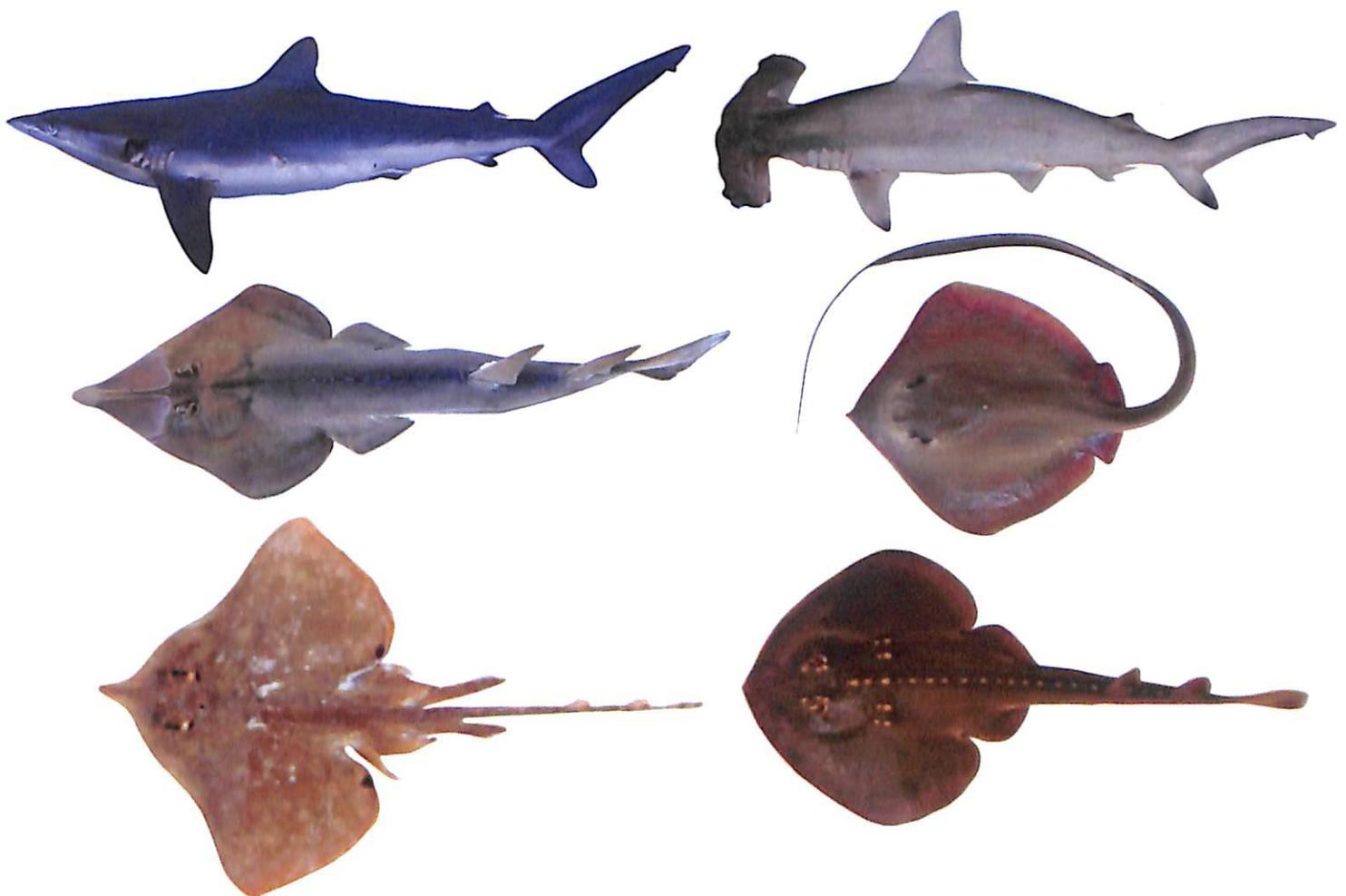


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SEAFDEC/MFRDMD/SP/31



# IDENTIFICATION GUIDE TO SHARKS, RAYS AND SKATES OF THE SOUTHEAST ASIA REGION



By

Ahmad Ali  
Annie Lim Pek Khiok  
Fahmi  
Dharmadi  
Tassapon Krajangdara

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Ahmad Ali

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## Introduction

This guide was developed by SEAFDEC-MFRDMD, SEAFDEC SECRETARIAT and SEAFDEC-TD in collaboration with Department of Fisheries Malaysia; Research Centre for Oceanography, Indonesia Institute of Science; Research Center for Fisheries Management and Conservation, Indonesia; and the Department of Fisheries Thailand. This guide is one of the outcome of a one-year comprehensive data collection on sharks, rays and skates landings conducted from 2015-2016 in Cambodia, Malaysia, Myanmar, Indonesia, Vietnam and Thailand. This guide was used by enumerators to identify sharks, rays and skates up to species level at all landing sites. Printing cost was funded by EU-CITES.

Most sharks, rays and skates species look very similar within the family and difficult to quickly identify by enumerators or in some cases even taxonomists. With more than 300 species already recognized and many new species continuously being discovered in the Southeast Asian Region, the challenge is becoming more complicated.

This waterproof guide was developed in addition to that of three publications of SEAFDEC including 'Field guide to Sharks of the Southeast Asian Region'; Field guide to Look-alike Sharks and Rays Species of the Southeast Asian Region, and 'Field guide to Rays, Skates and Chimaeras of the Southeast Asian Region'.

This guide includes 56 species of sharks, 62 species of rays and five species of skates found in this region. Most of these species are found in abundance in this region. Colour photographs are provided for each species with highlighted arrows on the main identifying characters. Images of look-alike species were arranged in one page or the following adjacent page for easy comparison.

This guide was made possible based on knowledge and experiences of the authors through their studies especially in Malaysia, Indonesia, Myanmar, Cambodia, Vietnam and Thailand and accumulated information from enumerators during this project. All authors of this guidebook were directly involved in this project as taxonomist.

## Classification

The classification used in this book follows classification adopted by Compagno (1999), Last and Stevens (2009), Weigmann (2016) and Last *et al.*, (2016).

## Acknowledgement

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# IDENTIFICATION GUIDE TO SHARKS, RAYS & SKATES OF THE SOUTHEAST ASIAN REGION

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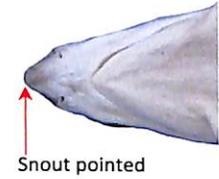
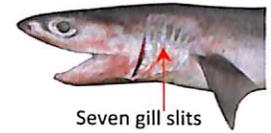
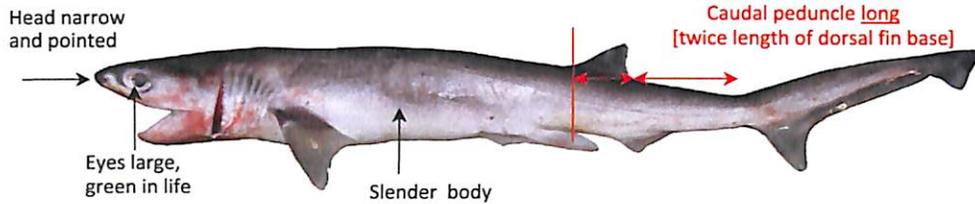
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## HEXANCHIDAE

*Heptranchias perlo* (Bonnaterre, 1788)

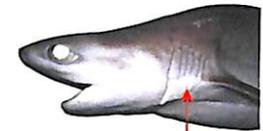
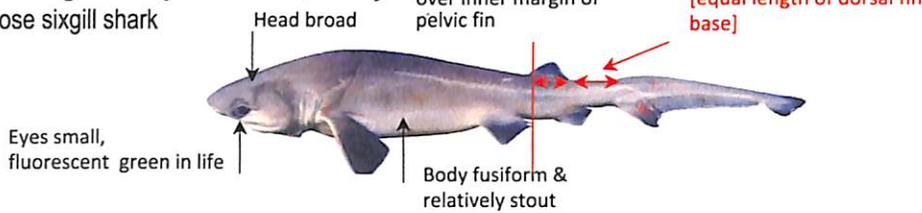
Sharphnose sevengill shark



## HEXANCHIDAE

*Hexanchus griseus* (Bonnaterre, 1788)

Bluntnose sixgill shark

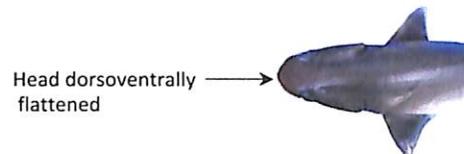
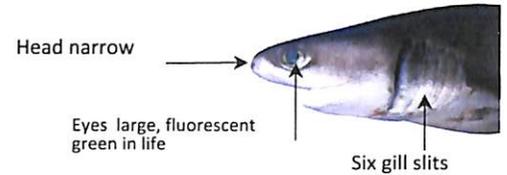
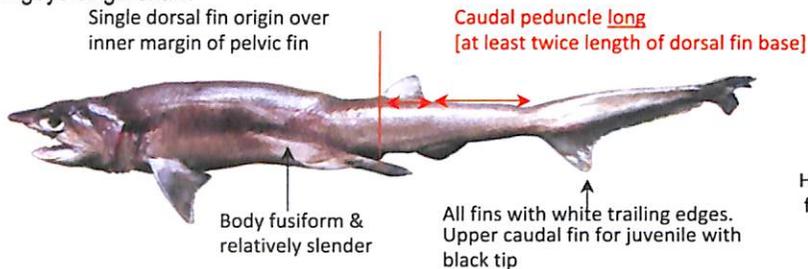


## HEXANCHIDAE

*Hexanchus nakamurai* Teng, 1962

Bigeye sixgill shark

Single dorsal fin origin over inner margin of pelvic fin

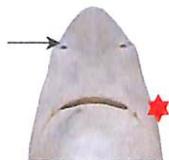


## SQUALIDAE

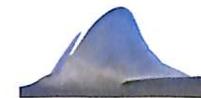
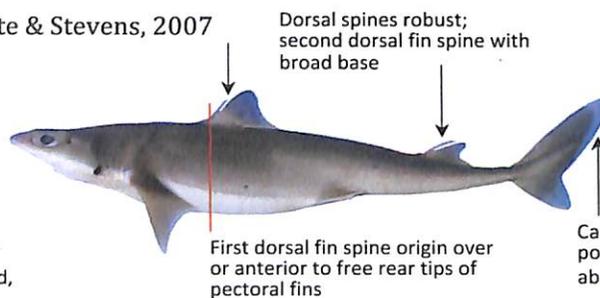
*Squalus altipinnis* Last, White & Stevens, 2007

Western highfin spurdog

Anterior nasal flap with two lobes



Snout moderate; rather pointed, preoral snout short



First dorsal spine length more than half anterior margin



Second dorsal spine almost reaching anterior margin tip

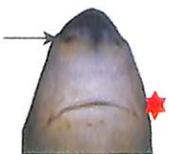
Caudal fin with narrow pale posterior margin [caudal bar absent]

## SQUALIDAE

*Squalus megalops* (Macleay, 1881)

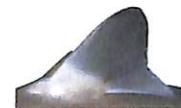
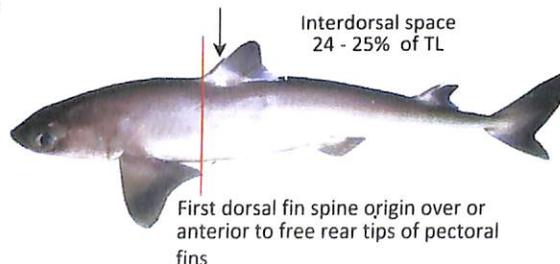
Pike spurdog, Shortnose spurdog

Anterior nasal flap with two lobes



Snout bluntly pointed to blunt, preoral snout short

First dorsal fin spine short [2.4 - 3.4% TL]



First dorsal spine very short; less than half anterior margin



Second dorsal fin spine not reaching anterior margin tip

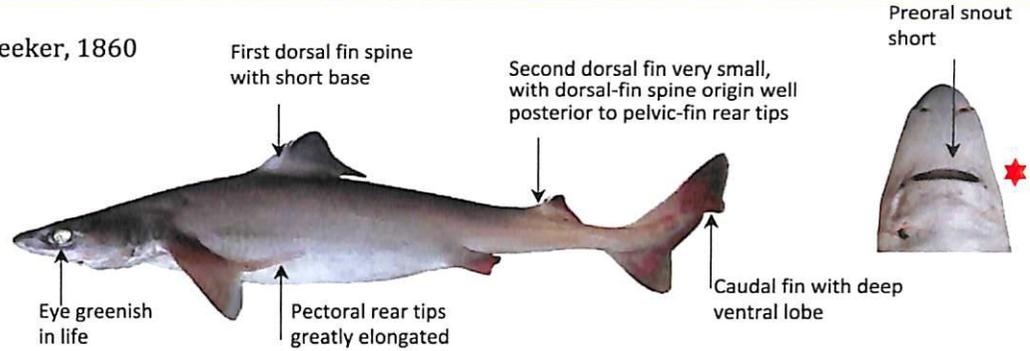


Caudal fin with white posterior margin [occasionally with a bar through base of lower caudal lobe]

**IDENTIFICATION GUIDE TO SHARKS, RAYS & SKATES  
OF THE SOUTHEAST ASIAN REGION**

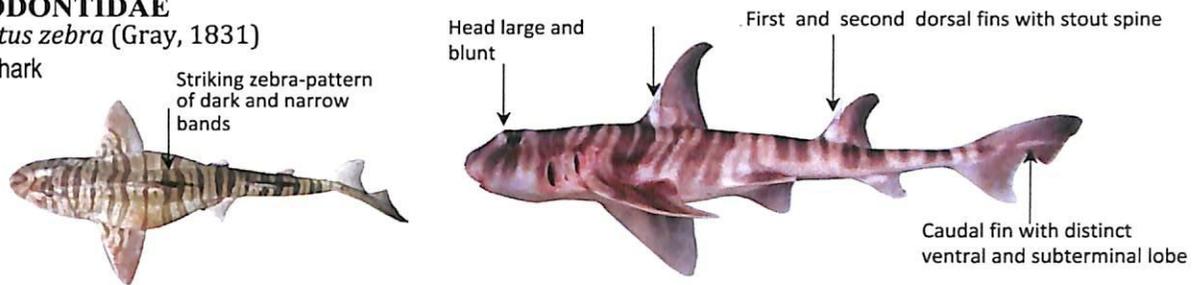
**CENTROPHORIDAE**

*Centrophorus moluccensis* Bleeker, 1860  
Smallfin gulper dogfish



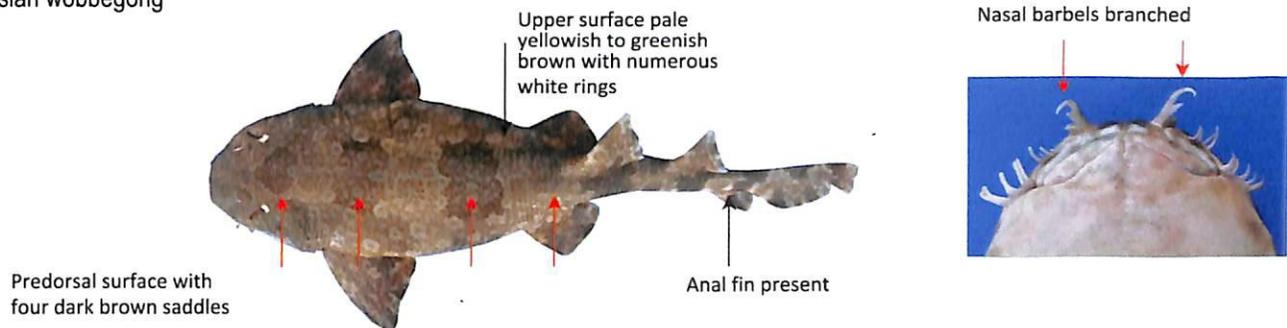
**HETERODONTIDAE**

*Heterodontus zebra* (Gray, 1831)  
Zebra hornshark



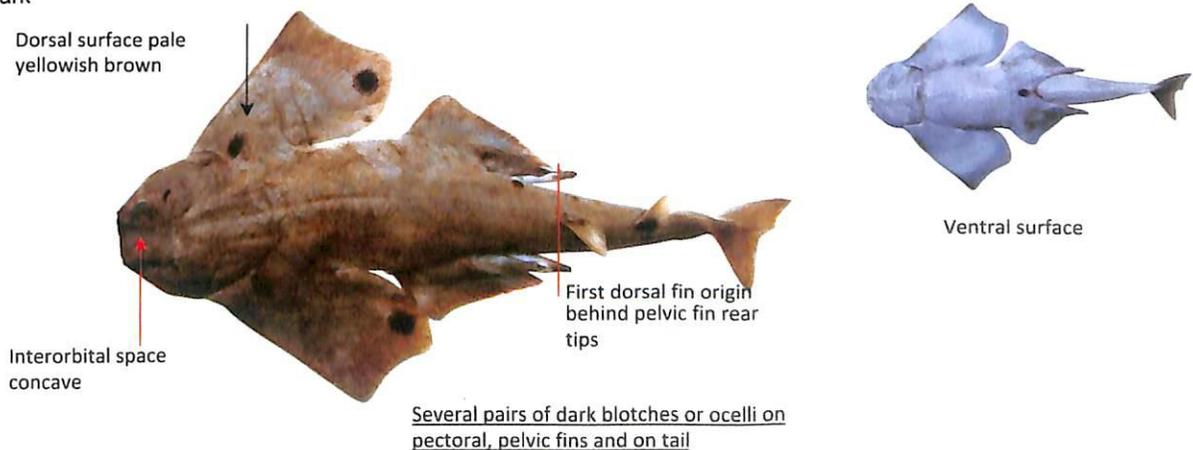
**ORECTOLOBIDAE**

*Orectolobus leptolineatus* Last, Pogonoski & White, 2010  
Indonesian wobbegong



**SQUATINIDAE**

*Squatina tergocellatoides* Chan, 1963  
Ocellated angelshark

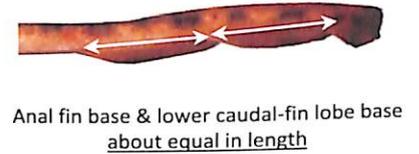
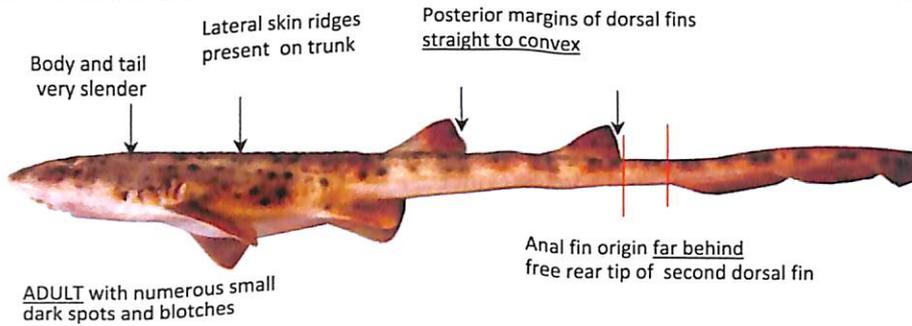


# IDENTIFICATION GUIDE TO SHARKS, RAYS & SKATES OF THE SOUTHEAST ASIAN REGION

## HEMISCYLLIIDAE

*Chiloscyllium indicum* (Gremlin, 1789)

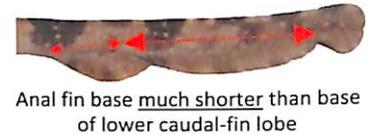
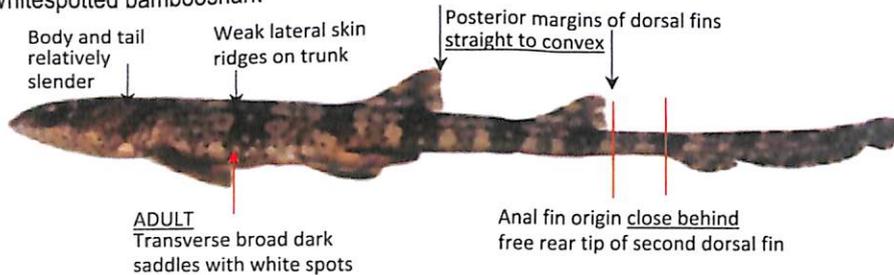
Slender bambooshark



## HEMISCYLLIIDAE

*Chiloscyllium plagiosum* (Bennett, 1830)

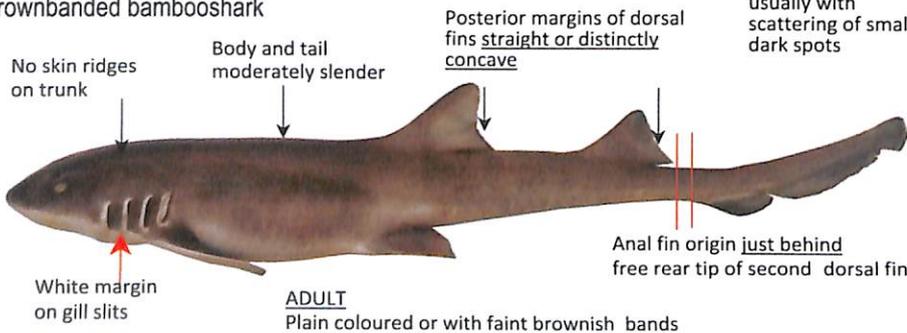
Whitespotted bambooshark



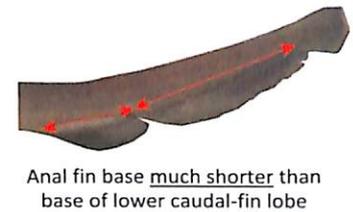
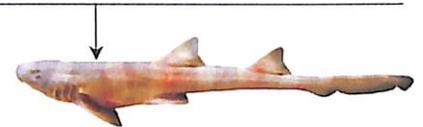
## HEMISCYLLIIDAE

*Chiloscyllium punctatum* Müller and Henle, 1839

Brownbanded bambooshark



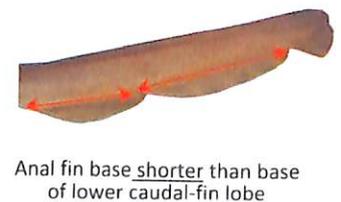
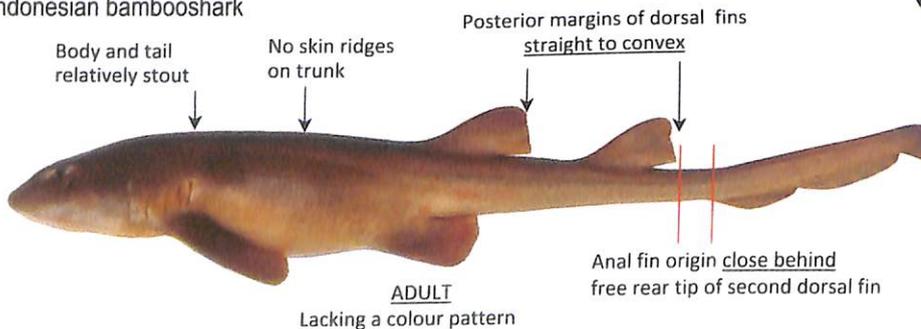
**JUVENILE**  
Transverse bands usually with scattering of small dark spots



## HEMISCYLLIIDAE

*Chiloscyllium hasseltii* Bleeker, 1852

Indonesian bambooshark



# IDENTIFICATION GUIDE TO SHARKS, RAYS & SKATES OF THE SOUTHEAST ASIAN REGION

## GINGLYMOSTOMATIDAE

*Nebrius ferrugineus* (Lesson, 1830)

