

1 Riverside Drive, Camden, NJ 08103

RAY FACT SHEET

This educational resource was created by the New Jersey Academy for Aquatic Sciences, Adventure Aquarium's education partner. The fact sheet may be used by teachers and students to glean more information about rays in preparation for a field or to learn more about the rays you encountered at Adventure Aquarium.

What are Rays and Skates?

Rays, skates, sawfish, and guitarfish all share the shark's cartilaginous skeleton as well as many other features. In general, they resemble a flattened shark whose body has been modified for a life on the ocean floor. While they are all considered predators, their body design and lifestyle lends itself to eating slower moving, less active prey, such as crabs, clams, worms and bottom fish.

Why are rays and skates so flat?

Rays and skates have several modifications for their bottom dwelling lifestyle. While sharks utilize their tails for propulsion, skates and rays have greatly enlarged pectoral fins that are used like wings to swim through the water. Stingrays are totally bottom oriented with a broad flat Their mouth and gill slits are located bodv. underneath their head while their eyes and spiracles remain on top. They have rather thin, elongated tails that are used for balance, rather than propulsion. Still other types of rays, like manta and cownose rays have more pointed wing-like pectoral fins which allow them to swim through the water and leave the ocean floor. Regardless of their shape, skates and rays have large spiracles that they use to pump water towards their gills in order to breathe. This allows them to stay motionless on the bottom with their mouth facing below. Only the larger flying rays, such as the manta ray, commonly direct water to their gills through their mouths.

Are stingrays dangerous?

Stingrays, like all almost all other rays, have a spine located at the base of the tail that they use as a defensive tool. The spine of many rays is surrounded with a protective sheath and venom-secreting tissues.

The serrated spine and venom cause increased pain and infection. Guitarfish and sawfish do not have a defensive spine. Rays give birth to live young and have one or no dorsal fin. Rays do not have scales and, as a result, feel slimy; they also generally have a more rounded shape and are more common in warmer waters

What are sawfish and quitarfish?

Although sawfish and guitarfish look more like sharks; they are more closely related to rays and skates. Sawfish and guitarfish both have a partially flattened body and utilize their tail for propulsion. A sawfish has a very elongated snout with large modified scales on either side that resemble teeth. They use their snout to dig in the mud for food as well as to hunt slow schools of fish by slicing through the school. Sawfish can grow to be very large; however their numbers in the wild are dangerously low. Guitarfish are usually smaller and resemble a shark's body with a skate's head. They are bottom oriented fish that feed on worms, crabs, other invertebrates.

What Rays will I see during my visit to Adventure Aquarium?

You will see the following rays: Bowmouth guitarfish or Shark ray, Roughtail Stingray, Cownose Ray, Leopard Whiptail Stingray, Southern Stingray, and Ocellate River Stingray. We make every effort to keep the species list

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updated, but please check the website for current species on exhibit.

For detailed information on each of these species, visit www.AdventureAquarium.com.

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