

FAO SPECIES IDENTIFICATION SHEETS

FISHING AREA 51
(W. Indian Ocean)

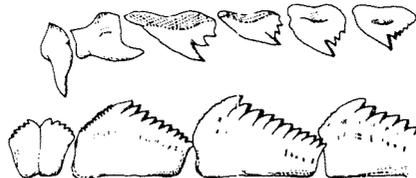
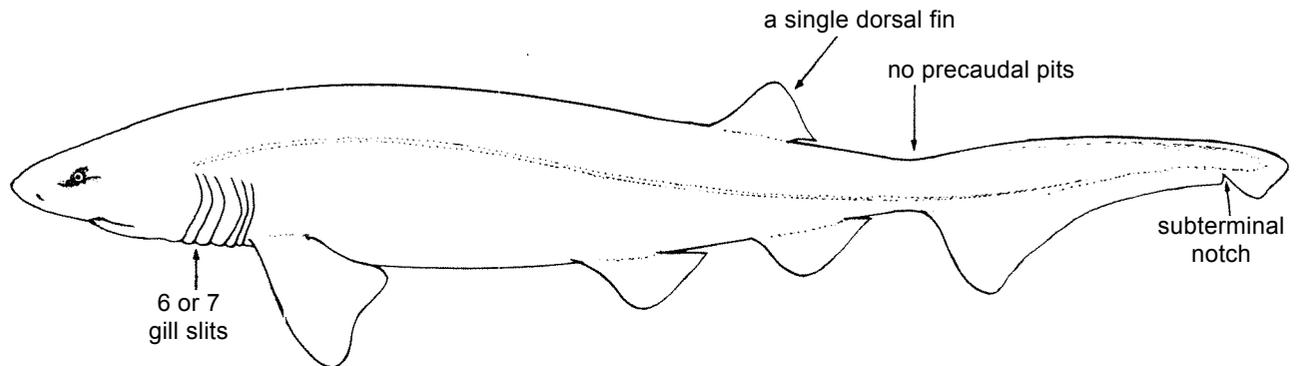
HEXANCHIDAE

Sixgill and sevengill sharks (also, cow sharks)

Small to large sharks with slender to stout bodies, not eel-shaped. Head with 6 or 7 pairs of long gill slits, the last in front of pectoral fin origins, the first pair not connected across throat; short dermal gillrakers present on inner gill slits; spiracles present, small; nostrils without barbels or nasoral grooves; no nictitating lower eyelids; snout short, acutely to bluntly pointed; mouth very long and extending far behind the eyes; teeth of upper and lower jaws unlike at sides of mouth, uppers small, narrow, with a main cusp and often smaller cusplets, lowers very large, broad, compressed and sawlike, with a series of cusps or large cusplets. A single dorsal fin, posterior to pelvic fins; anal fin present; caudal fin much less than half the total length, strongly asymmetrical, with a pronounced subterminal notch but the lower lobe very short. Caudal peduncle not depressed, without keels; no precaudal pits. Intestinal valve of spiral type.

Colour: grey, blackish or brown above, lighter below, one species with dark and sometimes light small spots.

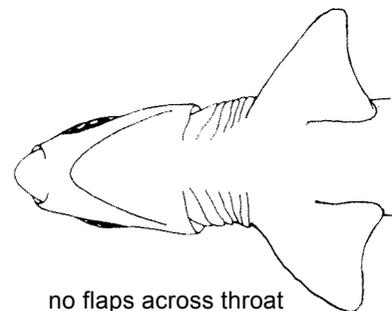
These are moderately abundant, inshore to deepwater sharks, found in shallow bays down to the continental slopes and submarine canyons. They eat a wide variety of bony fishes, other sharks, batoid fishes, cephalopods, and crustaceans. They are taken in deepwater line fisheries for sharks in the area and elsewhere, and are incidentally caught in trawls. Harmless unless provoked.



example of upper
and lower teeth
(*H. vitulus*)



intestinal valve
of spiral type



no flaps across throat

SIMILAR FAMILIES OCCURRING IN THE AREA:

Chlamydoselachidae: also with a single dorsal fin and 6 gill slits, but distinguished by having a nearly terminal mouth, the first pair of gill slits connected across throat by a flap of skin, three-cusped teeth in both jaws, no subterminal notch on caudal fin, and a long, almost eel-like body.

No other sharks in the area have a single dorsal fin and 6 or 7 gill slits.