Tawny shark

Nostrils near tip of mouth

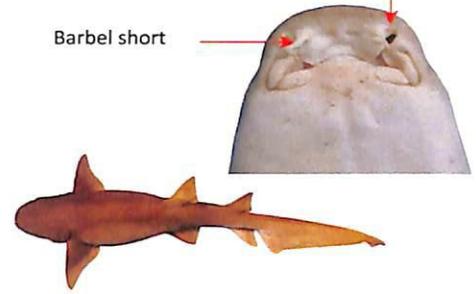
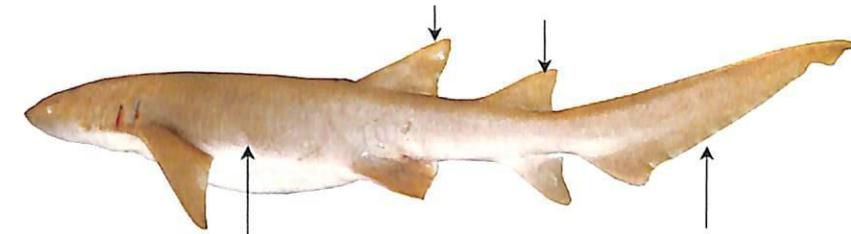
Barbel short

Dorsal fins similar in size,  
close to tail

Body sandy brown to  
greyish brown dorsally,  
paler ventrally

Caudal fin length about 1/3  
of total length

Top view (juvenile)



## STEGOSTOMATIDAE

*Stegostoma fasciatum* (Hermann, 1783)

Zebra shark

**JUVENILE** with prominent  
ridges on dorsal surfaces  
and sides

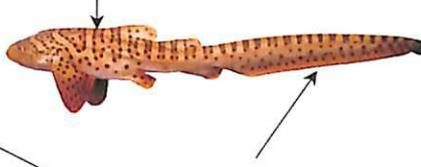
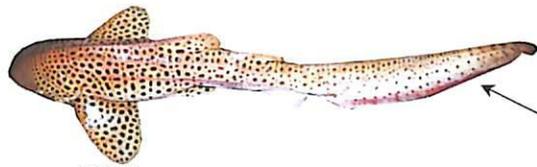


**NEW BORN**  
Dark brown with  
vertical white bars and  
spots

**ADULT**

Yellowish brown with numerous dark brown spots  
on body and fins

Caudal fin very long, blade-like



## PSEUDOCARCHARIIDAE

*Pseudocarcharias kamoharai* (Matsubara, 1936)

Crocodile shark

Snout moderately long and conical, its tip rounded

First dorsal fin origin well  
posterior to pectoral fin rear tip

Second dorsal fin less than half  
first dorsal fin size; larger than anal fin



Very large eyes  
lacking nictitating  
membrane

Anal fin



## ALOPIIDAE

*Alopias pelagicus* Nakamura, 1935

Pelagic thresher

Snout short and  
conical, its tip  
rounded

Head profile arched  
between eyes

Upper lobe of caudal fin as  
long as rest of body

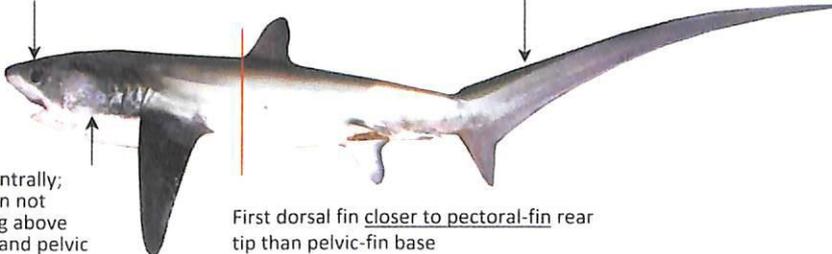


White ventrally;  
coloration not  
extending above  
pectoral and pelvic  
fin bases

First dorsal fin closer to pectoral-fin rear  
tip than pelvic-fin base



Eyes huge, NOT extending onto  
dorsal surface of head



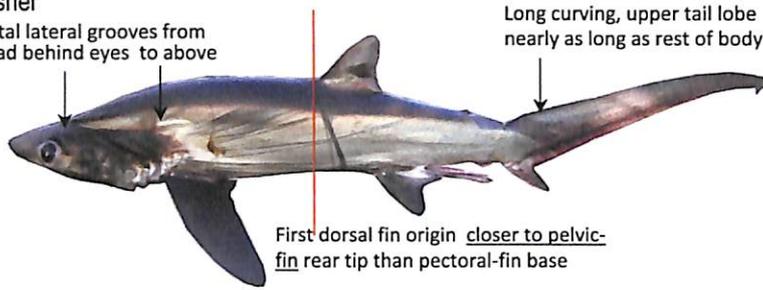
# IDENTIFICATION GUIDE TO SHARKS, RAYS & SKATES OF THE SOUTHEAST ASIAN REGION

## ALOPIIDAE

*Alopias superciliosus* (Lowe, 1839)

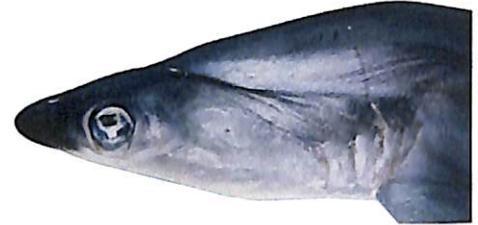
Bigeye thresher

Deep horizontal lateral grooves from midline of head behind eyes to above gill region



First dorsal fin origin closer to pelvic-fin rear tip than pectoral-fin base

Long curving, upper tail lobe nearly as long as rest of body



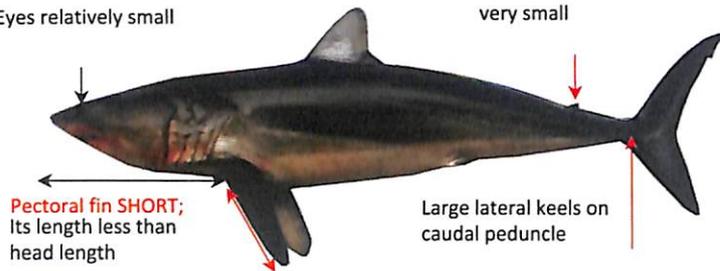
Eyes huge, extending onto dorsal surface of head

## LAMNIDAE

*Isurus oxyrinchus* Rafinesque, 1810

Shortfin mako

Eyes relatively small

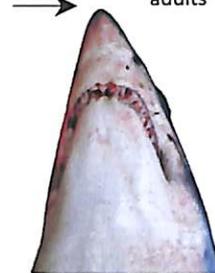


Pectoral fin **SHORT**; its length less than head length

Second dorsal fin very small

Large lateral keels on caudal peduncle

Snout acutely long and pointed

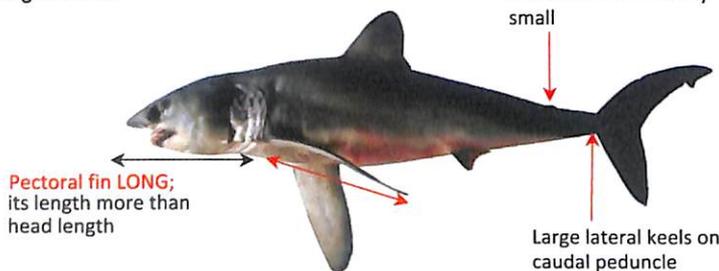


Underside of snout and jaw white in adults

## LAMNIDAE

*Isurus paucus* Guitart Manday, 1966

Longfin mako



Pectoral fin **LONG**; its length more than head length

Second dorsal fin very small

Large lateral keels on caudal peduncle



Top view

Underside of snout and jaws dark [in adults]

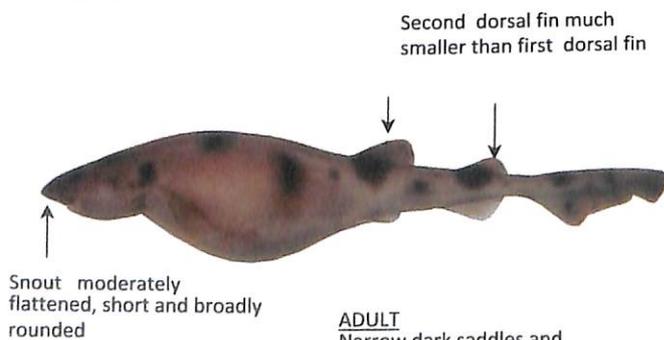
Snout long and pointed



## SCYLIORHINIDAE

*Cephaloscyllium sarawakensis* Yano, Ahmad & Gambang, 2005

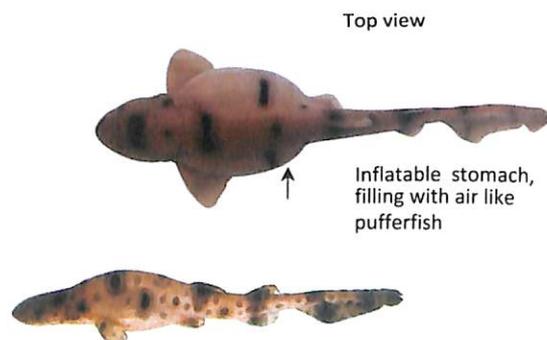
Sarawak pygmy swellshark



Snout moderately flattened, short and broadly rounded

Second dorsal fin much smaller than first dorsal fin

**ADULT**  
Narrow dark saddles and large blotches on both sides



Top view

Inflatable stomach, filling with air like pufferfish

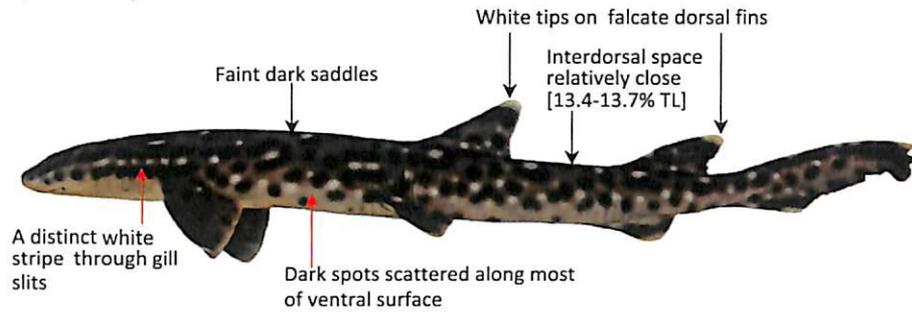
**JUVENILE**  
Body light brown with dark elongate spots and small light brown spots

# IDENTIFICATION GUIDE TO SHARKS, RAYS & SKATES OF THE SOUTHEAST ASIAN REGION

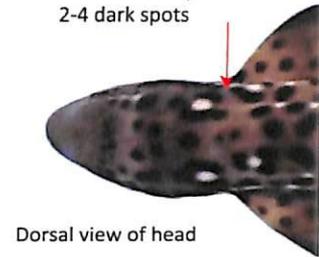
## SCYLIORHINIDAE

*Atelomycterus erdmanni* Fahmi & White, 2015

Spotted-belly catshark



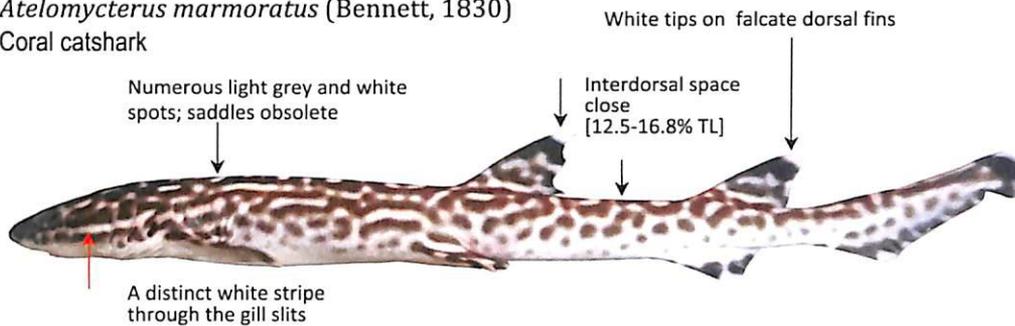
White spots surrounded by 2-4 dark spots



## SCYLIORHINIDAE

*Atelomycterus marmoratus* (Bennett, 1830)

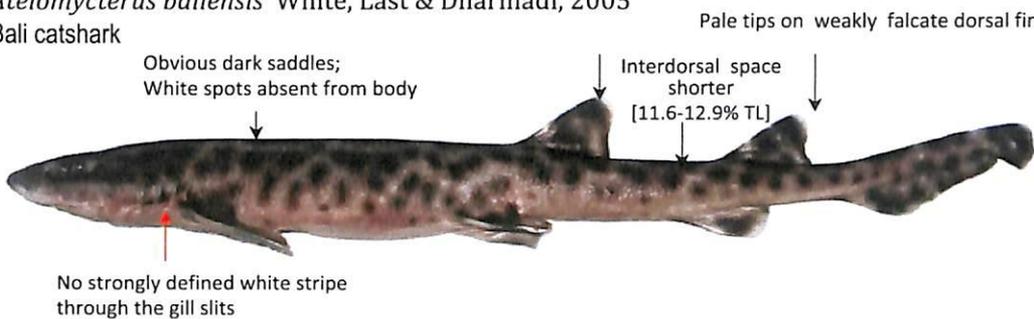
Coral catshark



## SCYLIORHINIDAE

*Atelomycterus baliensis* White, Last & Dharmadi, 2005

Bali catshark



## SCYLIORHINIDAE

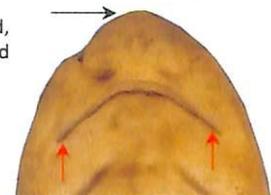
*Halaelurus buergeri* (Müller and Henle, 1839)

Blackspotted catshark

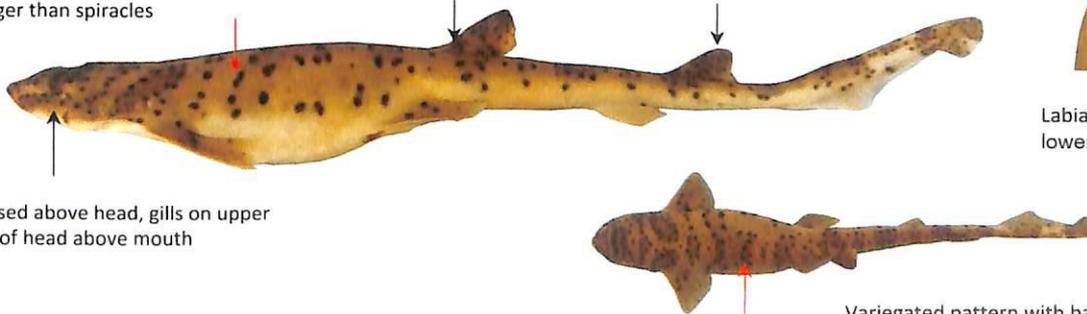
Dark spots few and mostly much larger than spiracles

First and second dorsal fin equal size

Snout pointed, not upturned



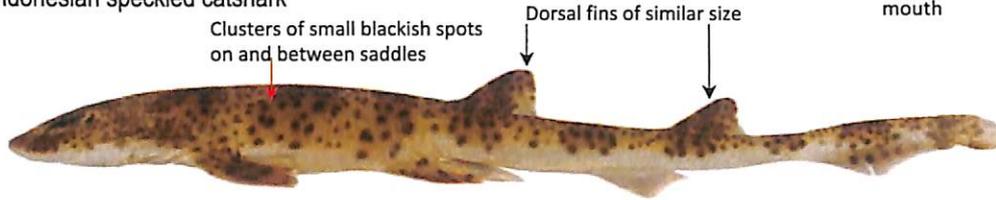
Eyes raised above head, gills on upper surface of head above mouth



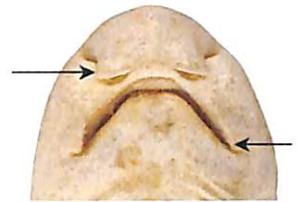
**IDENTIFICATION GUIDE TO SHARKS, RAYS & SKATES  
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**SCYLIORHINIDAE**

*Halaelurus maculosus* White, Last & Stevens, 2007  
Indonesian speckled catshark

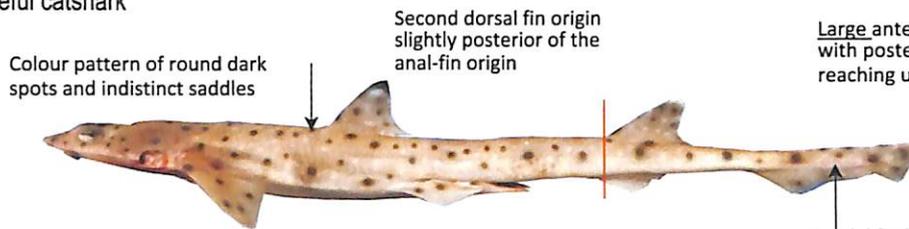


Anterior nasal flaps short, not reaching mouth

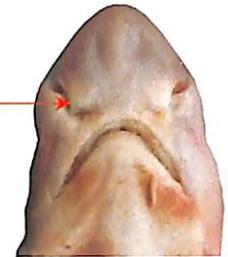


**PROSCYLLIIDAE**

*Proscyllium habereri* Hilgendorf, 1904  
Graceful catshark

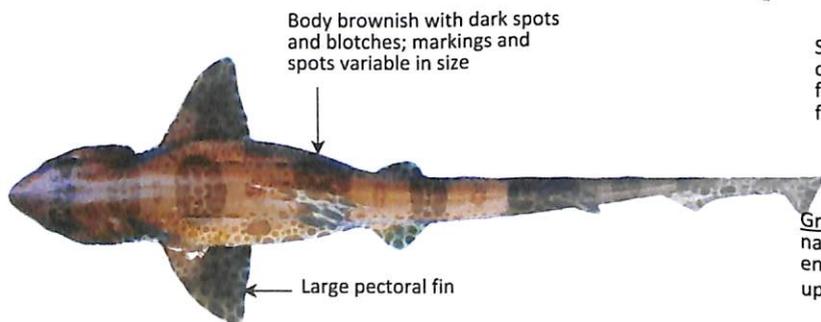


Large anterior nasal flaps with posterior not reaching upper jaw



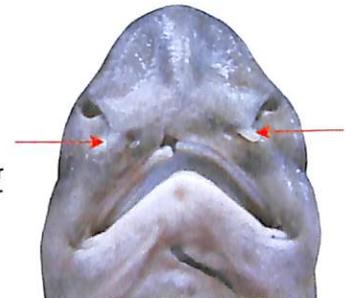
**PROSCYLLIIDAE**

*Proscyllium magnificum* Last & Vongpanich, 2004  
Magnificent catshark



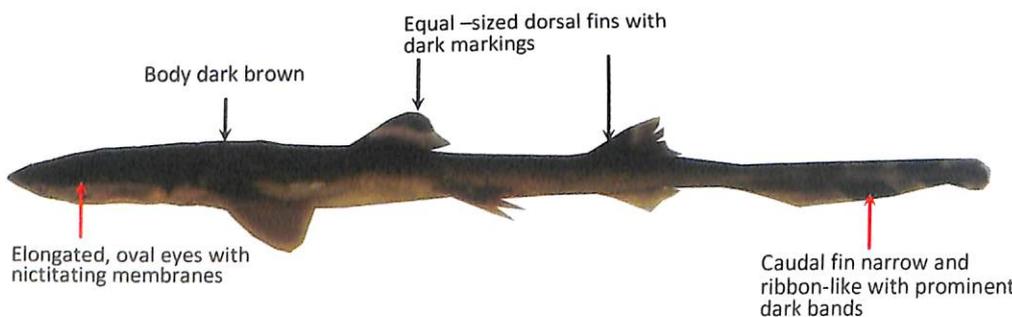
Second dorsal fin origin slightly forward of the anal-fin origin

Greatly enlarged anterior nasal flaps with posterior ends almost reaching upper jaw

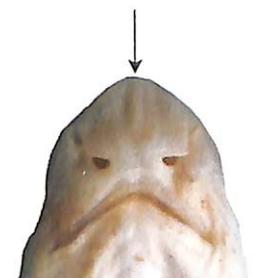


**PROSCYLLIIDAE**

*Eridacnis radcliffei* Smith, 1913  
Pygmy ribbontail catshark



Snout short and narrowly rounded



# IDENTIFICATION GUIDE TO SHARKS, RAYS & SKATES OF THE SOUTHEAST ASIAN REGION

## TRIAKIDAE

*Mustelus manazo* Bleeker, 1854

Starspotted smoothhound

First dorsal-fin origin slightly behind pectoral free rear tip

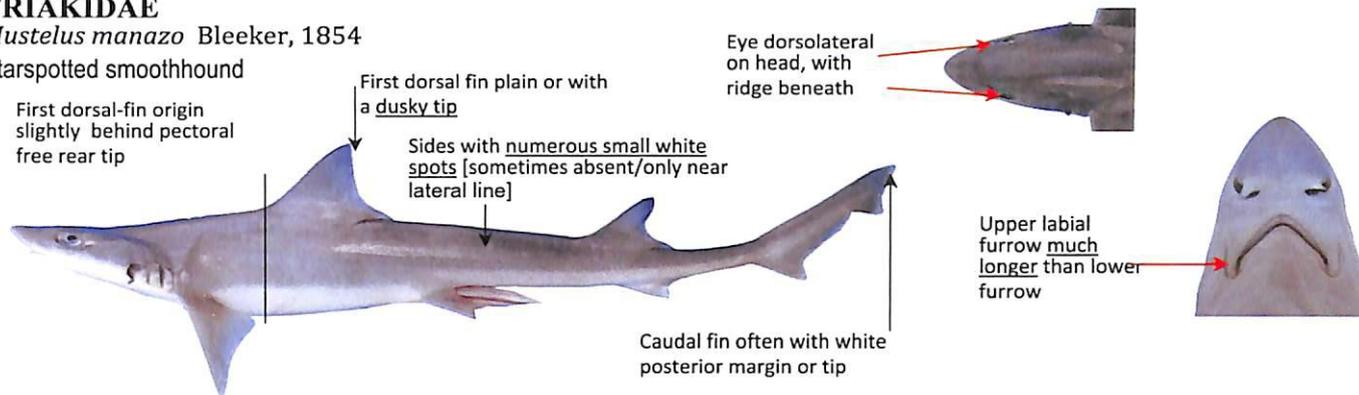
First dorsal fin plain or with a dusky tip

Sides with numerous small white spots [sometimes absent/only near lateral line]

