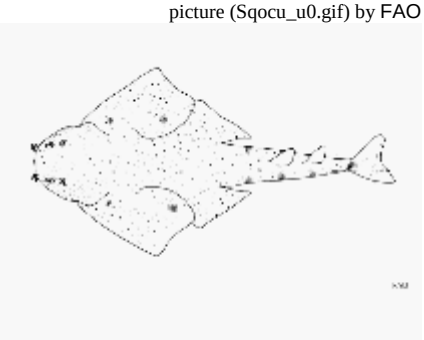
Compagno, L.J.V.. 1984.

http://www.unep-wcmc.org/species/index.htm

Squatina oculata

picture (Sqocu_u0.gif) by FAO



KINGDOM: ANIMALIA

PHYLUM: CHORDATA

CLASS: ELASMOBRANCHII

ORDER: SQUATINIFORMES

FAMILY: SQUATINIDAE

COMMON NAME/S:
Albanian - Skadhine (Albania);
inglés - Monk fish (United States of America); Smoothback angel shark (South Africa); Smoothback angelshark (United Kingdom); Smooth-back angelshark (United Kingdom);
francés - Ange de mer ocellé (France);
griego - Matorina (Greece); Rina (Greece);
italiano - Squadro pelle rossa (Italy);
Maltese - Xkatlu (Malta); Xkatlu ta' l-ghajnejn (Malta);
español - Angelote (Spain); Guitarra (Spain); Peje ángel (Spain); Pez ángel (Spain);

SPECIES AUTHORITY:(Bonaparte, 1840)

DISTRIBUTION: Eastern Atlantic: Mediterranean and Morocco to Angola, but not in the Black Sea.

MEDITERRANEAN COUNTRY NAMES: Albania, Algeria, Bosnia and Herzegovina, Croatia, Cyprus, Egypt, France, Greece, Israel, Italy, Lebanon, Libyan Arab Jamahiriya, Malta, Monaco, Morocco, Serbia and Montenegro, Slovenia, Spain, Syrian Arab Republic, Tunisia and Turkey.

HABITAT AND ECOLOGY: Found on sand and mud bottom of continental shelves and upper slopes. Mostly between 50 and 100 m but deeper in the tropics.

BIOLOGY: A shark of 160 cm TL (male/unsexed). Feeds on small fishes. Ovoviviparous. Utilized fresh and dried salted for human consumption; liver oil and hide also used. Resilience: Low, minimum population doubling time 4.5 - 14 years (Fec assumed to be <100).

MORPHOLOGY: Dorsal spines (total): 0. An angelshark with large thorns on snout and above eyes but not on midback, weakly bifurcated nasal barbels and weakly fringed anterior nasal flaps, the first dorsal-fin origin usually well behind the rear tips of pelvic fin, and prominent white spots on body.

HUMAN IMPACT: caught with bottom trawls for its greatly esteemed flesh; relatively common
in the past, becoming rare in the landings.

CONSERVATION STATUS: On the IUCN Mediterranean status assessment as CR (A2bcd+3cd+4bcd) (Critically endangered) (2007).

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Semi-delayed vitellogenesis, lack of egg capsules, and lecithotrophy. Journal of Fish Biology [J. FISH BIOL.], vol. 37, no. 3, pp. 347-356, 1990

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http://www.unep-wcmc.org/species/index.htm

Squatina squatina

picture (Sqsqu_u0.jpg) by Hernández-González, C.L.

KINGDOM: ANIMALIA

PHYLUM: CHORDATA

CLASS: ELASMOBRANCHII

ORDER: SQUATINIFORMES

FAMILY: SQUATINIDAE

COMMON NAME/S:
Albanian - Skadhine (Albania); Skadhine e bute (Albania);
Arabic - Malâk El Bah'r (Lebanon); Sfinn (Libyan Arab Jamahiriya); Shekatli (Egypt);
inglés - Angel (United Kingdom); Angel fiddle fish (United Kingdom); Angel puffy fish (United Kingdom); Angel ray (United Kingdom); Angel shark (South Africa, United Kingdom); Angelfish (United States of America); Angelshark (United Kingdom); Escat jueu (United Kingdom); Fiddle fish (United States of America); Monk; Monkfish (Ireland, United Kingdom);
francés - Ange de mer (France, Morocco); Ange de mer commun (France); Angelot (France); Boudroie (France); Bourget peisange (France); Martrame (France); Peau de chagrin (France); Peï-angi (France);
griego - Angelos (Greece); Anghelosrina (Greece); Lyra (Greece); Rína (Greece); Vióli (Greece);
Hebrew - Mak'akh (Israel); Mal'ah (Israel);
italiano - Pesce angelo (Italy); Squadro (Italy);
Maltese - Xkatlu (Malta); Xkatlu komuni (Malta);
polaco - Aniol morski a. raszpia (Poland);
ruso - Yevropeisky morskoi angel;
Serbian - Sklat (Yugoslavia);
español - Angel (Spain); Angelino (Spain); Angelot (Spain); Angelote (Spain); Escat (Spain); Eskat común (Spain); Guitarra (Spain); Mennejuela (Spain); Pardón (Spain); Peje ángel (Spain); Peje-ángel (Spain); Pez ángel (Spain); Vexigall (Spain); Zabalera (Spain);
Turkish - Keler (Turkey);

SPECIES AUTHORITY: (Linnaeus, 1758)

DISTRIBUTION: Northeast Atlantic: southern Norway, Sweden and Shetland Islands to Morocco and West Sahara, including the Canary Islands and the Mediterranean.

MEDITERRANEAN COUNTRY NAMES: Albania, Algeria, Cyprus, Egypt, France, Greece, Israel, Italy, Lebanon, Libyan Arab Jamahiriya, Malta, Monaco, Searbia and Montenegro, Slovenia, Spain, Syrian Arab Republic, Tunisia and Turkey.

HABITAT AND ECOLOGY: A temperate-water bottom-dwelling species found on or near the bottom from close inshore to at least 150 m depth. This shark prefers mud or sandy bottom, where it lies buried with hardly more than its eyes protruding. It is nocturnal and can be found swimming strongly up off the bottom, but is torpid in the

daytime and rests on the bottom. In the northern parts of its range the angelshark is seasonally migratory, and makes northwards incursions during the summer.

BIOLOGY: a sluggish shark of 183cm TL (male/unsexed), 244cm TL (female) and max. published weight of 80.0 kg. Feeds mainly on bony fishes, but also skates, crustaceans and mollusks. Ovoviviparous, with 9 to 20 young in a litter. Utilized fresh and dried salted for human consumption, and possibly for oil and fishmeal. Resilience: Very low, minimum population doubling time more than 14 years (Fec=9-20).

MORPHOLOGY: Dorsal spines (total): 0. No ocelli on body.

THREATS: Caught in bottom trawls, and utilized fresh and dried salted for human consumption, and possibly for oil and fishmeal (Compagno 1984).

HUMAN IMPACT: caught with bottom trawls for its greatly esteemed flesh; relatively common in the past, becoming very rare in the landings.

CONSERVATION STATUS: On the IUCN Mediterranean status assessment as CR (A2bcd+3cd+4bcd) (Critically endangered) (2007).

REASONS: This species is restricted to the northeast Atlantic and Mediterranean, where it is becoming increasingly uncommon and has been extirpated from parts of its former range. It is vulnerable as bycatch in bottom trawls and set nets throughout its range.

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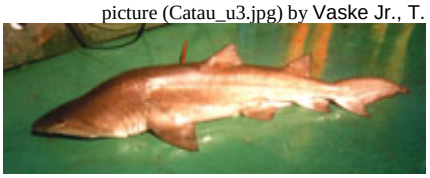
http://www.unep-wcmc.org/species/index.http

Carcharias taurus

picture (Catau_u3.jpg) by Vaske Jr., T.



KINGDOM: ANIMALIA

PHYLUM: CHORDATA

CLASS: ELASMOBRANCHII

ORDER: LAMNIFORMES

FAMILY: ODONTASPIDIDAE

COMMON NAME/S:
Albanian - Peshkagen i eger (Albania); Peshkaqen i eger (Albania);
Arabic - Kalb (Morocco);
inglés - Dogfish shark (United States of America); Gray nurse shark (Australia); Grey nurse (United Kingdom); Grey Nurse Shark (United Kingdom); Ground shark (United States of America); Sand shark (Anguilla, Netherlands Antilles, United Kingdom, United States of America); Sand tiger (United States of America); Sand tiger shark (Australia, United Kingdom); Slender-tooth shark (United Kingdom); Spotted ragged-tooth (Australia); Spotted raggedtooth shark (South Africa); Spotted ragged-tooth shark (South Africa);
francés - Chien de mer (Morocco); Requin (Guadeloupe); Requin des sables (Senegal); Requin taureau (France);
griego - Carcharias (Greece); Tavrocarcharias (Greece);
Hebrew - Karish khol pari (Israel);
italiano - Squalo toro (Italy);
Maltese - Kelb il-bahar (Malta); Tawru (Malta);
polaco - Tawrosz (Poland);
español - Bacota (Spain); Pez toro (Spain); Pintado (Colombia); Sarda (Spain); Tiburón arenero (Colombia); Tiburón sarda (Spain); Tiburón toro (Spain); Tigre arenero (Cuba); Torito (Colombia); Toro bacota (Spain);

SPECIES AUTHORITY: Rafinesque, 1810

DISTRIBUTION: Found in all warm seas and tropical coastal waters, except perhaps the eastern Pacific. Indo-West Pacific: Red Sea and off South Africa to Japan, Korea and Australia. Present in Arafura Sea. Western Atlantic: Gulf of Maine to Argentina. Old record from Bermuda, south Brazil. Eastern Atlantic: Mediterranean to Cameroon.

MEDITERRANEAN COUNTRY NAMES: Albania, Algeria, Cyprus, Egypt, France, Greece, Israel, Italy, Lebanon, Libyan Arab Jamahiriya, Malta, Monaco, Morocco, Serbia and Montenegro, Spain, Syrian Arab Republic, Tunisia and Turkey.

HABITAT AND ECOLOGY: A common littoral shark found inshore from the surf zone and in shallow bays to at least 191 m on the outer continental shelves. Often on or near the bottom but also occurs in midwater or at the surface. Only shark known to gulp and store air in its stomach to maintain neutral buoyancy while swimming.

BIOLOGY: a strong but slow-swimming shark of 320cm TL (male/unsexed) and a max. published weight of 158.8kg. Found singly or in small to large schools. Feeds on bony fishes, small sharks, rays, squids, crabs, and lobsters. Ovoviviparous, embryos feeding on yolk sac and other ova produced by the mother as well as other siblings in the womb (uterine cannibalism). A migratory species in parts of its range, particularly in its northern and southern extremities where pronounced poleward migration occur in the summer and equatorial movements in autumn and winter. Usually inoffensive and not aggressive when not provoked but has known to bite swimmers and be aggressive towards divers with speared fish. Utilized for fresh, frozen, smoked and dried for human consumption; also for fishmeal, liver oil, fins, and hides for leather. Flesh highly appreciated in Japan. Resilience: Very low, minimum population doubling time more than 14 years (Fec=2; K=0.14-0.17; Tmax=17).

MORPHOLOGY: Dorsal spines (total): 0; Anal spines: 0. A shark with a short, pointed snout, small eyes, protruding spike-like teeth and small, equal-sized dorsal and anal fins; 1st dorsal fin closer to pelvic than to pectoral fins. Caudal fin with a pronounced subterminal notch and a short ventral lobe. Pale brown or grey, paler below, with dark spots that appear faded in adults; fins plain.

THREATS:
Harvesting (hunting/gathering) - Food - Regional/international trade (ongoing).
Harvesting (hunting/gathering) - Materials - Regional/international trade (ongoing).

HUMAN IMPACT: caught as by-catch but also as targeted species in some areas, mainly with lines; in Category 4 (FAO, 1999) because of its vulnerability. Considered dangerous but not aggressive, very few ‘true’ attacks are reported. Nowadays, a popular ‘star’ in public aquariums.

CONSERVATION STATUS: On the IUCN Mediterranean status assessment as CR (A2abcd+3cd+4abcd) (Critically endangered) (2007).

REASONS: This large coastal species of shark has one of the lowest reproductive rates known among elasmobranchs, giving birth to one or two large young every two years. As a result, annual rates of population increase and ability to sustain fishing pressure are very low. Although the species is widespread, regional populations are isolated and no longer thought to mix. Catch rates of well-studied populations in Australia and South Africa have shown declines as a result of commercial fishing, spearfishing and beach meshing, requiring the introduction of management. Despite protection in Australia, population recovery is being very slow.

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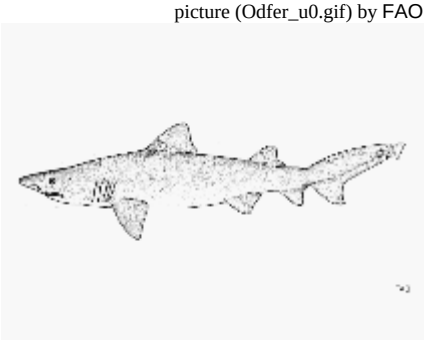
UNEP(DEC)/MED/WG.211/inf.3. RAC/SPA Tunis. 24pp.

http://www.unep-wcmc.org/species/index.htm

Odontaspis ferox

picture (Odfer_u0.gif) by FAO



KINGDOM: ANIMALIA

PHYLUM: CHORDATA

CLASS: ELASMOBRANCHII

ORDER: LAMNIFORMES

FAMILY: ODONTASPIDIDAE

COMMON NAME/S:
Albanian - Peshkagen i eger (Albania); Peshkaqen i eger (Albania);
Arabic - Girsh (Libyan Arab Jamahiriya); Kalb (Morocco); Kelb bhar (Tunisia); Qarsh (Lebanon);
inglés - Blue nurse shark (United Kingdom); Bumpytail raggedtooth (South Africa); Bumpytail ragged-tooth (Australia, South Africa); Fierce odontaspis (United Kingdom); Fierce shark (United Kingdom); Herbsts nurse shark (Australia); Ragged-tooth shark (Portugal, United States of America); Sand shark (New Zealand); Sand tiger shark (Australia); Smalltooth sand tiger (Australia, New Zealand, Portugal, United Kingdom);
francés - Odontaspide féroce (France); Requin (France); Requin féroce (France); Squale féroce (France);
griego - Agriocarcharias (Greece); Carcharias (Greece);
Hebrew - Karish khol ayom (Israel);
italiano - Cagnaccio (Italy);
Maltese - Kelb salvagg (Malta); Silfjun (Malta);
polaco - Rekin piaskowy (Poland);
español - Salroig (Spain); Sarda (Spain); Solraig (Spain); Solrayo (Spain); Surraig (Spain); Tiburón toro (Mexico);

SPECIES AUTHORITY: (Risso, 1910)

DISTRIBUTION: Records show a very disjunct distribution throughout most of the world's oceans. Recorded in the north-eastern Atlantic Ocean, the Indian Ocean (including the Cocos (Keeling Islands (Australian Territory), and the western Pacific, central Pacific and north-eastern Pacific Oceans. The first record for the western North Atlantic Ocean was in 1989 (Bonfil 1995). It is also known from the Mediterranean Sea (Last and Stevens 1994) but nowadays recorded mainly from Lebanon. In Australasia, it has been recorded off New South Wales (NSW), north-western Australia, New Zealand (Last and Stevens 1994) and the Kermadec Islands (Francis 1993). It is probably more widespread in Australian waters than voucher specimens would indicate (P. Last, pers. comm.).

Important sites in Australia occur off NSW on the shelf and upper slope of the south coast.

A cosmopolitan distribution has been proposed for this species (Bonfil 1995) and further exploration of deepish waters around the world might unveil its presence in still unknown parts of its range.

MEDITERRANEAN COUNTRY NAMES: Algeria, France, Italy, Lebanon and Morocco.

HABITAT AND ECOLOGY: *Odontaspis ferox* lives on or closely associated with the bottom in deep waters along continental and insular shelves and upper slopes (Last and Stevens 1994) to depths to about 850 m (K. Graham pers. comm.). It is occasionally found in shallower water (Last and Stevens 1994). Hutchins filmed underwater video of an individual in 20 m of water at the Cocos-Keeling Islands (B. Hutchins, pers. comm., cited in Pogonoski *et al.* 2002). There are at least three records from pelagic zones in open waters of the Indian Ocean (Bonfil 1995). An active-swimming offshore shark, caught and seen as individuals and in small groups (Compagno 2001).

BIOLOGY: Little is known of the biology of this shark. Its reproduction is presumably similar to that of the grey nurse shark (*C. taurus*). Compagno (2001) cites an observation which suggests the species practices uterine cannibalism in the form of oophagy.

Size at birth is over 105 cm and males mature at about 275 cm (Compagno 1984). A 2.7 m female specimen caught off the Sydney area was judged to be immature, as there was no sign of ovarian development (K. Graham, pers. comm., cited in Pogonoski *et al.* 2002). Compagno (2001) cites a maximum total length of at least 410 cm and possibly larger; males mature at 275 cm, females at 364 cm.

The large oily liver probably has a hydrostatic function (Last and Stevens 1994), and may help the shark to maintain neutral buoyancy while swimming. Stomachs examined have contained small bony fish, cephalopods, crustaceans (Last and Stevens 1994) and small squalid dogfish. A very large *O. ferox* trawled on the Norfolk Ridge north of New Zealand in 1997 was found to contain a 200 cm seal shark in its stomach. The above information suggests that this species is an opportunistic carnivore (Stewart 1997, cited in Pogonoski *et al.* 2002). Dentition suggests a more uniform diet of softer prey than in *C. taurus* (Compagno 2001). Resilience: Very low, minimum population doubling time more than 14 years (Fec assumed to be <10).

MORPHOLOGY: Dorsal spines (total): 0; Anal spines: 0. A shark with a short, pointed snout, small eyes, protruding spike-like teeth, and small, equal-sized dorsal and anal fins; first dorsal closer to pectoral than to pelvic fins. Grey above, paler below; may have red spots on sides.

THREATS: In the Mediterranean, dedicated efforts to detail captures and other indices of its abundance only began in the past ten years, and in particular since 1995. Regional literature and fisheries data concerning historical captures is essentially patchy and lacking in detail, so longer-term trends in its abundance are unknown. Moreover, fisheries records are sometimes confused by the widespread use of similar common names for different Mediterranean species; e.g., 'tiger' shark in Malta may refer to this

species or indeed to the shortfin mako *Isurus oxyrinchus* or sandtiger *Carcharias taurus*.

In recent years, the discovery of at least one apparent aggregation ground for these sharks in the Mediterranean, off Lebanon (Fergusson *et al.* in prep.) clearly indicates the vulnerability of these large, apparently harmless and rather sluggish sharks to human interference or directed fisheries. A particular concern must be degradation of favoured inshore habitats which may be used for reproduction during the summer months, as suspected with the Lebanese site. Coastal development for tourism, coupled to uncontrolled spearfishing, unregulated coastal fisheries, pollution and increased human aquatic leisure activities may all seriously impact these sharks whilst inhabiting areas outside their deepwater environment, much as may account for the contemporary acute decline or even disappearance of the (routinely coastal) sandtiger *Carcharias taurus* from its previous Mediterranean range (Fergusson *et al*. 2002).

We strongly suspect that the status of *O. ferox* in the Mediterranean matches or even exceeds the Vulnerable assessment as for the Australia population, but data is presently lacking to qualify this belief. Nonetheless, we believe that protection of favoured coastal habitats identified for this species is a priority measure and that more detailed monitoring of its capture in Mediterranean fisheries is required. Much like well-known *C. taurus* habitats in Australia and South Africa, diligent conservation of favoured sites frequented by *O. ferox* have considerable scope for local income generation as touristic diving localities and although not without specific problems, such activities will clearly give an incentive to locally protect rather than harvest these potentially valuable large sharks and to conserve their critical habitats.

CONSERVATION MEASURES

Australia: Protected Species in NSW Waters (since 1984). In Australia, more study is needed to accurately determine the distributional range, abundance and biology (including possible migrations, sex ratios, fecundity, etc.) of this species. Any dead specimens landed by commercial fishing (especially trawling) operations should be retained and delivered to the nearest relevant research organisation, so that more biological information can be obtained.

Reported by divers in Cocos-Keeling Islands (Australia) and also other areas such as the Kermadec Islands (New Zealand) the Mediterranean and Malpelo Island off Columbia. Such community-based dive observations or monitoring may be of use in obtaining information on its biology and knowledge of important habitats in shallow waters.

There is now more evidence that coastal locations are frequented by mature *O. ferox* on a repetitive seasonal basis, possibly for reproduction. Where identified, these sites deserve stringent protection. Development of bycatch mitigation measures such as trawl exclusion devices should be undertaken in relevant fisheries.

HUMAN IMPACT: caught as by-catch with gill-nets, line and trawls. Considered dangerous, but no attack has been recorded. Recently ecotourist activities have been developed in some spots of its range.

CONSERVATION STATUS: On the IUCN Mediterranean status assessment as EN (A2abd+4abd) (Endangered) (2007).

REASONS: Despite its worldwide distribution, *Odontaspis ferox* populations and occurrences are fragmented and the species may be naturally rare. Recent evidence of shallow water aggregations in a number of areas (Mediterranean Sea and eastern Pacific Ocean) suggests that the species may be more vulnerable to fishing pressure than previously assumed, and potentially susceptible to coastal habitat impacts as well as to over-exploitation because of its presumed very low reproductive capacity. Increased demersal trawl fisheries in Australia and New Zealand are now operating in areas of possible and known occurrence. Fishery independent surveys indicate an observed decline of over 50% in catches off the east coast of Australia (hence the Vulnerable assessment in these waters), probably the result of commercial fishing operations off New South Wales; similar declines are presumed to have occurred in many other parts of its range impacted by fisheries.
In addition, the decline of *O. ferox* in the Mediterranean Sea likely matches or even exceeds that in Australia, although data are lacking. More study is needed to accurately determine the distributional range, abundance and biology of this species, and it is assessed as Data Deficient globally pending an urgent review.

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http://www.unep-wcmc.org/species/index.htm

Alopias superciliosus

picture (Alsup_u1.jpg) by Vaske Jr., T.

KINGDOM: ANIMALIA

PHYLUM: CHORDATA

CLASS: ELASMOBRANCHII

ORDER: LAMNIFORMES

FAMILY: ALOPIIDAE

COMMON NAME/S:
Arabic - Jarjur (Oman); Qatwa albahar (Oman);
inglés - Big-eye shark (United Kingdom); Bigeye thresher (Australia, New Zealand, Portugal, South Africa, United Kingdom, United States of America); Bigeye thresher shark (United States of America); Long-tailed shark (United Kingdom); Thresher shark (United Kingdom); Whiptail (Saint Helena);
francés - Renard à gros yeux (France);
italiano - Pesce volpe occhio grosso (Italy);
español - Coleto (Spain); Pejerrabo (Spain); Pez zorro (Cuba); Tiburón zorro (Spain); Tiburón zorro de ojo grande (Peru); Zorro (Spain); Zorro negro (Spain); Zorro ojon (Nicaragua); Zorro ojón (Cuba, Mexico, Spain);

SPECIES AUTHORITY: (Lowe, 1839)

DISTRIBUTION: Circum-tropical. Western Atlantic: New York, USA southward to Bahamas and Cuba; Panama to Guyana. Eastern Atlantic: Portugal to Angola, **including the Mediterranean but not in the Black Sea**. Indo-Pacific: Arabian Sea, Madagascar, South Africa, southern Japan, Taiwan, northern Viet Nam, New Caledonia, north-western coast of Australia, New Zealand and north and south of the Hawaiian Islands Eastern Pacific: southern California (USA), Costa Rica and Panama, Galapagos Islands Highly migratory species, Annex I of the 1982 Convention on the Law of the Sea.

MEDITERRANEAN COUNTRY NAMES: Algeria, France, Italy, Libyan Arab Jamahiriya, Malta, Monaco, Morocco, Spain and Tunisia.

HABITAT AND ECOLOGY: Occurs in coastal waters over continental shelves, sometimes close inshore in shallow waters, and on the high seas far from land. Depth range to at least 500 m.

BIOLOGY: active pelagic shark of 488cm TL (male/unsexed) and max. published weight of 363.8 kg. Feeds on pelagic and bottom fishes and squids. Ovoviviparous, embryos feeding on yolk sac and other ova produced by the mother. Stuns its prey with its long caudal fin. Utilized for human consumption, liver oil for vitamins, skin for leather, and fins for shark-fin soup. Marketed fresh and may be broiled, baked or grilled, but unsuitable for steaming, boiling or frying; meat may be salted and dried.

MORPHOLOGY: Dorsal spines (total): 0; Anal spines: 0. A large thresher with very large eyes, an indented forehead, a broad caudal tip, and curved broad-tipped pectoral fins; 1st dorsal fin further back than in other threshers. Upper lobe of caudal fin very long and strap-like almost or quite equal to length of rest of shark; lower lobe short but well developed. Purplish grey above, cream below, posterior edges of pectoral and pelvic fins and sometimes first dorsal fin dusky; light color of abdomen not expanded over pectoral-fin bases.

HUMAN IMPACT: caught with longlines as by-catch of tuna fisheries or as targeted species; in Category 3 (FAO, 1999), but data is insufficient to evaluate the impact.

CONSERVATION STATUS: On the IUCN Mediterranean status assessment as DD (2007).

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Alopias vulpinus

picture (Alvul_u0.gif) by FAO

KINGDOM: ANIMALIA

PHYLUM: CHORDATA

CLASS: ELASMOBRANCHII

ORDER: LAMNIFORMES

FAMILY: ALOPIIDAE

COMMON NAME/S:
Albanian - Peshkdhelpën (Albania); Peshkdhelper (Albania);
Arabic - Jarjur (Oman); Kalb (Morocco); Qatwa al bahar (Oman); Watwa albahar (Oman);
Catalan - Guilla (Spain);
inglés - Big-eye thresher (United Kingdom); Common thresher (Cuba, United States of America); Fox shark (Australia, Cuba, United Kingdom, United States of America); Grayfish (United Kingdom); Sea fox (United Kingdom, United States of America); Slasher (United Kingdom); Swingletail (Canada); Swiveltail (Cuba, United Kingdom, United States of America); Swivetail (Canada); Thintail thresher (Australia, South Africa, United Kingdom); Thrasher (Cuba, United States of America); Thresher shark (Australia, Canada, New Zealand, Portugal, United Kingdom, United States of America); Whip-tailed shark (United Kingdom); Zorro thresher shark (Mexico);
francés - Faux (France); Loup de mer (Réunion); Pèis rato (France); Poisson-épée (France); Renard (France); Renard de mer (France); Renard marin; Requin renard (France); Singe de mer (France); Thon blanc (France);
griego - Aleposkylos (Greece); Alepouskylos (Greece); Skylópsaro (Greece);
italiano - Pesce volpe (Italy); Pesce volpe comune (Italy); Squalo volpe (Italy);
Maltese - Budenb (Malta); Pixxivolpi (Malta);
polaco - Kosogon (Poland);
Romanian - Rechin-vulpe (Romania);
Serbian - Pas lisica (Yugoslavia); Psina lisica (Yugoslavia);
español - Chichi espada (Spain); Coleto (Spain); Coludo (Mexico); Grillo (Mexico); Guadaña (Spain); Peje sable (Spain); Peje zorra (Spain); Peje zorro (Peru); Pejerrabo (Spain); Pez espada (Spain); Pez palo (Spain); Pez zorro (Cuba, Spain); Pichirata (Spain); Rabo de zorra (Spain); Raposa (Spain); Raposa marina (Spain); Tiburón pez zorro (Spain); Tiburon zorro (Nicaragua); Tiburón zorro (Mexico, Spain); Tiburón zorro común (Peru); Zorra de mar (Spain); Zorro (Cuba, Spain); Zorro blanco (Spain);
Turkish - Sapan (Turkey); Sapan baligi (Turkey);

SPECIES AUTHORITY: (Bonnaterre, 1788)

DISTRIBUTION: Cosmopolitan in temperate and tropical seas, circum-global in warm temperate and tropical water, that is . Western Atlantic: Newfoundland, Canada to Cuba, Gulf of Mexico, Venezuela, Brazil to Argentina. Eastern Atlantic: Norway and British Isles **to the Mediterranean, Morocco, but not in the Black Sea**, Ghana and

Côte d'Ivoire; also Cape Province, South Africa. Indo-Pacific: scattered localities from the Gulf of Aden and East Africa to the Hawaiian, Society and Fanning islands. Eastern Pacific: Canada to Chile. Population considered reduced (R) in the US Atlantic waters; lower risk/conservation dependent (LR/CD) in US Pacific waters; data deficient (DD) in the rest of Atlantic and rest of Pacific. Highly migratory species, Annex I of the 1982 Convention on the Law of the Sea.

MEDITERRANEAN COUNTRY NAMES: Albania, Algeria, Cyprus, Egypt, France, Greece, Israel, Italy, Lebanon, Libyan Arab Jamahiriya, Malta, Monaco, Morocco, Serbia and Montenegro, Slovenia, Spain, Syrian Arab Republic, Tunisia and Turkey.

HABITAT AND ECOLOGY: *A. vulpinus* is both coastal and epipelagic. It is found in the waters of continental and insular shelves, and has also been recorded far from land in temperate to tropical waters. Young individuals are often found close inshore and in shallow bays. Depth ranges from the surface to 550m. The thresher shark is an active, strong swimmer, sometimes leaping out of the water.

BIOLOGY: Feeds on schooling fishes (including mackerels, bluefishes, clupeids, needlefishes, lancetfishes and lanternfishes), squid, octopi, pelagic crustaceans, and rarely seabirds. Ovoviviparous, embryos feeding on yolk sac and other ova produced by the mother. Uses its long caudal fin to bunch up and stun prey. Spatial and depth segregation by sex in northwestern Indian Ocean populations. A few attacks on boats are doubtfully attributed to this species, but it is otherwise apparently harmless to humans, though the size of adults of this species command respect. May cause damage to fishing gear. Valued for its meat, liver, hide, and fins; utilized fresh, dried-salted, smoked, and frozen.
Resilience: Very low, minimum population doubling time more than 14 years (K=0.1; tm=5-7; tmax=19; Fec=2-4).

MORPHOLOGY: Dorsal spines (total): 0; Anal spines: 0. A large thresher with relatively small eyes, curved, narrow-tipped pectoral fins, a narrow-tipped caudal fin, and a conspicuous white patch over the pectoral fin bases. Second dorsal origin well behind the rear tip of the pelvic fin. Upper lobe of caudal fin very long and strap-like, about as long as or longer than length of rest of shark; lower lobe short but well developed. Brown, grey, blue-grey, or blackish on back and underside of snout, lighter on sides and abruptly white below; a white area extends from the abdomen over the pectoral-fin bases; pectoral-, pelvic-, and dorsal fins blackish, white dots sometimes present on pectoral-, pelvic-, and caudal- fin tips.

THREATS: The thresher shark is an important economic species in many areas and has been taken in large numbers as a targeted and landed bycatch species. The meat is highly prized fresh for human consumption but is also eaten smoked and dried salted; the fins are valuable for shark-fin soup; the hide is usable for leather and the liver oil can be processed for vitamins (Compagno 1984). The California drift gill net fishery provided strong evidence that *A. vulpinus* is highly vulnerable to overfishing in a short period of time.

HUMAN IMPACT: commercially important, caught with longlines as by-catch of tuna fisheries or as targeted species; in Category 4 (FAO, 1999) because of its low reproductive potential and intensive fisheries.

CONSERVATION STATUS: : On the IUCN Mediterranean status assessment as VU (A2bd+3bd) (Vulnerable) (2007).

REASONS: This widely distributed continental shelf species is an important economic species in many areas, and has been taken in large numbers as a targeted species and landed bycatch. The causes of reduction are reversible and understood, and the cause (heavy fishing pressure, especially on adults and subadults) has largely ceased. The subpopulation has made a near full recovery to just below 50% of the initial subpopulation size. However, it is clear the species depends on adequate management measures, and would otherwise be at risk of overfishing. A lack of fisheries data from other locations, incomplete knowledge of stock structures, and uncertainty over life history parameters make it impossible to determine population size or fluctuations elsewhere. Nonetheless, the high value of the species and its exploitation by unmanaged fisheries, combined with its biological vulnerability, indicates that at least some, if not most, subpopulations in other parts of the world are likely to be equally or more seriously at risk than that in California and, unlike the Californian stock, are not the subject of management enabling the population to rebuild.

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http://www.unep-wcmc.org/species/index.htm

Cetorhinus maximus

KINGDOM: ANIMALIA

PHYLUM: CHORDATA

CLASS: ELASMOBRANCHII

ORDER: LAMNIFORMES

FAMILY: CETORHINIDAE

picture (Cemax_u0.jpg) by Meneses, P.D.

COMMON NAME/S:
Albanian - Peshkaqen shtegtar (Albania);
Arabic - Kalb (Morocco);
inglés - Basking Shark; Bone Shark (United Kingdom); Elephant Shark (United Kingdom); Hoe-mother (United Kingdom); Sun-fish (Ireland);
francés - Pèlerin; Poisson à voiles (France); Requin pèlerin (France); Squale géant (France); Squale-pèlerin (France);
griego - Saparnasm Skylopsaro (Greece);
Hebrew - Karish anak (Israel);
italiano - Squalo elefante (Italy);
Maltese - Gobdoll (Malta); Pixxitonnu (Malta);
polaco - Dlugoszpar a. rekin gigantyczny (Poland);
español - Colayo (Spain); Marrajo ballenato (Spain); Marrajo gigante (Spain); Peje vaca (Spain); Peregrino (Spain); Pez elefante (Cuba); Tiburón canasta (Spain); Tiburón peregrino (Spain);
Turkish - Büyük camgöz (Turkey);

SPECIES AUTHORITY: (Gunnerus, 1765)

DISTRIBUTION: Cosmopolitan. Western Atlantic: Newfoundland, Canada to Florida, USA; southern Brazil to Argentina. Eastern Atlantic: Iceland, Norway and western Barents Sea **to the Mediterranean and Senegal, but not in the Black Sea**; also western Cape Province, South Africa. Western Pacific: Japan to New Zealand. Eastern Pacific: Gulf of Alaska to Chile; possibly the Galapagos Islands. Highly migratory species, Annex I of the 1982 Convention on the Law of the Sea. At risk of extinction by overfishing because of low to very low productivity. International trade restricted (**CITES** Appendix II, since 28.5.2003).

MEDITERRANEAN COUNTRY NAMES: Albania, Algeria, France, Italy, Libyan Arab Jamahiriya, Malta, Monaco, Morocco, Serbia and Montenegro, Slovenia, Spain, Tunisia and Turkey.

HABITAT AND ECOLOGY: A coastal-pelagic shark found in boreal to warm temperate waters of the continental and insular shelves. The species occurs well offshore and often very close to land, just off the surf zone. It is also known to enter

enclosed bays. This conspicuous shark is often seen at or near the surface, basking with dorsal fins out of the water or with bellies upward, or moving slowly forwards or in short arcs with their mouths open like hoops while feeding. Swims slowly at the surface, usually in groups of 3 or 4 but a group of up to 100 has been reported.

