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Field Guide To **SHARKS** Of The Southeast Asian Region



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# Field Guide To **SHARKS** Of The Southeast Asian Region



AHMAD ALI  
ANNIE LIM PEK KHIOK

**FIELD GUIDE TO SHARKS  
OF THE SOUTHEAST ASIAN REGION**

**AHMAD ALI  
ANNIE LIM PEK KHIOK**

**2012**

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## SUMMARY

This book provide a field guide of 69 species of sharks and most of them are found in abundance in the Southeast Asian Region. The most dominant sharks species caught differs from one country to another. Based on a one year study (2003-2004) on sharks production, utilization and management in the ASEAN region (SEAFDEC, 2006), the five dominant species recorded at major landing sites **in Cambodia** were grey carpet shark (*Chiloscyllium punctatum*), grey bambooshark (*Chiloscyllium griseum*), blacktip reef shark (*Carcharhinus melanopterus*), bull shark (*Carcharhinus leucas*) and coral catshark (*Atelomycterus marmoratus*); **in Indonesia** were silky shark (*Carcharhinus falciformis*), grey reef shark (*Carcharhinus amblyrhynchos*), blue shark (*Prionace glauca*), pelagic thresher (*Alopias pelagicus*) and oceanic whitetip shark (*Carcharhinus longimanus*); **in Malaysia** were Pacific spadenose shark (*Scoliodon macrorhynchos* note: identified as *Scoliodon laticaudus*), grey carpet shark (*Chiloscyllium punctatum*), spot-tail shark (*Carcharhinus sorrah*), Indonesian bambooshark (*Chiloscyllium hasselti*) and blackspot shark (*Carcharhinus sealei*); **in Thailand** were grey carpet shark (*Chiloscyllium punctatum*), whitespotted bambooshark (*Chiloscyllium plagiosum*), grey bambooshark (*Chiloscyllium griseum*), Spot-tail shark (*Carcharhinus sorrah*) and scalloped hammerhead (*Sphyrna lewini*); **in the Philippines** were whitetip reef shark (*Triaenodon obesus*), piked spurdog (*Squalus megalops*), grey carpet

shark (*Chiloscyllium punctatum*), common blacktip shark (*Carcharhinus limbatus*) and lemon shark (*Negaprion acutidens*), and **in Vietnam** were spot-tail shark (*Carcharhinus sorrah*), grey bambooshark (*Chiloscyllium griseum*), whitespotted bambooshark (*Chiloscyllium plagiosum*), coral catshark (*Atelomycterus marmoratus*) and zebra shark (*Stegostoma fasciatum*).

Most species especially those inhabiting the estuarine and freshwaters are no longer appear due to heavy fishing pressure and habitat degradation from coastal and riverside development activities. The fresh water sharks such as the Borneo river shark (*Glyphis fowlerae*) and spartooth shark (*Glyphis glyphis*) are now very rarely seen and listed as endangered species by IUCN. However, at the same time many new species are continually being discovered from coastal and deep waters.

**AHMAD ALI**  
**ANNIE LIM PEK KHIOK**

The Southeast Asian Region of SEAFDEC member countries, which includes Brunei Darussalam, Cambodia, Indonesia, Malaysia, Myanmar, Thailand, Philippine and Vietnam has a rich fauna of sharks. At least 174 species of sharks from 8 orders and 29 families were found inhabiting those countries from freshwater to deep ocean.

Indonesia recorded the highest number with 111 species and 26 families followed by Philippine (94 species and 26 families); Thailand (64 species and 21 families); Malaysia (63 species and 18 families); Brunei Darussalam (34 species and 13 families); Myanmar (34 species and 10 families); Vietnam (29 species and 13 families) and Cambodia with 11 species and 6 families. A checklist of species known from those countries is provided in Appendix I.

Most images shown in this guide are from SEAFDEC and member countries funding projects. Those include a six-year comprehensive study of elasmobranch from freshwater, estuarine, coastal areas, and the EEZ of Malaysia and Brunei Darussalam (1999-2004), the study on shark production, utilization and management in the ASEAN region (2003-2004) and collaborative fisheries resource survey between SEAFDEC and member countries in Thailand, Brunei Darussalam and Malaysian waters using MV SEAFDEC and MV SEAFDEC II. Some images were also taken from various national surveys in Malaysia,



Indonesia and Thailand.

This guide book developed by SEAFDEC/MFRDMD is to help fisheries biologists, scientists, fishers, anglers and public to identify 69 species of sharks and most of which could be observed in fish markets, landing sites as well as during fisheries resource survey in the Southeast Asian Region. I would like to express many thanks to Mr. Ahmad Ali and Ms. Annie Lim Pek Khiok for working so hard to prepare this guide of which I am sure it will be a bench mark of regional guide to sharks.

Last but not least I would like to thanks SEAFDEC for funding this project through Japanese Trust Fund V and express special thanks to Dr. Masaya Katoh, Deputy Chief of SEAFDEC/MFRDMD for his effort and commitments in supporting this project.

**MAHYAM BINTI MOHD ISA**  
**Chief**  
**SEAFDEC/MFRDMD**

### **Sharks in the Southeast Asian Region**

The sharks landing comprise only a small percentage of the total marine fishes in the Southeast Asian Region. However they provide significant incomes for traditional fishers. They have been a cheap source of protein for poor people in remote areas as well as coastal communities.

Indonesia, Malaysia and Thailand are three major countries in this region recorded high catch of sharks. For centuries, fishers in these countries have conducted fishing for this resource sustainably and some still do. However, in the recent decades, the advent of modern fishing vessel and its technology which could access distant fishing ground have caused an increased in effort and yield of catches, as well as an expansion of the fishing areas. As a result of overexploitation, several species and some stocks are said to be endangered in several areas.

Sharks and rays become one of the major international fisheries issues since the late 90's when several sharks species was proposed to be listed in CITES Appendixes. Many NGOs that are very concerned with the environment as well as animals are actively campaigning for more effective measures to be taken to conserve, manage and protect them from being exploited by unfriendly fishing gears.

In term of taxonomy, Class Chondrichthyes include sharks, rays, skates, chimaeras and elephant fish. These fishes differ from the Osteichthyes or bony fishes as they possess a cartilaginous skeleton instead of a bony skeleton. It comprises of two subclasses namely Subclass Holocephalii (chimaeras, and elephant fish) and subclass Elasmobranchii. The great majority of the commercial importance of Chondrichthyans are Elasmobranchs. Subclass Elasmobranchii are divided into two smaller groups namely Selachii and Batoidea. Selachii refers to all sharks and classified into 8 orders, 35 families and presently more than 500 species have been recorded. All 8 orders and 29 families with at least 174 species are found inhabiting in the waters of the Southeast Asian Region.

Studies on fish taxonomy in this region have been conducted since early 19th century. In Indonesia, it started in Waigeo Island by European explorer from 1818 to 1826 and blacktip reef shark *Carcharhinus melanopterus* was originally describe from this Island (Fahmi, 2010). In Malaysia, Cantor (1849) published a catalogue on Malayan fishes which describe 292 species of fishes including 28 species of sharks and rays. Scot (1959), described 249 marine fishes comprising 25 species of sharks and rays. In Thailand, research on elasmobranch started since 1934. Smith (1945), reported six elasmobranch species in freshwater including two species of sawfishes. Monkolprasit (1984), describe 65 species of elasmobranchs which inhabited Thailand waters. Those species are from four orders and 12

families.

The first study focusing on sharks and rays in Indonesia was carried out from 2001 to 2006. This collaboration work between Australia and Indonesia manage to record 137 chondrichthyans species consisting 78 sharks, 56 rays and three chimaeras (White *et al.*, 2006). In the latest study and review conducted in Indonesia by Fahmi (2010) a total of 213 species from 41 families comprising of 112 sharks and 98 rays were recorded. Study conducted by Yano *et al.* (2005) in Malaysia and Brunei Darussalam from 1999-2004 recorded 110 species belonging to 17 families of sharks (56 species) and 12 families of rays (52 species), and in Brunei Darussalam, 34 species of sharks were also recorded. In Thailand, (Widhayanon, 2002) reported that 145 species comprises of 74 sharks, 70 batoids inhabitants Thailand waters.

In another study and reviewed conducted in the Southeast Asian region, at least 243 species of chondrichthyans comprising of 136 species of sharks and four species of Chimaera (Compagno, 2002) and 103 species rays (Last and Compagno, 2002) inhabited the South China Sea and adjacent areas. Compagno *et al.* (2005) produced a list of cartilaginous in the Philippines and status of species occurrence in Philippine waters. The check list included three species of chimaeras, 94 species of sharks and 66 species of rays. Last *et al.* (2010b)

reported that 139 species of sharks and rays inhabited the Philippines waters.

During a one-year project sponsor by the Southeast Asian Fisheries Center (SEAFDEC) from 2003-2004, 46 species of sharks and rays recorded in Vietnam (Long, 2006); 45 species in Cambodia, (Sereywath, 2006) and 32 species of sharks in Myanmar (Moe and Thein, 2006). The biodiversity of elasmobranch in Myanmar, Cambodia and Vietnam is poorly known due to the limited taxonomic study. The studies in those countries are hampered by lack of funding as well as shortage of taxonomists and reference collections.

The most comprehensive study on the biodiversity of elasmobranchs in Malaysia and Brunei Darussalam was conducted by Yano *et al.* (2005). A six-year study conducted from 1999-2004 recorded 110 species comprising of 56 species of sharks, 52 species of rays and one family of chimaera (2 species). Two new species of swell sharks *Cephaloscyllium sarawakensis* and *Cephaloscyllium cirulopullum* were recognized and 27 species which include 15 species of sharks, 11 batoids and one chimaera were found to be new country records for Malaysia and Brunei Darussalam. Recent study conducted by Last *et al.* (2010) in Borneo, seven new species comprising two species of sharks, three species of rays and two species of skates were described which include fresh water shark *Glyphis fowlerae*. In the same study 118 species were recorded including 52 sharks, 65 rays and one chimaera.

Even though the number of sharks species recorded in this region is more than 170 species (**Appendix 1**) the actual status of its biodiversity is still unknown. With new species continuously discovered, the number is expected to increase in the future. The deep water species are mostly unknown due to limited research activity. The summary of sharks orders and families recorded in the Southeast Asian Region is shown in **Table 1**.

**Table 1.** Checklist of orders and families of sharks from Brunei Darussalam (B), Cambodia (C), Indonesia (I), Malaysia (MY), Myanmar (MN), Thailand (T), Philippine (P) and Vietnam (V).

No.	ORDER	Family	B	C	I	MY	MN	T	P	V
1.	Hexanchiformes	Hexanchidae			3	2		1	3	1
2.	Squaliformes	Echinorhinidae					1	1	1	
		Squalidae	1		6	2	1	2	4	1
		Centrophoridae	1		8	1		1	6	
		Etmopteridae			4			1	3	
		Mitsukurinidae			1					
		Somnosidae			3					
		Dalatidae			2				3	1
3.	Pristiophoriformes	Pristiophoridae							1	
4.	Squatiformes	Squatinae	1		2	1		1	1	
5.	Heterodontiformes	Heterodontidae	1		1	1		1	1	1
6.	Orectolobiformes	Parascylliidae							1	
		Orectolobidae			2	1		1	3	
		Hemiscylliidae	3	2	12	5	3	5	4	5
		Ginglymostomatidae			1	1		1	1	
		Stegostomatidae	1	1	1	1	1	1	1	1
		Rhincodontidae	1	1	1	1	1	1	1	1
7.	Lamniformes	Odontaspidae			2					
		Pseudocarchariidae			1				1	
		Megachasmidae			1			1	1	

No.	ORDER	Family	B	C	I	MY	MN	T	P	V
		Alopiidae			2	1		3	3	1
		Lamnidae	1		2	1		1	3	
8.	Carcharhiniformes	Scyliorhinidae	1	1	10	9	1	2	11	2
		Proscylliidae			1	1	1	1	2	
		Triakidae	2		4	4		3	7	1
		Hemigaleidae	4		4	4	3	4	2	3
		Pseudotriakidae			1				1	
		Carcharhinidae	15	5	32	24	19	28	24	8
		Sphyrnidae	2	1	4	3	3	4	5	3
	Total Species	174	34	11	111	63	34	64	94	29
	Total Family	29	13	6	26	18	10	21	26	13

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Group, Southeast Asian Region), Senior Scientist, Research Center for Oceanography, Indonesian Institute of Sciences, Jakarta and Mr. Dharmadi (Member IUCN Shark Specialist Group, Southeast Asian Region) Senior Researcher, Research Center for Fisheries Management and Conservation, Jakarta, Indonesia for providing latest checklist of sharks in Indonesia; Mr. Tassaporn Krajangdara, Senior Fisheries Biologist, Andaman Sea Fisheries Research and Development Center, Phuket Thailand for providing picture of finback catsharks, *Proscyllium magnificum* and Dr. Keiichi Sato from Okinawa Churaumi Aquarium, Japan for providing Japanese names of some sharks species.

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## GLOSSARY

abdomen (*adj.* abdominal)→the part of the body that contains the digestive and reproductive organs; the lower part of the body in front of the cloaca.

acute →sharp or pointed.

anal fin →the unpaired fin placed ventrally behind the cloaca.

angular →forming a distinct angle.

anterior (*adv.* anteriorly) → relating to the front of or head end of an object.

apex (*adj.* apical) → the tip, pointed end or extremity.

barbel → a slender, tentacle-like sensory structure on the head.

basal → at or towards the base.

buccal → pertaining to the mouth cavity.

cartilage → a skeletal material consisting of a matrix of soft, white or translucent chondrin.

caudal → pertaining to the tail region.

caudal fin →the tail fin.

caudal peduncle →the posterior part of the body supporting the caudal fin; measured from the insertion of the anal fin to the lower lobe of the caudal fin.

caudal keel → a longitudinal fleshy ridge along the side of the caudal peduncle.

circumnarial fold → skin fold around the nostril.

circumnarial grooves → grooves around the nostrils.

claspers → modified portions of the pelvic fins in male sharks, rays and chimaeras used for transferring sperm to the female; during mating (also called vent).

cloaca → a common opening for digestive, urinary and reproductive tracts in many fishes.

concave → hollowed out, curved inwards (opposite of 'convex').

convex → arched, curved outwards (opposite of 'concave').

crescentic →shaped like the new moon.

cuspl → a projection on tooth.

cusplet →small cusp.

denticle →a small, tooth-like structure; placoid scale of cartilaginous fish.

dermal →pertaining to the skin.

dorsal fin → an unpaired fin on the back.

elongate → drawn out or extended in length relative to some other criterion (usually depth).

eyelid →moveable, muscular fold of skin capable of covering all or part of the exposed portion of the eyeball.

falcate → curved like a sickle.

free rear tip → posterior tip of a fin closest to the fin insertion.

fringe → edge adorned with fine tassels (e.g. posterior margin of internasal flap of some rays).

fusiform → spindle-shaped, tapering at both ends.

gill slit → a long, narrow gill opening.

head → specialised anterior part of (an animal on which the mouth and major sensory organs are located; part other than the body (snout to the posterior gill opening in fish).

hyomandibular pores → line of enlarged pores extending posteriorly from the mouth corners.

internarial space → distance between the nostrils; area between the nostrils.

interorbital space →the area on top of the head between the eyes.

insetion (of fin) → posterior point of attachment of a fin to its base.

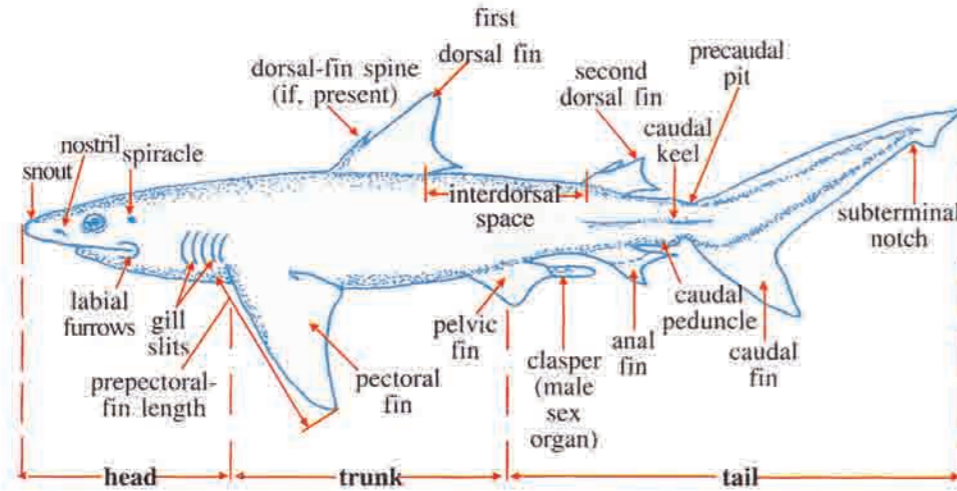
interdorsal ridge →ridge of skin between first and second dorsal fins.

internasal flap → a cartilaginous flap extending between the nostrils and partly covering the mouth of some rays and sharks.  
jaws → part of the mouth supporting the teeth.  
labial furrows → shallow grooves around the lips.  
lanceolate → broad at base and tapering to a point; spear-shaped or lance-shaped.  
lateral → referring to the sides.  
lobate → divided into lobes.  
lunate → shaped like a crescent moon.  
multicuspid → a tooth or denticles with multiple tooth cusps.  
nasal capsule → cartilaginous envelope containing the nasal organs.  
nasoral grooves → see oronasal grooves.  
nostril (*adj.* nasal, narial) → external opening of the nasal organs.  
ornasal groove → furrow in some sharks and rays connecting the mouth to the nasal organs; usually concealed beneath internasal flap.  
pectoral fin → paired fins just behind or below the gill opening.  
pelvic fins → paired fins (rarely joined) positioned on the ventral surface between the head and vent; also referred to as ventral fins.  
posterior (*adv.* posteriorly) → relating to the hind or rear end of an object.  
pre → prefix meaning in front of.  
precaudal pit → in sharks, a transverse or longitudinal notch on the caudal peduncle just anterior to origin of caudal fin in some sharks.  
rostrum (*adj.* rostral) → a projecting snout; protracted anterior part of the skull in sharks and rays.

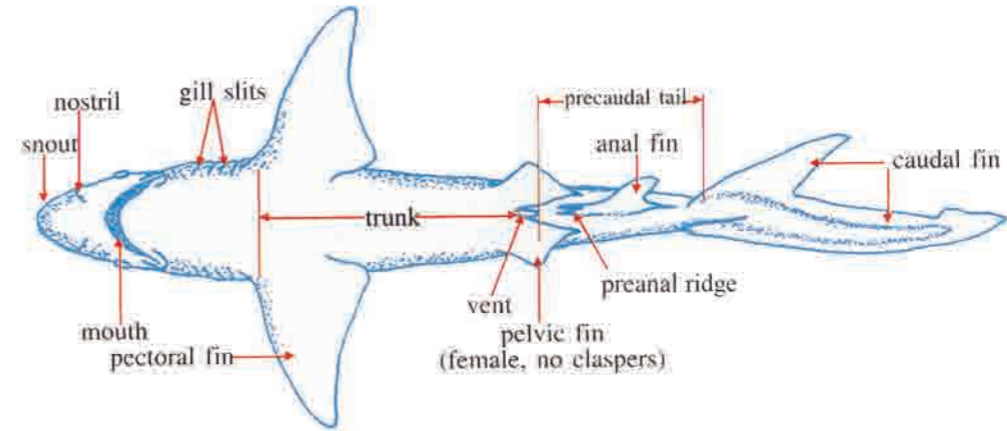
serrate → saw-like.  
snout → the part of the head in front of the eyes; distance from the eye to the anterior tip of the head above the upper jaw.  
species → actually or potentially inter-breeding populations that are reproductively isolated from other populations; the basic rank of biological nomenclature.  
spine (*adj.* spinous) → a sharp projecting point; a stiff unsegmented, undivided and unbranched element supporting a fin.  
spiracle → a respiratory opening behind the eye in sharks and rays.  
subterminal → positioned near but not at the end of something.  
subterminal notch → a notch in the caudal fin created by the subterminal lobe.  
tail → the part of the fish between the vent and the tip of the caudal fin.  
terminal → situated at or forming the end of something.  
tip → the extremity of part of a fish.  
trunk → that part of a fish (other than the fins) between the head and the tail; the region between the last gill opening and vent.  
tubercles (*adj.* tuberculate) → either soft or hardened projections on the surface of the skin.  
vent → the terminal external opening of the alimentary canal.

Note : Technical words mostly adapted from Last, P.R., and Stevens, J.D. (1994). *Sharks and Rays of Australia*. Commonwealth Scientific and Industrial Research Organisation, Australia. 513 pp

TECHNICAL TERMS AND MEASUREMENTS

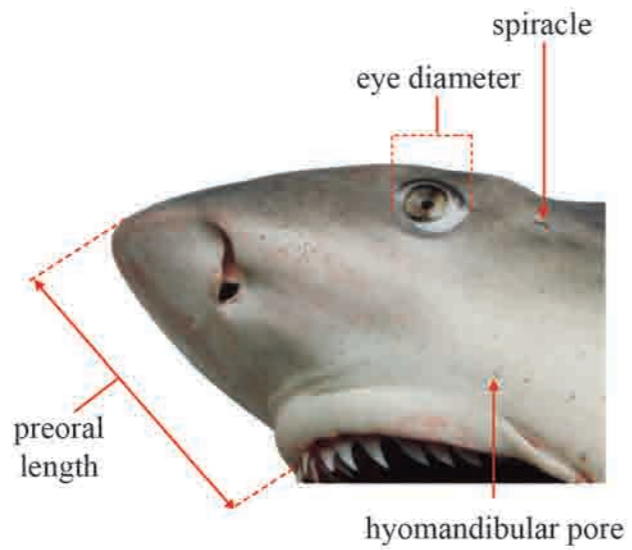


Structural features and dimensions

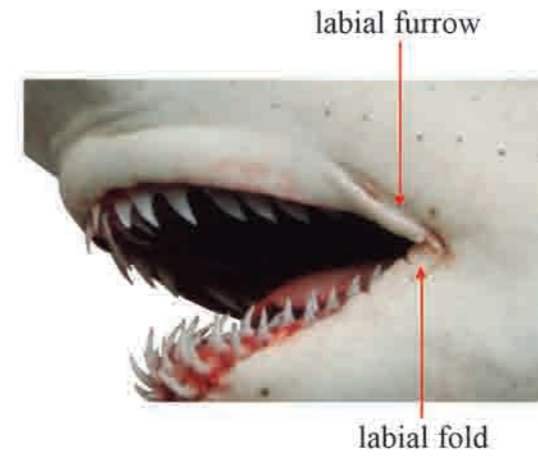


Ventral surface

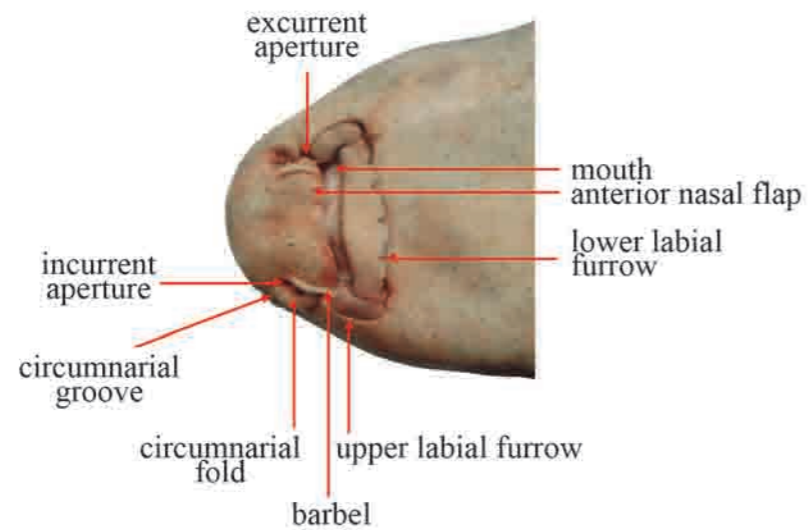




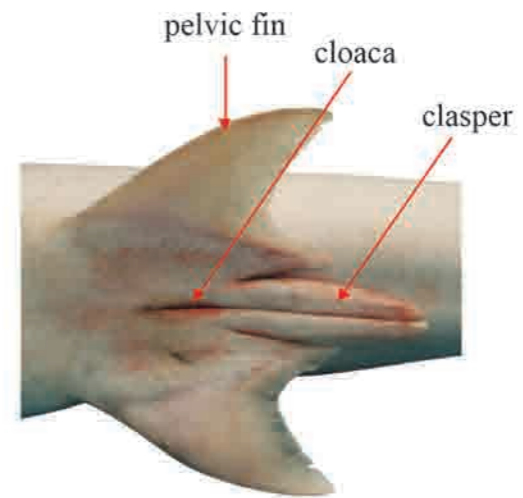
**Hyomandibular pore, spiracle and eye**



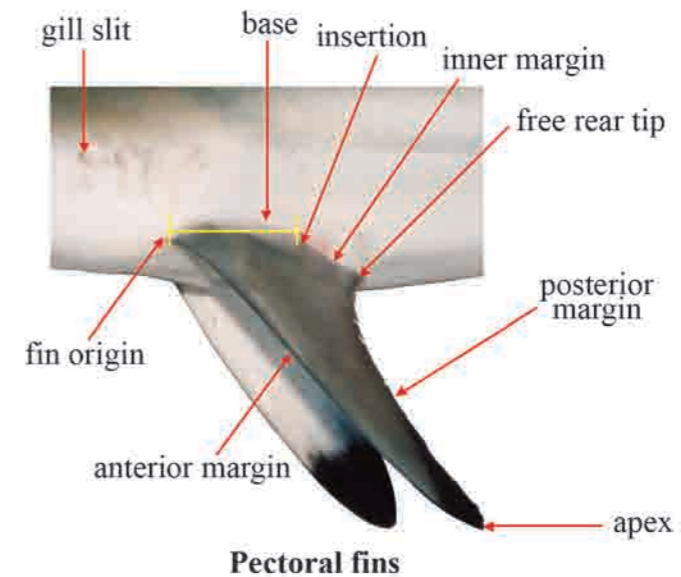
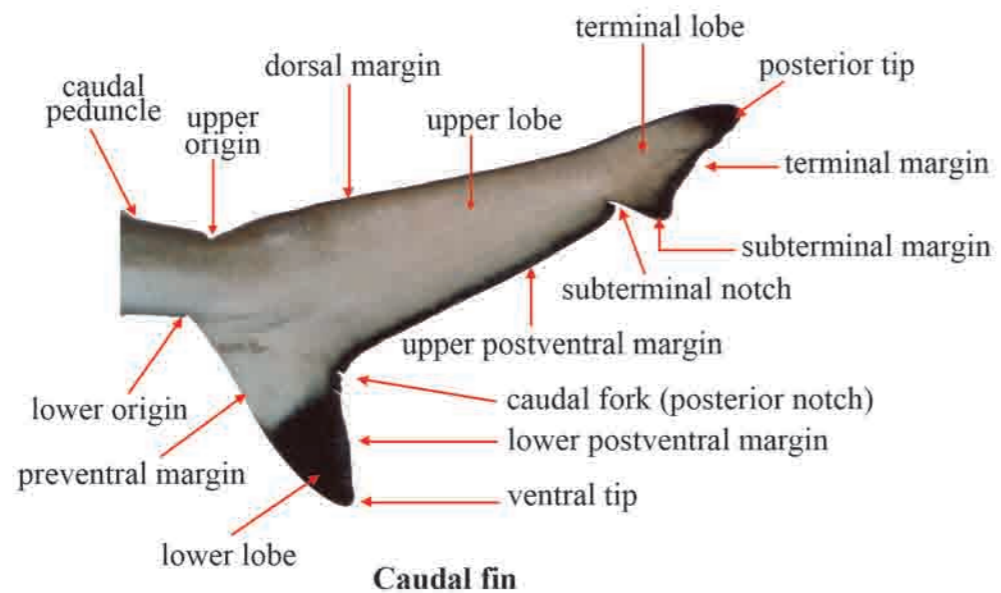
**Labial furrow and labial fold**

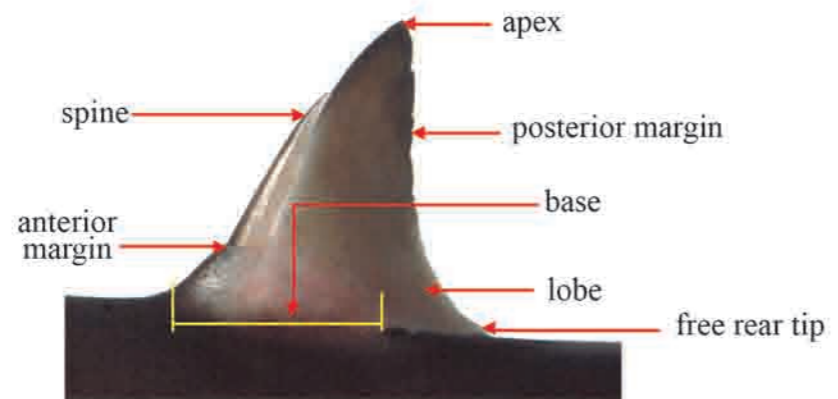


**Head of an orectoloboid shark (ventral view)**

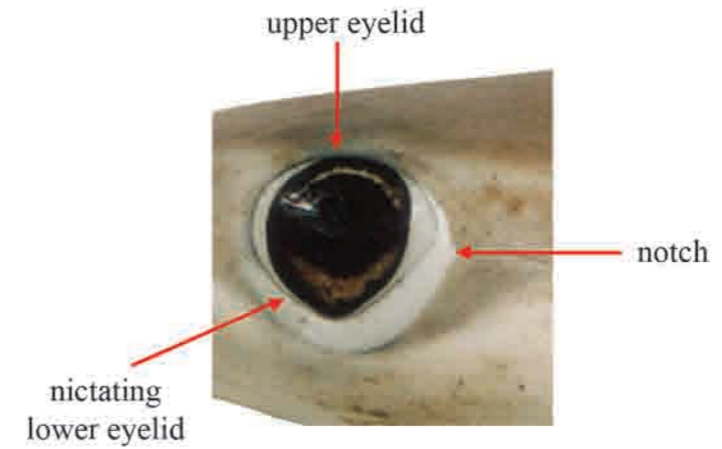


**Pelvic fins and claspers**





**Dorsal fin**



**Eye**

## HOW TO USE THIS GUIDE?

Although a number of taxonomic guides and charts have been produced earlier, this publication would further enhance its use as a quick field reference for identification of sharks species especially for the staff who are directly involved in fishery statistics. The publication of this pocket-sized guide on sharks is to fulfill one of the several recommendations in the National Plan of Action for the Conservation and Management of Sharks (NPOA-Shark) in the Southeast Asian Region.

### Images

At least one colour photograph for each species are featured. Simple term are used. Each character is ordered numerically and the corresponding number is positioned on the image to illustrate the feature or at least its location.

### Glossary

A glossary and annotated diagrams of generalised sharks is included to assist in understanding the terminology are provided in the first part of this book.

### Classification

The classification used in this book follows FAO classification adopted by Compagno (1999) and Compagno et al. (2005a).

### English names

The English names followed those adopted in the FAO (Compagno, 1999) and Compagno et al. (2005a). Newly recognised species follow those in Yano et al. (2005); Compagno et al. (2005b); Last et al. (2010a); Last et al. (2010b) and White et al. (2006).

### Local common names

Common names for Malay based on Ahmad et al. (2008) and Yano et al. (2005); Cambodian names (Sereywath, 2006); Thai names (Vidthayanon, 2002); Myanmar names (Moe and Thein, 2006); Indonesian names (White et al. 2006), Vietnam names (Long, 2006); Japanese names (Yano et al. 2005 and Dr. Keiichi Kato from Okinawa Churaumi Aquarium, Japan (per. comm).

### Size

Maximum size, sizes at birth, hatching and sexual maturity, is given for each species when known. All measurements refer to total length (TL).

### Habitat and Distribution

Habitats (demersal, pelagic, oceanic, etc.) and depth distributions of species and global and/or regional distributional ranges for species are provided.