Eye dorsolateral on head, with ridge beneath

Upper labial furrow much longer than lower furrow

Caudal fin often with white posterior margin or tip



## TRIAKIDAE

*Mustelus widodoi* White & Last, 2006

Whitefin smoothhound

First dorsal-fin origin slightly behind pectoral free rear tip

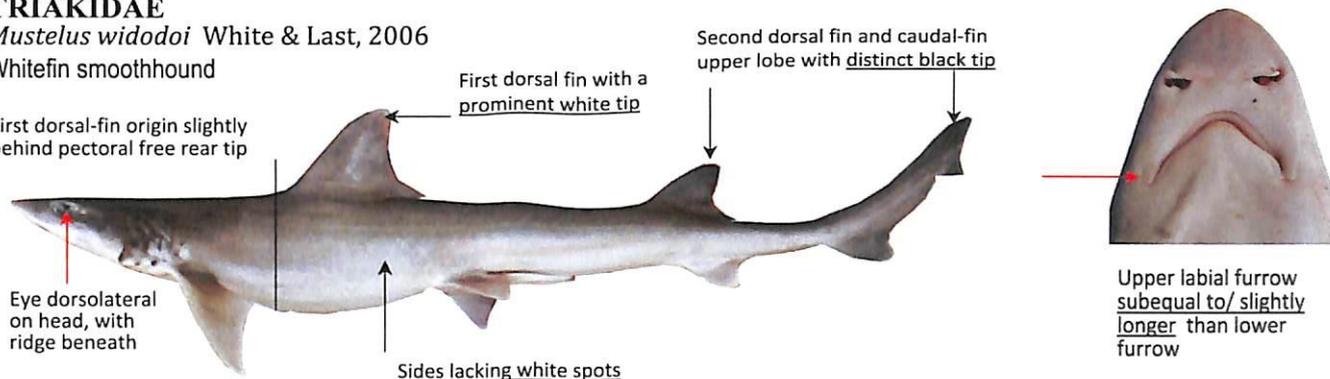
First dorsal fin with a prominent white tip

Second dorsal fin and caudal-fin upper lobe with distinct black tip

Eye dorsolateral on head, with ridge beneath

Sides lacking white spots

Upper labial furrow subequal to/ slightly longer than lower furrow



## HEMIGALEIDAE

*Hemipristis elongata* (Klunzinger, 1871)

Fossil shark

Spiracles small

No spots on side of body

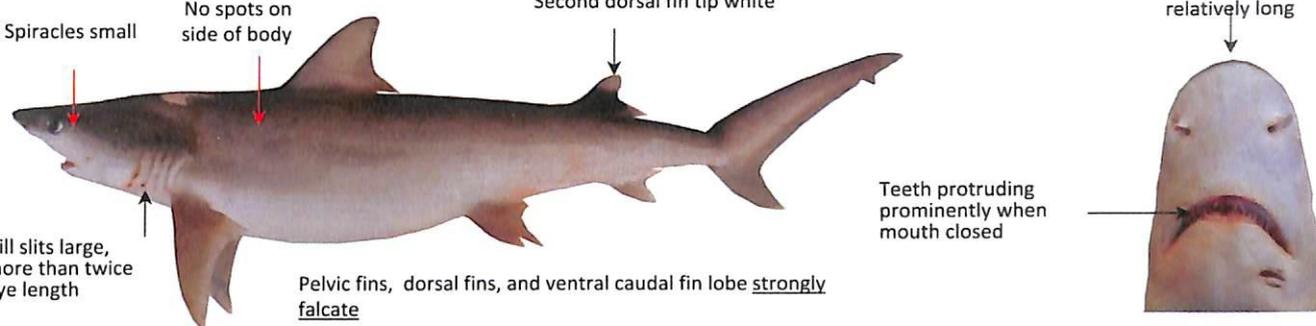
Second dorsal fin tip white

Snout bluntly rounded and relatively long

Gill slits large, more than twice eye length

Pelvic fins, dorsal fins, and ventral caudal fin lobe strongly falcate

Teeth protruding prominently when mouth closed



## HEMIGALEIDAE

*Hemigaleus microstoma* Bleeker, 1852

Weasel shark

White spots on side of body

Tip of first and second dorsal fin white

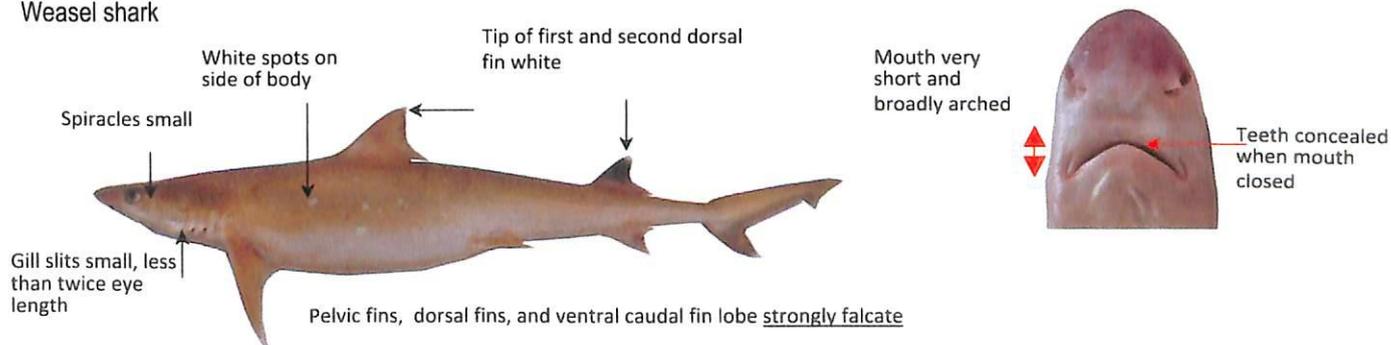
Mouth very short and broadly arched

Spiracles small

Gill slits small, less than twice eye length

Pelvic fins, dorsal fins, and ventral caudal fin lobe strongly falcate

Teeth concealed when mouth closed



**IDENTIFICATION GUIDE TO SHARKS, RAYS & SKATES  
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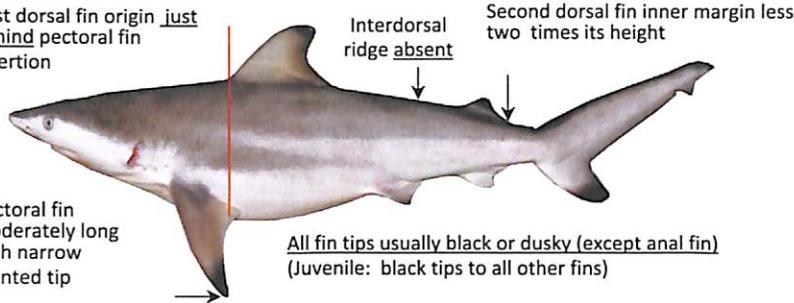
**CARCHARHINIDAE**

*Carcharhinus amblyrhynchoides* (Whitley, 1934)

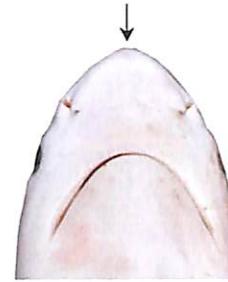
Graceful shark

First dorsal fin origin just behind pectoral fin insertion

Pectoral fin moderately long with narrow pointed tip



Snout rather short; narrowly rounded to pointed

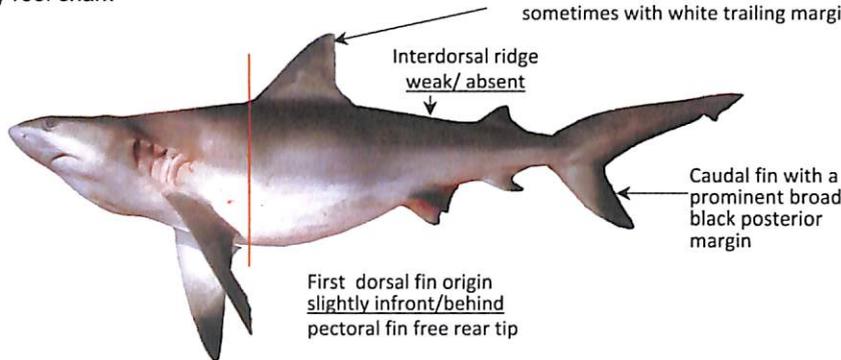


**CARCHARHINIDAE**

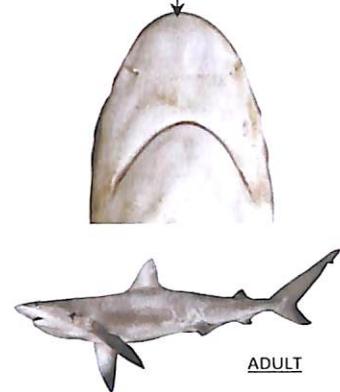
*Carcharhinus amblyrhynchos* (Bleeker, 1856)

Grey reef shark

First dorsal fin relatively tall; sometimes with white trailing margin



Snout broadly rounded



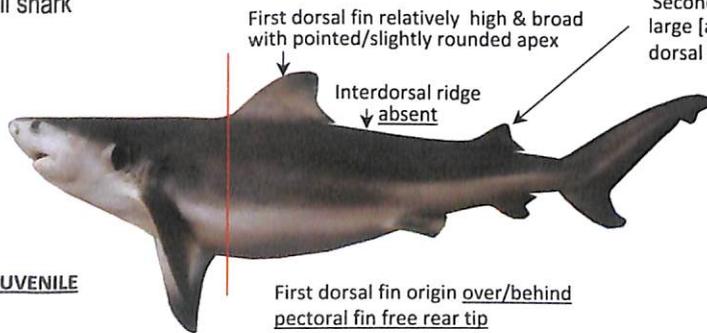
**CARCHARHINIDAE**

*Carcharhinus leucas* (Müller and Henle, 1839)

Bull shark

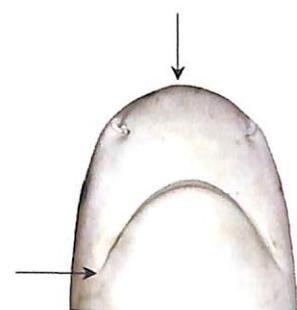
First dorsal fin relatively high & broad with pointed/slightly rounded apex

Second dorsal fin relatively large [about 1/3 height of first dorsal fin]



Snout broadly rounded and very short

Labial furrows short and inconspicuous



**CARCHARHINIDAE**

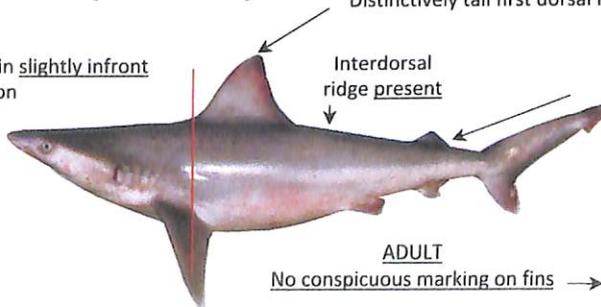
*Carcharhinus plumbeus* (Nardo, 1827)

Sandbar shark

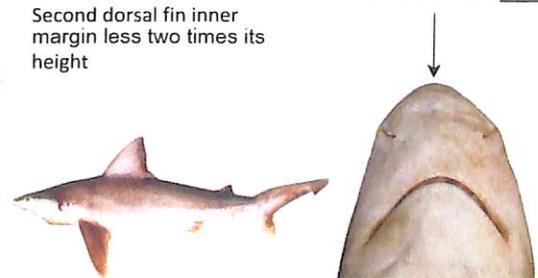
Distinctively tall first dorsal fin relative to body size

First dorsal fin origin slightly in front pectoral fin insertion

Second dorsal fin inner margin less two times its height



Snout broadly rounded and short



**IDENTIFICATION GUIDE TO SHARKS, RAYS & SKATES  
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**CARCHARHINIDAE**

*Carcharhinus tjtjtjot* Bleeker, 1852

Whitecheek shark

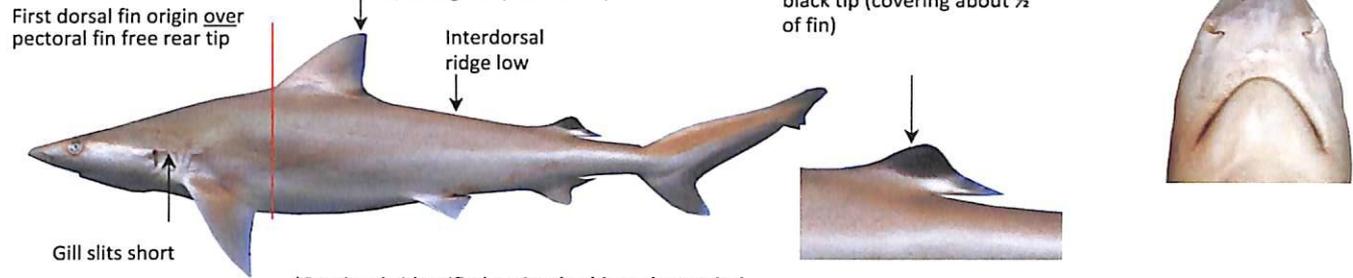
First dorsal fin origin over  
pectoral fin free rear tip

First dorsal fin moderately  
tall, triangular (not falcate)

Interdorsal  
ridge low

Second dorsal fin with  
black tip (covering about ½  
of fin)

Snout moderately long;  
broadly parabolic/wedge-  
shaped



\*Previously identified as *Carcharhinus dussumieri*

**CARCHARHINIDAE**

*Carcharhinus sealei* (Pietschmann, 1913)

Blackspot shark

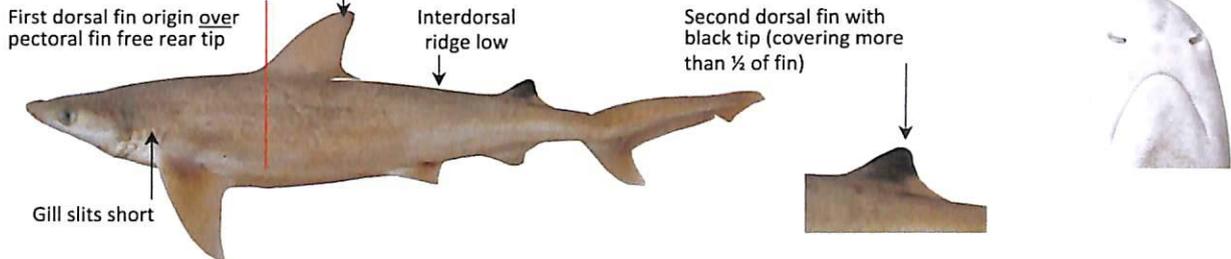
First dorsal fin origin over  
pectoral fin free rear tip

First dorsal fin moderately tall and falcate

Interdorsal  
ridge low

Second dorsal fin with  
black tip (covering more  
than ½ of fin)

Snout moderately long;  
narrowly parabolic/wedge-shaped



**CARCHARHINIDAE**

*Carcharhinus falciformis* (Müller and Henle, 1839)

Silky shark

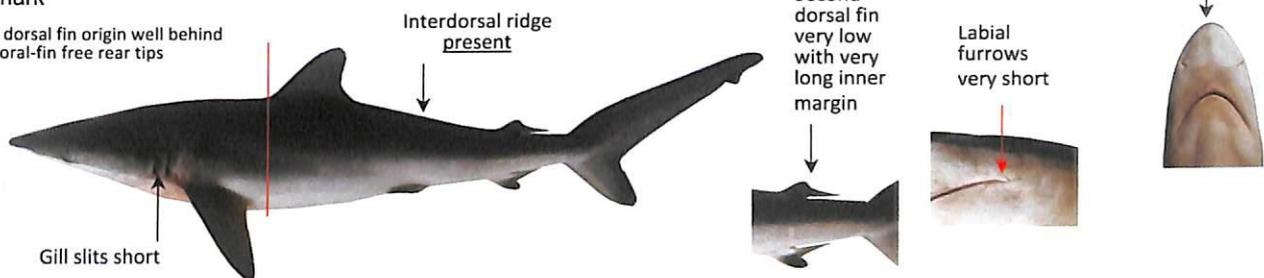
First dorsal fin origin well behind  
pectoral-fin free rear tips

Interdorsal ridge  
present

Second  
dorsal fin  
very low  
with very  
long inner  
margin

Labial  
furrows  
very short

Snout narrowly rounded,  
moderately long



**CARCHARHINIDAE**

*Carcharhinus brevipinna* (Müller and Henle, 1839)

Spinner shark

First dorsal fin origin  
slightly behind  
pectoral fin free rear tip

Interdorsal ridge  
absent

Second dorsal fin with black  
round spot for adults

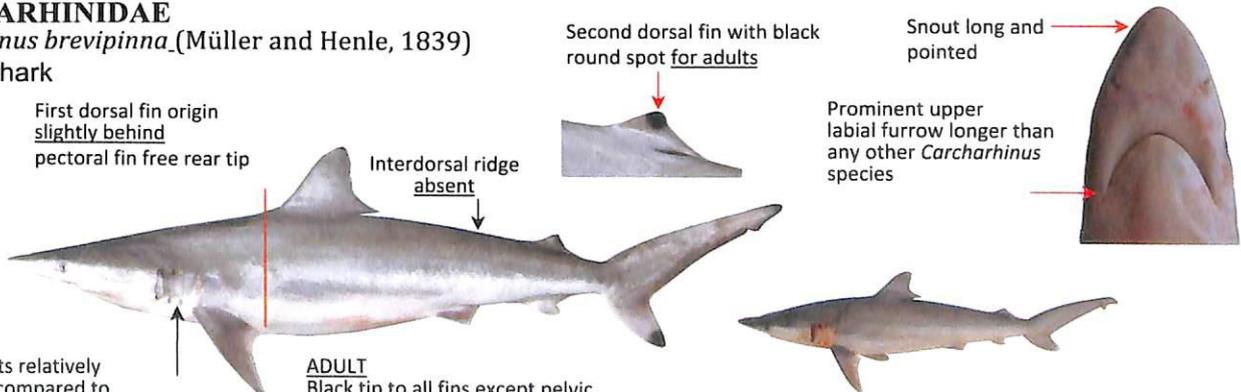
Snout long and  
pointed

Prominent upper  
labial furrow longer than  
any other *Carcharhinus*  
species

Gill slits relatively  
long (compared to  
*Carcharhinus sorrah*)

**ADULT**  
Black tip to all fins except pelvic  
fins in specimens over one meter

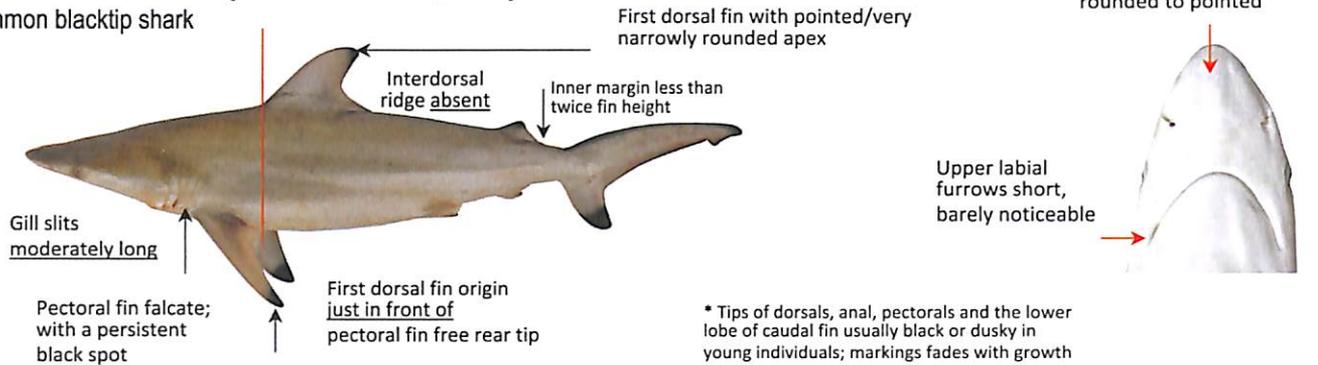
**JUVENILE** (less than one m TL)  
Usually with all fins plain



# IDENTIFICATION GUIDE TO SHARKS, RAYS & SKATES OF THE SOUTHEAST ASIAN REGION

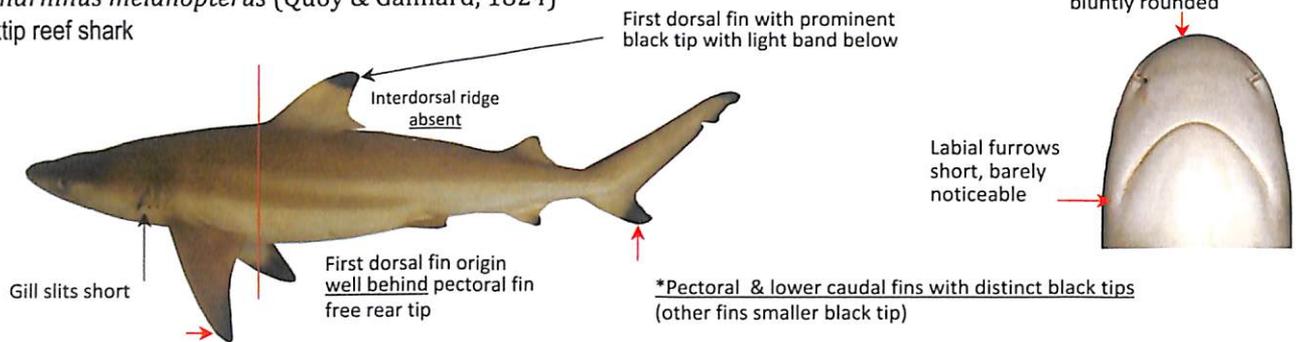
## CARCHARHINIDAE

*Carcharhinus limbatus* (Müller and Henle, 1839)  
Common blacktip shark



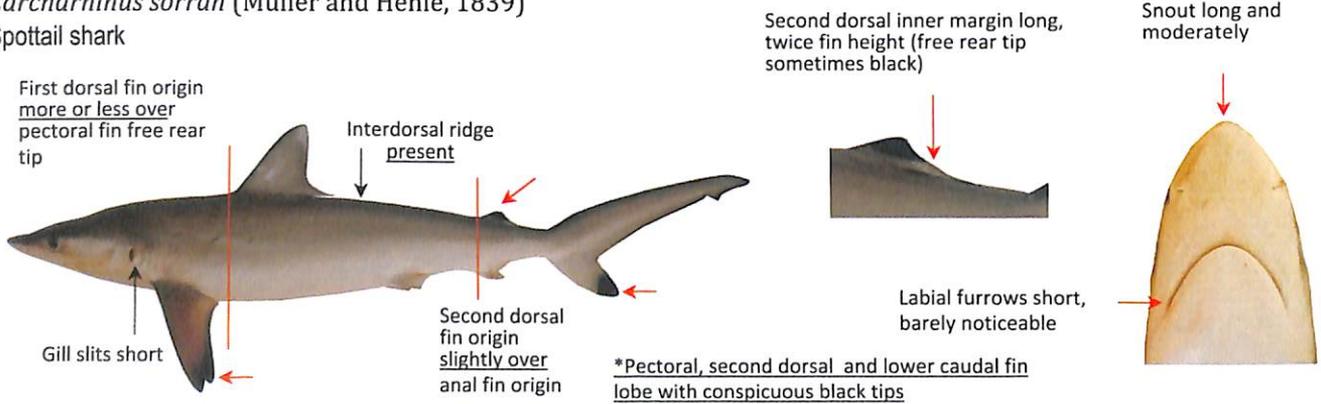
## CARCHARHINIDAE

*Carcharhinus melanopterus* (Quoy & Gaimard, 1824)  
Blacktip reef shark



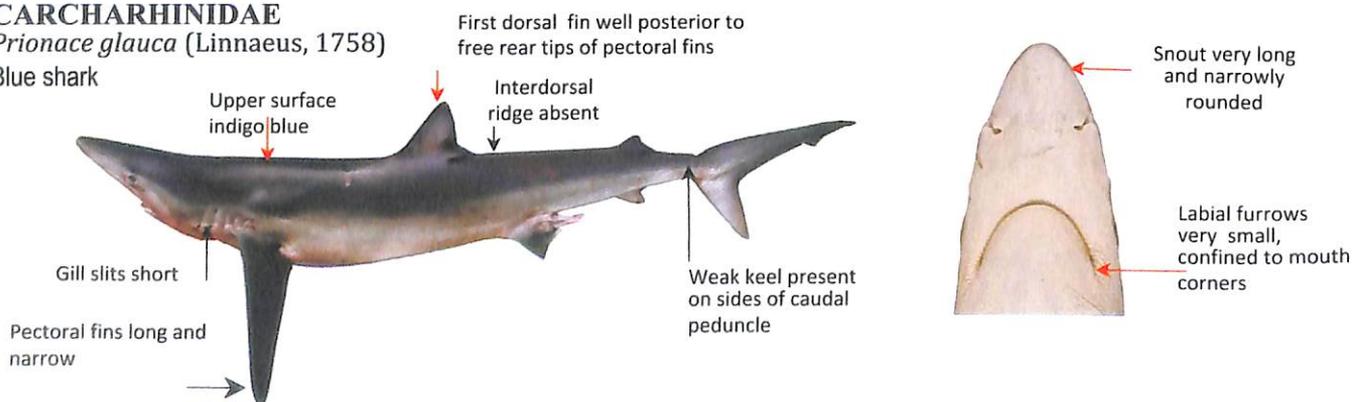
## CARCHARHINIDAE

*Carcharhinus sorrah* (Müller and Henle, 1839)  
Spottail shark



## CARCHARHINIDAE

*Prionace glauca* (Linnaeus, 1758)  
Blue shark

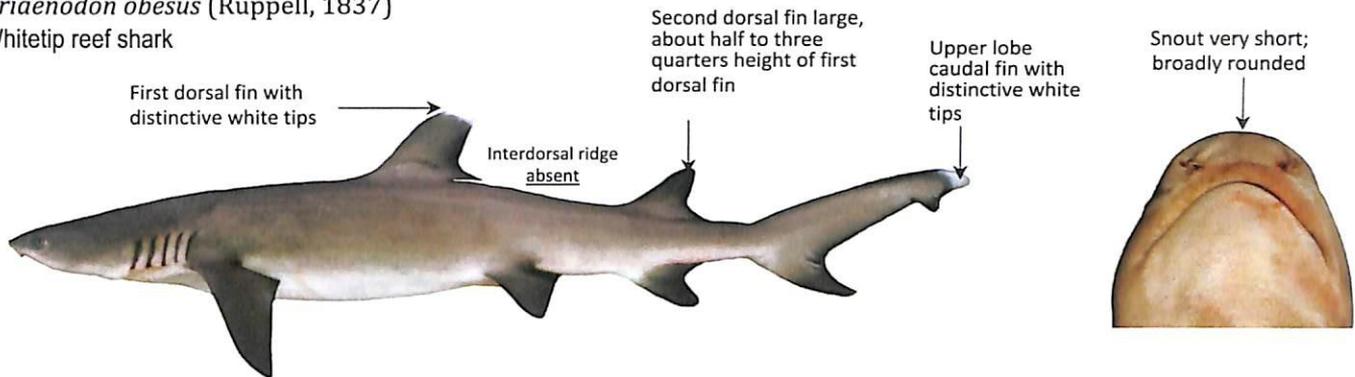


**IDENTIFICATION GUIDE TO SHARKS, RAYS & SKATES  
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**CARCHARHINIDAE**