BIOLOGY: The second largest shark, reportedly reaching 1,220-1,520 cm TL. The basking shark is a filter-feeding species, relying on the passive flow of water through its pharynx generated by swimming for filtration. The species feeds exclusively on small planktonic organisms. Food items include small copepods, barnacle and decapod larvae, and fish eggs. On the average a half ton of material may be present in the stomach of these sharks (Compagno 1984). Ovoviviparous, embryos feeding on yolk sac and other ova produced by the mother. Regarded as ordinarily harmless and inoffensive but potentially dangerous if attacked (particularly when harpooned). Utilized fresh, frozen and dried, or salted. Also valued for its liver for oil, fins for soup, hide for leather and carcass for fishmeal. May be a potential source of anti-carcinoma drugs. Used in Chinese medicine. Resilience: Very low, minimum population doubling time more than 14 years (Musick et al. 2000).

MORPHOLOGY: Dorsal spines (total): 0; Anal spines: 0. Distinguished from all other sharks by the enormous gill slits practically encircling the head; dermal denticle gill rakers; pointed snout; huge, sub terminal mouth with minute hooked teeth; caudal peduncle with strong lateral keels, and lunate caudal fin. Body covered with placoid scales.

THREATS: The basking shark is extremely vulnerable to over-fishing, as a result of its slow growth rate, lengthy maturation time, long gestation period, probably low fecundity, and probable small size of existing populations (Compagno 1984). The species has been the object of harpoon fisheries from small boats in many parts of its range. During the last century they were also harpooned by whaling vessels. The basking shark has also been taken in nets, including bottom gillnets and even bottom and pelagic trawls, and formerly was a problem to salmon gill-netters in the Pacific northwest of North America by fouling gillnets. The meat is used for human consumption fresh or dried salted; its fins are used for shark-fin soup; its liver, rich in oil and very large, is extracted for its high squalene content but the liver oil was formerly used for tanning leather for lamp oil; the hide is processed for leather and the carcass is rendered for fish-meal (Compagno 1984).

CONSERVATION MEASURES: Basking sharks are now legally protected in some territorial waters.

HUMAN IMPACT: targeted species of traditional harpoon fisheries, also caught in nets and pelagic trawls, utilized for its flesh, fins, liver oil and skin; in Category 3 (FAO, 1999) because of its vulnerability to over-fishing.

CONSERVATION STATUS: On the IUCN Mediterranean status assessment as VU (A2bd) (Vulnerable) (2007); in the north-east Atlantic, specifically protected in some areas (UK, Malta, New Zealand and USA) and in the Mediterranean by the Barcelona and the Bern Convention on the Conservation of European Wildlife. Sponsored for CITES listing in Appendix II.

REASONS: A very large filter-feeding cold-water pelagic species, widely distributed but only regularly seen in a few favoured coastal locations and probably never very abundant. Documented fisheries in several regions have usually been characterised by rapidly declining local populations as a result of short-term fisheries exploitation, followed by very slow or no recorded population recovery. There is likely potential for similar population declines to occur in the future from directed and bycatch fisheries, driven at least in part by the demand for fins in international trade. Basking sharks are now legally protected in some territorial waters. Compagno (1984) considers the basking shark "to be extremely vulnerable to overfishing, perhaps more so than most sharks ... ascribed to its slow growth rate, lengthy maturation time, long gestation period, probably low fecundity and probable small size of existing populations (belied by the immense size of individuals in their small schools)."

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Carcharodon carcharias

picture (Cacar_u9.jpg) by McGilvray, F.

KINGDOM: ANIMALIA

PHYLUM: CHORDATA

CLASS: ELASMOBRANCHII

ORDER: LAMNIFORMES

FAMILY: LAMNIDAE

COMMON NAME/S:
Albanian - Peshkaqen njeringrenes (Albania);
Arabic - Kalb (Morocco); Kalb bahr (Tunisia); Wahsh (Egypt);
Catalan - Tauró blanc (Spain);
inglés - Great White Shark; Man-eater Shark (United Kingdom); Mango-taniwha (New Zealand); Mango-ururoa (New Zealand); White Pointer (United Kingdom); White Shark (United States of America); White-death (Australia);
francés - Grand requin blanc; Lamie ; Mangeur d'hommes (France); Requin blanc;
griego - Sbrillias (Greece); Skylópsaro sbríllios (Greece);
Hebrew - Karish lava (Israel);
italiano - Pescecane (Italy); Squalo bianco (Italy);
Maltese - Huta tax-Xmara (Malta); Kelb Abjad (Malta); Kelb il - bahar Abjad (Malta); Kelb il-bahar (Malta); Kelb il-bahar abjad (Malta); Silfjun (Malta);
polaco - Zarlacz ludojad (Poland);
Romanian - Rechin alb (Romania); Rechin mancator de oameni (Romania);
ruso - Geldevaja akula;
Serbian - Pas modrulj (Yugoslavia);
español - Devorador de hombres (Cuba); Jaquetón (Spain); Jaquetón blanco (Spain); Jaquetón de ley (Cuba); Marrajo (Spain); Tiburón antropófago (Peru); Tiburón blanco;
Turkish - Karkarias (Turkey);

SPECIES AUTHORITY: (Linnaeus, 1758)

DISTRIBUTION: Cosmopolitan, mostly amphitemperate. Western Atlantic: Newfoundland, Canada to Argentina; also north Gulf of Mexico, Bahamas, Cuba and Lesser Antilles. **Eastern Atlantic: France to South Africa, including the Mediterranean but not in the Black Sea**. Indian Ocean: Red Sea, Seychelles, South Africa; also Reunion and Mauritius. Western Pacific: Siberia to New Zealand and the Marshall Islands; also south Australia. Central Pacific: Hawaii. Eastern Pacific: Alaska to Chile. International trade cooperation, Australia (**CITES** Appendix III, since 28.5.2003; **CMS** Appendix I and II).

MEDITERRANEAN COUNTRY NAMES: Albania, Algeria, Bosnia and Herzegovina, Croatia, Cyprus, Egypt, France, Greece, Israel, Italy, Lebanon, Libyan Arab Jamahiriya, Malta, Monaco, Serbia and Montenegro, Slovenia, Spain, Syrian Arab Republic, Tunisia and Turkey.

HABITAT AND ECOLOGY: The great white shark is primarily a coastal and offshore inhabitant of the continental and insular shelves. The species also makes occasional epipelagic excursions into the ocean basins. It often occurs close inshore to the surfline and has even been found in shallow bays in continental coastal waters. The white shark can be found at the surface down to the bottom in epicontinental waters but occasionally ranges down the continental slope. This species is a very active shark with a stiff, powerful, scombroid-like mode of swimming that allows it to efficiently cruise and manoeuvre for long periods at a relatively slow speed. The species is capable of sudden high-speed dashes and drastic manoeuvering and sometimes jumps out of the water. Usually solitary or in pairs but can be found in feeding aggregations of 10 or more; does not form schools.

BIOLOGY: In certain areas (southern Australia, the south coast of South Africa, and central California), white sharks may have habituated to human-provided food sources such as fishing boats and feeding stations (to lure white sharks in for photography, ecotouristic diving and profits). The great white shark is a true apex predator and perhaps the most formidable of fishlike vertebrates. The combination of large size, very powerful jaws and teeth, and a relatively efficient locomotion and metabolism allows it to be a versatile predator with a broad prey spectrum. It also readily scavenges on available carrion, garbage, and secondary kills of fish caught on lines. Prey of the white shark includes a wide range of bony fishes. Chondrichthyan prey includes other sharks, rays and chimaeras. Sea turtles are occasionally taken by the white shark. Marine mammals are an important food source for white sharks, and those killed and eaten include harbour porpoises, dolphins, and a number of pinnipeds such as harbour seals, northern elephant seals, Steller's and California sea lions, South African fur seals, and probably several other species. Sea otters are commonly killed by white sharks off California. The species also feeds on carrion, including large cetaceans, mammalian carrion from slaughterhouses and other sources, and rarely humans. Invertebrate prey includes squid, abalone and other gastropods, and crabs. Inedible garbage is occasionally taken from the stomachs of white sharks, but apparently this species is not fond of swallowing oddities (Compagno 1984). Ovoviviparous, embryos feeding on yolk sac and other ova produced by the mother. Number of young born per litter, 7 to 14. Flesh is utilized fresh, dried-salted, and smoked for human consumption, the skin for leather, liver for oil, carcass for fishmeal, fins for shark-fin soup, and teeth and jaws for decorations. Possibly to 8 m in length (720 cm TL (male/unsexed)), and max. published weight of 3,400.0 kg, considered the world's largest predator with a broad prey spectrum. The record of 10.98 m is incorrect. Sometimes considered the most dangerous shark in the world. Resilience: Very low, minimum population doubling time more than 14 years (K=0.06; tm=8-12; tmax=36; Fec=7)(max. reported age: 36 years).

MORPHOLOGY: Dorsal spines (total): 0; Anal spines: 0. A huge, spindle-shaped shark with conspicuous black eyes, a blunt, conical snout and large, triangular, saw-edged teeth. First dorsal-fin origin usually over the pectoral-fin inner margins. Caudal fin crescentic. Lead-grey to brown or black above, lighter on sides, and abruptly white below. Black spot at rear pectoral fin base.

THREATS: The species has a very low reproductive potential (late maturity and small litter size) and high vulnerability to target and bycatch fisheries (commercial and recreational), some of which supply high-value products (fins, jaws and teeth) for international trade. The meat is utilized fresh, dried salted, and smoked for human

consumption, and liver oil is extracted for vitamins, while the carcass may be used for fishmeal, the skin for leather, the fins for shark-fin soup, and the teeth and jaws for decorations (Compagno 1984).

CONSERVATION MEASURES: Protected in some parts of its range, but the effectiveness of such protection is questionable where enforcement is weak.

HUMAN IMPACT: : heavily caught in a recent past by various fisheries but nowadays limited to mainly 'recreational' fisheries since it is nowhere abundant, for the jaws, teeth and fins; in Category 3 (FAO, 1999) because it is a scarce apex predator with low reproductive potential. Involved in a number of shark attacks. Ecotourist activities have been developed in some spots of its distribution zone (Australia, South Africa, USA).

CONSERVATION STATUS: On the IUCN Mediterranean status assessment as EN (A2bc+3bc+4bc) (Endangered) (2007); on the IUCN Red List as 'Vulnerable (A1 c, d & A2 c, d)', but a global status of 'Endangered (A1 c, d & A2 c, d)' may be proved accurate for this shark. Protected in some areas (South Africa, Australia, Malta and USA) and in the Mediterranean by the Barcelona Convention and the Bern Convention on the Conservation of European Wildlife. Sponsored for CITES listing in Appendix I and II.

REASONS: The white shark is a widely but sparsely distributed top predator with a very low reproductive potential (late maturity and small litter size) and high vulnerability to target and bycatch fisheries (commercial and recreational), some of which supply high-value products (fins, jaws and teeth) for international trade. Notoriety of this shark as an ultimate Hollywood monster encourages inflated values for white shark products, and encourages illicit trade in white shark parts that is difficult to assess and control. Where detailed population data are available, these indicate that the abundance and average size of white sharks have declined. The species is now protected in some parts of its range, where it may be Lower Risk/conservation dependent, but the effectiveness of such protection is questionable where enforcement is weak. A global status of Endangered (A1cd+2cd) may be proven accurate for this shark as further data is collated.

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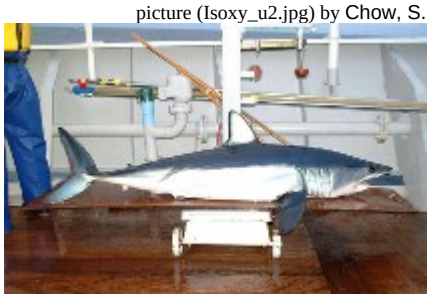
http://www.unep-wcmc.org/species/index.htm

Isurus oxyrinchus

picture (Isoxy_u2.jpg) by Chow, S.



KINGDOM: ANIMALIA

PHYLUM: CHORDATA

CLASS: ELASMOBRANCHII

ORDER: LAMNIFORMES

FAMILY: LAMNIDAE

COMMON NAME/S:
Albanian - Peshkagen tonil (Albania); Peshkaqen tonil (Albania);
Arabic - Al karch (Morocco); Deeba (Egypt); Qarsh (Lebanon);
Catalan - Solraig (Spain);
inglés - Atlantic mako (Cuba, United Kingdom); Blue pointer (Australia, United States of America); Blue shark (Mauritius); Bonito shark (United Kingdom); Dog shark (Saint Helena); Mackerel porbeagle (Cuba); Mackerel shark (Australia, United States of America); Mako (Bahamas, Mauritius, Netherlands Antilles, New Zealand, Portugal, Puerto Rico, United States of America); Mako shark (Australia, New Zealand, Niue, United States of America); Pointed nose shark (Guyana); Sharpnose mackerel shark (Guyana, Trinidad and Tobago); Sharp-nose mackerel shark (United Kingdom); Sharp-nosed mackerel shark (United Kingdom); Sharp-nosed shark (Guyana, Trinidad and Tobago); Shortfin mako (Australia, New Zealand, Papua New Guinea, Portugal, South Africa, United Kingdom, United States of America); Shortfin shark (India); Snapper shark (Australia);
francés - Bleu pointu (Mauritius); Lamie (France); Mako (France); Marache (France); Requin bleu (Mauritius); Requin maquereau (Mauritius, Senegal); Requin-taupe bleu (France); Taupe bleu (France); Taupe bleue (France);
griego - Carcharias (Greece); Rynchocarcharias (Greece); Skyllopsaro (Cyprus);
Hebrew - Amlez (Israel);
italiano - Ossirina (Italy); Squalo mako (Italy);
Maltese - Pixxiplamptu (Malta); Pixxitondu (Malta);
polaco - Rekin ostronosy (Poland);
Romanian - Rechin macrou (Romania);
Serbian - Kucina (Yugoslavia); Psina du gonasa (Yugoslavia);
español - Atunero (Spain); Cane de mare (Cuba, Spain); Dentuda (Cuba); Dentuse (Cuba); Diamante (Spain); Dientuse (Cuba); Dientuso (Spain); Dientuso azul (Cuba); Janequín (Spain); Maco (Spain); Mako (Peru); Marrajo (Spain); Marrajo dientuso (Nicaragua, Spain); Pesce tondo (Cuba); Tiburón azujelo (Spain); Tiburón bonito (Peru, Spain); Tiburon carite (Puerto Rico); Tiburón carito (Spain); Tiburón marrajo (Mexico); Tinto (Spain);
Tagalog - Pating (Philippines);
Turkish - Dikburun (Turkey);

SPECIES AUTHORITY: Rafinesque, 1810

DISTRIBUTION: Cosmopolitan in temperate and tropical seas. Western Atlantic: Gulf of Maine to southern Brazil, including the Gulf of Mexico and Caribbean. **Eastern Atlantic: Norway to South Africa, including the Mediterranean but not in the Black Sea**. Indo-Pacific: East Africa to Hawaii, north to Primorskiy Kray (Russian Federation), south to Australia and New Zealand. Eastern Pacific: south of Aleutian Islands and from southern California, USA to Chile.

MEDITERRANEAN COUNTRY NAMES: Algeria, Cyprus, Egypt, France (Corse), Greece (East Aegean Is.; Kriti), Israel, Italy (Sardegna; Sicilia), Libyan Arab Jamahiriya, Morocco, Serbia and Montenegro, Spain (Baleares), Tunisia and Turkey.

HABITAT AND ECOLOGY: The shortfin mako is an extremely active, offshore littoral and epipelagic species found in tropical and warm temperate seas. It seldom occurs in waters below 16°C. This shark is found from the surface down to at least 152 m. The species may be the fastest shark and one of the swiftest and most active fishes. It is able to leap several times its length from the water, and is capable of extreme bursts of speed when hooked and in pursuit of prey. In the extreme northern and southern parts of its range, it has a tendency to follow movements of warm water masses polewards in the summer (Compagno 1984).

BIOLOGY: Feeds on bony fishes, other sharks, cephalopods; larger individuals may feed on larger prey such as billfish and small cetaceans. Ovoviviparous, embryos feeding on yolk sac and other ova produced by the mother. With up to 18 young in a litter. Tagging in New Zealand indicates seasonal migrations. Probably the fastest of all sharks and can leap out of the water when hooked. Potentially dangerous and responsible for unprovoked attacks on swimmers and boats. Utilized fresh, dried or salted, smoked and frozen; eaten broiled and baked. Valued for its fine quality meat as well as its fins and skin. Oil is extracted for vitamins and fins for shark-fin soup. Jaws and teeth are also sold as ornaments and trophies. Give birth to 4-16 young, 60-70 cm long.

MORPHOLOGY: Dorsal spines (total): 0; Anal spines: 0. A large, spindle-shaped shark with large black eyes, a sharp snout, and large, narrow, hooked teeth with smooth edges. Caudal fin lunate, lower lobe strongly developed. Dark blue above, white below. Tiny second dorsal and anal fins.

THREATS: This is an important species for longline fisheries where it occurs, because of its high quality meat, and also is a prime game fish prized by sport anglers. The meat is utilized fresh, frozen, smoked and dried salted for human consumption; the oil is extracted for vitamins; the fins used for shark-fin soup; the hides processed into leather and the jaws and teeth used for ornaments. This species is caught in gillnets as well as on pelagic longlines and hook-and-line (Compagno 1984).

HUMAN IMPACT: caught as by-catch of pelagic fisheries and also as targeted species for its greatly esteemed flesh and fins, jaws and teeth; in Category 4 (FAO, 1999).

CONSERVATION STATUS: On the IUCN Mediterranean status assessment as CR (A2acd+3cd+4acd) (2007); on the IUCN Red List as ‘Lower Risk (near threatened)’(2000), but a global status of ‘Vulnerable’ may be proved accurate for this

shark. Catches are regulated in some countries (USA, New Zealand) by management rules.

REASONS: A wide-ranging oceanic and pelagic shark with high value meat, the shortfin mako is subject to significant bycatch and targeted fisheries in some areas. Most catches are inadequately or un-recorded, and its relatively low reproductive capacity makes it very susceptible to depletion by these fisheries. However, the species is very wide-ranging and has a relatively fast growth rate. There is no evidence to suggest that its global population has been sufficiently depleted for it to warrant 'Vulnerable' status at the present time.

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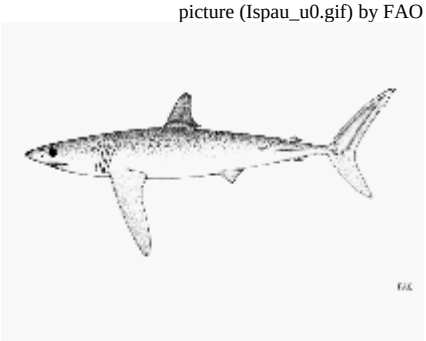
http://www.unep-wcmc.org/species/index.htm

Isurus paucus

picture (Ispau_u0.gif) by FAO



KINGDOM: ANIMALIA

PHYLUM: CHORDATA

CLASS: ELASMOBRANCHII

ORDER: LAMNIFORMES

FAMILY: LAMNIDAE

COMMON NAME/S:
inglés - Longfin mako (South Africa, United Kingdom, United States of America);
francés - Petite taupe (France);
español - Dientuso prieto (Cuba); Marrajo carite (Nicaragua, Spain);

SPECIES AUTHORITY: (Guitar Manday, 1966).

DISTRIBUTION: probably circum-tropical but spottily distributed Western Atlantic: Gulf Stream and Florida, USA; also Cuba. Reported from southern Brazil. **Eastern Atlantic: Guinea, Ghana and in the western Mediterranean**. Western Indian Ocean: Madagascar. Pacific Ocean: Taiwan, near Phoenix Island, and north of Hawaii

MEDITERRANEAN COUNTRY NAMES: Spain.

HABITAT AND ECOLOGY: oceanic, epipelagic, sometimes in deep water.

BIOLOGY: a little-known pelagic shark of 417cm TL (male/ unsexed and female). Oceanic species that probably approaches land to give birth. Presumably feeds on schooling fishes and pelagic cephalopods. Ovoviviparous, embryos feeding on yolk sac and other ova produced by the mother. With 2 pups in a litter. Potentially dangerous because of its large size and big teeth. Utilized fresh, frozen, and dried or salted for human consumption. Resilience: Very low, minimum population doubling time more than 14 years (Fec=2).

MORPHOLOGY: Dorsal spines (total): 0; Anal spines: 0. Pectoral fins about as long as head or longer, relatively broad-tipped in young and adults; snout usually narrowly to bluntly pointed, usually not acute; cusps of upper and lower anterior teeth straighter, with tips not reversed. Caudal fin lunate, with a very long lower lobe. Dark blue above, white below, with dusky markings on underside of snout, around mouth.

HUMAN IMPACT: probably taken as by-catch in pelagic fisheries (tuna and swordfish).

CONSERVATION STATUS: needs urgent investigation, not in IUCN Red List (NL).

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UNEP(DEC)/MED/WG.211/inf.3. RAC/SPA Tunis. 24pp.

Compagno, Leonard L.J.V.. 1984.

http://www.unep-wcmc.org/species/index.htm

Lamna nasus

picture (Lanas_u0.jpg) by Reyes, P.

KINGDOM: ANIMALIA

PHYLUM: CHORDATA

CLASS: ELASMOBRANCHII

ORDER: LAMNIFORMES

FAMILY: LAMNIDAE

COMMON NAME/S:
Albanian - Tonil (Albania);
Arabic - Kalb (Morocco);
Catalan - Marraix (Spain);
inglés - Beaumaris shark (United Kingdom); Blue dog (United States of America); Mackerel shark (Australia); Porbeagle (Australia, New Zealand, Portugal, South Africa, United Kingdom, United States of America); Porbeagle shark (South Africa, United Kingdom); Porbeale shark (Ireland);
francés - Requin-taupe commun (France);
griego - Karharías (Greece); Lamia (Greece); Skylopsaro (Greece);
italiano - Smeriglio (Italy);
Maltese - Pixxiplamptu (Malta);
polaco - Zarlacz sledziowy (Poland);
Romanian - Rechinul scrumbiilor (Romania);
Serbian - Kucina (Yugoslavia); Psina atlantska (Yugoslavia);
español - Cailón (Spain); Cailón marrajo (Spain); Marrajo (Spain); Marrajo sardinero (Spain);
Turkish - Dikburun karkarias (Turkey);

SPECIES AUTHORITY: (Bonnaterre, 1788)

DISTRIBUTION: coastal and oceanic, amphitemperate with centre of distribution in the north-eastern Atlantic. Western Atlantic: Newfoundland, Canada to New Jersey USA; possibly southern Brazil to Argentina. **Eastern Atlantic: Iceland and western Barents Sea to South Africa, including the Mediterranean but not in the Black Sea**. Southwest Pacific: Australia and New Zealand. Southeast Pacific: Chile. Southern Ocean: off South Georgia and the Kerguelen Islands. Indian Ocean.

MEDITERRANEAN COUNTRY NAMES: Albania, Croatia, Cyprus, France (Corse), Greece (East Aegean Is. ; Kriti), Italy (Sardegna; Sicilia), Morocco, South Georgia and the South Sandwich Islands, Spain (Baleares) and Turkey.

HABITAT AND ECOLOGY: *Lamna nasus* is a littoral and epipelagic shark. It is most abundant on the continental offshore fishing banks but is also found far from land in ocean basins and occasionally close inshore. This shark prefers cold water, less than 18°C, and does not occur in equatorial seas. The porbeagle is described as active and strong-swimming in pursuit of prey. The species is found at the surface down to the

bottom, singly and in schools and feeding aggregations, and has been caught at depths down to at least 366 m. Porbeagles may come inshore and to the surface in summer, but will winter offshore and beneath the surface. (Compagno 1984).

BIOLOGY: Active strong-swimming shark of 350cm TL (male/unsexed), max. published weight of 230.0 kg and max. reported age of 30 years. Feeds on small pelagic schooling fishes, other sharks, and squid. Ovoviviparous, embryos feeding on yolk sac and other ova produced by the mother. With 1 to 5 pups in a litter. The species may take 5 or more years to reach maturity, and can live to an age of 20 to 30 or more years. (Compagno 1984). Regarded as potentially dangerous to people because of its size and activity but has never or very seldom been indicted in an attack on people or boats. Utilized fresh, dried or salted and frozen for human consumption; for oil and fishmeal; fins for shark-fin soup. May be pan-fried and broiled. Resilience: Very low, minimum population doubling time more than 14 years (K=0.12; tm=5; tmax=30; Fec=1-5)

MORPHOLOGY: Dorsal spines (total): 0; Anal spines: 0. A stout, spindle-shaped shark with large black eyes, a sharp, conical snout, and small, smooth-edged, narrow teeth with side cusps. Dark grey above, white below, without blotches; rear tip of 1st dorsal abruptly white.

THREATS: This species has been heavily fished and utilized for human consumption in the North Atlantic and the Mediterranean. The species is primarily caught with pelagic longlines; also pelagic and bottom trawls, handlines and gillnets (Compagno 1984).

HUMAN IMPACT: heavily fished in the north-eastern Atlantic and the Mediterranean, with longlines. Populations have drastically declined; in Category 4 (FAO, 1999) because intensive fisheries have depleted the stocks. Also a game fish species. Only anecdotal attacks on people or boats are reported.

CONSERVATION STATUS: On the IUCN Mediterranean status assessment as CR (A2bd) (2007); on the IUCN Red List as Vulnerable (2006).

REASONS: A very wide-ranging species (albeit with apparently little exchange between neighbouring populations), but with a low reproductive capacity and high commercial value. Taken both in target and incidental fisheries. Global populations are not proven to have been depleted to a level where they qualify for a Vulnerable status. However, North Atlantic populations have been seriously over-exploited in longline fisheries, although the introduction of management for US and Canadian shark fisheries should reverse the serious decline in this stock. The apparent lack of exchange between populations on each side of the North Atlantic has resulted in separate assessments for the western and eastern stocks.

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UNEP(DEC)/MED/WG.211/inf.3. RAC/SPA Tunis. 24pp.

http://www.unep-wcmc.org/species/index.htm

Scyliorhinus canicula

picture (Sccan_u0.jpg) by Aquarium Kiel

KINGDOM: ANIMALIA

PHYLUM: CHORDATA

CLASS: ELASMOBRANCHII

ORDER: CARCHARINIFORMES

FAMILY: SCYLIORHINIDAE

COMMON NAME/S:
Albanian - Mace-deti (Albania); Mice-deti (Albania);
Arabic - Irsh (Egypt); Kalb el bah'r (Lebanon); Kelb el bahr (Lebanon);
Catalan - Gat (Spain);
inglés - Dogfish (Portugal, United Kingdom); Fay dog (United Kingdom); Lesser spotted dogfish (Ireland, Portugal, Spain, United Kingdom, United States of America); Rough dog (United Kingdom); Rough hound (United Kingdom); Sandy dogfish (Portugal, United Kingdom); Small spotted dog (United Kingdom); Small-spotted cat shark (South Africa); Small-spotted catshark (United Kingdom);
francés - Catarouquiera (France); Catarousse (France); Charotel (France); Chat de mer (Mauritania); Chat marin (France); Gat (France); Gatanghier (France); Petite rousette (Mauritania); Petite roussette (France); Rousse (France); Roussette (Morocco); Squale-roussette (France);
griego - Gátos (Greece); Skylàki (Cyprus, Greece); Skylopsaraki (Greece); Skylopsaro (Greece);
Hebrew - Gildan (Israel); Gildon kalbi (Israel);
italiano - Gattuccio (Italy);
Maltese - Gattarell (Malta); Gattarell tat-tikek (Malta);
ruso - Koshachya akula (Ukraine); Obyknovennaya koshach'ya akula (Russian Federation);
Serbian - Macka bjelica (Yugoslavia); Morska macka (Yugoslavia);
español - Breka (Spain); Cat (Spain); Catuarraya (Spain); Galeo (Spain); Gat (Spain); Gatet (Spain); Gato marino (Spain); Gatón patarroxa (Spain); Gatvaire (Spain); Mamatxa (Spain); Melgacho (Spain); Mona (Spain); Pez perro (Spain); Pintarroja (Mauritania, Spain); Pitarrosa (Spain); Pitarrosa de altura (Spain); Pitarrosin (Spain);
Turkish - Kedi baligi (Turkey); Kedib (Turkey);
Ukrainian - Koshacha akula (Ukraine);

SPECIES AUTHORITY: (Linnaeus, 1758).

DISTRIBUTION: Northeast Atlantic: Norway and British Isles south to Senegal, including the Mediterranean, but not in the Black Sea. Possibly Côte d'Ivoire. Some populational differences exist between *Catulus duhameli* (a name for the Mediterranean *canicula* based on size) and this species which may eventually be expressed as subspecies. The only reported observation of this species in Crimean waters was in 1937, which is possibly erroneous

MEDITERRANEAN COUNTRY NAMES: Albania, Algeria, Bosnia and Herzegovina, Croatia, Cyprus, Egypt, France, Greece, Israel, Italy, Lebanon, Lybian Arab Jamahiriya, Malta, Monaco, Morocco, Sebia and Montenegro, Slovenia, Spain, Syrian Arab Republic, Tunisia and Turkey.

HABITAT AND ECOLOGY: Inhabits continental shelves and uppermost slopes. Found on sandy, coralline, algal, gravel or muddy bottoms at depths of a few meters commonly down to 110 m. Sometimes occurs in midwater.

BIOLOGY: a small cat-shark of 100.0 cm TL (male/unsexed) and max. published weight of 1,320 g. Feeds on mollusks and crustaceans, small cephalopods, polychaete worms, and small bony fishes. Oviparous, with a single egg laid per oviduct at a time. Utilized fresh and dried-salted for human consumption, also for oil and fishmeal. Resilience: Low, minimum population doubling time 4.5 - 14 years (K=0.20; tm=5; 18-20 eggs only)

MORPHOLOGY: Dorsal spines (total): 0; Anal spines: 0. A slender, dark-spotted catshark with greatly expanded anterior nasal flaps, reaching mouth and covering shallow nasoral grooves, labial furrows on lower jaw only, second dorsal fin much smaller than first.

HUMAN IMPACT: represents an important part of the shark landings in Europe, caught mainly with bottom trawls. Used as a laboratory model since it can be maintained easily in aquariums.

CONSERVATION STATUS: On the IUCN Mediterranean status assessment as LC (2007); on the IUCN global Red List as LC (2000).

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http://www.unep-wcmc.org/species/index.htm

Scyliorhinus stellaris

picture (Scste_u1.jpg) by Patzner, R.

KINGDOM: ANIMALIA

PHYLUM: CHORDATA

CLASS: ELASMOBRANCHII

ORDER: CARCHARINIFORMES

FAMILY: SCYLIORHINIDAE

COMMON NAME/S:
Albanian - Dac-deti (Albania);
Arabic - Hartouka gata (Morocco); Irsh (Egypt); Kalb bahar (Libyan Arab Jamahiriya); Kalb el bah'r (Lebanon); Kelb bahr (Tunisia); Kelb el Bahr (Lebanon);
Catalan - Gatvaire (Spain);
inglés - Bull huss (United Kingdom); Dogfish (United Kingdom); Flake (United Kingdom); Flake catfish (United Kingdom); Greater spotted dogfish (United Kingdom); Greate-spotted dogfish (United Kingdom); Hound (United Kingdom); Larger spotted dogfish (United Kingdom); Large-spotted dogfish (United Kingdom); Nurse (United Kingdom); Nursehound (United Kingdom); Nurse-hound; Rigg (United Kingdom);
francés - Chat-rochier (France); Gat rouquin (France); Grande roussette (France); Roussette (Morocco); Roussette à grandes taches (France);
griego - Gatopsaraki (Greece); Gatos (Greece); Skylláki (Greece); Skyllopsaro (Greece);
Hebrew - Gildon cokhavi (Israel);
italiano - Gattopardo (Italy);
Maltese - Gattarell (Malta); Gattarell tal-blat (Malta); Gattarell Tar-Rukkal (Malta); Qattus tar-rukkal (Malta);
ruso - Akula-koshka (Russian Federation);
Serbian - Macka mrkulja (Yugoslavia); Morska macka (Yugoslavia);
español - Alitán (Spain); Breka (Spain); Cazó nazopado (Spain); Gat (Spain); Gat vayre (Spain); Gata (Spain); Gatet (Spain); Gato marino (Spain); Gatún (Spain); Gatvayra (Spain); Lija (Spain); Lixa (Spain); Moma (Spain); Momarra (Spain); Muxina (Spain); Patarroxa (Spain); Pintarroja (Spain); Pitarrosa (Spain); Renuda (Spain);
Turkish - Kedi baligi (Turkey);

SPECIES AUTHORITY: (Linnaeus, 1758)

DISTRIBUTION: Northeast Atlantic: Shetlands (rare), southern Scandinavia and British Isles to Morocco, including the Mediterranean but not in the Black Sea.. Distribu tion southward of this range is uncertain.

MEDITERRANEAN COUNTRY NAMES: Albania, Algeria, Bosnia and Herzegovina, Croatia, Cyprus, Egipt, France, Greece, Italy, Lebanon, Libyan Arab Jamahiriya, Malta, Monaco, Morocco, Serbia and Montenegro, Slovenia, Spain, Syrian Arab Republic, Tunisia and Turkey.

HABITAT AND ECOLOGY: A common inshore and offshore shark found on the continental shelf over rough, even rocky or coralline ground, and algal-covered bottoms. Found at depths of 1 or 2 m to at least 125 m.

BIOLOGY: Feed on bottom-living invertebrates such as mollusks and crustaceans and on demersal fishes (e.g. sharks, *S. canicula*). Oviparous. Utilized fresh and dried salted for human consumption, and processed into fishmeal. May attain 170 cm TL (male/unsexed).

MORPHOLOGY: Dorsal spines (total): 0; Anal spines: 0. A large, fairly stocky, catshark with large and small black spots and sometimes white spots covering dorsal surface, saddle markings obsolete, small anterior nasal flaps that do not reach the mouth, no nasoral grooves, labial furrows on lower jaw only, second dorsal fin much smaller than first.

HUMAN IMPACT: caught as by-catch of bottom trawl fisheries.

CONSERVATION STATUS: On the IUCN Mediterranean status assessment as NT (2007).

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UNEP(DEC)/MED/WG.211/inf.3. RAC/SPA Tunis. 24pp.

Compagno, Leonard L.J.V.. 1984.

http://www.unep-wcmc.org/species/index.htm

Galeus atlanticus

KINGDOM: ANIMALIA

PHYLUM: CHORDATA

CLASS: ELASMOBRANCHII

ORDER: CARCHARINIFORMES

FAMILY: SCYLIORHINIDAE

COMMON NAME/S:
inglés - Atlantic sawtail cat shark (South Africa); Atlantic Sawtail Catshark

SPECIES AUTHORITY: (Vaillant, 1888).

DISTRIBUTION: Eastern Central Atlantic: off Cape Spartel, northwest coast of Morocco.

MEDITERRANEAN COUNTRY NAMES: Morocco

HABITAT AND ECOLOGY: : benthic, on the upper slope between 400 and 600m depth.

BIOLOGY: a deep-water catshark of 45cm TL, feeds on invertebrates, oviparous. Resilience: Low, minimum population doubling time 4.5 - 14 years (Fec <100).