### **Biology**

Reproductive biology (oviparous, viviparous or ovoviviparous) and number of pups/litter are provided when available.

### **Commercial importance**

Type of gears used and what parts of the animals are used for human consumption are provided.

### **Conservation status**

Information are based on the IUCN Red List Threatened Species Assessment (2010).

### **Other local synonyms**

Any other scientific names used for a particular species are included. The literature sources of any temporary names are also provided.

### **Checklist of Sharks in Southeast Asian Region (Appendix 1)**

Checklist of sharks and references used for species are available in Appendix I.

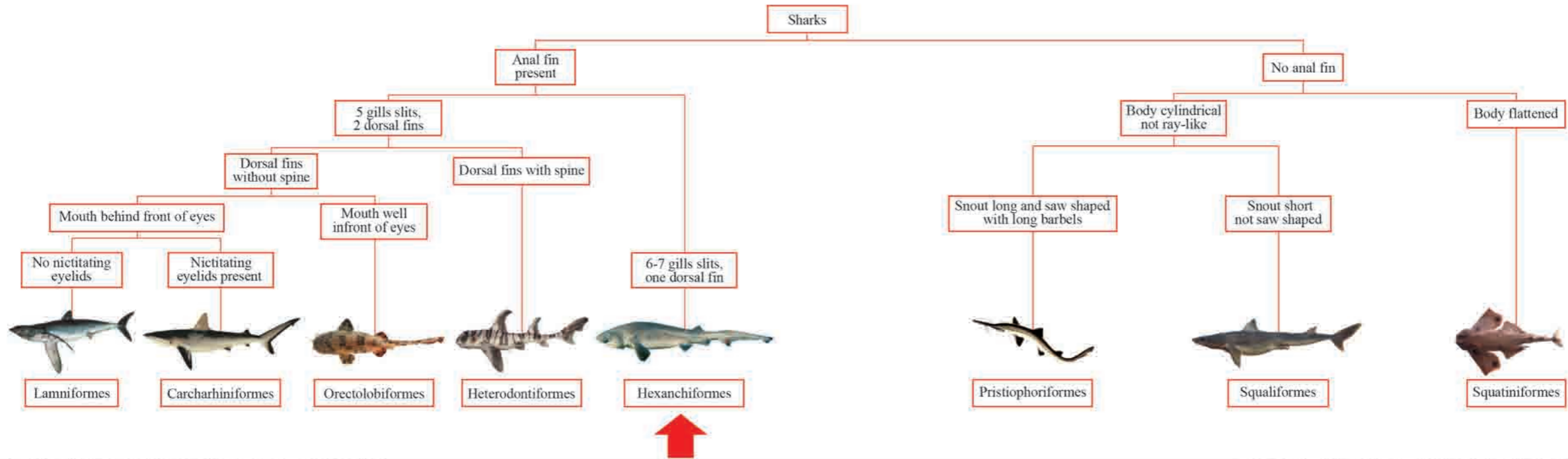
### **References:**

All references used to prepare this guide are provided in the last part of this book.

### **Indexes**

Indexes of scientific names, English names, Cambodian names, Malay names, Myanmar names, Thai names, Indonesian names, Vietnamese names and Japanese names are provided alphabetically.

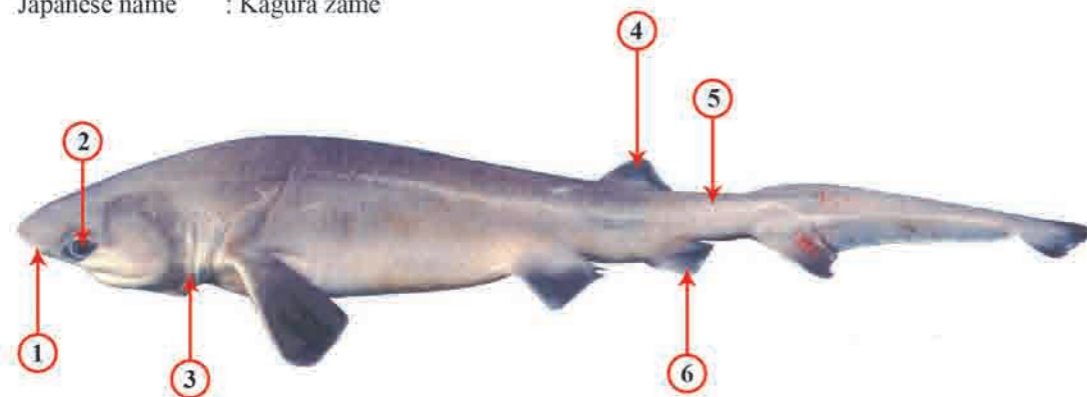
KEY TO ORDERS



*Hexanchus griseus* (Bonnaterre, 1788)

HEXANCHIDAE

English names	: Bluntnose sixgill shark, Sixgill shark
Malay name	: Yu insang enam
Thai name	: Chalarn Ngueng-hok-chong
Indonesian names	: Cucut meong, Hiu tahu putih
Japanese name	: Kagura zame



**Key Features :**

1. Head broad, snout broadly rounded.
2. Small eye, the eyes are fluorescent green in life.
3. Six pairs of gill slits.
4. Single dorsal fin and relatively small, its origin over or behind pelvic fin insertion.
5. Caudal peduncle short (distance from dorsal fin insertion to upper caudal-fin origin about equal to, or slightly longer than dorsal fin base).
6. Anal fin somewhat smaller than dorsal fin.

**Size:** Attains probably 550 cm TL. Born at 65-70 cm TL. Males mature at 309-315 cm and females at 350-420 cm TL.

**Habitat and Distribution:** Shelves and slope of continents, islands, sea mounts and mid-ocean ridges, usually near surface down to 1875 m. Tropical and temperate areas of the Atlantic (including the Mediterranean), India, Malaysia, Indonesia, Thailand, Philippine and Pacific Oceans.

**Biology:** Viviparous. 22-108 pups/litter. Eats wide variety fishes, cephalopods, crustaceans, and seals.

**Commercial Importance:** Caught by deepwater longlines. Utilised in some areas for its meat, fins and liver oil.

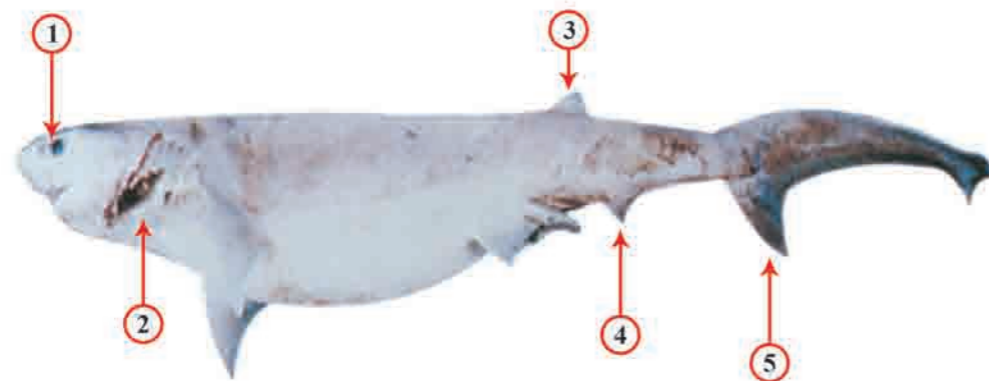
**Conservation status:** IUCN Red List 2010: Near threatened.



*Hexanchus nakamurai* Teng, 1962

HEXANCHIDAE

English name : Bigeye sixgill shark  
Malay name : Yu insang enam mata besar  
Thai name : Chalarn Ngueng-hok-chong  
Indonesian names : Hiu areuy, Hiu minyak, Meong, Kejen pasir  
Japanese name : Shiro-kagura  
(Photo credit : Research Center for Capture Fisheries, Indonesia)



**Key features:**

1. Eye large, green when fresh.
2. Six gill slits on each side.
3. Dorsal fin white tipped.
4. Anal fin small.
5. Lower lobe caudal fin large.

**Size:** Attains at least 180 cm TL. Born at 43 cm TL. Males mature at 123 cm and female at 142 cm TL.

**Habitat and Distribution:** Mainly demersal on continental slopes at depths of 90-600 m. Scattered in tropical and warm temperate waters of the Indo-West Pacific and Atlantic Ocean. Recorded in Indonesia and Philippine.

**Biology:** Viviparous. About 13 pups/litter. Feeds on bony fishes and crustacean.

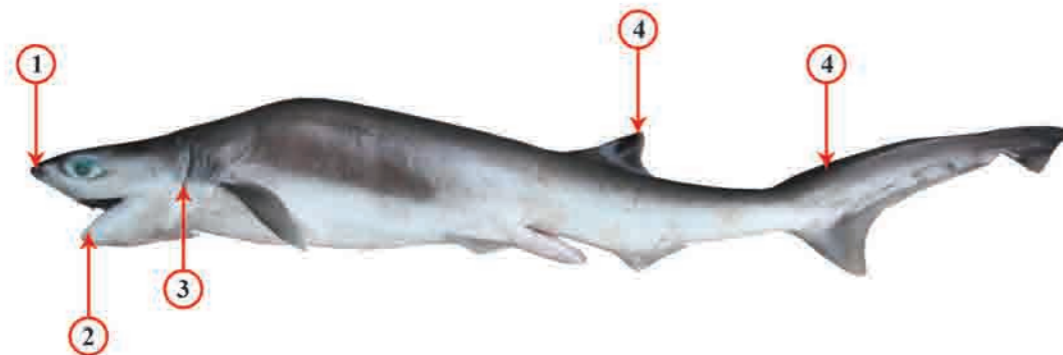
**Commercial Importance:** Rarely caught by shark longlines. Utilised for its fins, meat and liver oil.

**Conservation status:** IUCN Red List: Data deficient.

*Heptranchias perlo* (Bonnaterre, 1788)

HEXANCHIDAE

English names	: Sharpnose sevengill shark, One fin shark, Slender sevengill shark
Malay name	: Yu insang tujuh
Thai name	: Chalarn Ngueg-hok-chong
Indonesian names	: Hiu areuy, Hiu kuching, Cucut kapukan
Japanese name	: Edo-aburazame



**Key Features:**

1. Head quite narrow, snout sharply pointed (viewed from underneath).
2. Narrow mouth, five rows of comb-shaped teeth in lower jaw.
3. Seven pairs of gill slits.
4. Black blotch on tip of dorsal and upper caudal lobe prominent in young, faded or absent in adults.

**Size:** Attains at least 139 cm TL. Born at 26 cm TL. Males mature at 85 cm and females at 90-105 cm TL.

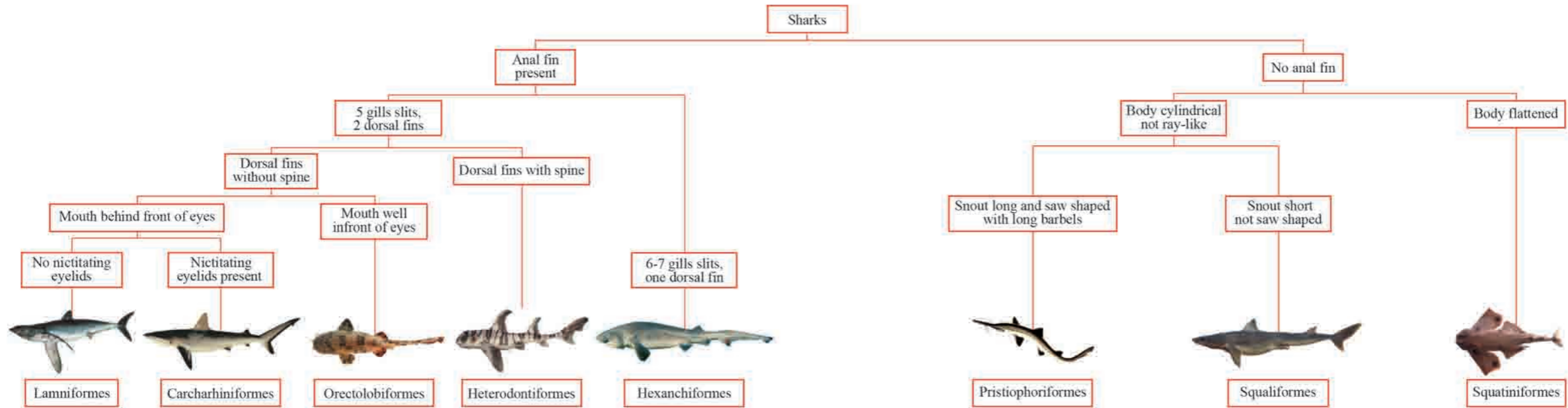
**Habitat and Distribution:** Demersal on continental, insular shelves and upper slope in depths of 27-1000 m, occasionally shallower water close inshore but most commonly in 300-600 m. Wide-ranging in tropical and temperate seas, except northeast Pacific. Recorded in Indonesia, Malaysia, Philippine and Vietnam.

**Biology:** Ovoviviparous. 6-20 pups/litter. Diet consists of bony fishes, cephalopods and crustaceans.

**Commercial Importance:** Caught by deepwater longlines and bottom trawls. Utilised in some areas for its meat, fins and liver oil.

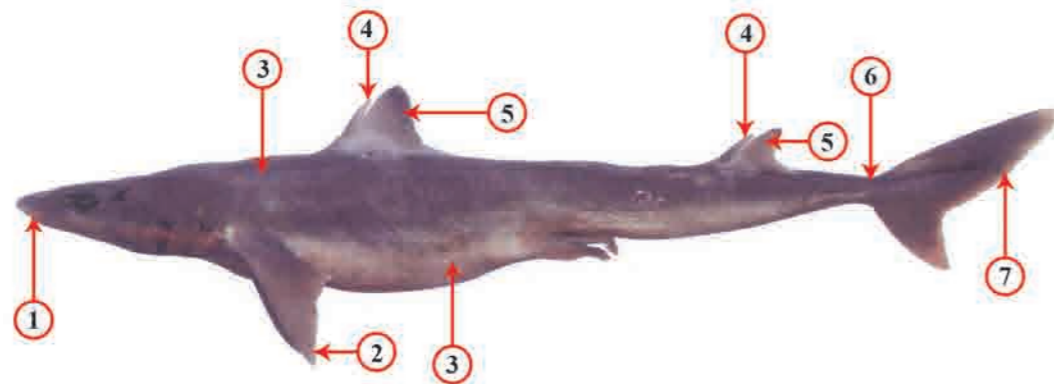
**Conservation status:** IUCN Red List 2010: Near threatened.

KEY TO ORDERS



*Squalus megalops* (Macleay, 1881)

English names : Piked spurdog, Shortnose spurdog, Skittle dog  
Malay names : Yu duri pasir, Yu jerch  
Thai name : Chalarm Maew  
Japanese name : Tsumari-tsuno zame  
Vietnamese name : Cá Nhám góc



SQUALIDAE

**Key Features:**

1. Short snout, bluntly pointed to rounded. Distance from snout to inner nostril less than distance from nostril to upper labial furrow.
2. Pectoral fin posterior margin moderately concave.
3. Dorsal surfaces and fins light greyish brown to brownish, pale ventrally.
4. First dorsal fin spine feeble, lower than associated fin, shorter than second dorsal fin spine.
5. Anterior margin on tip of dorsal fins dark, particularly in juveniles.
6. Precaudal pits present.
7. Caudal fin posterior margin with a white edge.

**Size:** Maximum 71 cm TL. Born about 20-25 cm TL. Males mature at 34-41 cm and females 53 cm TL.

**Habitat and Distribution:** Continental shelves and upper slopes on or near the bottom at depth of 50-732 m. Specimens in Malaysia caught at depth of 155-273 m. Recorded in Eastern Atlantic, Western Indian Ocean, Western Pacific and Australia. Recorded in Vietnam, Malaysia, Indonesia, Thailand. Most probably occurs in the Philippines.

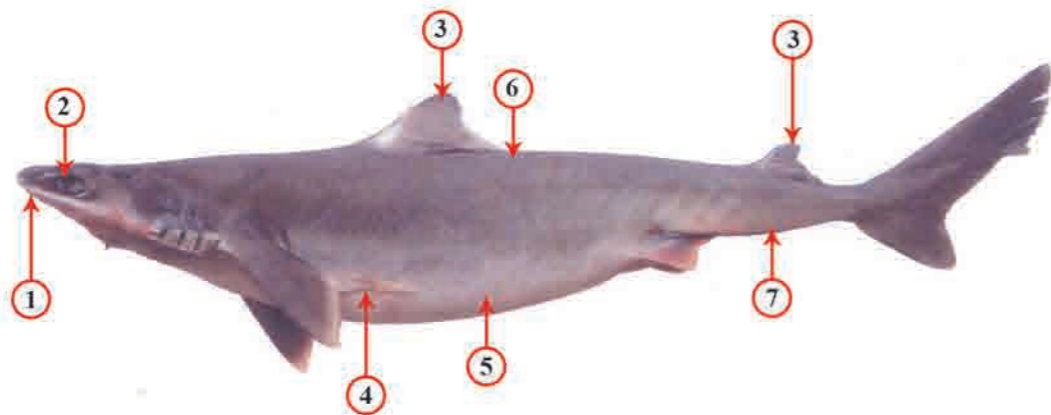
**Biology:** Oviviparous. 1-6 pups/litter. Eats a variety of bony fishes, snake, conger eels, crustaceans, cephalopods and some sharks and rays.

**Commercial Importance:** Caught by longlines and bottom trawls. Utilised for human consumption.

**Conservation status:** IUCN Red List 2010: Data deficient.

*Centrophorus moluccensis* Bleeker, 1860

English names : Endeavour dogfish, Smallfin gulper shark  
Malay name : Yu minyak  
Indonesian names : Hiu botol danten, Hiu taji  
Japanese name : Okinawa yajiri zame



**CENTROPHORIDAE**

**Key Features:**

1. Preoral snout relatively short, broadly rounded, labial furrows short, not extending far past mouth corners.
2. Eyes relatively large and green colour while alive.
3. First dorsal fin relatively short, larger than second dorsal fin; second dorsal fin about half height of first dorsal.
4. Pectoral fin free rear tip greatly elongate.
5. Paler ventrally.
6. Dorsal surfaces light greyish brown colour.
7. No anal fin.

**Size:** Maximum TL about 100 cm. Males mature at 69 cm TL and females at 89 cm TL. Born at about 35 cm TL.

**Habitat and Distribution:** Deep water. Outer continental and insular shelves, upper slopes, 125-820 m depth. Distributed in Western Indian Ocean off southern Africa and India, and some areas of the Western Pacific including the Philippines, Malaysia, Indonesia, Japan and Australia. Recorded in Brunei Darussalam, Indonesia, Malaysia and Thailand.

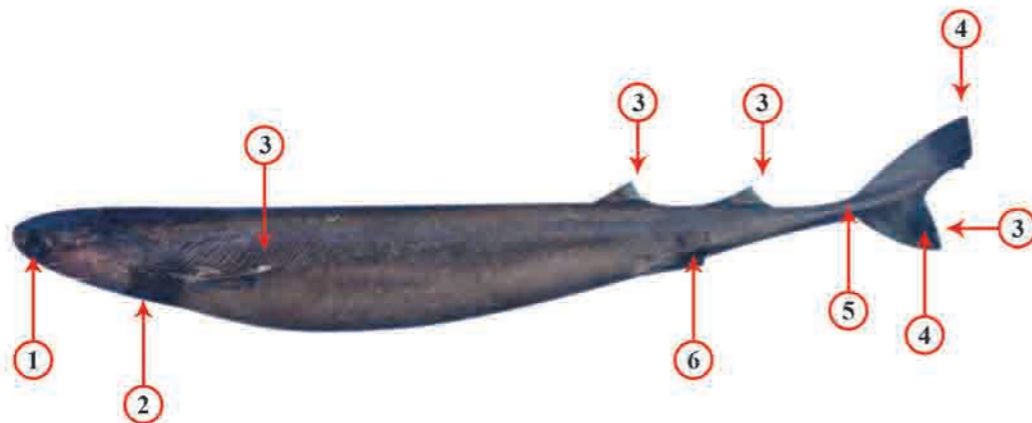
**Biology:** Viviparous. 2 pups/litter. Eats mainly bony fish and cephalopods, also elasmobranchs and crustaceans.

**Commercial Importance:** Caught by demersal longlines. Utilised for its meat and fins (low value). Oil extracted from liver has high vitamin A content and very high value.

**Conservation Status:** IUCN Red List 2010: Data deficient (not evaluated).

*Isistius brasiliensis* (Quoy & Gaimard, 1824)

English names : Cigar shark, Cookie-cutter shark, Luminous shark  
Malay name : Yu curut  
Japanese name : Daruma-zame



**Key Features :**

1. Snout conical and short.
2. Prominent dark colour mark around throat (gill region). More distinct around ventral surface.
3. Pectoral, dorsal and lower lobe of caudal fin tips with translucent posterior margins. Second dorsal fin slightly larger than first dorsal fin.
4. Lower lobe of caudal fin wide, dark with translucent posterior margin.
5. Caudal peduncle with low keel.
6. Pelvic fins larger than dorsal fins.

**Size:** Reaching more than 50 cm TL for female and 39 cm for male. Males and females mature at 31 cm and 38 cm TL respectively. The present female specimen measured 46 cm TL.

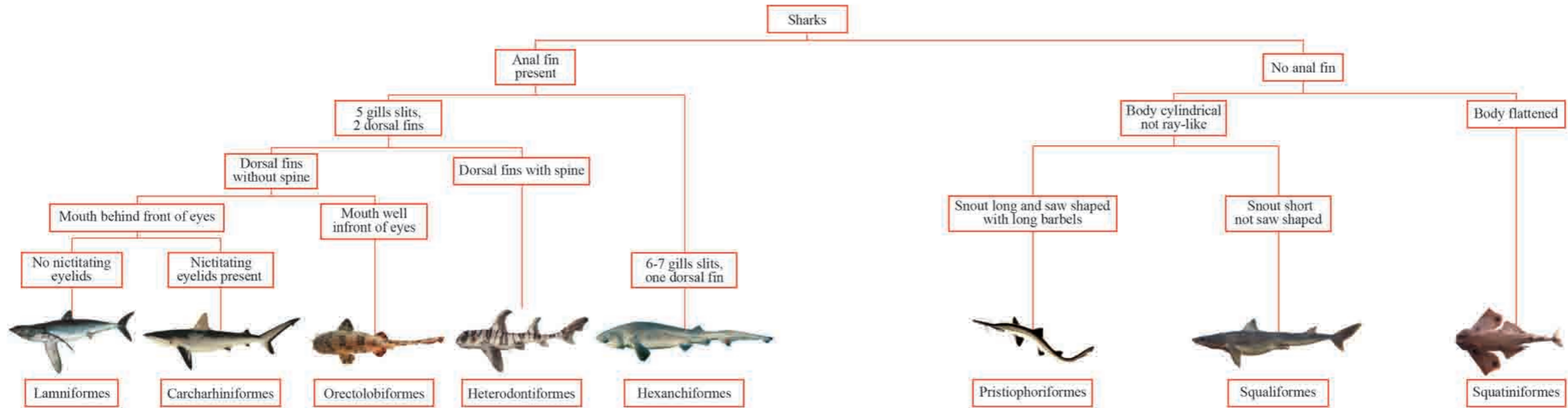
**Habitat and Distribution:** Wide ranging tropical oceanic shark, epipelagic to bathypelagic. Usually in deeper water from 85-3500 m. The present specimen was caught in Vietnam waters. Recorded in Indonesia, Philippine and Vietnam.

**Biology:** Presumably ovoviviparous. 6-7 pups/litter. Ectoparasitic on large fish and marine mammals. Feed on deepwater fishes, squid and crustacean.

**Commercial Importance:** Rarely caught as by catch in tuna longlines. Not a commercial species.

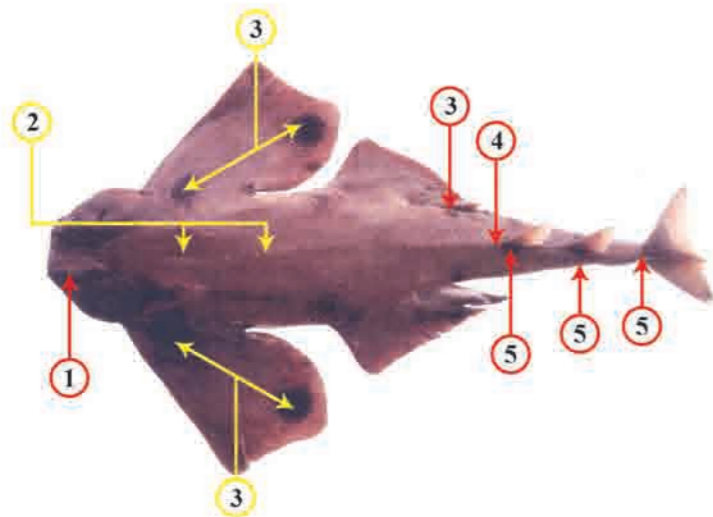
**Conservation status:** IUCN Red List 2010: Least concern.

KEY TO ORDERS



*Squatina tergocellatoides* Chen, 1963

English name : Ocellated angelshark  
Malay names : Yu pari, Yu leper  
Thai name : Chalarn nang-fah  
Indonesian name : Hiu kodok



SQUATINIDAE

**Key Features:**

1. Interorbital space concave. Distance from eye to spiracle less than 1.5 times eye diameter.
2. Dorsal colour pale yellowish-brown with a dense scattering of small round white spots.
3. Three pairs of ocellated black spots larger than eye; two on each pectoral fin at anterior and posterior angle, one on each side near base of tail.
4. First dorsal fin origin behind pelvic fin free rear tips.
5. Dorsal fins and upper caudal fin lobe with dark bases.

**Size:** Maximum 101 cm TL.

**Habitat and Distribution:** Usually lives in deeper water about 160 meter depth. Known from Taiwan, Malaysia and Thailand waters.

**Biology:** Viviparous. Diet consists of fishes and crustaceans.

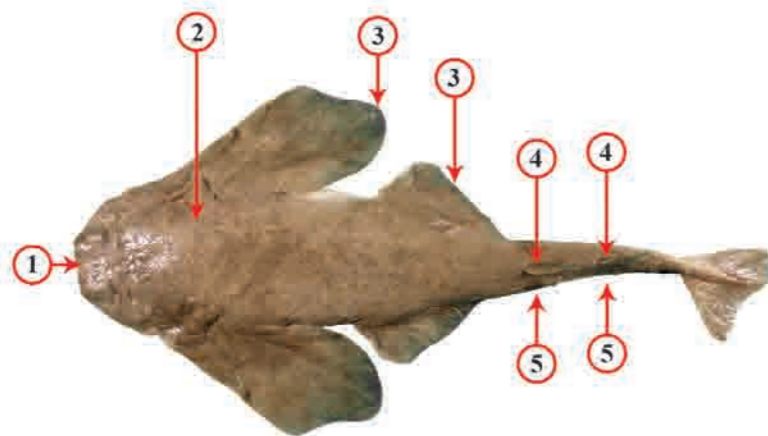
**Commercial Importance:** Caught by bottom trawls. Used for its meat, fins of no commercial value. Not found in the markets.

**Conservation Status:** IUCN Red List 2010: Vulnerable.



*Squatina* sp.

Malay names : Yu pari Brunei, Yu pari



SQUATINIDAE

**Key Features:**

1. Interorbital space concave.
2. Dorsal colour pale brown with scattering of small black spots.
3. Posterior margin of pectoral and pelvic fin dusky.
4. Dorsal fins with dark bases.
5. 2 pairs of dark blotches or ocelli below base of dorsal fins.

**Size:** Known from one specimen measured 34 cm TL.

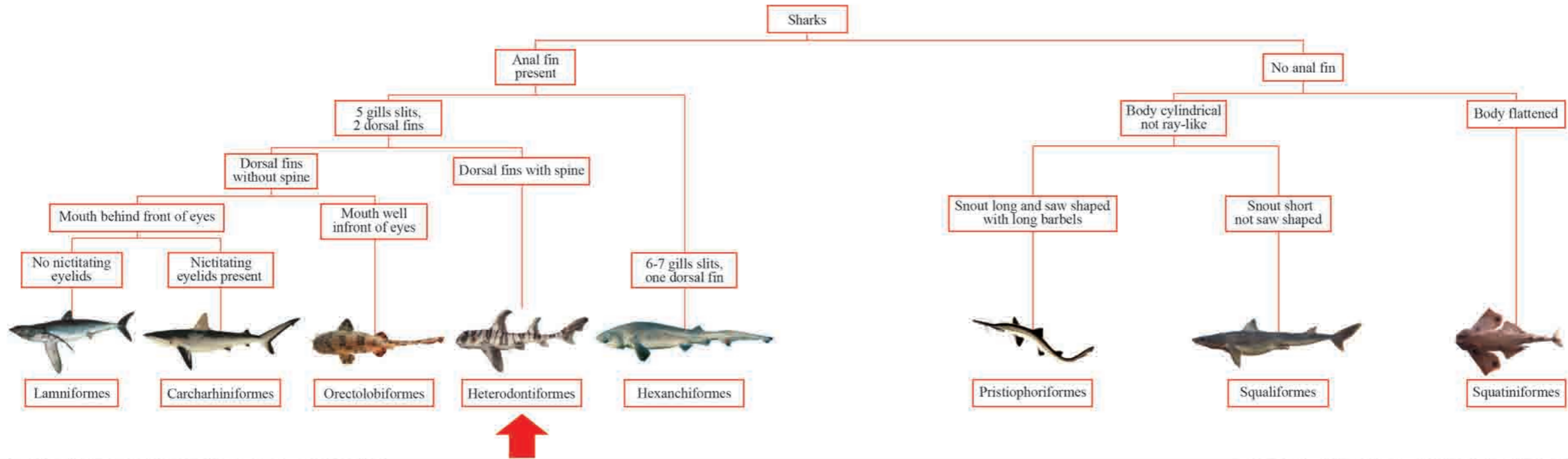
**Habitat and Distribution:** The present specimen was caught in Brunei Darussalam waters in 2009 at depth between 276-347 m. Most probably endemic in Brunei Darussalam waters.

**Biology:** Poorly known. Viviparous. Diet unknown but most probably deepwater fishes and crustaceans.

**Commercial Important:** Caught by beam trawls. Commercial value unknown. Not found in the markets.

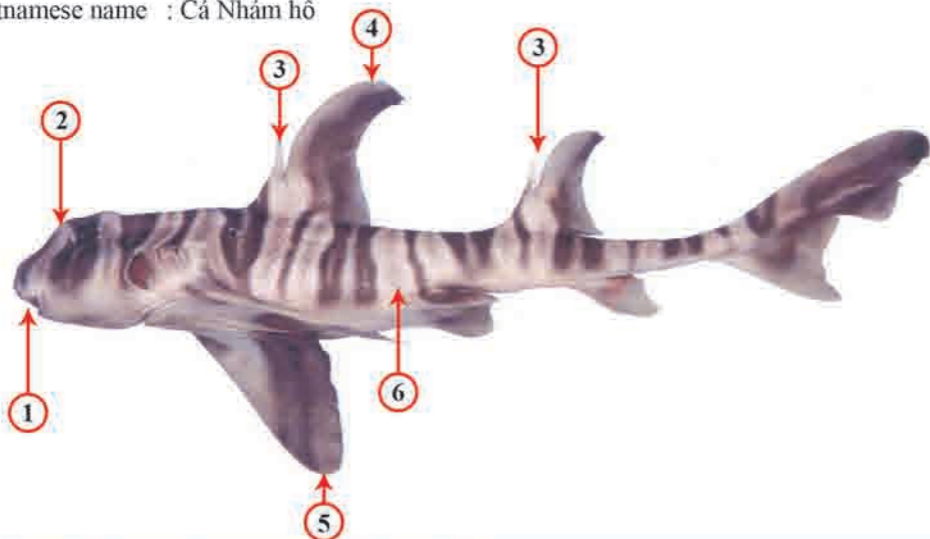
**Conservation Status:** IUCN Red List 2010: Not evaluated.