*Triaenodon obesus* (Rüppell, 1837)

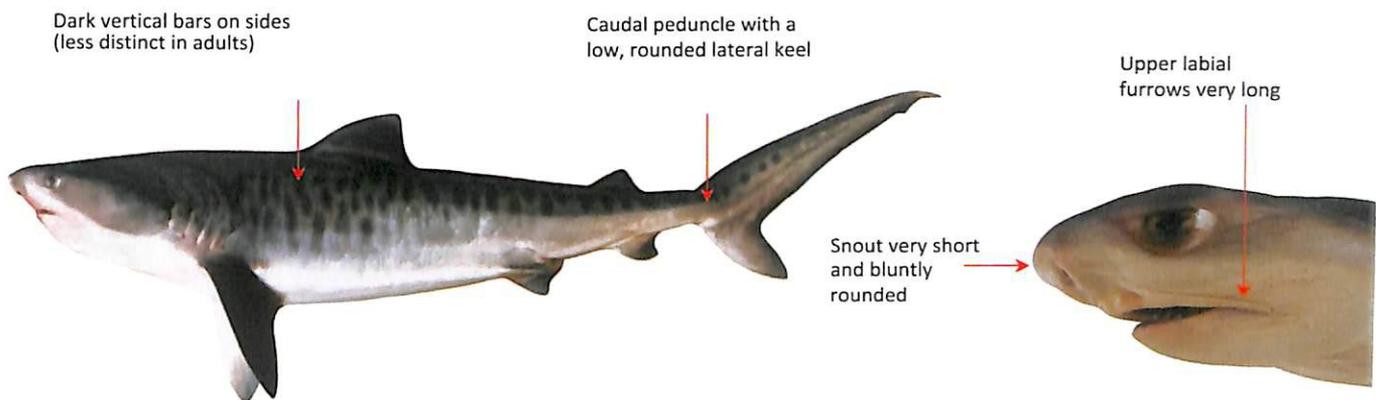
Whitetip reef shark



**CARCHARHINIDAE**

*Galeocerdo cuvier* (Peron & Lesueur, 1822)

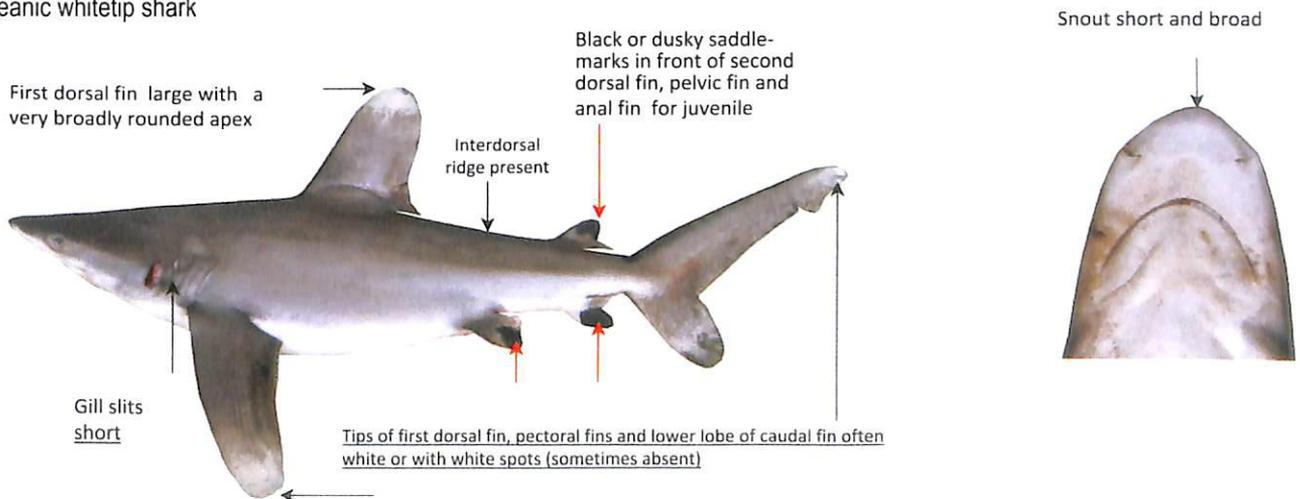
Tiger shark



**CARCHARHINIDAE**

*Carcharhinus longimanus* (Poey, 1861)

Oceanic whitetip shark

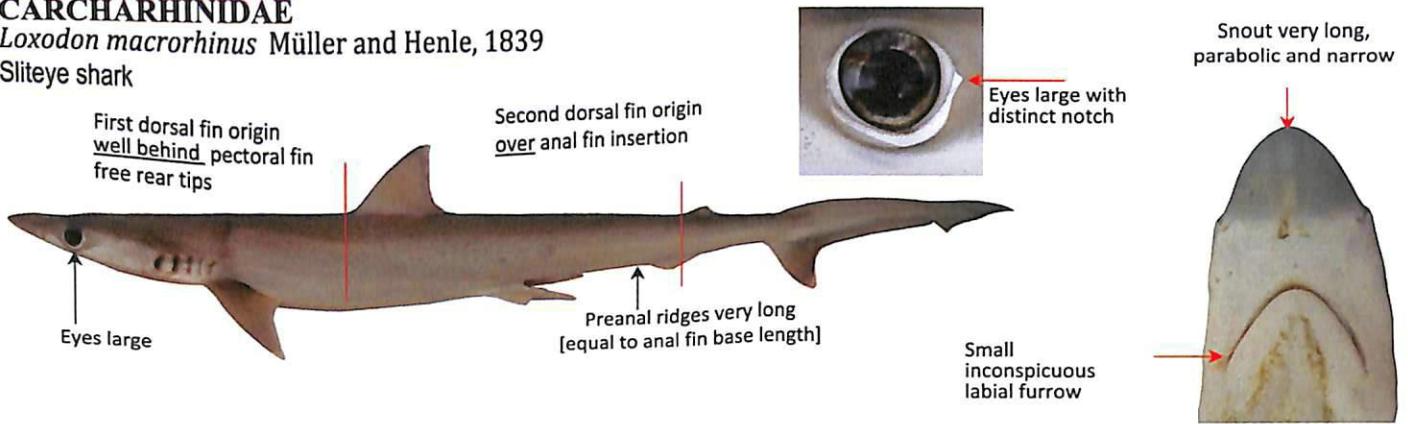


**IDENTIFICATION GUIDE TO SHARKS, RAYS & SKATES  
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**CARCHARHINIDAE**

*Loxodon macrorhinus* Müller and Henle, 1839

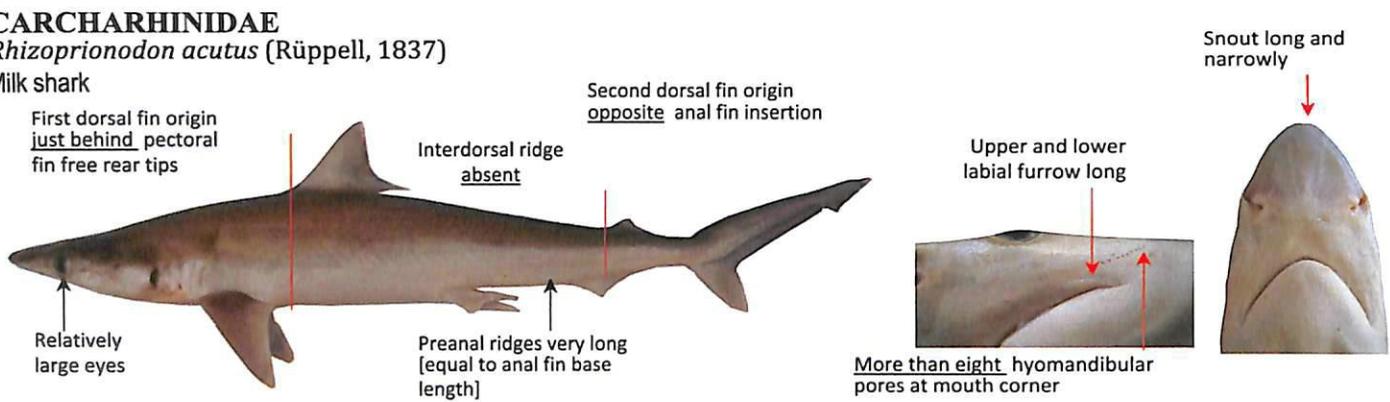
Sliteye shark



**CARCHARHINIDAE**

*Rhizoprionodon acutus* (Rüppell, 1837)

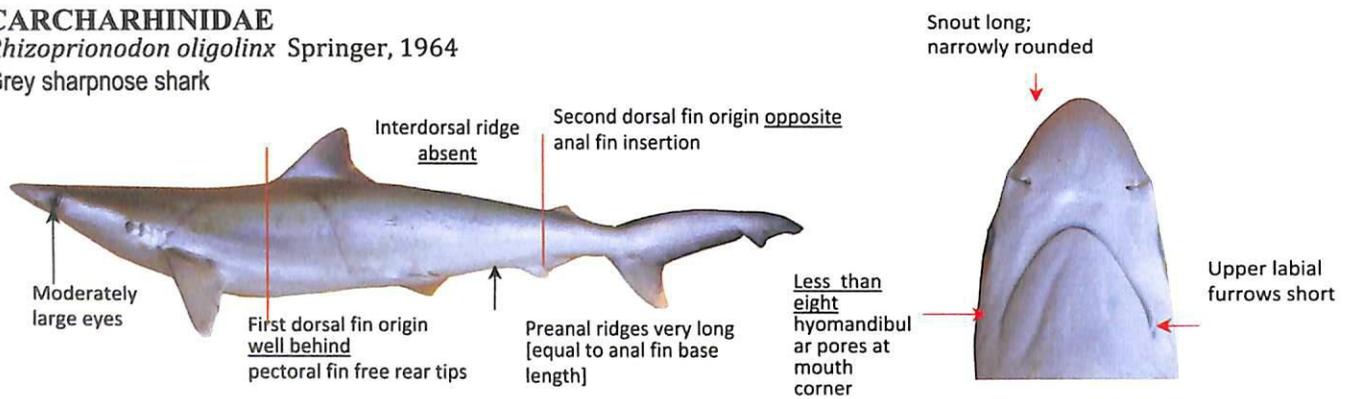
Milk shark



**CARCHARHINIDAE**

*Rhizoprionodon oligolinx* Springer, 1964

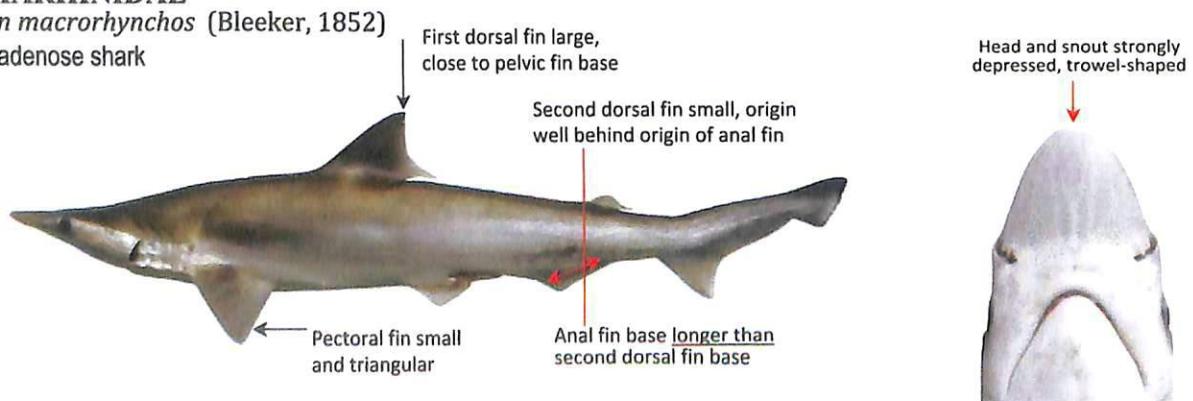
Grey sharpnose shark



**CARCHARHINIDAE**

*Scoliodon macrorhynchus* (Bleeker, 1852)

Pacific spadenose shark

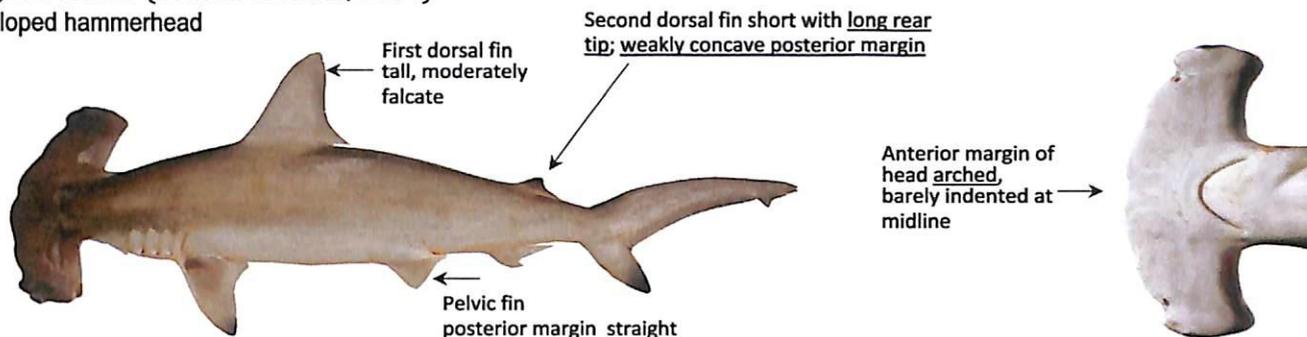


**IDENTIFICATION GUIDE TO SHARKS, RAYS & SKATES  
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**SPHYRNIDAE**

*Sphyrna lewini* (Griffith & Smith, 1834)

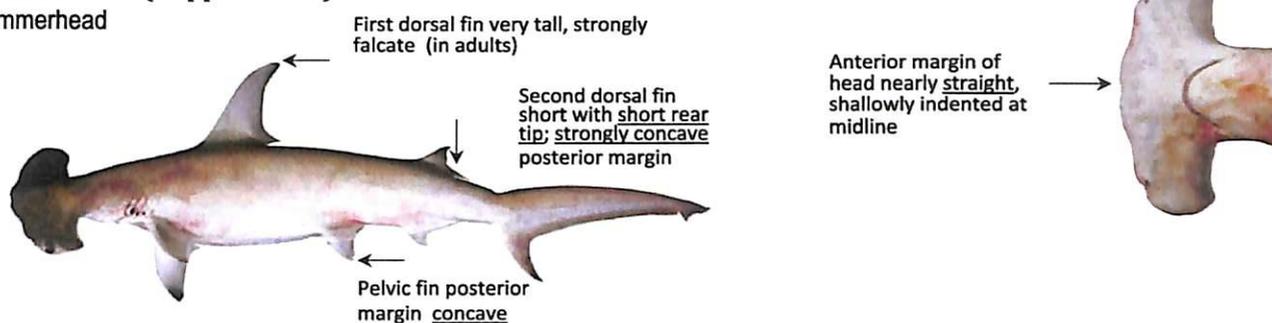
Scalloped hammerhead



**SPHYRNIDAE**

*Sphyrna mokarran* (Rüppell, 1837)

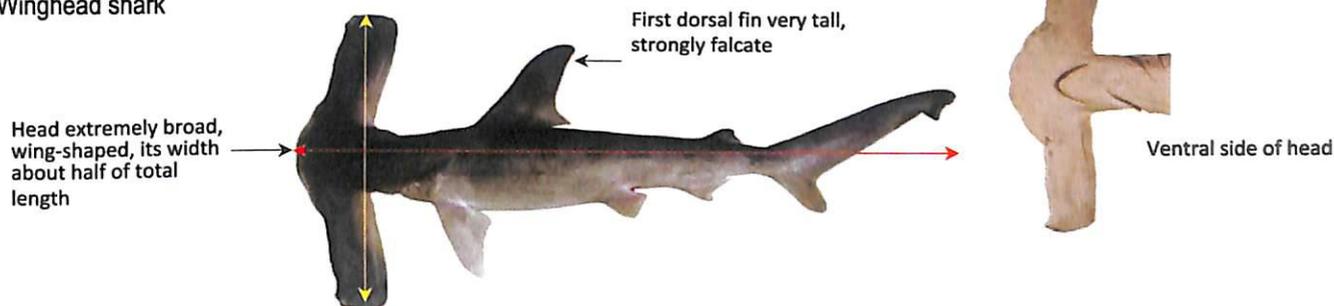
Great hammerhead



**SPHYRNIDAE**

*Eusphyra blochii* (Cuvier, 1816)

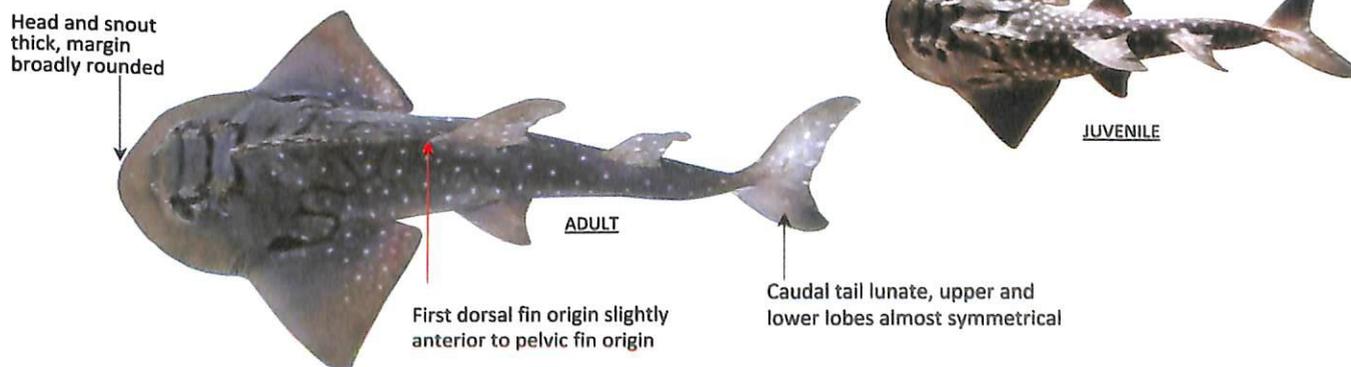
Winghead shark



**RHINIDAE**

*Rhina ancylostoma* Bloch & Schneider, 1801

Shark ray

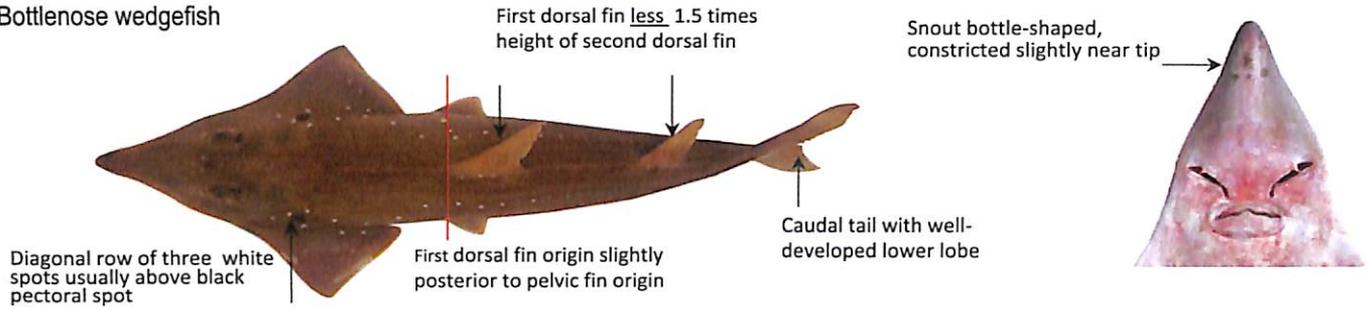


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**RHINIDAE**

*Rhynchobatus australiae* Whitley, 1939

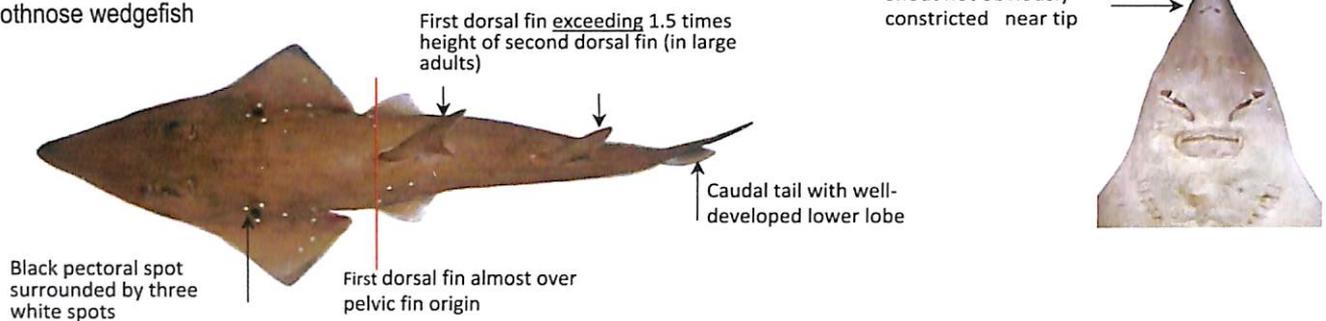
Bottlenose wedgefish



**RHINIDAE**

*Rhynchobatus laevis* (Bloch & Schneider, 1801)