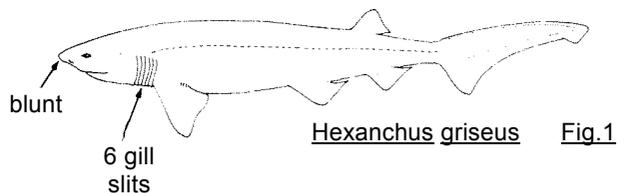


Chlamydoselachus anguineus

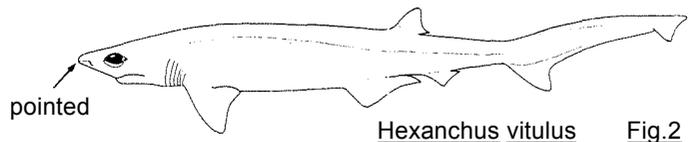
KEY TO SPECIES OCCURRING IN THE AREA:

1a. Six gill slits (Fig.1,2)

2a. Snout very short and blunt; lower jaw with 6 rows of large comblike teeth on each side; dorsal fin base separated from upper caudal fin origin by a distance about equal to, or slightly greater than its length (Fig. 1); size very large, up to 4.7 m Hexanchus griseus

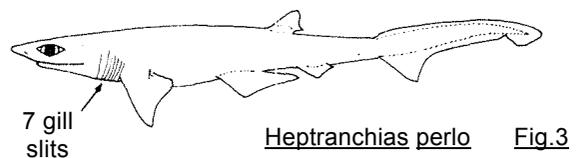


2b. Snout longer and more pointed; lower jaw with 5 rows of large comblike teeth on each side; dorsal fin base separated from upper caudal fin origin by a distance much greater than its length (Fig.2); size smaller, up to 1.8 m Hexanchus vitulus

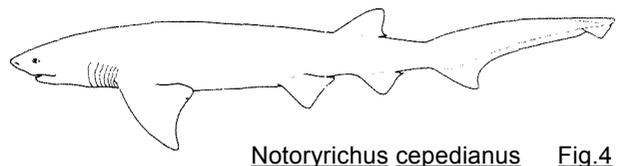


1b. Seven gill slits (Figs 3,4)

3a. Eyes very large, head extremely narrow and pointed; comblike lower teeth low and long, with primary cusp much larger than cusplets; body plain, without spots (Fig.3); size larger, up to about 1.4 m long Heptranchias perlo



3b. Eyes small, head broad and rounded; comblike lower teeth high and short, with primary cusp slightly larger than cusplets; body usually with scattered black spots and sometimes white spots (Fig.4); size smaller, up to about 2.9 m long Notorynchus cepedianus



LIST OF SPECIES OCCURRING IN THE AREA:

Code numbers are given for those species for which Identification Sheets are included

<u>Heptanchias perlo</u> (Bonnaterre, 1788)	HEX Hept 1
<u>Hexanchus griseus</u> (Bonnaterre, 1788)	HEX Hex 1
* <u>Hexanchus vitulus</u> Springer & Waller, 1969	HEX Hex 2
** <u>Notorynchus cepedianus</u> (Peron, 1807)?	HEX Noto 1

Prepared by L.J.V. Compagno; Tiburon Center of Environmental Studies, San Francisco State University, Tiburon, California, U.S.A.

*Including Hexanchus vitulus Springer & Waller, 1969

**Occurrence uncertain in the area

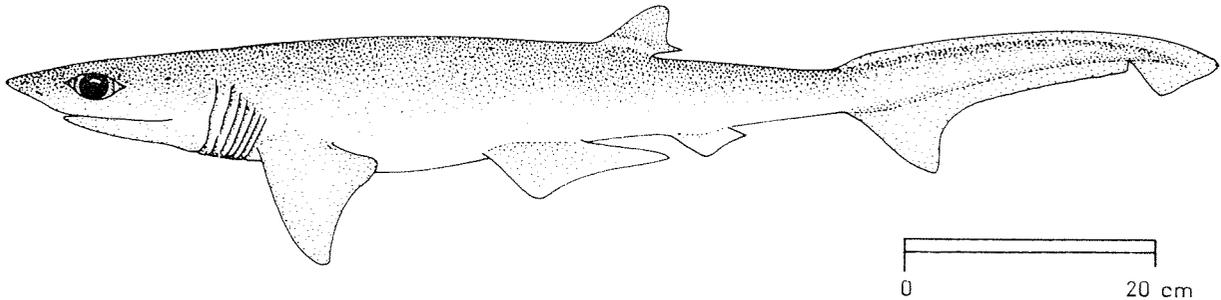
FAO SPECIES IDENTIFICATION SHEETS

FAMILY: HEXANCHIDAE

FISHING AREA 51
(W. Indian Ocean)

Hepranchias perlo (Bonnaterre, 1788)

OTHER SCIENTIFIC NAMES STILL IN USE : None



VERNACULAR NAMES:

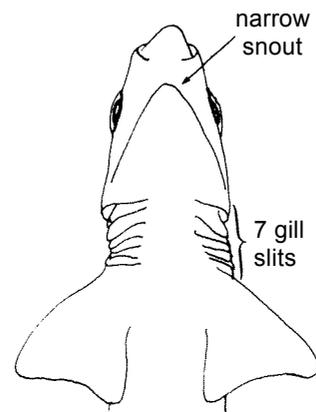
FAO: En - Sharpnose sevengill shark
Fr - Requin perlon
Sp - Cañabota bocadulce

NATIONAL:

DISTINCTIVE CHARACTERS:

A small, slender shark. Head with 7 gill slits; head and snout very narrow; eyes very large; teeth of upper and lower jaws unlike at sides of mouth, uppers smaller, narrower, with a main cusp and a few small cusplets, lowers larger, compressed and comblike, with a long main cusp and several cusplets, their inner edges with a few short cusplets but no serrations. A single dorsal fin, separated from origin of caudal fin by over twice its base length; a short lower caudal fin lobe in adults.

Colour: grey-brown above, pale below, the young with dark tips on dorsal fin and terminal lobe of caudal fin, lost in adults.



underside of head



teeth of left side

DISTINGUISHING CHARACTERS OF SIMILAR SPECIES OCCURRING IN THE AREA:

Hexanchus species: 6 gill slits; inner edges of comblike lower lateral teeth with serrations.

Notorynchus cepedianus: the only other shark with 7 pairs of gill slits. but differing from this species in its much heavier body, larger size (to about 2.9 m), broader and more rounded head and snout. very small eyes, dorsal fin separated from upper caudal origin by a distance about equal to its base length, and usually numerous small black spots on body. Occurrence in the area uncertain.

SIZE:

Maximum: probably to 137 cm, most adults below 110 cm.

GEOGRAPHICAL DISTRIBUTION AND BEHAVIOUR:

In the area, scattered records from off South Africa and southern Mozambique, Aldabra Island, and southwestern India, but probably more wide-ranging. Elsewhere, almost circumglobal in tropical and temperate seas, except for the Eastern North Pacific, with a primarily continental distribution.

A primarily deepwater species, found on the outer continental shelves and upper slopes down to 1 000 m, but also sometimes occurring in shallow water. Apparently an active swimmer near the bottom. Ovoviviparous, number of young from 9 to 20; size at birth near 27 cm.

Feeds on bony fishes, including hake and squid. Aggressive and quick to bite when captured, but too small to be very dangerous.

PRESENT FISHING GROUNDS:

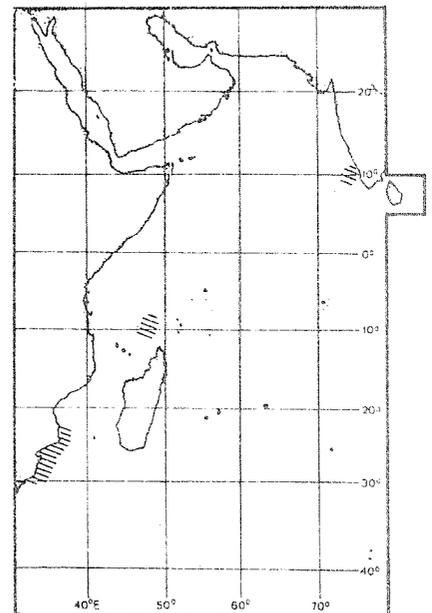
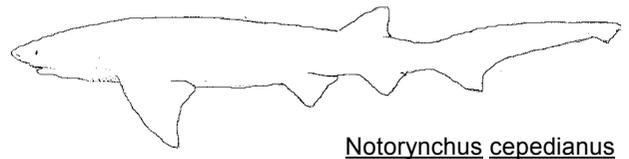
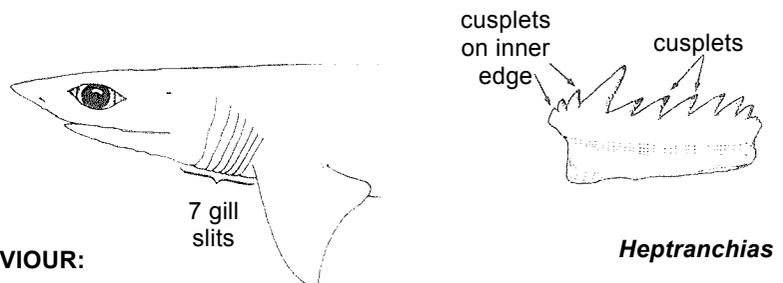
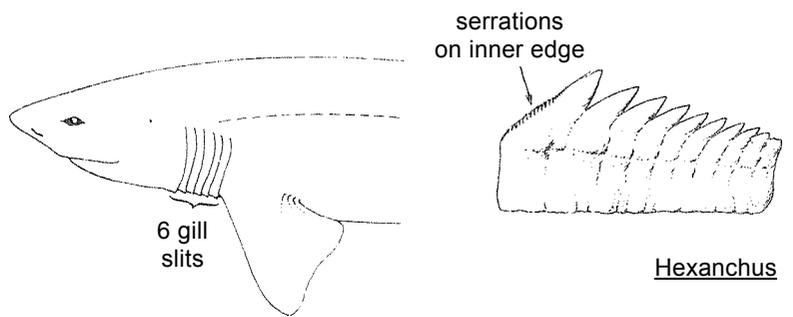
Offshore waters in the area. Apparently common in some places, including southwestern India.

