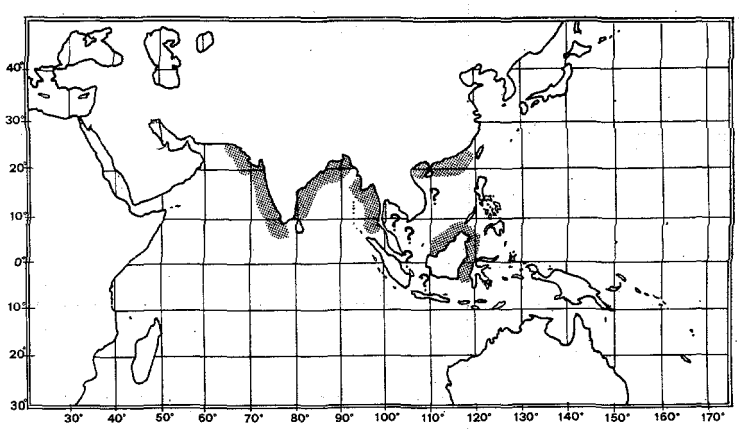
Geographical Distribution : This species has a scattered distribution in the Indian Ocean and Western Pacific off Pakistan, India, Burma, Indonesia (Makassar Straits), Sarawak and China. It is not known at present if its distribution is actually discontinuous, or if it occurs in many other localities connecting the sporadic records as presently known.



Habitat and Biology : A little-known, continental, inshore shark, apparently only common on the west coast of India (in the Bombay region), but rare elsewhere. Viviparous, number of young 4 to 8 per little (8 commonest). In Bombay waters, most are born before the monsoon season, in April and May. Sketchy data on its breeding suggests a gestation period of about 8 months, but this needs to be confirmed. Feeding habits not reported, probably small fishes and invertebrates. Not known to be dangerous to people.

Size : Maximum 168 cm; smallest adult males 114 cm, females pregnant at 130 to 162 cm; size at birth between 40 and 60 cm.

Interest to Fisheries : Apparently regularly taken by local fishermen of India (Bombay) and Pakistan (Karachi), but probably caught elsewhere. Taken in bottom and floating gillnets and with line gear. Meat utilized fresh for human consumption; livers used for vitamin oil.

Literature : Fowler (1941); Setna & Sarangdhar (1949, 1949b); Chi et al. (1962); Misra (1969); Compagno (1979); P.C. Heemstra (pers. comm.); J.A.F. Garrick (pers. comm.).

Remarks : Data on the holotype of Carcharias tephrodes indicates that it is a synonym of this species (Compagno, 1979). The account of Carcharhinus microphthalmus in Chu et al. (1962), suggests nothing to separate it from this species, and hence it is tentatively ranked as a synonym of Lamiopsis temminckii.

Loxodon Müller & Henle, 1838

CARCH Lox

Genus : Loxodon Müller & Henle, 1838, Mag.Nat.Hist., (2):36 (no species).

Type Species : Loxodon macrorhinus Müller & Henle, 1839, by subsequent monotypy.

Synonymy : None.

Diagnostic Features : Body rather slender. Head fairly narrow, only moderately depressed, not trowel-shaped; snout narrowly parabolic in dorsoventral view, very long, with preoral length greater than internarial space and mouth width; eyes large, with posterior notches; spiracles absent or minute and vestigial; no papillose gillrakers on internal gill openings; nostrils small, internarial space about 4 to 5 times nostril width; anterior nasal flaps very short, narrowly triangular, and not tubular; labial furrows very short to rudimentary, with uppers shorter than lowers and falling far behind eyes; teeth similar in upper and lower jaws, anteroposteriors with slender oblique cusps and distal blades but no cusplets or serrations; cusps of lower teeth not prominently protruding when mouth is closed; 25 to 28/2,4 to 28 rows of teeth. Interdorsal ridge absent or rudimentary; no dermal keels present on caudal peduncle; upper precaudal pit transverse and crescentic. First dorsal origin behind pectoral rear tips, midbase about equidistant between pectoral and pelvic bases, and free rear tip usually anterior to pelvic origins but occasionally over them; second dorsal fin much smaller than first, its height 1/4 of first dorsal height or less; its origin about over anal insertion; pectoral fin moderately broad and triangular, slightly falcate, pectoral length from origin to free rear tip 2/3 to 3/4 of pectoral anterior margin; pectoral origins under interspace between third and fourth gill slits; anal much larger than second dorsal, with very long preanal ridges and a straight or slightly concave posterior margin. Colour light grey, yellowish or brownish grey above, without a colour pattern. Small sharks, adults not exceeding 1 m.

Remarks : Scope and synonymy of this genus follows Springer (1964).