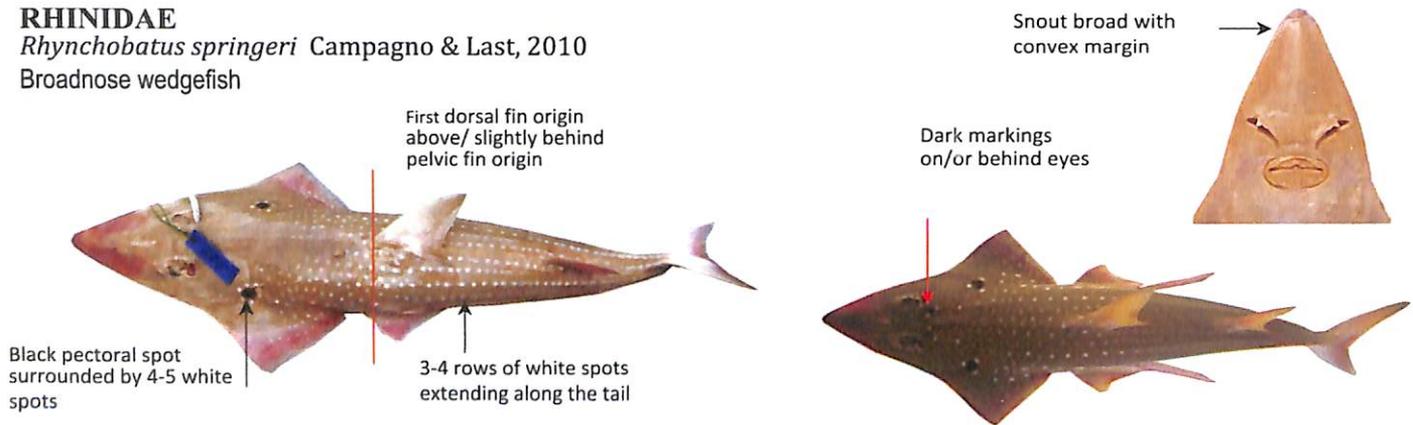
Smoothnose wedgefish



**RHINIDAE**

*Rhynchobatus springeri* Campagno & Last, 2010

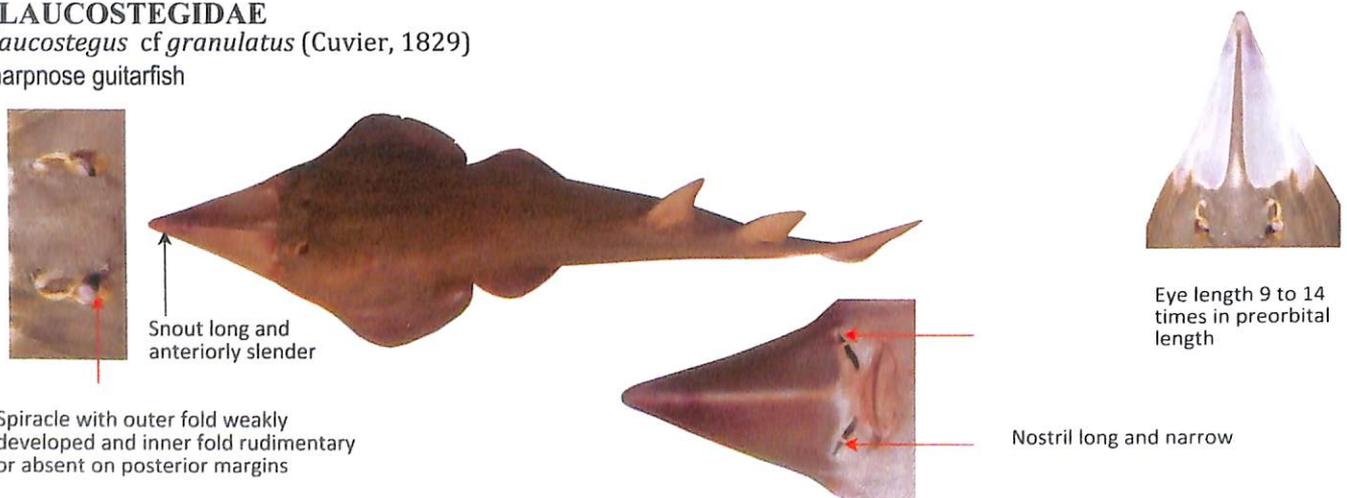
Broadnose wedgefish



**GLAUCOSTEGIDAE**

*Glaucostegus cf. granulatus* (Cuvier, 1829)

Sharpnose guitarfish



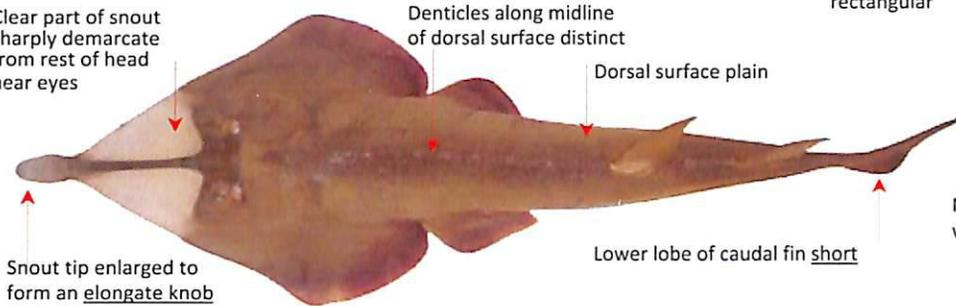
**IDENTIFICATION GUIDE TO SHARKS, RAYS & SKATES  
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**GLAUCOSTEGIDAE**

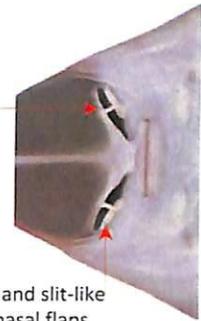
*Glaucostegus thouin* (Anonymous, 1798)

Clubnose guitarfish

Clear part of snout sharply demarcate from rest of head near eyes



Anterior nasal aperture rectangular



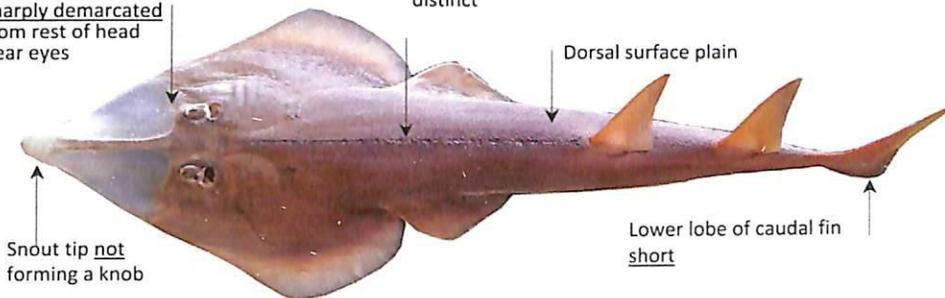
Nostril broad and slit-like with narrow nasal flaps

**GLAUCOSTEGIDAE**

*Glaucostegus typus* (Bennett, 1830)

Giant guitarfish

Clear part of snout sharply demarcated from rest of head near eyes



Anterior nasal aperture rectangular

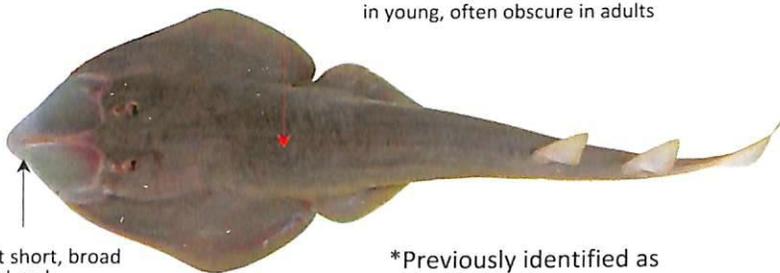


Nostril broad and slit-like with narrow nasal flaps

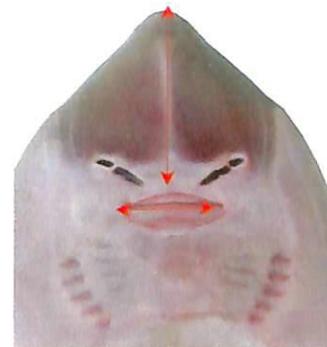
**GLAUCOSTEGIDAE**

*Glaucostegus obtusus* (Müller & Henle, 1841)

Bluntnose guitarfish



\*Previously identified as *Rhinobatus obtusus*



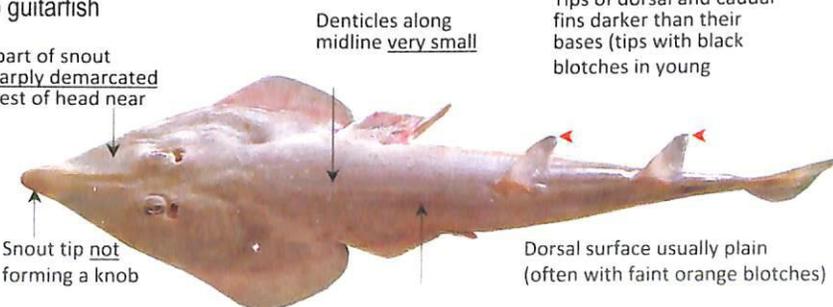
Preoral length less than two times mouth width

**RHINOBATIDAE**

*Rhinobatos borneensis* Last, Seret & Naylor, 2016

Borneo guitarfish

Clear part of snout not sharply demarcated from rest of head near eyes



Anterior nasal aperture almost circular



Nostril broad and with wide nasal flaps

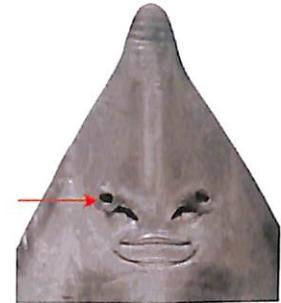
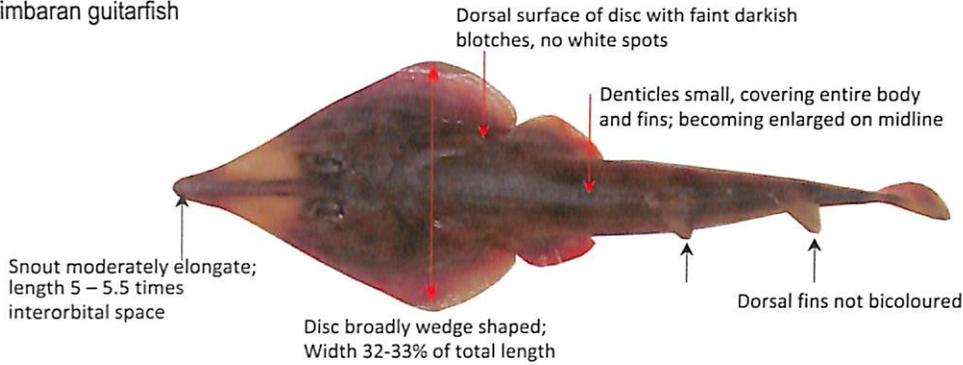
Previously identified as *Rhinobatos formosensis* in Ahmad *et al.*, 2014

**IDENTIFICATION GUIDE TO SHARKS, RAYS & SKATES  
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**RHINOBATIDAE**

*Rhinobatos jimbaranensis* Last, White & Fahmi, 2006

Jimbaran guitarfish

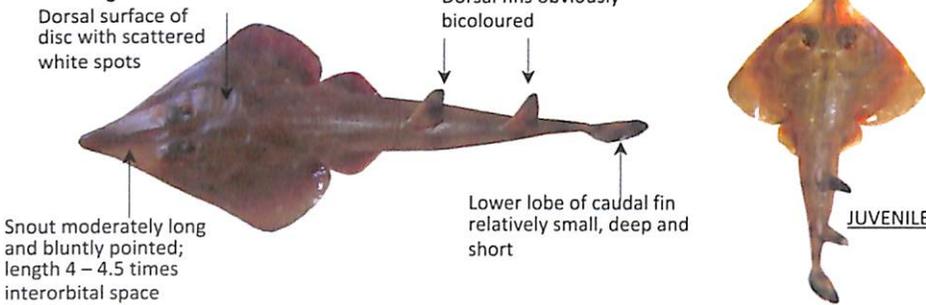


Anterior nasal aperture almost circular

**RHINOBATIDAE**

*Rhinobatos pengali* Last, White & Fahmi, 2006

Indonesian guitarfish



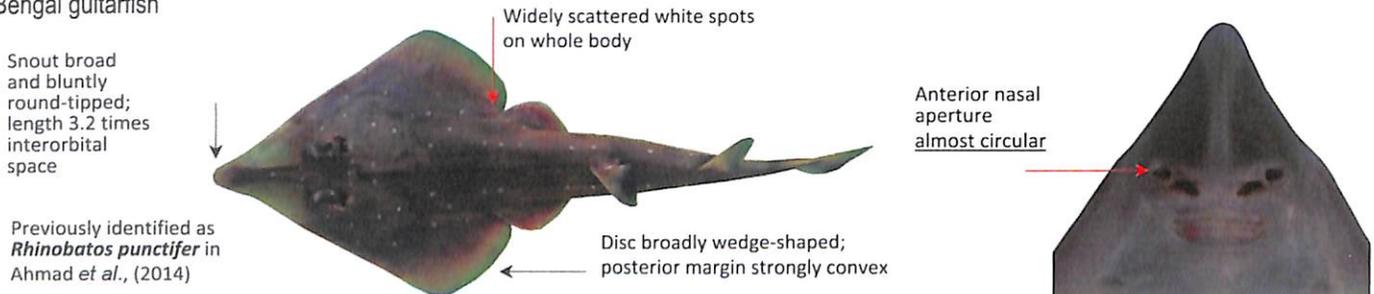
Anterior nasal aperture almost circular



**RHINOBATIDAE**

*Rhinobatos annandalei* Norman, 1926

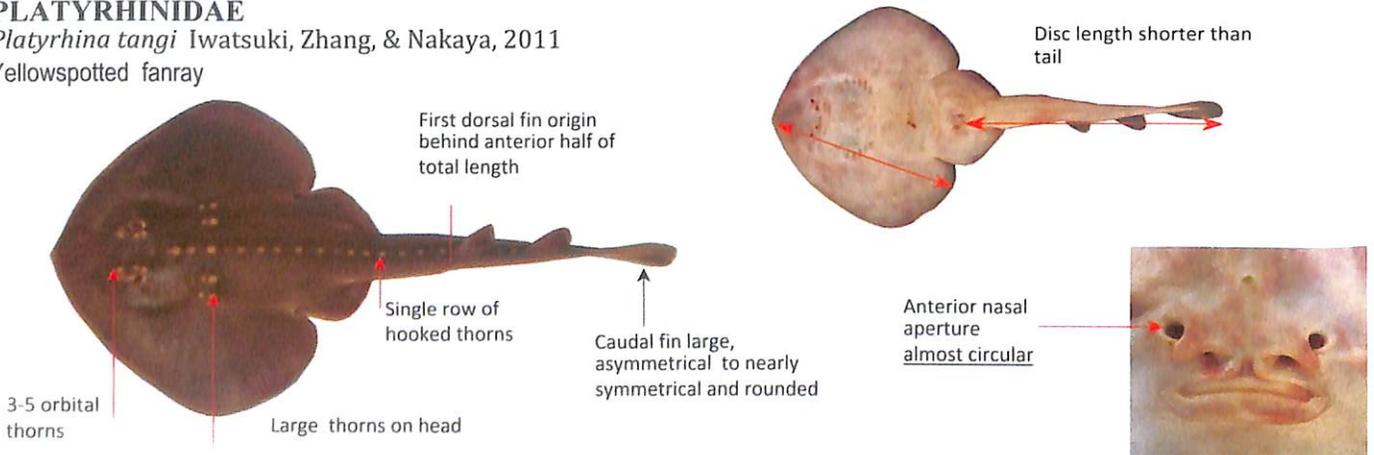
Bengal guitarfish



**PLATYRHINIDAE**

*Platyrhina tangi* Iwatsuki, Zhang, & Nakaya, 2011

Yellowspotted fanray

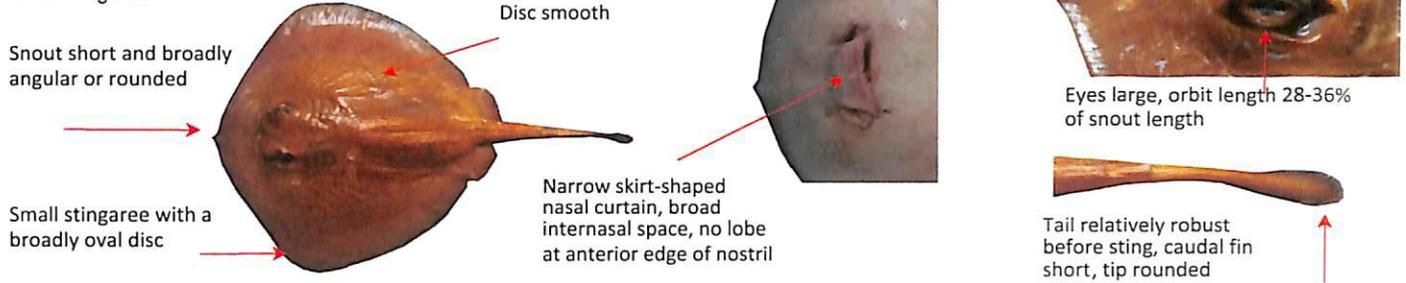


# IDENTIFICATION GUIDE TO SHARKS, RAYS & SKATES OF THE SOUTHEAST ASIAN REGION

## UROLOPHIDAE

*Urolophus aurantiacus* Müller and Henle, 1841

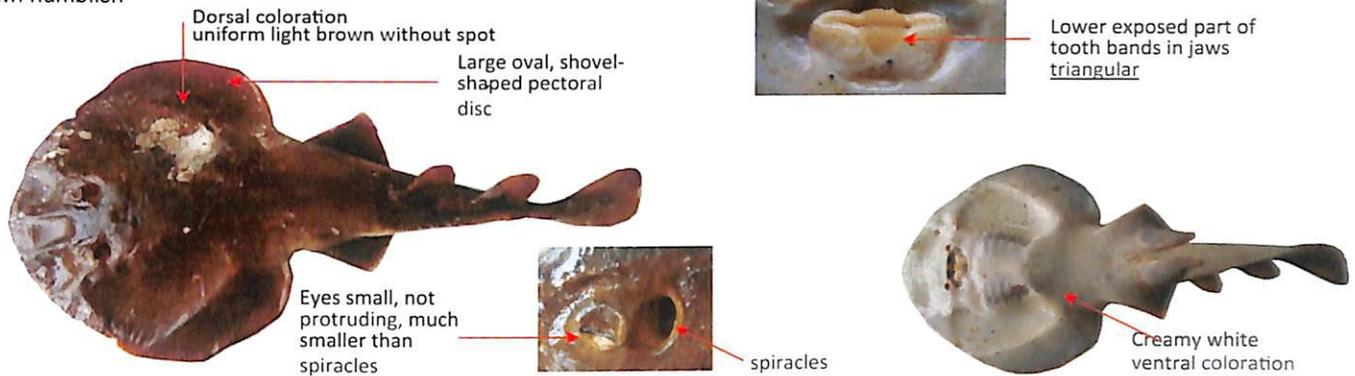
Oriental stingaree



## NARCINIDAE

*Narcine timlei* (Blotch & Schneider, 1801)

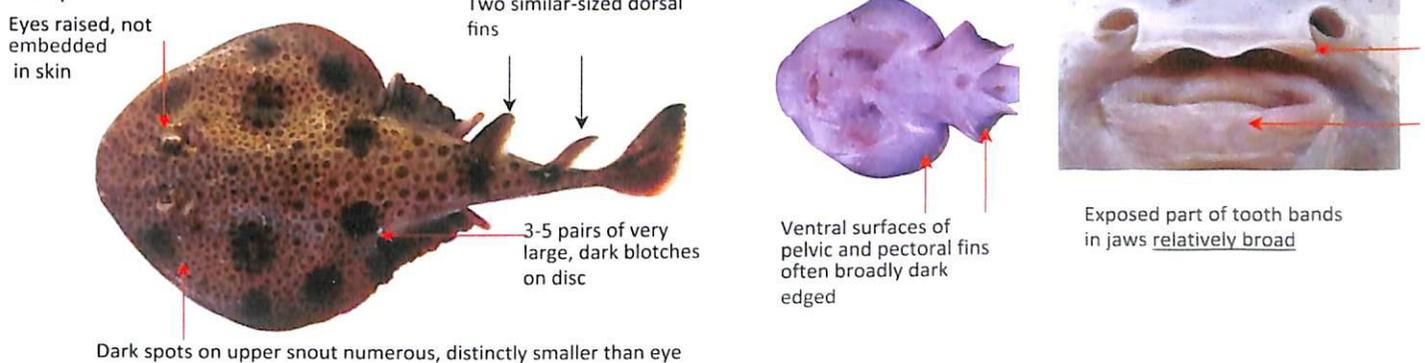
Brown numbfish



## NARCINIDAE

*Narcine brevilabiata* Bessednov, 1966

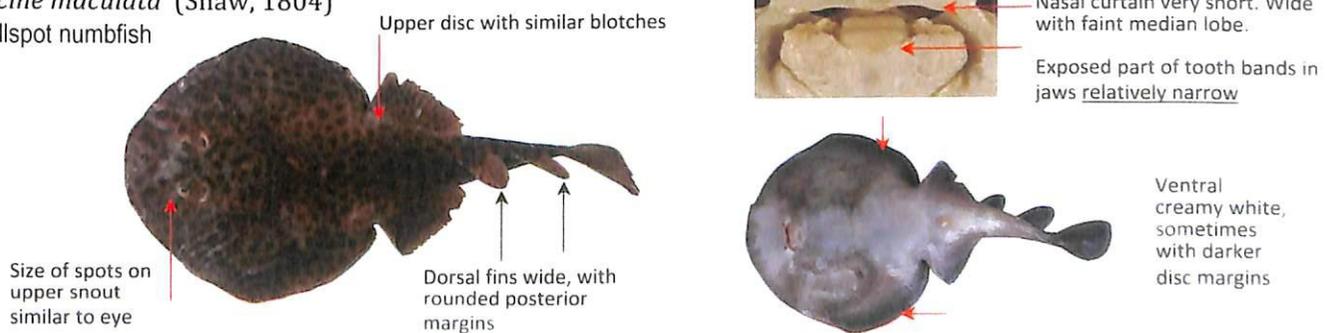
Shortlip numbfish



## NARCINIDAE

*Narcine maculata* (Shaw, 1804)