KEY TO ORDERS



*Heterodontus zebra* (Gray, 1831)

English names : Zebra horn shark, Zebra bullhead shark, Zebra Port Jackson shark  
Malay names : Yu kebut, Yu belang  
Thai name : Chalarm mah-laay  
Japanese name : Shima-neko zame  
Vietnamese name : Cá Nhám hổ



HETERODONTIDAE

**Key Features:**

1. Mouth small, almost terminal.
2. Head large and blunt.
3. Both dorsal fins preceded by spines.
4. Dorsal fins very high and with rounded tips in juveniles, relatively lower in adults.
5. Pectoral fins very broad, tips narrowly rounded.
6. Pale brownish to white with a dense pattern of narrow, dark vertical bands; bands frequently extending onto fins.

**Size:** Maximum TL 122 cm. Hatchlings at least 15 cm TL. Males mature at 64 cm TL.

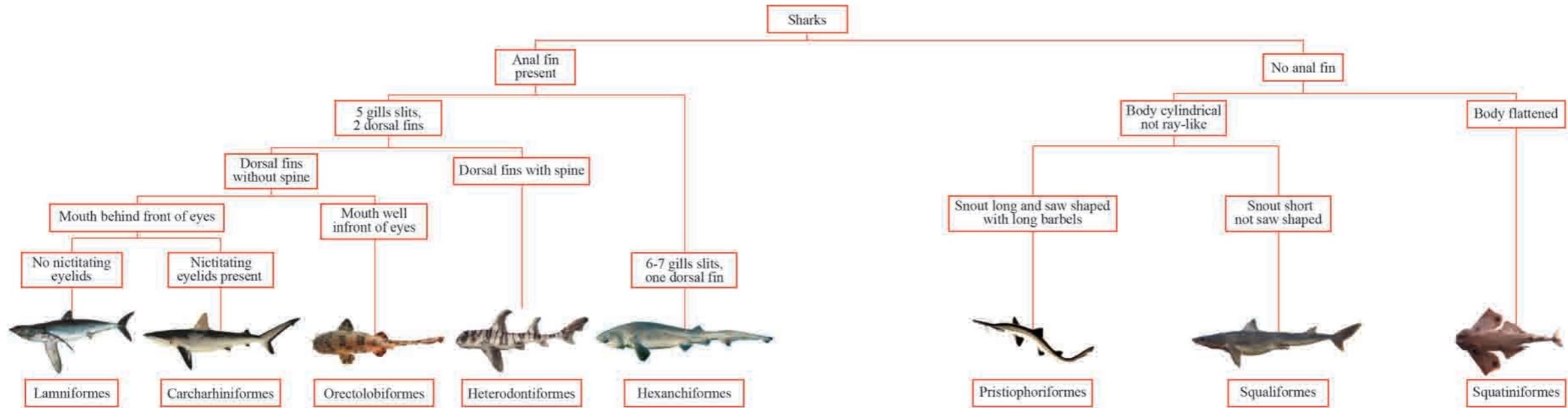
**Habitat and Distribution:** Bottom shark inhabiting waters of 50-200 m depth. Found in Western Pacific from Japan, Korea, China, Vietnam, Philippine, Thailand, Brunei Darussalam, Malaysia and northern Western Australia.

**Biology:** Oviparous. Feeds on bottom invertebrates and small fishes.

**Commercial Importance:** Caught by bottom longlines. Several fish were seen at Kota Kinabalu fish market in Sabah, Malaysia.

**Conservation Status:** IUCN Red List 2010: Least concern.

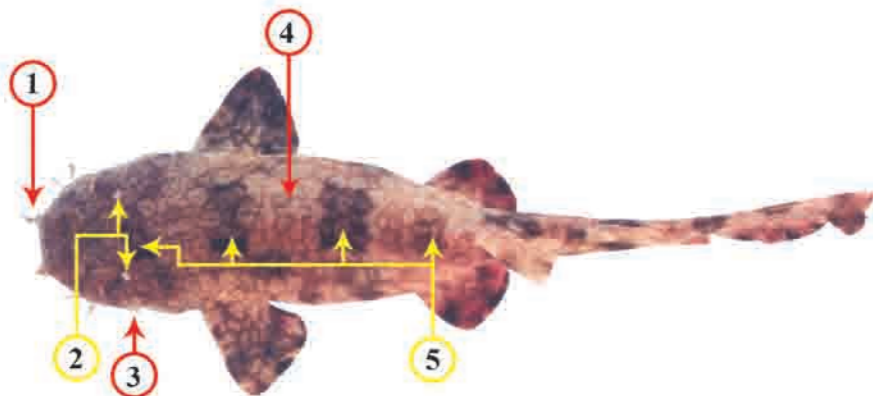
KEY TO ORDERS



***Orectolobus leptolineatus*** Last, Pogonoski and White, 2010

Identified as *Orectolobus maculatus* (Bonnaterre, 1788) in Yano *et al.* (2005)

- English names : Indonesian wobbegong, Indo wobbegong  
Malay names : Yu misai, Yu bodoh  
Thai name : Chalarn Paag-nuad  
Indonesia names : Hiu kodok, Hiu lepat, Hiu jenggot  
Japanese name : Kumohada oose



**ORECTOLOBIDAE**

**Key Features:**

1. Nasal barbels simple with 1-2 basal branches, nasoral and circumnarial grooves present.
2. White spot near the eye.
3. Head with 6-10 long, coarsely branched dermal lobes on each side in front of eyes; dermal lobes absent from chin.
4. Upper surface pale yellowish to greenish brown, distinctly patterned with darker saddles and numerous white rings formed from a chain of small white spots and flecks.
5. Predorsal surface with four dark brown saddles.

**Size:** Size at birth about 21 cm TL and attains at least 120 cm TL. Males mature at about 60 cm TL and females at 94 cm TL.

**Habitat and Distribution:** Temperate to tropical, inshore to offshore bottom shark of the continental shelves of the western Pacific, occurring in the intertidal down to at least 110 m. Juveniles occur in low reefs, seagrass beds and estuaries. Distributed in the western Pacific: South coast of Australia, Japan and South China Sea. Recorded in Malaysia, Indonesia and Thailand.

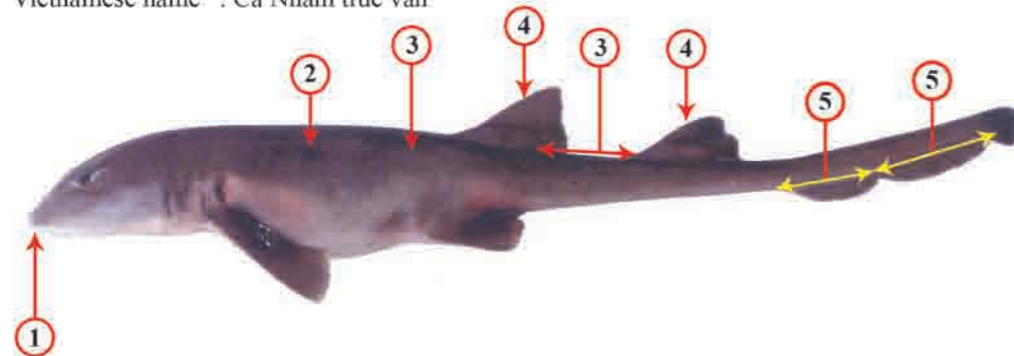
**Biology:** Viviparous. Up to 37 pups/litter. Preying on crabs, rock lobsters, octopuses and reef fishes.

**Commercial Importance:** Not found in the markets during the study. Caught by demersal longlines. Utilisation in this region not known. Most probably its meat has a commercial value.

**Conservation status:** ICUN Red List 2010: Near threatened.

*Chiloscyllium griseum* Müller and Henle, 1838

English name	: Grey bambooshark
Malay names	: Yu cicak gempal, Yu bodoh
Thai name	: Chalarm gob Thao
Indonesian name	: Hiu bogok
Japanese name	: Shima zame
Cambodian names	: Chhout, Kingkork
Myanmar name	: Nga-mann-aing-myaung
Vietnamese name	: Cá Nhám trúc vằn



HEMISCYLLIIDAE

**Key Features:**

1. Mouth well in front of eyes. Snout rounded anteriorly.
2. Adults usually light brown, without a colour pattern, but young with prominent dark transverse bands.
3. No body ridges. Interdorsal space short, slightly greater than first dorsal base.
4. Dorsal fins fairly large and rounded, somewhat smaller than pelvic fins, dorsals without projecting free rear tips.
5. Anal fins length from origin to free rear tip somewhat less than hypural caudal lobe from lower caudal origin to free rear tip.

**Size:** Maximum TL at least 77 cm. Size at hatching uncertain. Males mature between 45-55 cm TL.

**Habitat and Distribution:** Inshore bottom shark, on rocks and in lagoons. Inhabit waters of depth 5-80 m. Occurs in Indo-West Pacific: Iran, Arabian Peninsula, Pakistan, India, Brunei Darussalam, Cambodia, Malaysia, Myanmar, Vietnam, Thailand, Indonesia, China, Japan, the Philippines and Papua New Guinea.

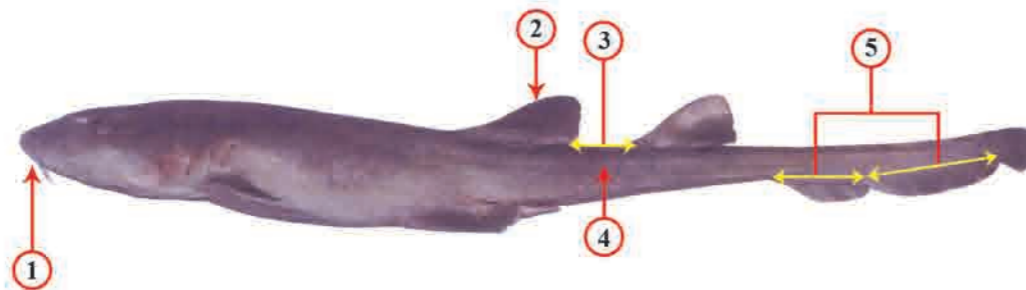
**Biology:** Oviparous. Probably feeds mainly on invertebrates.

**Commercial Importance:** Caught by bottom trawls, traps and, hook and lines. Utilised for its meat and fins (low value).

**Conservation Status:** IUCN Red List 2010: Near threatened.

*Chiloscyllium hasseltii* Bleeker, 1852

English name : Indonesian bambooshark  
Malay names : Yu cicak lampai, Yu bodoh  
Thai name : Chalarm gob  
Indonesian name : Hiu tekek



*Note: Adult often unpatented except for dusky fins. Young have prominent saddle marks (broad dusky patches with conspicuous black edging separated by light areas and blackish) and dark blotches on fin.*

HEMISCYLLIIDAE

**Key Features:**

1. Snout rounded anteriorly.
2. First dorsal fin origin about opposite rear halves of pelvic fin bases.
3. Interdorsal space fairly short.
4. Interdorsal ridge not prominent.
5. Anal fin length from origin to free rear tip less than hypural caudal lobe from caudal fin origin to subterminal notch.

**Size:** Maximum 78 cm TL. Size at hatching between 9-12 cm TL. Males mature between 44-54 cm and females between 54-59 cm TL.

**Habitat and Distribution:** Demersal and close inshore. Distributed in the Indo-West Pacific. Recorded in Myanmar, Thailand, Malaysia, Indonesia and Vietnam.

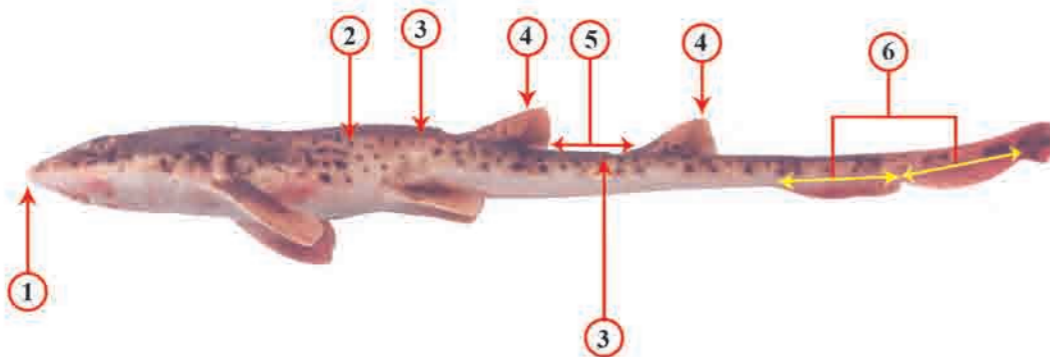
**Biology:** Oviparous. Feeds on small fishes, crustaceans and invertebrates.

**Commercial Importance:** Caught in inshore waters by bottom trawls, traps and hook and lines. Utilised for its meat and fins (low value).

**Conservation status:** IUCN Red List 2010: Near threatened.

*Chiloscyllium indicum* (Gmelin, 1789)

English names	: Slender bambooshark, Ridgeback bambooshark
Malay names	: Yu cicak tembaga, Yu bodoh
Thai name	: Chalarn gob
Indonesian name	: Hiu bongol, Cucut dolok
Japanese name	: Tenjiku zamae



HEMISCYLLIIDAE

**Key Features:**

1. Mouth well in front eyes. Snout narrowly rounded anteriorly.
2. Colour pattern of numerous dark brown or blackish spots and dashes on light brown background.
3. Predorsal and interdorsal ridges prominent.
4. Dorsal fin small and rounded. Almost similar size.
5. Interdorsal space fairly long.
6. Bases of anal fin and lower caudal fin lobe about equal in length.

**Size:** Maximum 65 cm TL. Males mature between 39-42 cm TL and females at 43 cm TL.

**Habitat and Distribution:** Demersal in inshore waters; possibly enter the brackishwater rivers. Distributed in the Indo-West Pacific: Arabian Sea to India, Sri Lanka, Malaysia, Thailand, Indonesia, Vietnam, Taiwan Island, Republic of Korea, Japan and Solomon Island.

**Biology:** Oviparous. Feeds on bottom fish, invertebrates and crustaceans.

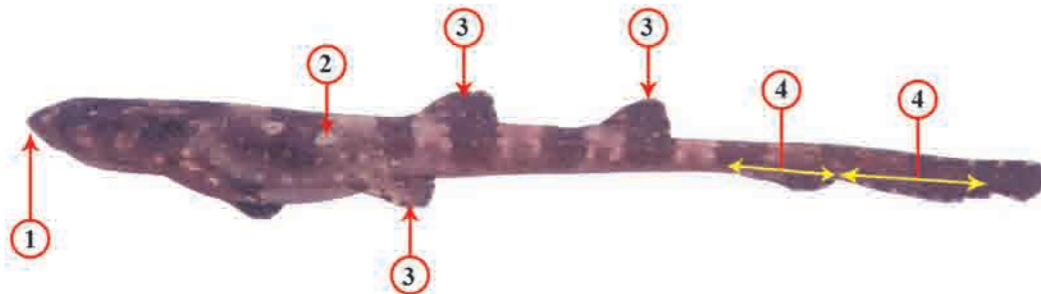
**Commercially Importance:** Caught by trawls net, traps and, hook and lines. Utilised for its meat and fins.

**Conversation status:** IUCN Red List 2010: Near threatened.



*Chiloscyllium plagiosum* (Bennett, 1830)

English name	: Whitespotted bambooshark
Malay names	: Yu cicak bintik, Yu bodoh
Thai name	: Chalarm gob
Indonesian names	: Hiu bongo, Cucut dolok
Japanese name	: Shiroboshitenjiku zame
Vietnamese name	: Cá Nhám trúc vân



HEMISCYLLIIDAE

**Key Features:**

1. Snout rounded anteriorly and a lateral ridge present on each side of trunk.
2. A prominent colour pattern of numerous white spots on a dark brown background, with a darker brown or blackish transverse bands.
3. Dorsal fins moderately large and rounded or angular, about equal in size to pelvic fin.
4. Anal fin base much shorter than base of lower caudal fin lobe.

**Size:** Maximum 95 cm TL. Males mature at 50-63 cm TL. Hatch at 10-13 cm TL.

**Habitat and Distribution:** Inshore demersal. Distributed in the Indo-West Pacific: India, Sri Lanka, Brunei Darussalam, Malaysia, Thailand, Indonesia, Vietnam, China, including Taiwan Island, Japan and the Philippines.

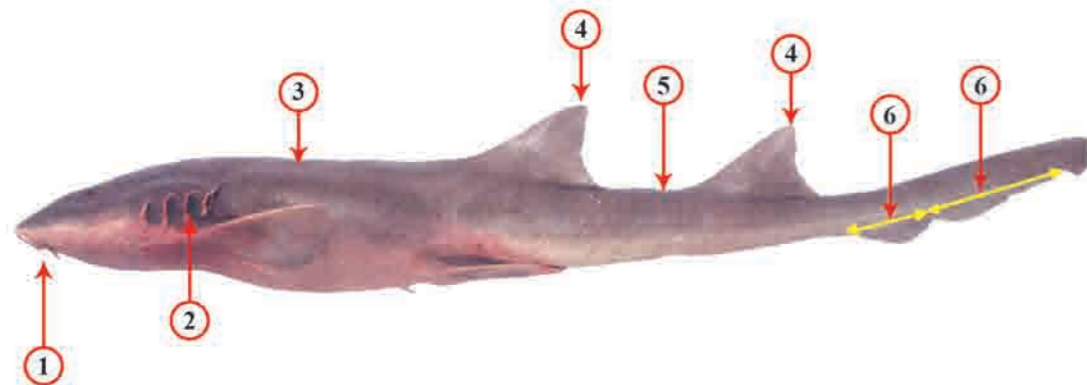
**Biology:** Oviparous. Eats fish and crustaceans.

**Commercial Importance:** Caught by bottom trawls, traps and, hook and lines. Utilised for its meat (fish ball) and fins, but of limited value due to its small size.

**Conservation Status:** IUCN Red List 2010: Near threatened.

*Chiloscyllium punctatum* Müller and Henle, 1838

English names	: Brownbanded bambooshark, Grey carpet shark, Brown-spotted catshark
Malay names	: Yu cicak insang putih, Yu bodoh
Thai name	: Chalarm gob
Indonesian names	: Hiu batu, Hiu bongo, Cucut dolok
Japanese name	: Inu zame
Cambodian name	: Chhout



HEMISCYLLIIDAE

**Key Features:**

1. Snout rounded anteriorly.
2. Pale gill slit margins.
3. Usually no colour pattern in adults but young with transverse bands and a few dark spots.
4. Dorsal fin large and angular.
5. No predorsal or interdorsal ridges present.
6. Anal fin base much shorter than base of lower caudal fin lobe.

**Size:** Maximum 105 cm TL. Males mature at about 68-76 cm TL, hatches about 13-17 cm TL.

**Habitat and Distribution:** Inshore bottom-dwelling sharks. Occurs in Indo-West Pacific, from India and Japan through the Philippines, Malaysia, Brunei Darussalam, Cambodia, Vietnam, Myanmar, Thailand, Indonesia and New Guinea to northern Australia.

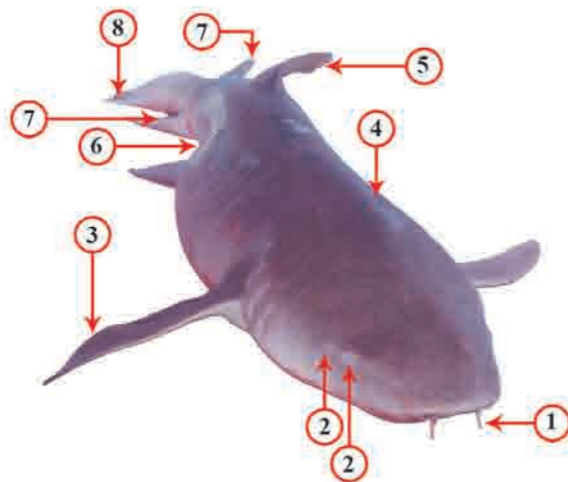
**Biology:** Oviparous. Feeds on bottom invertebrates and small fish.

**Commercial Importance:** Caught by hook and lines, beach seines and also bottom trawls. Utilised for its meat and fins.

**Conservation Status:** IUCN Red List 2010: Near threatened.

*Nebrius ferrugineus* (Lesson, 1830)

English names : Tawny shark, Tawny nurse shark, Spitting shark  
Malay names : Yu semilang, Yu bodoh  
Thai name : Chalarnm Gob-yak  
Indonesian names : Hiu bisu, Hiu gedebong, Hiu gedok  
Japanese name : Ootenjiku zame



GINGLYMOSTOMATIDAE

**Key Features:**

1. Mouth in front of lateral eyes. Nostrils close to front of snout, with short barbels.
2. Eyes small, spiracle much smaller than eyes.
3. Pectoral fin falcate and large.
4. Sandy brown to greyish brown dorsally, paler ventrally.
5. First dorsal slightly larger than second dorsal.
6. Anal fin origin posterior to second dorsal fin origin.
7. Anal fin similar in size and shape to second dorsal fin.
8. Caudal fin asymmetrical, its length about one third of total length.

**Size:** Size at birth about 40 cm and attains 320 cm TL. Males mature at about 225 cm and females at 230 cm TL.

**Habitat and Distribution:** Demersal species, found on coral reef, rocky and sand flats. Distributed throughout the Indo West Central Pacific from southern Africa (including Madagascar and Aldabra) and the Red Sea, India, Indo-China, Japan, Malaysia, Thailand, Philippine, Indonesia, New Guinea, New Caledonia, Samoa Palau, Marshall Islands, Tahiti and tropical Australia.

**Biology:** Viviparous. 8 pups/litter. Feeds on cephalopods (particularly octopuses), other invertebrates and reef fish.

**Commercial Importance:** Caught by trawlers, longlines and gillnets. Utilised for its fin, meat and cartilage.

**Conservation Status:** IUCN Red List 2010: Vulnerable.

*Stegostoma fasciatum* (Hermann, 1783)

English name	: Zebra shark
Malay names	: Yu rimau, Yu kebut
Thai name	: Chalarm Sue-dao
Indonesian names	: Hiu belimbing, Kluyu blimbingan
Japanese name	: Torafu zame
Cambodian name	: Kla
Myanmar name	: Nga-mann
Vietnamese name	: Cá Nhu mỹ



STEGOSTOMATIDAE

**Key Features:**

1. Head broad; snout bluntly rounded; fourth and fifth gill slits overlapping; nasoral grooves present; barbels short; mouth transverse.
2. Body moderately stout with prominent ridges on dorsal surface and flanks.
3. Yellowish brown coloration peppered with numerous, dark brown spots.  
(Note: juveniles less than 70 cm long dark with white bars and spots).

**Size:** Hatches at 20-36 cm TL. Maximum TL 235 cm (reports to reach 354 cm TL). Males mature at 147-183 cm and females at 169-171 cm TL.

**Habitat and Distribution:** Common in coral reef and coastal area up to 62 m depth. Distributed in the Indo-West Pacific, from South Africa and the Red Sea to India, Thailand, Malaysia, Brunei Darussalam, Cambodia, Myanmar, Philippine, Vietnam, Japan, Indonesia and northern Australia.

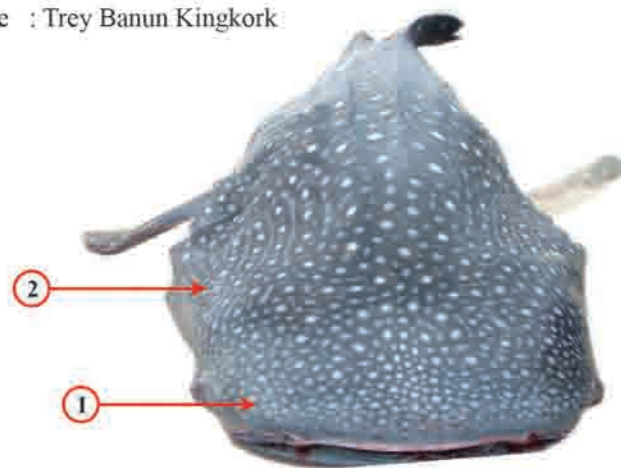
**Biology:** Oviparous. Diet consists of gastropods, bivalves and fishes.

**Commercial Importance:** A commercial species. Caught by bottom trawls, hook and lines, longlines and gillnets. The meat is utilised fresh and dried-salted. Skin, cartilage and fins is dried for trade.

**Conservation Status:** IUCN Red List 2010: Vulnerable.

*Rhincodon typus* Smith, 1828

English name	: Whale shark
Malay names	: Yu paus, Yu cicak
Thai name	: Chalarm whal
Indonesian name	: Hiu paus
Japanese name	: Jinbee zame
Cambodian name	: Trey Banun Kingkork



**RHINCODONTIDAE**

**Key Features:**

1. Head depressed, broad and flattened. Mouth very wide.
2. Greyish, bluish or brownish above, white ventrally, upper surface pattern of creamy. White spots between pale vertical and horizontal stripes resembling a checkerboard.

**Size:** Maximum 20 m TL. Free swimming at 40-50 cm TL.

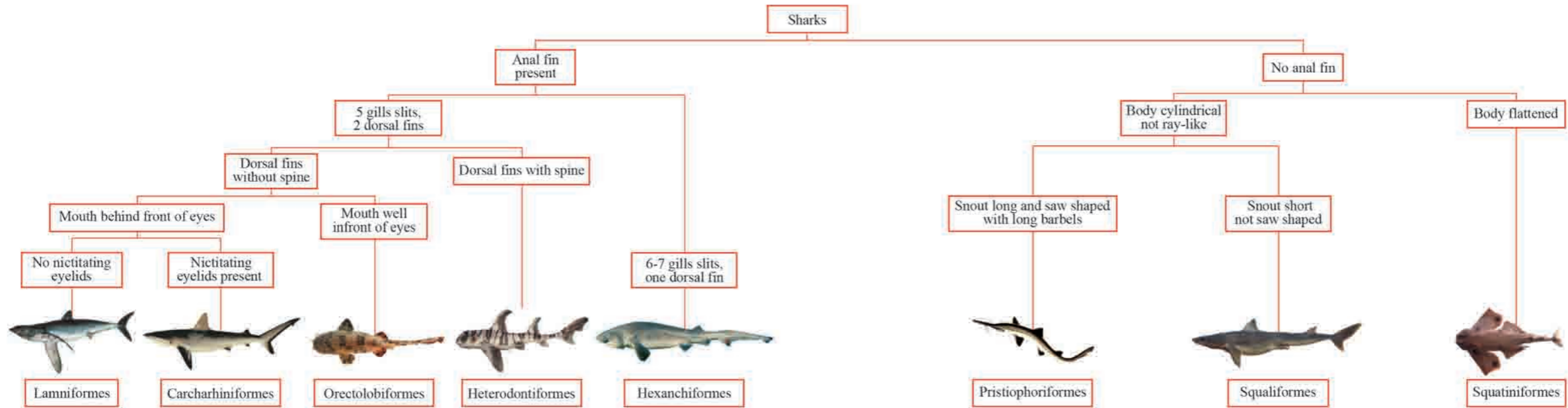
**Habitat and Distribution:** Pelagic. It is found in many different parts of tropical and warm temperate seas.

**Biology:** Viviparous. Retaining its egg cases until hatching. In Taiwan more than 300 embryos were found in uteri of a 10.6 m and 16 metric tons female. These pups measured 58-64 cm TL.

**Commercial Importance:** List as protected species in many countries. Incidental caught in trawls and drift nets. Utilised for its fins and meat.

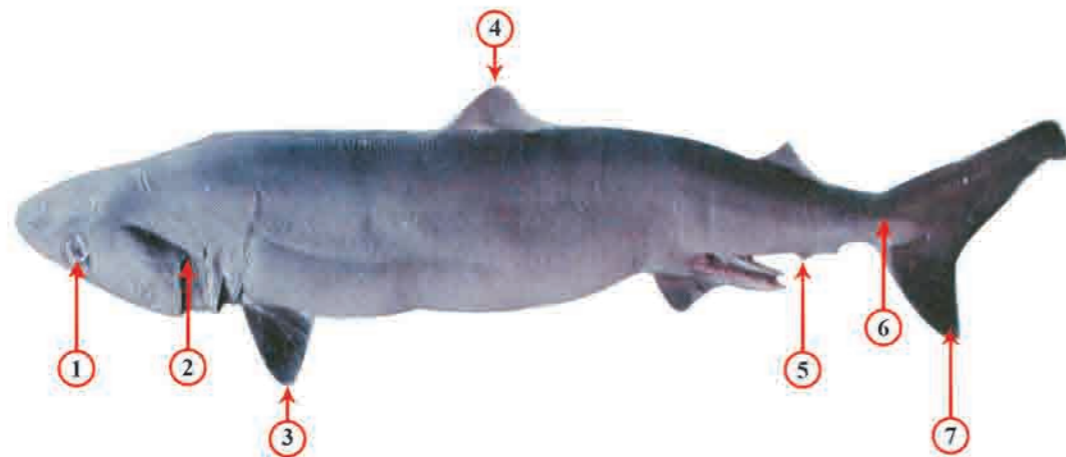
**Conservation status:** IUCN Red List 2010: Vulnerable.

KEY TO ORDERS



*Pseudocarcharias kamoharai* (Matsubara, 1936)

English names : Crocodile shark, Kamohara's sand shark, Japanese ragged-tooth shark  
Malay name : Yu buaya  
Indonesian names : Cucut buaya, Hiu tongar  
Japanese name : Mizuwani  
(Photo credit : Research Center for Capture Fisheries, Indonesia)



**PSEUDOCARCHARIIDAE**

**Key Features:**

1. Eyes very large. Snout short.
2. Gill slits long, extending onto top of head.
3. Pectoral fins short, small.
4. Dorsal fins small.
5. Anal fin small.
6. Caudal keel small.
7. Lower lobe of caudal fin wide. Its size smaller than upper lobe.

**Size:** Reaching 110 cm TL. Males mature at 74 cm and females at 89 cm TL. Size at birth about 41 cm.

**Habitat and Distribution:** Oceanic, epipelagic and possibly mesopelagic shark. Usually found offshore. Recorded in Indonesia and Philippine.

**Biology:** Ovoviviparous. 4 pups/litter. Embryos feed on unfertilised eggs and possibly cannibalise other young inside uterus. Diet most probably oceanic fishes and cephalopods.

**Commercial Importance:** Caught by shark and tuna longlines in Indonesia. Rarely caught in other countries.

**Conservation status:** IUCN Red List 2010: Near threatened.

*Megachasma pelagios* Taylor, Compagno & Struhsaker, 1983

English name : Megamouth shark  
Malay name : Yu mulut besar  
Japanese name : Megamouth zame



MEGACHASMIDAE

**Key Features :**

1. Large long head with short round snout. Huge terminal mouth.
2. Dark spotting on lower jaw.
3. Body grey above and white below.
4. Anal fin small.

**Size:** Attains more than 550 cm TL. Born size unknown. Males mature at about 400 cm and females at 500 cm TL.

**Habitat and Distribution:** Oceanic, coastal and offshore species. Distributed world wide in the tropics. The present specimen was caught in Andaman Sea. Recorded in the Philippines.

**Biology:** Reproduction unknown. Presumed viviparous with oophagy. Feeds mostly on plankton and shrimp.

**Commercial Importance:** Rarely caught in the Southeast Asian region.

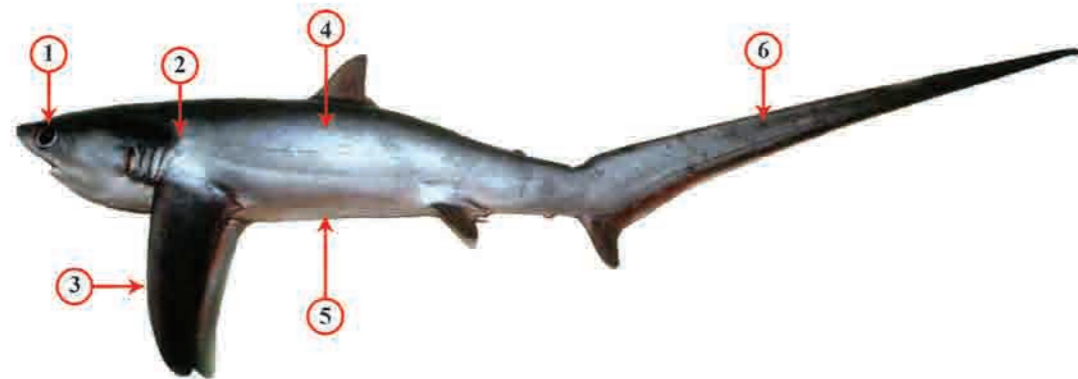
**Conservation status:** IUCN Red List 2010: Data deficient.