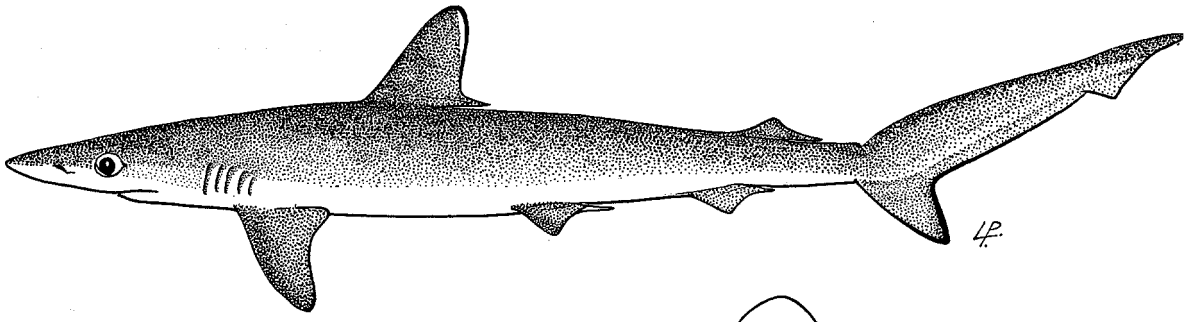
Loxodon macrorhinus Müller & Henle, 1839

CARCH Lox 1

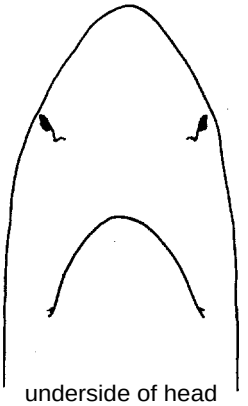
Loxodon macrorhinus Müller & Henle, 1839, Syst.Beschr.Plagiost., (2):61, pl. 25. Holotype: Zoologisches Museum, Humboldt Universitat, Berlin, ISZZ 4479, 315 mm fetus. Type Locality: Unknown.

Synonymy : Carcharias (Scoliodon) dumerili Bleeker, 1865; Carcharias albomarginatus Hemprich & Ehrenberg, 1899; Scoliodon jordani Ogilby, 1908; Scoliodon affinis Ogilby, 1912; Scoliodon ceylonensis Setna & Sarangdhar, 1946.

FAO Names: En - Sliteye shark; Fr - Requin sagrin; Sp - Tiburón ojuelo.



Field Marks: A small, very slim requiem shark with a long snout, big eyes with posterior notches, labial furrows very short or rudimentary, small, oblique-cusped teeth without serrations or cusplets, first dorsal origin behind pectoral free rear tips, second dorsal much smaller than first, second dorsal origin about over anal insertion, anal larger than second dorsal, with very long preanal ridges. Colour greyish to brownish without a prominent colour pattern.



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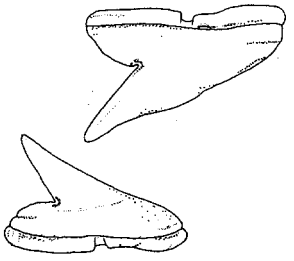
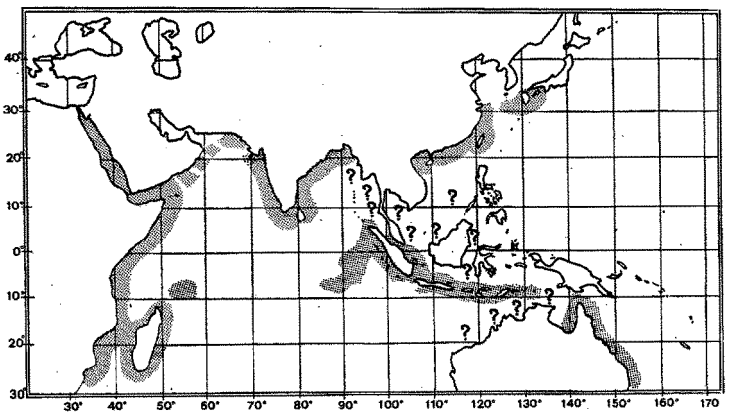


upper and lower tooth

Diagnostic Features: See genus.

Geographical Distribution : Confined to the Indo-West Pacific: South Africa, Madagascar, Seychelles and Red Sea east to India, Sri Lanka, Indonesia, China, Taiwan Island, Japan, The Philippines, Australia (Queensland and probably other states).



Habitat and Biology : A small, common tropical inshore shark of the continental and insular shelves, found in moderately shallow, clear waters, at depths from 7 to 80 m; occurs near the surface and at the bottom.

Viviparous, with a yolk-sac placenta; number of young 2 to 4 per litter.

Feeds on small bony fishes, including anchovies and croakers, and shrimp and cuttle-fish. Harmless to people.

Size: Maximum 91 cm, males maturing between 62 and 66 cm and reaching at least 85 cm; females mature at 79 cm and reaching at least 91 cm; size at birth about 40 to 43 cm.

Interest to Fisheries : This small shark is caught in artisanal and smallscale commercial fisheries, and is especially important in southeastern India. It is taken in floating and bottom gillnets and with pelagic and bottom longlines; its meat is utilized fresh for human consumption.

Literature: Fowler (1941); Setna & Sarangdhar (1949b,c), Wheeler (1959); V. Springer (1964); Nair, Appukuttan & Rajapandian (1974);. Bass, D'Aubrey & Kistnasamy (1975b); Compagno (1979).