HUMAN IMPACT: caught as by-catch mixed with *Galeus melastomus.*

CONSERVATION STATUS: On the IUCN Mediterranean status assessment as NT (2007).

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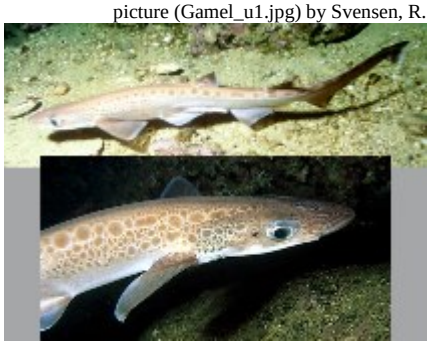
http://www.unep-wcmc.org/species/index.htm

Galeus melastomus

picture (Gamel_u1.jpg) by Svensen, R.



KINGDOM: ANIMALIA

PHYLUM: CHORDATA

CLASS: ELASMOBRANCHII

ORDER: CARCHARINIFORMES

FAMILY: SCYLIORHINIDAE

COMMON NAME/S:
Albanian - Peshkagen gojeziu (Albania); Peshkaqen gojeziu (Albania);
Arabic - Kalb bahr (Tunisia); Kalb el Bahr (Lebanon);
Catalan - Moixina (Spain);
inglés - Blackmouth cat shark (South Africa); Blackmouth catshark (United Kingdom); Blackmouthed dogfish (Spain); Black-mouthed dogfish (Portugal, United Kingdom);
francés - Bardoulin (France); Bicot (France); C'hi bastard (France); Chien espagnol (France); Lambardà (France); Pimpirína (France); Pristiure à bouche noire (France); Rousse (France); Vache (France);
griego - Galéos (Greece); Gata (Greece); Melanostromos (Greece); Skylopsaro (Greece);
Hebrew - Galeus (Israel);
italiano - Boccanera (Italy);
Maltese - Camperlina (Malta); Gattarell (Malta); Gattarell halqu iswed (Malta);
Serbian - Macka crnousta (Yugoslavia); Macka padecka (Yugoslavia);
español - Bardoulina (Spain); Bastina (Spain); Bocanegra (Spain); Colaina (Spain); Colayo (Spain); Gata (Spain); Gata moixa (Spain); Gazapa (Spain); Golayo (Spain); Kolayo (Spain); Mocina (Spain); Muxina (Spain); Olayo (Spain); Pimpiñúa (Spain); Pinta-rotja (Spain); Pintarroja bocanegra (Spain); Tintarroja (Spain); Tintorera (Spain);
Turkish - Lekeli-kedi (Turkey);

SPECIES AUTHORITY: (Rafinesque, 1810)

DISTRIBUTION: Northeast Atlantic: Faeroe Islands and Trondheim, Norway southward to Senegal, and in the whole Mediterranean Sea but not in the Black Sea.

MEDITERRANEAN COUNTRY NAMES: Albania, Algeria, Bosnia and Herzegovina, Croatia, Cyprus, Egypt, France, Greece, Israel, Italy, Lebanon, Libyan Arab Jamahiriya, Malta, Monaco, Morocco, Serbia and Montenegro, Slovenia, Spain, Syrian Arab Republic, Tunisia and Turkey.

HABITAT AND ECOLOGY: Bathydemersal, Found on the outer continental shelves and upper slopes, between 55 and 1200m.

BIOLOGY: A deep-water catshark of 75.0cm TL (male/unsexed) and 90cm TL (female) and a max. published weight of 1,370g . Feeds mainly on bottom invertebrates, including shrimps and cephalopods, but also on small pelagic bony fishes

(lanternfishes) and other small elasmobranchs. Oviparous, with up to 13 eggs present in the oviducts at one time. Utilized fresh and dried-salted for human consumption, and for leather.

HUMAN IMPACT: caught as by-catch of deep trawling fisheries.

CONSERVATION STATUS: On the IUCN Mediterranean status assessment as LC (2007).

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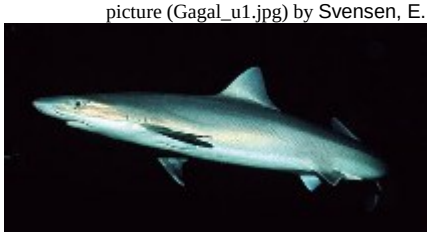
http://www.unep-wcmc.org/species/index.htm

Galeorhinus galeus

picture (Gagal_u1.jpg) by Svensen, E.



KINGDOM: ANIMALIA

PHYLUM: CHORDATA

CLASS: ELASMOBRANCHII

ORDER: CARCHARHINIFORMES

FAMILY: TRIAKIDAE

COMMON NAME/S:
Albanian - Peshk qen (Albania); Peshkagen (Albania);
Arabic - Kalb (Morocco); Kelb il bahar (Malta);
Catalan - Mussola carallo (Spain);
inglés - Eastern school shark (Australia); Flake (New Zealand); Greyboy (New Zealand); Greyshark (New Zealand); Hundshai (United Kingdom); Penny's dog (United Kingdom); Schnapper shark (United Kingdom); School shark (Australia, New Zealand, United Kingdom); Sharpie shark (United Kingdom); Snapper shark (Australia); Soupfin shark (Australia, Canada, New Zealand, South Africa, United States of America); Sweet William shark (United Kingdom); Tope (Australia, New Zealand, Portugal, United Kingdom); Tope oil shark (United Kingdom); Tope school shark (United Kingdom); Tope shark (Spain, United Kingdom); Tope soupfin shark (United Kingdom); Vitamin shark (Argentina, United Kingdom);
francés - Cagnot (France); Canicule (France); Chien de mer (France); Chien hâ (France); Emissole (France); Gat (France); Hâ (France); Halt (France); Haut (France); Lamie (France); Lamiola (France); Milandre (France); Pal (France); Pal or Pallon or Palloun (France); Palloun (France); Paroun (France); Requin-hâ (France); Requin-hã (France); Touille (France);
griego - Galéos drossitis (Greece); Skylogaleos (Greece); Skylos drossiti (Greece);
Hebrew - Karishan (Israel);
italiano - Canesca (Italy);
Maltese - Kelb il-bahar (Malta); Mazzola (Malta); Mazzola bla xewka (Malta);
Romanian - Rechin de supa (Romania);
Serbian - Pas butor (Yugoslavia);
español - Aceitero (Spain); Bostrich (Spain); Bostrio (Spain); Caçó (Spain); Cámari (Spain); Cazon (Spain); Cazón (Spain); Cazón aceitero (Mexico); Cazón de altura (Spain); Cazón dientuso (Spain); Cuero (Spain); Gat (Spain); Musola corallo (Spain); Tiburón de aleta (Peru); Tiburón vitaminico (Argentina, Uruguay); Tollo (Spain); Tollo cazón (Peru); Tollos (Spain);
Turkish - Camgöz baligi (Turkey); Pas butor (Turkey);

SPECIES AUTHORITY: (Linnaeus, 1758)

DISTRIBUTION: Western Atlantic: southern Brazil to Argentina. **Eastern Atlantic: Iceland to South Africa, including the Mediterranean, but not in the Black Sea**. Western Indian Ocean: South Africa. Southwest Pacific: Australia and New Zealand.

Central Pacific: Hawaii. Eastern Pacific: British Columbia, Canada to southern Baja California and the Gulf of California in Mexico; Peru and Chile.

MEDITERRANEAN COUNTRY NAMES: Albania, Algeria, Bosnia and Herzegovina, Croatia, Cyprus, France, Greece, Israel, Italy, Lebanon, Libyan Arab Jamahiriya, Malta, Monaco, Serbia and Montenegro, Slovenia, Spain, Syrian Arab Republic, Tunisia and Turkey.

HABITAT AND ECOLOGY: *G. galeus* is an active, strong-swimming, coastal-pelagic species. It occurs in temperate continental and insular waters, and is often found well offshore (but not oceanic) as well as at the surfline, in shallow bays, and in submarine canyons. It often occurs near the bottom, at depths of 2 to 471 m. The species apparently occurs in small schools that are highly migratory in higher latitudes in their range, in some places moving poleward during the summer and equatorially in the winter (European waters and the Eastern North Pacific, and southern Australia in part), or into deeper offshore waters in winter longitudinally in other areas (southern Australia in part) (Compagno 1984). There is pronounced partial segregation by size and sex in some areas.

BIOLOGY: An active, strong-swimming shark of 193cm TL (male/unsexed) and 195cm TL (female), max. published weight of 44.7kg and max. reported age of 55 years. Feeds on fishes (bottom as well as pelagic species, crustaceans, cephalopods, worms, and echinoderms. Ovoviviparous. Its meat is excellent for human consumption, liver for squalene oil, fins for soup; also utilized as fishmeal. Marketed fresh, dried-salted, and frozen. Adapts well in captivity if carefully captured and handled. Resilience: Very low, minimum population doubling time more than 14 years (rm=0.033; tmax=55).

MORPHOLOGY: Dorsal spines (total): 0; Anal spines: 0. A large houndshark with a long, pointed snout, a large mouth, and small blade-like teeth; 2nd dorsal about as large as anal fin and terminal caudal lobe as long as rest of fin. Greyish above, white below; young with black markings on fins.

THREATS: An important shark for fisheries, especially off Uruguay and Argentina, California, and southern Australia, but it is also fished elsewhere where it occurs. Its meat is eaten fresh, fresh frozen, or dried salted; its liver contains oil that is extremely high in vitamin A; and its fins are used for sharkfin soup (Compagno 1984).
CONSERVATION MEASURES: Management plans are currently in place to rebuild the populations in Australia and New Zealand. There is no other management for this species.

HUMAN IMPACT: very important commercial fisheries in the south-western Atlantic and southern Australia, also caught by recreational fisheries; in Category 4 (FAO, 1999) because it is a very low growing shark, target of intensive fisheries.

CONSERVATION STATUS: On the IUCN Mediterranean status assessment as VU (A2bd) (2007); on the IUCN global Red List as VU (2005).

REASONS: The School Sharks is a widespread, mainly coastal and bottom associated shark of temperate areas which has been fished throughout its range. They are

particularly long-lived, and slow to mature. Because of the species' low productivity and its history of stock collapse (e.g. in the Eastern Pacific and Brazil), the global population is considered to have been reduced significantly in the past 60-75 years (three generations). There is no other management for this species.

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http://www.unep-wcmc.org/species/index.htm

Mustelus asterias

picture (Muast_u0.gif) by FAO

KINGDOM: ANIMALIA

PHYLUM: CHORDATA

CLASS: ELASMOBRANCHII

ORDER: CARCHARINIFORMES

FAMILY: TRIAKIDAE

COMMON NAME/S:
Albanian - Palomb (Albania); Pellumb me ylleza (Albania);
Arabic - Kalb (Morocco); Kalb bhar (Morocco); Katat (Libyan Arab Jamahiriya); Kelb bhar (Tunisia); Qarsh Mouraqqat (Lebanon); Wahsh (Egypt);
Catalan - Mussola gravatja (Spain);
inglés - Smooth-hound (United Kingdom); Starry smooth hound (Spain); Starry smooth-hound (United Kingdom); Starry smoothound (Ireland);
francés - Emissole tachetée (France); Missole (France);
griego - Astrogaleos (Greece); Drossitis (Greece); Galeos (Greece);
Hebrew - Kerishon naqod (Israel); Krishon matsuy (Israel);
italiano - Palombo stellato (Italy);
Maltese - Mazzola (Malta); Mazzola bla xewka (Malta); Mazzola tat-tbajja (Malta);
Serbian - Pas cukov (Yugoslavia); Pas pena (Yugoslavia);
español - Boca blanca (Spain); Cazón (Spain); Musola dentuda (Spain); Musola estrellada (Spain); Musola pintada (Spain); Tollo (Spain);
Turkish - Asil köpek baligi (Turkey);

SPECIES AUTHORITY: (Cloquet, 1821)

DISTRIBUTION: Northeast Atlantic: British Isles and North Sea to Canary Islands, including Mauritania and the Mediterranean but not in the Black Sea.

MEDITERRANEAN COUNTRY NAMES: Albania, Algeria, Bosnia and Herzegovina, Croatia, Cyprus, Egypt, France, Greece, Israel, Italy, Lebanon, Libyan Arab Jamahiriya, Malta, Monaco, Morocco, Serbia and Montenegro, Slovenia, Spain, Syrian Arab Republic, Tunisia and Turkey.

HABITAT AND ECOLOGY: A common inshore and offshore shark found on the continental and insular shelves from the intertidal down to at least 100 m. Prefers sandy and gravelly bottom.

BIOLOGY: A common hound shark of 140cm TL (male/unsexed) and max. published weight of 4,760g. Feeds primarily on crustaceans (crabs, hermit crabs, lobsters and slipper lobsters). Ovoviviparous (aplacental), with 7 to 15 young per litter. Size at birth about 30 cm. Utilized fresh and dried salted. Resilience: Very low, minimum population doubling time more than 14 years (tm=2-3; Fec=7).

HUMAN IMPACT: caught as by-catch of bottom trawl fisheries, also with gill-nets, and game-fish fisheries.

CONSERVATION STATUS: On the IUCN Mediterranean status assessment as VU (A2ab+3bd+4ab) (2007); on the IUCN global Red List as LC (2000).

BIBLIOGRAPHY:

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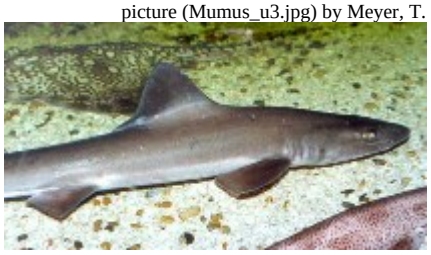
Compagno, L.J.V.. 1984.

http://www.unep-wcmc.org/species/index.htm

Mustelus mustelus

picture (Mumus_u3.jpg) by Meyer, T.



KINGDOM: ANIMALIA

PHYLUM: CHORDATA

CLASS: ELASMOBRANCHII

ORDER: CARCHARINIFORMES

FAMILY: TRIAKIDAE

COMMON NAME/S:
Albanian - Palomb (Albania); Peshk pellumb (Albania);
Arabic - Girsh (Libyan Arab Jamahiriya); Kalb il bahr (Morocco); Qarsh Amlas (Lebanon);
Catalan - Mussola vera (Spain);
inglés - Gray mouth dog (United Kingdom); Houndshark (Namibia); Smooth dogfish (United Kingdom); Smooth hound (Portugal, United Kingdom); Smoothhound (United Kingdom); Smooth-hound (South Africa, United Kingdom); Stellate smooth-hound (United Kingdom); Sweet William (United Kingdom);
francés - Chien de mer (France, Mauritania); Emissole lisse (Mauritania); Émissole lisse (France); Émissole lisse commune (France); Galéos (France); Gat roumillon (France); Lentillat (France); Missole (France); Mustèle vulgaire (France); Palloun (France);
griego - Drossitis (Greece); Galeos (Greece); Griso galeos (Greece);
Hebrew - Kerishon (Israel); Krishon nakad (Israel);
italiano - Palombo (Italy);
Maltese - Mazzola (Malta); Mazzola bla xewka (Malta); Mazzola tat-tbajja (Malta); Zaghrun (Malta);
Romanian - Mustel (Romania);
Serbian - Pas cukov (Yugoslavia); Pas glusac (Yugoslavia); Pas mekus (Yugoslavia);
Slovene - navadni morski pes (Slovenia);
español - Boca blanca (Spain); Cazón (Spain); Musola (Spain); Musola gavatia (Spain); Musola pintada (Spain); Musola vera (Spain); Tollo (Mauritania, Spain);
Turkish - Köpek baligi (Turkey);

SPECIES AUTHORITY: (Linnaeus, 1758).

DISTRIBUTION: Eastern Atlantic: British Isles and France to South Africa, including the Mediterranean but not in the Black Sea, Madeira and the Canary Islands. Often referred to as *Mustelus canis* which is restricted to the western Atlantic.

MEDITERRANEAN COUNTRY NAMES: Albania, Algeria, Bosnia and Herzegovina, Croatia, Cyprus, Egypt, France, Greece, Israel, Italy, Lebanon, Libyan Arab Jamahiriya, Malta, Monaco, Morocco, Serbia and Montenegro, Slovenia, Spain, Syrian Arab Republic, Tunisia and Turkey.

HABITAT AND ECOLOGY: Found on the continental shelves and uppermost slopes, from the intertidal region to at least 350 m depth. Sometimes in midwater but prefers to swim near the bottom.

BIOLOGY: A common hound shark of 200cm TL (male/unsexed) and max. reported age of 24years. Feeds mainly on crustaceans, but also cephalopods and bony fishes. Viviparous, with a yolk-sac placenta. Taken by shore and ski-boat anglers. Utilized for human consumption, oil, and fishmeal. Sexual maturity is reached at a length of 70-80 cm. Resilience: Very low, minimum population doubling time more than 14 years (K=0.06-0.12; tm=6-15; tmax=24; Fec=4).

MORPHOLOGY: Dorsal spines (total): 0; Anal spines: 0. A large, plain or black-spotted smoothhound. Uniformly grey or greyish-brown above, white below.

HUMAN IMPACT: caught as by-catch by bottom trawl and game-fish fisheries.

CONSERVATION STATUS: On the IUCN Mediterranean status assessment as VU (A2ab+3bd+4ab) (2007); on the IUCN global Red List as LC (2000).

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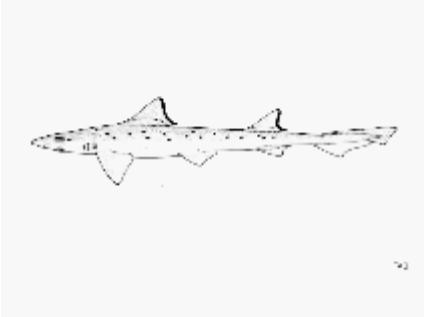
UNEP(DEC)/MED/WG.211/inf.3. RAC/SPA Tunis. 24pp.

Compagno, L.J.V.. 1984.

http://www.unep-wcmc.org/species/index.htm

Mustelus punctulatus

picture (Mupun_u0.gif) by FAO



KINGDOM: ANIMALIA

PHYLUM: CHORDATA

CLASS: ELASMOBRANCHII

ORDER: CARCHARINIFORMES

FAMILY: TRIAKIDAE

COMMON NAME/S:
inglés - Blackspot smooth hound (South Africa); Blackspotted smooth-hound (United Kingdom);
francés - Émissole pointilée (France);
griego - Drossitis (Greece); Galeos (Greece); Stiktogaleos (Greece);
italiano - Palombo punteggiato (Italy);
Serbian - Pas (Yugoslavia);
español - Musola pimienta (Spain); Musola punteada (Spain);
Turkish - Köpek (Turkey);

SPECIES AUTHORITY: (Risso, 1826).

DISTRIBUTION: Eastern Atlantic: Mediterranean to Western Sahara, but not in the Black Sea. Confused with Mustelus mustelus and most data for this species were in part attributable to *Mustelus mediterraneus*.

MEDITERRANEAN COUNTRY NAMES: Albania, Algeria, Bosnia and Herzegovina, Croatia, Cyprus, Egypt, France, Greece, Israel, Italy, Lebanon, Libyan Arab Jamahiriya, Malta, Monaco, Morocco, Serbia and Montenegro, Slovenia, Spain, Syrian Arab Republic, Tunisia and Turkey.

HABITAT AND ECOLOGY: Benthic, an inshore, continental bottom-dwelling shark.

BIOLOGY: A bottom-dwelling shark of about 190cm TL (male/unsexed). Probably a crustacean feeder. Presumably viviparous. Resilience: low, minimum population doubling time 4.5 - 14 years (tm=1.3-2.6(?); Fecundity is presumably low like other Mustelus species)

HUMAN IMPACT: caught as by-catch by bottom trawl fisheries, often confused with *M. mustelus.*

CONSERVATION STATUS: On the IUCN Mediterranean status assessment as DD (2007).

BIBLIOGRAPHY:

Cigala Fulgosi, F; Nonnis Marzano, F; Gandolfi, G; Tagliavini, J. Evidence of interspecific low mitochondrial divergence between Mustelus asterias and M. manazo (Chondrichthyes, Triakidae). Biologia marina mediterranea [Biol. Mar. Mediterr.]. Vol. 7, no. 1, pt. 1, pp. 440-443. 2000.

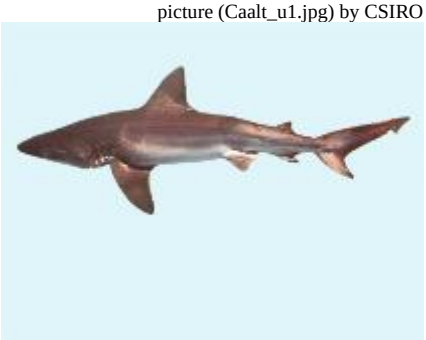
Seret, B; Serena, F. 2002. The Mediterranean Chondrichthyan fishes (sharks, rays, skates and chimaeras): Status and priorities for conservation.
UNEP(DEC)/MED/WG.211/inf.3. RAC/SPA Tunis. 24pp.

Compagno, L.J.V.. 1984.

http://www.unep-wcmc.org/species/index.htm

Carcharhinus altimus

picture (Caalt_u1.jpg) by CSIRO



KINGDOM: ANIMALIA

PHYLUM: CHORDATA

CLASS: ELASMOBRANCHII

ORDER: CARCHARINIFORMES

FAMILY: CARCHARHINIDAE

COMMON NAME/S:
inglés - Bignose shark (Australia, South Africa, United Kingdom, United States of America); Knopp's shark (Cuba);
francés - Requin babosse (France);
italiano - Squalo naso grande (Italy);
español - Baboso (Cuba); Tiburón baboso (Spain); Tiburón narizón (Mexico); Tiburón quilludo (Colombia);

SPECIES AUTHORITY: (Springer, 1950).

DISTRIBUTION: Circumglobal, with patchy records in tropical and warm seas. Western Atlantic: Florida, USA to Venezuela. **Eastern Atlantic: Senegal to Ghana, including the Mediterranean, but not in the Black Sea**. Western Indian Ocean: Red Sea, Mozambique, South Africa, Madagascar, and India. Western Pacific: China, Taiwan, and Australia. Central Pacific: Hawaii. Eastern Pacific: Gulf of California and southern Mexico, Colombia, and Ecuador.

MEDITERRANEAN COUNTRY NAMES: Algeria, Egypt, Israel, Morocco and Spain.

HABITAT AND ECOLOGY: Found near the edge of the continental and insular shelves and uppermost slopes, in deep water between 25 and 500m depth. Rare in shallow waters.

BIOLOGY: A bottom-dwelling shark of 300 cm TL (male/unsexed) and max. published weight of 167.8 kg. Feeds on bony fishes, other sharks, stingrays, and cuttlefish. Viviparous, birth occurs in August in the Mediterranean.. Utilized for fishmeal, liver oil, and shagreen. Minimum depth reported taken from. Resilience: Very low, minimum population doubling time more than 14 years (Fec=3).

MORPHOLOGY: Dorsal spines (total): 0; Anal spines: 0. A heavily-bodied, cylindrical shark with a large, long and broad snout, long nasal flaps and high, triangular, saw-edged upper teeth; interdorsal ridge high and prominent; pectoral and dorsal fins large and straight. Grayish with no conspicuous markings, white below; inner corners of pectoral fins blackish

HUMAN IMPACT: caught as by-catch of deep-sea longliners, also by bottom trawlers; in Category 1 (FAO, 1999).

CONSERVATION STATUS: On the IUCN Mediterranean status assessment as DD (2007).

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UNEP(DEC)/MED/WG.211/inf.3. RAC/SPA Tunis. 24pp.

Compagno, L.J.V.. 1984.

http://www.unep-wcmc.org/species/index.htm

Carcharhinus branchyurus

picture (Cabra_u2.jpg) by Jessen, C.Q.

KINGDOM: ANIMALIA

PHYLUM: CHORDATA

CLASS: ELASMOBRANCHII

ORDER: CARCHARHINIFORMES

FAMILY: CARCHARHINIDAE

COMMON NAME/S:
inglés - Bronze (United States of America); Bronze shark whaler (Australia); Bronze whaler (Australia, Namibia, New Zealand, United Kingdom); Bronze whaler shark (Australia); Bronzie (Australia, Namibia); Cocktail shark (Australia); Cocktail whaler (Australia); Copper shark (Australia, South Africa, United Kingdom); Narrowtooth shark (United States of America); Narrow-tooth shark (United Kingdom); Shark (United States of America);
francés - Requin (Seychelles); Requin cuivre (France);
italiano - Squalo ramato (Italy);
español - Cazón (Peru, Spain); Jaqueta (Spain); Jaquetón (Spain); Tiburón cobrizo (Mexico, Spain); Tollo mantequero (Peru, Spain);

SPECIES AUTHORITY: (Günther, 1870)

DISTRIBUTION: Western Atlantic: Mexico, Gulf of Mexico, Brazil to Argentina**. Eastern Atlantic: off France southward and around the coast of southern Africa to central Natal, South Africa, including the Mediterranean but not in the Black Sea.** Possibly two separate populations in southern Africa. Western Pacific: Japan to New Zealand. Eastern Pacific: southern California, USA to the Gulf of California in Mexico and Peru.

The range and biology of *C. brachyurus* is poorly known due to confusion with other large *Carcharhinus* species, particularly *C. obscurus* which often replaces it in subtropical waters (Garrick 1982, Compagno 1984, Compagno *et al*. 1989). Although widely distributed in warm temperate and subtropical waters populations of *C. brachyurus* are disjoint and there is probably little interchange between them. Verified records from tropical regions are infrequent and very patchy but include Equatorial Guinea and possibly the Gulf of Thailand (Garrick 1982, Compagno 1984, Vidthayanon 2002). *C. brachyurus* was also reported to be common in the Seychelles by Marshall (in Rose 1996), however, this requires confirmation given this species preference for temperate shelf habitats. No estimates of population size or biomass are available. Global population structure is unknown. Stock structure is not known for any fished population.

C. brachyurus is widespread in the Mediterranean but only sporadically reported possibly due to misidentification and lower abundance relative to other large sharks (Fergusson and Compagno 1995). *C. brachyurus* was the least abundant of the five

pelagic sharks sampled in the northeast Atlantic and western Mediterranean by Muñoz-Chápuli (1984). The relationship between the Mediterranean and northeast Atlantic populations is unknown but it seems likely that pregnant females migrate from the Atlantic to breeding grounds off Morocco (Muñoz-Chápuli 1984). Stock structure in the Mediterranean is unknown. Despite being listed as common in US Atlantic shark landings by Rose (1996, pg. 26) *C. brachyurus* is absent from the western North Atlantic (Garrick 1982, Compagno 1984, Russell 1993, Castillo-Génez *et al.* 1998, J. Castro, pers. comm., L. Natanson, pers. comm., M. Grace, pers. comm.).

MEDITERRANEAN COUNTRY NAMES: Albania, Algeria, Bosnia and Herzegovina, Croatia, France, Greece, Italy, Malta, Morocco, Serbia and Montenegro, Spain and Turkey.

HABITAT AND ECOLOGY: A coastal and offshore shark found along continental margins in most tropical and temperate seas. Occasionally enters large coastal bays and inshore areas. Occasionally found near the bottom. Migratory in the northern part of its range, moving northward in spring and summer and southward in autumn and winter.

BIOLOGY: An active requiem shark of 325 cm TL (male/unsexed) and max. published weight of 304.6 kg. Feeds on pelagic and bottom bony fishes, cephalopods, and small sharks and rays. Viviparous. Undoubtedly utilized for human consumption where it occurs. Implicated in shark attacks on people. Resilience: Very low, minimum population doubling time more than 14 years (K=0.04; tm=5-20; tmax=30; Fec=7-20).

MORPHOLOGY: Dorsal spines (total): 0; Anal spines: 0. A large shark to with a bluntly pointed, broad snout, narrow, bent cusps on the upper teeth, and with no interdorsal ridge. Grey to bronzy in color, white below; fins mostly plain except for dusky tips on pelvic fins, as well as dusky to black tips and rear edges on pectoral fins

THREATS:
Habitat Loss/Degradation - Agriculture - Marine aquaculture (ongoing)
Harvesting (hunting/gathering) - Food - Sub-national/national trade (ongoing)
Harvesting (hunting/gathering) - Food - Regional/international trade (ongoing)
Accidental mortality - Bycatch - Fisheries-related - Hooking (ongoing)
Accidental mortality - Bycatch - Fisheries-related - Netting (ongoing)
Persecution - Pest control (ongoing)
Pollution (affecting habitat and/or species) - Water pollution - Commercial/Industrial (ongoing)
Pollution (affecting habitat and/or species) - Water pollution - Sediment (ongoing)
Pollution (affecting habitat and/or species) - Water pollution - Sewage (ongoing)
Intrinsic factors - Limited dispersal (ongoing)
Intrinsic factors - Poor recruitment/reproduction/regeneration (ongoing)
Intrinsic factors - Low densities (ongoing)
Intrinsic factors - Slow growth rates (ongoing)

CONSERVATION ACTION/S:
Policy-based actions - Management plans - Development (needed)
Policy-based actions - Management plans - Implementation (needed)
Policy-based actions - Legislation - Development - National level (needed)
Communication and Education - Awareness (needed)

Communication and Education - Capacity-building/Training (needed)
Research actions - Taxonomy (in place)
Research actions - Population numbers and range (needed)
Research actions - Biology and Ecology (needed)
Research actions - Habitat status (needed)
Research actions - Uses and harvest levels (needed)
Research actions - Trends/Monitoring (needed)
Habitat and site-based actions - Protected areas - Identification of new protected areas (needed)
Habitat and site-based actions - Protected areas - Establishment (needed)
Habitat and site-based actions - Protected areas - Management (needed)
Species-based actions - Sustainable use - Harvest management (needed)

CONSERVATION MEASURES:

Australia:
A prohibition on taking school and gummy sharks in shark nursery areas in Tasmania, and bans on gillnetting in some of these, may indirectly benefit some *C. brachyurus* but most of these areas are outside the main part of the species range (Williams and Schaap 1992, Last and Stevens 1994). Victorian coastal waters out to three nautical miles are almost completely closed to commercial shark fishing (Stevens 2002).
NewZealand:
C. brachyurus may not be target fished in Quota Management Areas 1, 3, 4, 5, 6, 9. Management measures that are likely to indirectly benefit this species include closure of most harbours and semi-enclosed bays in northern New Zealand to trawling and Danish seining, and a permanent ban on gill netting out to five nautical miles from shore off the northwest North Island (Fisheries statistical areas 41 and 42) to protect endangered North Island Hector's dolphin.

HUMAN IMPACT: caught as by-catch but data is lacking, since it is confused with other requiem sharks; in Category 3 (FAO, 1999) because it is a very slow-growing species.

CONSERVATION STATUS: On the IUCN Mediterranean status assessment as DD (2007); on the IUCN Red List as NT (2003).

REASONS: *Carcharhinus brachyurus* is a large coastal shark with low productivity. Although widespread, regional populations appear to be discrete, and movement of individuals between them is thought infrequent or absent, and it does not appear to be naturally abundant anywhere. *C. brachyurus* is assessed as Vulnerable in East Asia due to intensive fisheries and the apparent widespread collapse of fisheries for large coastal sharks. Coastal multispecies fisheries in the region are likely to continue to depress the population by taking pregnant females and juveniles. Coastal nursery areas in this region are also at risk from development and pollution.
Throughout its range, it is known to be exploited by fisheries, but landings are grouped together with other *Carcharhinus* species, meaning any population declines are likely to go unnoticed, and its coastal nursery areas are potentially vulnerable to development and pollution. This, together with life history characteristics that make it especially vulnerable to overfishing has led to the global assessment of *C. brachyurus* as Near Threatened. The situation must be monitored as this species could soon qualify for a

threatened category, on the basis of population declines due to fisheries exploitation, in other areas.

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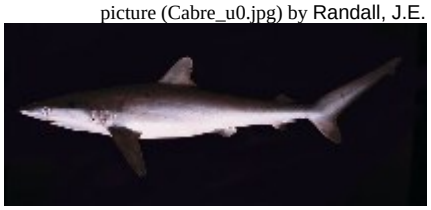
UNEP(DEC)/MED/WG.211/inf.3. RAC/SPA Tunis. 24pp.

http://www.unep-wcmc.org/species/index.htm

Carcharhinus brevipinna

picture (Cabre_u0.jpg) by Randall, J.E.



KINGDOM: ANIMALIA

PHYLUM: CHORDATA

CLASS: ELASMOBRANCHII

ORDER: CARCHARHINIFORMES

FAMILY: CARCHARHINIDAE

COMMON NAME/S:
Arabic - Jarjur (Oman); Jarjur naudth (Qatar);
inglés - Blacktipped shark (Guyana); Great blacktip shark (United States of America); Large blacktip shark (Cuba, United States of America); Long-nose grey shark (Australia); Shark (United States of America); Spinner shark (Djibouti, Micronesia (Federated States of), Papua New Guinea, South Africa, United Kingdom, United States of America);
francés - Requin nene pointe (Seychelles); Requin tisserand (Djibouti, France);
italiano - Squalo tessitore (Italy);
español - Jaqueton (Mexico); Tiburon aleta negra (Nicaragua); Tiburón aleta negra (Mexico, Spain); Tiburón de aleta negra (Spain); Tiburón de arrecife (Cuba);

SPECIES AUTHORITY: (Müller & Henle, 1839)

DISTRIBUTION: Western Atlantic: North Carolina, USA to northern Gulf of Mexico and the Bahamas, then from southern Brazil to northern Argentina. Reported from Cuba. Eastern Atlantic: Spain to Namibia, including the southern Mediterranean Sea but not in the Black Sea. Indo-West Pacific: Red Sea south to South Africa and eastward to Indonesia, north to Japan, south to Australia. Often referred to as *Carcharhinus limbatus* in the past.

MEDITERRANEAN COUNTRY NAMES: Albania, Algeria, Croatia, Cyprus, Egypt, France, Greece, Israel, Italy, Lebanon, Libyan Arab Jamahiriya, Mlata, Monaco, Serbia and Montenegro, Slovenia, Spain, Syrian Arab Republic, Tunisia and Turkey.

HABITAT AND ECOLOGY: Found on the continental and insular shelves from close inshore to offshore, whit a depth range between 0 and 100m.

BIOLOGY: An active requiem shark of 300cm TL (male/unsexed) and a max. published weight of 89.7 kg. Makes vertical spinning leaps out of the water as a feeding technique in which the sharks spins through a school of small fish with an open mouth and then breaks the surface. Feeds mainly on pelagic bony fishes, also small sharks, cuttlefish, squids, and octopi. Viviparous. Forms schools. Highly migratory off Florida and Louisiana and in the Gulf of Mexico. Regularly caught in fisheries where found. Utilized fresh and dried salted for human consumption. Fins probably used in the

oriental shark fin trade, and livers for vitamin oil production. Resilience:Very low, minimum population doubling time more than 14 years (Fec=3).

MORPHOLOGY: Dorsal spines (total): 0; Anal spines: 0. A slender shark with a long, narrow, pointed snout, long gill slits and small, narrow-cusped teeth; first dorsal fin small; no interdorsal ridge; labial furrows longer than in any other grey shark. Grey above, white below, with a conspicuous white band on sides; second dorsal, anal, undersides of pectorals and lower caudal-fin lobe black or dark grey-tipped in subadults and adults, but unmarked or nearly so in small individuals.