CATCHES, FISHING GEAR AND FORMS OF UTILIZATION:

Separate statistics are not reported for this species.

Caught in bottom trawls.

Utilization not recorded.



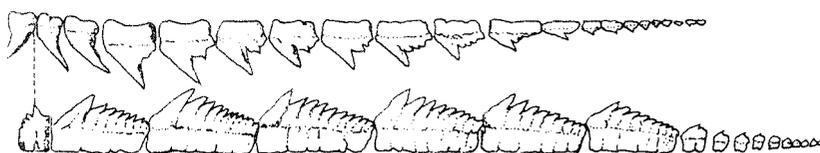
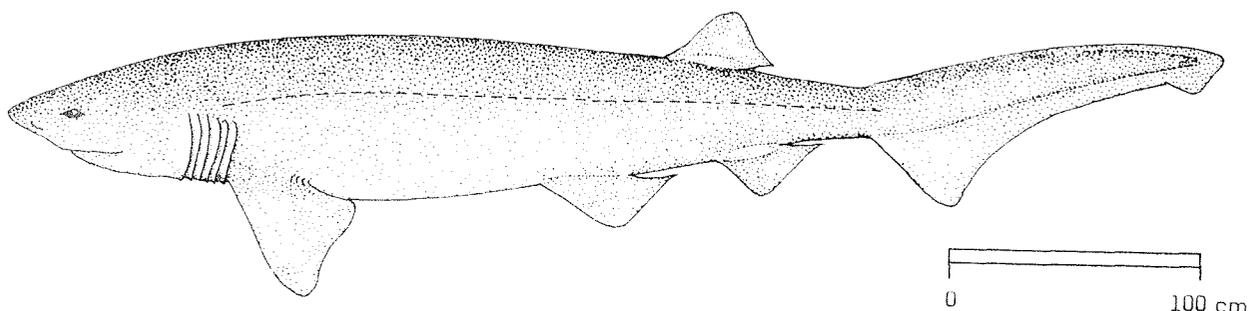
FAO SPECIES IDENTIFICATION SHEETS

FAMILY: HEXANCHIDAE

FISHING AREA 51
(W. Indian Ocean)

Hexanchus griseus (Bonnaterre, 1788)

OTHER SCIENTIFIC NAMES STILL IN USE : None



teeth of left side

VERNACULAR NAMES:

- FAO: En - Bluntnose sixgill shark
Fr - Requin grisé
Sp - Cañabota gris (Cañabota)

NATIONAL:

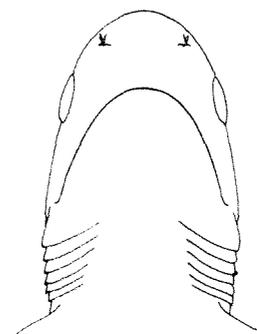
DISTINCTIVE CHARACTERS:

A very large, heavy-bodied shark with 6 gill slits. Head and snout broad, eyes relatively small; teeth of upper and lower jaws unlike at sides of mouth, uppers smaller, narrower, with a long main cusp and a few cusplets, lowers large, compressed and comblike, with a short main cusp and short cusplets, their inner edges serrated. A single dorsal fin separated from origin of caudal fin by about its base length; lower caudal lobe weak in adults, hardly indicated in immature individuals.

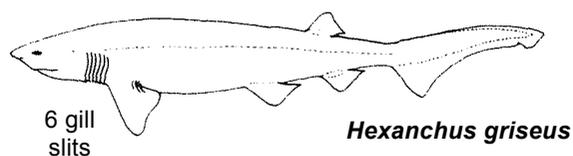
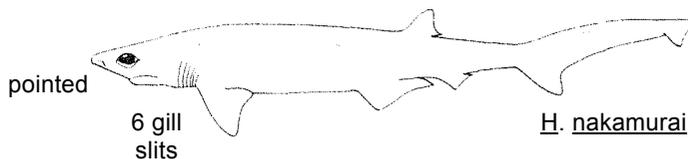
Colour: pale grey, dark grey, dark brown, or blackish above, often lighter below or even whitish.