Nasolamia Compagno & Garrick, 1983

CARCH Nas

Genus: Nasolamia Compagno & Garrick, 1983, Occas.Pap. Victoria U., Wellington, (76):3.

Type Species : Carcharhinus velox Gilbert, in Jordan & Evermann, 1898, by original designation.

Synonymy : None.

Diagnostic Features: Body rather slender. Head very narrow, conical and only slightly depressed, not trowel-shaped; snout narrowly pointed in dorsoventral view, very long, with preoral length greater than internarial space and mouth width; eyes fairly large, without notches; spiracles absent; no papillose gillrakers on internal gill openings; nostrils very large, close-spaced and nearly transverse, internarial space about 1.1 to 1.3 times the nostril width; anterior nasal flaps vestigial, not tubular; labial furrows very short, uppers shorter than lowers and falling far behind eyes; teeth differentiated in upper and lower jaws; upper anteroposteriors with fairly broad semierect to oblique cusps, distal blades and serrations but no cusplets; lowers with slender, narrow, semierect cusps, blades and serrations but no cusplets; lower teeth not prominently protruding when mouth is closed; 27 to 30/24 to 28 (usually 28/25 to 27) rows of teeth. Interdorsal ridge absent; no dermal keels present on, caudal peduncle; upper precaudal pit transverse and crescentic. First dorsal origin over pectoral inner margins, its midbase somewhat closer to pectoral bases than pelvic, and its free rear tip slightly anterior to pelvic origins; second dorsal fin much smaller than first, its height less than 1/3 of first dorsal height; its origin over or slightly anterior to anal insertion; pectoral fins moderately broad and triangular, slightly falcate, pectoral length from origin to free rear tip about 3/4 of pectoral anterior margin; pectoral origins under third gill slit or interspace between third and fourth gill slits; anal slightly larger than second dorsal, with short preanal ridges and a deeply notched posterior margin. Colour light grey or brownish grey above, without a colour pattern. Moderately large sharks, adults not exceeding 1.6 m.

Remarks : This 'satellite genus' of Carcharhinus differs from it and all other carcharhinids in its enlarged, close-set nostrils, narrow conical snout and various cranial characters (see Compagno & Garrick, 1983). Its only species, Nasolamia velox, is close to Carcharhinus acronotus in dentition and other features and may be a sister species to it by common ancestry. However, acronotus lacks the derived peculiarities of velox and is retained in Carcharhinus.

The aggregation of odd rostral and cranial characters of N. velox is reminiscent of incipient stages of the teratogenic continuum of cyclopia in vertebrates. It is tempting to speculate that Nasolamia is derived from an acronotus-like ancestry in Carcharhinus by stabilization of a complex of incipient, cyclopic abnormalities that gave N. velox a selective advantage over normal acronotus-like Carcharhinus.

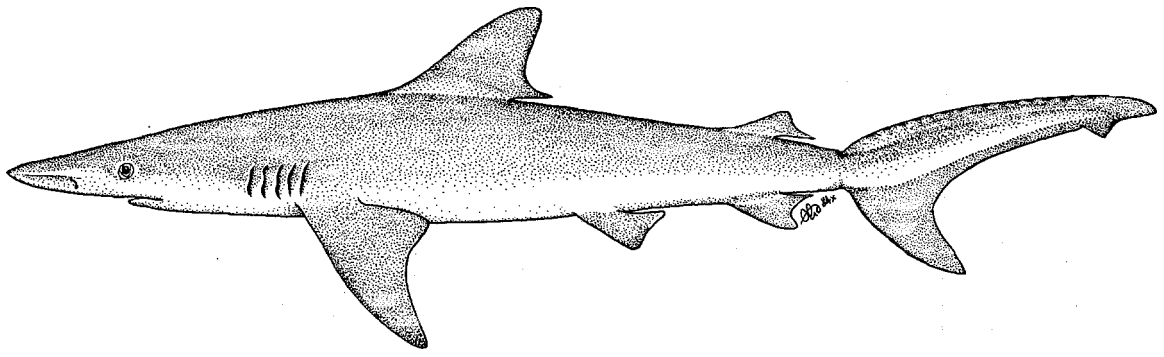
Nasolamia velox (Gilbert, 1898)

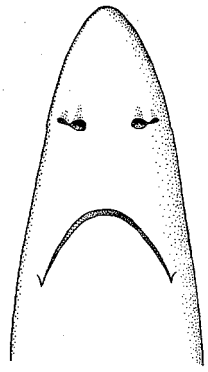
CARCH Nas 1

Carcharhinus velox Gilbert, in Jordan & Evermann, 1898, Bull. U.S.Nat.Mus., (47)3:2747. Holotype: Stanford University Natural History Museum, SU 11893, 1200 mm immature female. Type Locality: Pacific Panama.

Synonymy :. None.

FAO Names : En - Whitenose shark; Fr - Requin nez blanc; Sp - Cazón trompa blanca.