*Alopias pelagicus* Nakamura, 1935

ALOPIIDAE

English names : Pelagic thresher, Thresher shark, Whiptail shark  
Malay name : Yu ekor panjang  
Thai name : Chalarm hang-daab  
Indonesian names : Hiu monyet, Hiu lancur, Hiu tikus  
Japanese name : Nitari  
Vietnamese name : Cá Nhám



**Key Features:**

1. Eyes moderately large, but not extending onto dorsal head surface.
2. No labial furrows or deep grooves behind the eyes.
3. Pectoral fins straight; apices broadly rounded.
4. Pale grey dorsally; area above the gills and flank region may have a metallic silvery hue.
5. White ventrally; coloration not extending above the pectoral and pelvic fin bases.
6. Length from caudal fork to upper caudal fin tip about as long as or longer than remaining body.

**Size:** Size at birth 130 cm TL. Maximum TL reach 365 cm. Males mature at 240 cm and females at 260 cm TL.

**Habitat and Distribution:** Oceanic and nearshore up to 152 m depth. Tropical and subtropical Indo-Pacific. Recorded in Indonesia, Malaysia, Thailand, Philippine and Vietnam.

**Biology:** Ovoviviparous. 2 pups/litter. Feeds on small fishes and cephalopods.

**Commercial Importance:** Caught by longlines, hook and lines, and drift nets. Utilised for its meat and fins.

**Conservation Status:** IUCN Red List 2010: Vulnerable.

*Alopias superciliosus* (Lowe, 1839)

English name	: Bigeye thresher
Malay name	: Yu ekor panjang mata besar
Thai name	: Chalarm Hang-daab-ta-toh
Indonesian names	: Hiu monyet, Hiu lancur, Hiu tikus
Japanese name	: Hachi-ware



ALOPIIDAE

**Key features:**

1. Eyes huge, extending onto dorsal surface of head.
2. Deep horizontal lateral grooves originating in midline of head behind orbits and terminating above gill region.
3. Pectoral fins weakly falcate, apices relatively broad.
4. Purple to violet-grey dorsally.
5. Creamy white ventrally not extending over pectoral fin base.
6. Long curving, upper tail lobe nearly as long as rest of shark.

**Size:** Born at 100 cm TL (possibly as small as 65 cm TL). Maximum TL more than 460 cm. Males mature at 270 cm and females at 300 cm TL.

**Habitat and Distribution:** Worldwide, oceanic, coastal tropical and warm temperate waters to at least 500 m. Recorded in Thailand, Indonesia and Philippine.

**Biology:** Ovoviviparous. 2-4 pups/litter. Feeds on pelagic, bottom fishes and squids.

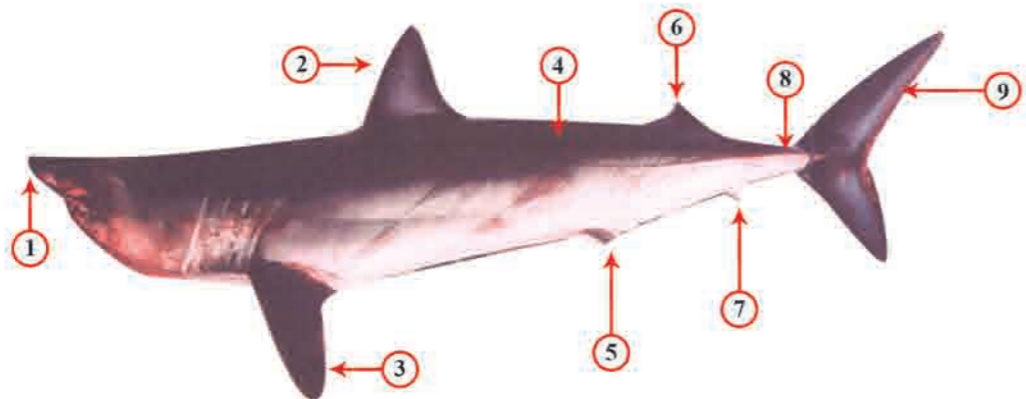
**Commercial Importance:** Caught by longlines, drift nets and hook and lines. Its meat is utilised fresh, smoked, and dried-salted. Liver oil is processed for vitamins, skin for leather, and fins for sharkfin soup.

**Conservation Status:** IUCN Red List 2010: Vulnerable.

*Isurus oxyrinchus* Rafinesque, 1810

LAMNIDAE

English name	: Shortfin mako
Malay name	: Yu mako sirip pendek
Thai name	: Chalarm Paag-ma
Indonesian names	: Hiu anjing, Hiu tenggiri, Hiu mako
Japanese name	: Ao zame



**Key Features:**

1. Acutely pointed snout (view from underneath).
2. Large first dorsal fins, its origin posterior to inner corners of pectoral fins.
3. Pectoral fin considerably shorter than head.
4. Darker above than below, often with mottled pattern on back and sides.
5. Small pelvic fin.
6. Small second dorsal fin.
7. Anal fin is smaller than pelvic fin.
8. Strong lateral keel on caudal peduncle.
9. Upper lobe of caudal fin is longer than lower lobe.

**Size:** Maximum 4 m TL. Size at birth about 60-70 cm TL. Males mature at 203-215 cm and females 275-293 cm TL.

**Habitat and Distribution:** Occurs in water between surface to at least 500 m below. Found in many different parts of warm-temperate and tropical seas. Recorded in Brunei Darussalam, Indonesia, Thailand, Malaysia and Philippine.

**Biology:** Viviparous with oophagy and possibly adelphophagy. 4-16 pups/litter. Diet consists of fishes, cephalopods and marine mammals.

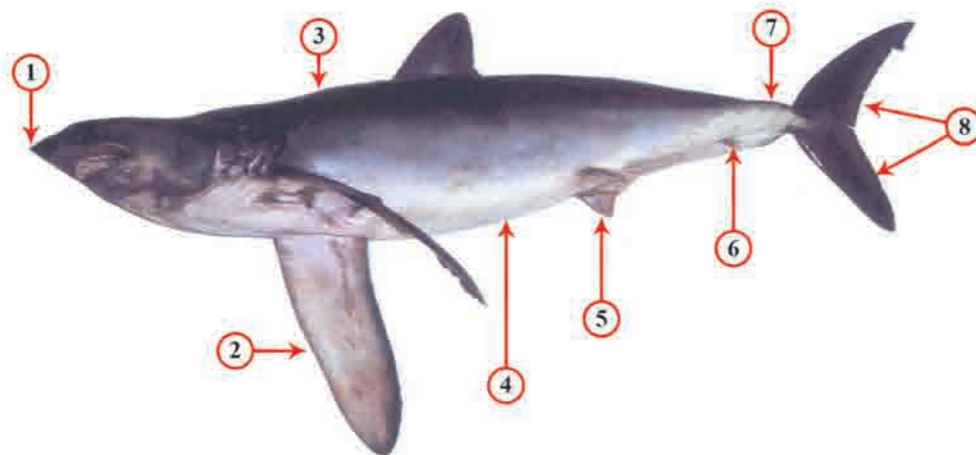
**Commercial Importance:** Caught by tuna and shark longlines. Utilised for its meat, fins, jaws, skin and cartilage.

**Conservation status:** IUCN Red List 2010: Vulnerable.

*Isurus paucus* Guitart Manday, 1966

LAMNIDAE

English name	: Longfin mako
Malay name	: Jerung mako sirip panjang
Thai name	: Chalarm Paag-mom
Indonesian names	: Hiu tenggiri, Hiu mako bersirip panjang, Hiu anjing
Japanese name	: Bake-ao zame



**Key Features:**

1. Pointed snout (viewed from below).
2. Pectoral fin long, about as long as head, straight to falcate.
3. Back and sides intense blue in life, fading to blackish after death.
4. Abdomen white.
5. Pelvic fins dark with white posterior ends above, white or dark-blotched below.
6. Anal fin very small with dark blotches or white with an anterior dark blotch.
7. Caudal peduncle strongly flattened dorsoventrally and expanded laterally, with a prominent keel on each side extending well onto caudal fin.
8. Caudal fin lunate.

**Size:** Maximum 417 cm TL. Size at birth between 97-120 cm TL. Males and females mature at about 245 cm TL.

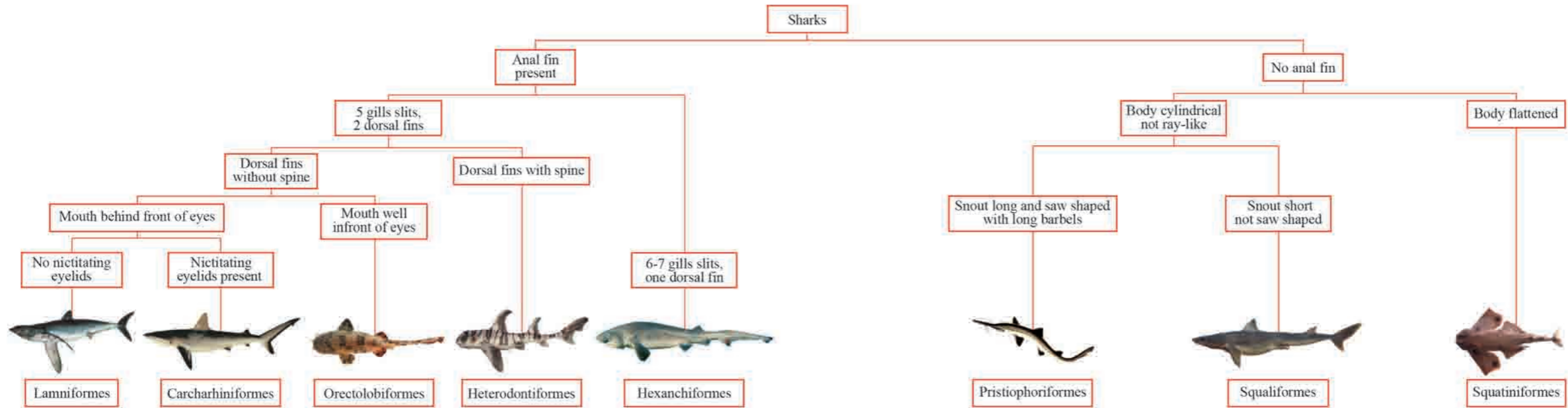
**Habitat and Distribution:** Epipelagic. Oceanic and tropical. Distributed in the western North Atlantic from eastern USA to Cuba and southern Brazil, eastern Atlantic from Guinea, Ghana, and possibly the Cape Verde Islands, western Indian Ocean from Madagascar, western Pacific off Taiwan and Central Pacific near Phoenix Island and north of Hawaii. Recorded in Indonesia.

**Biology:** Ovoviviparous. 2-8 pups/litter. Food is presumably schooling fish and pelagic cephalopods.

**Commercial Importance:** Caught irregularly by the tuna and shark longlines. Utilised for its meat, fins, jaws, skin and cartilage.

**Conservation status:** IUCN Red List 2010: Vulnerable.

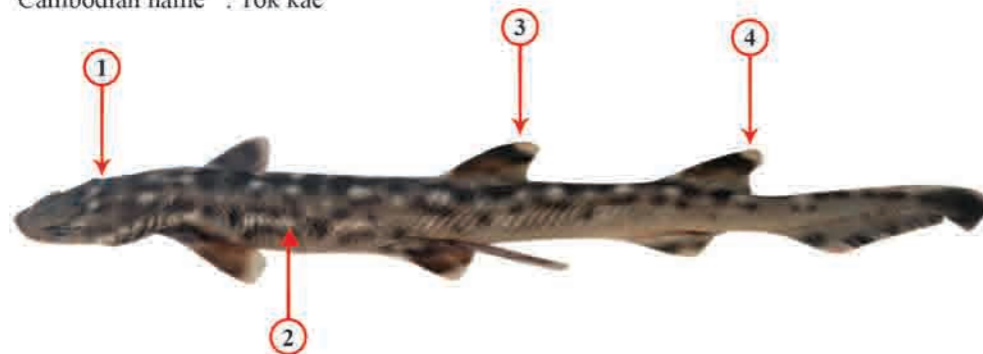
KEY TO ORDERS



*Atelomycterus marmoratus* (Bennett, 1830)

SCYLIORHINIDAE

English name	: Coral catshark
Malay names	: Yu karang, Yu cicak
Thai name	: Chalarm lai-hin-orn
Indonesian names	: Cucut tokek, Hiu tokek
Japanese name	: Sango torazame
Cambodian name	: Tok kae



**Key Features:**

1. Head, body and fins with numerous light grey and white spots.
2. Light ground colour forming large white spots scattered on sides and back.
3. First dorsal fin origin about opposite or slightly in front of pelvic fin insertion.
4. Second dorsal fin much larger than anal fin and subequal to first dorsal fin.

**Size:** Maximum 70 cm TL. Males mature at 45 cm and females 49cm TL.

**Habitat and Distribution:** Inshore species, found on coral reefs, and thought to inhabit crevices and holes on reefs. Distribute in the Indo-West Pacific: Pakistan and India to Myanmar, Malaysia, Singapore, Indonesia, Cambodia, Brunei Darussalam, New Guinea, Thailand, Vietnam, the Philippines, Southern China and Taiwan.

**Biology:** Oviparous. Laying pairs of egg cases. Diets consist of small fishes and invertebrates.

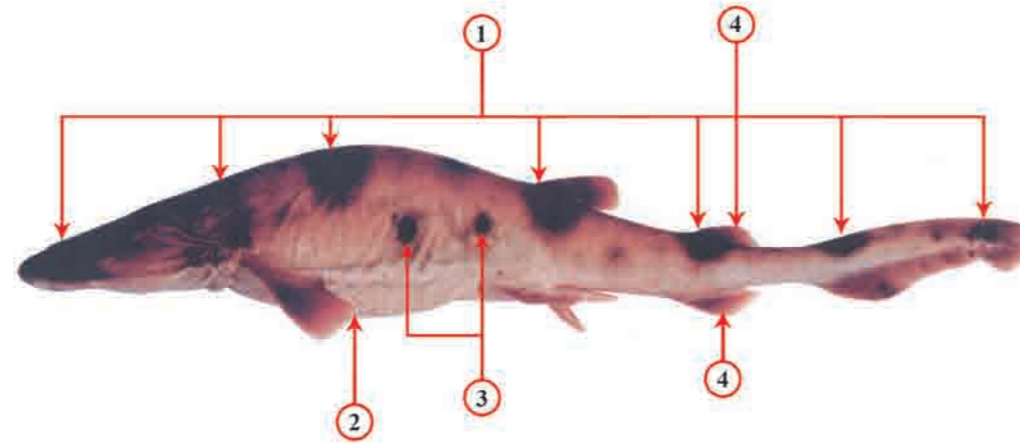
**Commercial Importance:** Caught by traps, drift nets, hook and lines, and various gears operating over coral reefs. Utilised for its meat.

**Conservation status:** IUCN Red List 2010: Near threatened.

*Cephaloscyllium cir culopullum* Yano, Ahmad and Gambang, 2005

SCYLORHINIDAE

English name : Circle-blotch pygmy swellshark  
Malay names : Yu buntal tompok, Yu buncit, Yu kembong  
Japanese name : Maruten ko-nanukazame



**Key Features:**

1. Brownish dorsally with dark saddles of almost same width on back at interorbital, above pectoral fins, first dorsal fin base, second dorsal fin base, and upper caudal lobe; blotches present on sides of predorsal space without white spots; pale ventrally.
2. Stomach inflatable, and filling with air like puffer fish.
3. Two dark spots found at side of the body between pectoral fin and first dorsal fins.
4. Second dorsal fin considerably smaller than anal fin.

**Size:** To at least 38 cm TL.

**Habitat and Distribution:** Demersal species. Found at 118-165 m depth off Sarawak (Borneo).

**Biology:** Oviparous. Diet probably small fishes and crustaceans.

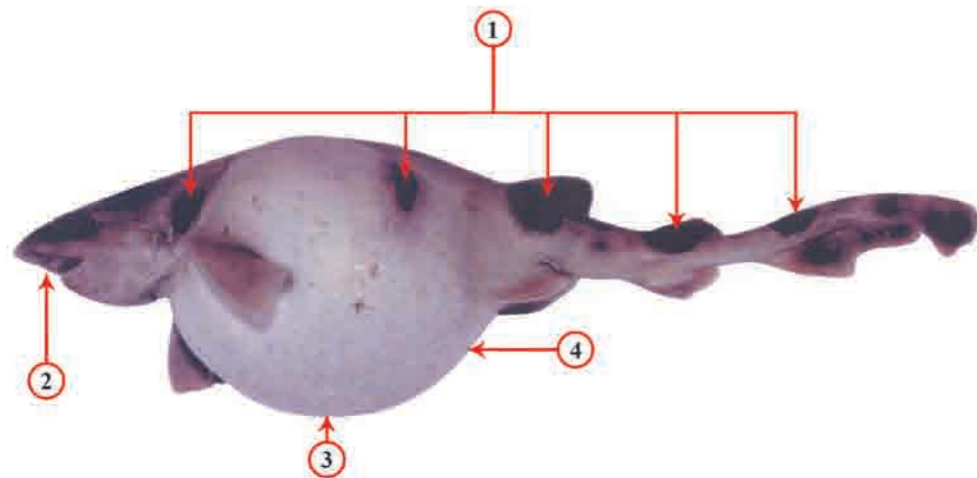
**Commercial Importance:** Caught by bottom trawl nets. Utilised for its meat and fins but less commercial value.

**Conservation status:** IUCN Red List 2010: Data deficient.

*Cephaloscyllium sarawakensis* Yano, Ahmad and Gambang, 2005

SCYLORHINIDAE

English name : Sarawak pygmy swellshark  
Malay names : Yu buntal Sarawak, Yu buncit, Yu kembong  
Japanese name : Ko-nanukazame



**Key Features:**

1. Brownish dorsally with dark saddles of almost same width on back at interorbital, above pectoral fins, first dorsal fin base, second dorsal fin base and dorsal caudal lobe, blotches present on sides of predorsal space, and with vertical elongate dark blotch on center of body side between pectoral and pelvic fin.
2. Snout moderately flattened, short and broadly rounded.
3. Inflatable stomach, filling with air like puffer fish.
4. Pale ventrally.

**Size:** To at least 48 cm TL. Males and females appear to be matured at 32 cm and 35 TL respectively.

**Habitat and Distribution:** Demersal species found on the outer shelf at depth of about 118-165 m depth from off Sarawak (borneo) to Hainan Island and in Tropical northwestern Pacific.

**Biology:** Oviparous. Diet, probably mainly small invertebrates and fishes.

**Commercial Importance:** Rarely caught by deep water trawl nets. Limited value for food.

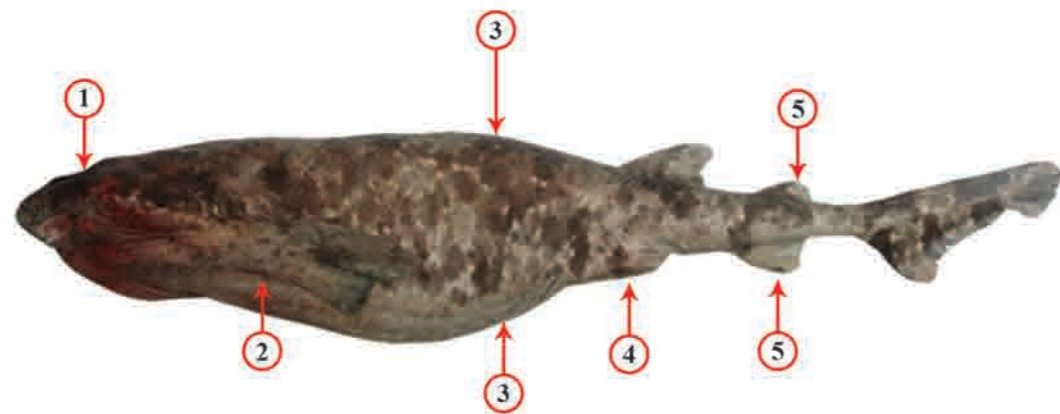
**Conservation status:** IUCN Red List 2010: Data deficient.



*Cephaloscyllium cf. speccum* Last, Seret & White, 2008

SCYLIORHINIDAE

English name : Speckled swellshark  
Malay name : Yu buntal bintik  
Indonesian names : Hiu lempang, Hiu tokkek



**Key features:**

1. Head short and wide.
2. Pectoral fin wide and short.
3. Back heavily mottled and saddled (black and white), ventral surface grey with white and black spotted.
4. Pelvic fin smaller than second dorsal fin.
5. Anal fin bigger than second dorsal fin.

**Size:** Attains at least 72 cm TL; males mature at about 64 cm TL. The present specimen measured 64.9 cm TL.

**Habitat and Distribution:** The present specimen was caught in Sarawak waters, (Malaysia) in 2010.

**Biology:** Biology unknown. Presumably oviparous. Diet presumably small invertebrates and fishes.

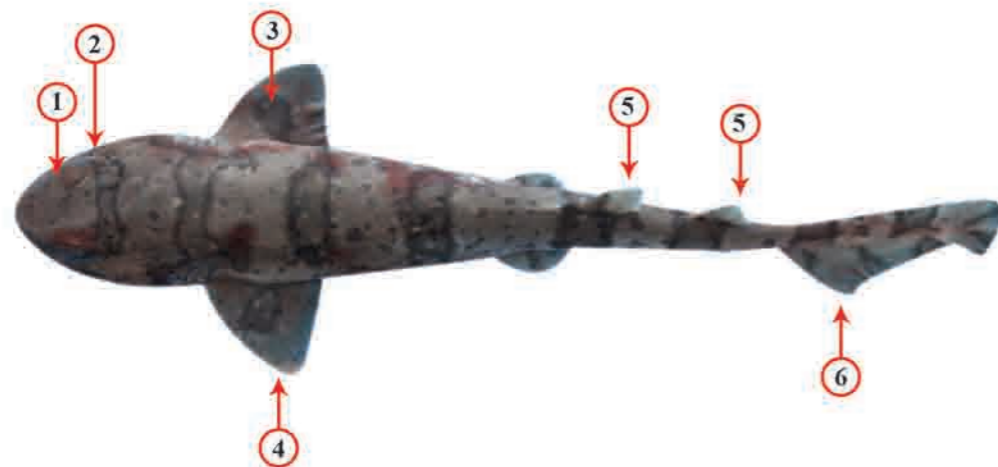
**Commercial Importance:** Only one specimen caught using traps during the MVSEAFDEC II collaborative resource survey in Sarawak waters in August 2010. Not found in the markets or landing sites in Malaysia. Its meat most probably used for human consumption.

**Conservation status:** IUCN Red List: Not evaluated.

*Cephaloscyllium* cf. *variagatum* Last and White, 2008

SCYLIORHINIDAE

English name : Stripes swellshark  
Malay name : Yu buntal jalur



**Key features:**

1. Head short and wide.
2. 8 wide dusky stripes on back. The origin of first stripe anterior to eye.
3. One pair of dusky spot on pectoral fins.
4. Pectoral fin short and almost triangle.
5. Anterior part of dorsal fins white.
6. Lower lobe of caudal fin wide.

**Size:** Only one specimen. The present specimens measured 44 cm TL.

**Habitat and Distribution:** The present specimen was caught in Sarawak waters, (Malaysia) in 2010.

**Biology:** Biology unknown. Presumably oviparous. Diet presumably small invertebrates and fishes.

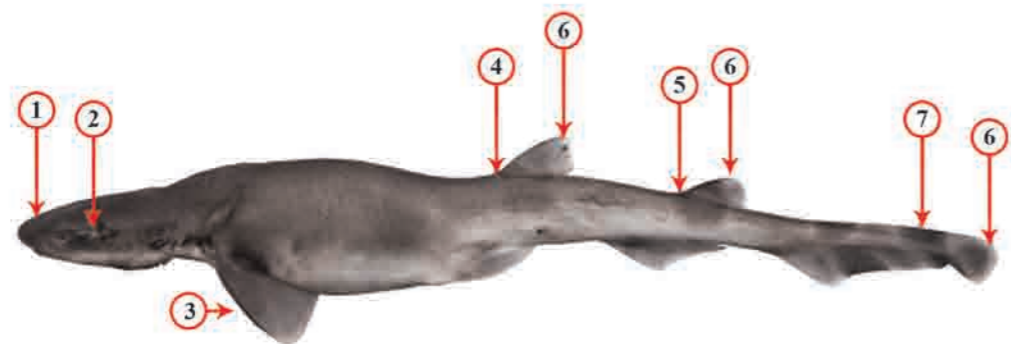
**Commercial Importance:** Only one specimen caught using traps during the MVSEAFDEC II collaborative resource survey in Sarawak waters in August 2010. Not found in the markets or landing sites in Malaysia. Its meat most probably used for human consumption.

**Conservation status:** IUCN Red List: Not evaluated.

*Galeus cf. eastmani* (Jordan and Snyder, 1904)

SCYLIORHINIDAE

English name : Gecko shark  
Malay name : Yu pokka



**Key Features :**

1. Short head.
2. The eyes are large and horizontally oval.
3. Pectoral fins are rather large and broad, with rounded corners.
4. First dorsal fin has a blunt apex and its origin over the pelvic fin base.
5. Second dorsal fin similar shape with first dorsal but is slightly smaller, and is origin over the latter third of the anal fin base.
6. Dorsal and caudal fins white-edged.
7. Body from first dorsal fin to caudal fin with dark saddles and blotches.

**Size:** Maximum total length attains 50 cm. Males and females mature 31 cm and 36 cm TL. The present specimen measured 29 cm TL.

**Habitat and Distribution:** Demersal species found at depths of 100-900 m . Distributed in Western North Pacific off Japan, the East China Sea, and possibly Vietnam. The present specimen caught in eastern part of Sabah, Malaysia during the resource survey in 2009.

**Biology:** Oviparous. In Japan, shows sexual segregation, with reported schools of mostly females. Feeds presumably varieties of demersal fishes, cephalopods and crustaceans.

**Commercial Importance:** Reported to be very common in Japan and Taiwan with less commercial value. Only one specimen caught during the survey in Sabah, Malaysia in 2009.

**Conservation status:** IUCN Red List 2010: Least Concern.

*Halaelurus buergeri* (Müller and Henle, 1838)

SCYLIORHINIDAE

English name	: Blackspotted catshark
Malay names	: Yu kuching tompok hitam, Yu bodoh
Thai name	: Chalarn Pong-lom
Indonesian name	: Hiu tokek
Japanese name	: Nagasaki torazame



**Key Features:**

1. Short and pointed snout.
2. White ventrally.
3. Colour pattern variegated, with obscure dusky saddles and large black spots outlining their margins on a light background.
4. First dorsal fin origin over last fourth of pelvic bases.
5. Second dorsal as large as or slightly smaller than first.

**Size:** Maximum TL about 49 cm, adolescent males 36 cm TL, adult males from 36-43 cm, females pregnant at 45 cm TL.

**Habitat and Distribution:** Common tropical and temperate bottom-dwelling catshark of the western Pacific continental shelf, occurring at depths down from 80-100 m. Distributed in the western North Pacific: Japan, Korea, China, including Taiwan. The present specimen was collected from Sarawak waters in Malaysia. Also recorded in Thailand.

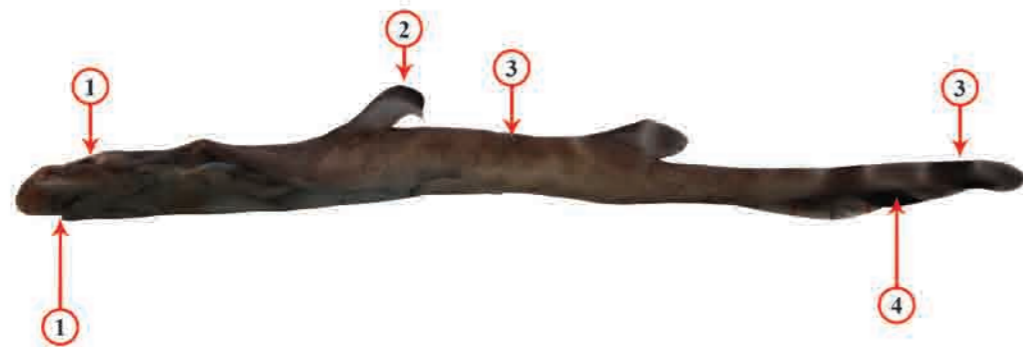
**Biology:** Multiple oviparity with several egg-capsules retained in the oviduct until embryos reach an advanced stage before they are laid. Diet presumably dominated by small invertebrates and fishes.

**Commercial Importance:** Not seen in the market during the study in Malaysia and Brunei Darussalam. Rarely caught with bottom trawl nets. Utilised for its meat.

**Conservation status:** IUCN Red List 2010: Data deficient.

*Eridacnis cf. radcliffei* Smith, 1913

English name : Pygmy ribbontail catshark  
Malay name : Yu kerdil  
Thai name : Chalarn Kob Nam Luek  
Indonesian name : Hiu pigmi



PROSCYLLIIDAE

**Key Features:**

1. Eye large, spiracle moderately large. Mouth triangular.
2. Tip of first dorsal fin dark brown and white below. Its position slightly closer to pelvic fins than pectorals.
3. Colour dark brown, with prominent dark banding on tail and dark markings on dorsal fins.
4. Caudal fin long, ribbon like with dark stripe.

**Size:** The present juvenil female specimen measures 13.6 cm.

**Habitat and Distribution:** A deepwater shark occurs on off Sarawak (Borneo) at depth more than 100m. Most probably occurs in the Philippines.

**Biology:** Unknown.

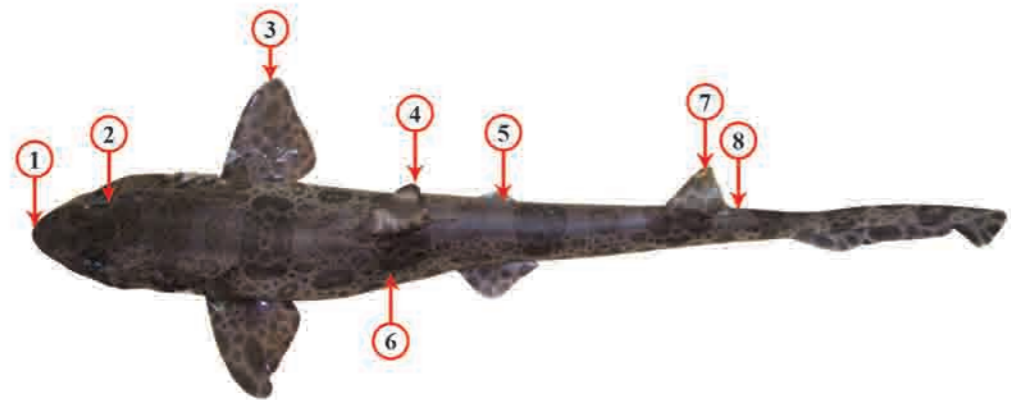
**Commercial Importance:** Caught by bottom trawl nets. Commercial value unknown. Not found in the markets.

**Conservation Status:** IUCN Red List 2010: Not evaluated.

*Proscyllium magnificentum* Last and Vongpanich, 2004

PROSCYLLIIDAE

English names : Finback catshark, Clown catshark, Magnificent catshark  
Malay name : Yu badut  
Thai name : Chalarm Lai Mek



**Key Features:**

1. Head moderately depressed. Snout short, slightly bell-shaped or not, front rounded-parabolic in dorsoventral view.
2. Eye large, dorsolateral on head with well developed subocular ridge, elongate to slit-like, length 3.7 (3.6-3.9%) of TL.
3. Pectoral fin broad, anterior margin slightly concave, posterior margin straight.
4. First dorsal fin more upright and slightly larger of second dorsal fin (1.12-1.18 times higher than second dorsal fin).
5. Body with variegated pattern of small and larger spots and dots.
6. Clusters of two small round spots above, a large upcurved spot and an intermediate small spot forming 'clown faces' below dorsal fin.
7. Second dorsal fin raked, with almost straight anterior margin, narrowly rounded apex, slightly concave posterior margin.
8. Inner margin of second dorsal fin short (3.34-4.15) times fin length.