DISTINGUISHING CHARACTERS OF SIMILAR SPECIES OCCURRING IN THE AREA:

Hexanchus nakamurai: similar to H. griseus in having 6 gill slits and serrations on the mesial edges of its comblike lower teeth, but differs in being smaller and slimmer (170 cm maximum size), with a narrower head and snout, larger eyes, only 5 large comblike lower teeth on either side of symphysis (6 in H. griseus) and the dorsal fin base separated from caudal fin origin by a distance much greater than its base length.



underside of head

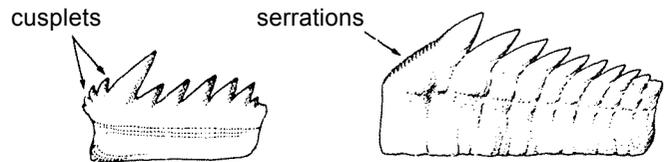
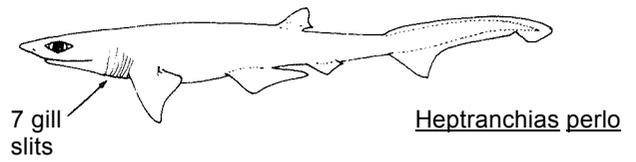


Heptranchias perlo: 7 gill slits, lower comb-like teeth with longer cusps and cusplets but without inner serrations; head and snout narrower, eyes larger; dorsal fin separated from caudal fin by a distance much greater than its base length; size much smaller (less than 1.4 m maximum), and body much slimmer.

Notorynchus cepedianus: poorly known in the area, in the extreme south marginal off the South African coast; also reported from India as Notidanus indicus, which may or may not be the same as this species; 7 gill slits, body often spotted with small black (and sometimes white) spots.

SIZE:

Adults to at least 482 cm, maturing at about 450 cm.

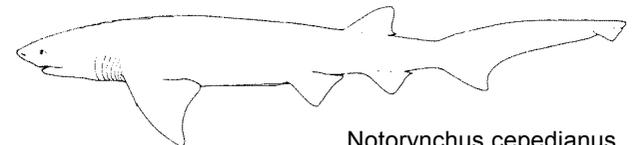


Heptranchias **Hexanchus**

lower lateral tooth

GEOGRAPHICAL DISTRIBUTION AND BEHAVIOUR:

Within the area, known to occur off South Africa, southern Mozambique, Madagascar, the Aldabra Island group, and the Comores Islands. Elsewhere wide-ranging in the Eastern Atlantic, Mediterranean, Western Atlantic, and Western, Central and Eastern Pacific.



Notorynchus cepedianus

A large, temperate to tropical, mostly deepwater shark, perhaps occurring at greater depths closer to the equator, but recorded from the surface down to 1 875 m depth. In temperate waters the young occur in bays and at the heads of submarine canyons. Sluggish, bottom-dwelling, but strong-swimming. Ovoviviparous, with litters of 22 to 108 fetuses.

Feeds on other sharks and small to moderately large bony fishes, including dolphinfishes, small marlins and swordfishes, gurnards, hakes, lings and grenadiers, as well as crabs and shrimps. Not known to be dangerous to people, although the young will snap when captured.

PRESENT FISHING GROUNDS:

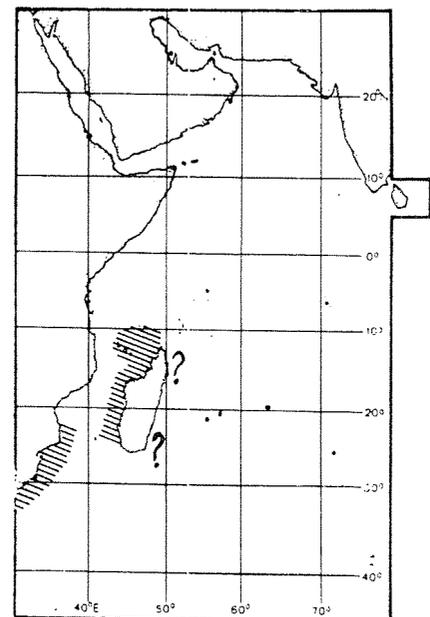
Offshore and probably inshore. Known to be fished off. Madagascar and the Comores Islands, but possibly taken elsewhere in the region.

CATCHES, FISHING GEAR AND FORMS OF UTILIZATION:

Separate statistics are not reported for this species.

Caught in bottom trawls and with hook and line.

Utilized for human consumption (?).