THREATS:
Harvesting (hunting/gathering) - Food - Regional/international trade (ongoing)
Harvesting (hunting/gathering) - Materials - Regional/international trade (ongoing)
Harvesting (hunting/gathering) - Cultural/scientific/leisure activities (ongoing)

HUMAN IMPACT: caught as by-catch but data is deficient; in Category 1 (FAO, 1999).

CONSERVATION STATUS: On the IUCN Mediterranean status assessment as DD (2007); on the IUCN Red List as 'Lower Risk (near threatened)' but as 'Vulnerable (A1 b, d & A2 d)' in the north-west Atlantic. (2000)

REASONS: The Spinner Shark is cosmopolitan in near and offshore warm-temperate, subtropical and tropical continental and insular shelf waters. It is frequently captured in recreational and commercial fisheries. Its meat is valuable and fins are marketable. It frequents nearshore waters as adults and has inshore nursery areas, making it highly vulnerable to fishing pressure and human-induced habitat alteration.

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DE: Descriptors taxonomy; animal morphology; Carcharhinus brevipinna; Carcharhinus limbatus; ASW, Mexico Gulf.

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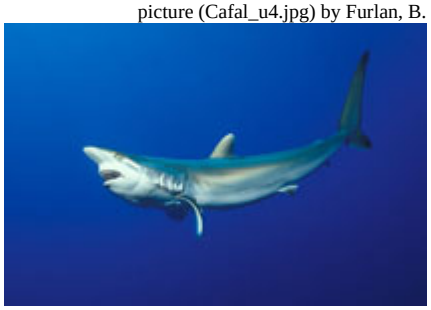
UNEP(DEC)/MED/WG.211/inf.3. RAC/SPA Tunis. 24pp.

http://www.unep-wcmc.org/species/index.htm

Carcharhinus falciformis

picture (Cafal_u4.jpg) by Furlan, B.



KINGDOM: ANIMALIA

PHYLUM: CHORDATA

CLASS: ELASMOBRANCHII

ORDER: CARCHARINIFORMES

FAMILY: CARCHARHINIDAE

COMMON NAME/S:
inglés - Blackspot shark (India); Grey whaler shark (Papua New Guinea); Olive shark (Trinidad and Tobago); Reef shark (Cuba); Ridgeback shark (Netherlands Antilles, United States of America); Shark (United States of America); Sickle shark (Cuba, United Kingdom); Sickle silk shark (United Kingdom); Sickle-shaped shark (United Kingdom); Silk shark (Cuba, United States of America); Silky shark (Australia, Bahamas, Guam, New Zealand, South Africa, United Kingdom, United States of America);
francés - Mangeur d'hommes (France); Requin soyeux (France);
español - Cazon (Nicaragua); Cazón (Spain); Cazon de playa (Cuba); Cazón de playa (Mexico); Cazón-tiburón (Peru); Jaqueta (Spain); Jaqueton (Nicaragua); Jaquetón (Cuba, Mexico); Tiburón (Spain); Tiburon jaqueton (Nicaragua); Tiburón jaquetón (Spain); Tiburón lustroso (Spain); Tiburón sedoso (Mexico, Spain); Tinterero (Trinidad and Tobago); Tollo (Nicaragua, Spain); Tollo mantequero (Peru, Spain);

SPECIES AUTHORITY: (Müller & Henle, 1839)

DISTRIBUTION: Circumtropical. Western Atlantic: Massachusetts, USA to southern Brazil, including the Gulf of Mexico and the Caribbean Sea. **Eastern Atlantic: Spain, Madeira to northern Angola, recorded spottily in the Mediterranean;** St. Paul's Rocks; Cape Verde. Indo-Pacific: scattered records from the Red Sea and Natal, South Africa to China, New Zealand, and the Caroline, Hawaiian, Phoenix and Line islands. Eastern Pacific: southern Baja California, Mexico to northern Chile. Highly migratory species, Annex I of the 1982 Convention on the Law of the Sea.

MEDITERRANEAN COUNTRY NAMES: Egypt and Israel.

HABITAT AND ECOLOGY: Found abundantly near the edge of continental and insular shelves, but also in the open sea and occasionally inshore. Often found in deepwater reefs and near insular slopes, with a depth range between 0 to 500m.

BIOLOGY: An active pelagic shark of 350 cm TL (male/unsexed), a max. published weight of 346.kg and a max. reported age of 23 years. It is quick-moving and aggressive. Solitary; often associated with schools of tuna. Feeds mainly on fishes, but also squid, paper nautiluses, and pelagic crabs. Viviparous. Regarded as dangerous to humans. Flesh utilized fresh and dried-salted for human consumption; its hide for

leather; its fin for shark-fin soup; its liver for oil. 2 to 14 young, 73 to 87 cm, are born per litter. Resilience: Low, minimum population doubling time 4.5 - 14 years (rm=0.054; K=0.05-0.15; tm=6-10; tmax=25).

MORPHOLOGY: Dorsal spines (total): 0; Anal spines: 0. A large, slim shark with a moderately long, flat and rounded snout, large eyes, small jaws, and oblique-cusped teeth with serrations; 2nd dorsal fin low and with greatly elongated rear tip. Grey or bluish-grey above, white below; no conspicuous fin markings. Only *Carcharhinus* species with an interdorsal ridge that has the dorsal fin origin behind the free rear tip of the pectoral fin.

HUMAN IMPACT: caught as important by-catch of pelagic fisheries (tuna) with longlines; in Category 3 (FAO, 1999) because of heavy fishing pressure.

CONSERVATION STATUS: on the IUCN Red List as ‘Lower Risk (least concern)’

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UNEP(DEC)/MED/WG.211/inf.3. RAC/SPA Tunis. 24pp.

Compagno, L.J.V.. 1984.

http://www.unep-wcmc.org/species/index.htm

Carcharhinus limbatus

KINGDOM: ANIMALIA

PHYLUM: CHORDATA

CLASS: ELASMOBRANCHII

ORDER: CARCHARHINIFORMES

FAMILY: CARCHARHINIDAE

picture (Calim_u2.jpg) by Carvalho Filho, A.

COMMON NAME/S:
Arabic - Gursh (Saudi Arabia); Jarjur (Oman);
inglés - Black fin shark (Trinidad and Tobago); Black tip (Guyana); Blackfin shark (Guam, Trinidad and Tobago); Blacktip shark (Australia, Bahamas, India, Netherlands Antilles, South Africa, Trinidad and Tobago, United Kingdom, United States of America); Black-tip shark (United Kingdom); Blacktip whaler (Australia); Black-tipped shark (Papua New Guinea); Common blacktip shark (Australia); Requiem shark (United Kingdom); Shark (United States of America); Small black tipped shark (Myanmar); Small blacktip shark (Cuba, Netherlands Antilles); Spot-fin ground shark (United Kingdom);
francés - Mangeur d'hommes (France); Requin blanc (France); Requin bordé (France); Requin demoiselle (Mauritius); Requin néné pointe (Mauritius);
Hebrew - Karish gdol shinaim (Israel);
italiano - Squalo orlato (Italy); Squalo pinne nere (Italy);
polaco - Zarlacz czarnopletwy (Poland);
Serbian - Psina ljudozder (Yugoslavia);
español - Balicero (Cuba); Cazón (Peru, Spain); Puntas negras (Mexico); Tiburón (Peru, Spain); Tiburón de aletas negras (Spain); Tiburón de punta negra (Ecuador); Tiburón de puntas negras (Mexico); Tiburón machado (Spain); Tiburon macuira (Nicaragua); Tiburón macuira (Mexico, Spain); Tiburón manchado (Spain); Tiburón volador (Mexico); Tollo (Spain); Volador (Mexico, Peru, Spain);

SPECIES AUTHORITY: (Valenciennes, 1839)

DISTRIBUTION: This shark is widespread in all tropical and subtropical continental waters. It occurs in the western Atlantic from Massachusetts to southern Brazil, including the Gulf of Mexico and the Caribbean; the Mediterranean Sea, but not in the Black Sea, and the eastern Atlantic around Madeira and the Canary Islands and off the western coast of Africa; the western Indian Ocean from South Africa and Madagascar up to the Red Sea and India; the eastern Indian Ocean throughout Indonesia and off the coast of western Australia; and the Pacific Ocean from northern and eastern Australia, north to Taiwan and the East China Sea, the central Pacific Islands, and from southern Baja California south to Peru and the Galápagos Islands.

MEDITERRANEAN COUNTRY NAMES: Algeria, Egypt, France, Israel, Italy, Lebanon, Libyan Arab Jamahiriya, Monaco, Morocco, Spain, Syrian Arab Republic and Tunisia.

HABITAT AND ECOLOGY: This shark occurs on or adjacent to continental and insular shelves, commonly entering inshore waters in estuaries, shallow muddy bays, and island lagoons. Although it can tolerate the reduced salinities of estuaries and river mouths, does not venture any further into riverine systems. It is a very active species, occurring in large schools in surface waters.

BIOLOGY: An active shark of 275 cm TL (male/unsexed), a max. published weight of 122.8 kg and a max. reported age of 12 years. Feeds mainly on pelagic and benthic fishes, also small sharks and rays, cephalopods and crustaceans. Viviparous. Produces litters of one to 10 young. Incriminated in very few attacks but dangerous when provoked. Often taken by shore anglers. Used fresh for human consumption, hides for leather, liver for oil. Resilience: Very low, minimum population doubling time more than 14 years (rm=0.054; K=0.27; tm=3-8; tmax=18; Fec=1-10).

MORPHOLOGY: Dorsal spines (total): 0; Anal spines: 0. A stout shark with a long, narrow, pointed snout, long gill slits and erect, narrow-cusped upper teeth; first dorsal fin high; no interdorsal ridge. Dark grey, ashy blue or dusky bronze on back, belly white or yellowish white; a dark band extending rearward along each side to about over origin of pelvic fin; tips of pelvic fins with a persistent black spot; tips of dorsal fins, pectoral fins, anal, and lower lobe of caudal fin usually black or dusky in young individuals, fading with growth.

THREATS: The main threats to the blacktip shark are pressures from both commercial and recreational fisheries. Its meat is sold fresh, fresh-frozen, or dried salted for human consumption; fins are highly marketable; hides are used for leather; liver oil is used for its high vitamin content; and carcasses are used for fishmeal. Human-induced habitat alteration has also has also been reported as a threat to the species.

HUMAN IMPACT: a common by-catch of longline and gill-net fisheries; in Category 3 (FAO, 1999) because commercially exploited throughout its range. Some attacks are reported.

CONSERVATION STATUS: On the IUCN Mediterranean status assessment as DD (2007); on the IUCN Red List as 'Lower Risk (near threatened)', but as 'Vulnerable (A1 b, c, d & A2 c, d)' in the north-west Atlantic. (2000)

REASONS: Burgess, G.H. & Branstetter, S. , A modest-sized shark widespread in warm-temperate, subtropical and tropical waters world-wide. It frequents inshore waters as adults and has inshore nursery areas, making it highly vulnerable to fishing pressure and human-induced habitat alteration. Frequently captured in commercial and recreational fisheries, its meat is valuable and fins highly marketable.

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http://www.unep-wcmc.org/species/index.htm

Carcharhinus melanopterus

picture (Camel_u7.jpg) by Moreau, J.

KINGDOM: ANIMALIA

PHYLUM: CHORDATA

CLASS: ELASMOBRANCHII

ORDER: CARCHARHINIFORMES

FAMILY: CARCHARHINIDAE

COMMON NAME/S:
Albanian - Peshkaqen (Albania);
Arabic - Gursh (Saudi Arabia); Jahrah (Oman); Jarjur (Oman); Qarsh Asswad (Lebanon); Rabie (Oman); Shattafi (Oman);
inglés - Black finned shark (Myanmar); Black tip reef shark (Niue); Black tips nilow (Mauritius); Blackfin reef shark (India, South Africa); Blacktip reef shark (Australia, India, United Kingdom); Black-tip reef shark (Papua New Guinea); Blacktip shark (Australia); Guliman (Australia); Reef blacktip shark (Micronesia (Federated States of)); Requien shark (Mozambique); Shark (United States of America);
francés - Requin à pointes noires (Maldives, Mauritius); Requin noir (Seychelles); Requin pointes noires (France);
español - Tiburón de puntas negras (Spain);

SPECIES AUTHORITY: (Quoy & Gaimard, 1824)

DISTRIBUTION: Indo-Pacific: Red Sea and East Africa to the Hawaiian Islands and the Tuamoto Archipelago. Apparently rare or absent in the more easterly groups. Also eastern Mediterranean, through the Suez Canal, seems confined to the eastern basin (coasts of Israel and Egypt).

MEDITERRANEAN COUNTRY NAMES: Cyprus, Egypt, Lebanon, Libyan Arab Jamahiriya, Syrian Arab Republic and Tunisia.

HABITAT AND ECOLOGY: Inhabits shallow water close inshore on coral reefs and in the intertidal zone (reef flats), near reef drop-offs and close offshore, with a depth range between 20 to 75 m. Also found in mangrove areas, moving in and out with the tide and even in fresh water, but not in tropical lakes and rivers far from the sea. Occurs singly or in small groups.

BIOLOGY: An active shark of 200 cm TL (male/unsexed) and a max. published weight of 13.6 kg. Prefers fishes but also feeds on crustaceans, cephalopods and other mollusks. Viviparous. May become aggressive to spear fishers and has been reported to bite people wading in shallow water. Reported to cause poisoning. 2 to 4 young of 46 to 52 cm are born per litter. Generally marketed fresh (as fillet), may be dried, salted, smoked or frozen. Fins are valued for shark-fin sou); liver as source of oil. Resilience: Very low, minimum population doubling time more than 14 years (Fec=2)

MORPHOLOGY: Dorsal spines (total): 0; Anal spines: 0. A small shark with a short, bluntly rounded snout, oval eyes, and narrow-cusped teeth; 2nd dorsal fin large; no interdorsal ridge. Yellow-brown above, white below; all fins conspicuous with black or dark brown tips also anterior and posterior dark edging on pectoral fins and upper lobe of caudal fin; a prominent black tip of first dorsal fin set off abruptly by a light band below it; a conspicuous dark band on flanks, extending rearward to pelvic fins.

THREATS:
Harvesting (hunting/gathering) (ongoing)
Intrinsic factors - Poor recruitment/reproduction/regeneration (ongoing)
Intrinsic factors - Slow growth rates (ongoing)

HUMAN IMPACT: : caught as by-catch; in Category 1 (FAO, 1999). Ecotourist activities developed in some spots of its distribution zone. Some attacks are reported.

CONSERVATION STATUS: On the IUCN Red List as 'Lower risk (near threatened)' (2000).

REASONS: Heupel, M. , A common and wide-ranging species of the Indo-West Pacific and Central Pacific. Commonly found in shallow waters on and near coral reefs and occasionally in brackish waters. Regularly caught by inshore fisheries and vulnerable to depletion because of its small litter sizes and long gestation periods.

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http://www.unep-wcmc.org/species/index.htm

Carcharhinus obscurus

picture (Caobs_u1.jpg) by Randall, J.E.

KINGDOM: ANIMALIA

PHYLUM: CHORDATA

CLASS: ELASMOBRANCHII

ORDER: CARCHARHINIFORMES

FAMILY: CARCHARHINIDAE

COMMON NAME/S:
inglés - Bay-shark (United Kingdom); Black whaler (Australia); Bronze shark whaler (Australia); Bronze whaler (Australia); Brown common gray shark (United Kingdom); Brown dusky shark (United Kingdom); Brown shark (United Kingdom); Common whaler (Australia); Dusky ground shark (Puerto Rico); Dusky shark (Australia, Cuba, Djibouti, Guyana, South Africa, Trinidad and Tobago, United Kingdom, United States of America); Dusky whaler (Australia); Requin obscur (United Kingdom); Shark (Micronesia (Federated States of), United States of America); Shovelnose (United Kingdom, United States of America);
francés - Rechin (Trinidad and Tobago); Requiem de sable (France); Requin (Haiti); Requin de sable (France); Requin sombre (Djibouti);
italiano - Squalo scuro (Italy);
polaco - Zarlacz ciemnoskóry (Poland);
español - Arenero (Mexico); Jaqueta (Spain); Jaquetón (Spain); Lamia (Spain); Lobo (Spain); Melgacho (Spain); Tiburón amarillo (Cuba); Tiburon arenero (Nicaragua); Tiburón arenero (Spain); Tiburón lobo (Spain); Tiburón obscuro (Mexico); Tiburón oscuro (Mexico); Tintorera (Spain); Zarco (Mexico);

SPECIES AUTHORITY: (Lesueur, 1818)

DISTRIBUTION: Western Atlantic: southern Massachusetts to Florida (USA), Georges Bank, Bahamas, Cuba, northern Gulf of Mexico, Nicaragua, and southern Brazil. Eastern Atlantic: Canary Islands, Cape Verde, Senegal, Sierra Leone. Some records from the Mediterranean and Madeira may be based on *Carcharhinus galapagensis*. Indo-West Pacific: Red Sea, Mozambique and South Africa to Japan, China, Viet Nam and Australia. Eastern Pacific: southern California, USA to Gulf of California and the Revillagigedo Island. Highly migratory species, Annex I of the 1982 Convention on the Law of the Sea

MEDITERRANEAN COUNTRY NAMES: Algeria, Israel, Morocco and Spain.

HABITAT AND ECOLOGY: *C. obscurus* is a coastal-pelagic species of inshore and offshore warm-temperate and tropical waters. It occurs on continental and insular shelves and the oceanic waters adjacent to them, ranging from close inshore in the surf zone to well out to sea and from the surface to 400 m depth. It avoids estuaries and other reduced salinity areas. Adult dusky sharks are often seen offshore and are known to follow ships. In temperate and subtropical areas the species is migratory, moving

north during the warmer summer months and retreating south when water temperatures drop.

BIOLOGY: A shark of 420 cm TL (male/unsexed), a max. published weight of 346.5 kg and a max. reported age of 35 years. Feeds on bottom and pelagic bony fish, sharks, skates, rays, cephalopods, gastropods, crustaceans, sometimes mammalian carrion and inorganic objects. Viviparous. Large adults are potentially dangerous. Utilized fresh, dried-salted, frozen and smoked for human consumption; hides for leather; fins for sharks-fin soup; and liver oil extracted for vitamins. Resilience: Very low, minimum population doubling time more than 14 years (rm=0.02; also Musick et al. 2000

MORPHOLOGY: Dorsal spines (total): 0; Anal spines: 0. A large shark with a broadly rounded snout, triangular saw-edged upper teeth, curved moderate-sized pectoral fins, and an interdorsal ridge. Blue-grey, lead-grey above, white below; tips of pectoral and pelvic fins, as well as lower lobe of caudal fin and dorsal fins often dusky in young, plain in adults.

THREATS: A combination of slow growth rates, late maturation, and long gestation period result in this species having a very low intrinsic rate of increase. This increases the shark's vulnerability to fishery activities. Off Natal, South Africa, an efficient shark gillnetting program set up to protect bathing beaches has apparently resulted in an increase in juvenile dusky sharks there.

HUMAN IMPACT: common by-catch of pelagic longline fisheries, caught also in gill-nets; in Category 4 (FAO, 1999). Its South African population has strongly declined due to the gill-netting programme to protect beaches. Involved in some attacks.

CONSERVATION STATUS: On the IUCN Mediterranean status assessment as DD (2007); on the IUCN Red List as 'Lower Risk (near threatened)' (2000), but as 'Vulnerable (A1 a, b, d)' in the north-west Atlantic.

REASONS: A large, wide-ranging, coastal and pelagic warm water species. Among the slowest-growing, latest-maturing of known sharks, bearing small litters after a long gestation, and one of the most vulnerable of vertebrates to depletion by man because of its very low intrinsic rate of increase. Difficult to manage or protect because it is taken with other more productive sharks in mixed species fisheries, and has a high mortality rate when taken as bycatch. Catch rates for dusky shark in the western Atlantic have declined markedly. The population in the northwestern Atlantic and Gulf of Mexico is now probably at 15-20% of its mid-1970s abundance. In other regions the impact of fishing has not been as great, but still requires close monitoring.

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http://www.unep-wcmc.org/species/index.htm

Carcharhinus plumbeus

picture (Caplu_u2.jpg) by Randall, J.E.

KINGDOM: ANIMALIA

PHYLUM: CHORDATA

CLASS: ELASMOBRANCHII

ORDER: CARCHARHINIFORMES

FAMILY: CARCHARHINIDAE

COMMON NAME/S:
Albanian - Peshkagen i hirte (Albania); Peshkaqen i hirte (Albania);
Arabic - Jarjur (Oman); Kelb gris (Malta); Qarsh Rmâdy (Lebanon);
Catalan - Tauro gris (Spain);
inglés - Brown shark (Cuba, United States of America); Queriman shark (Guyana); Sandbar shark (Australia, Cuba, Djibouti, Guyana, Micronesia (Federated States of), Papua New Guinea, South Africa, United Kingdom, United States of America); Shark (United States of America); Thickskin shark (Australia);
francés - Requin gris (Djibouti, France);
griego - Carcharias (Greece); Skylópsaro (Greece); Staktocarcharias (Greece);
italiano - Squalo grigio (Italy);
Serbian - Pas sivonja (Yugoslavia); Pas tupan sil (Yugoslavia);
español - Arenero (Cuba); Jaquetón (Spain); Tiburón aletón (Mexico); Tiburón de Milberto (Spain); Tiburón trozo (Spain);

SPECIES AUTHORITY: (Nardo, 1827)

DISTRIBUTION: Western Atlantic: southern Massachusetts, USA to southern Brazil; also Gulf of Mexico, Bahamas, Cuba and south and west Caribbean. Eastern Atlantic: Portugal to Democratic Republic of the Congo, including the Mediterranean but not in the Black Sea. Indo-Pacific: scattered records ranging from the Red Sea, Persian Gulf and East Africa to the Hawaiian Islands. Eastern Pacific: Revillagigedo and Galapagos islands

MEDITERRANEAN COUNTRY NAMES: Albania, Algeria, Cyprus, Egypt, France, Greece, Israel, Italy, Lebanon, Libyan Arab Jamahiriya, Malta, Monaco, Morocco, Spain, Syrian Arab Republic, Tunisia and Turkey.

HABITAT AND ECOLOGY: *C. plumbeus* occurs inshore and offshore. It is a coastal-pelagic shark of temperate and tropical waters, found on continental and insular shelves and in deep water adjacent to them, and oceanic banks. It is also common at bay mouths, in harbours, inside shallow muddy or sandy bays, and at river mouths, but tends to avoid sandy beaches and the surf zone, coral reefs and rough bottom, and the surface. Depths range from the intertidal in water barely deep enough to cover it to 280 m. Although common in inshore environments, it does not ascend rivers into fresh water. It favours the bottom, and normally is not seen at the surface unless travelling in water so

shallow that its large first dorsal fin comes out of the water. This species has an annual migration cycle along the Western North Atlantic seaboard of the United States, heading south for the winter and north for the summer. Seasonal temperature changes apparently are a prime cause of these migrations, but they are strongly influenced by the pattern of currents and locally by upwelling. Southward-migrating sharks often travel in large schools. In the Western North Atlantic pupping grounds are in temperate waters, in shallow bays and estuaries of the east-central USA. (Compagno 1984)

BIOLOGY:A shark of 250 cm TL (male/unsexed) and a max. published weight of 117.9 kg**.** Feeds mainly on bony fishes, also small sharks, cephalopods, and shrimps, rays and gastropods. Viviparous. Sexual dimorphism is evident in thickness of skin layer of maturing and adult females. Populations are segregated by age. Young readily kept in aquaria. Utilized for human consumption, for leather and oil. Marketed fresh, smoked, dried-salted and frozen; fins are valued for soup. Used in Chinese medicine. Records to 300 cm TL uncertain. TL to 300 cm. Resilience: Very low, minimum population doubling time more than 14 years (rm=0.028; K=0.05-0.09; tm=12-16; tmax=32; Fec=5-12).

MORPHOLOGY: Dorsal spines (total): 0; Anal spines: 0. A stout shark with a moderately long, rounded snout, high, triangular, saw-edged upper teeth, and an interdorsal ridge; 1st dorsal fin very large and erect. Grey-brown or bronzy with no prominent markings, white below. Fins plain or with slightly dusky tips.

THREATS: Severely overfished in the western North Atlantic. It is caught with longlines, hook-and-line, and set bottom nets and is also fished with rod and reel by sports anglers as a game fish. It is utilized fresh, fresh-frozen, smoked and dried salted for human consumption; the hides are prized for leather and other products; the fins are prepared as the base for shark-fin soup; and the liver is extracted for oil (rich in vitamins) (Compagno 1984).

CONSERVATION MEASURES: A management plan in US waters implemented in 1993 has led to stock stabilisation and the beginning of a recovery.

HUMAN IMPACT: important by-catch of pelagic longline fisheries; in Category 4 (FAO, 1999). Commonly displayed in public aquariums. Despite its size and strong predator behaviour, it seems that it has never been indicted in attacks on people.

CONSERVATION STATUS: On the IUCN Mediterranean status assessment as EN (A2bd+4bd) (2007); on the IUCN Red List as 'Lower risk (near threatened)' (2000) but as 'Vulnerable (A1 a, b, d & A2 d)' in the north-west Atlantic.

REASONS: A large, slow-growing, late-maturing and low-fecundity coastal species, common and widespread in subtropical and warm temperate waters world-wide. An important component of shark fisheries in most areas where it occurs, although catch data are sparse. Severely overfished in the western North Atlantic, although the stock still contains over 100,000 individuals and supports an active and now tightly managed fishery. A management plan in US waters implemented in 1993 has led to stock stabilisation and the beginning of recovery.

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http://www.unep-wcmc.org/species/index.htm

Galeocerdo cuvier

picture (Gacuv_u3.jpg) by Béarez, P.

KINGDOM: ANIMALIA

PHYLUM: CHORDATA

CLASS: ELASMOBRANCHII

ORDER: CARCHARHINIFORMES

FAMILY: CARCHARHINIDAE

COMMON NAME/S:
Arabic - Jarjur (Oman); Jarjur knaza (Qatar);
inglés - Leopard shark (Cuba, United Kingdom, United States of America); Maneater shark (Netherlands Antilles); Spotted shark (United Kingdom); Tiger shark (Australia, Bahamas, Christmas Island, Djibouti, India, Mauritius, Micronesia (Federated States of), Netherlands Antilles, New Zealand, Papua New Guinea, Portugal, Puerto Rico, Saint Lucia, South Africa, United Kingdom, United States of America, Virgin Islands (U.S.));
francés - Mangeur d'hommes (France); Requin demoiselle (Seychelles); Requin tigre (Mauritius); Requin tigre commun (Djibouti, France); Requin-demoiselle (France); Requin-tigre (France);
griego - Carcharias (Greece);
italiano - Squalo tigre (Italy);
polaco - Zarlacz tygrysi (Poland);
español - Alecrin (Cuba); Alecrín (Spain); Amarillo (Spain); Cabron (Puerto Rico); Tiburón tigre (Colombia, Cuba, Mexico, Peru, Spain); Tigre (Puerto Rico); Tintorera (Colombia, Mexico, Nicaragua, Spain);

SPECIES AUTHORITY: (Péron & Lesueur, 1822)

DISTRIBUTION: circum-global, in warm-temperate and tropical seas. Its occurrence in the Mediterranean was doubtful, but a specimen was recently caught off Sicily (jaws preserved by the fisherman).

MEDITERRANEAN COUNTRY NAMES: Egypt, Israel, Morocco and Spain.

HABITAT AND ECOLOGY: Usually found near surface to depths of 140 m. Occurs on or adjacent to continental and insular shelves, frequenting river estuaries, off wharves and jetties in harbors, and in coral atolls and lagoons. Also off oceanic islands far from other islands and continental land masses. Makes excursions in the open ocean, but is not a truly oceanic species.

BIOLOGY: A shark of 740 cm TL (male/unsexed), a max. published weight of 807.4 kg and a max. reported age of 50 years. Nocturnal feeder on other sharks, rays, bony fishes, marine mammals, tortoises, seabirds, sea snakes, squids, gastropods, crustaceans, detritus, also including toxic or armored fish species such as *Lactoria cornuta* or *Diodon hystrix*, porpoises, whales, sea turtles, cephalopods, domestic animals and

humans. It also feeds on carrion and garbage, including cans, pieces of metal and burlap bags. Second only to *Carcharodon carcharias* in recorded attacks on humans with at least 27 documented attacks sourced to it . One specimen, reportedly taken off Indo-China, weighed 3,110 kg and measured 740 cm. May be kept in an aquaria, but does not last for more than a few months. Ovoviviparous. Up to 80 young of 51 to 104 cm are born per litter. Valued for its meat, fins, hide and liver oil. Often used for fishmeal. Utilized fresh, dried-salted, smoked and frozen. Species from the Persian Gulf and Oman Sea has a max size of 750 cm TL. Resilience: Very low, minimum population doubling time more than 14 years (tm=4-11; tmax=50; assuming Fec<10).

MORPHOLOGY: Dorsal spines (total): 0; Anal spines: 0. A huge, vertical tiger-striped shark with a broad, bluntly rounded snout, long upper labial furrows, and a big mouth with large, saw-edged, cockscomb-shaped teeth; spiracles present; caudal keels low. Grey above with vertical dark grey to black bars and spots which appear faded in adults, white below.

THREATS:
Harvesting (hunting/gathering) - Food (ongoing)
Harvesting (hunting/gathering) - Materials (ongoing)
Accidental mortality - Bycatch - Fisheries-related (ongoing)

HUMAN IMPACT: commonly caught as by-catch of longline fisheries and also as targeted
species for its jaws, teeth, fins and skin; in Category 1 (FAO, 1999). Indicted in a number of attacks, but also ecotourist activities developed in some areas.

CONSERVATION STATUS: on the IUCN Red List as 'Lower Risk (near threatened)'. (2000)

REASONS: Simpfendorfer, C. , This large omnivorous shark is common world-wide in tropical and warm-temperate coastal waters. It is a relatively fast growing and fecund species, and caught regularly in target and non-target fisheries. There is evidence of declines for several populations where they have been heavily fished. Continued demand, especially for the valuable fins, may result in further declines in the future, but this species can withstand a higher level of fishing activity than many other species of shark. Additionally, juvenile survivorship increases where adult tiger shark populations have been depleted by fisheries and predation of young is lessened.

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http://www.unep-wcmc.org/species/index.htm

Prionace glauca

picture (Prgla_u1.jpg) by Wirtz, P.

KINGDOM: ANIMALIA

PHYLUM: CHORDATA

CLASS: ELASMOBRANCHII

ORDER: CARCHARHINIFORMES

FAMILY: CARCHARHINIDAE

COMMON NAME/S:
Albanian - Peshkagen (Albania); Peshkagen jeshil (Albania); Peshkaqen jeshil (Albania);
Arabic - Kalb al bhar (Morocco); Mouch labhar (Morocco); Qarsh Mizraqq (Lebanon);
Catalan - Tintorera (Spain);
inglés - Blue dog (Cuba, United Kingdom); Blue shark (Australia, Bermuda, Canada, Ireland, Namibia, Netherlands Antilles, New Zealand, Papua New Guinea, Portugal, Saint Helena, South Africa, Spain, United Kingdom, United States of America); Blue whaler (Australia, United Kingdom); Blue whaler shark (Australia); Great blue shark (Cuba, United Kingdom, United States of America); Great blue whaler (Australia); Shark (Micronesia (Federated States of)); Tribon blou (Netherlands Antilles);
francés - Bleu (France); Cagnot (France); Cagnou (France); Empereur (France); Peau bleue (France); Pei can (France); Requin bleu (France, Mauritius); Requin squale (France); Requin tchi (France); Tintourella (France); Verdoun (France);
griego - Carcharias (Greece); Glafkcarcharias (Greece); Glaukos (Cyprus); Karcharias (Cyprus, Greece);
Hebrew - Karish kakhol (Israel);
italiano - Squalo azzurro (Italy); Verdesca (Italy);
Maltese - Huta Kahla (Malta); Kelb il-bahar (Malta);
polaco - Zarlacz blekitny (Poland);
Romanian - Rechin albastru (Romania);
ruso - Sinyaya akula (Russian Federation);
Serbian - Pas modrulj (Yugoslavia);
español - Aquella (Spain); Azujelo (Spain); Caila (Spain); Cailón (Spain); Ca-mari (Spain); Chiri (Spain); Chirimoya (Spain); Lija (Spain); Melgacho (Spain); Melgago (Spain); Quella (Spain); Sarda (Spain); Taburó (Spain); Tiburón (Spain); Tiburon azul (Cuba, Nicaragua); Tiburón azul (Colombia, Cuba, Peru, Spain); Tiburón limón (Mexico); Tintoleta (Spain); Tintorera (Peru, Spain); Verdemar (Colombia, Spain);
Turkish - Canavar balik (Turkey); Pamuk baligi (Turkey);

SPECIES AUTHORITY: (Linnaeus, 1758)

DISTRIBUTION: Circumglobal in temperate and tropical waters. Western Atlantic: Newfoundland, Canada to Argentina. Central Atlantic. Eastern Atlantic: Norway to South Africa, including the Mediterranean ,but not in the Black Sea. Indo-West Pacific: East Africa to Indonesia, Japan, Australia, New Caledonia, and New Zealand. Eastern

Pacific: Gulf of Alaska to Chile. Probably the widest ranging chondrichthyian. Highly migratory species, Annex I of the 1982 Convention on the Law of the Sea.

MEDITERRANEAN COUNTRY NAMES: Albania, Algeria, Cyprus, Egypt, France, Greece, Israel, Italy, Lebanon, Libyan Arab Jamahiriya, Malta, Monaco, Morocco, Serbia and Montenegro, Slovenia, Spain, Syrian Arab Republic, Tunisia and Turkey.

HABITAT AND ECOLOGY: A wide-ranging, oceanic-epipelagic and fringe-littoral shark, occurring from the surface to at least 152 m depth. Although *P. glauca* is an offshore species it may venture inshore, especially at night, and often in areas with a narrow continental shelf or off oceanic islands. In temperate waters blue sharks occasionally venture to the edges of kelp forests or sufficiently far inshore to be caught in pound nets. The species prefers relatively cool water at 7 to 16°C but can tolerate water at 21°C or even more. It ranges far into the tropics but shows tropical submergence and occurs at greater depths there. When disturbed, hooked or attacking prey it is capable of bursts of speed. The species will often circle a food stimulus before moving in to devour it. In the Pacific the blue shark is present in greatest abundance between 20° and 50°N, but in this area it shows strong seasonal fluctuations in abundance, connected with yearly migrations northwards in summer and southwards in winter. In the tropics between 20°N and S it is uniformly abundant throughout the year. In the North Atlantic tagging and recapturing of individuals has shown a regular clockwise trans-Atlantic migration route with the current system there. Apparently these sharks ride the Gulf Stream to Europe, take various currents down the European and African coasts, and ride the Atlantic North Equatorial Current to the Caribbean region. (Compagno 1984).