**Size:** At least 49 cm TL. Males mature at about 47 cm TL. Born or hatch size unknown.

**Habitat and Distribution:** Near edge or outer continental shelf (> 200 m), Indian Ocean (Andaman Sea). Only recorded in Myanmar and Thailand.

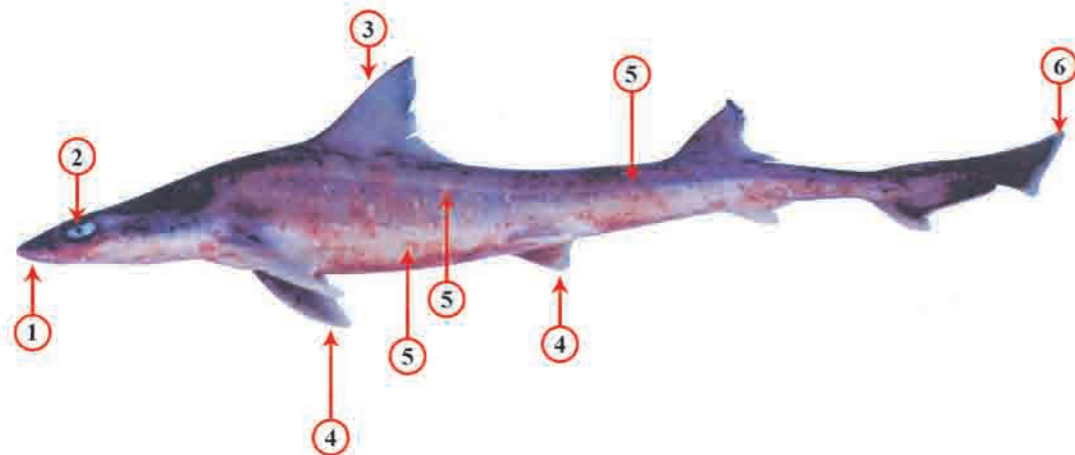
**Biology:** Unknown.

**Commercial Importance:** Rarely caught by longlines. Its meat and fins probably used for human consumption.

**Conservation Status:** IUCN Red List 2010: Not evaluated.

*Mustelus manazo* Bleeker, 1854

English names	: Starspotted smoothhound, Gummy shark, Japanese smoothhound
Malay names	: Yu jaras bintik, Yu jaras
Thai name	: Chalarn Noo
Indonesian names	: Hiu kacang, Hiu air, Cucut londer
Japanese name	: Hoshi zame



TRIAKIDAE

**Key Features:**

1. Head short, snout moderately long and bluntly angular in lateral view.
2. Eye large, dorsolateral on head with ridge beneath.
3. First dorsal fins broadly triangular, with posteroventrally sloping posterior margin. Its origin well behind pectoral fin base.
4. Pectoral and pelvic fins moderate size.
5. Colour uniform grey or grey-brown above, light below, usually with numerous white spots but no dark spots or dark bars.
6. Caudal fin often with white posterior margin or tip.

**Size:** Maximum 128 cm TL. Males mature at about 62-70 cm and females between 62-70 cm TL. Size at birth about 30 cm TL.

**Habitat and Distribution:** Demersal shark of temperate and tropical continental waters. Found in the intertidal and subtidal regions. Recorded in Western North Pacific to Southern Siberia. From Kenya to Western Indian Ocean. Also recorded in Japan, Korea, China, Taiwan, Vietnam, Malaysia, Thailand, Indonesia. Most probably occurs in the Philippines.

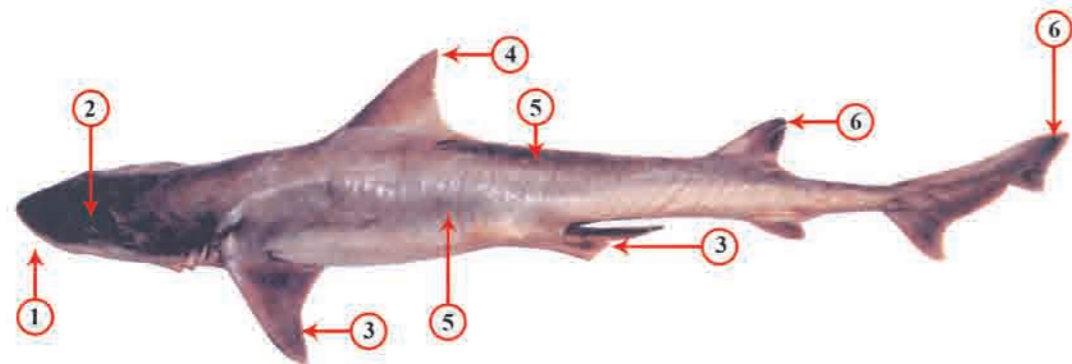
**Biology:** Viviparous. 1-22 pups/litter. Eats mostly bottom invertebrates and fishes such as crustacean, jacks, herring, filefish, morids, mackerel and mollusks.

**Commercial Importance:** Caught by bottom long lines, bottom vertical longlines, trawl nets and bottom gillnets. Meat and fins utilised for human consumption, but of limited value.

**Conservation Status:** IUCN Red List 2010: Data deficient.

*Mustelus mosis* Hemprich and Ehrenberg, 1899

English name : Arabian smooth-hound  
Malay names : Yu jaras Arab, Yu jaras  
Thailand name : Chalarn Noo  
Indonesian names : Hiu kacang, Hiu air, Cucut londer



**Key Features:**

1. Head short, snout moderately long and bluntly angular in lateral view.
2. Eye large, dorsolateral on head with ridge beneath.
3. Pectoral fin moderate size. Pelvic fins small.
4. First dorsal with a prominent white tip.
5. Uniform grey or greyish-brown, above, lighter below lacking white spots
6. Black-tipped second dorsal and caudal fins.

**Size:** Maximum 110 cm TL. In Malaysia maximum TL 94 cm was recorded in 2005 and males mature at 73 cm TL.

**Habitat and Distribution:** Demersal on the mid continental shelf to upper slope in deep water. Specimens in Malaysia caught at 150-200 m depth. Recorded in Malaysia (Sarawak waters-off Borneo), Thailand and Brunei Darussalam.

**Biology:** Viviparous. Diet consists of small bottom fish, mollusks and crustaceans.

**Commercial Importance:** Rarely found in the markets. A commercial species for its meat and fins. Caught by bottom vertical longlines.

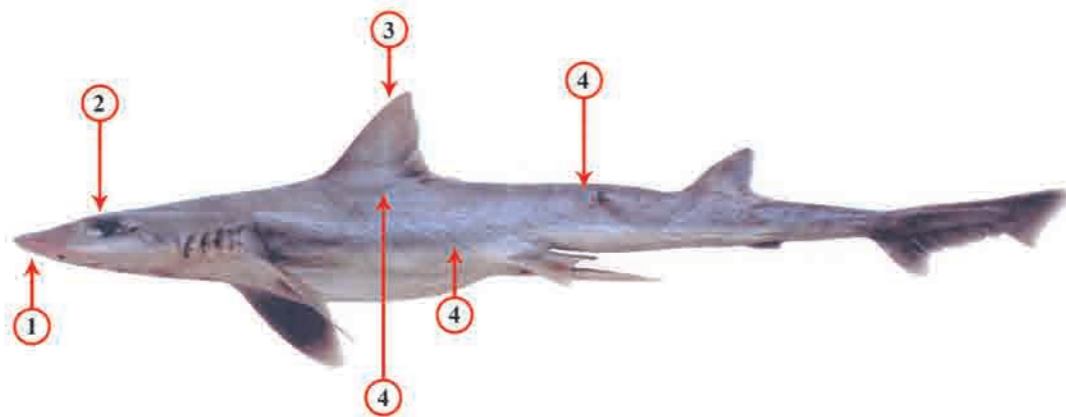
**Conservation Status:** IUCN Red List 2010: Data deficient.



*Mustelus* sp. [Yano *et al.*, 2005]

TRIAKIDAE

English name : Sarawak smooth-hound  
Malay names : Yu jaras Sarawak, Yu jaras  
Thai name : Chalarn Noo



**Key Features:**

1. Head short, snout moderately long and bluntly angular in lateral view. Internarial space broad. Mouth fairly short, about equal to eye length.
2. Eye large, interorbital space broad 6.1-6.3% of TL.
3. First dorsal broadly triangular, with posteroventrally sloping posterior margin.
4. Uniform grey or grayish-brown above, lighter below, usually with numerous very small white spot but no dark spots or dark bars.

**Size:** A small smoothhound shark. Maximum size (from 3 specimens), 65.3 cm TL for females and 62.7 cm TL for males. Male specimens (59.8 cm and 62.7 cm TL) and a female (65.3 cm TL) already matured.

**Habitat and Distribution:** Demersal sharks. Caught at 84-165 m depth in Sarawak (off Borneo).

**Biology:** Viviparous. Diet consists of fishes and crustaceans.

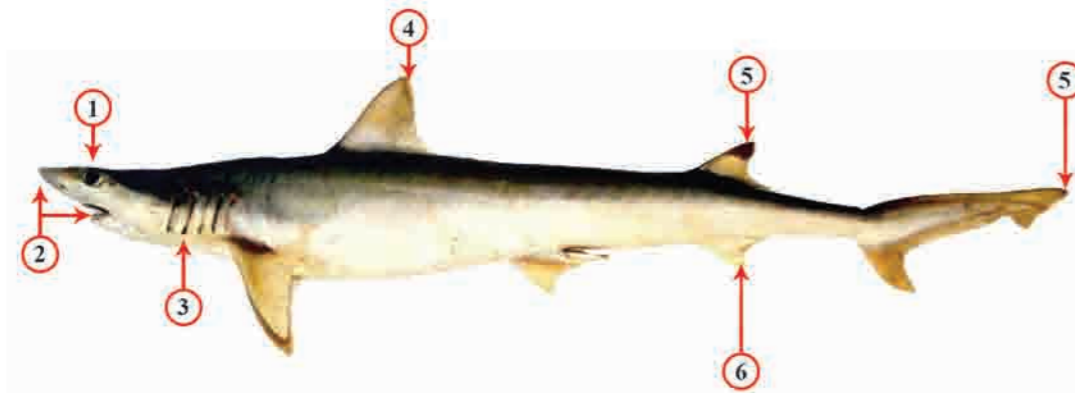
**Commercial Importance:** Caught by bottom trawls and vertical longlines in Malaysia. Not found in the markets.

**Conservation Status:** IUCN Red List 2010: Not evaluated.

*Chaenogaleus macrostoma* (Bleeker, 1852)

HEMIGALEIDAE

English name : Hooktooth shark  
Malay name : Yu gigi cangkuk  
Thai name : Chalarn Noo  
Indonesian names : Hiu kacang, Hiu pilus  
Japanese name : Australia here-togariszame



**Key Features:**

1. Large lateral eyes with nictitating eyelids.
2. Snout wedge-shaped in dorsalventral view. Lower teeth protrude prominently when mouth is closed. Mouth parabolic and long, its length 66 to 82% of its width.
3. Gill slits large, more than 2 times eye length.
4. Fins not falcate.
5. Sometimes black second dorsal and terminal lobe of caudal fin.
6. Anal fin smaller than second dorsal and without preanal ridges.

**Size:** Maximum TL about 100 cm. Males mature at 68-97 cm TL. Size at birth at least 20 cm TL.

**Habitat and Distribution:** Inshore tropical shark of the continental and insular shelves, caught at depths down to 59 m. Distributed in Indo-West Pacific from the Persian Gulf to India, Sri Lanka, Malaysia, Brunei Darussalam, Myanmar, Thailand, Vietnam, China, Taiwan and Indonesia.

**Biology:** Viviparous. 4 pups/litter. Diet consists of small fishes, cephalopods and crustaceans.

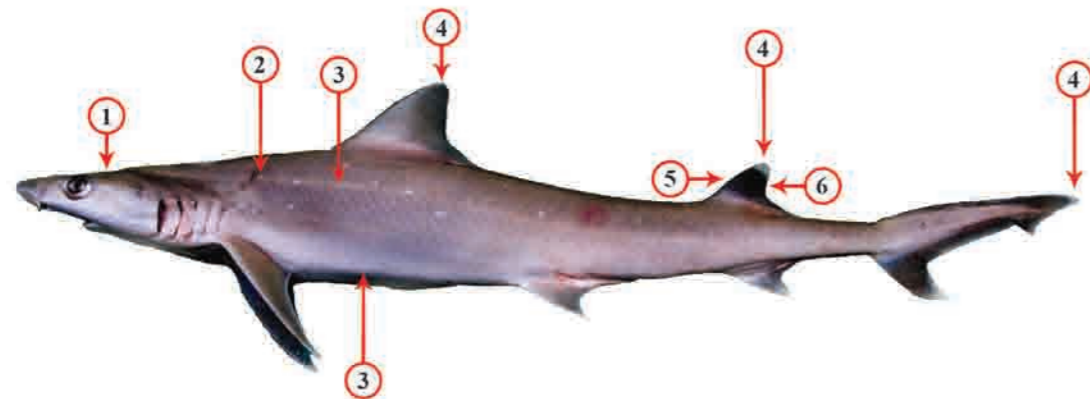
**Commercially Importance:** Caught by trawlers, gillnets, small-scale longlines. Utilised for its meat. Less value for fins (small size).

**Commercial status:** IUCN Red List 2010: Vulnerable.

*Hemigaleus microstoma* Bleeker, 1852

HEMIGALEIDAE

English names : Weasel shark, Sicklefins weasel shark  
Malay names : Yu pasir, Yu bintang putih  
Thai name : Chalarn Noo  
Indonesian names : Hiu pilus, Hiu kacang  
Japanese name : Hire-togarizame



**Key Features:**

1. Spiracle small.
2. Sometimes white spots on sides.
3. Light bronze to greyish above, pale ventrally.
4. First dorsal, second dorsal and upper caudal fin tips white.
5. Second dorsal fin about two-third height of first dorsal fin.
6. Posterior margin of second dorsal fin deeply concave.

**Size:** Size at birth about 26-28 cm TL and attains 114 cm TL. Males mature at about 60 cm and females 65 cm TL.

**Habitat and Distribution:** Inshore species of tropical continental seas, on or near bottom. Indo-West Pacific off southern India, Sri Lanka, Thailand, Malaysia, Brunei Darussalam, Myanmar, Indonesia, China, Taiwan, northern Vietnam, the Philippines, New Guinea, and eastern, northern, western Australia.

**Biology:** Viviparous. 2-4 pups/litter. Diet consists of small fish, octopus and squids.

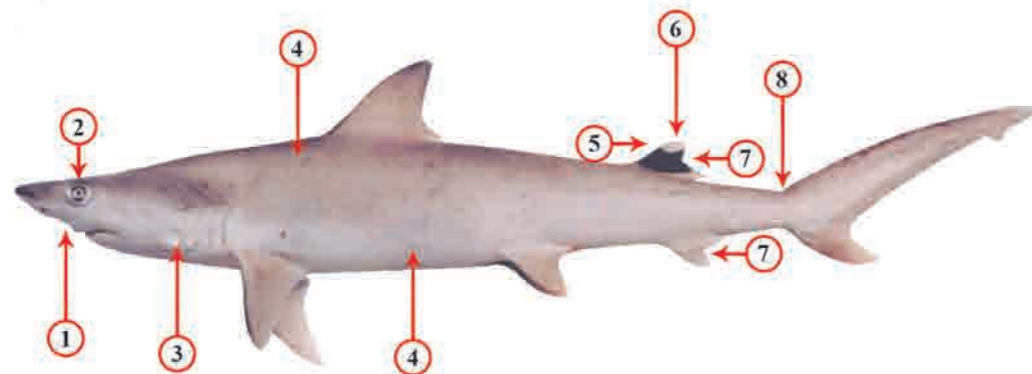
**Commercially Importance:** Caught by bottom trawls, hook and lines, longlines and inshore gillnets. Meat sold fresh. Limited value for fins due to its small size.

**Conversations status:** IUCN Red List 2010: Vulnerable.

*Hemipristis elongata* (Klunzinger, 1871)

HEMIGALEIDAE

English names : Fossil shark, Snaggletooth shark  
Malay names : Yu gigi cerakah, Yu putih  
Thai name : Chalarn Noo  
Indonesian name : Hiu monas  
Japanese name : Kama-hirezame



**Key Features:**

1. Snout relatively long, broadly rounded. Teeth protrude prominently from closed mouth.
2. Eyes moderately large, spiracle small.
3. Gill slits long, more than 2-3 times eye length.
4. Bronze to greyish brown dorsally, pale ventrally.
5. Second dorsal fin about 2/3 size of first dorsal fin, its origin ahead of anal fin origin.
6. Second dorsal fin tips white. Its size bigger than anal fin.
7. Second dorsal and anal fins strongly falcate.
8. Crescentic precaudal pits.

**Size:** Size at birth 45-52 cm and attains 240 cm TL. Males mature at about 110 cm and females 120 cm TL.

**Habitat and Distribution:** Continental and insular shelves to depth 132 m. Indo-west Pacific: South Africa to Indonesia, Malaysia, Thailand, Myanmar, Brunei Darussalam, northern Australia, the Philippines and China.

**Biology:** Viviparous. 2-11 pups/litter. Diet consists of cephalopods (mainly squid) and fish.

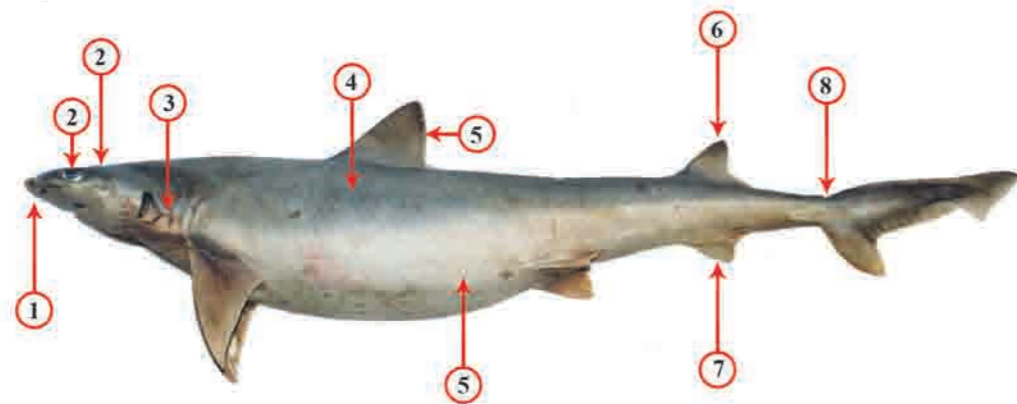
**Commercial Importance:** Caught by trawl nets, bottom gillnets, longlines and hook and lines. Utilised fresh, fins and cartilage used in trade.

**Conservation Status:** IUCN red list 2010: Vulnerable.

*Paragaleus tengi* (Chen, 1963)

HEMIGALEIDAE

English name : Straight-tooth weasel shark  
Malay name : Yu gigi lurus  
Thai name : Chalarn Noo  
Indonesian names : Hiu kacang, Hiu pasir  
Japanese name : Ten-ibara zame



**Key Features:**

1. Snout long, its length slightly greater than mouth width.
2. Large lateral eyes with nictitating eyelids, small spiracle.
3. Moderate-sized gill slits about 1.2 to 1.3 times eye length in adults (less in young).
4. Body grey or grey-brown above, light below. No prominent markings on body and fins.
5. First dorsal fin not falcate.
6. Second dorsal fin high, about 2/3 of length of first dorsal fin.
7. Anal fin smaller than second dorsal.
8. Crescentic precaudal pits.

**Size:** Maximum 93 cm TL recorded in Malaysia. Males mature at 78-88 cm TL. Born at 40 cm TL.

**Habitat and Distribution:** Continental and insular shelves to depth of at least 130 m. Found throughout the Indo-West Pacific; Vietnam, Thailand, southern China (off Hong Kong), Taiwan, Japan, Malaysia, Indonesia and Brunei Darussalam.

**Biology:** Viviparous. 2-11 pups/litter. Diet consists of cephalopods and fishes.

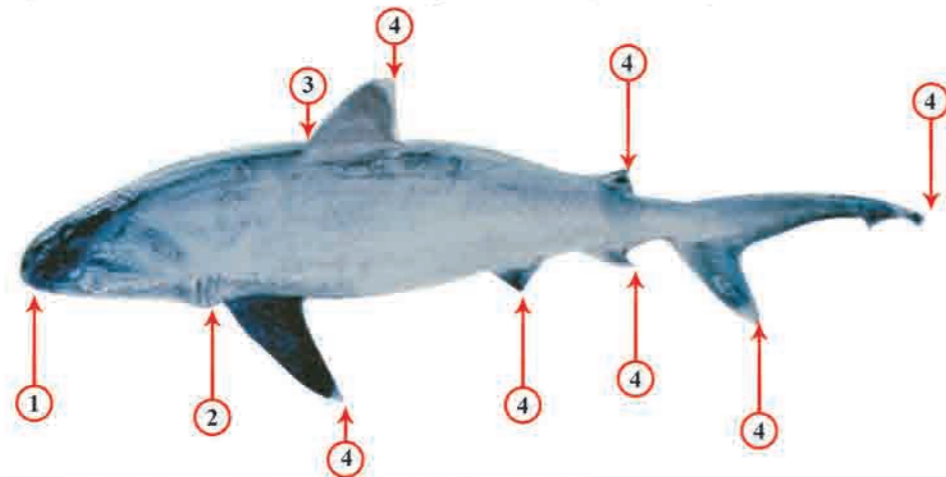
**Commercial Importance:** Caught by inshore gillnets, bottom trawlers and longlines. Utilised for its meat. Less value for fins (small size).

**Conservation Status:** IUCN Red List 2010: Data deficient.

*Carcharhinus albimarginatus* (Rüppell, 1837)

English name : Silvertip shark  
Malay name : Yu sirip perak  
Indonesian names : Hiu plen, Hiu sonteng, Cucut lanjaman, Cucut lanjam bangbara, Hiu lanyam  
Japanese name : Tsuma jiro  
Myanmar name : Nga-mann

(Photo credit : Research Center for Capture Fisheries, Indonesia)



CARCHARHINIDAE

**Key Features :**

1. Snout moderately long and broadly rounded.
2. Gill slits short.
3. Origin of first dorsal fin over or slightly anterior to pectoral rear tips.
4. All fins with conspicuous white tips.

**Size:** Reaching 300 cm TL. Males and females mature at 160 cm TL. Size at birth 63 cm TL.

**Habitat and Distribution:** Coastal pelagic tropical inshore and offshore shark. Found throughout the tropical Indo-West Pacific and the eastern Central Pacific. Recorded in Indonesia, Malaysia, Myanmar, Thailand, Philippine and Vietnam.

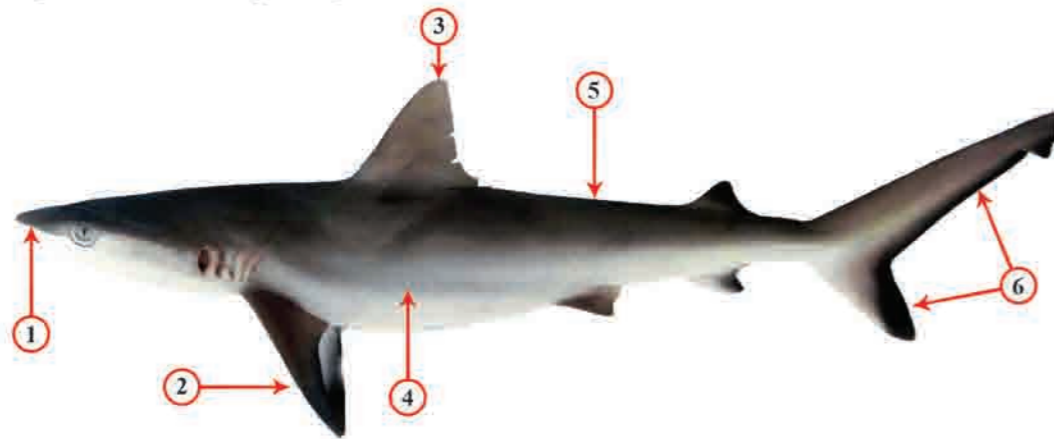
**Biology:** Viviparous. 1-11 pups/litter. Feed on a variety of mid-water and bottom fishes.

**Commercial Importance:** Caught by shark and tuna longlines and tuna gill net in offshore. Utilised for its meat and fins.

**Conservation status:** IUCN Red List 2010: Near threatened.

*Carcharhinus amblyrhynchos* (Bleeker, 1856)

English names	: Grey reef shark, Black-vee whaler, Longnose blacktail shark
Malay names	: Yu sirip hitam, Yu ekor hitam
Thai name	: Chalarn Nah-moo
Indonesian names	: Cucut lanjaman, Hiu lonjor, Hiu lanyam
Japanese name	: Oguromejiro zame



CARCHARHINIDAE

**Key Features:**

1. Snout moderately long and broadly rounded (viewed from underneath).
2. Pectoral fins narrow and falcate.
3. First dorsal fin relatively tall, its origin over pectoral fin inner margins. Pale grey, sometimes with a small white tip and white trailing margin; remaining fin tips dusky.
4. Flank with an indistinct pale stripe extending anteriorly from above the pelvic fins.
5. Interdorsal ridge either weak or absent.
6. Entire posterior edge of caudal fin with wide black border.

**Size:** Maximum TL reported to attain 255 cm, but rarely exceeds 180 cm TL. Size at birth about 45-75 cm TL. Females mature at 120-137 cm TL, males at 110-145 cm TL.

**Habitat and Distribution:** Coastal pelagic, continental and insular shelves. Common in coral reef from the surface to about 280 m depth. Distributed between the tropical waters of Indo-West and Central Pacific. Reported in Brunei Darussalam, Indonesia, Thailand, Malaysia and Philippine.

**Biology:** Viviparous. 1-6 pups/litter. A bottom-feeder, eating small fishes and octopuses. Becomes aggressive when provoked and can potentially be dangerous to human.

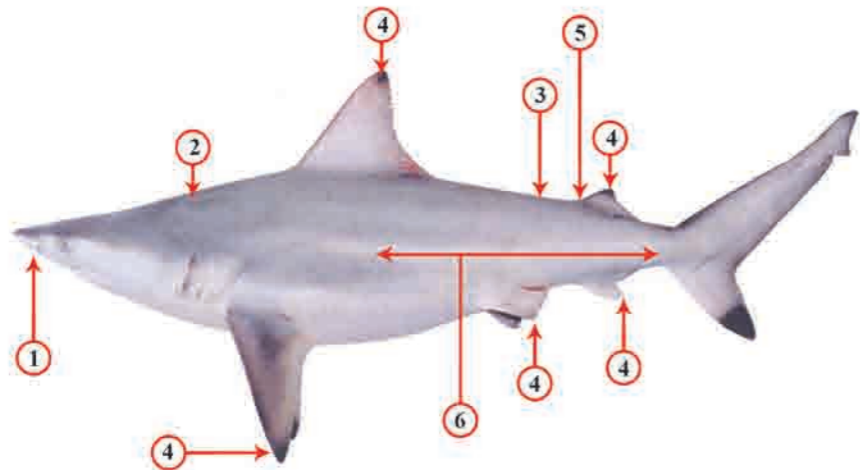
**Commercial Importance:** Caught by trawlers, longlines, hook and lines and gillnets. A commercial species. Fully utilised (meat, fins, skin and cartilage)

**Conservation Status:** IUCN Red List 2010: Near threatened.

*Carcharhinus amblyrhynchoides* (Whitley, 1934)

CARCHARHINIDAE

- English names : Graceful shark, Queensland shark  
Malay names : Yu jalur putih, Yu sirip hitam  
Thai name : Chalarn Nah-moo  
Indonesian names : Cucut lanjaman, Hiu bujit  
Myanmar name : Nga-mann-gaung-waing



Key Features:

1. Snout short, pointed (view from underneath), upper labial furrows short, small and inconspicuous.
2. Dorsal surface bronze, fading to grey after death or in preservative.
3. Interdorsal ridge absent.
4. All fin tips usually black or dusky (anal fin sometimes uniformly pale).
5. Second dorsal fin origin about over or slightly in front of anal fin origin.
6. Pale ventrally with a pale stripe extending along the mid-flank from the pelvic fin to below the first dorsal fin.

**Size:** Maximum TL reaching 167 cm and both sexes mature at 104-115 cm TL. Size at birth about 52-55 cm TL.

**Habitat and Distribution:** Coastal pelagic on continental and insular shelves, found throughout the tropical Indo-West Pacific; Gulf of Aden, southern India, Sri Lanka, Vietnam, Thailand, Malaysia, Brunei Darussalam, Myanmar, the Philippines, Indonesia, Australia and New Guinea.

**Biology:** Viviparous. 2-8 pups/litter. In Malaysia, adult female (167 cm TL) had three embryos (240-272 mm TL) and two mature males (125 cm and 132 cm TL) had calcified claspers. Diet consists of fishes, crustaceans and cephalopods.

**Commercial Importance:** Caught by trawlers, gillnets, longlines. Utilised for its fins and meat.

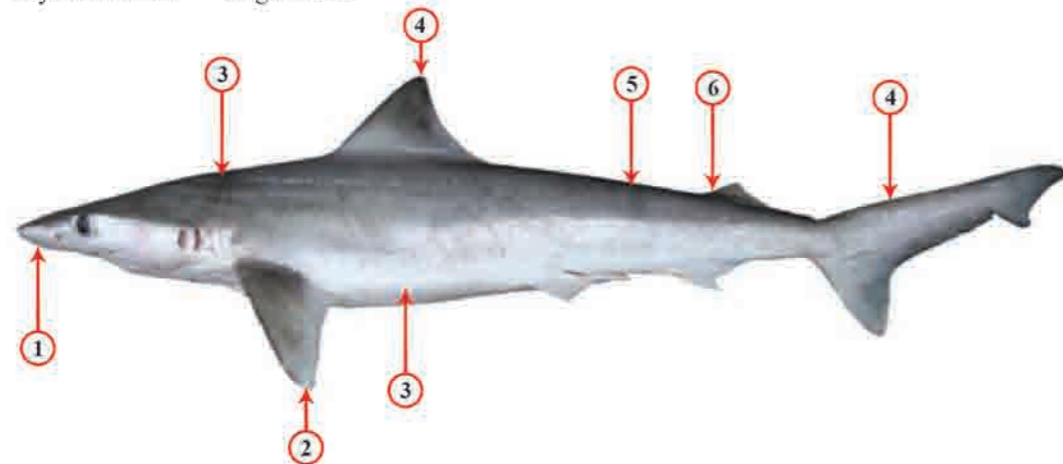
**Conservation Status:** IUCN Red List 2010: Near threatened.



*Carcharhinus borneensis* (Bleeker, 1859)

CARCHARHINIDAE

English name	: Borneo shark
Malay name	: Yu Borneo
Thai name	: Chalarm Chai-gruey
Indonesian name	: Hiu
Japanese name	: Borneo mejorozame
Myanmar name	: Nga-mann



**Key Features:**

1. Snout long and pointed.
2. Small pectoral fins, falcate, with narrowly rounded or pointed apices.
3. Brown above. White below.
4. Tip of first dorsal fin and dorsal caudal margin dusky.
5. No interdorsal ridge
6. Second dorsal fin small and low (2.2-2.5 in inner margin), its origin over or slightly behind anal fin midbase.

**Size:** Maximum 178 cm TL. Both sexes mature at about 75 cm TL. Size at birth about 35-40 cm TL.

**Habitat and Distribution:** Coastal and inshore species recorded in Sabah and Sarawak (Borneo), Brunei Darussalam and Indonesia. Most probably in the Philippines.