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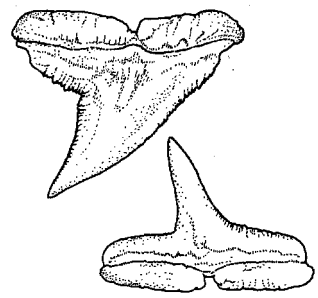
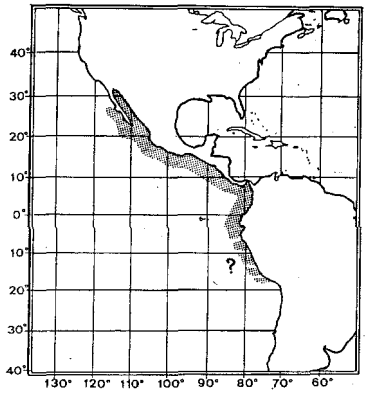


upper and lower tooth

Field Marks: A slender requiem shark, with a very long, conical snout and very large, close-set nostrils, these separated by a space only slightly greater than the nostril width, a black spot outlined with white on the dorsal snout tip; form otherwise like that of the grey sharks, Carcharhinus species (especially C. acronotus, see remarks above).

Diagnostic Features : See genus.

Geographical Distribution : Eastern Pacific: Baja California and Gulf of California, Mexico to Peru.



Habitat and Biology : A little-known but relatively common inshore and offshore tropical shark of the continental shelves, usually found at depths of 15 to 24 m or less, but occasionally down to 192 m depth. Viviparous, with a yolk-sac placenta; 5 young in a litter. Feeds on small bony fishes, including anchovies and crabs. Not known to have attacked people.

Size : Maximum at least 150 cm; males immature at 92 to 106 cm but adult at 140 cm; size at birth about 53 cm.

Interest to Fisheries : Locally common and caught with longlines and no doubt other gear; utilized fresh or fresh frozen for human consumption and for fishmeal.

Literature : Beebe & Tee-Van (1941); Rosenblatt & Baldwin (1958); Kato, Springer & Wagner (1967); Chirichigno (1978); Compagno & Garrick (1983).

Negaprion Whitley, 1940

CARCH Neg

Genus : Negaprion Whitley, 1940, Fish.Australia, (1):111.

Type Species : Aprionodon acutidens queenslandicus Whitley, 1939, by original designation, a junior synonym of Negaprion acutidens (Rüppell, 1837).

Synonymy : Genus Mystidens, Whitley, 1944; Genus Hemigaleops Schultz, in Schultz et al., 1953.

Field Marks : Requiem sharks with second dorsal fin about as large as first, very short, broadly rounded or angular snouts, usually no spiracles, labial furrows confined to mouth corners, narrow-cusped, largely smooth-edged upper teeth (serrations when present confined to upper tooth blades), no cusplets on any teeth, no keels on caudal peduncle, longitudinal precaudal pits, first dorsal midbase closer to pelvic bases than pectorals, anal fin with preanal ridges virtually absent and with a deeply notched posterior margin.

Diagnostic Features: Body stout. Head very broad and flattened but not trowel-shaped; snout broadly rounded or almost wedge-shaped in dorsoventral view and short, with preoral length subequal to internarial space and much less than mouth width; eyes small, without posterior notches; spiracles absent; no papillose gillrakers on internal gill openings; nostrils small, internarial space about 3 to 5 times the nostril width; anterior nasal flaps short, broadly triangular, but not tubular; labial furrows very short, essentially confined to mouth corners, with uppers shorter than lowers and with their ends falling far behind eyes; teeth strongly differentiated in upper and lower jaws; upper anteroposteriors with more or less erect, slender, narrow cusps, no cusplets, and serrations either absent or confined to crown feet; lowers without cusplets but with mostly erect, fairly long slightly hooked cusps and no serrations; cusps of lower teeth not protruding when mouth is closed; 27 to 33/27 to 33 rows of teeth. Interdorsal ridge absent; no lateral keels on caudal peduncle; upper precaudal pit longitudinal and not crescentic. First dorsal origin over or behind pectoral free rear tips, its midbase considerably closer to pelvic bases than pectorals and its free rear tip slightly anterior, over, or slightly posterior to pelvic fin origins; second dorsal fin nearly or quite as large as first, its height 4/5 or more of first dorsal height, its origin about opposite or slightly anterior to anal origin; pectoral fins broad and triangular or falcate, their lengths from origin to free rear tip over 2/3 of pectoral anterior margins; pectoral origins under interspace between third and fourth gill slits; anal fin somewhat $mailer than second dorsal, with preanal ridges hardly developed and a deeply notched posterior margin. Colour grey, yellow or brownish above, without a colour pattern. Large sharks, adults reaching over 3 m.

Remarks : The arrangement of this genus follows Bass, D'Aubrey & Kistnasamy (1975a) and Compagno (1979) in recognizing only two living species. Some 11 nominal species fall in this genus, but most of them can be synonymized with Carcharias acutidens Rüppell, 1837. An exception is the Atlantic Hypoprion brevirostris Poey, 1868, from which the eastern Pacific Carcharias fronto Jordan & Gilbert, 1882 may not be separable and is tentatively included as a synonym (however, S.P. Applegate, pers. comm. notes that the two are apparently separable. by dentitional differences). The classification and species of Negaprion are discussed in detail in Compagno (1979).