BIOLOGY: An active shark of 400 cm TL (male/unsexed), max. published weight of 205.9 kg and max. reported age of 20 years. Feeds on bony fishes, small sharks, squids, pelagic red crabs, cetacean carrion, occasional sea birds and garbage. Viviparous. Sexual dimorphism occurs in skin thickness of maturing and adult females. May travel considerable distances (one specimen tagged in New Zealand was recaptured 1,200 km off the coast of Chile). Potentially dangerous to humans. Marketed fresh, dried or salted, and frozen; meat utilized for consumption, hides for leather and fins for soup. Sexually mature at 250 cm long and 4-5 years old. The female gives birth up to 80 young measuring 40 cm long, gestation lasts almost a year. Produces from 4 to 135 young a litter. Resilience: Very low, minimum population doubling time more than 14 years (rm=0.031; K=0.16; tm=6; tmax=20; Fec=4-135)

MORPHOLOGY: Dorsal spines (total): 0; Anal spines: 0. A slim, graceful blue shark with a long, conical snout, large eyes, and curved triangular upper teeth with saw edges; pectorals long and narrow; no interdorsal ridge. Dark blue dorsally, bright blue on the sides, white ventrally. Tips of pectoral fins and anal fin dusky

THREATS: This shark is usually caught with pelagic longlines but also hook-and-lines, pelagic trawls, and even bottom trawls near coasts. It is utilized fresh, smoked, and dried salted for human consumption; its hides are used for leather; fins for shark-fin soup base; and also for fishmeal and liver oil. This shark is also considered a game fish and taken by sports anglers with rod and reel (Compagno 1984).

HUMAN IMPACT: important by-catch of pelagic longlines and purse seine fisheries (tuna); in Category 3 (FAO, 1999). Caught as targeted species by sport anglers. Indicted in several attacks.

CONSERVATION STATUS: On the IUCN Mediterranean status assessment as VU (A3bd+4bd) (2007); on the IUCN Red List as 'Lower Risk (near threatened) (2000).

REASONS: While blue sharks are among the most abundant, widespread, fecund and faster growing of the elasmobranchs, and a pelagic species that is widely distributed throughout the world's oceans, they are also the most heavily fished sharks in the world. The impact of annual fisheries mortality (mainly of bycatch), estimated at 10 to 20 million individuals, is likely to be having an effect on the world population, but monitoring data are inadequate to assess the scale of any population decline. There is concern over the removal of such large numbers of this likely keystone predator from the oceanic ecosystem.

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UNEP(DEC)/MED/WG.211/inf.3. RAC/SPA Tunis. 24pp.

http://www.unep-wcmc.org/species/index.htm

Rhizoprionodon acutus

picture (Rhacu_ue.jpg) by Iranian Fisheries Research Organization (IFRO)

KINGDOM: ANIMALIA

PHYLUM: CHORDATA

CLASS: ELASMOBRANCHII

ORDER: CARCHARINIFORMES

FAMILY: CARCHARHINIDAE

COMMON NAME/S:
Arabic - Jarjur (Oman);
inglés - Fish shark (Australia); Grey dog shark (United Kingdom); Longmans dogshark (Australia); Milk shark (Australia, India, Mauritania, Myanmar, Papua New Guinea, United Kingdom); Milkshark (South Africa); Sharp nosed shark (Hong Kong); Sharp-nosed milk shark (United Kingdom); Walbeehm's sharp-nosed shark (United Kingdom); White-eye shark (Australia); Yellow dog shark (Myanmar);
francés - Lézard (Mauritius); Requin à museau pointu (France, Mauritania); Requin à nez pointu (France);
Malayalam - Kayaruketty sravu (India); Perum sorrah (India);
Portuguese - Marracho branco (Mozambique); Tubarão-bicudo (Portugal);
español - Cazón lechero (Spain); Cazón lechoso (Spain); Cazón picudo (Spain); Marajo (Mauritania);

SPECIES AUTHORITY: (Rüppell, 1837)

DISTRIBUTION: Eastern Atlantic: Madeira and Mauritania to Angola; reported from the Gulf of Taranto ; **its occurrence in the Mediterranean is doubtful.** Indo-West Pacific: Red Sea and East Africa to Indonesia, north to Japan, south to Australia.

MEDITERRANEAN COUNTRY NAMES: Egypt, Israel and Italy.

HABITAT AND ECOLOGY: Found on continental shelves, often on sandy beaches and rarely in estuaries. Reported to enter freshwater and recorded several times from Cambodia as far upstream as the Great Lake. Occurs near the surface in shallow waters.

BIOLOGY: An shark of 175 cm TL (male/unsexed), 80.8 cm TL (female), max. published weight of 5,000 g and max. reported age of 8 years . Feeds mainly on small pelagic and benthic bony fishes, also cephalopods and other invertebrates. Viviparous, whit litters of up to 8 pups. Utilized fresh and possibly dried salted for human consumption and for fishmeal. The 178 cm specimen recorded off Africa is possibly based on some other species. Resilience: Very low, minimum population doubling time more than 14 years (Fec=1)

MORPHOLOGY: Dorsal spines (total): 0; Anal spines: 0. A small shark with a long, narrow, snout, big eyes without notches, long labial furrows, and oblique-cusped teeth which may be smooth-edged or weakly serrated; 2nd dorsal fin small, low and behind

larger anal fin; no interdorsal ridge. Grey or grey-brown above, white below. Dorsal and anal fins with dusky or blackish edges, fins slightly darker than back.

HUMAN IMPACT: important by-catch of bottom trawl and gill-net fisheries.

CONSERVATION STATUS: Not in IUCN Red List.

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http://www.unep-wcmc.org/species/index.htm

Sphyrna lewini

picture (Splew_u0.jpg) by Randall, J.E.

KINGDOM: ANIMALIA

PHYLUM: CHORDATA

CLASS: ELASMOBRANCHII

ORDER: CARCHARHINIFORMES

FAMILY: SPHYRNIDAE

COMMON NAME/S:
Arabic - Abul-garn (Oman); Jarjur (Oman); Jarjur al graram (Oman);
inglés - Bronze hammerhead shark (United Kingdom); gebuchteter Hammerhai (United Kingdom); Hammerhead (Cuba); Hammerhead shark (Christmas Island, Trinidad and Tobago); Kidney-headed shark (Australia); Scalloped hamerhead (Djibouti); Scalloped hammerhead (Australia, Bahamas, India, Netherlands Antilles, Papua New Guinea, South Africa, United Kingdom, United States of America); Scalloped hammerhead shark (Micronesia (Federated States of)); Southern hammerhead shark (United Kingdom);
francés - Requin marteau (Mauritius); Requin-marteau halicorne (Djibouti, France);
polaco - Glowomlot tropikalny (Poland);
español - Cachona (Colombia, Spain); Cornúa (Dominican Republic); Cornuda (Cuba, Mexico, Puerto Rico, Spain); Cornuda comun (Nicaragua); Cornuda común (Spain); Cornuda martillo (Mexico); Cornuda negra (Spain); Morfillo (Puerto Rico); Pez martillo (Colombia); Tiburón martillo (Ecuador, Mexico); Tiburón martillo festoneado (Peru);

SPECIES AUTHORITY: (Griffith & Smith, 1834)

DISTRIBUTION: Circumglobal in coastal warm temperate and tropical seas. Western Atlantic: New Jersey, USA to Brazil, including the Gulf of Mexico and Caribbean. **Eastern Atlantic: Mediterranean to Namibia**. Indo-Pacific: Red Sea, East Africa and throughout the Indian Ocean; Japan to New Caledonia, Hawaii and Tahiti. Eastern Pacific: southern California, USA to Ecuador, probably Peru.

MEDITERRANEAN COUNTRY NAMES: Algeria, Egypt, France, Israel, Italy, Monaco and Spain.

HABITAT AND ECOLOGY: A coastal-pelagic, semi-oceanic shark occurring over continental and insular shelves and adjacent deep water, often approaching close inshore and entering enclosed bays and estuaries. Found in inshore and offshore waters to about 275 m depth. Huge schools of small migrating individuals move pole ward in the summer in certain areas. Permanent resident populations also exist. Adults solitary, in pairs, or schools; young in large schools.

BIOLOGY: A large hammerhead of 430 cm TL (male/unsexed), max. published weight of 152.4 kg, and max. reported age of 35 years. Viviparous with litter of up to 3

pups. Produces 15-31, of 43-55 cm young in a litter. Feeds mainly on teleost fishes and cephalopods, also lobsters, shrimps, crabs, including other sharks and rays. Considered potentially dangerous to people but often not aggressive when approached by divers. Readily available to inshore artisanal and small commercial fisheries as well as to offshore operations. Sold fresh, dried-salted, smoked and frozen; also sought for its fins and hides. Oil used for vitamins and carcasses for fishmeal. Resilience: Low, minimum population doubling time 4.5 - 14 years (rm=0.028; K=0.1; tm=4-15; tmax=35; Fec=13-23)

MORPHOLOGY: Dorsal spines (total): 0; Anal spines: 0. A large hammerhead with a notch at the center of head; 1st dorsal fin moderately high, 2nd dorsal and pelvic fins low. Front margin of head broadly arched with prominent median notch. Side wings of head narrow, rear margins swept backward. Uniform grey, grayish brown, or olivaceous above, shading to white below; pectoral fins tipped with grey or black ventrally.

THREATS: This species is caught with pelagic longlines, fixed bottom longlines, fixed bottom nets, and even bottom and pelagic trawls. The meat is utilized fresh, fresh-frozen, dried salted and smoked for human consumption; the fins are used to prepare shark-fin soup base; the hides are prepared into leather; the oil used for vitamins; and carcasses for fishmeal (Compagno 1984).

HUMAN IMPACT: important by-catch of pelagic longline and purse seine fisheries, also caught with gill-nets by artisanal fisheries; in Category 3 (FAO, 1999) because heavily caught throughout the world. Probably indicted in several attacks.

CONSERVATION STATUS: on the IUCN Red List as 'Lower Risk (near threatened). (2000)

REASONS: This large hammerhead is widely distributed and common in warm temperate and tropical seas, occurring from the shore and surface over continental and insular shelves to adjacent deep water. Pups occupy shallow coastal nursery grounds, often heavily exploited by inshore fisheries. This widely distributed species is extremely commonly taken in fisheries, both as a target species and as utilised bycatch (fins are highly valued). Lack of data on population trends makes it difficult to assess whether the high level of catches of this species at all life stages is having an effect on stocks, but some declines are reported.

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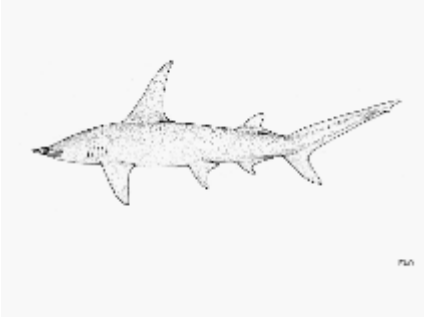
http://www.unep-wcmc.org/species/index.htm

Sphyrna mokarran

picture (Spmok_u1.gif) by FAO



KINGDOM: ANIMALIA

PHYLUM: CHORDATA

CLASS: ELASMOBRANCHII

ORDER: CARCHARHINIFORMES

FAMILY: SPHYRNIDAE

COMMON NAME/S:

Arabic - Abu-garn (Oman); Akran (Qatar); Jarjur (Oman); Jarjur al graram (Oman);
inglés - Great hammerhead (Netherlands Antilles, Papua New Guinea, United Kingdom, United States of America); Great hammerhead shark (Micronesia (Federated States of)); Squat-headed hammerhead shark (United Kingdom);
francés - Grand requin marteau (New Caledonia); Grand requin-marteau (France); Requin marteau (Mauritius); Requin-marteau (New Caledonia);
italiano - Grande squalo martello (Italy);
Maltese - Kurazza (Malta);
polaco - Glowomlot olbrzymi (Poland);
español - Cachona (Spain); Cachona grande (Spain); Cornúa (Spain); Cornuda de ley (Cuba); Cornuda gigante (Mexico, Spain); Cornudo (Spain); Gran tiburón martillo (Peru); Martillo (Spain); Pez martillo (Colombia, Spain); Pez martillo gigante (Spain); Tiburón martillo (Spain); Tiburón martillo gigante (Colombia); Tollo cruz (Spain);

SPECIES AUTHORITY: (Rüppell, 1837)

DISTRIBUTION: Circumglobal in coastal warm temperate and tropical seas. Western Atlantic: North Carolina, USA to Uruguay, including the Gulf of Mexico and Caribbean. **Eastern Atlantic: Mediterranean and Morocco to Senegal.** Indo-Pacific: throughout the Indian Ocean; Ryukyu Islands to New Caledonia and French Polynesia. Eastern Pacific: southern Baja California, Mexico to Peru. Highly migratory species, Annex I of the 1982 Convention on the Law of the Sea.

MEDITERRANEAN COUNTRY NAMES: Albania, Algeria, Bosnia and Herzegovina, Croatia, Cyprus, Egypt, France, Greece, Israel, Italy, Lebanon, Libyan Arab Jamahiriya, Monaco, Serbia and Montenegro, Slovenia, Spain, Syrian Arab Republic, Tunisia and Turkey.

HABITAT AND ECOLOGY: A coastal-pelagic, semi-oceanic shark, found close inshore and well offshore,over the continental shelves, island terraces, and in passes and lagoons**.**

BIOLOGY: A large hammerhead of 610 cm TL (male/unsexed) and max. published weight of 449.5 kg. Prefers to feed on stingrays and other batoids, groupers and sea catfishes, but also preys on other small bony fishes, crabs, squid, other sharks, rays, and

lobsters. A viviparous species, with 13-42 of about 56 to 70 cm young in a litter. Potentially dangerous to people but only few, if any, of the attacks on people can be definitely attributed to it because of the apparent difficulty of distinguishing large hammerhead species involved in attacks. Meat utilized for human consumption (fresh, fresh-frozen, dried-salted, and smoked), liver oil for vitamins, fins for soup, hides for leather, and carcasses for fishmeal. Resilience: Low, minimum population doubling time 4.5 - 14 years (Fec=13).

MORPHOLOGY: Dorsal spines (total): 0; Anal spines: 0. A very large hammerhead also with a notch at the center of the head. Front margin of head gently curved in juveniles, becoming nearly straight in adults, with slight median notch. 1st dorsal fin very high and curved; 2nd dorsal and pelvic fins high and with deeply concave rear margins. Light grey or grey-brown above, white below; fins without conspicuous markings

THREATS: Accidental mortality - Bycatch - Fisheries-related (ongoing)

HUMAN IMPACT: regularly caught as by-catch of longline and gill-net fisheries; in Category 3 (FAO, 1999) because of its biennial reproductive cycle. Indicted in some attacks.

CONSERVATION STATUS: on the IUCN Red List as 'Data deficient' (2000).

REASONS: A large widely-distributed tropical water shark, mainly restricted to continental shelves. Although not targeted directly by commercial fisheries, this is a probable bycatch species of tropical longline and drift net fisheries, with high value fins.

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UNEP(DEC)/MED/WG.211/inf.3. RAC/SPA Tunis. 24pp.

http://www.unep-wcmc.org/species/index.htm

Sphyrna tudes

picture (Sptud_u0.gif) by FAO

KINGDOM: ANIMALIA

PHYLUM: CHORDATA

CLASS: ELASMOBRANCHII

ORDER: CARCHARINIFORMES

FAMILY: SPHYRNIDAE

COMMON NAME/S:
inglés - Bonnet (Guyana); Great hammerhead (Cuba, Suriname, United States of America); Hammerhead (Guyana); Smalleye hammerhead (United Kingdom);
francés - Requin-marteau à petits yeux (France);
español - Cornuda de corona (Cuba, Puerto Rico); Cornuda ojichica (Spain); Pez martillo (Cuba, Puerto Rico);

SPECIES AUTHORITY: (Valenciennes, 1822)

DISTRIBUTION: Southwest Atlantic: Venezuela to Uruguay. Also Mediterranean Sea (but only known by one of the two young syntypes from Nice, and Eastern Pacific.

HABITAT AND ECOLOGY: A little-known inshore shark of the continental shelf, found down to at least 12 m depth.

BIOLOGY: A shark of 134 cm TL (male/unsexed) and 148.0 cm TL (female). Feeds on small bony fishes, including sea catfish and grunts, but also newborn scalloped hammerheads, swimming crabs, squids, and shrimp. Viviparous with a yolk-sac placenta; number of young probably 6 to 9 per litter. Resilience: Very low, minimum population doubling time more than 14 years (Fec=6)

HUMAN IMPACT: caught as by-catch in coastal fisheries; in Category 3 (FAO, 1999) because of its vulnerability and habitats.

CONSERVATION STATUS: Not in IUCN Red List

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http://www.unep-wcmc.org/species/index.htm

picture (Spzyg_u3.jpg) by Wirtz, P.

Sphyrna zygaena

KINGDOM: ANIMALIA

PHYLUM: CHORDATA

CLASS: ELASMOBRANCHII

ORDER: CARCHARHINIFORMES

FAMILY: SPHYRNIDAE

COMMON NAME/S:
Albanian - Peshk çekiç (Albania); Peshkkarabiner (Albania);
Arabic - Abou bornita (Egypt); Abu-garn (Oman); Iskandar (Lebanon); Jarjur (Oman); Jarjur al graram (Oman);
inglés - Commom hammerhead (Cuba, Netherlands Antilles, United States of America); Common hammerhead shark (United Kingdom); Common smooth hammerhead shark (United Kingdom); Hammerhead (Suriname); Hammerhead shark (Hong Kong, Mauritius, Netherlands Antilles, New Zealand, Trinidad and Tobago, United Kingdom); Round-headed hammerhead (India); Round-headed hammerhead shark (United Kingdom); Smooth hammerhead (Mauritania, New Zealand, Portugal, South Africa, Trinidad and Tobago, United Kingdom, United States of America);
francés - Cagnole (France); Lou peï judiou (France); Marteau (France); Pantouflier (Trinidad and Tobago); Pantouflier lavaco (France); Peï jouziou (France); Peï martel (France); Peïs judieú (France); Requin marteau (Mauritania); Requin marteau lisse (Mauritius); Requin-marteau commun (France); Scroesna (France);
griego - Paterítsa (Greece); Pateritza (Greece); Zygaena (Cyprus, Greece); Zygaina (Greece);
Hebrew - Patishan (Israel);
italiano - Pesce martello (Italy);
Maltese - Kurazza (Malta); Kurazza komuni (Malta); Pixximartell (Malta);
polaco - Rekin mlot a. glowomlot pospolity (Poland);
Romanian - Rechin ciocan (Romania);
Serbian - Jaram (Yugoslavia); Mlat (Yugoslavia);
español - Cabeza de martillo (Cuba); Cachona (Colombia, Spain); Carnuda (Spain); Corna (Spain); Cornúa (Spain); Cornuda (Cuba, Puerto Rico, Spain); Cornuda cruz (Mexico, Spain); Cornudilla (Spain); Cornuilla (Spain); Leunada (Spain); Martell (Spain); Martillo (Spain); Medialuna (Spain); Pez martillo (Colombia, Cuba, Mauritania, Puerto Rico, Spain); Sarda de cachas (Colombia, Spain); Tailandano (Spain); Tiburón martillo (Peru); Tollo cruz (Spain);
Turkish - Çekiç (Turkey); Cekiç baligi (Turkey);

SPECIES AUTHORITY: Linnaeus 1758

DISTRIBUTION: Widespread in temperate and tropical seas. Western Atlantic: Canada to the Virgin Islands; Brazil to Argentina. **Eastern Atlantic: British Isles to Côte**

d'Ivoire, including the Mediterranean but not in the Black Sea . Indo-Pacific: South Africa to Sri Lanka; southern Siberia to Australia, New Zealand and Hawaii. Eastern Pacific: northern California, USA to Chile.

MEDITERRANEAN COUNTRY NAMES: Albania, Algeria, Bosnia and Herzegovina, Croatia, Cyprus, Egypt, France, Greece, Israel, Italy, Lebanon, Libyan Arab Jamahiriya, Malta, Monaco, Morocco, Russian Federation, Serbia and Montenegro, Slovenia, Spain, Syrian Arab Republic and Turkey.

HABITAT AND ECOLOGY: Occurs inshore and well offshore, over continental and insular shelves. Migrates northward in summer; young often in large aggregations of hundreds of individuals.

BIOLOGY: A big shark of 500 cm TL (male/unsexed) and a max. published weight of 400.0 kg. Prefers to feed on small sharks, skates and stingrays, but also preys on bony fishes, shrimps, crabs, barnacles and cephalopods. Viviparous, with litters of up to 37 pups. Regarded as being dangerous to people, though only few can be tentatively attributed to this species due to its occurrence in temperate waters. Reported to cause poisoning. Meat utilized fresh, dried-salted, and possibly smoked for human consumption; liver oil for vitamins, fins for soup, hide for leather, and carcasses for fishmeal. Used in Chinese medicine. Become sexually mature when 250 to 300 cm long. The female gives birth to 30 - 40 young. Resilience: Low, minimum population doubling time 4.5 - 14 years (Fec=20-50)**.**

MORPHOLOGY: Dorsal spines (total): 0; Anal spines: 0. A large hammerhead with a notch at the center of head; 1st dorsal fin moderately high, 2nd dorsal and pelvic fins low. Olive-grey or dark grey above, white below. Fins nearly plain, dusky or blackish tipped.

THREATS: Accidental mortality - Bycatch - Fisheries-related (ongoing).

HUMAN IMPACT: common by-catch of pelagic fisheries; in Category 1 (FAO, 1999).

CONSERVATION STATUS: On the IUCN Mediterranean status assessment as VU (A4bd) (2007); on the IUCN Red List as 'Lower Risk (near threatened)'. (2000)

REASONS: A relatively common and wide-spread shark, captured in a number of fisheries throughout its range, mostly by gillnet and longline. There is likely to be significant mortality of this species in large-scale longline and driftnet fisheries, although the impact on populations is unknown at present. Fins from hammerhead sharks are prized in Asia and individuals caught as by-catch are unlikely to be released alive.

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http://www.unep-wcmc.org/species/index.htm

Pristis pectinata

picture (Prpec_f0.gif) by Figueiredo, J.L.

KINGDOM: ANIMALIA

PHYLUM: CHORDATA

CLASS: ELASMOBRANCHII

ORDER: RAJIFORMES

FAMILY PRISTIDAE:

COMMON NAME/S:
Arabic - Minshâr (Lebanon);
inglés - Comb shark (Guyana); Common sawfish (Cuba, United States of America); Largetooth sawfish (United Kingdom); Sawfish (Guyana, Haiti, Mauritania, Netherlands Antilles, Trinidad and Tobago, United States of America); Saw-fish (Mauritius); Small-tooth common sawfish (United Kingdom); Smalltooth sawfish (Australia, Bahamas, South Africa, United Kingdom, United States of America); Smooth-tooth sawfish (India); Wide sawfish (Australia, United Kingdom);
francés - Poisson scie (Mauritania); Poisson-scie (Mauritius); Poisson-scie tident (France); Requin-scie (France);
griego - Prionópsaro (Greece);
italiano - Pesce sega (Italy);
polaco - Pila drobnozebna (Poland);
Serbian - Riba pila (Yugoslavia);
español - Espadachin (Colombia); Espadon (Haiti, Trinidad and Tobago); Pejepeine (Nicaragua, Spain); Pejepiene (Nicaragua); Pejes sierra (Spain); Pez espada (Colombia, Spain); Pez rastrillo (Peru); Pez sierra (Colombia, Cuba, Mauritania, Spain); Pez sierra común (Spain);
Turkish - Destere baligi (Turkey);

SPECIES AUTHORITY Latham, 1794:

DISTRIBUTION: Circumglobal. Western Atlantic: North Carolina (USA), Bermuda and northern Gulf of Mexico to Brazil. Caribbean, rare in Bermuda. **Eastern Atlantic: Gibraltar to Namibia; possibly in the Mediterranean Sea.** Indo-West Pacific: Red Sea and East Africa to the Philippines. Possibly occurring in the eastern Pacific.

MEDITERRANEAN COUNTRY NAMES: Israel, Lebanon, Morocco, Spain and Syrian Arab Republic.

HABITAT AND ECOLOGY: Inshore and intertidal species, but may cross deep water to reach offshore islands; also ascends rivers and can tolerate fresh water. Commonly seen in bays, lagoons, estuaries, and river mouths. Also found in rivers and lakes.

BIOLOGY: A sluggish but powerful sawfish of 760 cm TL (male/unsexed) and a max. published weight of 350.0 kg. Ovoviviparous with litters of up to 20 pups . Uses its saw to stir the bottom when feeding on bottom invertebrates and to kill pelagic fishes.

Utilized as a food fish; oil is used to make medicine, soap and in leather tanning. Adults stuffed for decoration. Reported to be aggressive towards sharks when kept in tanks. Resilience: Low, minimum population doubling time 4.5 - 14 years (Fec=15).

MORPHOLOGY: Anal spines: 0. Long, flat, blade-like rostrum with 24 to 32 pairs of teeth along edges; caudal fin large and oblique with no lower lobe. Dark mouse gray to blackish brown above, paler along margins of fins. White to grayish white or pale yellow below.

THREATS: Fishing and habitat modification.

HUMAN IMPACT: important because of the destruction of its littoral and freshwater habitats, and also because of its vulnerability to gill-net fisheries, its populations have strongly declined everywhere, most probably extirpated from the Mediterranean.

CONSERVATION STATUS: On the IUCN Mediterranean status assessment as CR (A2bcd+3cd+4bcd) (2007); on the IUCN Red List as 'Endangered (A1 b, c, d & A2 c, d)' and as 'Critically Endangered (A1 b, c, d & A2 c, d)' in the Atlantic. (2000).

REASONS: This large, widely distributed, sawfish has been wholly or nearly extirpated from large areas of its former range in the North Atlantic (Mediterranean, US Atlantic and Gulf of Mexico) and the Southwest Atlantic coast by fishing and habitat modification. Its status elsewhere is uncertain but likely to be similarly reduced. Reports of this species from outside the Atlantic may be misidentifications of other pristids, but these populations are also likely to be similarly affected.

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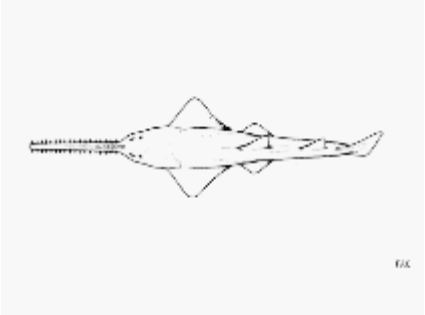
Compagno, L.J.V.. 1984.

http://www.unep-wcmc.org/species/index.htm

Pristis pristis

picture (Prpri_u0.gif) by FAO



KINGDOM: ANIMALIA

PHYLUM: CHORDATA

CLASS: ELASMOBRANCHII

ORDER: RAJIFORMES

FAMILY: PRISTIDAE

COMMON NAME/S:
inglés - Common sawfish (United Kingdom); Largetooth sawfish (United States of America); Sawfish (United States of America); Small-toothed sawfish (Papua New Guinea);
francés - Poisson-scie commun (France); Scie (France); Scie commune (France);
Maltese - Pixxisega (Malta); Pixxiserrieq (Malta); Sija (Malta);
español - Pejepeine (Spain); Pez sierra (Colombia, Mexico, Spain); Pez sierra commún (Spain); Pez sierra común (Spain); Sägefisch (Spain);

SPECIES AUTHORITY: (Linnaeus, 1758)

DISTRIBUTION: Indo-West Pacific: Australia. Eastern Pacific: Gulf of California to Ecuador. Western Atlantic: Florida and Louisiana, USA to Brazil. Eastern Atlantic: Portugal to Angola, including the western Mediterranean.

MEDITERRANEAN COUNTRY NAMES: Malta, Morocco and Spain.

HABITAT AND ECOLOGY: A large species of inshore marine and freshwater sawfish that was once common in the Mediterranean and Eastern Atlantic, but has now, along with all other sawfishes, been extirpated from Europe and the Mediterranean. Its status in West Africa is unsurveyed.

BIOLOGY: A sluggish but powerful sawfish of 500 cm TL (male/unsexed). Feeds on fishes and bottom-living animals. Ovoviviparous. Freshwater populations occur to about 750 km up Amazon River; populations in Lake Nicaragua may be non-migratory. Resilience: Low, minimum population doubling time 4.5 - 14 years (Fec assumed to be <100).

THREATS: Accidental mortality - Bycatch - Fisheries-related (ongoing)

HUMAN IMPACT: : populations depleted everywhere because of the destruction of littoral and freshwater habitats and its vulnerability to coastal gill-net fisheries, probably extirpated from European waters and the Mediterranean.

CONSERVATION STATUS: On the IUCN Mediterranean status assessment as CR (A2bcd+3cd+4bcd) (2007); on the IUCN Red List as 'Critically Endangered (A1 a, b, c & A2 c,d)'. (2000)

REASONS: A large species of inshore marine and freshwater sawfish that was once common in the Mediterranean and Eastern Atlantic, but has now, along with all other sawfishes, been extirpated from Europe and the Mediterranean. Its status in West Africa is unsurveyed, but it is extremely vulnerable to bycatch and is believed to be severely depleted in Africa, where elasmobranch fisheries effort has increased. Without timely intervention, there is a high probability that this sawfish will become extinct.

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Compagno, L.J.V.. 1984.

http://www.unep-wcmc.org/species/index.htm

Rhinobatos cemiculus

KINGDOM: ANIMALIA

PHYLUM:CHORDATA

CLASS: ELASMOBRANCHII

ORDER:RAJIFORMES

FAMILY:RHINOBATIDAE

picture (Rhcem_u0.jpg) by Meyer, T.

COMMON NAME/S:
Arabic - Baqarah Qarshieh (Lebanon);
inglés - Blackchin guitarfish (United Kingdom, United States of America);
francés - Poisson-guitare fouisseur (France); Poisson-guitare fouisseux (France); Raie guitare (Mauritania); Raie requin (Mauritania);
italiano - Pesce chitarra (Italy);
Maltese - Kuntrabaxx (Malta);
español - Guitarra (Mauritania); Guitarra barba negra (Spain); Guitarra barbanegra (Spain); Guitarrón (Spain);

SPECIES AUTHORITY: (G. St. Hilaire, 1817)

DISTRIBUTION: Eastern Atlantic: northern Portugal to Angola, including the Mediterranean Sea but not in the Black Sea.

MEDITERRANEAN COUNTRY NAMES: Albania, Algeria, Bosnia and Herzegovina, Croatia, Cyprus, Egypt, France, Greece, Israel, Italy, Lebanon, Libyan Arab Jamahiriya, Monaco, Morocco, Serbia and Montenegro, Slovenia, Spain, Syrian Arab Republic, Tunisia and Turkey.

HABITAT AND ECOLOGY: Demersal. Inhabits sandy and muddy bottoms, from shadow water to about 100 m. Slow swimming over bottom or partially buried.

BIOLOGY: A sluggish but powerful guitarfish of 242 cm TL (male/unsexed) and a max. published weight of 49.9 kg. Feeds on invertebrates and fishes. Ovoviviparous, one or two litters per year, of 4-6 embryos. Resilience: Very low, minimum population doubling time more than 14 years (Fec=4)

MORPHOLOGY: Dorsal spines (total): 0; Anal spines: 0. Rostral ridges narrowly separated, nearly joining in front; anterior nasal lobe extending little if any, posterior nasal flap narrow; spiracle with two well-developed folds of about same size; thorns present around inner margin of orbits, between spiracles, on shoulders and along midline of disc and tail; upper surface brown, underside white, but usually a blackish blotch on snout mainly in juveniles

HUMAN IMPACT: caught as by-catch by coastal gill-net and trawl fisheries, also as targeted species by sport anglers. Nowadays, relatively rare in the Mediterranean

CONSERVATION STATUS: On the IUCN Mediterranean status assessment as EN (A4cd) (2007).

BIBLIOGRAPHY:

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Rhinobatos rhinobatos

picture (Rhrhi_u0.jpg) by JJPhoto

KINGDOM: ANIMALIA

PHYLUM: CHORDATA

CLASS: ELASMOBRANCHII

ORDER: RAJIFORMES

FAMILY: RHINOBATIDAE

COMMON NAME/S:
Albanian - Peshk kitarë (Albania);
Arabic - Mourr (Lebanon);
inglés - Common guitarfish (United Kingdom, United States of America); Common mediterranean guitarfish (United States of America); Common violinfish (South Africa); Guitarfish (United States of America); Lengthened shape (United Kingdom); Mediterranean longnose (United Kingdom);
francés - Guitare (France); Poisson-guitare commun (France); Rhinobate commun (France); Rhinobate commun de la Méditerranée (France);
italiano - Pesce chitarra (Italy);
Maltese - Rebekkin (Malta); Vjolin (Malta);
español - Guitarra (Spain); Guitarra común (Spain); Manta (Spain); Picudos (Spain); Rayón (Spain);

SPECIES AUTHORITY: (Linnaeus, 1758)

DISTRIBUTION: Eastern Atlantic: southern Bay of Biscay to Angola, including Mediterranean Sea.

MEDITERRANEAN COUNTRY NAMES: Albania, Algeria, Bosnia and Herzegovina, Croatia, Cyprus, Egypt, France, Greece, Israel, Italy, Lebanon, Libyan Arab Jamahiriya, Malta, Monaco, Morocco, Serbia and Montenegro, Slovenia, Spain, Syrian Arab Republic, Tunisia and Turkey.

HABITAT AND ECOLOGY: Inhabits sandy and muddy bottoms, from the intertidal zone to about 100 m. Sometimes near rocky reefs. Slow swimming over bottom or partially buried.

BIOLOGY: Feeds on benthic invertebrates and fishes. Ovoviviparous, one or two litters per year with 4-10 embryos.

MORPHOLOGY: Dorsal spines (total): 0; Anal spines: 0. Rostral ridges widely separated over their entire length; anterior nasal lobe reaching to level of inner corner of nostril, posterior nasal flap wide; spiracle with two moderately developed folds, the outer one more prominent; thorns relatively small, present around inner margin of orbits, between spiracles, on shoulders, and along midline of disc and tail; Upper surface khaki-brown, underside white

HUMAN IMPACT: caught as by-catch by coastal gill-net and trawl fisheries. Nowadays, relatively rare in the Mediterranean.

CONSERVATION STATUS: On the IUCN Mediterranean status assessment as EN (A4cd) (2007).

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elasmobranch fishes, with the description of two new species of Dollfusiella Campbell & Beveridge, 1994 and redescriptions of Prochristianella papillifer (Poyarkoff, 1909) Dollfus, 1957 and Parachristianella trygonis Dollfus, 1946. SYSTEMATIC PARASITOLOGY, 59 (2): 81-102 OCT 2004

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UNEP(DEC)/MED/WG.211/inf.3. RAC/SPA Tunis. 24pp.