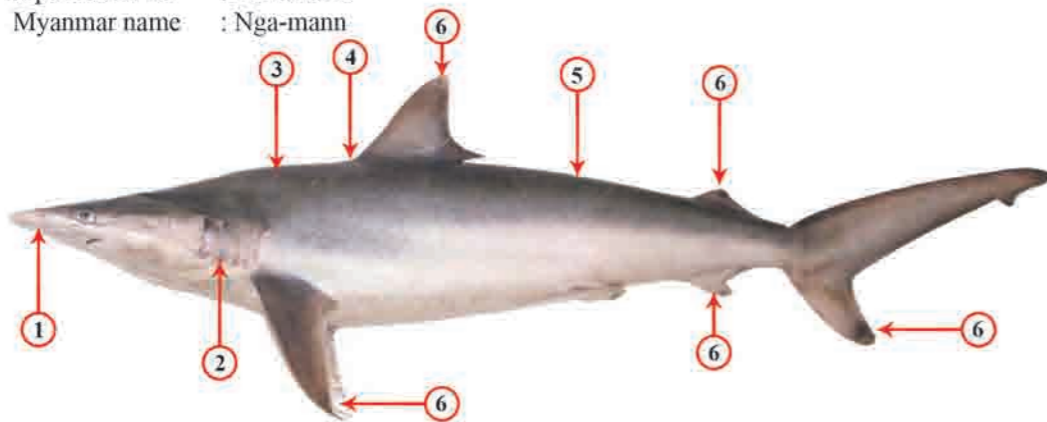
**Biology:** Viviparous. 2-8 pups/litter. Diet consists of fishes, cephalopods and crustaceans. Usually caught by trawlers and gillnets.

**Commercial Importance:** Commercially important species. Utilised for its meat. Sold fresh.

**Conservation Status:** IUCN Red List 2010: Endangered.

*Carcharhinus brevipinna* (Müller and Henle, 1839)

English names : Spinner shark, Longnose grey shark, Inkytail shark  
Malay names : Yu muncung panjang, Yu lompat  
Thai name : Chalarn Chai-gruey  
Indonesian names : Hiu plen, Hiu lonjor, Hiu merak bulu  
Japanese name : Hana zame  
Myanmar name : Nga-mann



CARCHARHINIDAE

**Key Features:**

1. Snout pointed and long (viewed from underneath).
2. Long gill slits.
3. Dorsal surfaces bronze to greyish, fading to grey after death or in preservative; pale ventrally.
4. First dorsal origin slightly behind pectoral fin free rear tips.
5. No interdorsal ridge.
6. Most fins of adults and juveniles (not young) have obvious black tips, inconspicuous white band on flanks, underside white.

**Size:** Maximum at least 283 cm TL. Size at birth about 60-81cm TL. Females mature at 170-220 cm and males at 159-203 cm TL.

**Habitat and Distribution:** Found inshore, from nearshore to at least 75 m depth. Distributed in warm temperate and tropical areas of the Atlantic, Indian and Western Pacific Oceans, throughout northern Australia, except the eastern Pacific. Recorded in Thailand, Malaysia, Myanmar, Indonesia and Philippine.

**Biology:** Viviparous. 3-15 pups/litter. Diet consists of small fishes and cephalopods.

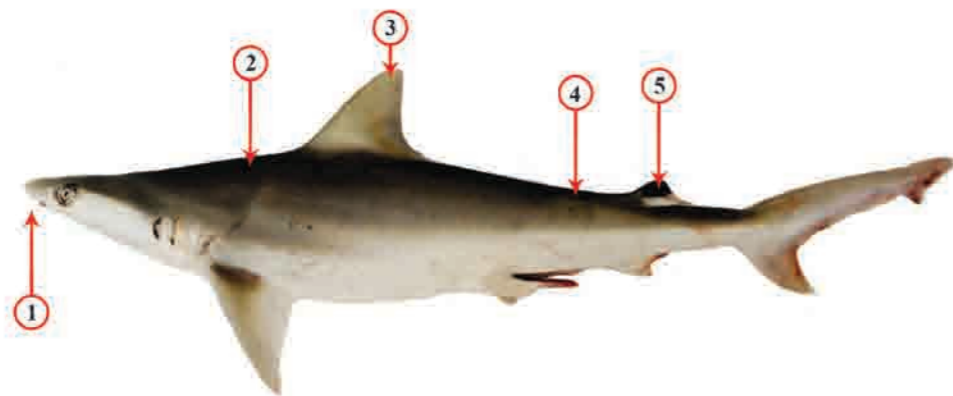
**Commercial Importance:** Caught by trawlers, shark and tuna longlines, and gill nets. Utilised for its fins, meat, skin and cartilage.

**Conservation Status:** IUCN Red List 2010: Near threatened.

*Carcharhinus dussumieri* (Müller and Henle, 1839)

CARCHARHINIDAE

English names	: Whitecheek shark, Widemouth blackspot shark
Malay names	: Yu pasir mulut besar, Yu pasir
Thai name	: Chalarm Chai-gruey
Indonesian names	: Cucut lanjaman, Hiu bujit
Japanese name	: Sumitsuki zame
Myanmar name	: Nga-mann
Vietnamese name	: Cá Nhám
Cambodian name	: Sor



**Key Features:**

1. Snout moderately long, broadly parabolic (viewed from underneath).
2. Bronze upper surface.
3. First dorsal fin moderately tall, triangular (not falcate).
4. Low interdorsal ridge.
5. Only second dorsal fin with a conspicuous black tip.

**Note:** Always confused with *Carcharhinus sealei*.

**Size:** Maximum TL reported to attain 100 cm. Size at birth about 28-40 cm TL. Males mature at 65-75 cm and females mature at 70-75 cm TL.

**Habitat and Distribution:** Demersal inshore to about 170 m depth. Distributed in Tropical Indo-West Pacific, Arabian Sea to Japan, including northern Australia. Recorded in Brunei Darussalam, Cambodia, Indonesia, Malaysia, Myanmar, Thailand and Vietnam. Most probably in the Philippines.

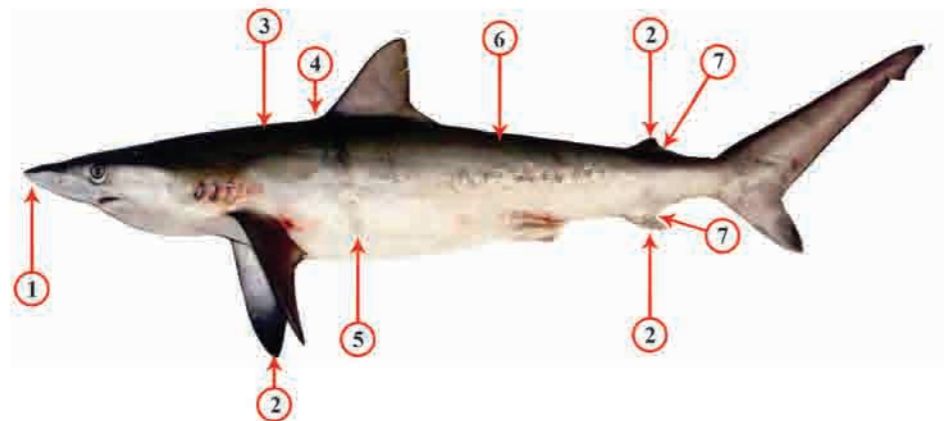
**Biology:** Viviparous. 1-4 pups/litter. Diet consists of fishes, crustaceans and cephalopods.

**Commercial Importance:** Caught by trawl nets and demersal gillnets. Utilised for its meat and fins.

**Conservation Status:** IUCN Red List 2010: Near threatened.

*Carcharhinus falciformis* (Müller & Henle, 1839)

English name	: Silky shark
Malay names	: Yu jereh, Yu pasir
Thai name	: Chalarn Thao
Indonesian names	: Hiu lanyam, Hiu mungsing, Hiu lonjor
Japanese name	: Kurotogari zame
Myanmar name	: Nga-mann
Vietnamese name	: Cá mập Mả lai



CARCHARHINIDAE

Key Features:

1. Snout moderately long, narrowly rounded (viewed from underneath).
2. Pectoral, second dorsal and anal fins sometimes with dusky tips.
3. Large slim dark grey-brown or nearly blackish above.
4. First dorsal fin origin behind pectoral fin free rear tips.
5. White ventrally.
6. Interdorsal ridge present.
7. Second dorsal and anal fins with very long inner margins and rear tips (second dorsal fin inner margin usually over twice its height).

**Size:** Attains at least 350 cm TL. Born at 53-87 cm TL. Males mature at 183-217 cm and females at 213-230 cm TL.

**Habitat and Distribution:** Oceanic and epipelagic, surface to at least 500 m depth. Circumglobal in all tropical waters and seasonally in some warm temperate seas. Recorded in Indonesia, Malaysia, Myanmar, Thailand, Philippine and Vietnam.

**Biology:** Viviparous. 1-16 pups/litter. Eat fishes as well as cephalopods and crustaceans.

**Commercial Importance:** Caught by shark and tuna longlines and tuna gillnets. Valuable meat and fins.

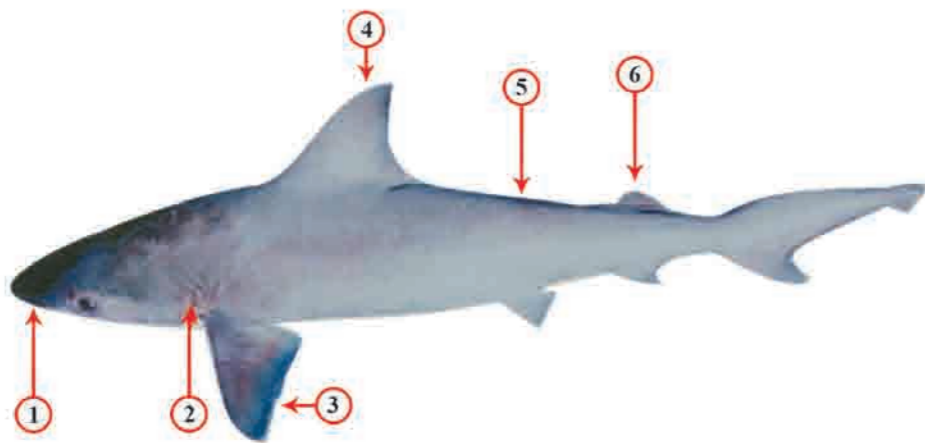
**Conservation Status:** IUCN Red list 2010: Near threatened.

*Carcharhinus fitzroyensis* (Whitley, 1943)

English name : Creek whaler

Indonesian name : Cucut lanjaman

(Photo credit : Research Center for Capture Fisheries, Indonesia)



CARCHARHINIDAE

**Key Features :**

1. Snout long and parabolic.
2. Gill slits short.
3. Pectoral fin moderately large, triangular, with narrowly rounded apices.
4. First dorsal fin large and semi falcate. Its origin over or slightly anterior to pectoral rear tips.
5. No interdorsal ridge.
6. Origin of second dorsal fin over or slightly behind anal fin origin.

**Size:** Maximum TL reaching 135 cm. Size at birth 50 cm TL. Males and females mature at about 80 cm and 90 cm TL respectively.

**Habitat and Distribution:** Inshore to at least 40 m depth. Only recorded in Northern Australia and Indonesia.

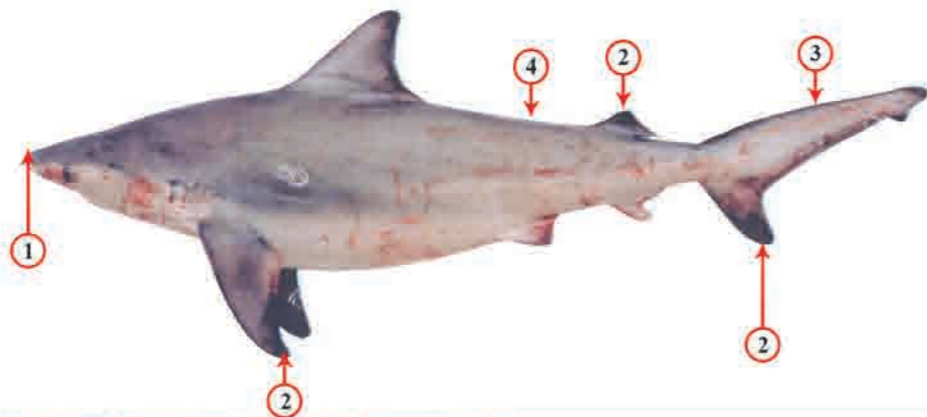
**Biology:** Viviparous. 1-7 pups/litter. Feed on small fishes and crustacean.

**Commercial Importance:** Caught by gillnets. Utilised for its meat and fins.

**Conservation status:** IUCN Red List 2010: Least concern.

*Carcharhinus leucas* (Müller and Henle, 1839)

English names	: Bull shark, River whaler, Freshwater whaler
Malay names	: Yu garang, Jerung sapi
Thai name	: Chalarn Hua-bart
Indonesian names	: Cucut bekeman, Hiu buas, Hiu bujit
Japanese name	: Oomejiro zame
Cambodian name	: Ka Mab
Myanmar name	: Nga-mann



CARCHARHINIDAE

**Key Features:**

1. Snout short and blunt. Preoral length less than internarial space.
2. Juveniles with dusky to black fin tips (particularly the caudal, pectoral and second dorsal fin).
3. Upper caudal fin with a thin dusky posterior margin.
4. No interdorsal ridge

**Note:** Adults with indistinct fin markings.

**Size:** Reported to attain 340 cm TL. Born at 55-81 cm TL. Males mature at 197-226 cm and females at 180-230 cm TL.

**Habitat and Distribution:** A coastal, estuarine and freshwater shark. Occurring from coastal to 150 m depth. Distributed world-wide, in tropical and subtropical seas. Recorded in Brunei Darussalam, Cambodia, Indonesia, Malaysia, Myanmar, Thailand and Philippine.

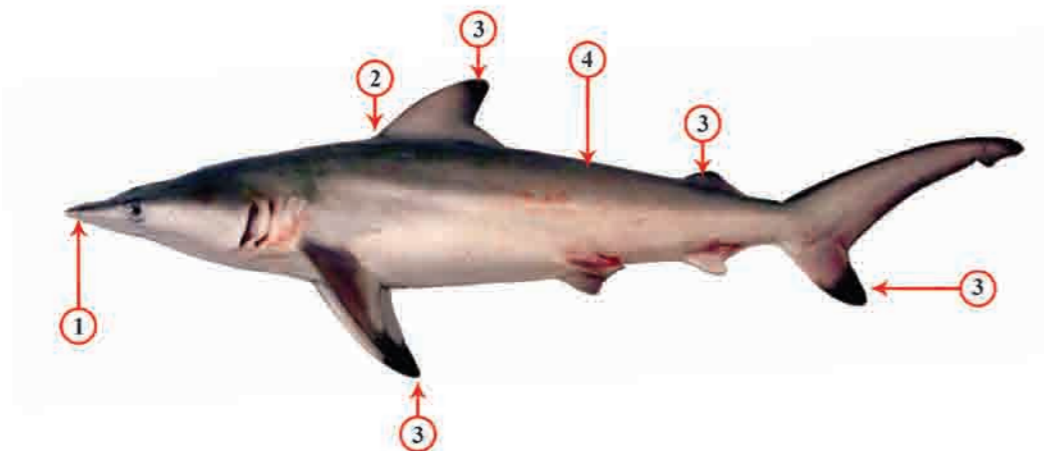
**Biology:** Viviparous. 1-14 pups/litter. Diet consists of fishes, invertebrates, sea turtles, birds, and marine mammals.

**Commercial Importance:** Caught by shark longlines, gillnets and trawlers. Utilised for its meat and fins.

**Conservation Status:** IUCN Red List 2010; Near threatened.

*Carcharhinus limbatus* (Müller & Henle, 1839)

English names	: Common blacktip shark, Black whaler
Malay names	: Yu hujung sirip hitam, Yu kepak hitam
Thai name	: Chalarn Kleep-dum
Indonesian names	: Hiu kejen, Merak bulu cucut lanjaman
Japanese name	: Kamasutogari zame
Myanmar name	: Nga-mann-pu



CARCHARHINIDAE

**Key Features:**

1. Snout long, pointed (viewed from underneath).
2. First dorsal fin origin usually over or just behind pectoral fin insertion.
3. Dorsal, pectoral and ventral caudal fins plained in adult (black-tipped in juveniles).
4. Interdorsal ridge absent.

**Size:** Reported to attain 258 cm TL. Born at 38-72 cm TL. Males mature at 135-180 cm and females at 120-190 cm TL.

**Habitat and Distribution:** Essentially pelagic over continental and insular shelves. Circumglobal in all tropical and warm temperate waters. Recorded in Brunei Darussalam, Cambodia, Indonesia, Malaysia, Myanmar, Thailand, Philippine and Vietnam.

**Biology:** Viviparous. 1-10 pups/litter (usually 4-7). Eats fishes, cephalopods and crustaceans.

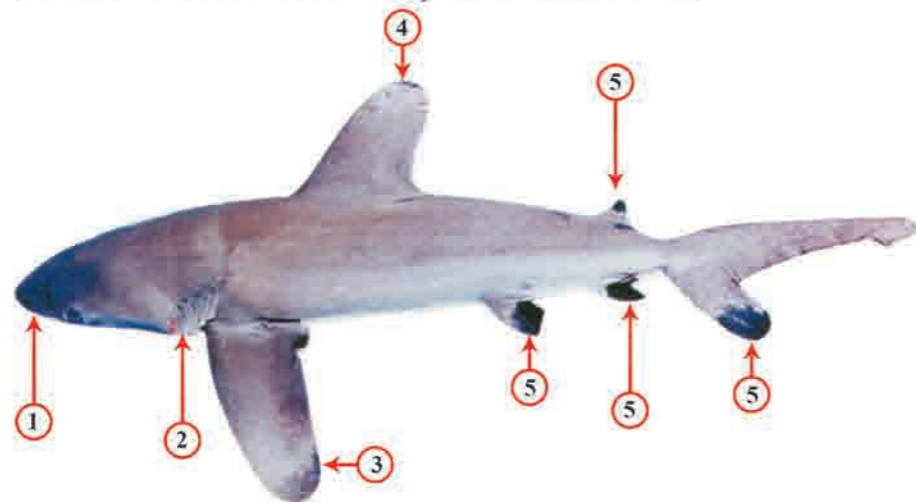
**Commercial Importance:** Caught by trawlers and gillnet. Utilized for its fins, meat, skin and cartilage.

**Conservation Status:** IUCN Red List 2010: Near threatened.

*Carcharhinus longimanus* (Poey, 1861)

English names : Oceanic whitetip shark, Whitetip whaler  
Malay name : Yu sirip putih besar  
Thai name : Chalarm Kleep-dum  
Indonesian name : Cucut koboi

(Photo credit : Research Center for Capture Fisheries, Indonesia)



CARCHARHINIDAE

Key Features :

1. Snout short and broadly rounded.
2. Gill slits moderately long.
3. Pectoral fins long, large and rounded. **White mottling on tips for adult.**
4. First dorsal fin large, tip broad and rounded. **White mottling on tips for adult.**
5. White mottling usually present on fins particularly pectorals, first dorsal, pelvics and caudal tips but **young additionally with black blotches or tips on most fins, especially pelvics, second dorsal, anal and ventral caudal lobe.**

**Size:** Maximum TL reaching 350 cm. Males and females mature at about 175 cm and 180 cm TL respectively. Size at birth about 60 cm TL.

**Habitat and Distribution:** Oceanic and epipelagic shark from surface to 150 m depth. Distributed world-wide in tropical warm-temperate waters. Recorded in Indonesia and Philippine.

**Biology:** Viviparous. 1-15 pups/litter. Mainly feeds on oceanic bony fishes and cephalopods.

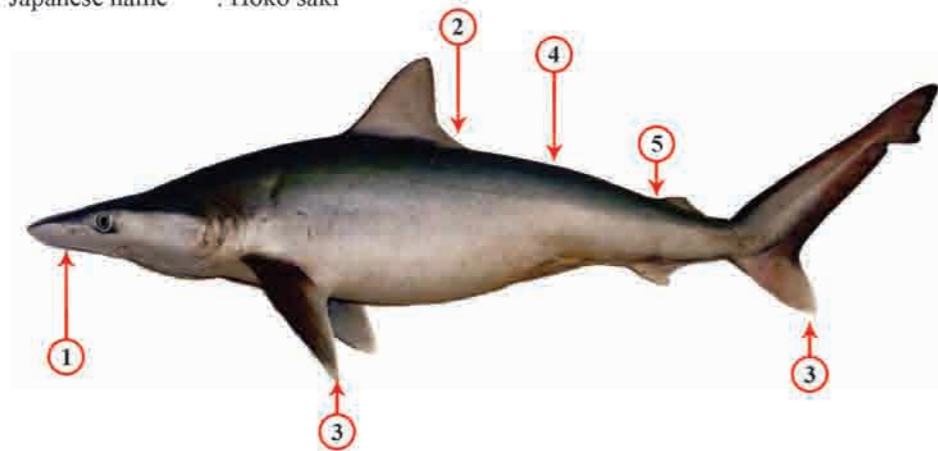
**Commercial Importance:** Caught by shark longlines and tuna gillnets. Utilised for its meat, skin, cartilage and fins.

**Conservation status:** IUCN Red List 2010: Vulnerable.



*Carcharhinus macloti* (Müller and Henle, 1839)

English name	: Hardnose shark
Malay names	: Yu muncung keras, Yu jereh
Thai name	: Chalarn Thao
Indonesian name	: Hiu aron
Japanese name	: Hoko saki



CARCHARHINIDAE

**Key Features:**

1. Snout long and pointed (viewed from underneath), firm and hard.
2. First dorsal fin inner margin extremely long, about 2/3 of fin base.
3. Pectoral fin, lower caudal fins sometimes pale-edged.
4. No interdorsal ridge.
5. Second dorsal fin origin about over mid-based of anal fin.

**Size:** Maximum 110 cm TL. Size at birth about 40-50 cm TL. Males mature at 69-81 cm and females at 76-89 cm TL.

**Habitat and distribution:** Occurs close inshore down to a depth at least 170 m depth. Found throughout the tropical Indo-West Pacific. Recorded in Indonesia, Malaysia and Thailand. Most probably in the Philippines.

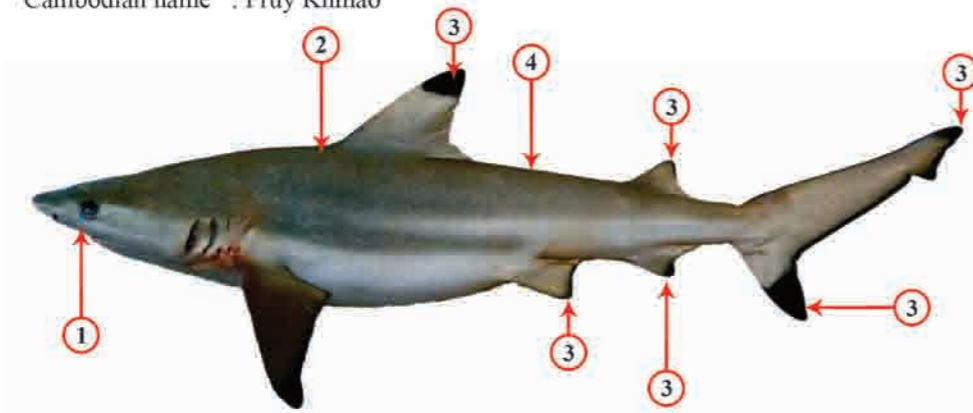
**Biology:** Viviparous. 1-2 pups/litter. Eats mostly small fishes, cephalopods and crustaceans.

**Commercial Importance:** Caught by inshore trawlers, demersal gillnets and hook and lines. Utilised for its fins and meat.

**Conservation Status:** IUCN Red List 2010: Near threatened.

*Carcharhinus melanopterus* (Quoy and Gaimard, 1824)

English name	: Blacktip reef shark
Malay names	: Yu sirip hitam, Yu kepak hitam
Thai name	: Chalarn Hoo-dum
Indonesian names	: Hiu mada, Kluyu karang, Hiu bujit
Japanese name	: Tsuma guro
Myanmar name	: Nga-mann-taung-mae
Cambodian name	: Pruy Khmao



CARCHARHINIDAE

**Key features:**

1. Snout short and bluntly rounded.
2. A yellowish brown to grayish upper surface.
3. First dorsal and lower caudal fin tips distinctly black; all other fins with smaller black tips, a prominent black tip of first dorsal fin set off abruptly by a light band below it, upper caudal fin with black margins.
4. No interdorsal ridge.

**Size:** Reported to attain about 200 cm TL. Size birth at 33-52 cm TL. Males mature at 91-113 cm and females at 96-120 cm TL.

**Habitat and distribution:** Shallow parts of insular shelves, usually over very shallow reefs and brackish water. Found in the tropical Indian Ocean, Western central Pacific, and eastern Mediterranean Sea. Recorded in Brunei Darussalam, Cambodia, Indonesia, Malaysia, Myanmar, Thailand and Philippine.

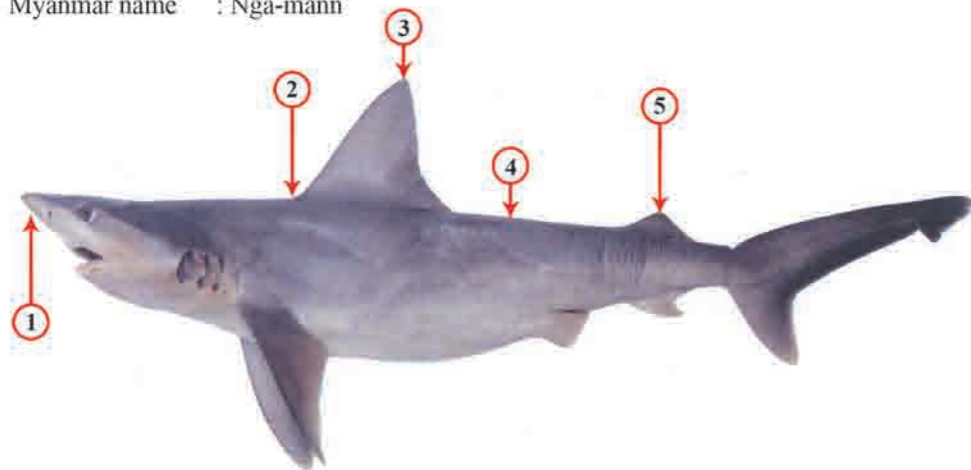
**Biology:** Viviparous. 2-4 pups/litter. Diet consists of fishes, cephalopods, crustaceans and other mollusks.

**Commercial Importance:** Caught by inshore longlines, trawlers and gillnets. Utilised for its fins and meat.

**Conservation Status:** IUCN Red List 2010: Near threatened.

*Carcharhinus plumbeus* (Nardo, 1827)

English names	: Sandbar shark, Thickskin shark
Malay name	: Yu kulit tebal
Thai name	: Chalarn Kradohng-soong
Indonesian names	: Cucut lanjaman, Hiu teteri
Japanese names	: Mejiro zame, Yaji buka
Myanmar name	: Nga-mann



CARCHARHINIDAE

**Key features:**

1. Snout short and broadly rounded (viewed from underneath).
2. Origin of first dorsal fin over pectoral fin insertion.
3. First dorsal fin very tall, more than half of predorsal length (smaller in newborns).
4. Interdorsal ridge present.
5. Second dorsal and upper caudal fin margins sometimes with dusky edges.

**Size:** Attains 240 cm TL. Size at birth 52-75 cm TL. Males mature at 130-180 cm and females at 145-185 cm TL.

**Habitat and distribution:** Occurs over continental and insular shelves to depth at least 280 m. Circumglobal, tropical and warm temperate waters. Recorded in Brunei Darussalam, Malaysia, Myanmar, Thailand and Indonesia.

**Biology:** Viviparous. 1-14 pups/litter. Diet consists of small fishes, mollusks, crustaceans and cephalopods.

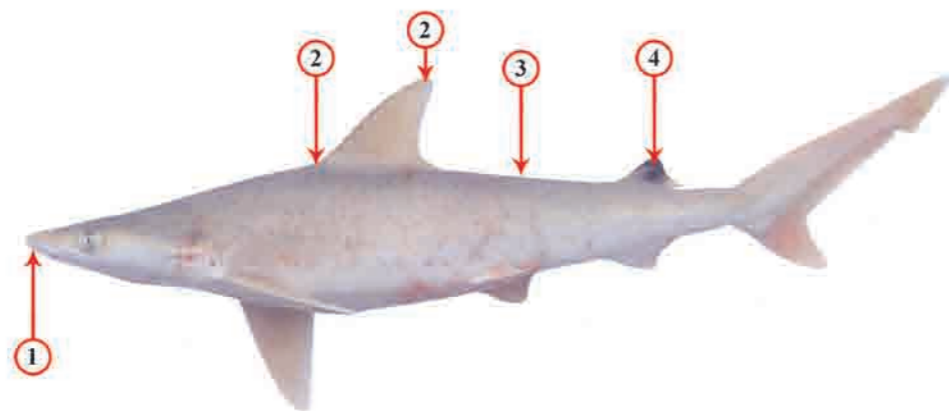
**Commercial Importance:** Caught in shark longlines and tuna gillnets. Utilised for its fins, meat, skin and cartilage.

**Conservation Status:** IUCN Red List 2010: Vulnerable.

*Carcharhinus sealei* (Pietschmann, 1913)

CARCHARHINIDAE

English name : Blackspot shark  
Malay name : Yu pasir  
Thai name : Chalarm Jud-dum  
Indonesian name : Cucut lanjaman



**Key features:**

1. Snout moderately long, narrowly parabolic (view from underneath).
2. First dorsal fin moderately tall and falcate. Its origin more or less over the free rear tips to the pectoral fin.
3. A low interdorsal ridge.
4. A conspicuous black or dusky tip present on second dorsal fin, but other fins with pale posterior edges and no dark markings.

**Note:** This species has often been confused with *Carcharhinus dussumieri*.

**Size:** Maximum at 95 cm TL. Size at birth 33-45 cm TL. Males mature at 70-80 cm and females at 68-75 cm TL.

**Habitat and Distribution:** Coastal, continental and insular shelves and mostly demersal in inshore waters. Found throughout of the Indo-West Pacific. Recorded in Brunei Darussalam, Indonesia, Malaysia, Myanmar and Thailand.

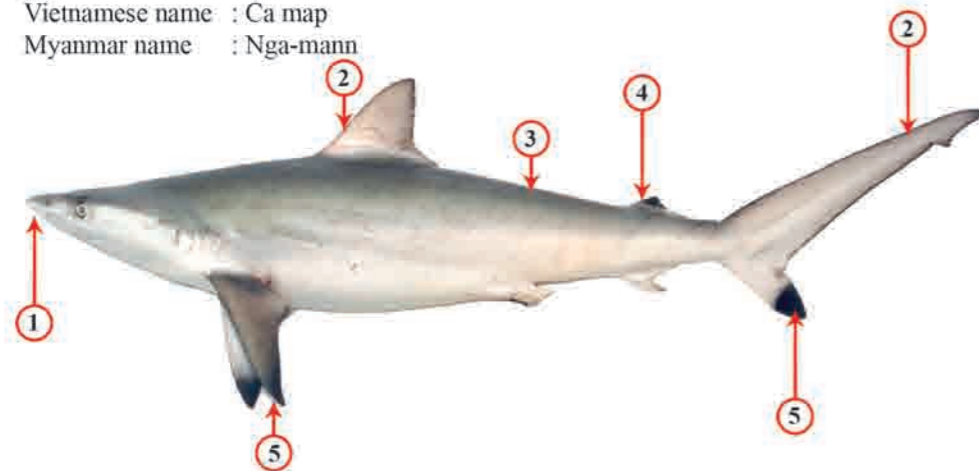
**Biology:** Viviparous. 1-2 pups/litter. Diet consists of small fishes, crustaceans and cephalopods.