Smallspot numbfish

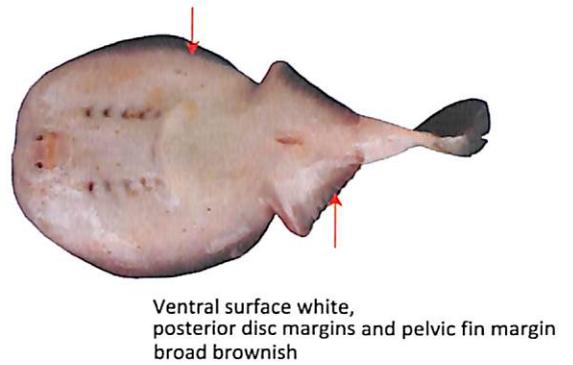
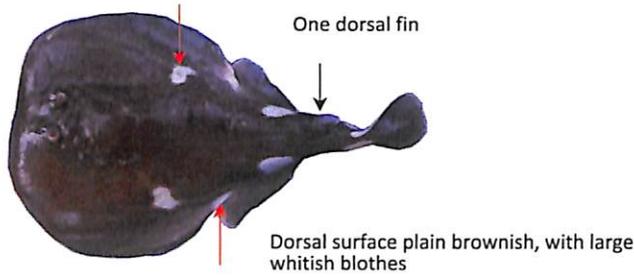


**IDENTIFICATION GUIDE TO SHARKS, RAYS & SKATES  
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**NARKIDAE**

*Narke dipterygia* (Bloch & Schneider, 1801)

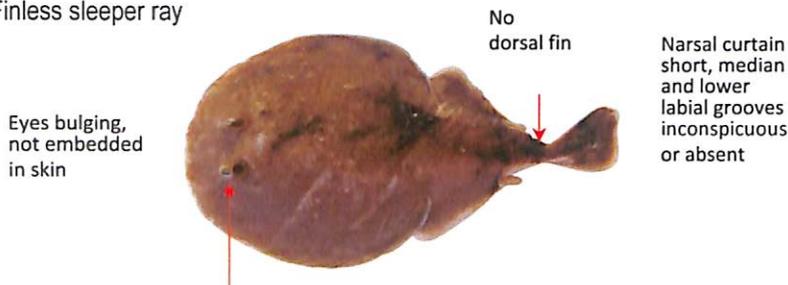
Spot-tail sleeper ray



**NARKIDAE**

*Temera hardwickii* Gray, 1831

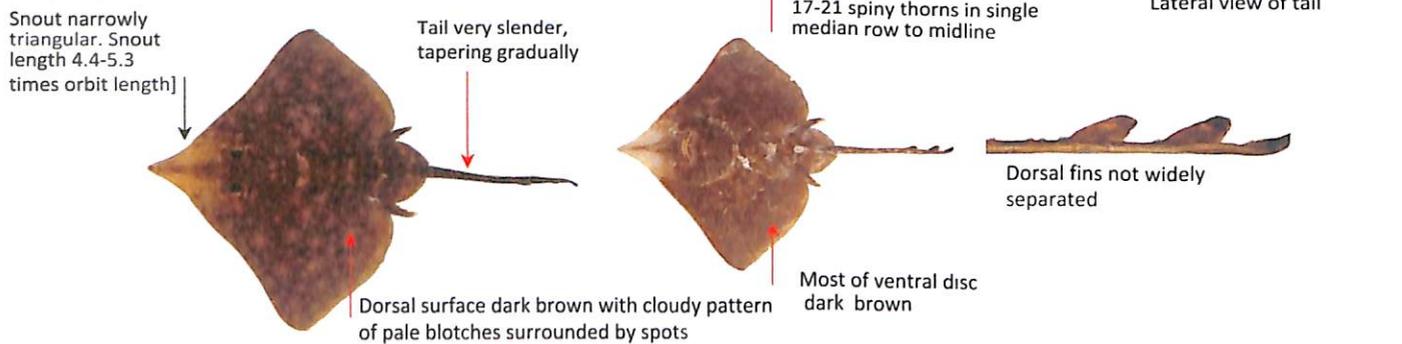
Finless sleeper ray



**RAJIDAE**

*Dipturus kwangtungensis* (Chu, 1960)

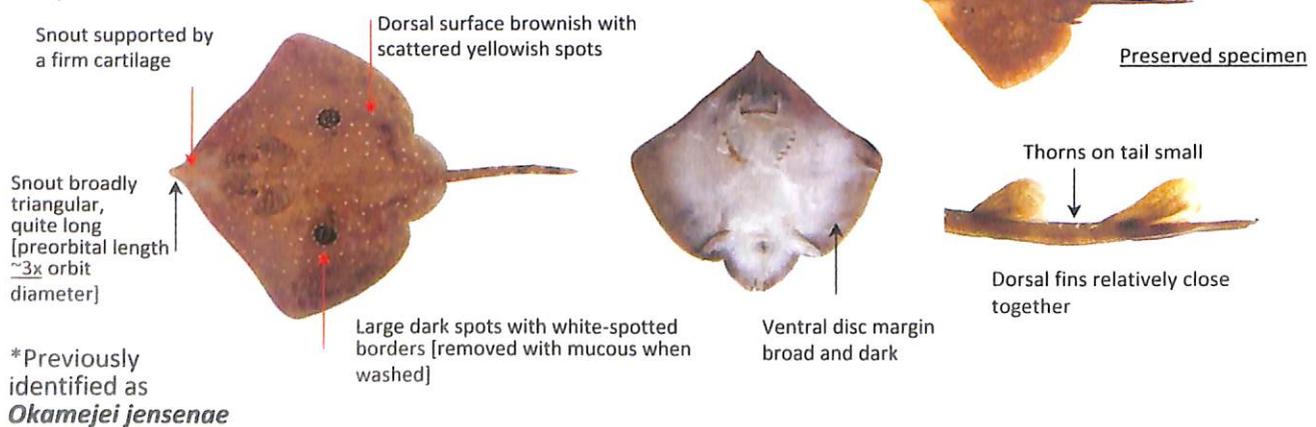
Kwangtung skate



**RAJIDAE**

*Orbiraja jensenae* (Last & Lim, 2010)

Sulu ring skate

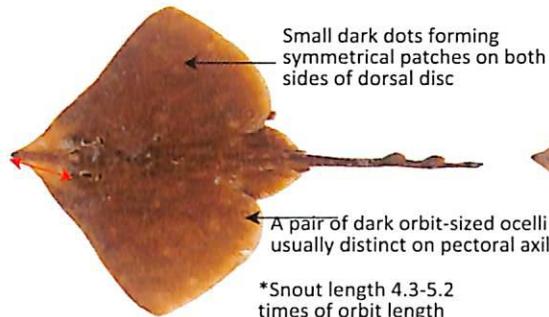


# IDENTIFICATION GUIDE TO SHARKS, RAYS & SKATES OF THE SOUTHEAST ASIAN REGION

## RAJIDAE

*Okamejei boesemani* (Ishihara, 1987)

Black sand skate

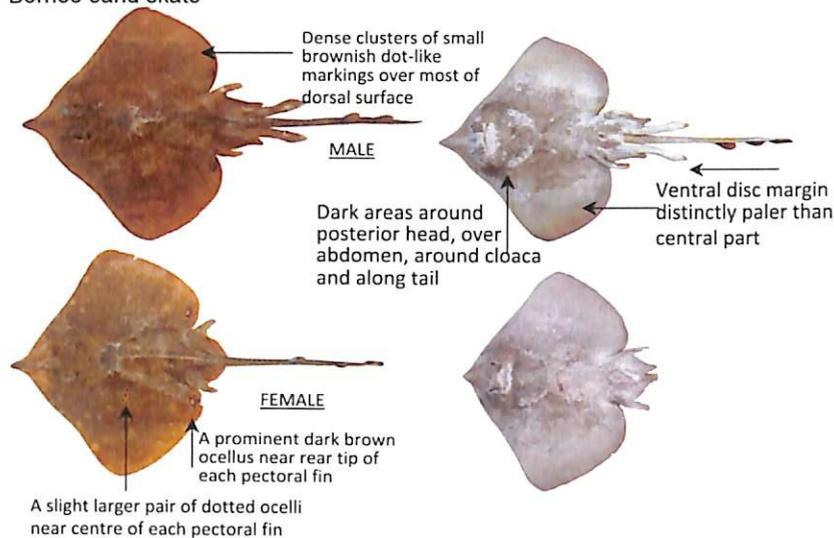


Lateral and dorsal view of mid tail

## RAJIDAE

*Okamejei cairae* Last, Fahmi & Ishihara, 2010

Borneo sand skate



MALE



FEMALE

Tail thorns much more reduced in size compared to *O. boesemani*



Thorns on tail occur in more rows

Lateral & dorsal view of mid tail

Dorsal fins brownish, each with a dark, anteriorly positioned

MALE



Two dark brown bars

FEMALE

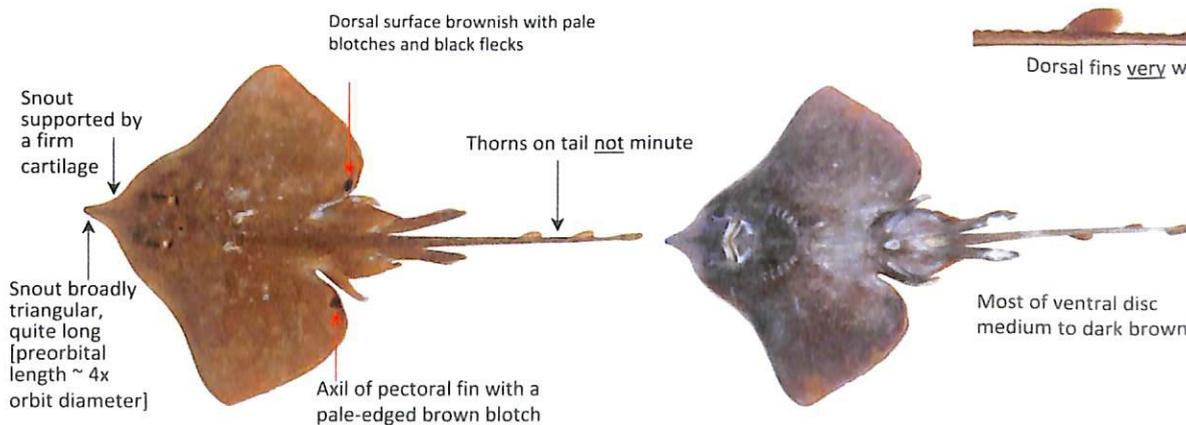


Lateral view of posterior fins

## RAJIDAE

*Okamejei hollandi* (Jordan & Richardson, 1909)

Yellowspotted skate

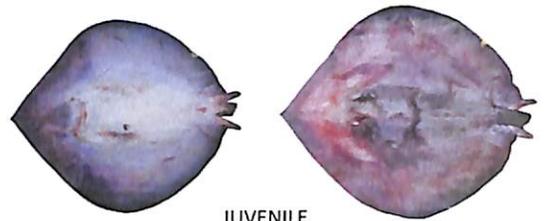
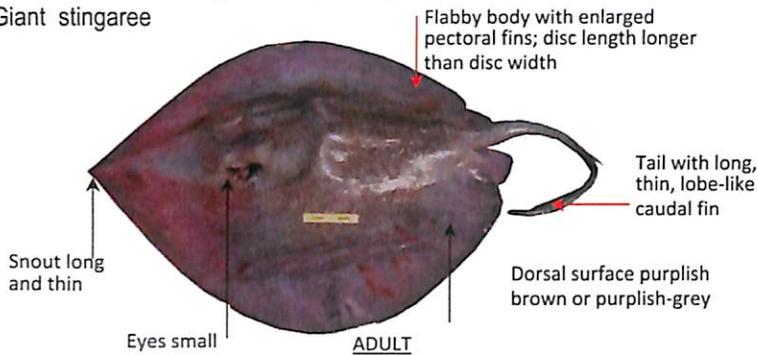


# IDENTIFICATION GUIDE TO SHARKS, RAYS & SKATES OF THE SOUTHEAST ASIAN REGION

## PLESIOBATIDAE

*Plesiobatis daviesi* (Wallace, 1967)

Giant stingaree

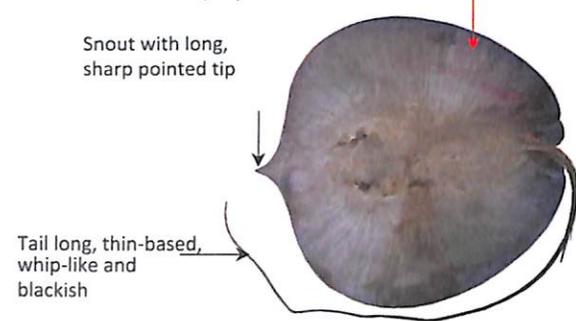


Underside white, with a narrow dark border along the lateral disc margin

## DASYATIDAE

*Urogymnus polylepis* (Bleeker, 1852)

Giant freshwater whipray



Disc profile almost circular. Dorsal surface greyish or brownish

Central disc usually with 2 heart-shaped thorns



\*Previously identified as *Himantura polylepis*

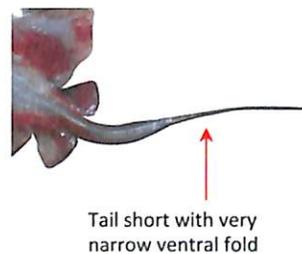
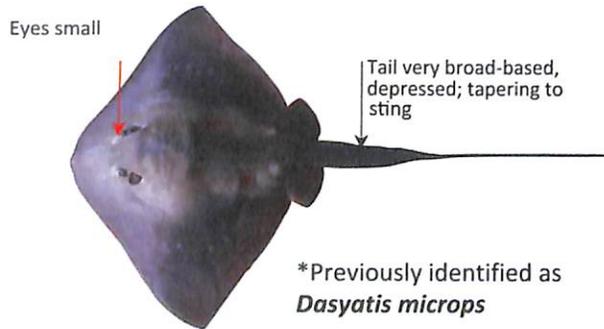


Ventral surface white with very broad dark margin

## DASYATIDAE

*Megatrygon microps* (Annandale, 1908)

Smalleye stingray

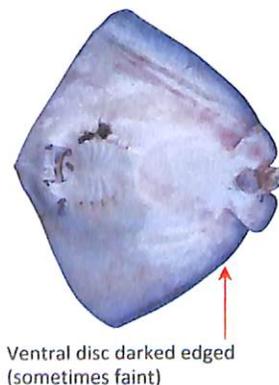
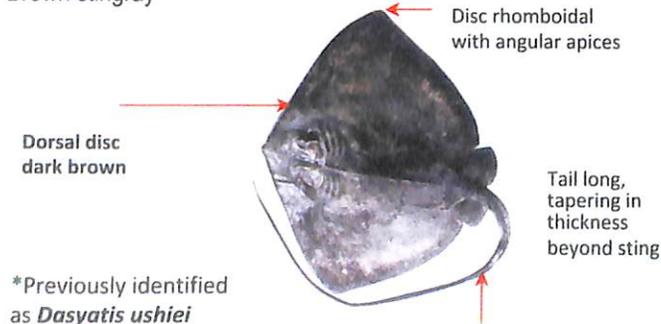


Snout broadly rounded, tip pointed

## DASYATIDAE

*Bathytoshia lata* (Garman, 1880)

Brown stingray



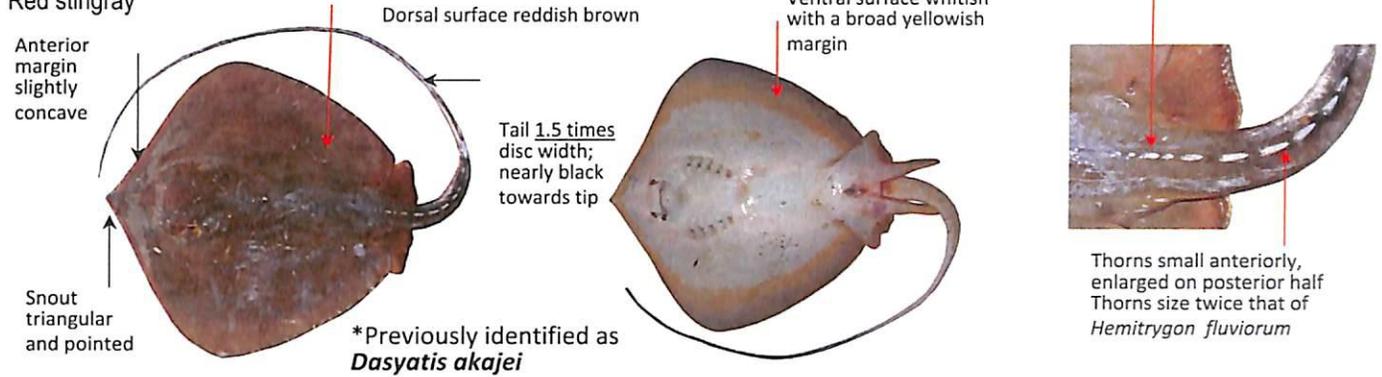
Thorns extending along midline of disc to tail

**IDENTIFICATION GUIDE TO SHARKS, RAYS & SKATES  
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**DASYATIDAE**

*Hemistrygon akajei* (Müller and Henle, 1841)

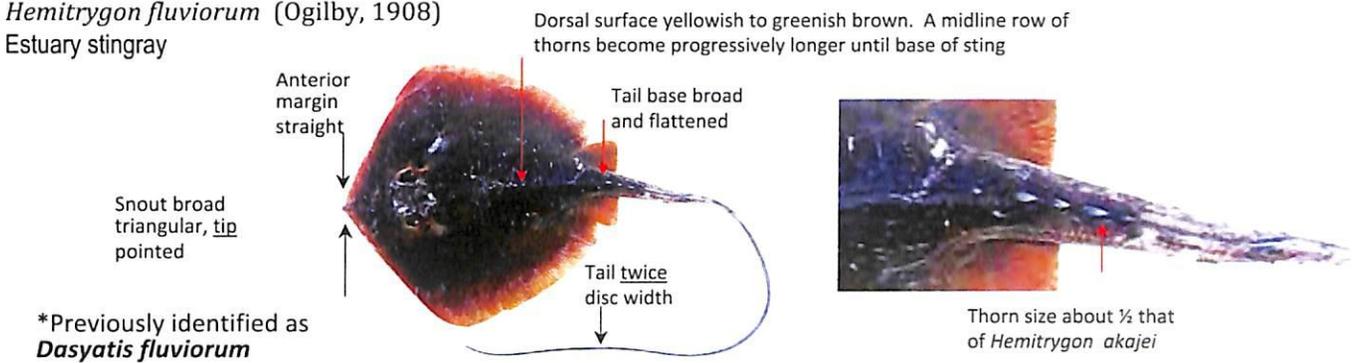
Red stingray



**DASYATIDAE**

*Hemistrygon fluviourum* (Ogilby, 1908)

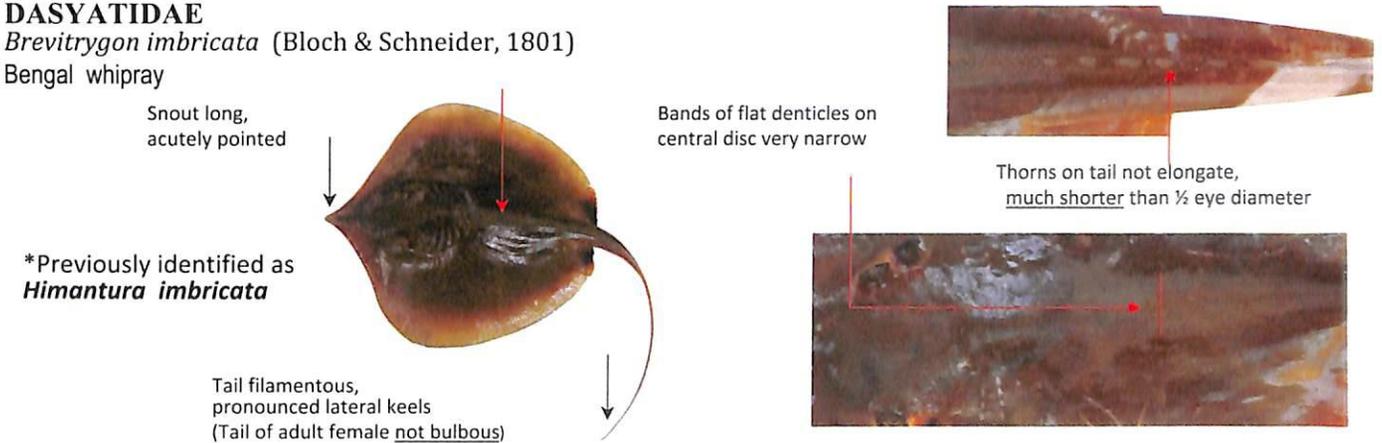
Estuary stingray



**DASYATIDAE**

*Brevistrygon imbricata* (Bloch & Schneider, 1801)

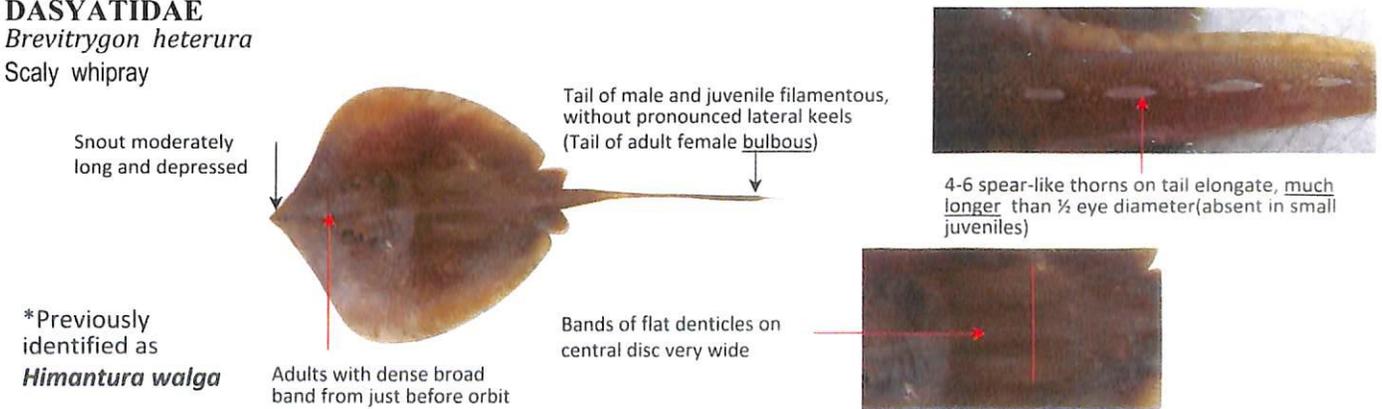
Bengal whipray



**DASYATIDAE**

*Brevistrygon heterura*

Scaly whipray



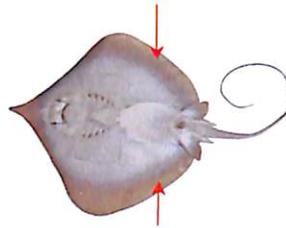
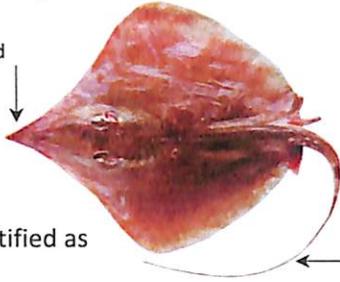
**IDENTIFICATION GUIDE TO SHARKS, RAYS & SKATES  
OF THE SOUTHEAST ASIAN REGION**