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http://www.unep-wcmc.org/species/index.htm

Torpedo (Tetronarce) nobiliana

KINGDOM: ANIMALIA

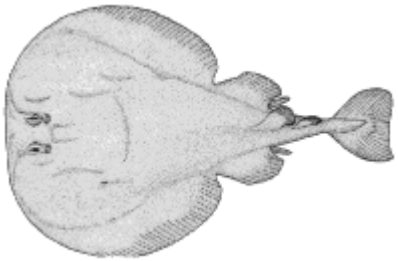
PHYLUM: CHORDATA

CLASS: ELASMOBRANCHII

ORDER: TORPEDINIFORMES

FAMILY: TORPEDINIDAE

picture (Tonob_u1.gif) by Canadian Museum of Nature, Ottawa, Canada



COMMON NAME/S:
Albanian - Piskë (Albania);
Catalan - Vaca negrosa (Spain);
inglés - Atlantic electric ray (South Africa); Atlantic New British torpedo (United Kingdom); Atlantic torpedo (Cuba, Portugal, United Kingdom, United States of America); Black torpedo (South Africa); Crampfish (Cuba, United States of America); Dark electric ray (United Kingdom); Electric ray (Cuba, Namibia, Portugal, United Kingdom, United States of America); Electricfish (Cuba); Great torpedo (South Africa); Numbfish (Cuba, United States of America); Torpedo (Cuba, United Kingdom);
francés - Torpille (France); Torpille noire (France); Torpille noire stupéfiante (France);
Maltese - Haddiela mdahhna (Malta); Haddiela samra (Malta); Haddiela sewda (Malta);
polaco - Dretwa brunatna (Poland);
Romanian - Peste torpila (Romania);
español - Esturpillo (Spain); Temblador de mar (Spain); Temblaera (Spain); Torpedo de lo alto (Cuba); Tremblador negro (Spain); Tremolina negra (Spain); Trimielga negra (Spain); Vaca temblaera (Spain);

SPECIES AUTHORITY: (Bonaparte, 1835)

DISTRIBUTION: Eastern Atlantic: Scotland (rare in North Sea) to Morocco, whole of Mediterranean, but not Black Sea; Cap Blanc in Mauritania to Gulf of Guinea, São Tomé Island; Walvis Bay, Namibia to Mossel Bay, South Africa. Western Atlantic: Nova Scotia, Canada south to Brazil

MEDITERRANEAN COUNTRY NAMES: Albania, Algeria, Bosnia and Herzegovina, Croatia, Cyprus, Egypt, France, Greece, Israel, Italy, Lebanon, Libyan Arab Jamahiriya, Malta, Monaco, Morocco, Serbia and Montenegro, Slovenia, Spain, Syrian Arab Republic, Tunisia and Turkey.

HABITAT AND ECOLOGY: Juveniles benthic over soft bottoms or near coral reefs (Ref. 12951) from 10-150 m; adults are semi-pelagic to pelagic, swimming in the water column and have been reported to migrate over long distances.

BIOLOGY: A large electric ray of 180 cm TL (male/unsexed) and a max. published weight of 90.0 kg. Feeds mainly on pelagic and benthic bony fishes and small sharks. Ovoviviparous. Packs a powerful electric shock of up to 220 volts. Resilience: Low, minimum population doubling time 4.5 - 14 years (up to 60 offspring only).

MORPHOLOGY: Large ray with a huge, paddle-shaped caudal fin and with no papillae around spiracles. Shiny black or dark grey above, underside white. Broad subcircular disc, short snout anterior to the eyes. Smooth skin, short thick tail. Dark chocolate to purplish brown above, without spots, white below, but with edges of disc and pelvic fins of same hue as upper surface, tail with irregular dark margins.

HUMAN IMPACT: weak, as by-catch of bottom trawl fisheries, discarded.

CONSERVATION STATUS: On the IUCN Mediterranean status assessment as DD (2007).

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UNEP(DEC)/MED/WG.211/inf.3. RAC/SPA Tunis. 24pp.

Compagno, L.J.V.. 1984.

http://www.unep-wcmc.org/species/index.htm

Torpedo (Torpedo) alexandrinsis

KINGDOM: ANIMALIA

PHYLUM: CHORDATA

CLASS: ELASMOBRANCHII

ORDER: TORPEDINIFORMES

FAMILY: TORPEDINIDAE

COMMON NAME/S: **inglés -** Alexandrine torpedo (South Africa);

SPECIES AUTHORITY: (Mazhar, 1982)

DISTRIBUTION: Known only by the 5 syntypes mentioned in the original description, from off Alexandria (Egypt). Taxonomic status doubtful

MEDITERRANEAN COUNTRY NAMES: Egypt

HABITAT AND ECOLOGY: Demersal

BIOLOGY: Ovoviviparous

HUMAN IMPACT: no data

CONSERVATION STATUS: Not in IUCN Red List (NL)

BIBLIOGRAPHY:

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Compagno, L.J.V.. 1984.

http://www.unep-wcmc.org/species/index.htm

Torpedo (Torpedo) fuscomaculata

KINGDOM: ANIMALIA

PHYLUM: CHORDATA

CLASS: ELASMOBRANCHII

ORDER: RAJIFORMES

FAMILY: TORPEDINIDAE

COMMON NAME/S:
inglés - Blackspotted electric ray (Micronesia (Federated States of), South Africa); Black-spotted torpedo (South Africa);
francés - Raie trembleur (Seychelles);

SPECIES AUTHORITY: (Peters, 1855)

DISTRIBUTION: Western Indian Ocean: with certainty from southern Mozambique to Cape Agulhas, South Africa. Possibly occurring off smaller islands in the Indian Ocean and Red Sea recorded off Alexandria (Egypt) but identity of specimens uncertain and need verification.

MEDITERRANEAN COUNTRY NAMES: Egypt

HABITAT AND ECOLOGY: Inhabits estuaries and intertidal zone down to 439 m. Found in sandy areas near deep rocky reefs.

BIOLOGY: Grows to 64 cm total length (TL). Young are born in summer (Compagno *et al*. 1989). Feeds on fishes and cuttlefish. Ovoviviparous. Large prey probably stunned by its powerful electric discharge. Resilience: Very low, minimum population doubling time more than 14 years (Preliminary K or Fecundity.)

MORPHOLOGY: Large ray with a small caudal fin and small papillae around the spiracles. Dull grey above with variable markings, often in the form of dark lines or large spots; white below

THREATS: Caught as bycatch by inshore trawlers and inshore anglers. Also found in estuarine and intertidal zone, so local populations might decrease due to coastal developments. Fishing pressure needs to be monitored. It is also likely that the range of this species may decrease significantly when the taxonomy of this genus is better known.

CONSERVATION MEASURES: Monitoring, abundance estimates and collection of basic biological data is urgently needed, as is taxonomic resolution of the group in the Western Indian.

CONSERVATION ACTION/S:

Policy-based actions - Management plans - Development (in place)
Policy-based actions - Management plans - Implementation (needed)
Policy-based actions - Legislation - Development - International level (in place)
Policy-based actions - Legislation - Development - National level (in place)
Policy-based actions - Legislation - Implementation - International level (in place)
Policy-based actions - Legislation - Implementation - National level (in place)
Research actions - Taxonomy (in place)
Research actions - Population numbers and range (needed)
Research actions - Biology and Ecology (needed)
Research actions - Habitat status (needed)
Research actions - Conservation measures (needed)
Research actions - Trends/Monitoring (needed)
Habitat and site-based actions - Protected areas - Identification of new protected areas (needed)
Habitat and site-based actions - Protected areas - Establishment (needed)

CONSERVATION STATUS: Data deficient in IUCN Red List (2004)

REASONS: Very little is known about this electric ray, endemic to the southern Africa (and possibly smaller Indian Ocean island). Occurs from the intertidal zone down to 439 m depth. Although it appears frequently in scientific trawl surveys, it has never been studied. This species is caught as bycatch by inshore trawlers and anglers, and found in estuarine and intertidal zones, so likely to be affected by coastal developments. Monitoring, abundance estimates and collection of basic biological data is urgently needed.

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Compagno, L.J.V.. 1984.
http://www.unep-wcmc.org/species/index.htm

Torpedo (Torpedo) marmorata

picture (Tomar_u0.jpg) by Hernández-González, C.L.

KINGDOM: ANIMALIA

PHYLUM: CHORDATA

CLASS: ELASMOBRANCHII

ORDER: TORPEDINIFORMES

FAMILY: TORPEDINIDAE

COMMON NAME/S:
Albanian - Peshk elektrik i mermerte (Albania);
Arabic - Lakhmah (Oman); Lukmah kahrabaiah (Oman); Oiwilah'baiah (Oman); Oiwilah'hmah kahrabaiah (Oman); Raad (Qatar); Rouh'âd (Lebanon); Samtia (Oman); Tubaq (Oman);
Catalan - Vaca tremolosa (Spain);
inglés - Common crampfish (United Kingdom); Marbled electric ray (Spain, United Kingdom, United States of America); Marbled torpedo (South Africa); Numbfish (United Kingdom); Ray-Electric; Spotted torpedo (South Africa);
francés - Dali (France); Dormihouso (France); Dourmillouse (France); Endourmidouijda (France); Galina (France); Raie électrique (France); Torpille marbrée (France); Tremblard (France); Tremble lisse (France); Trembleuse (France);
italiano - Torpedine bruna (Italy);
Maltese - Haddiela (Malta); Haddiela komuni (Malta); Haddiela tax-xokk (Malta);
polaco - Dretwa pstra (Poland);
ruso - Obyknovennyi (Russian Federation);
español - Tembladeira (Spain); Tembladera (Spain); Tembladora (Spain); Tremielga (Spain); Tremolina mármol (Spain); Tremuló (Spain); Tremuloya (Spain); Trimielga (Spain); Vaca enrampadora (Spain); Vaca tremoladora (Spain);

SPECIES AUTHORITY: (Risso, 1810)

DISTRIBUTION: Eastern Atlantic: northern UK (less common in southern North Sea and Kattegat) to Cape of Good Hope, South Africa. Also in the Mediterranean Sea but not in the Black Sea

MEDITERRANEAN COUNTRY NAMES: Albania, Algeria, Bosnia and Herzegovina, Croatia, Cyprus, Egypt, France, Greece, Israel, Italy, Lebanon, Libyan Arab Jamahiriya, Malta, Monaco, Morocco, serbia and Montenegro, Slovenia, Spain, Syrian Arab Republic, Tunisia and Turkey.

HABITAT AND ECOLOGY: Occurs in seagrass areas, rocky reefs, and adjacent soft bottoms. Avoids temperatures above 20°C. Nocturnal, usually burying itself during the day with only the eyes and spiracle jutting out.

BIOLOGY: Feeds on small benthic fishes *Trachurus, Mugil, Mullus, Dicentrarchus, Spondyliosoma, Boops, Labrus, Dascyllus, Pomacentrus*) and crustaceans. Females outlive males; viviparous, neonates measuring 10-14 cm at birth. 5-32 in a litter.

Electrocytes start developing when the embryo weighs about 1 g; electric organs functional before birth and newborns can use their electric organ discharge (EOD) in capturing prey. Can produce electric discharges of up to 200 volts; EOD frequency up to 600 Hz. Jumps on fast-moving prey, paralyzing it with its EOD. May attain 100 cm in length. Resilience: Low, minimum population doubling time 4.5 - 14 years (5-32 offspring).

MORPHOLOGY: Dorsal spines (total): 0; Anal spines: 0; Vertebrae: 104-108. Disc-width around the same as its length, length and width 1,50 to 1,70 times in total length; dorsal fins more or less rounded, its base 1,50 times in its height

HUMAN IMPACT: caught as by-catch by bottom trawl fisheries, most often discarded, rarely eaten. Likely to deliver strong shock when captured but otherwise inoffensive to people.

CONSERVATION STATUS: On the IUCN Mediterranean status assessment as LC (2007).

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http://www.unep-wcmc.org/species/index.htm

Torpedo (Torpedo) torpedo

picture (Totor_u1.jpg) by Crocetta, F.

KINGDOM: ANIMALIA

PHYLUM: CHORDATA

CLASS: ELASMOBRANCHII

ORDER: TORPEDINIFORMES

FAMILY: TORPEDINIDAE

COMMON NAME/S:
Albanian - Peshk elektrik (Albania);
inglés - Common torpedo (Portugal, United Kingdom); Cramp ray (United Kingdom); Crampfish (United Kingdom); Eyed electric ray (United Kingdom); Ocellate torpedo (South Africa); Ocellated torpedo (United States of America);
francés - Dourmillouse (France); Galina (France); Torpille à taches (France); Torpille ocellée (France, Mauritania); Torpille tachetée (Mauritania); Tremoulina (France); Troupiale à taches ocellée (France);
griego - Moudiástra (Greece); Narki (Greece);
italiano - Torpedine (Italy); Torpedine ocellata (Italy);
Maltese - Haddiela (Malta); Haddiela mtebba' (Malta); Haddiela ta' l'ghajnejn (Malta);
polaco - Dretwa pawik (Poland);
Romanian - Peste electric (Romania); Torpila (Romania);
Serbian - Drhtulja (Yugoslavia);
español - Baca (Spain); Formigón (Spain); Ortiga (Spain); Tembla (Spain); Tembladeras (Mauritania); Temblador (Spain); Temblera (Spain); Temblón (Spain); Trembladora (Spain); Tremielga (Spain); Tremielga de ojos (Spain); Tremolina (Spain); Tremolina común (Spain); Tremuló (Spain); Trimielga (Spain); Vaca (Spain); Vaca trembladora (Spain);
Turkish - Elektrik baligi (Turkey); Uyusturan (Turkey);

SPECIES AUTHORITY: (Linnaeus, 1758)

DISTRIBUTION: Eastern Atlantic: southern Bay of Biscay and throughout the Mediterranean to Angola, but not in the Black Sea. Most common in tropical waters.

MEDITERRANEAN COUNTRY NAMES: Albania, Algeria, Bosnia and Herzegovina, Croatia, Cyprus, Egypt, France, Greece, Israel, Italy, Lebanon, Libyan Arab Jamahiriya, Malta, Monaco, Morocco, Serbia and Montenegro, Slovenia, Spain, Syrian Arab Republic, Tunisia and Turkey.

HABITAT AND ECOLOGY: Demersal. Found on soft bottoms, usually inshore but occasionally deeper (depth range 2-400 m).

BIOLOGY:A common electric ray of 60 cm TL (male/unsexed) and 41 cm TL (female). Feeds on small fishes and also benthic invertebrates. Ovoviviparous, with 3-21 in a

litter. Size at birth 9 cm. Capable of inflicting a severe shock of up to 200 volts. Resilience: Low, minimum population doubling time 4.5 - 14 years (K=0.11)

HUMAN IMPACT: caught as by-catch by bottom trawl fisheries, mainly discarded. Likely to deliver strong shock when captured but otherwise inoffensive to people.

CONSERVATION STATUS: On the IUCN Mediterranean status assessment as LC (2007).

BIBLIOGRAPHY:

Abdel-Aziz, SH. Observations on the biology of the common torpedo (Torpedo torpedo, Linnaeus, 1758) and marbled electric ray (Torpedo marmorata, Risso, 1810) from Egyptian Mediterranean waters. AUST. J. MAR. FRESHWAT. RES., vol. 45, no. 4, pp. 693-704, 1994

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UNEP(DEC)/MED/WG.211/inf.3. RAC/SPA Tunis. 24pp.

Compagno, L.J.V.. 1984.

http://www.unep-wcmc.org/species/index.htm

Dipturus batis

picture (Dibat_u0.jpg) by Østergaard, T.

KINGDOM: ANIMALIA

PHYLUM: CHORDATA

CLASS: ELASMOBRANCHII

ORDER: RAJIFORMES

FAMILY: RAJIDAE

COMMON NAME/S:
Albanian - Raje pendzezë (Albania);
Catalan - Caputxa (Spain);
inglés - Blue grey skate (United Kingdom); Blue skate (United Kingdom); Common skate (Ireland, United Kingdom); Flapper skate (United Kingdom); Gray skate (South Africa); Grey skate (Ireland); Skate (Portugal, United Kingdom);
francés - Flotte (France); Pocheteau blanc (France); Pocheteau gris (France); Pochette (France);
griego - Sélahi-vathí (Greece);
italiano - Razza bavosa (Italy);
Maltese - Raja tar-ramel (Malta); Rebekkin (Malta); Rebekkin geddumu qasir (Malta); Rebekkin skur (Malta);
polaco - Raja gladka (Poland);
Romanian - Vulpe neagra (Romania);
ruso - Gladkiy skat (Russian Federation);
Serbian - Raza velika (Yugoslavia); Volina (Yugoslavia);
español - Noriega (Spain); Raya noruega (Spain);
Turkish - Vatoz (Turkey);

SPECIES AUTHORITY: (Linnaeus, 1758)

DISTRIBUTION: Eastern Atlantic: Norway, Iceland, the Faroes to Senegal, including western Mediterranean, mainly in the western basin, not in the Black Sea, and western part of the Baltic. Extirpated by trawling from much of its former range.

MEDITERRANEAN COUNTRY NAMES: Albania, Algeria, Bosnia and Herzegovina, Croatia, France, Greece, Italy, Malta, Monaco, Morocco, Serbia and Montenegro, Slovenia and Spain.

HABITAT AND ECOLOGY: Benthic species in shelf and slope waters with a wide tolerance for depth and temperature. Found in coastal waters mainly within the 200 m range. (Fishbase)

BIOLOGY: A skate of 285 cm TL (male/unsexed) and max. published weight of 97.1 kg. Feed on all kinds of bottom animals, large individuals prefer fish. Oviparous. Distinct pairing with embrace. Young may tend to follow large objects, such as their

mother. Mate in spring and the egg capsules are laid during the summer. Eggs are oblong capsules with stiff pointed horns at the corners deposited in sandy or muddy flats. Egg capsules are 10.6-24.5 cm long and 5.0-14.5 cm wide. About 40 eggs per individual are laid annually. Flesh is marketed fresh or smoked. Resilience: Very low, minimum population doubling time more than 14 years (K=0.06; tm=11; tmax=51)

MORPHOLOGY: Dorsal spines (total): 0; Anal spines: 0. Snout very long and pointed; length before eyes 2,5-4,0 times distance between them; disc broadly rhombic with acute outer corners; upper surface and underside smooth in young, partly prickly in larger specimens; no thorns on disc, a row of 12-18 thorns along tail; 40-56 tooth rows; upper surface olive-grey or brown with a variable pattern of light spots, underside ashy-grey to blue-grey

THREATS: Harvesting (hunting/gathering) - Food (ongoing)

HUMAN IMPACT: caught by bottom trawl fisheries, once common in European landings has become very rare nowadays, possibly extirpated from some fishing grounds.

CONSERVATION STATUS: On the IUCN Mediterranean status assessment as CR (A2bcd+4bcd) (2007); on the IUCN Red List as CR (A1 a, b, c, d & A2 b, c, d) in shelf areas (2006).

REASONS: This skate, the largest European rajid, was once an abundant constituent of the demersal fish community of north-west Europe. Fisheries data indicate that populations of *D. batis* have undergone an extremely high level of depletion in the central part of its range around the British Isles since the early 20th Century (the three generation period). It has been extirpated from certain areas, but is still caught in Scottish waters and along the shelf edge. Although landings appear stable in other parts of the species' NW Atlantic range, this is attributed to the redirection of fishing effort from shelf seas and enclosed seas (where heavily depleted populations are now Critically Endangered) into deeper water where previously unfished populations are now being taken. Fishing pressure on this species is unlikely to be reduced in future.

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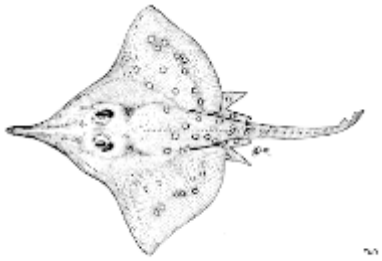
Compagno, L.J.V.. 1984.

http://www.unep-wcmc.org/species/index.htm

Dipturus oxyrhynchus

picture (Dioxy_u0.gif) by FAO



KINGDOM: ANIMALIA

PHYLUM: CHORDATA

CLASS: ELASMOBRAMCHII

ORDER: RAJIFORMES

FAMILY: RAJIDAE

COMMON NAME/S:
Albanian - Raje turigjate (Albania);
Arabic - Baqarah Sawdâ' (Lebanon);
inglés - Long-nosed burton skate (United Kingdom); Longnosed skate (United Kingdom); Long-nosed skate (Portugal); Sharpnose skate (South Africa);
francés - Alène (France); Blanquette (France); Capoutchin (France); Capucin (France); Flossade (France); Fumat (France); Matrasso (France); Pocheteau noir (France); Raie à bec pointu (France); Raie-capucin (France);
griego - Sálahi (Greece);
italiano - Razza monaca (Italy);
Maltese - Hamiema (Malta); Rebekkin (Malta); Rebekkin geddumu twil (Malta); Rebekkin ta' mniehru twil (Malta); Vjolin (Malta);
polaco - Raja ostronosa (Poland);
Serbian - Nosatica (Yugoslavia); Raza klinka (Yugoslavia);
español - Bastina (Spain); Caputjó (Spain); Caputxo (Spain); Cavach (Spain); Cavach rayón (Spain); Machuelo (Spain); Mahoma (Spain); Picón (Spain); Raya aguda (Spain); Raya negrita (Spain); Raya picuda (Spain); Rayón (Spain); Retjada (Spain);
Turkish - Sivriburun vatoz (Turkey);

SPECIES AUTHORITY: (Linnaeus, 1758)

DISTRIBUTION: Eastern Atlantic: central Norway to Senegal, including the Faeroes, Skagerrak, **Mediterranean (but not in the Black Sea)**, and the Canary and Madeira islands .

MEDITERRANEAN COUNTRY NAMES: Albania, Algeria, Bosnia and Herzegovina, Croatia, Cyprus, France, Greece, Israel, Italy, Lebanon, Libyan Arab Jamahiriya, Malta, Monaco, Morocco, Serbia and Montenegro, Slovenia, Spain, Syrian Arab Republic, Tunisia and Turkey.

HABITAT AND ECOLOGY: Bathydemersal. Found in deeper slope waters, but mainly around 200 m. Found on sand and sand-rock bottoms.

BIOLOGY: A skate of 150 cm TL (male/unsexed). Feed on all kinds of bottom animals. Minimum depth reported taken from. Become sexually mature at a length of about 120 cm. Oviparous. Distinct pairing with embrace. Young may tend to follow large objects, such as their mother . Eggs are oblong capsules with stiff pointed horns at the corners

deposited in sandy or muddy flats. Egg capsules are 14.0-23.5 cm long and 11.0-12.0 cm wide. Resilience: Low, minimum population doubling time 4.5 - 14 years (Assuming tm>5.

HUMAN IMPACT: caught by bottom trawl fisheries, once abundant, much less nowadays.

CONSERVATION STATUS: On the IUCN Mediterranean status assessment as NT (2007).

BIBLIOGRAPHY:

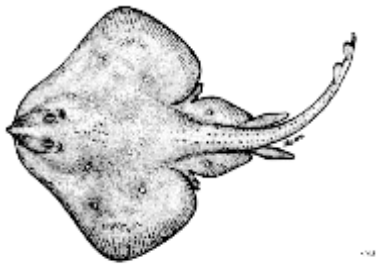
Seret, B; Serena, F. 2002. The Mediterranean Chondrichthyan fishes (sharks, rays, skates and chimaeras): Status and priorities for conservation. UNEP(DEC)/MED/WG.211/inf.3. RAC/SPA Tunis. 24pp.

Compagno, L.J.V.. 1984.

http://www.unep-wcmc.org/species/index.htm

Leucoraja circularis

picture (Lecir_u0.gif) by FAO



KINGDOM: ANIMALIA

PHYLUM: CHORDATA

CLASS: ELASMOBRANCHII

ORDER: RAJIFORMES

FAMILY: RAJIDAE

COMMON NAME/S:
Albanian - Raje e rrumbullaket (Albania);
Catalan - Rajada d'anells (Spain);
inglés - Cuckoo ray (United States of America); Sandy ray (Spain, United Kingdom); Sandy skate (South Africa);
francés - Raie circulaire (France); Raie ronde (France); Raie ronde circulaire (France);
griego - Salahi (Greece);
italiano - Razza rotonda (Italy);
polaco - Raja piaskowa (Poland);
Serbian - Raza smedjana (Yugoslavia);
español - Raya circular (Spain); Raya falsa vela (Spain);
Turkish - Vatoz (Turkey);

SPECIES AUTHORITY: (Couch, 1838)

DISTRIBUTION: Eastern Atlantic: Iceland, southern Norway, **Skagerrak and Morocco, including western Mediterranean.** Records as far south to Mauritania and Senegal could not be verified due to lacking descriptions and specimens; most are probably misidentifications of *Leucoraja leucosticta*.

MEDITERRANEAN COUNTRY NAMES: Albania, Algeria, Bosnia and Herzegovina, Croatia, France, Greece, Italy, Malta, Monaco, Morocco, Serbia and Montenegro, Slovenia, Spain and Tunisia.

HABITAT AND ECOLOGY: Demersal. Found in offshore shelf waters and on upper slope, mainly around the 100 m line.

BIOLOGY: A skate of 120 cm TL (male/unsexed) and 117 cm TL (female). Feed on all kinds of bottom animals. Oviparous. Distinct pairing with embrace. Young may tend to follow large objects, such as their mother. Eggs are oblong capsules with stiff pointed horns at the corners deposited in sandy or muddy flats. Egg capsules are 8.3-9.2 cm long and 4.6-5.3 cm wide. Maximum length for female is 117 cm. Resilience: Low, minimum population doubling time 4.5 - 14 years (Fec assumed to be <100).

MORPHOLOGY: Dorsal spines (total): 0; Anal spines: 0. Snout short, its tip somewhat pronounced; upper surface entirely spinulose, about 8 thorns generally in a complete

row around inner margin of eye and a triangle of thorns on nape or shoulder region; underside with prickles only on snout, between gill-slits, along abdomen, and at anterior margins of disc; tail only slightly longer than body; upper surface reddish-brown to dark brown with 4-6 creamy spots on each wing, underside white.

HUMAN IMPACT: commonly caught by bottom trawl fisheries.

CONSERVATION STATUS: On the IUCN Mediterranean status assessment as EN (A2bcd+3bcd+4bcd) (2007).

BIBLIOGRAPHY:

Tinti, F; Ungaro, N; Pasolini, P; De Panfilis, M; Garoia, F; Guarniero, I; Sabelli, B; Marano, G; Piccinetti, C. Development of molecular and morphological markers to improve species-specific monitoring and systematics of Northeast Atlantic and Mediterranean skates (Rajiformes). Journal of Experimental Marine Biology and Ecology [J. Exp. Mar. Biol. Ecol.]. Vol. 288, no. 2, pp. 149-165. Apr 2003.

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Compagno, L.J.V.. 1984.

http://www.unep-wcmc.org/species/index.htm

Leucoraja fullonica

picture (Leful_m0.jpg) by Cambraia Duarte, P.M.N. (c)ImagDOP

KINGDOM: ANIMALIA

PHYLUM: CHORDATA

CLASS: ELASMOBRANCHII

ORDER: RAJIFORMES

FAMILY: RAJIDAE

COMMON NAME/S:
Albanian - Raxhë (Albania);
Arabic - Baqaret Shaoukeh (Lebanon);
inglés - Dun cow (United Kingdom); Fuller's ray (United Kingdom); Fuller's shagreen ray (United Kingdom); Raie-chardon (United Kingdom); Rough flapper (United Kingdom); Shagreen ray (Portugal, United Kingdom); Shagreen skate (United States of America);
francés - Cardeira (France); Clavelade (France); Flossade (France); Raie chardon (France); Rocher (France);
griego - Raïa (Greece); Salahi (Greece);
italiano - Raya cardadora (Italy); Razza spinosa (Italy);
Maltese - Raja petruza (Malta);
polaco - Raja kosmata (Poland);
Serbian - Raza crnopjega (Yugoslavia);
español - Cardaire (Spain); Morel (Spain); Piscat (Spain); Rajada (Spain); Raya blanca (Spain); Raya cardadora (Spain); Raya morruda (Spain); Romaguera (Spain);
Turkish - Vatoz (Turkey);

SPECIES AUTHORITY: (Linnaeus, 1758)

DISTRIBUTION: Eastern Atlantic: Murmansk in Russia, Norway, southern Iceland, the Faroes, northern North Sea and Skagerrak to northern Morocco, including western Mediterranean (but not in the Black sea) and the Madeira Islands.

MEDITERRANEAN COUNTRY NAMES: Albania, Algeria, Bosnia and Herzegovina, Croatia, France, Greece, Italy, Lebanon, Malta, Monaco, Morocco, Serbia and Montenegro, Slovenia, Spain and Tunisia.

HABITAT AND ECOLOGY: Bathydemersal. Found in relatively cold coastal waters and on upper parts of continental slopes. Most common at depths of around 200 m, but deeper in southern areas

BIOLOGY: A skate of 120 cm TL (male/unsexed) and 111 cm TL (female). Feed on all kinds of bottom animals, probably preferring fish. Oviparous. Distinct pairing with embrace. Young may tend to follow large objects, such as their mother. Eggs are oblong capsules with stiff pointed horns at the corners deposited in sandy or muddy flats. Egg

capsules are 7.5-9.9 cm long and 4.5-4.7 cm wide. Maximum length for female is 111 cm. Resilience: Low, minimum population doubling time 4.5 - 14 years (Assuming tm>5)

MORPHOLOGY: Dorsal spines (total): 0; Anal spines: 0. Snout pronounced, rather pointed; disc rhomboid, with angled outer corners upper surface entirely spinulose, underside prickly on large areas; about 8 thorns usually in a complete row around inner margin of eye, small thorns on scapular, generally a row of about 50 thorns on each side of midline from shoulder to first dorsal fin; upper surface plain ashy-grey, underside white

HUMAN IMPACT: commonly caught by bottom trawl fisheries.

CONSERVATION STATUS: On the IUCN Mediterranean status assessment as DD (2007).

BIBLIOGRAPHY:

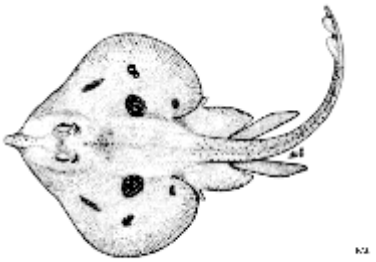
Seret, B; Serena, F. 2002. The Mediterranean Chondrichthyan fishes (sharks, rays, skates and chimaeras): Status and priorities for conservation. UNEP(DEC)/MED/WG.211/inf.3. RAC/SPA Tunis. 24pp.

Compagno, L.J.V.. 1984.

http://www.unep-wcmc.org/species/index.htm

Leucoraja melitensis

picture (Lemel_u0.gif) by FAO



KINGDOM: ANIMALIA

PHYLUM: CHORDATA

CLASS: ELASMOBRANCHII

ORDER: RAJIFORMES

FAMILY: RAJIDAE

COMMON NAME/S:
inglés - Maltese ray (United Kingdom); Maltese skate (South Africa);
francés - Raie de Malte (France);
Maltese - Raja Maltija (Malta); Raja ta' Malta (Malta);
español - Raya de Malta (Spain);

SPECIES AUTHORITY: (Clark, 1926)

DISTRIBUTION: Mediterranean Sea: endemic to the coasts of Tunisia, Malta and a single record from Italy; rare off Algeria, but not in the Black sea.

MEDITERRANEAN COUNTRY NAMES: Algeria, Italy, Malta and Tunisia.

HABITAT AND ECOLOGY: Bathydemersal, on the continental shelf and upper slope between 60 and 600 m depth.

BIOLOGY: A rare skate of 50 cm TL (male/unsexed). Feed on crustaceans mainly amphipods (Ref. 3167). Oviparous. Distinct pairing with embrace. Young may tend to follow large objects, such as their mother (Ref. 205). Eggs are oblong capsules with stiff pointed horns at the corners deposited in sandy or muddy flats (Ref. 205). About 10-56 eggs are laid per individual annually. Resilience: Low, minimum population doubling time 4.5 - 14 years (Fec=10).

HUMAN IMPACT: Weak, since rare.

CONSERVATION STATUS: On the IUCN Mediterranean status assessment as CR (A2bcd+3bcd+4bcd) (2007).

BIBLIOGRAPHY:

Seret, B; Serena, F. 2002. The Mediterranean Chondrichthyan fishes (sharks, rays, skates and chimaeras): Status and priorities for conservation. UNEP(DEC)/MED/WG.211/inf.3. RAC/SPA Tunis. 24pp.

Compagno, L.J.V.. 1984.

http://www.unep-wcmc.org/species/index.htm

Leucoraja naevus

KINGDOM: ANIMALIA

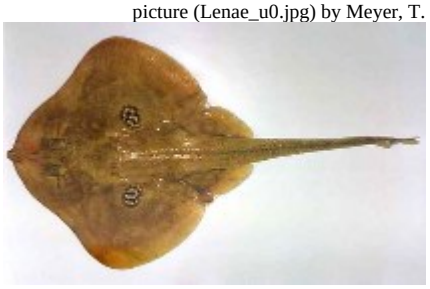
PHYLUM: CHORDATA

CLASS: ELASMOBRANCHII

ORDER: RAJIFORMES

FAMILY: RAJIDAE

picture (Lenae_u0.jpg) by Meyer, T.



COMMON NAME/S:
Arabic - Baqara Mzahrah (Lebanon);
Catalan - Rajada vestida (Spain);
inglés - Butterfly skate (United Kingdom); Cuckoo ray (Spain, United Kingdom); Cuckoo skate (South Africa); Sandy ray (United States of America);
francés - Raie fleurie (France);
griego - Raïa (Greece); Sálahi (Greece);
italiano - Razza fiorita (Italy);
polaco - Raja dwuplama (Poland);
Serbian - Raza smedja (Yugoslavia);
español - Raia santiaguesa (Spain); Raya de San Pedro (Spain); Raya santiaguesa (Spain); Raya santiguesa (Spain);
Turkish - Vatoz (Turkey);

SPECIES AUTHORITY: (Müller & Henle, 1841)

DISTRIBUTION: Eastern Atlantic: Kattegat and North Sea, around Great Britain, Ireland and the Mediterranean to Morocco and Senegal, but not in the Black Sea.

MEDITERRANEAN COUNTRY NAMES: Albania, Algeria, Bosnia and Herzegovina, Croatia, Cyprus, France, Greece, Italy, Lebanon, Malta, Monaco, Morocco, Serbia and Montenegro, Slovenia, Spain and Tunisia.

HABITAT AND ECOLOGY: Demersal, on continental shelf from 20 to 500 m depth.

BIOLOGY: A skate of 71.0 cm TL (male/unsexed) and 68 cm TL (female). Feed on all kinds of bottom animals. Oviparous. Distinct pairing with embrace. Young may tend to follow large objects, such as their mother. Eggs are oblong capsules with stiff pointed horns at the corners deposited in sandy or muddy flats. Egg capsules are 5.0-7.0 cm long and 3.1-3.9 cm wide. Around 70-150 eggs are laid per individual annually. Resilience: Low, minimum population doubling time 4.5 - 14 years (K=0.11-0.16; tm=8-9; tmax=28; Fec<100).

MORPHOLOGY: Dorsal spines (total): 0; Anal spines: 0. Snout short; upper surface entirely spinulose, but centre of pectoral fins more or less bare in adults, underside smooth except for prickly front edges; generally 9-13 thorns in a complete row around

inner margin of eye, and a large triangle of thorns on nape or shoulder region; two parallel rows of strong thorns on each side of midline along tail; upper surface ochre to light greyish-brown with a large roundish black eye-spot in middle of each pectoral fin, underside white.

HUMAN IMPACT: regularly caught by bottom trawl fisheries and in public aquariums.