**Commercial Importance:** Caught by trawl nets, gill nets as well as spot anglers. Utilised for its fins and meat.

**Conservation Status:** IUCN Red List 2010: Near threatened.

*Carcharhinus sorrah* (Müller and Henle, 1839)

English names	: Spot-tail shark, Sorrah shark, School shark
Malay name	: Yu kepak hitam
Thai name	: Chalarm Jud-dum
Indonesian names	: Cucut lanjaman, Hiu bujit, Lanyam
Japanese name	: Hourai zame
Vietnamese name	: Ca map
Myanmar name	: Nga-mann



CARCHARHINIDAE

**Key features:**

1. Moderately long pointed snout.
2. First dorsal and upper caudal fins with dusky margins.
3. Interdorsal ridge present.
4. Second dorsal fin very low with an extremely long inner margin (exceeding twice fin height).
5. Pectoral, second dorsal and lower caudal fins (and often free rear tip of second dorsal fin) with distinct black tips.

**Size:** To at least 160 cm TL. Size at birth 45-60 cm TL. Males mature at 103-128 cm and females at 110-118 cm TL.

**Habitat and distribution:** Continental and insular shelves, shallow water and around coral reefs at depth from the intertidal down to 73 m. Found throughout the tropical Indo-West Pacific. Recorded in Brunei Darussalam, Cambodia, Indonesia, Malaysia, Myanmar, Thailand, Philippine and Vietnam.

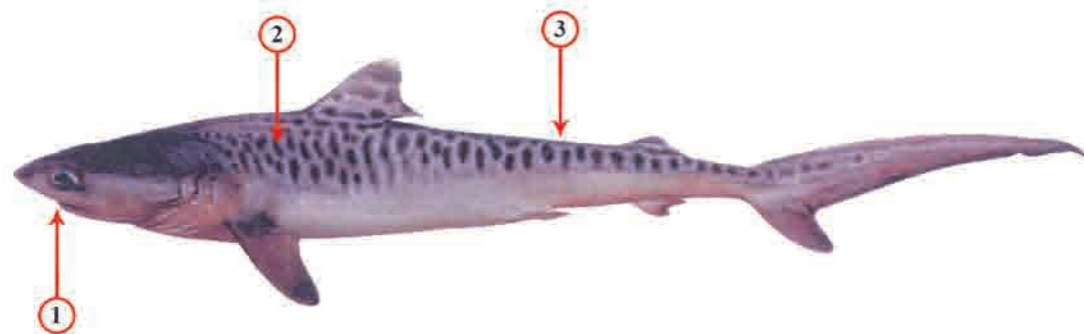
**Biology:** Viviparous. 1-8 pups/litter. Diet consists mainly of fishes, cephalopods and crustaceans.

**Commercial Importance:** Caught by shark longlines, gillnets, trawl nets and recreational anglers. Utilised for its fins, meat, skin and cartilage.

**Conservation Status:** IUCN Red List 2010: Near threatened.

*Galeocerdo cuvier* (Peron and Lesueur, 1822)

English name	: Tiger shark
Malay name	: Yu tenggiri, Jerung tenggiri
Thai name	: Chalarm Suea
Indonesian names	: Hiu omas, Hiu macam, Mungsing jara
Japanese name	: Itachi zame
Myanmar name	: Nga-mann-kyar-thit



CARCHARHINIDAE

**Key Features:**

1. A broad, bluntly rounded snout.
2. Dorsal surface grey with bold, dark reticulations in newly born young.
3. Interdosal ridge present between first dorsal fin and second dorsal fin.

**Note:** Bars faint or missing in large adults.

**Size:** Maximum 740 cm TL. Size at birth 50-76 cm TL. Males mature at 300-305 cm and females at 250-350 cm TL.

**Habitat and Distribution:** Occurs in many different parts of tropical seas from inshore to a depth of about 150 m. Cosmopolitan in all tropical seas. Recorded in Brunei Darussalam, Indonesia, Malaysia, Myanmar, Thailand and Philippine.

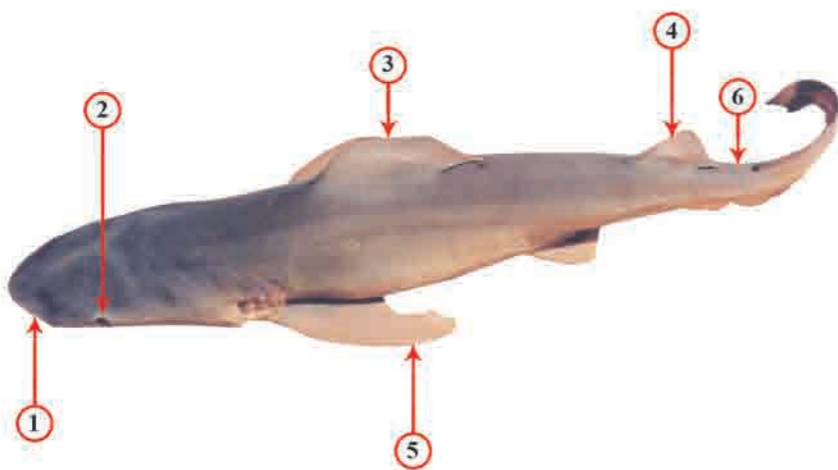
**Biology:** Viviparous. 10-82 pups/litter. Taking wide range of marine prey such as fishes, crustaceans, cephalopods, birds, mammals and reptiles.

**Commercial Importance:** Caught by shark longlines, tangle nets, trawl nets and, hook and lines. Utilised for its fins, meat, skin, jaws and cartilage.

**Conservation Status:** IUCN Red List 2010: Near threatened.

*Glyphis fowlerae* White & Cavanagh, 2010

English names : Borneo river shark, Kinabatangan river shark  
Malay names : Yu Sungai Kinabatangan, Yu air tawar  
Thai name : Chalarm Maenam



CARCHARHINIDAE

**Key Features:**

1. Snout short and broadly rounded.
2. Eyes small.
3. Fins plain, except for pectoral fin bases (dark patch).
4. Second dorsal fin tall, half to three fifth of first dorsal fin height. Its posterior margin nearly straight or shallow concave.
5. Pectoral fins relatively short and broad.
6. Precaudal pits longitudinal (not crescentic).

**Size:** To at least 200 cm TL. Size at birth about 50-60 cm TL.

**Habitat and Distribution:** Endemic in Kinabatangan River in Sabah, Malaysia.

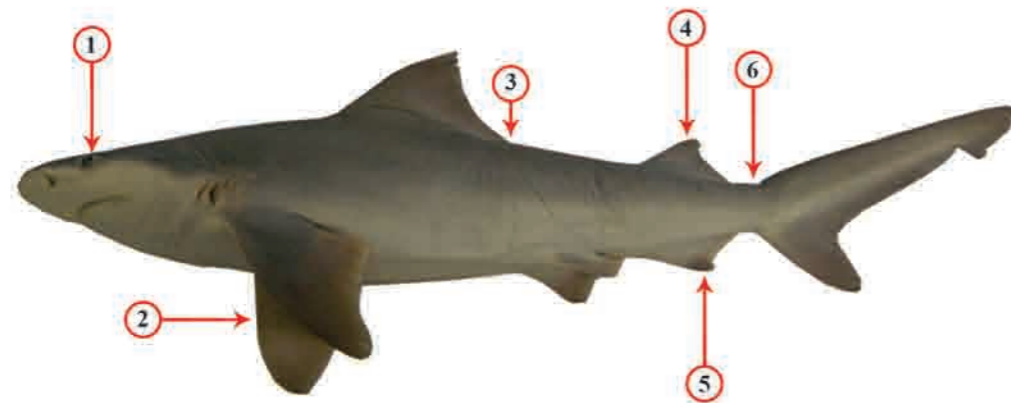
**Biology:** Presumably viviparous. Diet presumably primarily freshwater fishes.

**Commercial Importance:** Caught by gillnets. Utilised for its meat and fins by local communities.

**Conservation Status:** IUCN Red List 2010: Not evaluated.

*Glyphis* sp. [sensu Last *et al.* 2008]

English name : Mukah river shark  
Malay names : Yu Sungai Mukah, Yu air tawar



CARCHARHINIDAE

**Key Features:**

1. Snout short, eyes moderate.
2. Pectoral fins moderately long and broad.
3. First dorsal fin free rear tip just anterior to pelvic fin origin.
4. Second dorsal fin almost same size as anal fin.
5. Precaudal pits longitudinal.

**Size:** Two specimens measured 61 cm and 66 cm still unmatured.

**Habitat and Distribution:** The specimens caught in Mukah River, in Sarawak (Borneo).

**Biology:** Presumably viviparous. Diet most probably freshwater fishes and invertebrates.

**Commercial Importance:** Rarely caught by gillnets. Utilised for its meat and fins by local communities.

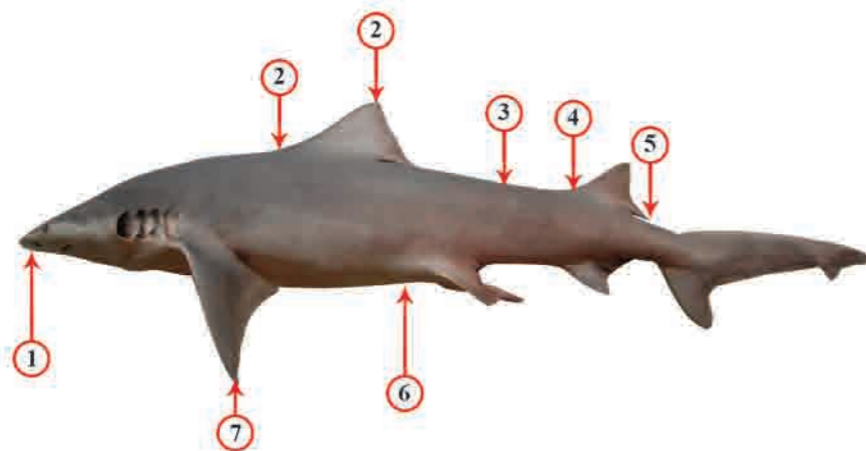
**Conservation Status:** IUCN Red List 2010: Not evaluated.



*Lamiopsis tephrodes* (Fowler, 1905)

Identified as *Lamiopsis temmicki* in Yano *et al.* (2005)

English name : Borneo broadfin shark  
Malay name : Yu sirip lebar  
Thai name : Chalarn Paag-laem  
Indonesian name : Hiu bujit



CARCHARHINIDAE

**Key Features:**

1. Snout rather long, parabolic (viewed ventrally).
2. First and second dorsal fins almost similar height. First dorsal fin origin behind of pectoral fin free rear tips.
3. Interdorsal ridge absent.
4. Origin of second dorsal fin almost similar or slightly in front of anal fin origin.
5. Second dorsal fin inner margin shorter than fin height.
6. Origin of pelvic fin behind first dorsal fin free rear tips.
7. Pectoral fin long and broad.

**Size:** To at least 157 cm TL. Size at birth about 40-60 cm TL. Males and females mature at 114 cm and 130 cm TL respectively.

**Habitat and Distribution:** Tropical waters of the Indo-Malay Archipelago. Also found in several big rivers in Sabah and Sarawak in Borneo.

**Biology:** Viviparous. 4-8 pups/litter. Dietary composition not known, but probably consist of small fishes, crustaceans and cephalopods.

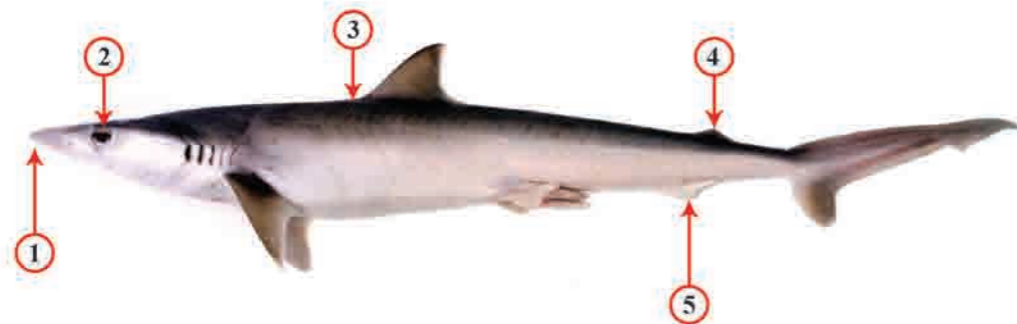
**Commercial Importance:** Caught by gillnets and trawl nets in coastal area. Used for its meat and skin.

**Conservation status:** IUCN Red List 2010: Not evaluated.

*Loxodon macrorhinus* Müller and Henle, 1839

CARCHARHINIDAE

English names	: Sliteye shark, Jordan's blue dogshark, Slender dogshark
Malay name	: Yu mata lekuk
Thai name	: Chalarm Paag-laem
Indonesian name	: Hiu kejen
Japanese name	: Togarime zame
Myanmar name	: Nga-mann



**Key Features:**

1. Snout relatively long, parabolic and narrow.
2. Eye large with distinct notch on posterior edge.
3. First dorsal fin origin well posterior to pectoral fin free rear tips.
4. Second dorsal smaller than anal fin.
5. Anal fin posterior margin slightly concave and long preanal ridges (equal to anal fin base length).

**Size:** To at least 99 cm TL. Size at birth 40-55 cm TL. Males mature at 62-83 cm and females at 79-90 cm TL.

**Habitat and Distribution:** Continental and insular shelves in shallow to 100 m depth. Found throughout the Indo-West Pacific; tropical Australia; South China Sea and southern Japan. Recorded in Brunei Darussalam, Indonesia, Malaysia, Myanmar and Thailand.

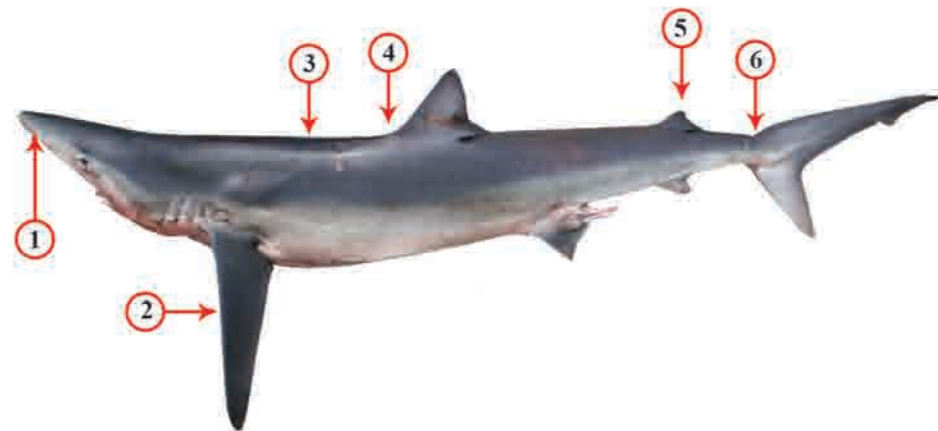
**Biology:** Viviparous. 2-4 pups/litter. Diet consist mainly small fishes, crustaceans and cephalopods.

**Commercial Importance:** Caught by inshore gillnet, trawl nets and recreational anglers. Flesh utilized for human consumption.

**Conservation Status:** IUCN Red List 2010: Least concern.

*Prionace glauca* (Linnaeus, 1758)

English names	: Blue shark, Blue whaler shark, Great blue shark
Malay name	: Jerung biru
Thai name	: Chalarm See-namngeun
Indonesian name	: Hiu aer, Hiu lalaek, Hiu karet
Japanese name	: Nemuri zame



CARCHARHINIDAE

**Key Features:**

1. Snout extremely long and narrowly rounded.
2. Pectoral fin very long and pointed.
3. Dorsal surface indigo blue, ventral surface white.
4. First dorsal fin small. Its origin well behind free rear tips of pectoral fins.
5. Second dorsal less than 1/3 size of first dorsal fin.
6. Precaudal pit present.

**Size:** Maximum 383 cm TL. Size at birth 35-50 cm TL. Males mature at 182-281 cm and females at 220 cm TL.

**Habitat and Distribution:** The most wide-ranging of all shark, typically oceanic and pelagic, from the surface to at least 600 m depth. World-wide in temperate and tropical oceanic waters. Recorded in Indonesia, Malaysia, Thailand and Philippine.

**Biology:** Viviparous. 4-135 pups/litter. Diet consists of small pelagic and demersal fishes, cephalopods, small shark and seabird.

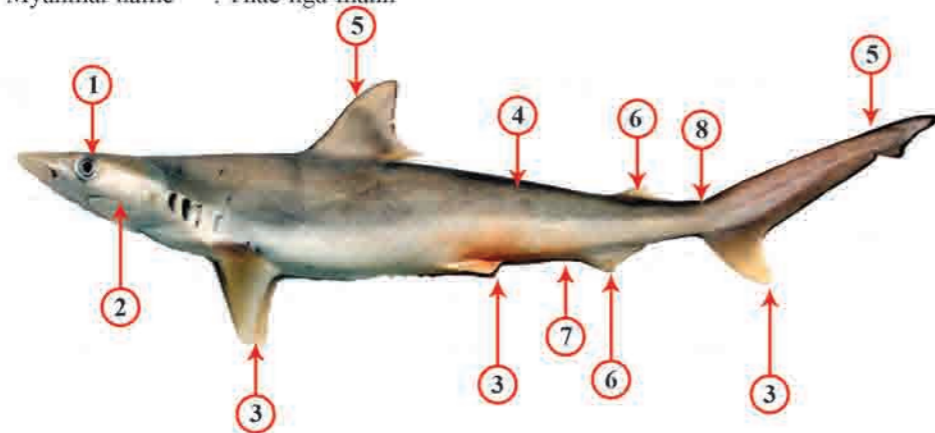
**Commercial Importance:** Caught by tuna and shark longlines. Valued for its fins, meat, skin, jaws and cartilage.

**Conservation status:** IUCN Red List 2010: Near threatened.

*Rhizoprionodon acutus* (Rüppell, 1837)

CARCHARHINIDAE

- English names : Milk shark, Longmans dogshark, Fish shark  
Malay names : Yu muncung susu, Yu pasir  
Thai name : Chalarn Paag-laem  
Indonesian names : Hiu pisang, Hiu pilus, Hiu plen  
Japanese name : Hiragashira  
Myanmar name : Thae-nga-mann



**Key Features:**

1. Relatively large eyes.
2. Usually more than 16 hyomandibular pores (total for both sides of the head).
3. Pectoral, pelvic, anal and lower caudal fin tips pale.
4. Interdorsal ridge absent.
5. Dorsal and upper caudal fin tips dark in juveniles.
6. Second dorsal fin smaller than anal fin, its origin opposite anal fin insertion.
7. Preanal ridges very long, about equal to anal fin base length.
8. Precaudal pits present.

**Size:** Maximum TL, 178 cm was recorded from water off Africa. Size at birth about 29-40 cm TL. Males mature at 68-72 cm and females at 70-81 cm TL.

**Habitat and Distribution:** Continental shelf, mid water to near bottom. From intertidal to at least 200 m depth. Distributed mainly in tropical areas of the eastern Atlantic and Indo-West Pacific, Mediterranean Sea (Gulf of Taranto off Italy), Northern Australian waters from Fraser Island (Queensland) to Shark Bay (Western Australia). Recorded in Brunei Darussalam, Indonesia, Malaysia, Myanmar, Thailand and Philippine.

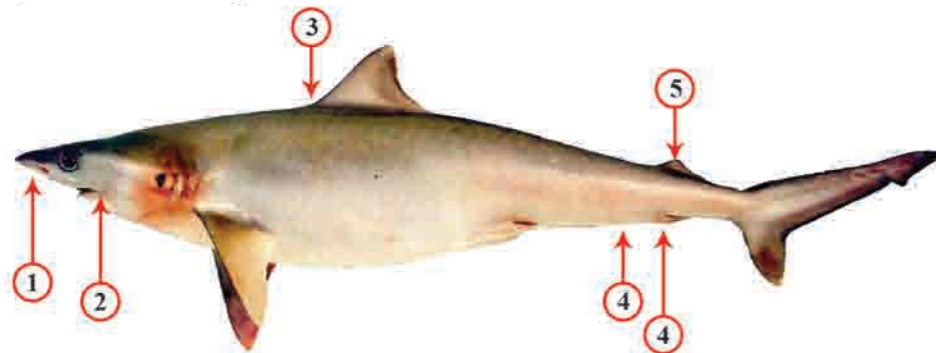
**Biology:** Viviparous. 1-8 pups/litter. Feeds mainly fishes, cephalopods and crustaceans.

**Commercial Importance:** Usually caught by trawlers and demersal gillnets. Very common in Malaysia. Whole body sold fresh. Fins less value due to its small size.

**Conservation Status:** IUCN Red List 2010: Least concern.

*Rhizoprionodon oligolinx* Springer, 1964

English name	: Grey sharpnose shark
Malay names	: Yu muncung minyak, Yu minyak
Thai name	: Chalarm Paag-laem
Indonesian names	: Hiu pilus, Hiu pisang
Japanese name	: Ankou zame
Myanmar name	: Nga-mann



CARCHARHINIDAE

**Key Features:**

1. Snout long, tip narrowly rounded (view from underneath).
2. Hyomandibular pores enlarged, usually less than 16 in total for both of head.
3. First dorsal fin origin over pectoral free rear tips.
4. Preanal ridges about equal to anal fin base length.
5. Second dorsal fin smaller than anal fin, its origin opposite anal fin insertion.

**Size:** Attains 70 cm TL. Size at birth 20-30 cm TL. Males mature at 29-45 cm and females at 32-41 cm TL.

**Habitat and Distribution:** Littoral, continental and insular shelves, inshore and offshore. Recorded in Indonesia, Malaysia, Myanmar and Thailand.

**Biology:** Viviparous. 3-5 pups/litter. Diet consists of small fishes, cephalopods and crustaceans.

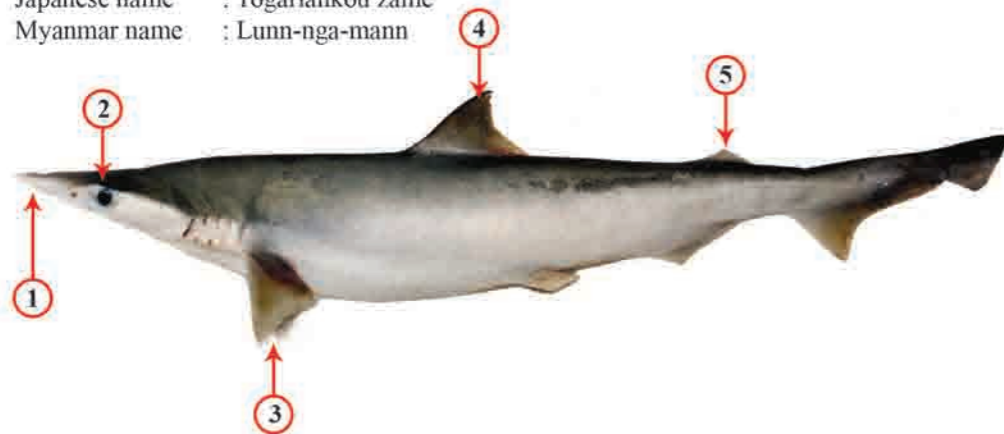
**Commercial Importance:** Caught by gillnets, trawl nets and hook and lines. Utilised for its meat and fins.

**Conservation Status:** IUCN Red List 2010: Least concern.

*Scoliodon macrorhynchos* (Bleeker, 1852)

Identified as *Scoliodon laticaudus* in Yano *et al.* (2005)

- English name : Pacific spadenose shark  
Malay names : Yu padi, Yu jernih  
Thai name : Chalarn Noo  
Indonesian names : Hiu kejen, Mungsing  
Japanese name : Togariankou zame  
Myanmar name : Lunn-nga-mann



CARCHARHINIDAE

**Key Features:**

1. Head and snout strongly depressed.
2. Eyes moderately large, without a posterior notch.
3. Pectoral fin small and triangular.
4. First dorsal fin large, close to pelvic fin base than to pectoral fin base.
5. Second dorsal fin very small, its height less than 1/3 of that of first dorsal.

**Size:** Maximum at least 74 cm TL. Size at birth 12-15 cm TL. Males mature at 24-36 cm and females at 33-35 cm TL.

**Habitat and Distribution:** A common tropical shark of continental and insular shelves close inshore, frequently in rocky areas. Found throughout Indo-West Pacific. Recorded in Brunei Darussalam, Indonesia, Malaysia, Thailand and Myanmar.

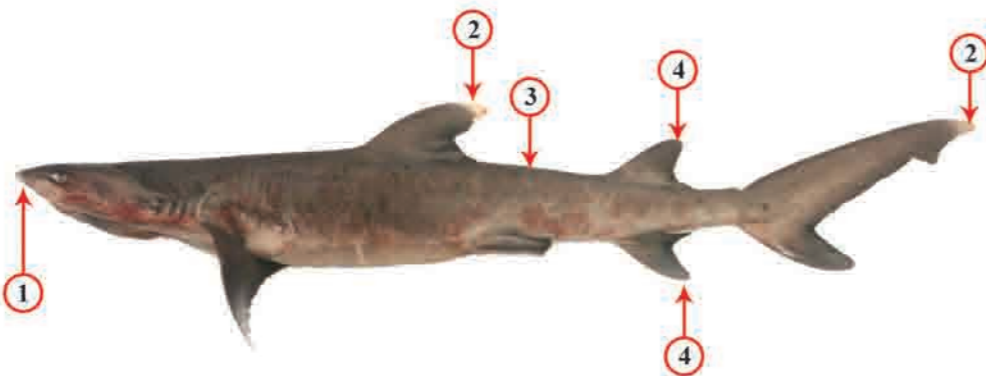
**Biology:** Viviparous. 1-14 pups/litter. Eat small fishes, shrimp and cuttlefish.

**Commercial Importance:** Caught by trawl nets, hook and lines, longlines, gillnets, set bottom nets and traps. Utilised for its meat.

**Conservation status:** IUCN Red List 2010: Near threatened.

*Triagenodon obesus* (Rüppell, 1837)

English names	: Whitetip reef shark, Whitetip shark, Blunthead shark
Malay name	: Yu sirip putih
Thai name	: Chalarm Keesao
Indonesian names	: Hiu karang buas, Hiu bokeng, Hiu coklat
Japanese name	: Nemuri buka
Myanmar name	: Nga-mann



CARCHARHINIDAE

**Key Features:**

1. Snout extremely short and bluntly rounded.
2. First dorsal and upper lobe caudal fin with distinctive white tips.
3. No interdorsal ridge.
4. Second dorsal fin about half to 3/4 of first dorsal fin height, about equal in size to anal fin.

**Size:** Attains 213 cm TL. Size at birth 52-60 cm TL. Males mature at 104-105 cm and females at 105-109 cm TL.

**Habitat and Distribution:** Continental shelves and island terraces at depth of 1-40 m. Found throughout the Indo-Pacific Ocean. Recorded in Brunei Darussalam, Indonesia, Malaysia, Myanmar, Thailand and Philippine.

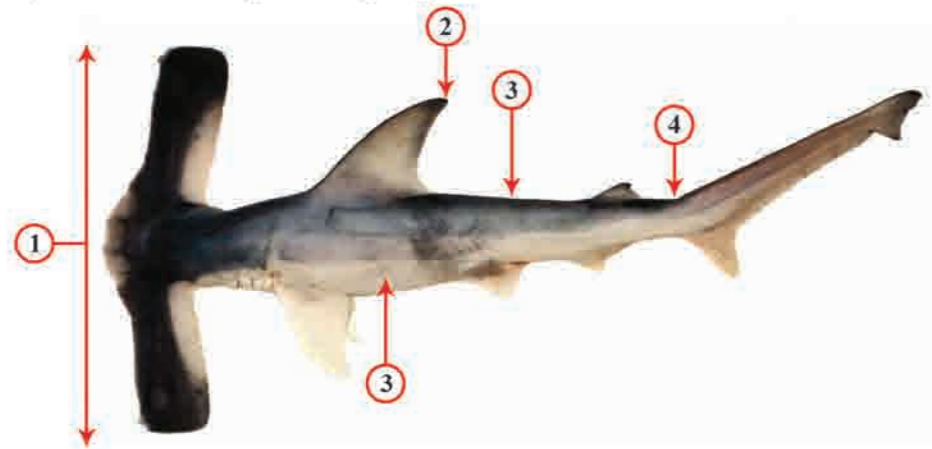
**Biology:** Viviparous. 1-5 pups/litter. Diet consists of small fishes, cephalopods and crustaceans.

**Commercial Importance:** Caught by traps, hook and lines and longlines. Utilised for its fins and meat.

**Conservation status:** IUCN Red List 2010: Near threatened.

*Eusphyra blochii* (Cuvier, 1816)

English names : Winghead shark, Slender hammerhead  
Malay names : Yu tukul palang, Yu tanduk  
Thai name : Chalarn Hua-kon-yao  
Indonesian names : Hiu capil, Hiu bingkuh, Hiu caping  
Japanese name : Indo shumoku zame  
Myanmar name : Nga-mann-kywe-gyo-shae



**SPHYRNIIDAE**

**Key Features:**

1. Head extremely broad, wing shaped, head width about 40-50% of TL.
2. First dorsal fin very tall, strongly falcate.
3. Grey or greyish brown above, pale ventrally.
4. Upper precaudal pit longitudinal (not crescentic).

**Size:** Maximum TL 186 cm. Size at birth about 32-47 cm TL. Males mature at about 108 cm and females at 120 cm TL.

**Habitat and Distribution:** Shallow water, continental and insular shelves. Indo-West Pacific: the "Gulf" between the Arabian Peninsula and Iran to Pakistan, India, Sri Lanka, Bangladesh, Myanmar, Malaysia, Thailand, Indonesia, Philippine, Taiwan and Australia (Queensland and Northern Territory).

**Biology:** Viviparous. 6-25 pups/litter. Diet consists of cephalopods (mainly squid), crustaceans and fishes.

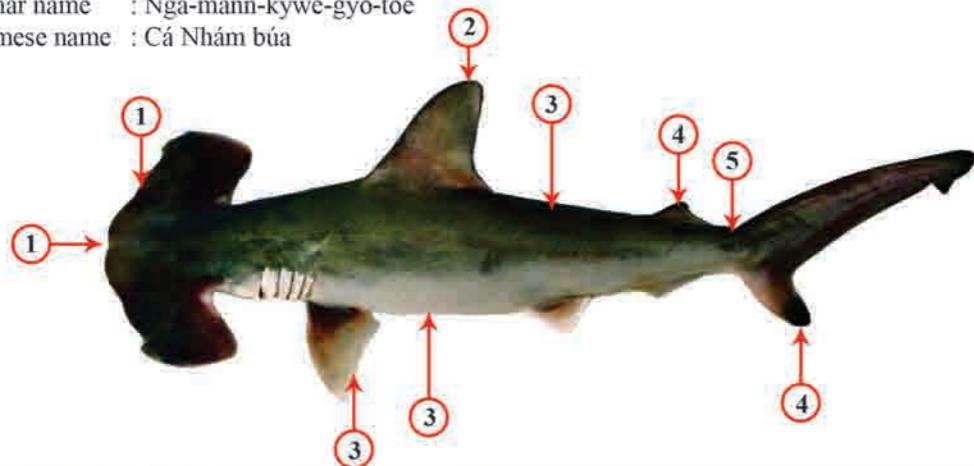
**Commercial Importance:** Caught by inshore gillnets, floating gillnets, bottom gillnets, stake nets, floating and bottom longlines and, hook and lines. Its meat and fins are utilised for human consumption.

**Conservation status:** IUCN Red List 2010: Near threatened.



*Sphyrna lewini* (Griffith and Smith, 1834)

English names	: Scalloped hammerhead, Kidney-head shark
Malay names	: Yu tukul bengkong, Yu palang
Thai name	: Chalarn Hua-kong
Indonesian names	: Hiu caping, Hiu bingkuh, Hiu parang
Japanese name	: Aka shumoku zame
Cambodian name	: Ek
Myanmar name	: Nga-mann-kywe-gyo-toe
Vietnamese name	: Cá Nhám búa



**SPHYRNIDAE**

**Key Features:**

1. Head broad, its width less than a third of TL. Anterior margin of head well arched, shallowly indented at midline.
2. First dorsal fins tall, moderately falcate. Its origin about over or slightly behind pectoral fin insertion.
3. Bronze or brownish grey dorsally, pale ventrally. Ventral surface of pectoral fin tips dusky in adults.
4. Second dorsal fin short with long rear tip and weakly concave posterior margin. Lower caudal and second dorsal fin tip dark in juveniles.
5. Upper precaudal pit crescentic.