The genus Mystidens was based by Whitley (1944) on strips of teeth from a shark from western Australia. The writer has examined the holotype of Mystidens innominatus Whitley, 1944 in the Australian Museum (Sydney), AMS IB 278, and was able to confirm his earlier hypothesis (Compagno, 1979) that these are very similar to teeth from large N. acutidens and that M. innominatus is a probable synonym of N. acutidens.

The genus Hemigaleops was based by Schultz (in Schultz et al. 1953) on a new species of shark (H. forsteri) with spiracles thought to be close to Hemigaleus, but this proved to be a Negaprion, probably N. acutidens (Garrick & Schultz, 1963; Compagno, 1979).

Key to Species

1a. Fins, especially dorsal, pectoral and pelvic fins, usually more strongly falcate. Serrations weakly developed on blades of upper teeth in individuals 1.4 m long and larger, and absent in small individuals of 0.7 m or less. Total vertebral counts 224 to 227..... **N. acutidens**

1b. Fins weakly falcate. Serrations regular and strong on blades of upper teeth of individuals 1.4 m long and larger, but absent in small individuals of 0.7 m or less. Total vertebral counts 197 to 206 ..... **N. brevirostris**

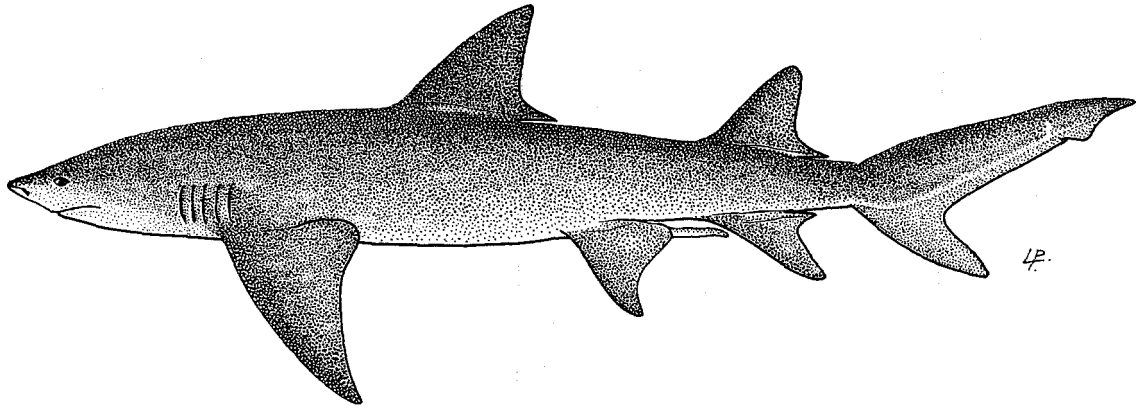
Negaprion acutidens (Rüppell, 1837)

CARCH Neg 2

Carcharias acutidens Rüppell, 1837, Neue Wirbel.Faun.Abyssinien.Fische Rothen Meeres, (11):65, pl. 18, fig. 3. Lectotype: Naturmuseums Senckenberg, SMF 2825, 680 mm stuffed specimen, designated by Klausewitz (1960:292). Type Locality: Djedda, Saudi Arabia, Red Sea.

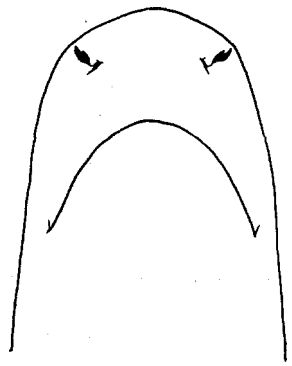
Synonymy : Carcharias munzingeri Kossmann & Raeuber, 1877; Carcharias forskaelii Hemprich & Ehrenberg, 1899; Eulamia odontaspis Fowler, 1908; Aprionodon acutidens queenslandicus Whitley, 1939; Mystidens innominatus Whitley, 1944; Hemigaleops forsteri Schultz & Welander, in Schultz et al., 1953; Odontaspis madagascariensis Fourmanoir, 1961.

FAO Names: En - Sicklefin lemon shark; Fr - Requin limon faucille; Sp - Tiburón segador.



Field Marks: A big, stocky, short-nosed, pale yellow-brown requiem shark with the second dorsal about as large as the first, and narrow, smooth-cusped teeth in both jaws. Very similar to the allopatric N. brevirostris, but usually has more falcate fins.

Diagnostic Features: Dorsal, pectoral and pelvic fins usually more strongly falcate. Serrations weakly developed on blades of upper teeth in individuals 1.4 m long and larger, and absent in small individuals 0.7 m or less. Total vertebral counts 224 to 227.