**DASYATIDAE**

*Telatrygon zugei* (Müller and Henle, 1839)

Pale-edge sharpnose ray

Snout very elongate, pointed



Ventral disc pale or dark edged



Small thorns along midline of disc

\*Previously Identified as *Dasyatis zugei*

Tail relatively short, without bands

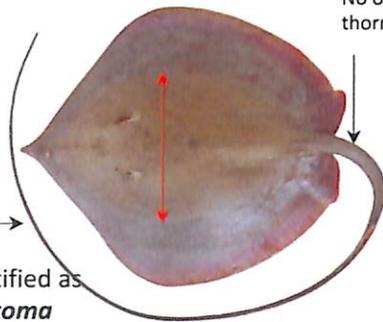
**DASYATIDAE**

*Urogymnus lobistoma* (Manjaji-Matsumoto & Last, 2006)

Tubemouth whipray

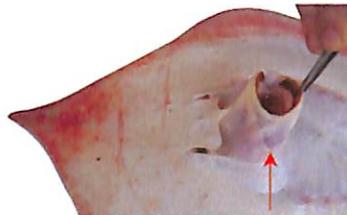
Denticle band very broad. 2-4 pearl thorns on central disc

Tail long, whip-like and plain (not banded)

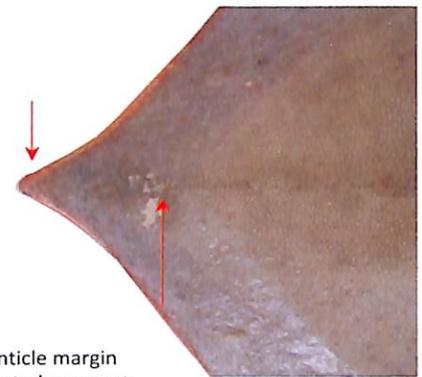


No other enlarged thorns on disc or tail

Snout extremely long and broadly triangular



Protrusible mouth



Denticle margin pointed on snout

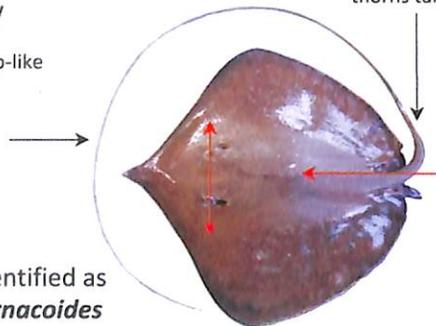
\*Previously Identified as *Himantura lobistoma*

**DASYATIDAE**

*Pateobatis uarnacoides* (Bleeker, 1852)

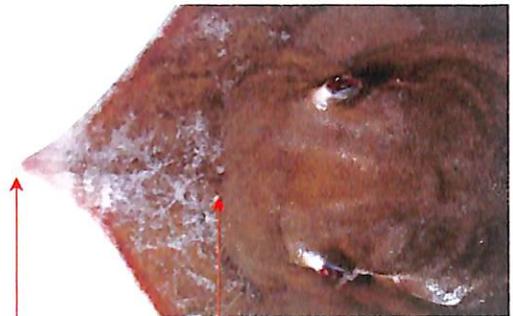
Whitenose whipray

Tail long, whip-like and pale (not banded)



No other enlarged thorns tail

Denticle band very broad. 1-3 large pearl thorns on central disc



Snout triangular; snout tip white

Denticle margin rounded on snout

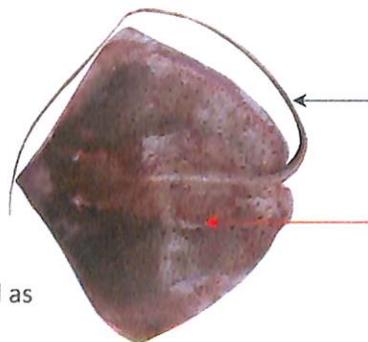
\*Previously Identified as *Himantura uarnacoides*

**DASYATIDAE**

*Maculabatis astra* (Last, Manjaji-Matsumoto & Pogonoski 2008)

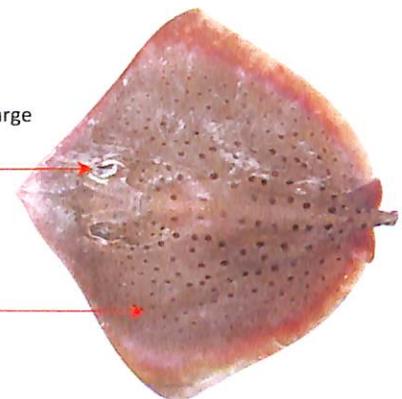
Blackspotted whipray

Snout triangular with broad obtuse angle



Eyes small with large oval spiracles

Tail with alternating light and dark saddles after tail spine



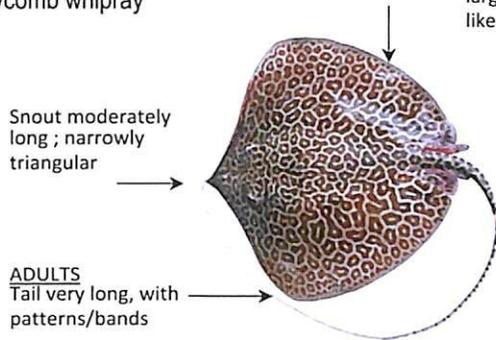
Dorsal surface grayish brown with many small dark with pale edges

\*Previously Identified as *Himantura astra*

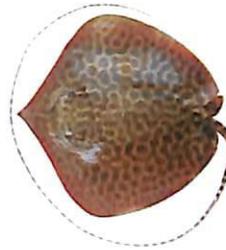
# IDENTIFICATION GUIDE TO SHARKS, RAYS & SKATES OF THE SOUTHEAST ASIAN REGION

## DASYATIDAE

*Himantura undulata* (Bleeker, 1852)  
Honeycomb whipray



Upper surface with pattern of large ocelli and honeycomb-like reticulations

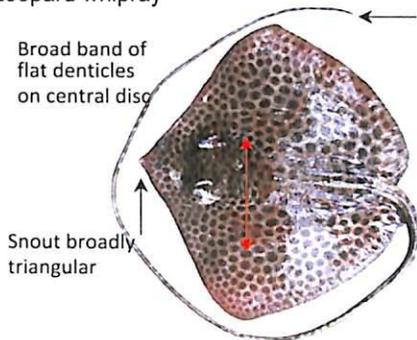


Central disc with dominant pearl-shaped followed by 2-3 smaller thorns

**JUVENILE**  
Upper surface with relatively large dark spots

## DASYATIDAE

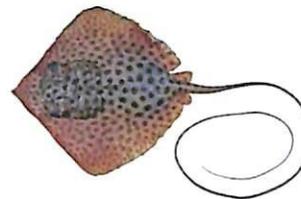
*Himantura leoparda* Manjaji-Matsumoto & Last, 2008  
Leopard whipray



Tail long, whip-like, variably banded

**ADULT**  
Upper surface with leopard-like markings

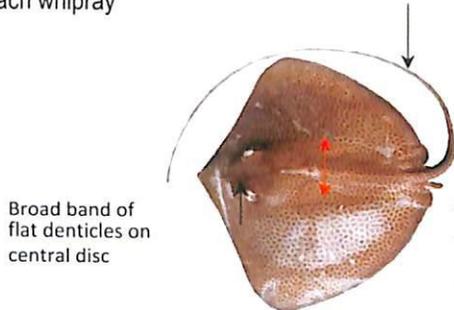
**JUVENILE**  
Dorsal surface with large dark spots



Central disc with row of up to 15 heart-shaped thorns

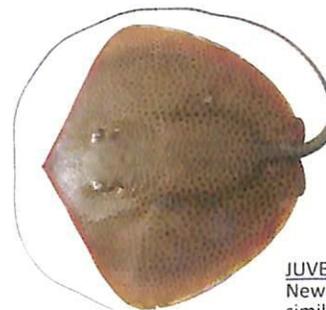
## DASYATIDAE

*Himantura uarnak* (Forsskal, 1775)  
Coach whipray

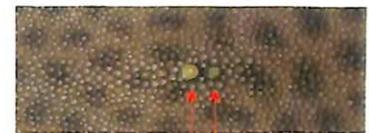


Tail long, whip-like, variably banded (faint in adults)

**ADULT**  
Upper surface pale yellowish with fine dark spots and reticulations



**JUVENILE**  
Newborns with prominent pattern of similar-sized, closely spaced black spots



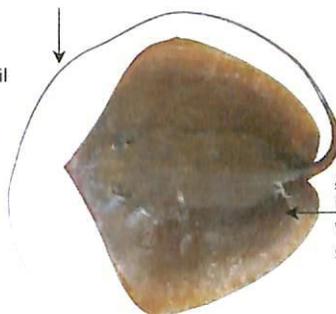
Central disc usually with two heart-shaped thorns

## DASYATIDAE

*Maculabatis gerrardi* (Gray, 1851)  
Whitespotted whipray

Tail long, whip-like; plain brown in adult. Tail with light and dark bands

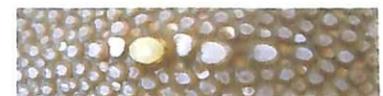
\* Previously identified as *Himantura gerrardi*



**ADULT**  
Dorsal surface with few white spots



**JUVENILE**  
Dorsal disc with white spots; Denticles on central disc absent; Tail with white and dark bands



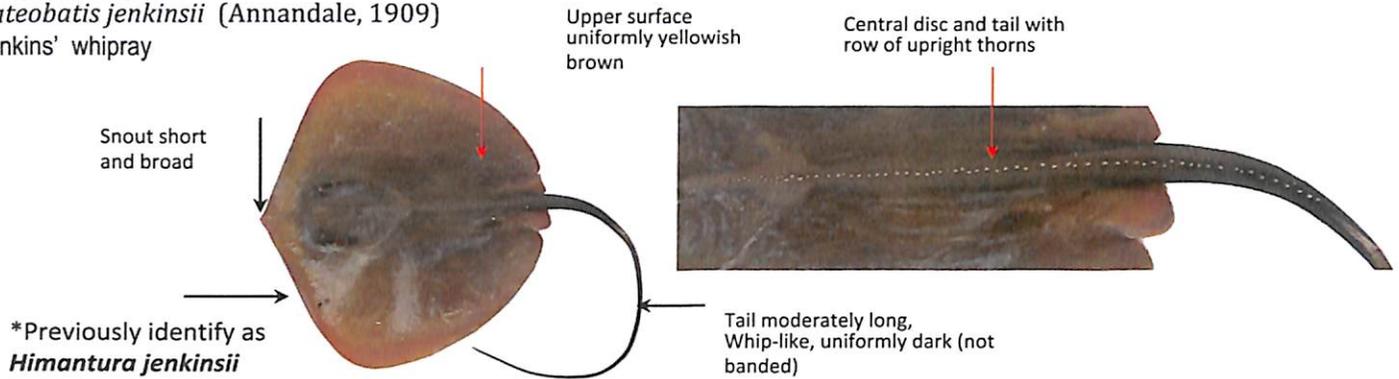
Central disc usually with 1-5 small thorns



# IDENTIFICATION GUIDE TO SHARKS, RAYS & SKATES OF THE SOUTHEAST ASIAN REGION

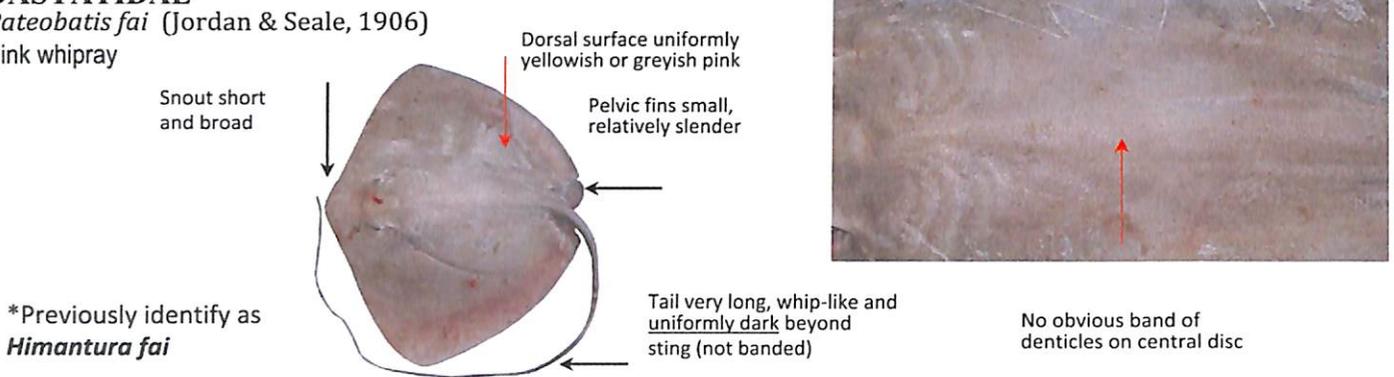
## DASYATIDAE

*Pateobatis jenkinsii* (Annandale, 1909)  
Jenkins' whipray



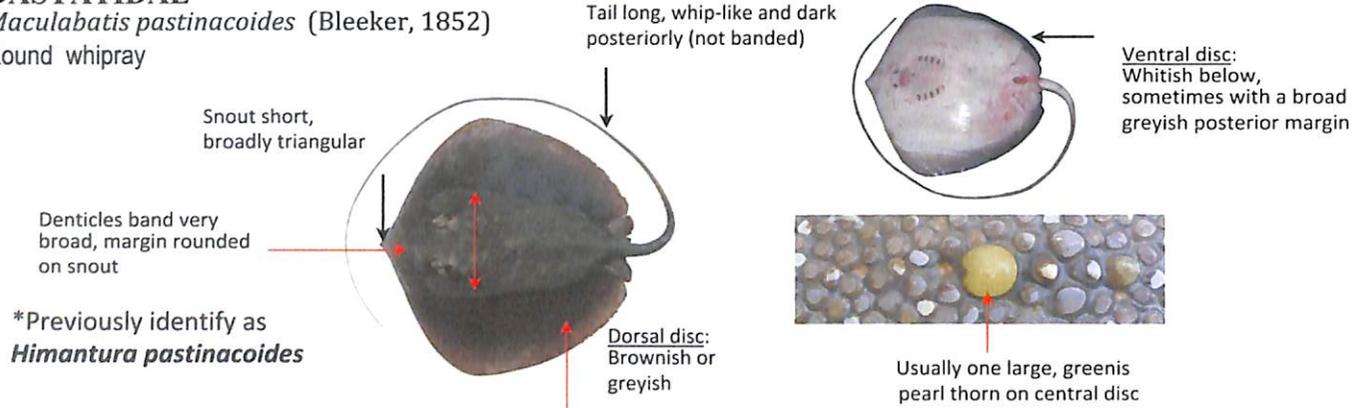
## DASYATIDAE

*Pateobatis fai* (Jordan & Seale, 1906)  
Pink whipray



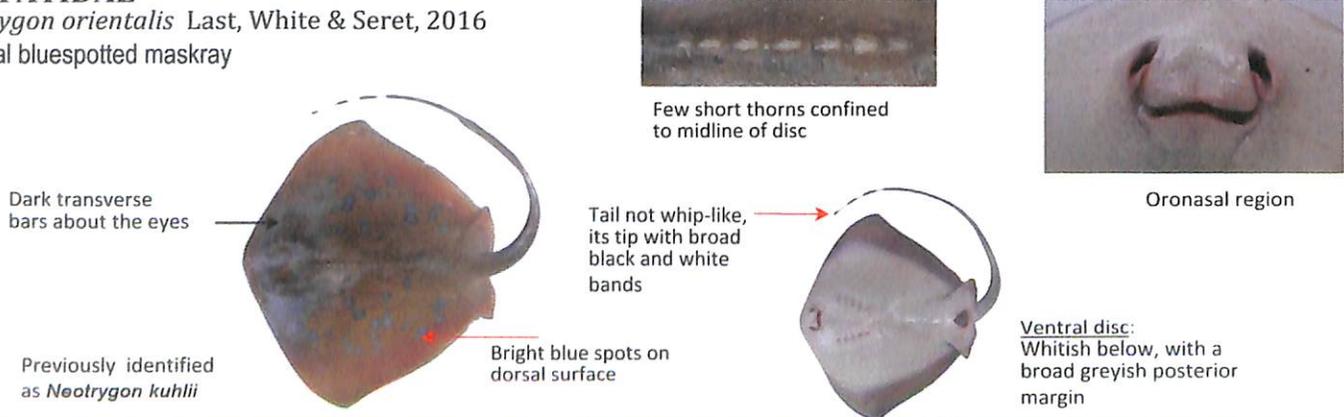
## DASYATIDAE

*Maculabatis pastinacoides* (Bleeker, 1852)  
Round whipray



## DASYATIDAE

*Neotrygon orientalis* Last, White & Seret, 2016  
Oriental bluespotted maskray



# IDENTIFICATION GUIDE TO SHARKS, RAYS & SKATES OF THE SOUTHEAST ASIAN REGION

## DASYATIDAE

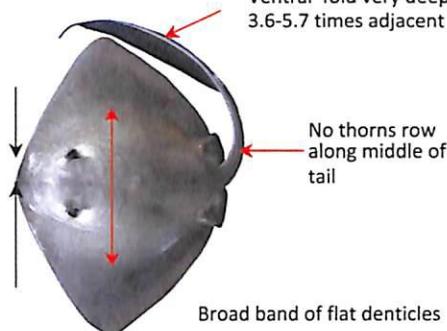
*Pastinachus ater* (Macleay, 1883)

Broad cowtail ray



Snout short, broadly rounded apex

Snout apex mostly lacking denticles



Ventral fold very deep, height behind sting 3.6-5.7 times adjacent tail height

No thorns row along middle of tail

Broad band of flat denticles



Usually four pearl thorns

\*Previously identified as *Pastinachus atrus*

## DASYATIDAE

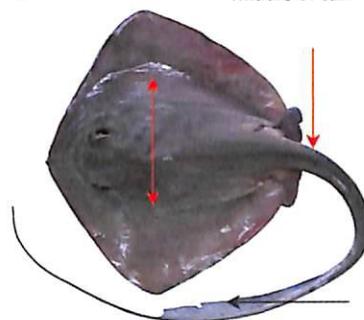
*Pastinachus gracilicaudus* Last & Manjaji-Matsumoto, 2010

Narrow cowtail ray

Snout obtuse and short, with a small well defined, apical triangular lobe



Broad band of flat denticles



No thorns row along middle of tail



Two enlarge pearl thorns usually preceded by smaller irregular shaped thorns

Ventral fold rather deep, height behind sting 2.8-3.6 times adjacent tail height

## DASYATIDAE

*Pastinachus solocirostris* Last, Manjaji & Yearsley, 2005

Roughnose cowtail ray

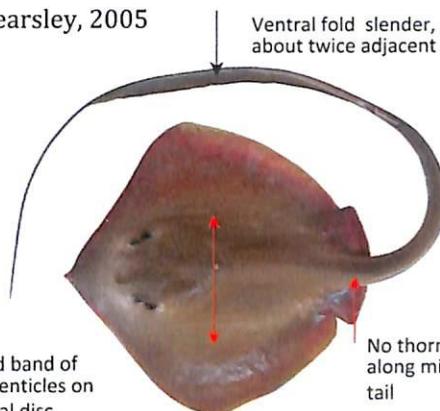
Snout acute, narrowly triangular



Snout apex covered with enlarged, spear-shaped or fork-like denticles

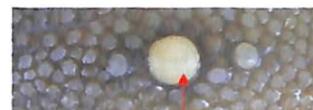


Broad band of flat denticles on central disc



Ventral fold slender, height behind sting about twice adjacent tail height

No thorns row along middle of tail



1-3 enlarged pearl-shaped thorns; [large pear between two small pearls]

## DASYATIDAE

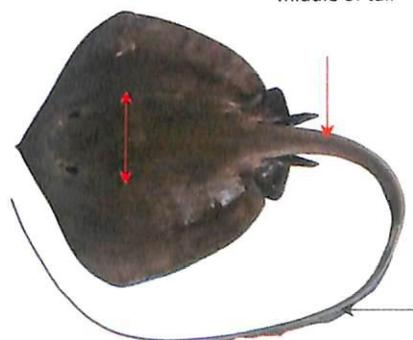
*Pastinachus stellurostris* Last, Fahmi & Nyalor, 2010