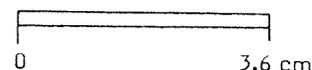
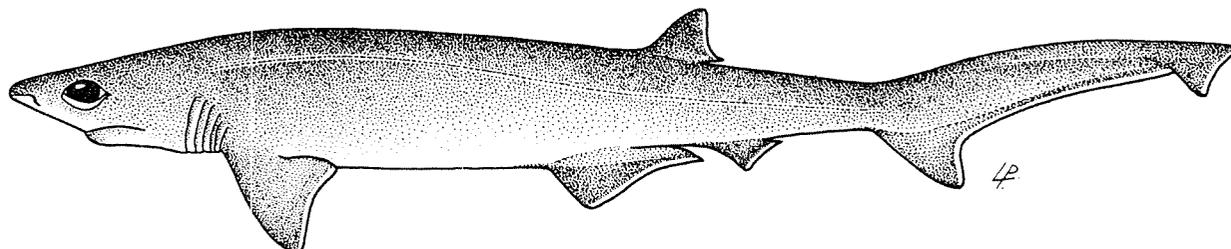
FAO SPECIES IDENTIFICATION SHEETS

FAMILY: HEXANCHIDAE

FISHING AREA 51
(W. Indian Ocean)

Hexanchus vitulus Springer & Waller, 1969

OTHER SCIENTIFIC NAMES STILL IN USE: None



VERNACULAR NAMES:

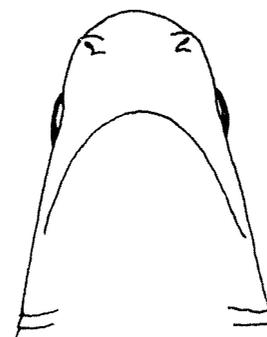
- FAO : En - Bigeye sixgill shark
 Fr - Requin vache
 Sp - Canabota ojigrande

NATIONAL:

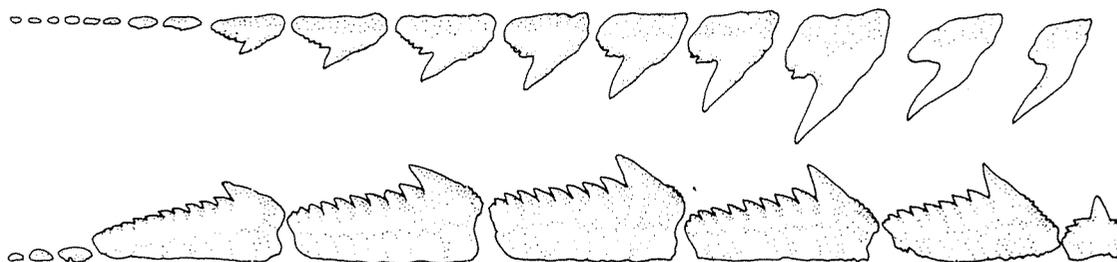
DISTINCTIVE CHARACTERS:

A moderate-sized, slender shark with 6 pairs of gill slits. Head and mouth relatively narrow, eyes large; teeth of upper and lower jaws unlike at sides of mouth; uppers smaller, narrower, with a long main cusp and a few cusplets, lowers larger, compressed and comblike, with a moderately long main cusp and short cusplets, their mesial edges serrated. A single dorsal fin separated from origin of caudal fin by a distance much greater than its base length; lower caudal lobe short but prominent in adults, weak in young.

Colour: grey-brown above, lighter below, fins with light posterior margins.



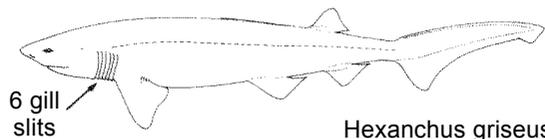
underside of head



teeth of right side

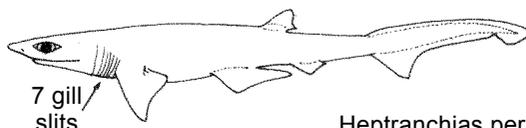
DISTINGUISHING CHARACTERS OF SIMILAR SPECIES OCCURRING IN THE AREA:

Hexanchus griseus: similar to H. nakamurai in having 6 pairs of gill slits and serrations on the mesial edges of its comblike lower teeth, but differs in being heavier-bodied (especially when adult), reaching a much greater size, and having a broader head and snout, smaller eyes, 6 large comblike lower teeth on either side of symphysis (5 in H. nakamurai) and the dorsal fin base separated from the upper caudal origin by a distance about equal to the base length.