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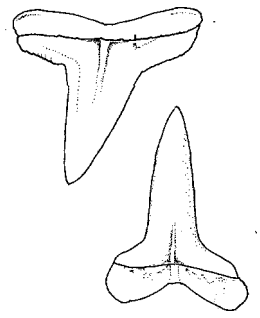
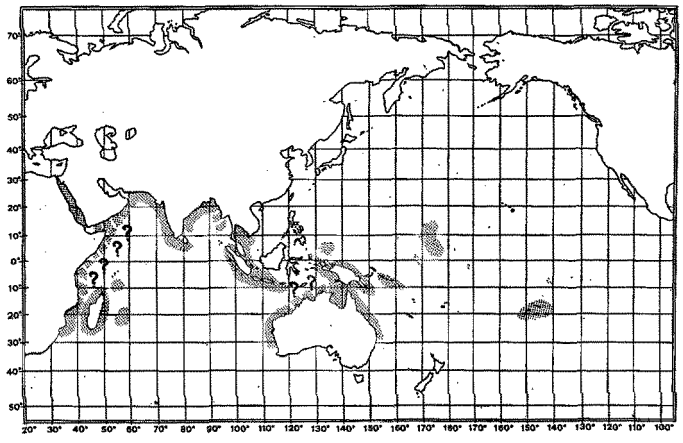


upper and lower tooth

Geographical Distribution : Indo-West and central Pacific: South Africa, Mauritius, Seychelles, Madagascar, and Red Sea east to Pakistan, India, Thailand, Viet Nam, Malaysia, Indonesia, New Guinea, Australia (Queensland, Western Australia and probably northern Australia as well), New Caledonia, The Philippines, Palau, Marshall Islands, Tahiti.



Habitat and Biology: This is a tropical inshore shark of continental and insular shelves and terraces, found on or near the bottom in the inter-tidal down to at least 30 m. It sometimes occurs near the surface, particularly when stimulated by food. These sharks prefer bays, estuaries, sandy plateaus, outer reef shelves at moderate depths and reef lagoons, often in turbid, still water. Young sharks are commonly found on reef flats, in water sufficiently shallow to bare their dorsal fins. That they may occasionally venture into deeper water is suggested by the appearance of one in a film ("Blue water, White Death") well offshore, possibly near a dead sperm whale being eaten by oceanic whitetip sharks (Carcharhinus longimanus).

The sicklefin lemon shark is described as a sluggish species, swimming slowly near the bottom or resting on it. It is hardy in captivity and has been kept in public aquaria and oceanaria.

Viviparous, number of fetuses in a litter 1 to 13. Depending on locality, young are born in October or November (Madagascar) or December or January (French Polynesia). Gestation period may be 10 or more months.

This lemon shark feeds on bottom-dwelling bony fishes, including porcupine fishes, and stingrays.

This shark is reported as being shy of divers and reluctant to approach them even when dead fish baits are placed to attract them. In one reported instance an adult was attracted to a dead speared grouper and repeatedly fled when divers nearby made the slightest movement, but eventually grabbed the fish in a rush after a half hour of approaches and departures; apparently this indicated strong approach-avoidance behaviour on the part of this particular lemon shark. In shallow water young sicklefin lemon sharks are said to be more aggressive and inquisitive, but the adults often leave the vicinity of divers after being approached to the limits of visibility. However, this shark responds promptly and aggressively when touched, poked, or speared, and will attack people or boats when accosted. One such attack involved a victim who sought refuge atop a coral head, but had the aroused shark circling the coral head and waiting for hours before departing. There have been instances of seemingly unprovoked attacks by this shark on divers, possibly after the divers approached too close or otherwise alarmed the shark. Because of its large size, bulky body, massive head, powerful jaws, large daggerlike teeth, and its propensity to vigorously defend itself, the sicklefin lemon shark should be treated with great respect as a dangerous species.

Size : Maximum about 310 cm, males mature at 243 cm; size at birth about 45 to 80 cm.

Interest to Fisheries: Caught in Pakistan, India, Thailand, and probably other places where it occurs, in anchored and floating gillnets and on longlines. Its meat is used fresh and dried salted for human consumption, its liver is used for vitamin oil, and its fins are processed for shark-fin soup base.

Literature : Whitley (1940); Fowler (1941); Fourmanoir (1961); Gohar & Mazhar (1964); Bass, D'Aubrey & Kistnasamy (1975a); Johnson (1978).

Remarks : Vernacular names include 'sharp-toothed shark', 'South Pacific lemon shark', and 'Arava'.