CONSERVATION STATUS: On the IUCN Mediterranean status assessment as NT (2007).

BIBLIOGRAPHY:

Seret, B; Serena, F. 2002. The Mediterranean Chondrichthyan fishes (sharks, rays, skates and chimaeras): Status and priorities for conservation.
UNEP(DEC)/MED/WG.211/inf.3. RAC/SPA Tunis. 24pp.

Compagno, L.J.V.. 1984.

http://www.unep-wcmc.org/species/index.htm

Raja undulata

picture (Raund_u0.jpg)
by Østergaard, T.

KINGDOM: ANIMALIA

PHYLUM: CHORDATA

CLASS: ELASMOBRANCHII

ORDER: RAJIFORMES

FAMILY: RAJIDAE

COMMON NAME/S:
Arabic - Baqara Samrâ' (Lebanon);
Catalan - Rajada ondulata (Spain);
inglés - Painted ray (United States of America); Undulate painted ray (United Kingdom); Undulate ray (Spain, United Kingdom); Undulate skate (South Africa);
francés - Raie brunette (France, Mauritania); Raie fleurie (Mauritania);
griego - Raïa (Greece); Salahi (Greece);
italiano - Razza ondulata (Italy);
polaco - Raja bruzdowana (Poland);
Serbian - Raza vijopruga (Yugoslavia);
español - Raia mosaico (Spain); Raja santiaguerro (Mauritania); Raya mosaica (Spain); Raya mosaico (Spain);
Turkish - Vatoz (Turkey);

SPECIES AUTHORITY: (Lacepède, 1802)

DISTRIBUTION: Eastern Atlantic: southern Ireland and England to Senegal, including the western Mediterranean and the Canary Islands, but not in the Black sea. Reported from the eastern Mediterranean.

MEDITERRANEAN COUNTRY NAMES: Algeria, France, Israel, Italy, Lebanon, Monaco, Morocco, Spain and Tunisia.

HABITAT AND ECOLOGY: Demersal, on the continental shelf from shoreline to 200 m depth.

BIOLOGY: A skate of 100 cm TL (male/unsexed). Feed on all kinds of bottom animals. Oviparous. Distinct pairing with embrace. Young may tend to follow large objects, such as their mother. Eggs are oblong capsules with stiff pointed horns at the corners deposited in sandy or muddy flats. Egg capsules are 7.2-9.0 cm long and 4.2-5.2 cm wide. Resilience: Low, minimum population doubling time 4.5 - 14 years (Fec assumed to be <100).

HUMAN IMPACT: regularly caught by bottom trawl fisheries.

CONSERVATION STATUS: On the IUCN Mediterranean status assessment as DD (2007).

BIBLIOGRAPHY:

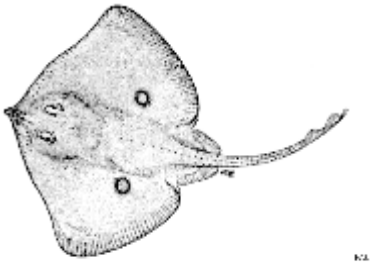
Seret, B; Serena, F. 2002. The Mediterranean Chondrichthyan fishes (sharks, rays, skates and chimaeras): Status and priorities for conservation. UNEP(DEC)/MED/WG.211/inf.3. RAC/SPA Tunis. 24pp.

Compagno, L.J.V.. 1984.

http://www.unep-wcmc.org/species/index.htm

Raja africana

picture (Raafr_u0.gif) by FAO



KINGDOM: ANIMALIA

PHYLUM: CHORDATA

CLASS: ELASMOBRANCHII

ORDER: RAJIFORMES

FAMILY: RAJIDAE

COMMON NAME/S:
inglés - African ray (United Kingdom); African skate (South Africa);
francés - Raie africaine (France);
español - Raya africana (Spain);

SPECIES AUTHORITY: (Capapé, 1977)

DISTRIBUTION: Eastern Atlantic: **Tunisia** and coast of Mauritania. *Raja africana* Capapé, 1977 is a homonym, being preoccupied by *Raja africana* Bloch & Schneider, 1801 and thus needs a replacement name. Validity of this species questioned in Compagno's 1999 checklist

MEDITERRANEAN COUNTRY NAMES: Tunisia

HABITAT AND ECOLOGY: Demersal. Found in shelf and slope waters, depending on seasonal lower bottom water temperatures.

BIOLOGY:A skate of 80.0 cm TL (male/unsexed). Feeds on crustaceans and bony fishes. Oviparous. Eggs have horn-like projections on the shell. Resilience: low, minimum population doubling time 4.5 - 14 years (Fec assumed to be <100).

HUMAN IMPACT: no data as only known by the holotype.

CONSERVATION STATUS: Not in IUCN Red List (NL)

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Compagno, L.J.V.. 1984.

http://www.unep-wcmc.org/species/index.htm

Raja asterias

picture (Raast_u0.gif) by FAO

KINGDOM: ANIMALIA

PHYLUM: CHORDATA

CLASS: ELASMOBRANCHII

ORDER: RAJIFORMES

FAMILY: RAJIDAE

COMMON NAME/S:
Albanian - Ferrez (Albania);
Arabic - Baqaret Nimr (Lebanon);
Catalan - Rajada estrellada (Spain);
inglés - Atlantic starry skate (South Africa); Starry ray (Spain, United Kingdom); Starry skate (United States of America);
francés - Raie étoilée (France);
italiano - Razza stellata (Italy);
Maltese - Raja (Malta); Raja ta' l-ghajn (Malta); Raja tal-kwiekeb (Malta); Raja tat-tikek (Malta); Rajja (Malta);
español - Raia estrellada (Spain); Raya estrellada (Spain);

SPECIES AUTHORITY: (Delaroche, 1809)

DISTRIBUTION: Eastern Atlantic: endemic to the Mediterranean but may spread to the Strait of Gibraltar, northern Morocco and possibly south to Mauritania, but not in the Black Sea.

MEDITERRANEAN COUNTRY NAMES: Albania, Algeria, Bosnia and Herzegovina, Croatia, Cyprus, Egypt, France, Greece, Israel, Italy, Lebanon, Libyan Arab Jamahiriya, Malta, Monaco, Morocco, Serbia and Montenegro, Slovenia, Spain, Syrian Arab Republic, Tunisia and Turkey.

HABITAT AND ECOLOGY: Demersal. Inhabit inshore waters (depth range – 170 m).

BIOLOGY:A skate of 70.0 cm TL (male/unsexed). Feed on all kinds of benthic animals. Oviparous. Distinct pairing with embrace. Young may tend to follow large objects, such as their mother. Eggs are oblong capsules with stiff pointed horns at the corners deposited in sandy or muddy flats. Egg capsules are 4.5 cm long and 3.0 cm wide. Resilience: Low, minimum population doubling time 4.5 - 14 years (Fec assumed to be <100)**.**

HUMAN IMPACT: regularly caught by bottom trawl fisheries.

CONSERVATION STATUS: On the IUCN Mediterranean status assessment as LC (2007).

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http://www.unep-wcmc.org/species/index.htm

Raja brachyura

picture (Rabra_u2.jpg) by Meyer, T.

KINGDOM: ANIMALIA

PHYLUM: CHORDATA

CLASS: ELASMOBRANCHII

ORDER: RAJIFORMES

FAMILY: RAJIDAE

COMMON NAME/S:
Catalan - Rajada de boca rosa (Spain);
inglés - Blonde; Blonde ray (Portugal, Spain, United Kingdom); Blonde skate (South Africa);
francés - Raie blanche (France); Raie blanche douce (France); Raie blanche lissée (France); Raie lisse (France);
griego - Saláhi (Greece);
italiano - Razza a coda corta (Italy);
polaco - Raja bialoplama (Poland);
Serbian - Raza (Yugoslavia);
español - Boca de rosa (Spain); Raia braquiura (Spain); Raya (Spain); Raya boca de rosa (Spain); Raya braquiura (Spain);

SPECIES AUTHORITY: (Lafont, 1873)

DISTRIBUTION: Eastern Atlantic: Shetland Islands to Morocco, Rio de Oro (Western Sahara), and Madeira.

MEDITERRANEAN COUNTRY NAMES: Algeria, France, Italy, Malta, Monaco, Morocco, Spain and Tunisia.

HABITAT AND ECOLOGY: Demersal. Found on sand and sand-rock bottoms (depth range 10 – 380 m)

BIOLOGY: A skate of 120 cm TL (male/unsexed), 125 cm TL (female) and a max. published weight of 14.3 kg. Feed on all kinds of benthic animals. Oviparous. Distinct pairing with embrace. Young may tend to follow large objects, such as their mother. Eggs are oblong capsules with stiff pointed horns at the corners deposited in sandy or muddy flats. Egg capsules are 10.0-14.3 cm long and 5.8-9.0 cm wide. About 40-90 eggs are laid per individual every year. Resilience: Low, minimum population doubling time 4.5 - 14 years (K=0.12-0.19; tmax=15; Fec=40)

MORPHOLOGY: Dorsal spines (total): 0; Anal spines: 0. Upper surface wholly prickly, except in juveniles; underside only prickly along front margins of disc; orbital thorns separate; a regular median row of 40-45 thorns in juveniles and adult females, interrupted on back in males; 60-90 tooth rows; upper surface ochre, with numerous small dark spots to margins of disc, underside white

HUMAN IMPACT: regularly caught by bottom trawl fisheries and gamefish

CONSERVATION STATUS: On the IUCN Mediterranean status assessment as DD (2007).

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http://www.unep-wcmc.org/species/index.htm

Raja clavata

picture (Racla_u5.jpg) by Fishpics

KINGDOM: ANIMALIA

PHYLUM: CHORDATA

CLASS: ELASMOBRANCHII

ORDER: RAJIFORMES

FAMILY: RAJIDAE

COMMON NAME/S:
Albanian - Raja guresh (Albania);
Arabic - Baqara Msaffah'a (Lebanon);
Catalan - Clavellada (Spain);
inglés - Maiden ray (United Kingdom); Rocker (United Kingdom); Roker (Portugal, United Kingdom); Skate (Namibia); Thornback; Thornback maid ray (United Kingdom); Thornback ray (Ireland, Portugal, United Kingdom); Thornback ray(Roker) (Spain); Thornback rough ray (United Kingdom); Thornback skate (South Africa, United Kingdom, United States of America); Thorny (United Kingdom);
francés - Clavelade (France); La raie (Mauritius); Raie bouclée (France); Raie bouclée clovée (France); Raiton (France); Réagris (France); Zerra bouké (France);
griego - Raïa (Greece); Sálahi (Greece); Vátos (Greece);
italiano - Razza chiodata (Italy);
Maltese - Raja petruza (Malta); Raja tal-fosos (Malta);
polaco - Raja nabijana a. ciernista (Poland);
Romanian - Vatos (Romania); Vulpe de mare (Romania);
ruso - Morskaya lisitsa (Russian Federation, Ukraine);
Serbian - Raza kamenjarka (Yugoslavia);
español - Arraizabala (Spain); Bastina rajada (Spain); Bramante (Spain); Clavel (Spain); Gastaka (Spain); Pez de mahoma (Spain); Raia de clavos (Spain); Rajada (Spain); Rajada vera (Spain); Raya común (Spain); Raya crabuda (Spain); Raya de clavos (Spain); Raya punjosa (Spain); Romaguera (Spain);
Turkish - Vatoz (Turkey);
Ukrainian - Morska lysitsa (Ukraine);

SPECIES AUTHORITY: (Linnaeus, 1758)

DISTRIBUTION: Eastern Atlantic: Iceland, Norway, North Sea and the western Baltic southward to Morocco and Namibia, including the Mediterranean and the Black Sea. Although reported from southern Africa, its status in the area is uncertain

MEDITERRANEAN COUNTRY NAMES: Albania, Algeria, Bosnia and Herzegovina, Bulgaria, Croatia, Cyprus, Egypt, France, Greece, Israel, Italy, Lebanon, Lybian Arab Jamahiriya, Malta, Monaco, Morocco, Romania, Russia Federation, Slovenia, Spain, Syrian Arab Republic, Tunisia and Turkey.

HABITAT AND ECOLOGY: Demersal. Inhabit shelf and upper slope waters from the coastal line to about 300 m (depth range 20 – 300 m) . Found on sand and sand-rock bottoms.

BIOLOGY: Feed on all kinds of bottom animals, preferably crustaceans. Oviparous. Distinct pairing with embrace. Young may tend to follow large objects, such as their mother. Eggs are oblong capsules with stiff pointed horns at the corners deposited in sandy or muddy flats. Egg capsules are 5.0-9.0 cm long and 3.4-6.8 cm wide. Utilized fresh and frozen. About 52-170 eggs are laid per individual in a year. Maximum length for male is 105 cm TL and 120 cm TL for female. Resilience: low, minimum population doubling time 4.5 - 14 years (K=0.09-0.14; tm=10; tmax=23; Fec=150).

MORPHOLOGY: Dorsal spines (total): 0; Anal spines: 0. Upper surfaces wholly prickly, underside wholly prickly in large females, only snout and margins of disc in young and large males; orbital thorns separate, 30-50 in median row from nape to first dorsal fin; additional large 'buckler' thorns with swollen bases scattered on upper surface of disc in adults. Sub rhomboid disc, disc-width 1,25 to 1,36 times in its length, its length 1,70 to 1,83 times in total length; short rostrum, rounded at his extremity; pectoral fins with clear angles on lateral side; triangular pelvic fins. Upper surface very variable, all shades of brown, variegated with dark and light spots and blotches, underside white.

THREATS:
Harvesting (hunting/gathering) - Food (ongoing)
Harvesting (hunting/gathering) - Cultural/scientific/leisure activities (ongoing)

HUMAN IMPACT: heavily caught by bottom trawl fisheries.Gamefish, also in public aquariums.

CONSERVATION STATUS: On the IUCN Mediterranean status assessment as NT (2007); on the IUCN Red List as 'Lower risk (near threatened) (2000).

REASONS: *Raja clavata* is one of the most abundant rajids in the North-eastern Atlantic and Mediterranean, and is an important component of mixed demersal trawl fisheries. It is also taken in set nets and targeted by recreational anglers. There is some evidence of decline in catch rates in NW European waters. A minimum landing size exists in certain inshore areas of the UK.

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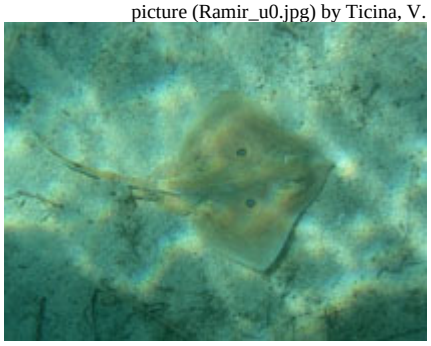
Raja miraletus

picture (Ramir_u0.jpg) by Ticina, V.



KINGDOM: ANIMALIA

PHYLUM: CHORDATA

CLASS: ELASMOBRANCHII

ORDER: RAJIFORMES

FAMILY: RAJIDAE

COMMON NAME/S:
Albanian - Raxhë (Albania);
Arabic - Baqara Mrâyeh (Lebanon);
Catalan - Rajada de miralls (Spain);
inglés - Brown ray (United Kingdom); Brown skate (South Africa); Homelyn cuckoo ray (United Kingdom); Homelyn mirror ray (United Kingdom); Homelyn sandy ray (United Kingdom); Skate (Namibia); Twineye ray (South Africa); Twineye skate (South Africa);
francés - Ikara (France); Pélouza (France); Raie florifère (France); Raie miraillée (France); Raie miroir (France, Mauritania); Raie zéro (Mauritania); Raie-miróir (France); Zerra (France);
italiano - Razza quattrocchi (Italy);
Maltese - Raja lixxa (Malta); Raja petruza (Malta);
Romanian - Vulpe cu patru ochi (Romania);
español - Bachada escrita (Spain); Clavellada (Spain); Excrita (Spain); Grisol (Spain); Racho de escrita (Spain); Raja de espejos (Mauritania); Rajada de San Pere (Spain); Rajada limpia (Spain); Ratjada (Spain); Raya de espejos (Spain); Raya espejuelo (Spain); Raya limpia (Spain); Raya vera (Spain); Retjada (Spain);

SPECIES AUTHORITY: (Linnaeus, 1758)

DISTRIBUTION: Eastern Atlantic: northern Portugal and throughout the Mediterranean to Madeira and South Africa but not in the Black Sea. Reported from the Canary Islands but occurrence needs verification. Also in southwestern part of the Indian Ocean.

MEDITERRANEAN COUNTRY NAMES: Albania, Algeria, Bosnia and Herzegovina, Croatia, Cyprus, Egypt, France, Greece, Israel, Italy, Lebanon, Libyan Arab Jamahiriya, Malta, Monaco, Morocco, Serbia and Montenegro, Slovenia, Spain, Syrian Arab Republic, Tunisia and Turkey.

HABITAT AND ECOLOGY: Demersal. Found over soft bottoms of the shelf and the uppermost slope (depth range 17 – 300 m).

BIOLOGY:A skate of 63.0 cm TL (male/unsexed) and 59.7 cm TL (female). Feed on all kinds of benthic animals, also on fish offal. Oviparous. Distinct pairing with embrace. Young may tend to follow large objects, such as their mother. Eggs are oblong

capsules with stiff pointed horns at the corners deposited in sandy or muddy flats. Egg capsules are 4.2-4.6 cm long and 2.7-2.9 cm wide. About 40-72 eggs are lain by an individual in a year. Caught by ski-boat anglers. Resilience: Low, minimum population doubling time 4.5 - 14 years (Fec assumed to be <100).

MORPHOLOGY: Dorsal spines (total): 0; Anal spines: 0. Snout short and bluntly pointed; disc angular. Upper surface prickly only in young, nearly smooth in adults, underside smooth. Upper surface ochre to reddish-brown with scattered dark spots, underside white; two bright blue eyespots centered on the pectoral bases; may have a small dark spot on tip of snout.

THREATS: Rays are amongst the most vulnerable of exploited marine fish due to their life-history strategy (low fecundity, high age at maturity, slow growth).

HUMAN IMPACT: commonly caught by bottom trawl fisheries and gamefish**.**

CONSERVATION STATUS: On the IUCN Mediterranean status assessment as LC (2007).

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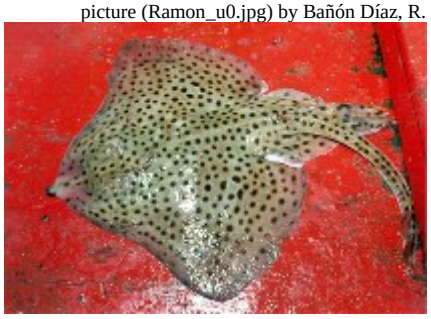
Compagno, L.J.V.. 1984.

http://www.unep-wcmc.org/species/index.htm

Raja montagui

picture (Ramon_u0.jpg) by Bañón Díaz, R.



KINGDOM: ANIMALIA

PHYLUM: CHORDATA

CLASS: ELASMOBRANCHII

ORDER: RAJIFORMES

FAMILY: RAJIDAE

COMMON NAME/S:
Albanian - Raje e bute (Albania);
Arabic - Baqara Na'hmeh (Lebanon);
Catalan - Rajada dolça (Spain);
inglés - Homelyn ray (United Kingdom); Spotted homelyn ray (United Kingdom); Spotted ray (Spain, United Kingdom); Spotted skate (South Africa); Starry ray (United Kingdom);
francés - Raie douce (France); Raie étoilée (France);
griego - Salahi (Greece);
italiano - Razza stellata (Italy);
polaco - Raja gwiazdzista (Poland);
Serbian - Razica blije dopjega (Yugoslavia);
español - Raia pintada (Spain); Raya estrellada (Spain); Raya pintada (Spain); Raya radiada (Spain);
Turkish - Vatoz (Turkey);

SPECIES AUTHORITY: (Fowler, 1910)

DISTRIBUTION: Eastern Atlantic: Shetlands, southern North Sea and the western Baltic to Mauritania, including the western part of the Mediterranean (to Tunisia and western Greece) but not in the Black Sea. (M Fishbase).

MEDITERRANEAN COUNTRY NAMES: Albania, Algeria, Bosnia and Herzegovina, Croatia, France, Greece, Italy, Lebanon, Monaco, Morocco, Serbia and Montenegro, Slovenia, Spain and Tunisia.

HABITAT AND ECOLOGY: Demersal. Found in shelf waters to about 100 m (depth range 20 – 120 m).

BIOLOGY: A skate of 80.0 cm TL (male/unsexed). Feed mainly on crustaceans. Oviparous. Distinct pairing with embrace. Young may tend to follow large objects, such as their mother. Eggs are oblong capsules with stiff pointed horns at the corners deposited in sandy or muddy flats. Egg capsules are 5.3-7.8 cm long and 3.0-5.0 cm wide. About 24-60 eggs are laid by an individual in a year. Resilience: low, minimum population doubling time 4.5 - 14 years (K=0.18-0.21; tm=8; tmax=14; Fec=24).

MORPHOLOGY: Dorsal spines (total): 0; Anal spines: 0. Upper surface almost smooth in young, but prickly in large specimens, except for bare centers of pectoral fins and hind part of disc, underside nearly smooth; orbital thorns separate, a regular row of 20-50 usually persistent thorns from nape to first dorsal fin; upper surface brownish with numerous small dark spots which do not reach the margins of the disc, frequently a concentration of dark spots forming a ring around a pale centre on hind part of each pectoral fin, underside white.

HUMAN IMPACT: caught by bottom trawl fisheries.

CONSERVATION STATUS: On the IUCN Mediterranean status assessment as LC (2007).

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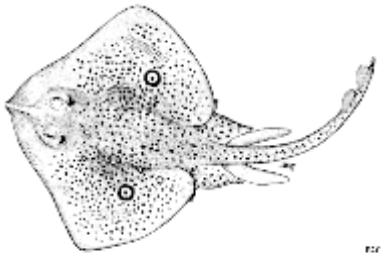
Raja polystigma

picture (Rapol_u0.gif) by FAO



KINGDOM: ANIMALIA

PHYLUM: CHORDATA

CLASS: ELASMOBRANCHII

ORDER: RAJIFORME

FAMILY: RAJIDAE

COMMON NAME/S:
Albanian - Raje pikaloshe (Albania);
Catalan - Rajada tacada (Spain);
inglés - Speckled ray (United Kingdom); Speckled skate (South Africa);
francés - Raie tachetée (France);
español - Manchada (Spain); Raya manchada (Spain);

SPECIES AUTHORITY: (Regan, 1923)

DISTRIBUTION: Northeast Atlantic: known only from the western Mediterranean, more common along the African coasts.

MEDITERRANEAN COUNTRY NAMES: Albania, Algeria, Bosnia and Herzegovina, Croatia, France, Greece, Italy, Malta, Monaco, Morocco, Serbia and Montenegro, Slovenia, Spain, Tunisia and Turkey.

HABITAT AND ECOLOGY: Demersal. Found mainly on soft bottoms (depth range 100 – 400 m).

BIOLOGY: A skate of 60.0 cm TL (male/unsexed). Feed mainly on crustaceans and bony fishes depending on the sex, size and also partly with the season. Oviparous. Distinct pairing with embrace. Young may tend to follow large objects, such as their mother. Eggs are oblong capsules with stiff pointed horns at the corners deposited in sandy or muddy flats. About 20-62 eggs are laid by an individual in a year. Resilience: low, minimum population doubling time 4.5 - 14 years (Fec=20).

HUMAN IMPACT: occasionally caught by bottom trawl fisheries.

CONSERVATION STATUS: On the IUCN Mediterranean status assessment as NT (2007); needs to be investigated as the only endemic skate of the Mediterranean.

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UNEP(DEC)/MED/WG.211/inf.3. RAC/SPA Tunis. 24pp.

Compagno, L.J.V.. 1984.

http://www.unep-wcmc.org/species/index.htm

Raja radula

picture (Rarad_u0.jpg) by Stergiou, K.I.

KINGDOM: ANIMALIA

PHYLUM: CHORDATA

CLASS: ELASMOBRANCHII

ORDER: RAJIFORMES

FAMILY: RAJIDAE

COMMON NAME/S:
Albanian - Raje therese (Albania);
Arabic - Baqaret Mabrad (Lebanon);
Catalan - Rajada peluda (Spain);
inglés - Rough ray (United Kingdom); Rough skate (South Africa);
francés - Raie râpe (France);
Maltese - Raja petruza (Malta); Raja tar-ramel (Malta);
Portuguese - Raia-áspersa (Portugal);
español - Raya áspera (Spain);

SPECIES AUTHORITY:(Delaroche, 1809)

DISTRIBUTION: Eastern Atlantic: known only from the Mediterranean but may penetrate through the Strait of Gibraltar and possibly to northern Morocco but not in the Black Sea. Some Atlantic records probably misidentifications of *Raja naevus* and/or *Raja africana*.

MEDITERRANEAN COUNTRY NAMES: Albania, Algeria, Bosnia and Herzegovina, Croatia, Cyprus, Egypt, France, Greece, Israel, Italy, Lebanon, Libyan Arab Jamahiriya, Malta, Monaco, Morocco, Serbia and Montenegro, Slovenia, Spain, Syrian Arab Republic, Tunisia and Turkey.

HABITAT AND ECOLOGY: Dermesal. Range from coastal to about 300 m depth.

BIOLOGY: A skate of 70.0 cm TL (male/unsexed). Feed on all kinds of bottom animals. Oviparous. Distinct pairing with embrace. Young may tend to follow large objects, such as their mother. Eggs are oblong capsules with stiff pointed horns at the corners deposited in sandy or muddy flats. About 80-154 eggs are laid by an individual in a year. Resilience: Low, minimum population doubling time 4.5 - 14 years (Fec=80).

HUMAN IMPACT: regularly caught by bottom trawl fisheries.

CONSERVATION STATUS: IUCN Mediterranean status assessment as DD (2007).

BIBLIOGRAPHY:

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UNEP(DEC)/MED/WG.211/inf.3. RAC/SPA Tunis. 24pp.

Compagno, L.J.V.. 1984.

http://www.unep-wcmc.org/species/index.htm

Raja rondeleti

KINGDOM: ANIMALIA

PHYLUM: CHORDATA

CLASS: ELASMOBRANCHII

ORDER: RAJIFORMES

FAMILY: RAJIDAE

COMMON NAME/S:
Rondelet's skate
Raie de Rondelet

SPECIES AUTHORITY: (Bougis, 1959)

DISTRIBUTION: only known by four specimens from off the French Mediterranean coast and the Gulf of Genoa (Italy). Taxonomic status doubtful: possibly based on abnormal specimens of *Raja fullonic*a.

HABITAT AND ECOLOGY: benthic, on the continental shelf.

BIOLOGY: a very rare skate of 50 cm TL, no data on its diet, oviparous.

HUMAN IMPACT: weak because of its rarity.

CONSERVATION STATUS: Not in IUCN Red List (NL)

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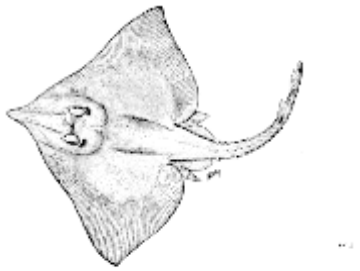
Compagno, L.J.V.. 1984.

http://www.unep-wcmc.org/species/index.htm

Rostroraja alba

picture (Roalb_u0.gif) by FAO



KINGDOM: ANIMALIA

PHYLUM: CHORDATA

CLASS: ELASMOBRANCHII

ORDER: RAJIFORMES

FAMILY: RAJIDAE

COMMON NAME/S:
Albanian - Raxhe (Albania);
Catalan - Rajada blanca (Spain);
inglés - Bordered ray; Bordered skate (United Kingdom); Bottlenose (United Kingdom); Bottlenose skate (South Africa); Bottlenosed skate (United States of America); Burton skate (United Kingdom); Owl skate (United Kingdom); Spearnose skate (Namibia, South Africa); White bordered skate (United Kingdom); White bottle-nose skate (United Kingdom); White skate (United Kingdom, United States of America); White-bellied skate (United Kingdom);
finlandés - Pullonokkarausku (Finland);
francés - Blanquette (France); Fumat nègre (France); Mirayet (France); Petit raie-museau (France); Raie blanche (France); Raie blanche à zone brune (France); Raie blanche bordèe (France);
griego - Salahi (Greece);
italiano - Razza bianca (Italy);
Maltese - Hamiema (Malta);
polaco - Raja siwa (Poland);
Romanian - Vulpe alba (Romania);
Serbian - Raza bjelica (Yugoslavia);
español - Cavach (Spain); Clavel (Spain); Ilisó (Spain); Raya blanca (Spain); Raya bramante (Spain); Raya picuda (Spain); Rayón (Spain);
Turkish - Vatoz (Turkey);

SPECIES AUTHORITY: (Lacepède, 1803)

DISTRIBUTION: Eastern Atlantic: Ireland and England southward round the Cape (South Africa) to central Mozambique, including western Mediterranean (to Tunisia and western Greece).

MEDITERRANEAN COUNTRY NAMES: Albania, Algeria, Bosnia and Herzegovina, Croatia, France, Greece, Italy, Malta, Monaco, Morocco, Slovenia, Spain and Tunisia.

HABITAT AND ECOLOGY: Demersal. Inhabit shelf and slope waters. Found on sand and rock-sand bottom (depth range 30 – 600 m).

BIOLOGY: A bottom-predator of bony fishes, other elasmobranchs, fish offal, crabs, shrimps, mysids, octopi, and cuttlefish. Minimum depth reported taken from. Maximum length for female is 202 cm. Oviparous. Distinct pairing with embrace. Young may tend

to follow large objects, such as their mother. Eggs are oblong capsules with stiff pointed horns at the corners deposited in sandy or muddy flats. Egg capsules are 12.5-18.3 cm long and 10.0-13.9 cm wide. About 55-156 eggs are produced per individual annually. Resilience: low, minimum population doubling time 4.5 - 14 years (Fec=55).

MORPHOLOGY: A giant skate with a broad-based, abruptly narrow-tipped snout covered with small, sharp thorns; pectoral disc angular, and no thorns on nape or back, but three rows of large thorns on tail. Larger immature and adult individuals grey with numerous small white spots above, underside white with no black pores; hatchlings plain reddish-brown above, often with blue spots, and white below with broad dusky grey margins on disc.

HUMAN IMPACT: regularly caught by bottom trawl fisheries and gamefish.

CONSERVATION STATUS: On the IUCN Mediterranean status assessment as CR (A2cd+4cd) (2007); on the IUCN Red List as EN (2006).

BIBLIOGRAPHY:

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Compagno, L.J.V.. 1984.

http://www.unep-wcmc.org/species/index.htm

Dasyatis centroura

picture (Dacen_u1.gif) by Reiner, F.

KINGDOM: ANIMALIA

PHYLUM: CHORDATA

CLASS: ELASMOBRANCHII

ORDER: RAJIFORMES

FAMILY: DASYATIDAE

COMMON NAME/S:
Albanian - Neshtelie (Albania);
Catalan - Escurçana clavellada (Spain);
inglés - Roughtail stingray (Portugal, Trinidad and Tobago, United Kingdom, United States of America); Rough-tailed (United Kingdom); Rough-tailed northern stingray (United Kingdom);
francés - Pastenague à queue épineuse (France); Pastenague des îles (France); Pastenague épineuse (France);
italiano - Trigone spinoso (Italy);
Maltese - Boll (Malta); Boll denbu ahrax (Malta);
español - Raya látigo lija (Spain); Rayalátigo isleña (Spain);

SPECIES AUTHORITY: (Mitchill, 1815)

DISTRIBUTION: Eastern Atlantic: southern Bay of Biscay to Angola, including the Mediterranean Sea but not in the Black sea, Madeira, and Canary Islands. Western Atlantic: Georges Bank to the eastern Gulf of Mexico; southern Brazil to Uruguay.

MEDITERRANEAN COUNTRY NAMES: Albania, Algeria, Bosnia and Herzegovina, Croatia, Cyprus, Egypt, France, Greece, Israel, Italy, Lebanon, Libyan Arab Jamahiriya, Malta, Monaco, Morocco, Serbia and Montenegro, Slovenia, Spain, Syrian Arab Republic, Tunisia and Turkey.

HABITAT AND ECOLOGY: Demersal. Found over sandy and muddy bottoms (depth range – 200 m).

BIOLOGY: A skate of 220 cm WD (male/unsexed) and max. published weight of 200.0. Feeds on bottom-living invertebrates and fishes. Ovoviviparous. Wings marketed fresh, smoked, dried-salted; used for fishmeal and oil. Harmful to shellfish banks; dangerous to bathers and fishers due to its poisonous spine. May attain 100 cm TL. Warm season visitor to coastal waters. Resilience: Very low, minimum population doubling time more than 14 years (Fec=2).

MORPHOLOGY: Anal spines: 0. Disc sub-quadrangular with strongly sinuous former edges, blunt snout. Large size and spacing of mid-dorsal bucklers, conspicuous tubercles on the outer parts of disc. Tail with numerous rows of small spines. Ventral

finfold long, but quite low, not easily seen, dorsal finfold absent. Olive brown above, white or nearly below. Lower surface white and without dark edgings.

HUMAN IMPACT: occasionally caught by bottom trawl fisheries. Tail has a venomous sting likely to produce septic wounds when handled

CONSERVATION STATUS: On the IUCN Mediterranean status assessment as NT (2007).

BIBLIOGRAPHY:

Dulcic, J; Jardas, I; Onofri, V; Bolotin, J. The roughtail stingray Dasyatis centoura (Pisces: Dasyatidae) and spiny butterfly ray Gymnura altavela (Pisces: Gymnuridae) from the southern Adriatic. Journal of the Marine Biological Association of the United Kingdom [J. Mar. Biol. Assoc. U.K.]. Vol. 83, no. 4, pp. 871-872. 2003.

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Compagno, L.J.V.. 1984.

http://www.unep-wcmc.org/species/index.htm

Dasyatis chrysonota

KINGDOM: ANIMALIA

PHYLUM: CHORDATA

CLASS: ELASMOBRANCHII

ORDER: RAJIFORMES

FAMILY: DASYATIDAE

COMMON NAME/S:
inglés - Blue stingray (South Africa); Marbled stingray (South Africa); Sting ray (Spain);
español - Chucho (Spain);

SPECIES AUTHORITY: (Smith, 1828)

DISTRIBUTION: eastern Atlantic from Morocco to South Africa, recently recorded from the Mediterranean (unpublished data).

HABITAT AND ECOLOGY: Demersal. Found in shallow bays, sheltered sandy beaches in summertime, moves to deeper waters during winter (depth range – 100 m).

BIOLOGY: A stingray of 75.0 cm WD (male/unsexed). Feeds on bony fishes and crustaceans such as crabs, shrimps and mantis shrimps. Ovoviviparous. Often caught by shore anglers. Resilience: Low, minimum population doubling time 4.5 - 14 years (Assuming fecundity<100)

HUMAN IMPACT: occasionally caught by bottom trawl fisheries. Tail has a venomous sting likely to produce septic wounds when handled.

CONSERVATION STATUS: On the IUCN Mediterranean status assessment as DD (2007).

