

= Hardnose shark =

The hardnose shark (*Carcharhinus macroti*) is a species of requiem shark , in the family Carcharhinidae , so named because of the heavily calcified cartilages in its snout . A small bronze @-@ coloured shark reaching a length of 1 @. @ 1 m (3 @. @ 6 ft) , it has a slender body and a long , pointed snout . Its two modestly sized dorsal fins have distinctively elongated rear tips . The hardnose shark is widely distributed in the western Indo @-@ Pacific , from Kenya to southern China and northern Australia . It inhabits warm , shallow waters close to shore .

Common and gregarious , the hardnose shark is a predator of bony fishes , cephalopods , and crustaceans . This species is viviparous , with the growing embryos sustained to term via a placental connection to their mother . Females have a biennial reproductive cycle and bear litters of one or two pups after a twelve @-@ month gestation period . The hardnose shark is fished for meat throughout its range and , given its low reproductive rate , the International Union for Conservation of Nature (IUCN) has listed it as Near Threatened .

= = Taxonomy = =

The hardnose shark was described by German biologists Johannes Müller and Jakob Henle in their 1839 *Systematische Beschreibung der Plagiostomen* . They named it *Carcharias* (*Hypoprion*) *macroti* in honour of Heinrich Christian Macklot , who collected the type specimen from New Guinea . In 1862 , American ichthyologist Theodore Gill elevated *Hypoprion* to the rank of full genus , with *C. macroti* as the type species . In 1985 , Jack Garrick synonymised *Hypoprion* with *Carcharhinus* . This species may also be called Maclot 's shark .

= = Phylogeny and evolution = =

The evolutionary relationships of the hardnose shark have not been fully resolved . In a 1988 study based on morphology , Leonard Compagno tentatively grouped the hardnose shark with the Borneo shark (*C. borneensis*) , whitecheek shark (*C. dussumieri*) , Pondicherry shark (*C. hemiodon*) , creek whaler (*C. fitzroyensis*) , smalltail shark (*C. porosus*) , blackspot shark (*C. sealei*) , and spottail shark (*C. sorrah*) . Results from molecular phylogenetic analyses have been inconsistent , with some supporting parts of Compagno 's hypothesis : a 1992 study could not resolve the hardnose shark 's position in detail , a 2011 study reported that it was close to the clade formed by the whitecheek and blackspot sharks , and a 2012 study concluded that it was the sister species of the Borneo shark .

Teeth apparently belonging to the hardnose shark have been recovered from the Pungo River and Yorktown Formations in the United States , and from the Pirabas Formation in Brazil . The earliest of these fossils date to the Lower Miocene (23 ? 16 Ma) .

= = Description = =

The hardnose shark is a slim @-@ bodied species with a long , narrow , and pointed snout . Unlike in other *Carcharhinus* species , its rostral (snout) cartilages are highly calcified , hence the name " hardnose " . The circular eyes are rather large and equipped with protective nictitating membranes . There is a narrow lobe of skin on the anterior rim of each nostril . The arched mouth bears inconspicuous furrows at the corners ; some sources report that the hyomandibular pores (a series of pores above the corners of the mouth) are enlarged , while others report that they are not . The upper teeth number 29 ? 32 rows and have a narrow , smooth @-@ edged central cusp with very coarse serrations at the base on either side . The lower teeth number 26 ? 29 rows and are narrow and smooth @-@ edged . There are five pairs of fairly short gill slits .

The pectoral fins are fairly short and pointed , with a falcate (sickle @-@ like) shape . The first dorsal fin is medium @-@ sized and triangular , and originates roughly over the pectoral fin free rear tips . The second dorsal fin is small and low , and originates over the middle of the anal fin base .

Both dorsal fins have very long free rear tips , and there is a subtle midline ridge between them . A prominent notch is present on the caudal peduncle at the dorsal origin of the caudal fin . The caudal fin has a well @-@ developed lower lobe and a longer upper lobe with a ventral notch near the tip . The skin is covered by overlapping , oval @-@ shaped dermal denticles ; each denticle has three horizontal ridges leading to marginal teeth . This species is bronze above and white below , with a barely noticeable pale band on the flanks . The pectoral , pelvic , and anal fins sometimes have lighter margins , while the first dorsal fin and upper caudal fin lobe may have darker margins . The hardnose shark reaches 1 @.@ 1 m (3 @.@ 6 ft) in length .

= = Distribution and habitat = =

The hardnose shark is common and widely distributed in the tropical western Indo @-@ Pacific . It is found from Kenya to Myanmar in the Indian Ocean , including Sri Lanka and the Andaman Islands . In the Pacific Ocean , it is found from Vietnam to Taiwan and southern Japan , in Indonesia , and off New Guinea and northern Australia . It is usually found in shallow , inshore waters , but has been reported to a depth of 170 m (560 ft) . Tagging data has shown that this shark tends not to make long @-@ distance movements , with 30 % of re @-@ caught individuals having moved less than 50 km (30 mi) from their initial tagging location . The longest known distance travelled by an individual is 711 km (442 mi) .

= = Biology and ecology = =

The hardnose shark forms large groups , often associating with spottail sharks and Australian blacktip sharks (*C. tilstoni*) . Males and females generally roam separately from each other . Bony fishes form the main part of this shark 's diet , with cephalopods and crustaceans making up the remainder . Parasites of this species include the nematode *Acanthocheilus rotundatus* and the tapeworm *Otobothrium carcharidis* . The hardnose shark is viviparous ; like in other requiem sharks , once the embryos exhaust their yolk supply , the empty yolk sac develops into a placental connection through which the mother provides nutrition . Females give birth once every other year to one or two pups , following a gestation period of twelve months . Newborns measure 45 ? 55 cm (18 ? 22 in) long , and sexual maturity is attained at 70 ? 75 cm (28 ? 30 in) long . The maximum lifespan is at least 15 ? 20 years .

= = Human interactions = =

Harmless to humans , the hardnose shark is caught with gillnets and line gear by artisanal and commercial fisheries across much of its range . It is used for meat , which is sold fresh or dried and salted , though its small size limits its economic importance . Its low reproductive rate may render it susceptible to overfishing , and given existing levels of exploitation , the International Union for Conservation of Nature (IUCN) has assessed it as Near Threatened . Off northern Australia , the hardnose shark makes up 13 @.@ 6 % of the gillnet catch and 4 @.@ 0 % of the longline catch . Since these losses do not appear to have diminished its population there , the IUCN has given it a regional assessment of Least Concern .