

GEORGIA AQUARIUM ANIMAL FACT SHEET

Largetooth sawfish

Pristis microdon

Range/Habitat

- The largetooth sawfish is found in the tropical Indo-West Pacific. This region includes areas of East Africa to New Guinea, north to the Philippines and Vietnam and south to Australia. It is also found in the Atlantic and eastern Pacific oceans.
- It is usually found in brackish or marine waters in depths between 0-32 feet (0-10 meters).
- It inhabits sandy or muddy bottoms of shallow coastal waters, estuaries, river mouths and freshwater rivers and lakes.
- Some individuals may spend their entire life in freshwater.

Physical Characteristics

- The coloration of the largetooth sawfish is greenish, grey or golden-brown on the upper body and cream on the below.
- It is heavy bodied with a short massive saw, which bears 14-22 very large teeth on either side. The tooth-bearing rostrum resembles a double toothcomb in which the teeth are almost uniform in length.
- Its pectoral (side) fins are high and angular and it has two dorsal (top) fins that about equal in size and shape, with the first dorsal fin mostly in front of the pelvic (bottom) fins.
- The eyes are located at the top of the head and the gills are located near its belly.
- The maximum size was reported to be 21.5 feet (656 centimeters) and 1,446 pounds (600 kilograms).

Diet/Feeding

- It eats crustaceans, mollusks and other animals found at the bottom of the ocean as well as small schooling fishes such as mullet or herring.
- The saw or rostrum is used for digging in the sand or mud for food and attacking prey as well as for defense.

Conservation Status

- It is listed as endangered by the IUCN Red List.
- The saws are sold as tourist souvenirs.
- It is vulnerable to all sorts of fishing gear and habitat destruction.

Additional Information

- Unlike sharks, the teeth of sawfish are deeply embedded in their cartilaginous sockets.
- It propels itself with the sharklike movement of its tail. Its body has the basic structure of a ray, including gill slits on the underside of the body.

- It spends most of its time feeding on the bottom, using its saw to poke and dig in the mud and sand, looking for food. It will often wear down the tips of its saw teeth from these activities. If a tooth is lost, it will replace it.
- The female gives birth to many young at one time. In one 15-½ foot female, 23 young were found.
- Why are pregnant sawfish females not injured during the birth of their young? The female sawfish gives birth to live young. When the offspring are born, their teeth are covered with a membranous sheath that protects the mother from the sharp teeth. Additionally, the saw is soft and flexible and can bend far backward. The saw cartilage hardens soon after birth.
- In the article, "The Cultural and Economic Importance of Sawfishes (Family Pristidae) by Matthew McDavitt," it states that:
 - Throughout their range, sawfishes have been important to mankind both as potent symbols and valued commercial resources. These unique elasmobranchs have attracted significant attention due primarily to their large size (up to seven meters in length), distinctive appearance and their exceedingly shallow marine and freshwater habitats, placing them in close proximity to human settlements.
 - The imposing sawfishes have inspired an extensive mythology among tribal societies, particularly in Central America, West Africa, Papua, New Guinea and Australia. Many of the sawfishes depicted by native cultures represent sacred totemic ancestors, the supernatural beings credited with shaping the landscape and establishing social order. By re-enacting the primal creative acts of these sawfish progenitors, societies draw upon their omnipresent energy to bring renewal and prosperity to their community.
 - The saws of small *Pristis microdon* from the Kinabatangan River, Sabah, were traditionally nailed over doors to keep ghosts out of houses, or wrapped in cloth and hung over cradles to stop babies crying.
 - Admired for their predatory prowess, sawfishes are considered by some tribes to be sentient spirits who control fish fecundity. Sawfish spirits of the Sepik River in Papua New Guinea, for instance, punish those who break fishing taboos by unleashing destructive rainstorms.
 - Perceived as 'sharks with swords', sawfishes are often associated with warfare. The rostra of these animals have been fashioned into weapons in the Philippines, Papua New Guinea and even New Zealand, where interestingly, sawfishes are not found. To the Akan people of West Africa, the sawfish symbolized the indisputable authority of the king and the prosperity of the kingdom. Today, this ancient symbol appears on the common currency of the seven West African Monetary Union nations. The sawfish has also been an emblem of Western warfare. During WWII, 26 German U-boats, one American submarine and Germany's naval commandos were all adorned with sawfish insignia.
 - Sawfishes have appeared prominently in the iconography of several major world religions. In Thai Buddhist temples, sawfishes adorn cosmological and narrative paintings. Similarly, sawfishes appear in figurative Islamic art from Indonesia. In Medieval Europe, the sawfish was one of the few marine animals consistently found in the Christian Bestiary.

- The Aztecs believed that the world itself had been formed from a titanic sawfish called Cipactli who, paralyzed by the Gods, required regular feedings of human blood to grant her strength to nourish crops from her body. In certain heart extraction sacrifices, the victim's neck was crushed with the snout of a sawfish, symbolic of Cipactli biting into her food.
- In addition to their symbolic and mythological inspiration, humans have found many practical uses for these remarkable creatures. The skins of sawfishes have been harvested for leather on a small scale throughout their range. A recent book detailing the American cowboy boot industry lists sawfish leather as one of the exotic skins available to the adventurous consumer (Beard 1992). Liver oil, too, is occasionally exploited, as evidenced by tribal depictions of sawfishes where the two primary liver lobes are often delineated. The sawfishes' individual rostral teeth, pulled from the saw, have been fashioned into woodworking tools in prehistoric Florida and carved into clothing pins in India. Significant harvest of sawfishes for meat has occurred in Lake Nicaragua, where unregulated exploitation virtually eliminated sawfishes from the region (Thorson 1982), and in Asia, where sawfishes are still consumed.
- Worldwide, the sawfishes' tooth-studded saw is valued as a trophy or curio. Until recently, imported rostra of the Indo-Pacific sawfish *Anoxypristis cuspidata* were readily available in America from biological supply companies and seashell shops. The steady disappearance of these rostra from American markets may reflect the world-wide decline in sawfish populations due to over-exploitation and habitat destruction.
- A significant threat to sawfish populations appears to be the Asian market for sawfish parts as healing foods and medicines. In the 400 year-old *Pen Ts'ao Kang Mu*, the celebrated encyclopedia of Chinese herbal medicine still referenced today, sawfish skin and meat are extolled to cure heart problems, infections, internal parasitic infestation, weakness and thin blood (Li Shih-ch'en 1596, Read 1939). Dried fins, prepared into soup admired for its strengthening properties, are readily collected for the lucrative Chinese shark fin market. The presence of sawfish rostra in modern Chinese apothecary shops indicates medicinal use as well.
- Living sawfishes also have commercial value. At least five major travel guides on Australia describe the 'exotic' freshwater sawfishes of the Fitzroy River to entice tourists to visit Geikie Gorge National Park. As exhibits, live sawfishes are highly prized by large public aquariums world-wide due to their impressive size, extraordinary appearance and general hardiness in captivity.
- In the past several decades, marked declines in sawfish populations have been noted worldwide (Cook and Oetinger 1996). While human exploitation of sawfishes has been a major factor contributing to these declines, the cultural and economic value of these elasmobranchs may also provide an incentive for conserving these unique batoids.

Sources

Sharks & Rays, Elasmobranch Guide of the World. Hennemann, Ralf M., pg. 200
The Shark Almanac. Allen, Thomas B., pgs 156 – 157
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