BIBLIOGRAPHY:

Seret, B; Serena, F. 2002. The Mediterranean Chondrichthyan fishes (sharks, rays, skates and chimaeras): Status and priorities for conservation. UNEP(DEC)/MED/WG.211/inf.3. RAC/SPA Tunis. 24pp.

Compagno, L.J.V.. 1984.

http://www.unep-wcmc.org/species/index.htm

Dasyatis pastinaca

picture (Dapas_u0.jpg) by Hernández-González, C.L.

KINGDOM: ANIMALIA

PHYLUM: CHORDATA

CLASS: ELASMOBRANCHII

ORDER: RAJIFORMES

FAMILY: DASYATIDAE

COMMON NAME/S:
Albanian - Shkotërr (Albania);
Arabic - Baqara Wat'wyt'a (Lebanon);
Catalan - Escurçana (Spain);
inglés - Blue stingray (South Africa); Common stingray (United Kingdom); Sting ray; Stingray (Ireland, Portugal);
francés - Bastanago (France); Bougnette (France); Coucou (France); Fouleux (France); Pastenago (France); Pastenague (France); Pastenague commun (France); Pastenague commune (France); Pastenargo (France); Raie-pastenague (France); Tare ronde (France); Terre (France); Tonare (France); Vastanaga (France);
griego - Sálahi trygéna (Greece); Trigóna (Greece);
italiano - Pastinaca (Italy); Trigono (Italy);
Maltese - Boll (Malta); Boll komuni (Malta); Bonn (Malta); Hamiema (Malta); Hamiema tas-sikkina (Malta); Sorc (Malta);
polaco - Ogoncza pastynak (Poland);
Romanian - Pisica de mare (Romania);
ruso - Morskoj kot (Ukraine);
Serbian - Siba zutulja (Yugoslavia); Volina (Yugoslavia);
español - Bantenaga (Spain); Chucho (Spain); Escorsana (Spain); Escursana (Spain); Escurso (Spain); Ferrasa (Spain); Pastinaca (Spain); Pastinaga (Spain); Pombo (Spain); Rayalátigo común (Spain); Rayavaca (Spain); Romaguera (Spain); Serreta (Spain); Totina (Spain); Vela latina (Spain);
Turkish - Ignelivatoz (Turkey);
Ukrainian - Morskii kit (Ukraine);

SPECIES AUTHORITY: (Linnaeus, 1758)

DISTRIBUTION: : eastern Atlantic from Norway to South Africa, and the whole Mediterranean, also in the Black Sea.

MEDITERRANEAN COUNTRY NAMES: Albania, Algeria, Bosnia and Herzegovina, Bulgaria, Croatia, Cyprus, Egypt, France, Greece, Israel, Italy, Lebanon, Libyan Arab Jamahiriya, Malta, Monaco, Morocco, Romania, Russian Federation, Serbia and Montenegro, Slovenia, Spain, Syrian Arab Republic, Tunisia, Turkey and Ukrania.

HABITAT AND ECOLOGY: Demersal. Found over sandy and muddy bottoms, sometimes in estuaries and near rocky reefs (depth range 5 – 200).

BIOLOGY: A stingray of 57.0 cm WD. Feeds on bottom-living invertebrates and fishes. Ovoviviparous, gestation period about 4 months and 4-7 young are produced. Wings marketed smoked, dried-salted, and also used for fishmeal and oil. Harmful to shellfish banks; dangerous to bathers and fishers due to its poisonous spine. Feeds on bottom fishes, crustaceans and mollusks. Barbed poison spine is a modified denticle that can be 35cm long, shed occasionally and replaced. Resilience: Low, minimum population doubling time 4.5 - 14 years (Preliminary K or Fecundity, Fec=4).

HUMAN IMPACT: commonly caught by bottom trawl fisheries, also with gill-nets. Tail has a venomous sting likely to produce septic wounds when handled. Displayed in some public aquariums.

CONSERVATION STATUS: On the IUCN Mediterranean status assessment as NT (2007).

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Filiz, H; Bilge, G. Length-weight relationships of 24 fish species from the North Aegean Sea, Turkey. JOURNAL OF APPLIED ICHTHYOLOGY, 20 (5): 431-432 OCT 2004.

Seret, B; Serena, F. 2002. The Mediterranean Chondrichthyan fishes (sharks, rays, skates and chimaeras): Status and priorities for conservation. UNEP(DEC)/MED/WG.211/inf.3. RAC/SPA Tunis. 24pp.

Compagno, L.J.V.. 1984.

http://www.unep-wcmc.org/species/index.htm

Dasyatis tortonesei

KINGDOM: ANIMALIA

PHYLUM: CHORDATA

CLASS: ELASMOBRANCHII

ORDER: RAJIFORMES

FAMILY: DASYATIDAE

COMMON NAME/S:
Tortonese's stingray
Pastenague de Tortonese

SPECIES AUTHORITY: (Capapé, 1977)

DISTRIBUTION: endemic of the Mediterranean. Often confused with *D. pastinac*a, a distinct species but with problem of nomenclature currently under investigation.

HABITAT AND ECOLOGY: Demersal, on the continental shelf from shoreline to 200 m depth.

BIOLOGY: A stingray of 80.0 cm WD (male/unsexed). Feeds on bottom-living invertebrates and fishes. Ovoviviparous, gestation about 4 months and about 6 to 9 young are produced. Resilience: Low, minimum population doubling time 4.5 - 14 years (Preliminary K and tmax, Fec=6).

HUMAN IMPACT: no data but probably caught by bottom trawl fisheries. Tail has a venomous sting likely to produce septic wounds when handled.

CONSERVATION STATUS: Not in IUCN Red List (NL).

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Beveridge, I; Neifar, L; Euzet, L. Eutetrarhynchid cestodes from Atlantic and Mediterranean elasmobranch fishes, with the description of two new species of Dollfusiella Campbell & Beveridge, 1994 and redescriptions of Prochristianella papillifer (Poyarkoff, 1909) Dollfus, 1957 and Parachristianella trygonis Dollfus, 1946. SYSTEMATIC PARASITOLOGY, 59 (2): 81-102 OCT 2004.

Seret, B; Serena, F. 2002. The Mediterranean Chondrichthyan fishes (sharks, rays, skates and chimaeras): Status and priorities for conservation. UNEP(DEC)/MED/WG.211/inf.3. RAC/SPA Tunis. 24pp.

Compagno, L.J.V.. 1984.

http://www.unep-wcmc.org/species/index.htm

Himantura uarnak

picture (Hiuar_u4.jpg) by Randall, J.E.

KINGDOM: ANIMALIA

PHYLUM: CHORDATA

CLASS: ELASMOBRANCHII

ORDER: RAJIFORMES

FAMILY: DASYATIDAE

COMMON NAME/S:
Arabic - Bâsternâk Hindyeh (Lebanon); Lakhman (Qatar); Lukhmah (Oman); Ruget (Saudi Arabia);
inglés - Coachwhip ray (Australia, Papua New Guinea, United Kingdom); Honeycomb (South Africa); Honeycomb stingray (Micronesia (Federated States of), South Africa, United Kingdom); Leopard ray (Guam); Leopard stingray (India, South Africa); Longtail ray (Australia); Longtailed ray (Djibouti, United Kingdom); Marbled stingray (South Africa); Reticulate whip ray (South Africa); Reticulate whipray (Australia);
francés - Bouchee (Seychelles); Pastenague léopard (France); Raie blanche (Mauritius); Raie bouclee (Seychelles);
polaco - Ogoncza arnak (Poland);
español - Chupare oval (Spain);

SPECIES AUTHORITY: (Forsskal, 1775)

DISTRIBUTION: Indo-West Pacific: Red Sea (and eastern Mediterranean via Suez Canal) to southern Africa and French Polynesia, north to Taiwan, south to Australia. Also in the Arafura Sea. Collected from the estuary of the River Ganges. This name has been used for a number of similar spotted species. Probably a species complex. Its identity has been confused in many publications and Micronesian specimens should be re-examined.

MEDITERRANEAN COUNTRY NAMES: Cyprus, Egypt, Israel, Lebanon and Syrian Arab Republic

HABITAT AND ECOLOGY: Common off sandy beaches and in shallow estuaries and lagoons; also found in sandy areas of coral reefs. Also offshore down to 50 m depth. May enter fresh water.

BIOLOGY: A stingray of 200 cm WD (male/unsexed) and a max. published weight of 120.0 kg. Feeds on small fishes, bivalves, crabs, shrimps, worms and jellyfishes. Ovoviviparous. Popular angling fish. Not esteemed as a food fish. Used in Chinese medicine. Resilience: Medium, minimum population doubling time 1.4 - 4.4 years (Preliminary K and tmax, Fec=3).

MORPHOLOGY: Dorsal spines (total): 0; Anal spines: 0. Huge stingray with conspicuous dark spots on a light brown disc; spots well-spaced in young but crowded to form reticulated pattern in adult; white ventrally; tail marked with bands of black and white; snout sharply pointed; disc with narrowly rounded outer corners, and tail long, slender and nearly three times body length when intact, with no caudal finfolds; disc without thorns but with band of flat denticles along midback (in adults); usually 1 medium-sized sting on tail.

HUMAN IMPACT: caught by gill-net fisheries. Tail has a venomous sting likely to produce septic wounds when handled. Sometimes displayed in public aquariums.

CONSERVATION STATUS: On the IUCN Mediterranean status assessment as DD (2007).

BIBLIOGRAPHY:

Basusta, N; Erdem, U; Kumlu, M. Two new fish records for the Turkish seas: Round stingray Taeniura grabata and skate stingray Himantura uarnak (Dasyatidae). Israel Journal of Zoology [Isr. J. Zool.]. Vol. 44, no. 1, pp. 65-66. 1998.

Chisholm, LA; Whittington, ID; Kearn, GC. Dendromonocotyle colorni sp n. (Monogenea : Monocotylidae) from the skin of Himantura uarnak (Dasyatididae) from Israel and a new host record for D-octodiscus from the Bahamas. FOLIA PARASITOLOGICA, 48 (1): 15-20 2001.

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Compagno, L.J.V.. 1984.

http://www.unep-wcmc.org/species/index.htm

Pteroplatytrygon violacea

picture (Ptvio_m0.jpg) by Mollet, H.F.

KINGDOM: ANIMALIA

PHYLUM: CHORDATA

CLASS: ELASMOBRANCHII

ORDER: RAJIFORMES

FAMILY: DASYATIDAE

COMMON NAME/S:
Catalan - Escurçana violeta (Spain);
inglés - Blue stingray (Portugal, United Kingdom); Guilers stingray (Australia); Pelagic stingray (Australia, Canada, New Zealand, Portugal, South Africa, United States of America); Stingray (Namibia); Violet stingray (Australia, Portugal);
francés - Pastenague; Pastenague violette (France);
griego - Sálahi trygéna (Greece); Trigóna (Greece);
italiano - Pastinaca (Italy); Trigono (Italy);
Maltese - Boll (Malta); Boll tork (Malta); Boll vjola (Malta);
polaco - Ogoncza pelagicza (Poland);
Serbian - Siba zutulja (Yugoslavia); Volina (Yugoslavia);
español - Pastinaca (Spain); Raya látigo pelágica (Mexico); Raya-látigo violeta (Ecuador, Spain);
Turkish - Ignelivatoz (Turkey);

SPECIES AUTHORITY: (Bonaparte, 1832)

DISTRIBUTION: Probably cosmopolitan in tropical and subtropical seas. Eastern Atlantic: southeastern coasts of the Mediterranean and off Sicily. Reported from Cape Verde. Eastern Pacific: California (USA), Baja California (Mexico), and the Galapagos Islands Reported off Vancouver and from Chile. Western Atlantic. There are 4 records from southern Africa.

MEDITERRANEAN COUNTRY NAMES: Algeria, Italy, Malta, Morocco and Tunisia.

HABITAT AND ECOLOGY: Found in open, tropical and warm temperate waters usually in the first 100 m. Possibly the only totally pelagic member of the family.

BIOLOGY: A pelagic stingray of 160 cm TL (male/unsexed). Feeds on coelenterates (including medusae), squid, decapod crustaceans, and fish. Ovoviviparous. Venomous spine on tail. Resilience: Very low, minimum population doubling time more than 14 years (K=0.18 (captivity); Fec=1-9 (could probably have 2 litters per year)).

MORPHOLOGY: A thick, dark stingray with a broadly rounded snout and an angular pectoral disc; tail less than twice body length with a long lower caudal finfold ending far in front of tail tip, but with no upper finfold; disc without thorns; usually 1 extremely

long sting on tail; eyes do not protrude. Uniformly violet, purple, or dark blue-green dorsally and ventrally. No prominent markings.

HUMAN IMPACT: occasionally caught by pelagic fisheries with purse seines, pelagic trawls and gill-nets. Displayed in some public aquariums. Tail has a venomous sting likely to produce septic wounds when handled.

CONSERVATION STATUS: On the IUCN Mediterranean status assessment as NT (2007).

BIBLIOGRAPHY:

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UNEP(DEC)/MED/WG.211/inf.3. RAC/SPA Tunis. 24pp.

Compagno, L.J.V.. 1984.

http://www.unep-wcmc.org/species/index.htm

Taeniura grabata

picture (Tagra_u0.jpg) by Hernández-González, C.L.

KINGDOM: ANIMALIA

PHYLUM: CHORDATA

CLASS: ELASMOBRANCHII

ORDER: RAJIFORMES

FAMILY: DASYATIDAE

COMMON NAME/S:
Arabic - Basternâk Afriqyeh (Lebanon);
inglés - Round fantail stingray (South Africa); Round stingray (Portugal, United Kingdom);
francés - Pastenague africaine (France);
polaco - Patelnica (Poland);
español - Chucho negro (Spain); Chupare redondo (Spain); Pastinaca redonda (Spain);

SPECIES AUTHORITY: (Geoffroy St. Hilaire, 1817)

DISTRIBUTION: Eastern Atlantic: Canary Islands and Mauritania to Angola, including Cape Verde. **Also in the Mediterranean, from Tunisia to Egypt**. Western Indian Ocean: Red Sea.

MEDITERRANEAN COUNTRY NAMES: Egypt, Israel, Italy, Lebanon, Libyan Arab Jamahiriya, Spain and Tunisia.

HABITAT AND ECOLOGY: A neritic, coastal species. Generally found on sand and rock-sand bottoms (depth range 10 – 300 m). Partially covered with sand or mud.

BIOLOGY: A stingray of 250 cm TL (male/unsexed) and max. published weight of 84.0. Feeds on bottom-living fishes and crustaceans. Ovoviviparous. Resilience: Low, minimum population doubling time 4.5 - 14 years (Assuming fecundity<100)

HUMAN IMPACT: occasionally caught by bottom trawl fisheries, also with gill-nets. Tail has a venomous sting likely to produce septic wounds when handled.

CONSERVATION STATUS: On the IUCN Mediterranean status assessment as DD (2007).

BIBLIOGRAPHY:

Serena, F; Silvestri, R; Voliani, A. Incidental capture of Taeniura grabata (E. Geoffroy Saint - Hilaire, 1817) (Chondrichthyes, Dasyatidae). Biologia marina mediterranea [Biol. Mar. Mediterr.]. Vol. 6, no. 1, pp. 617-618. 1999.

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Compagno, L.J.V.. 1984.

http://www.unep-wcmc.org/species/index.htm

Gymnura altavela

picture (Gyalt_u0.jpg) by Flescher, D.

KINGDOM: ANIMALIA

PHYLUM: CHORDATA

CLASS: ELASMOBRANCHII

ORDER: RAJIFORMES

FAMILY: GYMNURIDAE

COMMON NAME/S:
Albanian - Aeroplanke (Albania);
Arabic - Bâsternâk (Lebanon);
inglés - Butterfly ray (United Kingdom); Giant butterfly ray (Cuba, United States of America); Spiny butterfly ray (United Kingdom, United States of America);
francés - Choucka bastarda (France); Masca (France); Mourine bâtarde (Mauritania); Pastenague ailée (France); Pastigue de Columna (France); Raie aigle (Mauritania); Raie-papillon épineuse (France); Raies papillon (Mauritania);
griego - Sálahi trygéna (Greece); Trigóna (Greece);
italiano - Altavela (Italy);
Maltese - Farfett (Malta);
polaco - Ptaszyca (Poland);
Serbian - Siba zutulja (Yugoslavia); Volina (Yugoslavia);
español - Manta (Spain); Mantellina (Spain); Mariposa (Spain); Milá (Spain); Pastinaca (Spain); Raya mariposa (Spain); Raya mariposa espinuda (Spain); Rayamariposa (Spain); Vaca (Spain); Vela (Spain); Vela italiana (Spain); Vela latina (Mauritania, Spain);
Turkish - Ignelivatoz (Turkey);

SPECIES AUTHORITY: (Gymnura altavela)

DISTRIBUTION: Western Atlantic: southern New England, USA to Brazil. Eastern Atlantic: Portugal to Ambriz, Angola (including the Mediterranean, Black Sea, and the Madeira and Canary islands).

MEDITERRANEAN COUNTRY NAMES: Albania, Algeria, Bosnia and Herzegovina, Croatia, Cyprus, Egypt, France, Greece, Israel, Italy, Lebanon, Libyan Arab Jamahiriya, Malta, Monaco, Morocco, Romania, Russian Federation, Serbia and Montenegro, Slovenia, Spain, Syrian Arab Republic, Tunisia, Turkey and Ukrania

HABITAT AND ECOLOGY: benthic, on the continental shelf from shoreline to 60m depth.

BIOLOGY: Maximum length measured is 140 cm. Occurs over sand and mud. Feeds on fishes, crustaceans, mollusks and plankton. Ovoviviparous, gestation lasting about 6

months with 4 to 7 embryos produced per female. Resilience: Very low, minimum population doubling time more than 14 years (Fec 4-7).

MORPHOLOGY: Tail short armed with spine. Disk very broad. Very low dorsal and ventral finfolds on tail. Disk dark brown to grayish, lower surface of disc and of pelvic fins white, brownish, rosy or rusty cast. Tail white or rosy white below.

HUMAN IMPACT: caught by bottom trawl fisheries and gamefish. Tail has a venomous sting likely to produce septic wounds when handled.

CONSERVATION STATUS: On the IUCN Mediterranean status assessment as CR (A2bcd) (2007).

BIBLIOGRAPHY:

Dulcic, J; Jardas, I; Onofri, V; Bolotin, J. The roughtail stingray Dasyatis centoura (Pisces: Dasyatidae) and spiny butterfly ray Gymnura altavela (Pisces: Gymnuridae) from the southern Adriatic. Journal of the Marine Biological Association of the United Kingdom [J. Mar. Biol. Assoc. U.K.]. Vol. 83, no. 4, pp. 871-872. 2003.

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UNEP(DEC)/MED/WG.211/inf.3. RAC/SPA Tunis. 24pp.

Compagno, L.J.V.. 1984.

Myliobatis aquila

picture (Myaqu_u1.jpg) by Wirtz, P.

KINGDOM: ANIMALIA

PHYLUM: CHORDATA

CLASS: ELASMOBRANCHII

ORDER: RAJIFORMES

FAMILY: MYLIOBATIDAE

COMMON NAME/S:
Albanian - Shqiponje deti (Albania);
Arabic - Gharabi (Oman); H'amâmeh (Lebanon); Lagh'm (Oman); Tess (Oman); Tiss (Oman);
Catalan - Milana (Spain);
inglés - Common bull ray (South Africa); Common eagle ray (United Kingdom); Eagle ray (Namibia, Portugal, Spain, United Kingdom); Eagleray (South Africa); Mill skate (United Kingdom); Sea eagle (United Kingdom); Spotted eagle ray (United States of America); Toadfish (United Kingdom); Whipray (United Kingdom);
francés - Aigle commun (France); Aigle de mer (France); Aigle de mer commun (France); Épervier (France); Ferrazo (France); Glorieuse (France); Hirondelle (French Guiana); Lancette (France); Mourine (France); Mourine-aigle (France); Mourine-noctule (France); Pesce rato (France); Raie-aigle (France); Ratopennado (France); Tare (France); Terre fauchée (France);
griego - Aetós (Greece); Helidócna (Greece);
italiano - Aquila di mare (Italy);
Maltese - Ajkla (Malta); Ghasfur (Malta); Hamiema (Malta); Hamiema komuni (Malta); Tajra (Malta);
polaco - Orlen a. skrzydlak pospolity (Poland);
Romanian - Vultur de mare (Romania);
Serbian - Golub (Yugoslavia);
español - Aguila de mar (Spain); Águila de mar (Spain); Aguila marina (Spain); Águila marina (Spain); Bon Jesús (Spain); Choucho (Spain); Chucho (Spain); Gallarón (Spain); Jutjo (Spain); Milá (Spain); Milana (Spain); Mongeta (Spain); Monja (Spain); Monjeta (Spain); Obispo (Spain); Peje águila (Spain); Ralapinuada (Spain); Ratón (Spain); Totino (Spain); Viuda (Spain);
Turkish - Folya (Turkey); Fulya (Turkey);

SPECIES AUTHORITY: (Linnaeus, 1758)

DISTRIBUTION: Eastern Atlantic: Madeira, Morocco and the Canary Islands north to the western coasts of Ireland and British Isles and the southwestern North Sea, south to Natal, South Africa. Also throughout the Mediterranean, but not in the Black Sea.

MEDITERRANEAN COUNTRY NAMES: Albania, Algeria, Bosnia and Herzegovina, Croatia, Cyprus, Egypt, France, Greece, Israel, Italy, Lebanon, Libyan Arab Jamahiriya,

Malta, Monaco, Morocco, Serbia and Montenegro, Slovenia, Spain, Syrian Arab Republic, Tunisia and Turkey.

HABITAT AND ECOLOGY: Benthopelagic. Found in shallow lagoons, bays and estuaries; also offshore down to at least 95 m (depth range 1 - 300 m). Often found in groups.

BIOLOGY: A ray of 183 cm WD (male/unsexed) and max. published weight of 14.5 kg. Feeds on benthic crustaceans, mollusks and fish. Ovoviviparous. Gestation period of 6-8 months, the females give birth to 3-7 young. Caught by shore and ski-boat anglers, usually released after capture. Flesh is highly esteemed. Resilience: Very low, minimum population doubling time more than 14 years (Fec=3).

MORPHOLOGY: A plain eagleray with a short, rounded snout; disc with broadly angular corners, and upper or lower jaw usually with 7 rows of plate-like teeth. Brown or blackish dorsally, white ventrally. No caudal fin.

HUMAN IMPACT: caught by pelagic and bottom trawl fisheries, also with gill-nets and gamefish. Tail has a venomous sting likely to produce septic wounds when handled. Displayed in some public aquariums.

CONSERVATION STATUS: On the IUCN Mediterranean status assessment as NT (2007).

BIBLIOGRAPHY:

Storelli, MM; Giacominelli-Stuffler, R; Marcotrigiano, GO. Total and methylmercury residues in cartilaginous fish from Mediterranean Sea. Marine Pollution Bulletin [Mar. Pollut. Bull.]. Vol. 44, no. 12, pp. 1354-1358. Dec 2002.

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Filiz, H; Bilge, G. Length-weight relationships of 24 fish species from the North Aegean Sea, Turkey. JOURNAL OF APPLIED ICHTHYOLOGY, 20 (5): 431-432 OCT 2004.

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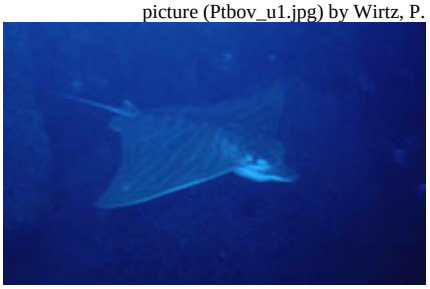
Seret, B; Serena, F. 2002. The Mediterranean Chondrichthyan fishes (sharks, rays, skates and chimaeras): Status and priorities for conservation. UNEP(DEC)/MED/WG.211/inf.3. RAC/SPA Tunis. 24pp.

Compagno, L.J.V.. 1984.

http://www.unep-wcmc.org/species/index.htm

Pteromylaeus bovinus

picture (Ptbov_u1.jpg) by Wirtz, P.



KINGDOM: ANIMALIA

PHYLUM: CHORDATA

CLASS: ELASMOBRANCHII

ORDER: RAJIFORMES

FAMILY: MYLIOBATIDAE

COMMON NAME/S:
inglés - Bull ray (United Kingdom); Bullray (South Africa); Duckbill (United States of America); Duckbill ray (South Africa); Eagle ray (Namibia);
francés - Aigle-vachette (France, Mauritania); Mourine (Mauritania); Mourine évêque (France); Mourine évêque bovine (France); Mourine-vachette (France); Raie-aigle (Mauritania);
Maltese - Ghasfur (Malta); Hamiema (Malta); Hamiema rasha twila (Malta); Tajra (Malta);
español - Arzobispo (Spain); Bon Jesús (Spain); Chucho (Spain); Chucho vaca (Spain); Milá (Spain); Obispo (Spain); Peje obispo (Spain); Pez obispo (Mauritania, Spain); Ratón (Spain);

SPECIES AUTHORITY: (Geoffroy St. Hilaire, 1817)

DISTRIBUTION: Eastern Atlantic: Portugal and Morocco to Angola, including the Mediterranean but not in the Black Sea, Madeira and the Canary Islands; then from Saldanha Bay to Natal (South Africa) and southern Mozambique.

MEDITERRANEAN COUNTRY NAMES: Albania, Algeria, Bosnia and Herzegovina, Croatia, Cyprus, Egypt, France, Greece, Israel, Italy, Lebanon, Libyan Arab Jamahiriya, Malta, Monaco, Morocco, Serbia and Montenegro, Slovenia, Spain, Syrian Arab Republic, Tunisia and Turkey.

HABITAT AND ECOLOGY: Benthopelagic. Found in coastal tropical and warm temperate waters, occasionally offshore (depth range 10 – 150 m). Sometimes found in small groups.

BIOLOGY:A ray of 250 cm TL (male/unsexed) and max. published weight of 83.0 kg. Feeds on bottom-living crustaceans and mollusks. Ovoviviparous. Prized angling fish, often released. Flesh highly esteemed. Resilience: Very low, minimum population doubling time more than 14 years (Fec=3).

MORPHOLOGY: Long, flat, rounded snout like a duck's bill; head thick and pectoral disc with sharply curved, angular corners; upper or lower jaw; usually with 7 rows of flat teeth. Light brown with several pale blue-grey stripes (may be absent) dorsally, white ventrally.

HUMAN IMPACT: caught by pelagic and bottom trawl fisheries, also with gill-nets. Tail has a venomous sting likely to produce septic wounds when handled.

CONSERVATION STATUS: Not in IUCN Red List (NL)

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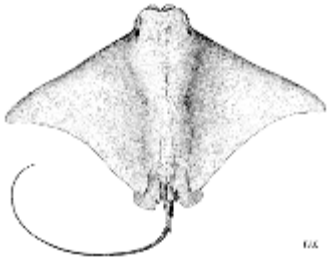
Rhinoptera marginata

picture (Rhmar_u0.gif) by FAO



KINGDOM: ANIMALIA

PHYLUM: CHORDATA

CLASS: ELASMOBRANCHII

ORDER: RAJIFORMES

FAMILY: MYLIOBATIDAE

COMMON NAME/S:
inglés - Lusitanian cownose ray (Portugal, United Kingdom); Lusitanian cow-nose ray (South Africa);
francés - Aigle de mer (Mauritania); Mourine à Tète échancrée (Mauritania); Mourine échancrée (France); Mourine lusitanienne (France); Raie chauve-souris (Mauritania); Raie-boeuf (Mauritania);
Maltese - Hamiema kbira (Malta);
español - Arzobispo (Spain); Gavilán lusitánico (Spain);

SPECIES AUTHORITY:(Geoffroy St. Hilaire, 1817)

DISTRIBUTION: in the whole Mediterranean, but not in the Black Sea, also off the Atlantic coast of southern Spain and off Morocco.

MEDITERRANEAN COUNTRY NAMES: Albania, Algeria, Bosnia and Herzegovina, Croatia, Cyprus, Egypt, France, Greece, Israel, Italy, Lebanon, Libyan Arab Jamahiriya, Malta, Monaco, Morocco, Serbia and Montenegro, Slovenia, Spain, Syrian Arab Republic, Tunisia and Turkey.

HABITAT AND ECOLOGY: Benthopelagic. Found in tropical to warm temperate coastal waters, but absent from islands of western Pacific. Often forming large groups swimming near the surface and quite destructive of commercial oyster and clam beds.

BIOLOGY: A ray of 200 cm WD (male/unsexed). Feeds on bottom-living mollusks, crustaceans and fishes. Seldom marketed. Ovoviviparous, gestation period up to one year with 2-6 embryos produced. Resilience: Very low, minimum population doubling time more than 14 years (Fec=2).

HUMAN IMPACT: caught by pelagic and bottom trawl fisheries, also with gill-nets. Tail has a venomous sting likely to produce septic wounds when handled.

CONSERVATION STATUS: On the IUCN Mediterranean status assessment as NT (2007).

BIBLIOGRAPHY:

Seret, B; Serena, F. 2002. The Mediterranean Chondrichthyan fishes (sharks, rays, skates and chimaeras): Status and priorities for conservation. UNEP(DEC)/MED/WG.211/inf.3. RAC/SPA Tunis. 24pp.

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http://www.unep-wcmc.org/species/index.htm

Mobula mobular

picture (Momob_u0.jpg) by Minguell, C.

KINGDOM: ANIMALIA

PHYLUM: CHORDATA

CLASS: ELASMOBRANCHII

ORDER: RAJIFORMES

FAMILY: MOBULIDAE

COMMON NAME/S:
Albanian - Lope deti (Albania);
Catalan - Manta (Spain);
inglés - Devil fish (United States of America); Devil ray (Portugal, United Kingdom); Devilfish (United Kingdom); Giant devil ray (South Africa); Giant devilray (United Kingdom); Manta (Cuba);
francés - Mante (France);
griego - Seláhi kephalóptero (Greece);
italiano - Diavolo di mare (Italy);
Maltese - Baqra (Malta); Manta (Malta); Raja tal-qrun (Malta);
polaco - Mobula (Poland);
Romanian - Diavol de mare (Romania);
español - Manta (Spain); Manta mobula (Cuba); Maroma (Spain);

SPECIES AUTHORITY: (Bonnaterre 1788)

DISTRIBUTION: Eastern Atlantic: off southwest Ireland, Mediterranean Sea (but not in the Black Sea) and Portugal south to Senegal, including the Canary and Azores islands. Possibly straying into the northwest Atlantic. Reported from India .

MEDITERRANEAN COUNTRY NAMES: Albania, Algeria, Bosnia and Herzegovina, Croatia, Cyprus, Egypt, France, Greece, Israel, Italy, Lebanon, Libyan Arab Jamahiriya, Malta, Monaco, Morocco, Serbia and Montenegro, Slovenia, Spain, Syrian Arab Republic, Tunisia and Turkey.

HABITAT AND ECOLOGY: Pelagic. An epipelagic species found over continental shelves and near oceanic islands.

BIOLOGY: Feeds on small pelagic fishes and crustaceans. Ovoviviparous

MORPHOLOGY: Larger than *M. hypostoma*, tail with spine and prickles.

THREATS:
Habitat Loss/Degradation (human induced) (ongoing)

Accidental mortality - Bycatch - Fisheries-related (ongoing)

HUMAN IMPACT: important because of its vulnerability to fisheries and declining habitat quality; rarely observed nowadays, Mediterranean population strongly declined.

CONSERVATION STATUS: On the IUCN Mediterranean status assessment as EN (A4d) (2007); on the IUCN Red List as 'Vulnerable (A1 c, d)' (2000) ; protected by the Barcelona Convention and specifically in Maltese waters.

REASONS: This huge plankton feeding ray is the largest of the genus *Mobula*. It has a very low reproductive capacity (giving birth to a single huge pup at unknown intervals) and a limited range in offshore deepwaters of the Mediterranean (and possibly adjoining North Atlantic waters). Its Mediterranean population is suspected to have declined as a result of bycatch mortality and declining habitat quality.

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Chimaera monstrosa

picture (Chmon_u6.jpg) by Svensen, E.

KINGDOM: ANIMALIA

PHYLUM: CHORDATA

CLASS: HOLOCEPHALI

ORDER: CHIMAERIFORMES

FAMILY: CHIMAERIDAE

COMMON NAME/S:
Albanian - Kokenjersorja (Albania);
Arabic - Arnab (Lebanon);
inglés - Chimaera (South Africa, United Kingdom); Ghost shark (United Kingdom); King of the herring (United Kingdom); Rabbit fish (United Kingdom); Rabbit fish(Rat-tail (Spain); Rabbitfish (United Kingdom, United States of America); Rabbit-fish (Portugal); Rat fish (Portugal, United Kingdom); Ratfish (United Kingdom, United States of America); Rattail (United Kingdom); Sea rat (United Kingdom);
francés - Cat (France); Chimère (France); Chimère commune (France); Lapin (France); Masca (France); Masco (France); Monstrueuse (France); Peis fera (France); Rat de mer (France); Roi des harengs (France); Singe de mer (France);
griego - Gátos (Greece); Himera (Greece);
italiano - Chimera (Italy);
Maltese - Far tal-bahar (Malta); Fenek tal-bahar (Malta); Gurdien tal-bahar (Malta);
polaco - Chimera a. przeraza (Poland);
ruso - Evropeiskaya khimera (Russian Federation);
Serbian - Himera (Yugoslavia);
español - Borrico (Spain); Escopeta (Spain); Gata moixa (Spain); Gato (Spain); Gato de mar (Spain); Guinea (Spain); Quimera (Spain); Quimera común (Spain);

SPECIES AUTHORITY: (Linnaeus, 1758)

DISTRIBUTION: Eastern Atlantic: northern Norway and Iceland, **Skagerrak and Kattegat south to Morocco including western Mediterranean (some isolated records from eastern part) but not in the Black Sea,** Azores and Madeira Islands. Records from South Africa are questionable. Reported from Oshima, Japan.

MEDITERRANEAN COUNTRY NAMES: Albania, Algeria, Cyprus, France, Greece, Italy, Lebanon, Malta, Monaco, Morocco, Spain and Tunisia.

HABITAT AND ECOLOGY: Bathydemersal to benthopelagic generally between 300 and 500 m depth. Found in the upper continental slope. Usually found in deeper waters in southern latitudes, while making a summer inshore migration up to 40-100 m in the northern areas. Sluggish, usually occurring in small groups.

BIOLOGY: A deep-water sluggish chimaera of about 150 cm TL (male/unsexed) and a max. published weight of 2,500 g. Feeds mainly on bottom-living invertebrates. The

single dorsal spine is sharp and pointed, and although only mildly venomous can inflict a painful wound. Oviparous. Males have a clasper on the forehead that is probably used to hold on to the female during copulation. Egg capsules are about 17 cm long; young look alike adults and hatch when 10 cm long. Common by-catch when trawling for shrimps in the North Sea or Skaggerak. Resilience: Low, minimum population doubling time 4.5 - 14 years (Assuming Fec <100;)

HUMAN IMPACT: caught by deep-trawling fisheries.

CONSERVATION STATUS: On the IUCN Mediterranean status assessment as NT (2007); to be considered because of the strong development of deep-sea fisheries.

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Compagno, L.J.V.. 1984.

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