**Size:** Maximum 420 cm TL. Size at birth about 40-55 cm TL. Males mature at 140-180 cm and females at 200-230 cm TL.

**Habitat and Distribution:** Occurs over continental and insular shelves from the surfaces to at least 275 m depth. Juvenile usually prefer coastal areas. Widely distributed in all tropical and warm temperate seas. Recorded in Brunei Darussalam, Indonesia, Malaysia, Myanmar, Thailand, Philippines and Vietnam.

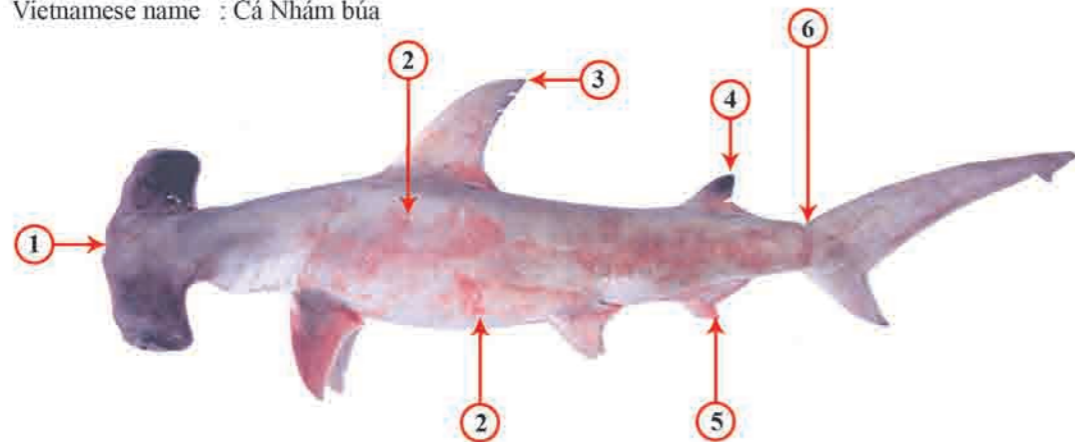
**Biology:** Viviparous. 12-41 pups/litter. Diet consists of bony fishes, cephalopods, invertebrates, sharks and rays.

**Commercial Important:** Caught by trawls, gillnets, longlines and tuna gillnets. Utilised for its fins (high value in adults), meat, skin and cartilage.

**Conservation status:** IUCN Red List 2010: Endangered.

*Sphyrna mokarran* (Rüppell, 1837)

English names	: Great hammerhead
Malay names	: Yu tukul parang, Yu bengkok
Thai name	: Chalarn Hua-kon-yai
Indonesian names	: Hiu capil, Hiu caping, Hiu bingkuh
Japanese name	: Hirashumoku zame
Cambodian name	: Ek
Myanmar name	: Nga-mann-kywe-gyo-shae
Vietnamese name	: Cá Nhám búa



**SPHYRNIDAE**

**Key Features:**

1. Front margin of the head nearly straight (except in small juveniles). Head broad, its width less than a third of TL.
2. Bronzy to greyish brown dorsally, pale ventrally.
3. First dorsal strongly falcate.
4. Second dorsal fin tip dark in juveniles.
5. Anal fin about as large as or larger than second dorsal fin and moderately long.
6. Upper precaudal pit crescentic.

**Size:** Maximum 610 cm TL (although rarely reaching 450 cm TL). Size at birth about 50-70 cm TL. Males and females mature at 225 cm TL.

**Habitat and Distribution:** Coastal pelagic and semi-oceanic, over continental shelves, island terraces, in passes and lagoons of coral atolls and on coral reef, close inshore to well offshore, 1-80 m depth. Widely distributed in tropical and warm temperate seas. Recorded in Brunei Darussalam, Cambodia, Indonesia, Malaysia, Myanmar, Thailand, Philippine and Vietnam.

**Biology:** Viviparous. 6-42 pups/litter. Diet consists of bony fishes, sharks, rays, cephalopods and crustaceans.

**Commercial Importance:** Caught by longlines, fixed bottom nets, hook and lines, demersal tangle nets, tuna gillnets and trawl nets. Used for its fins, meat and cartilage.

**Conservation status:** IUCN Red List 2010: Endangered.

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APPENDIX I

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Checklist of Sharks Species Recorded from Brunei Darussalam (B), Cambodia (C), Indonesia (I), Malaysia (MY), Myanmar (MN), Thailand (T), Philippine (P) and Vietnam (V)

Source of information:

Fahmi, (2010); Compagno, L.J.V. (2002); Compagno *et al.* (2005a); Last *et al.* (2010a); Last *et al.* (2010b); SEAFDEC, (2006); Vidthayanon, C. (2002); White, *et al.* (2006); Yano, *et al.* (2005).

No.	Order/Family/Scientific name	Common name (English)	B	C	I	MY	MN	T	P	V
	<b>ORDER HEXANCHIFORMES</b>	<b>COW AND FRILLED SHARKS</b>								
	<b>Family Hexanchidae (3)</b>	<b>Sixgill and sevengill sharks</b>	0	0	3	2	0	1	3	1
1	<i>Hexanchus griseus</i> (Bonaterre, 1788)	Bluntnose sixgill shark			X	X		X	X	
2	<i>Hexanchus nakamurai</i> Teng, 1962	Bigeye sixgill shark			X				X	
3	<i>Heptranchius perlo</i> (Bonaterre, 1788)	Sharpnose sevengill shark			X	X			X	X
	<b>ORDER SQUALIFORMES</b>	<b>DOGFISHES</b>								
	<b>Family Echinorhinidae (2)</b>	<b>Bramble sharks</b>	0	0	0	0	1	1	1	0
4	<i>Echinorhinus brucus</i> Bonaterre, 1788	Bramble shark					X	X		
5	<i>Echinorhinus cookie</i> Pietschmann, 1928	Prickly shark							X	
	<b>Family Squalidae (12)</b>	<b>Dogfish shark</b>	1	0	6	2	1	2	4	1
6	<i>Cirrhigaleus barbifer</i> Tanaka, 1912	Mandarin spurdog			X					
7	<i>Squalus altipinnis</i> Last, White & Stevens, 2007	Western highfin spurdog				X		X		
8	<i>Squalus edmundsi</i> White, Last & Stevens, 2007	Indonesian highfin spurdog			X					
9	<i>Squalus hemipinnis</i> White, Last & Yearsley, 2007	Indonesian shortnose spurdog			X					
10	<i>Squalus megalops</i> (Macleay, 1881)	Piked spurdog	X		X	X	X	X		

No.	Order/Family/Scientific name	Common name (English)	B	C	I	MY	MN	T	P	V
11	<i>Squalus cf. megalops</i> (Macleay, 1881)	Philippine shortnose spurdog							X	
12	<i>Squalus cf. mitsukurii</i> Jordan & Snyder, 1903	Philippine shortspine dogfish							X	
13	<i>Squalus montalhani</i> Last, White & Stevens, 2007	Indonesian greeneye spurdog			X					
14	<i>Squalus nasutus</i> Last, Marshall & White, 2007	Western longnose spurdog			X					
15	<i>Squalus</i> sp.	Name not available								X
16	<i>Squalus</i> sp. 1. nov.	Philippine longnose spurdog							X	
17	<i>Squalus</i> sp. 2. nov.	Philippine fuscipined dogfish							X	
<b>Family Centrophoridae (12)</b>			<b>1</b>	<b>0</b>	<b>8</b>	<b>1</b>	<b>0</b>	<b>1</b>	<b>6</b>	<b>0</b>
18	<i>Centrophorus atromarginatus</i> Garman, 1913	Dwarf gulper shark			X					
19	<i>Centrophorus isodon</i> (Chu, Meng, & Liu, 1981)	Blackfin gulper shark			X				X	
20	<i>Centrophorus lucitamicus</i> Barbosa du Bocage & de Brito Capello, 1864	Lowfin gulper shark							X	
21	<i>Centrophorus cf. lucitamicus</i> Barbosa du Bocage & de Brito Capello, 1864	Largefin gulper shark			X					
22	<i>Centrophorus moluccensis</i> Bleeker, 1860	Smallfin gulper shark	X		X	X		X		
23	<i>Centrophorus</i> sp. nov. <i>Centrophorus cf. moluccensis</i> Bleeker, 1860	Philippine smallfin gulper shark							X	
24	<i>Centrophorus niankang</i> Teng, 1959	Taiwan gulper shark			X					
25	<i>Centrophorus squamosus</i> (Bonmatte, 1788)	Leaf-scale gulper shark			X					
26	<i>Centrophorus</i> sp. nov. <i>Centrophorus cf. squamosus</i> (Bonmatte, 1788)	Leaf-scale gulper shark							X	
27	<i>Deania cf. calcea</i> (Lowe, 1839)	Indonesian birdbeak dogfish			X					
28	<i>Deania profundorum</i> (Smith & Radcliffe, 1912)	Arrowhead dogfish							X	
29	<i>Deania quadrispinosum</i> (McCulloch, 1915)	Longsnout dogfish			X					

No.	Order/Family/Scientific name	Common name (English)	B	C	I	MY	MN	T	P	V
30	<i>Deania cf. rostrata</i> Garman, 1906								X	
<b>Family Etmopteridae (7)</b>		<b>Lantern Sharks</b>	<b>0</b>	<b>0</b>	<b>4</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>3</b>	<b>0</b>
31	<i>Centroscyllium cf. kamoharai</i> Abe, 1966	Bareskin dogfish							X	
32	<i>Etmopterus evansi</i> Last, Burgess & Séret, 2002	Blackmouth lantern shark			X					
33	<i>Etmopterus brachyurus</i> Smith & Radcliffe, 1912	Shorttail lantern shark							X	
34	<i>Etmopterus Lucifer</i> Jordan & Snyder, 1902	Blackbelly lantern shark			X				X	
35	<i>Etmopterus pusillus</i> (Lowe, 1839)	Smooth lantern shark			X					
36	<i>Etmopterus splendidus</i> Yano, 1988	Splendid lantern shark			X					
37	<i>Etmopterus spinax</i> (Linnaeus, 1758)	Valvet belly lantern shark						X		
<b>Family Mitsukurinidae (1)</b>			<b>0</b>	<b>0</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
38	<i>Mitsukurina owstoni</i> Jordan, 1898	Goblin shark			X					
<b>Family Somniosidae (3)</b>		<b>Sleeper sharks</b>	<b>0</b>	<b>0</b>	<b>3</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
39	<i>Centroscymnus crepidater</i> (Bocage & Capello, 1864)	Longnose velvet dogfish			X					
40	<i>Centroscymnus owstoni</i> Garman, 1906	Roughskin dogfish			X					
41	<i>Zameus squamulosus</i> (Gunther, 1877)	Velvet dogfish			X					
<b>Family Dalatiidae (4)</b>		<b>Kitefin sharks</b>	<b>0</b>	<b>0</b>	<b>2</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>3</b>	<b>1</b>
42	<i>Dalatis licha</i> (Bonmatte, 1788)	Kitefin shark			X					
43	<i>Isistius brasiliensis</i> (Quoy & Gaimard, 1824)	Cookiecutter shark			X				X	X
44	<i>Squaliolus allae</i> Teng, 1959	Smalleye pygmy shark							X	
45	<i>Squaliolus laticaudus</i> Smith & Radcliffe, 1912	Spined pygmy shark							X	
<b>ORDER PRISTIOPHORIFORMES</b>		<b>SAW SHARK</b>								
<b>Family Pristiophoridae (2)</b>			<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>0</b>
46	<i>Pristiophorus</i> sp. C. nov. (Compagno & Niem, 1998)	Philippine sawshark							X	
<b>ORDER SQUATINIFORMES</b>		<b>ANGEL SHARKS</b>								
<b>Family Squatinidae (5)</b>			<b>1</b>	<b>0</b>	<b>2</b>	<b>1</b>	<b>0</b>	<b>1</b>	<b>1</b>	<b>0</b>
47	<i>Squatina formosa</i> Shen & Ting, 1972	Taiwan angelsharks							X	

No.	Order/Family/Scientific name	Common name (English)	B	C	I	MY	MN	T	P	V
48	<i>Squatina legnota</i> Last & White, 2008	Indonesian angelshark			X					
49	<i>Squatina tergocellatoides</i> Chen, 1963	Ocellated angelshark				X		X		
50	<i>Squatina</i> sp. nov. [Tarp & Kailola, 1984]	Indonesian angelshark			X					
51	<i>Squatina</i> sp. 1	Brunei angelshark	X							
<b>ORDER HETERODONTIFORMES</b>		<b>BULLHEAD SHARKS</b>								
<b>Family Heterodontidae (1)</b>		<b>Bullhead sharks</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>0</b>	<b>1</b>	<b>1</b>	<b>1</b>
52	<i>Heterodontus zebra</i> (Gray, 1831)	Zebra bullhead shark	X		X	X		X	X	X
<b>ORDER ORECTOLOBIFORMES</b>		<b>CARPET SHARKS</b>								
<b>Family Parascylliidae (1)</b>		<b>Collared carpetsharks</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>0</b>
53	<i>Cirrhoscyllium exolitum</i> Smith & Radcliffe, 1913	Barbelthroat carpetshark							X	
<b>Family Orectolobidae (5)</b>		<b>Webbegongs</b>	<b>0</b>	<b>0</b>	<b>2</b>	<b>1</b>	<b>0</b>	<b>1</b>	<b>3</b>	<b>0</b>
54	<i>Eucrossorhinus dasyapogon</i> (Bleeker, 1867)	Tasselled wobbegong			X					
55	<i>Orectolobus japonicus</i> Regan, 1906	Japanese wobbegong							X	
56	<i>Orectolobus leptolineatus</i> Last, Pogonoski & White, 2010	Indonesian wobbegong			X	X		X		
	Identified as <i>Orectolobus maculatus</i> (Bonnaterre, 1788) in Yano <i>et al.</i> (2005)	Spotted wobbegong								
57	<i>Orectolobus ornatus</i> (De Vis, 1883)	Ornate wobbegong							X	
58	<i>Orectolobus</i> sp. nov. <i>Orectolobus</i> cf. <i>ornatus</i> (De Vis, 1883)	Philippines wobbegong			X				X	
<b>Family Hemiscylliidae (12)</b>		<b>Longtailed carpet sharks</b>	<b>3</b>	<b>2</b>	<b>12</b>	<b>5</b>	<b>3</b>	<b>5</b>	<b>4</b>	<b>5</b>
59	<i>Chiloscyllium griseum</i> Müller and Henle, 1838	Grey bambooshark	X	X	X	X	X	X	X	X
60	<i>Chiloscyllium hasseltii</i> Bleeker, 1852	Indonesian bambooshark			X	X	X	X		X
61	<i>Chiloscyllium indicum</i> (Gmelin, 1789)	Slender bambooshark			X	X		X	X	X
62	<i>Chiloscyllium plagiosum</i> (Bennett, 1830)	White-spotted bambooshark	X		X	X		X	X	X
63	<i>Chiloscyllium punctatum</i> Müller and Henle, 1838	Brown-banded bambooshark	X	X	X	X	X	X	X	X

No.	Order/Family/Scientific name	Common name (English)	B	C	I	MY	MN	T	P	V
64	<i>Hemiscyllium freycineti</i> (Quoy & Gaimard, 1824)	Indonesian speckled carpetshark			X					
65	<i>Hemiscyllium galei</i> Allen & Erdmann, 2007	Name not available			X					
66	<i>Hemiscyllium hallstromi</i> White, 1967	Papuan epaulette shark			X					
67	<i>Hemiscyllium henryi</i> Allen & Erdmann, 2007	Name not available			X					
68	<i>Hemiscyllium ocellatum</i> (Bonnaterre, 1788)	Epoulette shark			X					
69	<i>Hemiscyllium strahani</i> White, 1967	Hooded carpetshark			X					
70	<i>Hemiscyllium trispiculare</i> Richardson, 1843	Speckled carpetshark			X					
<b>Family Ginglymostomatidae (1)</b>		<b>Nurse sharks</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>1</b>	<b>0</b>	<b>1</b>	<b>1</b>	<b>0</b>
71	<i>Nebrius ferrugineus</i> (Lesson, 1830)	Tawny nurse shark			X	X		X	X	
<b>Family Stegostomatidae (1)</b>		<b>Zebra sharks</b>	<b>1</b>	<b>1</b>	<b>1</b>	<b>1</b>	<b>1</b>	<b>1</b>	<b>1</b>	<b>1</b>
72	<i>Stegostoma fasciatum</i> (Hermann, 1783)	Zebra shark	X	X	X	X	X	X	X	X
<b>Family Rhincodontidae (1)</b>		<b>Whale sharks</b>	<b>1</b>	<b>1</b>	<b>1</b>	<b>1</b>	<b>1</b>	<b>1</b>	<b>1</b>	<b>1</b>
73	<i>Rhincodon typus</i> Smith, 1828	Whale shark	X	X	X	X	X	X	X	X
<b>ORDER LAMNIFORMES</b>		<b>MACKEREL SHARKS</b>								
<b>Family Odontaspidae (2)</b>		<b>Sandtiger sharks</b>	<b>0</b>	<b>0</b>	<b>2</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
74	<i>Carcharias taurus</i> Rafinesque, 1810	Sandtiger shark			X					
75	<i>Odontaspis ferox</i> (Risso, 1810)	Smalltooth sand tiger			X					
<b>Family Pseudocarchariidae (1)</b>		<b>Crocodile shark</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>0</b>
76	<i>Pseudocarcharias kamoharai</i> (Matsubara, 1936)	Crocodile shark			X				X	
<b>Family Megachasmidae (1)</b>		<b>Megamouth sharks</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>1</b>	<b>0</b>
77	<i>Megachasma pelagios</i> Taylor, Compagno, & Struhsaker, 1983	Megamouth shark			X			X	X	
<b>Family Alopidae (3)</b>		<b>Thresher sharks</b>	<b>0</b>	<b>0</b>	<b>2</b>	<b>1</b>	<b>0</b>	<b>3</b>	<b>3</b>	<b>1</b>
78	<i>Alopias pelagicus</i> Nakamura, 1935	Pelagic thresher			X	X		X	X	X
79	<i>Alopias superciliosus</i> (Lowe, 1839)	Bigeye thresher			X			X	X	
80	<i>Alopias vulpinus</i> (Bonnaterre, 1788)	Thresher shark						X	X	
<b>Family Lamnidae (3)</b>		<b>Mackerel sharks</b>	<b>1</b>	<b>0</b>	<b>2</b>	<b>1</b>	<b>0</b>	<b>1</b>	<b>3</b>	<b>0</b>
81	<i>Carcharodon carcharias</i> (Linnaeus, 1758)	Great white shark							X	
82	<i>Isurus oxyrinchus</i> Rafinesque, 1810	Shortfin mako	X		X	X		X	X	

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83	<i>Isurus paucus</i> Guitart Manday, 1966	Longfin mako			X				X	
<b>ORDER CARCHARHINIFORMES</b>		<b>GROUND SHARKS</b>								
<b>Family Scyliorhinidae (25)</b>		<b>Catsharks</b>	<b>1</b>	<b>1</b>	<b>10</b>	<b>9</b>	<b>1</b>	<b>2</b>	<b>11</b>	<b>2</b>
84	<i>Apristurus herklotsi</i> (Fowler, 1934)	Longfin catshark							X	
85	<i>Apristurus platyrhynchus</i> (Tanaka, 1909)	Bigfin catshark			X	X				
86	<i>Apristurus sibogae</i> (Waber, 1913)	Pale catshark			X					
87	<i>Apristurus spongiceps</i> (Gilbert, 1895)	Spongehead catshark			X					
88	<i>Atelomycterus baliensis</i> White, Last & Dharmadi, 2005	Bali catshark			X					
89	<i>Atelomycterus marmoratus</i> (Bennett, 1830)	Coral catshark	X	X	X	X	X	X	X	X
90	<i>Cephaloscyllium circlupullum</i> Yano, Ahmad and Gambang, 2005	Circle-blotch pygmy swellshark				X				
91	<i>Cephaloscyllium cooki</i> Last, Séret & White, 2008	Cook's swellshark			X					
92	<i>Cephaloscyllium pictum</i> Last, Séret & White, 2008	Painted swellshark			X					
93	<i>Cephaloscyllium sarawakensis</i> Yano, Ahmad and Gambang, 2005	Sarawak pygmy swellshark				X				
94	<i>Cephaloscyllium</i> cf. <i>speccum</i> Last, Seret & White 2008	Speckled swellshark				X				
95	<i>Cephaloscyllium</i> sp. nov.	Philippine swellshark							X	
96	<i>Cephaloscyllium</i> cf. <i>variagatum</i> Last & White, 2008	Stripes swellshark				X				
97	<i>Galeus sauteri</i> (Jordan & Richardson, 1909)	Blacktip sawtail catshark							X	
98	<i>Galeus schultzi</i> Springer, 1979	Dwarf sawtail catshark							X	
99	<i>Galeus</i> cf. <i>eastmani</i> (Jordan and Snyder, 1904)	Gecko catshark				X				
100	<i>Galeus</i> sp. nov. <i>Galeus</i> cf. <i>nipponensis</i> Nakaya, 1979	Broadfin sawtail catshark							X	
101	<i>Halaelurus</i> sp. nov. <i>Halaelurus</i> cf. <i>boesemani</i> Springer & D'Aubrey, 1972	Speckled catshark							X	

No.	Order/Family/Scientific name	Common name (English)	B	C	I	MY	MN	T	P	V
102	<i>Halaelurus buergeri</i> (Müller and Henle, 1838)	Blackspotted catshark				X		X		X
103	<i>Halaelurus</i> sp. nov. <i>Halaelurus</i> cf. <i>buergeri</i> (Müller and Henle, 1838)	Blackspotted catshark							X	
104	<i>Halaelurus maculosus</i> White, Last & Stevens, 2007 Identified as <i>Halaelurus buergeri</i> (Müller and Henle, 1838) and in Yano <i>et al.</i> (2005)	Indonesian speckled catshark Darkspot catshark			X	X				
105	<i>Parmaturus lanatus</i> Séret & Last, 2007	Velvet catshark			X					
106	<i>Pentanchus profundicolus</i> Smith & Radcliffe, 1912	Onefin catshark							X	
107	<i>Scyliorhinus garmani</i> (Fowler, 1934)	Brownspotted catshark			X				X	
108	<i>Scyliorhinus torazame</i> (Tanaka, 1908)	Cloudy catshark							X	
<b>Family Proscylliidae (5)</b>		<b>Finback Catsharks</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>1</b>	<b>1</b>	<b>1</b>	<b>2</b>	<b>0</b>
109	<i>Eridacnis radcliffei</i> Smith, 1913	Pygmy ribbontail catshark							X	
110	<i>Eridacnis</i> cf. <i>radcliffei</i> Smith, 1913	Sarawak pygmy ribbontail catshark				X				
111	<i>Eridacnis</i> sp. nov.	Philippine ribbontail catshark							X	
112	<i>Proscyllium habereri</i> Hilgendorf, 1904	Graceful catshark			X					
113	<i>Proscyllium magnificum</i> Last & Vongpanich, 2004	Finback catshark					X	X		
<b>Family Triakidae (12)</b>		<b>Hound sharks</b>	<b>2</b>	<b>0</b>	<b>4</b>	<b>4</b>	<b>0</b>	<b>3</b>	<b>7</b>	<b>1</b>
114	<i>Hemitriakis indroyonoi</i> White, Compagno & Dharmadi, 2009	Indonesian houndshark			X					
115	<i>Hemitriakis leucopterygata</i> Herre, 1923	Whitfin tope							X	
116	<i>Hemitriakis</i> sp. nov.	Ocellate tope shark							X	
117	<i>Iago garricki</i> Fourmanoir & Rivaton, 1979	Longnosed houndshark			X				X	
118	<i>Mustelus</i> sp. 2 <i>Mustelus</i> cf. <i>griseus</i> Pietschmann, 1908	Philippine brown smoothhound							X	
119	<i>Mustelus</i> sp. 3 <i>Mustelus</i> cf. <i>griseus</i> Pietschmann, 1908	Philippine gray smoothhound							X	
120	<i>Mustelus manazo</i> Bleeker, 1854	Star-spotted smooth hound			X	X		X		X

No.	Order/Family/Scientific name	Common name (English)	B	C	I	MY	MN	T	P	V
121	<i>Mustelus</i> sp. 1 <i>Mustelus</i> cf. <i>manazo</i> Bleeker, 1854	Philippine white-spotted smoothhound							X	
122	<i>Mustelus mosis</i> Hemprich & Ehrenberg, 1899 Identified as <i>Mustelus manazo</i> Bleeker, 1854 in Last <i>et al.</i> (2010)	Arabian smooth-hound Star-spotted smooth hound	X			X		X		
123	<i>Mustelus widodoi</i> White & Last, 2006 Identified as <i>Mustelus</i> sp. 1 [Manjaji, 2002]	Whitefin smoothhound Grey smoothhound			X	X		X		
124	<i>Mustelus</i> sp. [Yano <i>et al.</i> 2005]	Sarawaksmooth-hound	X			X				
125	<i>Triakis scyllium</i> Müller and Henle, 1839 <b>Family Hemigaleidae (4)</b>	Banded houndshark <b>Weasel sharks</b>	<b>4</b>	<b>0</b>	<b>4</b>	<b>4</b>	<b>3</b>	<b>4</b>	<b>2</b>	<b>3</b>
126	<i>Chaenogaleus macrostoma</i> (Bleeker, 1852)	Hooktooth shark	X		X	X	X	X		X
127	<i>Hemigaleus microstoma</i> Bleeker, 1852	Sicklefin weasel shark	X		X	X	X	X	X	X
128	<i>Hemipristis elongatus</i> (Klunzinger, 1871)	Fossil shark	X		X	X	X	X	X	
129	<i>Paragaleus tengi</i> (Chen, 1963) <b>Family Pseudotriakidae (2)</b>	Straight-tooth weasel shark <b>False catsharks</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>0</b>
130	<i>Gollum</i> sp. nov.	Sulu Gollumshark							X	
131	<i>Pseudotriakis microdon</i> Capello, 1868 <b>Family Carcharhinidae (38)</b>	False catshark <b>Requiem sharks</b>			X					
132	<i>Carcharhinus albimarginatus</i> (Rüppell, 1837)	Silvertip shark			X	X	X	X	X	X
133	<i>Carcharhinus altimus</i> (Springer, 1950)	Bignose shark			X			X	X	
134	<i>Carcharhinus amblyrhynchos</i> (Bleeker, 1856)	Gray reef shark	X		X	X		X	X	
135	<i>Carcharhinus amboinensis</i> (Muller & Henle, 1839)	Pigeeye shark			X		X	X	X	
136	<i>Carcharhinus amblyrhynchoides</i> (Whitley, 1934)	Graceful shark	X		X	X	X	X	X	X
137	<i>Carcharhinus borneensis</i> (Bleeker, 1859)	Borneo shark	X			X		X	X	

No.	Order/Family/Scientific name	Common name (English)	B	C	I	MY	MN	T	P	V
138	<i>Carcharhinus brachyurus</i>	Bronze whaler								X
139	<i>Carcharhinus brevipinna</i> (Müller and Henle, 1839)	Spinner shark			X	X	X	X	X	
140	<i>Carcharhinus dussumieri</i> (Valenciennes, in Müller and Henle, 1839)	Whitecheek shark	X	X	X	X	X	X	X	X
141	<i>Carcharhinus falciformis</i> (Bibron, in Müller and Henle, 1839)	Silky shark			X	X	X	X	X	X
142	<i>Carcharhinus fitzroyensis</i> (Whitley, 1943)	Creek whaler			X					
143	<i>Carcharhinus galapagensis</i> (Snodgrass & Heller, 1905)	Galapagos shark					X	X		X
144	<i>Carcharhinus hemiodon</i> (Valenciennes, in Müller and Henle, 1839) Identified as adult male of <i>Carcharhinus sorrah</i> in Last <i>et al.</i> (2010)	Pondicherry shark			X			X	X	
145	<i>Carcharhinus leucas</i> (Valenciennes, in Müller and Henle, 1839)	Bull shark	X	X	X	X	X	X	X	
146	<i>Carcharhinus limbatus</i> (Valenciennes, in Müller and Henle, 1839)	Common blacktip shark	X	X	X	X	X	X	X	X
147	<i>Carcharhinus longimanus</i> (Poey, 1861)	Oceanic Whitetip shark			X				X	
148	<i>Carcharhinus macloti</i> (Müller and Henle, 1839)	Hardnose shark			X	X		X	X	
149	<i>Carcharhinus melanopterus</i> (Quoy & Gaimard, 1824)	Blacktip reef shark	X	X	X	X	X	X	X	
150	<i>Carcharhinus obscurus</i> (Lesueur, 1818)	Dusky shark			X			X		
151	<i>Carcharhinus plumbeus</i> (Nardo, 1827)	Sandbar shark	X		X	X	X	X		
152	<i>Carcharhinus sealei</i> (Pietschmann, 1916)	Blackspot shark	X		X	X	X	X	X	
153	<i>Carcharhinus sorrah</i> (Valenciennes, in Müller and Henle, 1839)	Spottail shark	X	X	X	X	X	X	X	X
154	<i>Galeocerdo cuvier</i> (Peron & Lesueur, 1822)	Tiger shark	X		X	X	X	X	X	
155	<i>Glyphis fowlerae</i> Compagno, White & Cavanagh, 2010 ( <i>Glyphis</i> sp. B [Manjaji, 2002]. Synonym <i>Glyphis</i> sp. [Yano <i>et al.</i> , 2005])	Borneo river shark				X				

No.	Order/Family/Scientific name	Common name (English)	B	C	I	MY	MN	T	P	V
156	<i>Glyphis glyphis</i> (Müller and Henle, 1839)	Speartooth shark			X					
157	<i>Glyphis siamensis</i>	Irrawaddy River shark					X			
158	<i>Glyphis</i> sp. [Fahmi 2010]				X					
159	<i>Glyphis</i> sp. [Last <i>et al.</i> , 2010]	Mukah River shark				X				
160	<i>Glyphis</i> sp.	River shark							X	
161	<i>Lamiopsis tephrodes</i> (Fowler, 1905)	Borneo broadfin shark			X	X		X		
	Local synonym <i>Lamiopsis temmincki</i> (Müller and Henle, 1839)									
162	<i>Loxodon macrorhinus</i> Müller and Henle, 1839	Sliteye shark	X		X	X	X	X		
163	<i>Negaprion acutidens</i> (Ruppell, 1837)	Sharptooth lemon shark			X				X	
164	<i>Prionace glauca</i> (Linnaeus, 1758)	Blue shark			X	X		X	X	
165	<i>Rhizoprionodon acutus</i> (Rüppell, 1837)	Milk shark	X		X	X	X	X	X	
166	<i>Rhizoprionodon oligolinx</i> Springer, 1964	Gray sharpnose shark			X	X	X	X		
167	<i>Rhizoprionodon taylori</i> (Ogilby, 1915)	Australian sharknose shark			X			X		
168	<i>Scoliodon macrorhynchus</i> (Bleeker, 1852)	Pacific spadenose shark	X		X	X	X	X	X	
169	<i>Triacnodon obesus</i> (Rüppell, 1837)	Whitetip reef shark	X		X	X	X	X	X	
	<b>Family Sphyrnidae (5)</b>	<b>Hammerhead sharks</b>	<b>2</b>	<b>1</b>	<b>4</b>	<b>3</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>3</b>
170	<i>Eusphyra blochii</i> (Cuvier, 1817)	Winghead shark			X	X	X	X	X	
171	<i>Sphyrna lewini</i> (Griffith & Smith, 1834)	Scalloped hammerhead	X		X	X	X	X	X	X
172	<i>Sphyrna mokarran</i> (Rüppell, 1837)	Great hammerhead	X	X	X	X	X	X	X	X
173	<i>Sphyrna tiburo</i> (Linnaeus, 1758)	Bonnethead shark							X	
174	<i>Sphyrna zygaena</i> (Linnaeus, 1758)	Smooth hammerhead			X			X	X	X
	Total = 174		34	11	111	63	34	64	94	29





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