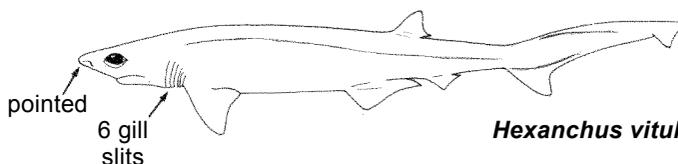
Hexanchus griseus

Heptranchias perlo: 7 pairs of gill slits, lower comblike teeth with longer cusps and cusplets but without mesial serrations; head and snout narrower.



Heptranchias perlo

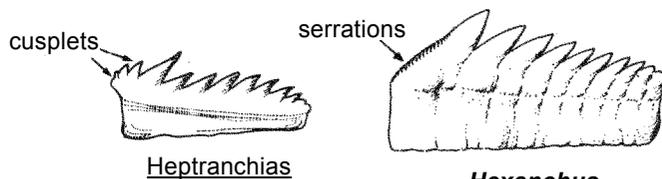
Notorynchus cepedianus: 7 pairs of gill slits, heavier-bodied and larger; to about 2.9 m; snout broader and head more rounded; eyes smaller; dorsal fin base separated from upper caudal fin origin by distance about equal to its base length; usually numerous small black spots on body.



Hexanchus vitulus

SIZE :

Maximum: about 1.8 m.



Heptranchias

Hexanchus

GEOGRAPHICAL DISTRIBUTION AND BEHAVIOUR:

In the area, known from off South Africa, Madagascar, Kenya and Aldabra Islands, but probably more wide-ranging there. Elsewhere, a scattered series of records from the Western Atlantic off Bahamas, Cuba, Nicaragua and Costa Rica, the Eastern Atlantic off Gibraltar, possibly the Mediterranean, and perhaps Ivory Coast and Nigeria, and the Western Pacific off Taiwan and the Philippine Islands.

A tropical deepwater shark, little-known and probably previously confused with H. griseus in some localities. Reported at depths from 90 to 600 m, usually near the bottom, but sometimes at the surface. Oviparous, a litter of 13 young reported; size at birth about 43 cm.

Feeds on small to medium-sized fish, and probably bottom invertebrates. Not dangerous, as far as known.

PRESENT FISHING GROUNDS:

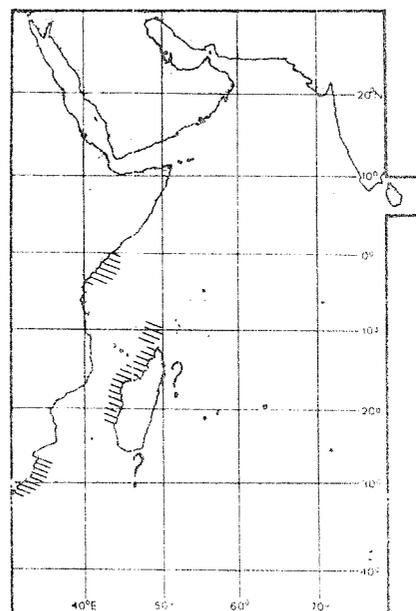
Off Madagascar, possibly Aldabra and elsewhere in the area.

CATCHES, FISHING GEAR AND FORMS OF UTILIZATION:

Separate statistics are not reported for this species.

Caught in bottom trawls and with hook and line.

Probably utilized for human consumption.



FAO SPECIES IDENTIFICATION SHEETS

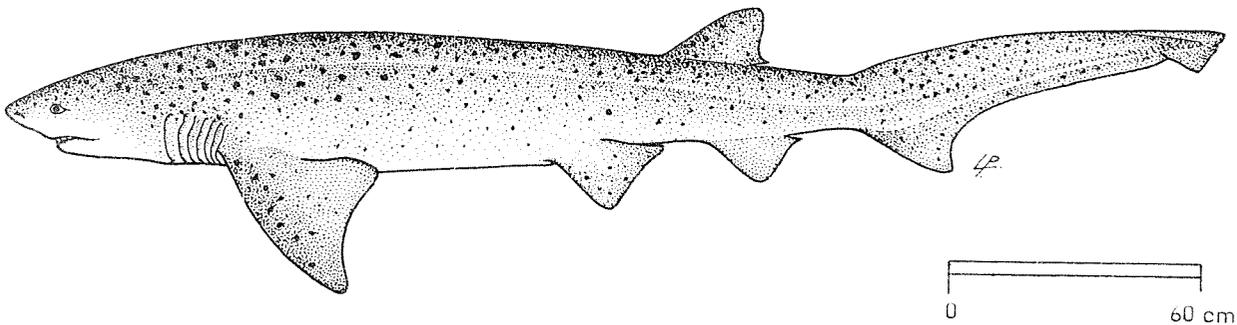
FAMILY: HEXANCHIDAE

FISHING AREA 51
(W. Indian Ocean)

