

= Silvertip shark =

The silvertip shark (*Carcharhinus albimarginatus*) is a large species of requiem shark , in the family Carcharhinidae , with a fragmented distribution throughout the tropical Indian and Pacific Oceans . This species is often encountered around offshore islands and coral reefs , and has been known to dive to a depth of 800 m (2 @, @ 600 ft) . The silvertip shark resembles a larger , bulkier grey reef shark (*C. amblyrhynchos*) , and can be easily identified by the prominent white margins on its fins . It attains a maximum length of 3 m (10 ft) .

An aggressive , powerful apex predator , the silvertip shark feeds on a wide variety of bony fishes , as well as eagle rays , smaller sharks , and cephalopods . This species dominates other requiem sharks of equal size when competing for food , and larger individuals are often heavily scarred from conflicts with others of its species . As with other members of its family , the silvertip shark is viviparous , with females giving birth to one to 11 pups in the summer . Silvertip sharks are regarded as potentially dangerous to humans , as they often approach divers quite closely . This slow @-@ reproducing species is taken by commercial fisheries for its meat , fins , skin , cartilage , and jaws and teeth , which has apparently led to local population declines or extirpations . As a result , the International Union for Conservation of Nature has assessed it as Near Threatened .

= Taxonomy and phylogeny =

The silvertip shark was originally described as *Carcharias albimarginatus* by German naturalist Eduard Rüppell , in the 1837 *Fische des Rothen Meeres* (*Fishes of the Red Sea*) . The name was later changed to the currently valid *Carcharhinus albimarginatus* . The specific epithet is derived from the Latin *albi* meaning " white " , and *marginatus* meaning " to enclose with a border " , in reference to the distinct white fin margins . In 1960 , a 103 cm (3 @. @ 38 ft) -long immature male caught off Ras Muhammad in the Red Sea was designated as the type specimen . Based on similarities in morphology , tooth shape , and vertebral characters , Garrick (1982) proposed the grey reef shark as the closest relative of the silvertip shark . This interpretation was corroborated by Lavery (1992) , based on allozyme data .

= Distribution and habitat =

The silvertip shark is widely but not continuously distributed in the tropical Indian and Pacific Oceans . In the western Indian Ocean , this species occurs from the Red Sea to South Africa , including Madagascar , the Seychelles , the Aldabra Group , Mauritius , and the Chagos Archipelago . In the western Pacific , it is known from off southern Japan to northern Australia , including Taiwan , the Philippines , Indonesia , Papua New Guinea , New Caledonia , Guam , Palau , the Solomon Islands , the Marshall Islands , the Phoenix Islands , and Tahiti . In the eastern Pacific , it occurs from southern Baja California to Colombia , including the Cocos , Galapagos , and Revillagigedo Islands . Its presence in the Gulf of Mexico and the Caribbean Sea is unconfirmed .

Silvertip sharks are found over continental and insular shelves at a depth of 30 ? 800 m (98 ? 2 @, @ 625 ft) , occupying all levels of the water column . They are most common around isolated islands , coral banks , and reef drop @-@ offs . Juveniles frequent coastal shallows or lagoons , while adults occur in deeper water , with little overlap between the two age groups .

= Description =

The silvertip shark is a robust and streamlined species with a moderately long , broad snout and large , round eyes . The five pairs of gill slits are short . There are 12 ? 14 tooth rows on each side of both jaws , with one or two small teeth at the symphysis (middle of the jaws) . The upper teeth are broad with oblique triangular cusps and coarse serrations near the base ; the lower teeth have erect cusps with fine serrations . The first dorsal fin is large and triangular , originating above or slightly forward of the free pectoral fin tips . There is a ridge between the first and second dorsal fins

. The pectoral fins are proportionately longer than in most requiem sharks and falcate (sickle @-@ like) in shape , with pointed tips .

The coloration is blue @-@ gray above with a bronze sheen , and white below . There is a subtle white band along the sides and distinctive white tips and borders on all fins . Silvertip sharks can grow up to 3 m (9 @. @ 8 ft) long , but typically measure 2 @. @ 0 ? 2 @. @ 5 m (6 @. @ 6 ? 8 @. @ 2 ft) in length . The maximum reported weight is 162 @. @ 2 kg (358 lb) . Females are larger than males .