Negaprion brevirostris (Poey, 1868)

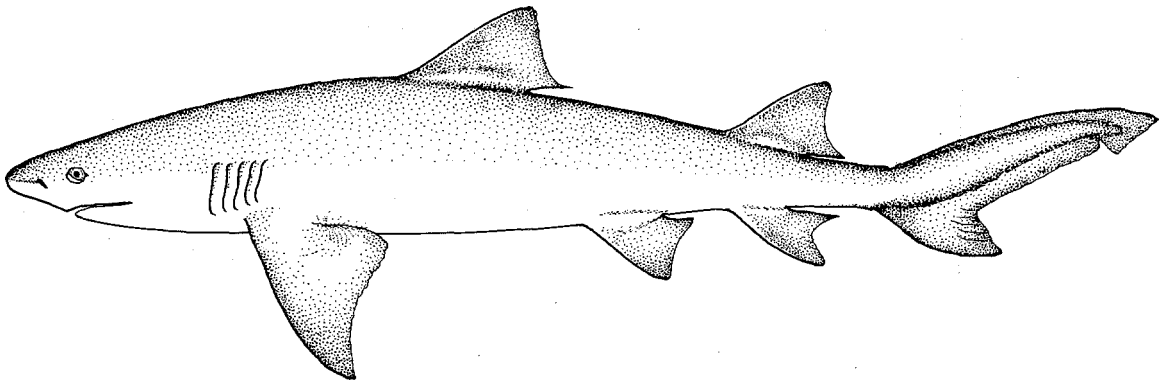
CARCH Neg 1

Hypoprion brevirostris Poey, 1868, Repert.fisico-nat.Isla Cuba, 2:451, pl. 4, fig. 5, 6, 20. Holotype: ? Type Locality : Cuba.

Synonymy : Carcharias fronto Jordan & Gilbert, 1882.

Other Scientific Names Recently in Use : Negaprion fronto (Jordan & Gilbert, 1882).

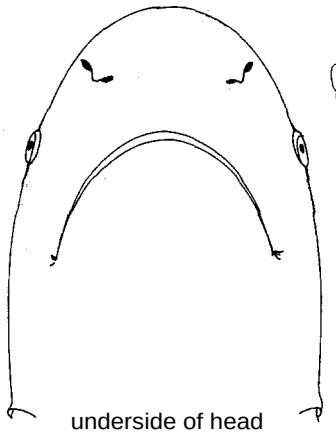
FAO Names: En - Lemon shark; Fr. - Requin citron; Sp - Tiburón galano.



Field Marks : A big, stocky, short-nosed, pale yellow-brown requiem shark with the second dorsal about as large as the first, and narrow, smooth-cusped teeth in both jaws. Closely similar to the allopatric N. acutidens, but usually has less falcate fins.

Diagnostic Features: Dorsal, pectoral and pelvic fins usually weakly falcate. Serrations well-developed on blades of upper teeth in individuals 1.4 m long and larger, and absent in small individuals 0.7 m or less. Total vertebral counts 197 to 206.

Geographical Distribution: Western Atlantic: New Jersey to southern Brazil, including Gulf of Mexico, Bahamas and Caribbean. Eastern North Atlantic: Senegal, Ivory Coast (probably wide-ranging off West Africa). Eastern Pacific: Southern Baja California and Gulf of California to Ecuador.



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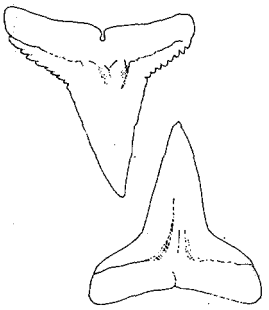
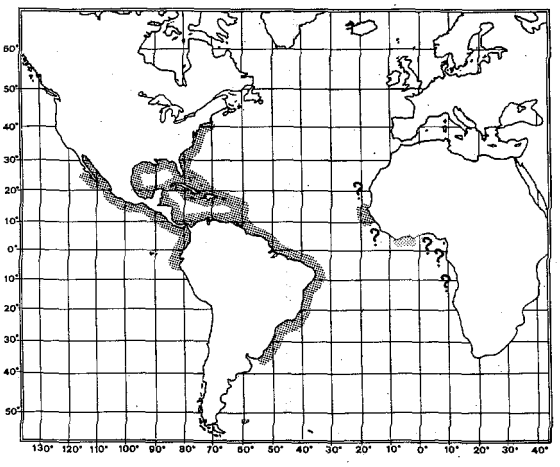


upper and lower tooth

Habitat and Biology : An abundant, coastal, inshore tropical shark of the continental and insular shelves, found from the surface and intertidal down to at least 92 m; it also occasionally ventures into the open ocean, near or at the surface, apparently for purposes of migration. It commonly occurs around coral keys, at mangrove fringes, around docks, on sand or coral mud bottoms, in saline creeks, in enclosed sounds or bays, and in river mouths. It may enter fresh water but does not penetrate far up tropical rivers as does Carcharhinus leucas. In the western North Atlantic lemon sharks are thought to be divided up into a Caribbean principal population and a Gulf of Mexico-Atlantic USA accessory population, though the principal population may use Florida as part of its nursery grounds. Individuals occur singly or form loose aggregations of up to 20 individuals, with some segregation by size and sex. Off Florida adult lemon sharks may migrate southward and into deeper water, at least in transit, at the onset of winter.