Notorynchus cepedianus (Peron, 1807)

OTHER SCIENTIFIC NAMES STILL IN USE:

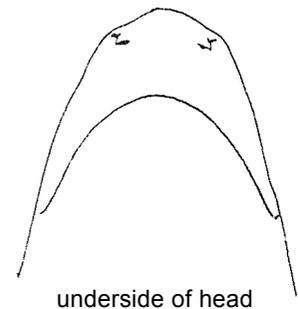
Notorynchus or Heptanchus indicus (Agassiz, 1835)
Notorynchus or Heptanchus pectorosus (Garman, 1884)



VERNACULAR NAMES:

FAO : En - Broadnose sevengill shark
Fr - Platznez
Sp - Cafiabota gata

NATIONAL:



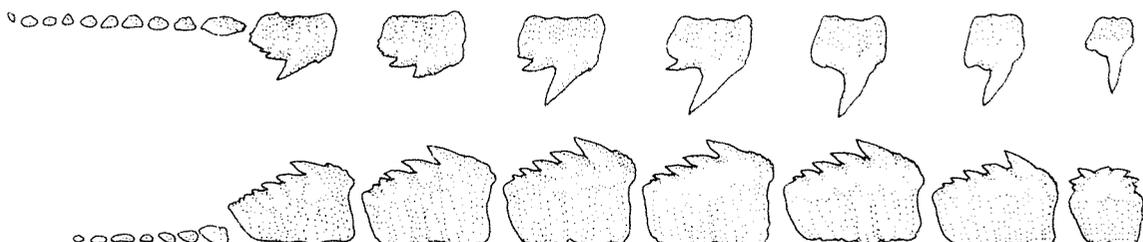
underside of head

DISTINCTIVE CHARACTERS:

A large, heavy-bodied shark. Head with 7 pairs of gill slits; head and snout very broad and rounded; eyes small; teeth of upper and lower jaws unlike at sides of mouth, uppers smaller, narrower, with a main cusp and some small cusplets, lowers larger, compressed and comblike, higher and short, with a short main cusp and several cusplets, their mesial edges with serrations. A single dorsal fin, separated from origin of caudal fin by a space about equal to its base length; lower caudal fin lobe weak in adults.

Colour: grey above, white below, usually with numerous small black spots and blotches.

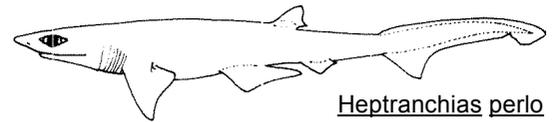
teeth of the left side



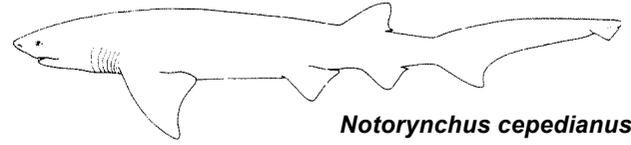
DISTINGUISHING CHARACTERS OF SIMILAR SPECIES OCCURRING IN THE AREA:

Heptranchias perlo: the only other shark in the area with 7 pairs of gill slits. but differing in small size, more slender body, much larger eyes; narrower, more acutely pointed head and snout; narrower mouth, lower comblike teeth with higher cusps and cusplets, longer roots and no serrations on mesial edges, dorsal fin separated from upper caudal fin origin by a space over twice its base length, and plain coloration.

Hexanchus species: 6 pairs of gill slits, plain coloration.



Heptranchias perlo



Notorynchus cepedianus

SIZE:

Maximum: to about 2.9 m, possibly 3 m.

GEOGRAPHICAL DISTRIBUTION AND BEHAVIOUR:

Occurrence uncertain in the area. Off South Africa the species is apparently confined to the cool-temperate waters of the Cape region, and may or may not occur in the area. Indian records of Notorynchus species are uncertain, although the more tropical Heptranchias perlo definitely occurs there. Elsewhere, the species is wide-ranging in the Western South Atlantic, Eastern Pacific, and Western Pacific, but has an antitropical distribution in temperate waters.

A coastal shark, occurring from the intertidal and shallow bays down to at least 46 m depth, often near the bottom. Ovoviviparous, length at birth below 53 cm.

A fairly active, strong-swimming, indiscriminate predator, feeding on other sharks and rays, a variety of bony fishes, marine mammals (as carrion), and even garbage. Aggressive when provoked and potentially dangerous.

PRESENT FISHING GROUNDS:

Unknown.

CATCHES, FISHING GEAR AND FORMS OF UTILIZATION:

Separate statistics are not reported for this species.

Gear and mode of utilization unknown.