= = Biology and ecology = =

Though silvertip sharks are quite mobile , they exhibit fidelity to certain areas and there are reports of territorial behavior . They are usually encountered alone or in pairs . Small groups of adult females have been seen in deep water . Individual silvertip sharks behave very aggressively towards one another , and many are heavily scarred . They are also reported to dominate Galapagos sharks (*C. galapagensis*) and blacktip sharks (*C. limbatus*) of equal size when competing for food . This shark sometimes forms mixed @-@ species aggregations with grey reef sharks . Rainbow runners (*Elagatis bipinnulata*) have been observed rubbing against silvertip sharks , using the sharks ' rough skin to scrape off parasites . They sometimes follow marine mammals such as bottlenose dolphins (*Tursiops* sp .) in open water , and are themselves followed by pilot fish (*Naukrates ductor*) .

Like the grey reef shark , silvertip sharks sometimes perform a stereotypical threat display if pursued by divers , warning that it is prepared to attack . The display begins with the shark accelerating away to a distance of 15 m (49 ft) , before turning and charging towards the perceived threat . At a distance of two body lengths , the shark brakes , turns broadside , drops its pectoral fins , gapes its jaws , lowers the posterior two @-@ thirds of its body , and " shivers " . The last two elements of this display are unique to this species ; the " shivering " may serve to emphasize its white fin markings . If the diver persists , the shark may rapidly close in and slash with its upper teeth .

= = = Feeding = = =

The diet of the silvertip shark consists primarily of bony fishes , such as grouper , mackerel , tuna , escolar , lanternfish , flyingfish , wrasses , and soles . Eagle rays , smaller sharks , and octopus are occasionally taken . Larger sharks tend to be more sluggish and take more benthic prey . The differently shaped dentition in their upper and lower jaws allows them to tackle large prey , gripping and sawing off chunks of flesh with violent twists and turns . Silvertip sharks have been observed swimming around the periphery of groups of feeding sharks of other species , occasionally dashing in to steal food . This species often approaches ships , as they are attracted to certain artificial , low @-@ frequency sounds .

= = = Life history = = =

Like other requiem sharks , the silvertip shark is viviparous ; once the embryos exhaust their supply of yolk , the depleted yolk sac develops into a placental connection through which the mother delivers nourishment . In the Southern Hemisphere , mating and parturition both occur in summer . Courtship involves the male biting the female to hold her for copulation ; one female observed had the tip of her first dorsal fin bitten off from such activity . Females bear litters of one to 11 (usually five or six) young after a gestation period of about one year , on a biennial cycle . The newborns have been reported to measure 63 ? 68 cm (25 ? 27 in) and 73 ? 81 cm (29 ? 32 in) long by different authors , and are found in shallower water than adults . The growth rate is highly variable in the wild : Kato and Hernandez (1967) reported juvenile silvertip sharks grow an average of 3 @. @ 8 cm (1 @. @ 5 in) , or 5 @. @ 3 % of their body length , per year , with some individuals growing as much as 20 @. @ 8 cm (8 @. @ 2 in) , 30 @. @ 1 % of their body length) per year and others

showing negative " growth " . Males have been reported to be sexually mature at 1 @. @ 6 ? 1 @. @ 8 m (5 @. @ 2 ? 5 @. @ 9 ft) or 1 @. @ 9 ? 2 @. @ 0 m (6 @. @ 2 ? 6 @. @ 6 ft) long , and females at 1 @. @ 6 ? 2 @. @ 0 m (5 @. @ 2 ? 6 @. @ 6 ft) long .

= = Human interactions = =

Inquisitive and bold , especially in the presence of food , the silvertip shark is regarded as potentially dangerous to humans . Often , several Silvertip sharks will rush up from deep water to inspect divers when they first enter the water , which can be a very intimidating experience , as the sharks may approach quite close . This species has also been known to circle or pursue divers . In one experiment involving bait , a large silvertip shark tore the leg off a dummy dressed in SCUBA gear , demonstrating that this species is capable of inflicting lethal injuries . As of 2008 , the International Shark Attack File listed four provoked attacks attributable to this species , none of them fatal .

The silvertip shark is caught by commercial and artisan fisheries across its range using longlines , gillnets , and trawls , both intentionally and as bycatch . The fins are highly valued for shark fin soup and are sold on the export market , along with the skin and cartilage . The meat is marketed locally , fresh or dried and salted , as are the jaws and teeth . Silvertip sharks are known to be taken by fisheries in Indonesia , Myanmar , and the Philippines , as well as by various Indian Ocean nations with coral reef fisheries ; it is also an increasingly important catch of pelagic fisheries , where it is often finned at sea . This species is susceptible to overfishing , due to its slow reproductive rate and tendency to stay in a certain area . It is believed to have been extirpated by Indonesian artisan fishers at Scott Reef off northern Australia , and is likely becoming rare in many other parts of its range . As a result , the International Union for Conservation of Nature has assessed the silvertip shark as Near Threatened , and noted it may be approaching the criteria for Vulnerable .