This shark is currently the subject of an intensive long-term behavioural and ecological study by Dr S.H. Gruber and associates. So far their work with sonic-tagged lemon sharks indicates that this species is active both day and night (with an average speed of slightly over 1.5 kph), but like some terrestrial predators is most active at awn and dusk (shown by a 'speedup' to nearly 2.5 kph at these times). The lemon shark shows definite site specificity, especially in the young but to a lesser extent in adults, with a tendency in some individuals to return to the same favoured place each day. Lemon sharks tend not to passively drift with a current while moving and have been observed swimming in a set course which sometimes placed them against or across a current during a change in tidal direction. Although this species favours shallow areas, it readily can move into deeper water; one was observed to move from a reef into the Gulf Stream current and travel 100 km before returning to the shallows. With growth the sharks expand their home ranges dramatically, although still favouring shallow areas. Young, sharks range over a limited space of 6 to 8 km on eelgrass fats, lagoons, and other shallow areas but as they grow to subadults gradually expand their range to about 300 km ; adults additionally occupy offshore reefs and deeper water, especially for migrations, although they readily return to the shallows.

Studies of the respiratory physiology of lemon sharks suggest that they are adapted to being active in environments with a low oxygen level, such as the waters around mangrove bays which have high temperatures and high organic content. They have circulatory and respiratory mechanisms, such as blood with an unusually high affinity for oxygen, that enhances oxygen uptake. Lemon sharks are quite capable of resting on the bottom, but use up more energy at rest than when swimming at a normal rate; probably because of increased effort in pumping their gills when resting and from decreased efficiency of oxygen uptake with lower intake velocity of water through their gills. Comparative data on oxygen consumption show that this tropical shark operates at a metabolic level some 22 times greater than the temperate piked dogfish (Squalus acanthias).

Viviparous, with a yolk-sac placenta; number of young 4 to 17 per litter. In the western North Atlantic, mating and birth occurs in spring and summer (May to September), with a peak in spring. The gestation period is between 10 and 12 months. Off the west coast of Florida there is a seasonal increase in abundance of these sharks as males and nongravid females congregate to mate. Pregnant females enter shallow. nursery areas and drop their young, which stay there for considerable lengths of time. At one time this shark was thought to be fast-growing and to reach maturity in only one to two years (Springer, 1950b), but field studies by Or Gruber and associates have revised this to about 6 ½ years. A growth curve published by Gruber (1981) gives an asymptotic maximum age of about 27 years. Growth of tagged free-ranging sharks is approximately 1/4 as great as those kept in captivity and given food to satiation, suggesting that availability of food is a limiting factor in the growth and ultimately reproduction of these sharks; as well as indicating that captive studies of the growth of sharks under ideal conditions may give an incorrect impression of what occurs in free-living sharks. Courtship behaviour and copulation has occurred in captivity, and wild-caught adult female sharks have scars from bites delivered above the pelvic fins by courting adult males. Lemon sharks do very well in captivity, with young individuals being favourite subjects for physiological and behavioural studies.

The lemon shark feeds primarily on fishes but also takes crustaceans and molluscs. Prey taken includes sea catfishes, mullet, jacks, croakers, porcupine fishes, cowfish (Ostraciontidae), guitarfish, stingrays, eagle rays (Pteromylaeus), crabs, crayfish, occasional sea birds, barnacles, amphipods, and conchs. Experimental studies on captive lemon sharks by Or Gruber and associates showed that these sharks feed to satiation and stop, that young sharks 70 cm long eat 3% of their body weight daily with unlimited food available, and that they double their weight in about 100 days. With sharks that had been starved for three days, feeding them a meal equal in weight to what they normally chose in captivity (3% body weight) resulted in almost all food being digested in their stomachs after a day, but that allowing them to feed up to 20% of their body weight resulted in undigested food being retained in some cases for over two days. Meal size apparently is important in determining the rate of digestion and perhaps the feeding frequency, as well as the rate of growth.

The lemon shark has been involved in several attacks on people on boats, often after being disturbed, hooked or harpooned. There have been some unprovoked attacks by these sharks on bathers and swimmers, but more commonly the sharks are accosted by divers or anglers, which may result in the release of a vigorous attack. Although lemon sharks are apparently not aggressive to divers when undisturbed, and do not include mammalian prey as a significant part of their diet, they should be regarded as potentially quite dangerous because of their size, powerful jaws and large teeth, and tendency to defend themselves when disturbed; and should be treated with due respect. Baiting with fish underwater or spearfishing may result in close approaches by these sharks.

Size : Maximum about 340 cm, males maturing at about 224 cm and reaching at least 279 cm, females maturing at about 239 cm and reaching at least 285 cm; size at birth 60 to 65 cm.

Interest to Fisheries : A common inshore shark widely caught where it occurs, on longlines, and probably other gear; meat utilized dried salted, smoked, and probably fresh frozen, hides for leather and other products, fins for shark-fin soup base, oil extracted from the liver for vitamins, and carcasses for fishmeal.

Literature : Springer (1938, 1940b, 1950a, 1960, 1963); Bigelow & Schroeder (1948); Cadenat (1957); Garrick & Schultz (1963); Limbaugh (1963); Randall (1963); Clark & van Schmidt (1965); Compagno & Vergara (1978); Cadenat & Blache (1981); Gruber (1981).

Remarks : Following Compagno (1979), the eastern Pacific N. fronto is synonymized with this species. The identification of the eastern Atlantic Negaprion with this species requires confirmation.

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