Starrynose cowtail ray

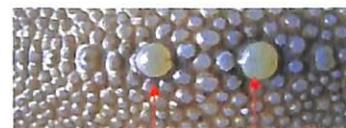


Snout apex covered with enlarged denticles with broad stellate crown

Broad band of flat denticles on central disc



Thorns row along middle of tail



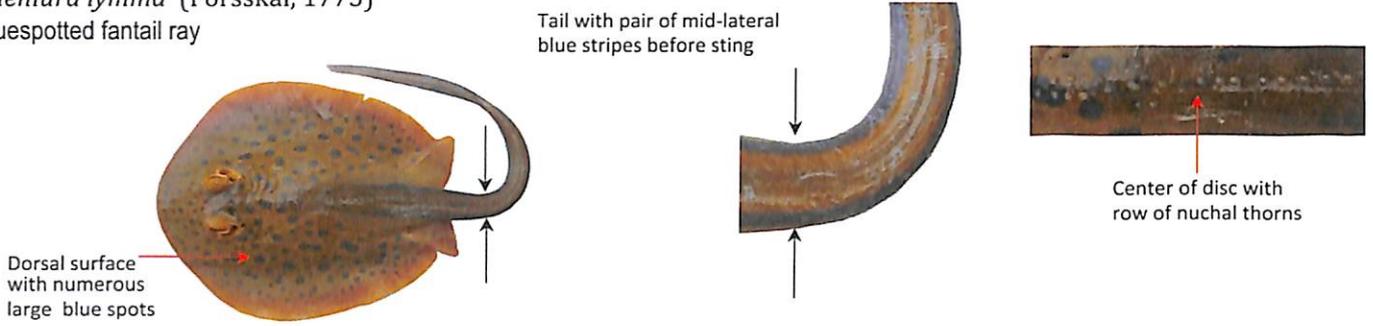
1-3 enlarged pear-shaped thorns

Ventral fold narrow, height behind sting just exceeding adjacent tail height

Photo source: Last *et al.*, 2010

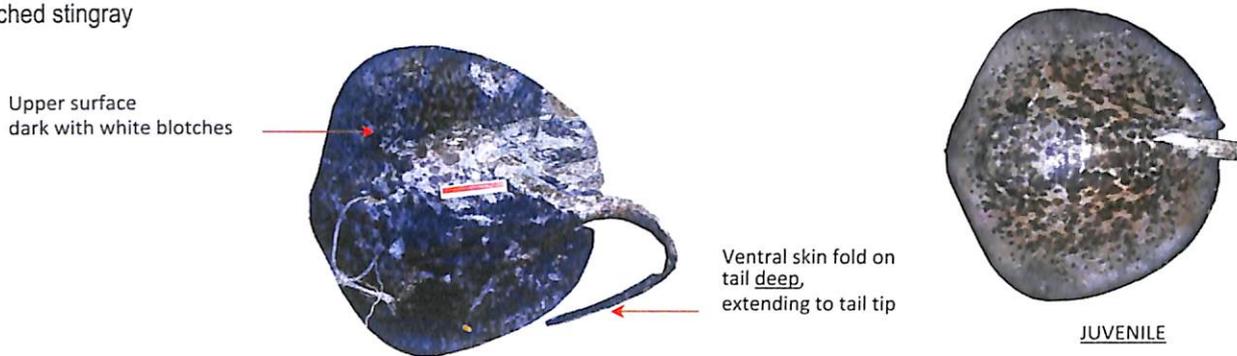
**DASYATIDAE**

*Taeniura lymma* (Forsskal, 1775)  
Bluespotted fantail ray



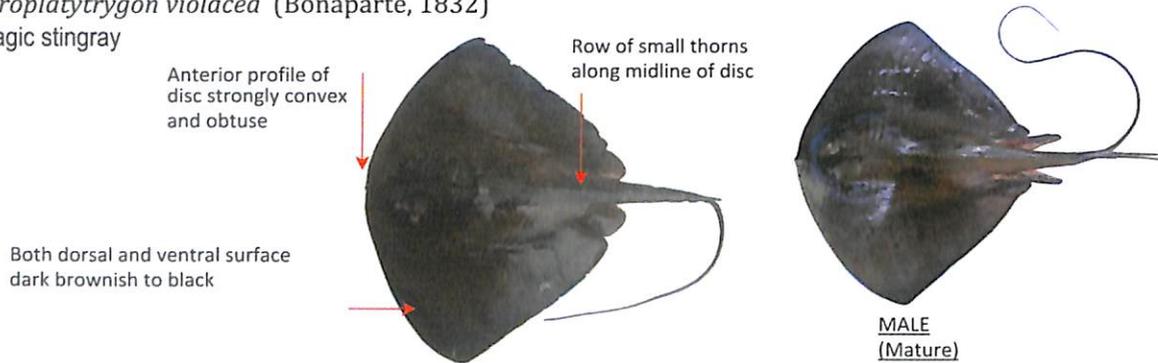
**DASYATIDAE**

*Taeniurops meyeri* Müller and Henle, 1841  
Blotched stingray



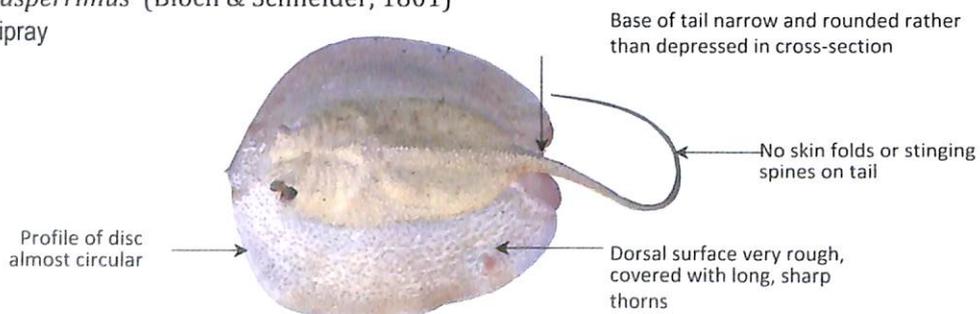
**DASYATIDAE**

*Pteroplatytrygon violacea* (Bonaparte, 1832)  
Pelagic stingray



**DASYATIDAE**

*Urogymnus asperrimus* (Bloch & Schneider, 1801)  
Porcupine whipray



**GYMNURIDAE**

*Gymnura japonica* (Temminck & Schlegel, 1850)

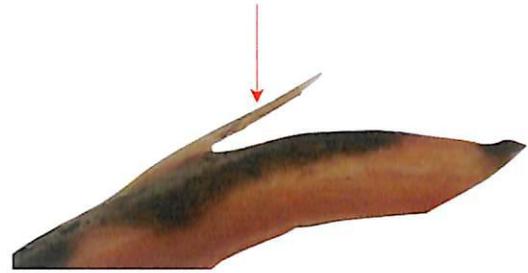
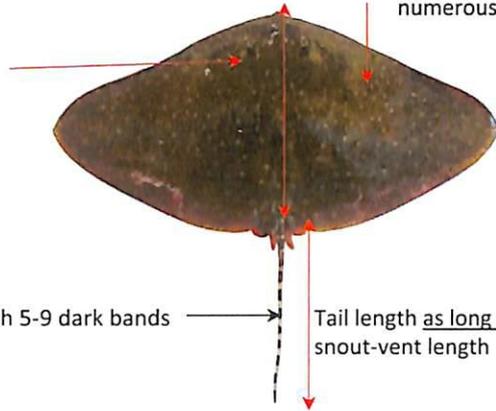
Japanese butterfly ray

A large white spot occasionally present behind each or just one spiracle

Dorsal surface plain, sometimes with numerous small dark flecks

Tail with 5-9 dark bands

Tail length as long as/less snout-vent length



A small sting on tail

**GYMNURIDAE**

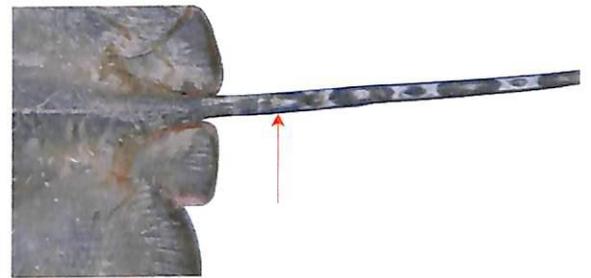
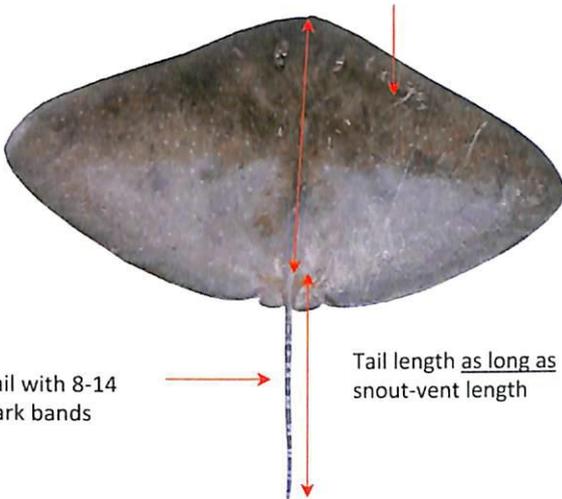
*Gymnura poecilura* (Shaw, 1804)

Longtail butterfly ray

Dorsal surface brown/ yellowish-brown, with dark / light spots

Tail with 8-14 dark bands

Tail length as long as snout-vent length



Dorsal fin absent; may have small sting on tail base. Dark spots frequently between each black band

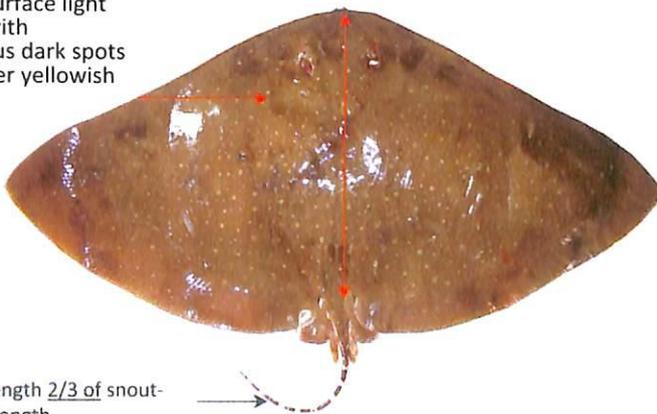
**GYMNURIDAE**

*Gymnura zonura* (Bleeker, 1852)

Zonetail butterfly ray

Dorsal surface light brown with numerous dark spots and larger yellowish spots

Tail length 2/3 of snout-vent length

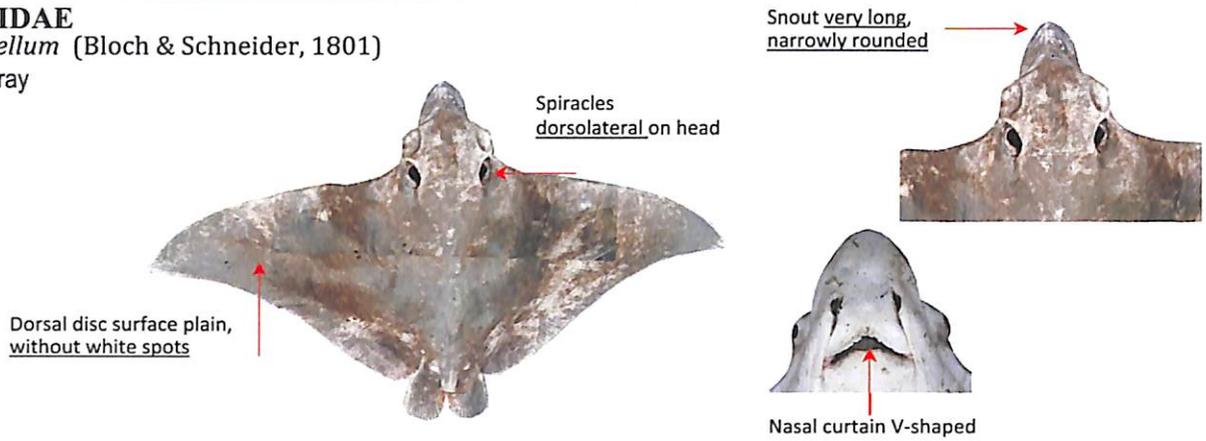


Dorsal fin present. A small sting (poorly developed) on tail base

**IDENTIFICATION GUIDE TO SHARKS, RAYS & SKATES  
OF THE SOUTHEAST ASIAN REGION**

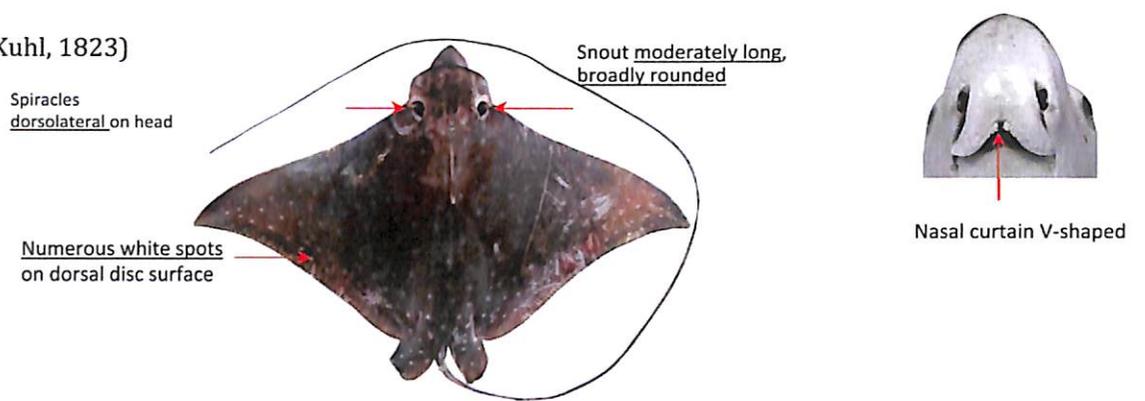
**MYLIOBATIDAE**

*Aetobatus flagellum* (Bloch & Schneider, 1801)  
Longhead eagle ray



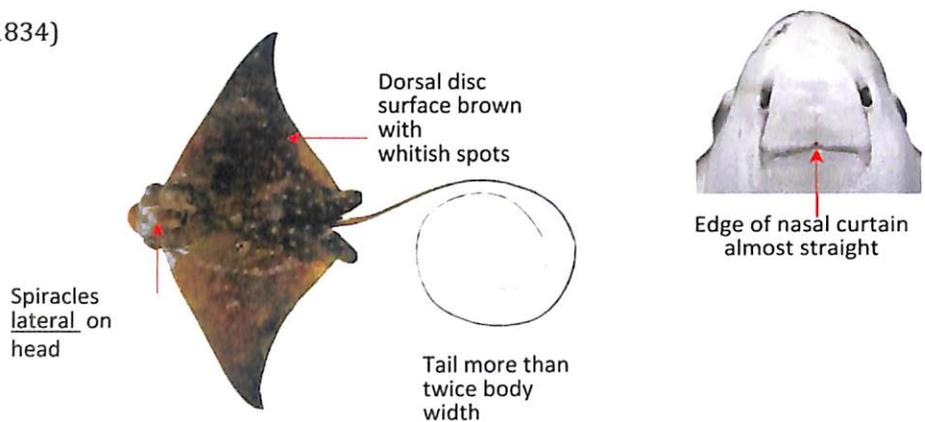
**MYLIOBATIDAE**

*Aetobatus ocellatus* (Kuhl, 1823)  
Spotted eagle ray



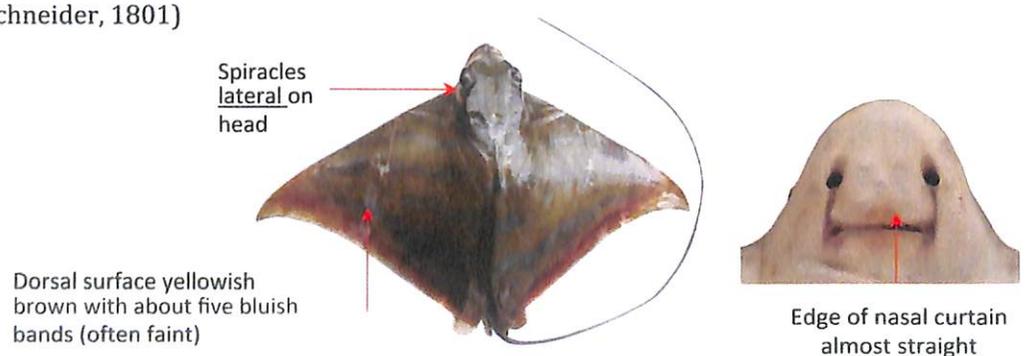
**MYLIOBATIDAE**

*Aetomylaeus maculatus* (Gray, 1834)  
Mottled eagle ray



**MYLIOBATIDAE**

*Aetomylaeus nichofii* (Bloch & Schneider, 1801)  
Banded eagle ray



# IDENTIFICATION GUIDE TO SHARKS, RAYS & SKATES OF THE SOUTHEAST ASIAN REGION

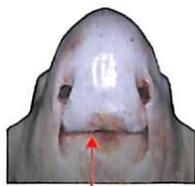
## MYLIOBATIDAE

*Aetomylaeus vesperilio* (Bleeker, 1852)

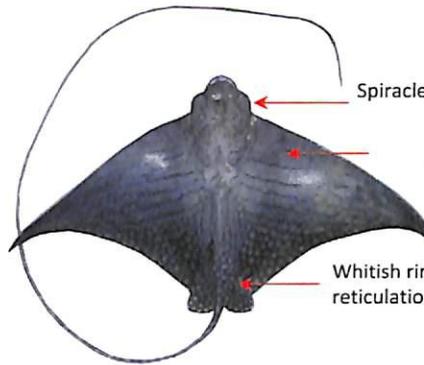
Ornate eagle ray



Top view (head)



Edge of nasal curtain near mouth almost straight



Spiracles lateral on head

Upper surface greenish brown with thin dark transverse lines anteriorly

Whitish rings and dark reticulation posteriorly

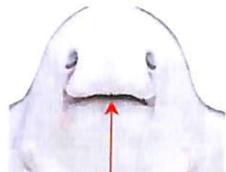
## MYLIOBATIDAE

*Myliobatis hamlyni* Ogilby, 1911

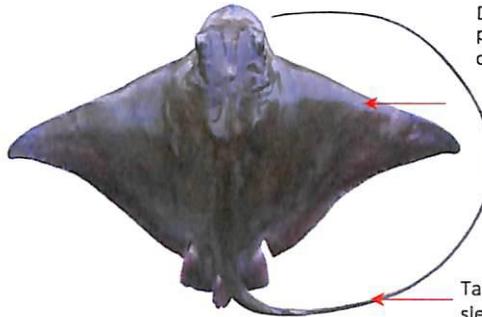
Purple eagle ray



Snout connected to edge of head by fleshy ridge



Edge of nasal curtain almost straight



Dorsal surface uniformly purplish brown; no spots or blotches

Tail very long, slender, whip like

Identified as *Myliobatis tobijei* Bleeker, 1854 (Ahmad *et al.*, 2014)

## RHINOPTERIDAE

*Rhinoptera javanica* Müller and Henle, 1841

Javan cownose ray

Dorsal fin origin distinctly behind pectoral fin insertion

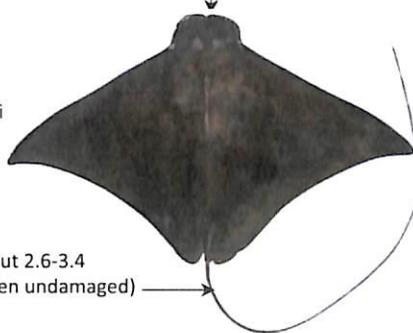


Posterior margin of dorsal fin strongly concave

Sting base behind dorsal fin inner margin

Tail long, about 2.6-3.4 times DL (when undamaged)

Snout strongly notched medially forming two lobes



Rostral flap short, its fleshy posterior edge not reaching mouth

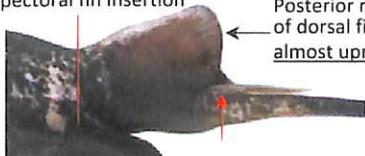


## RHINOPTERIDAE

*Rhinoptera jayakari* Boulenger, 1895

Short-tail cownose ray

Dorsal fin origin over or slightly forward of pectoral fin insertion

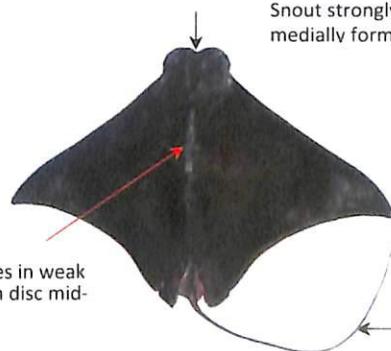


Posterior margin of dorsal fin almost upright

Sting base beneath dorsal-fin inner margin

Denticles in weak band on disc mid-line

Snout strongly notched medially forming two lobes



Rostral flap long, its fleshy posterior edge extending past mouth



Tail short, about 1.4-1.8 times DL (when undamaged)

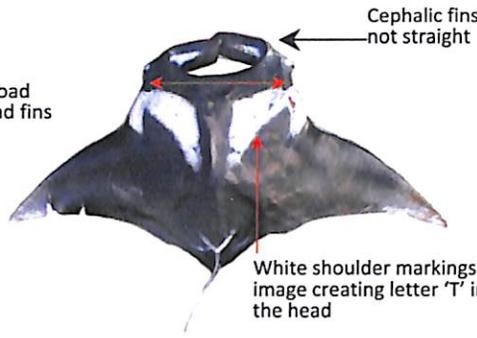
# IDENTIFICATION GUIDE TO SHARKS, RAYS & SKATES OF THE SOUTHEAST ASIAN REGION

## MOBULIDAE

*Mobula birostris* (Walbaum, 1792)

Manta ray

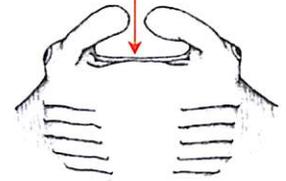
Head very broad with long head fins



Cephalic fins not straight

White shoulder markings form two mirror image creating letter 'T' in black across top of the head

Mouth terminal, located at end of snout tip



## MOBULIDAE

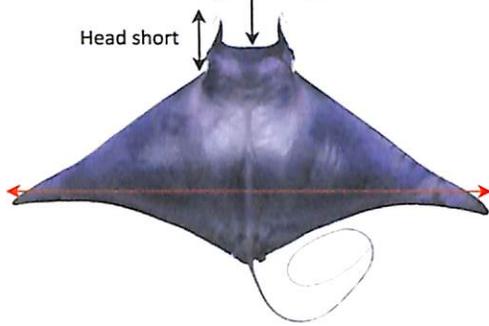
*Mobula japanica* (Müller & Henle, 1841)

Giant devilray

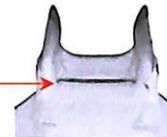
Anterior margin of snout almost straight and wide

Head short

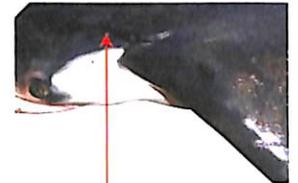
Disc broad and slightly falcate



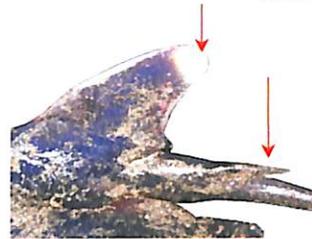
Mouth subterminal, located on underside of head



Dorsal fin white tipped



Spiracles slit-like and elliptical, located above disc edge



Small sting present on tail base; tail base rounded

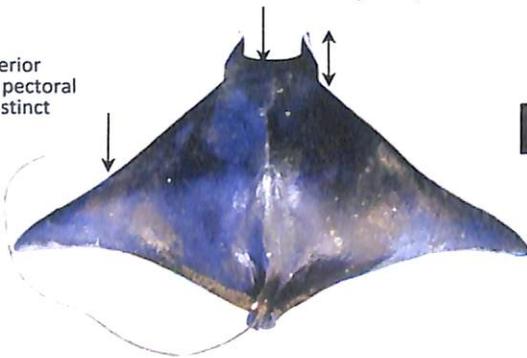
## MOBULIDAE

*Mobula thurstoni* (Lloyd, 1908)

Bentfin devilray

Anterior margin of snout slightly concave. Cephalic lobes relatively short, 12-14% DW

Outer anterior margin of pectoral fin with distinct concavity



Dorsal fin white tipped. No sting on tail base. Tail depressed



Spiracles subcircular, located underneath disc edge

## MOBULIDAE

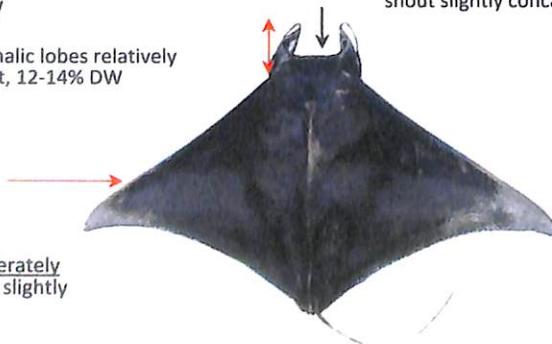
*Mobula kuhlii* (Müller and Henle, 1841)

Kuhl's devilray

Anterior margin of snout slightly concave

Cephalic lobes relatively short, 12-14% DW

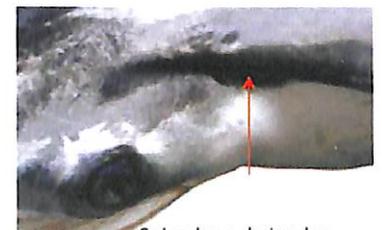
Disc moderately broad and slightly falcate



Dorsal fin not white tipped



Small sting absent on tail base; tail base quadrangular

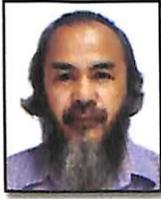


Spiracles subcircular, located underneath disc edge

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