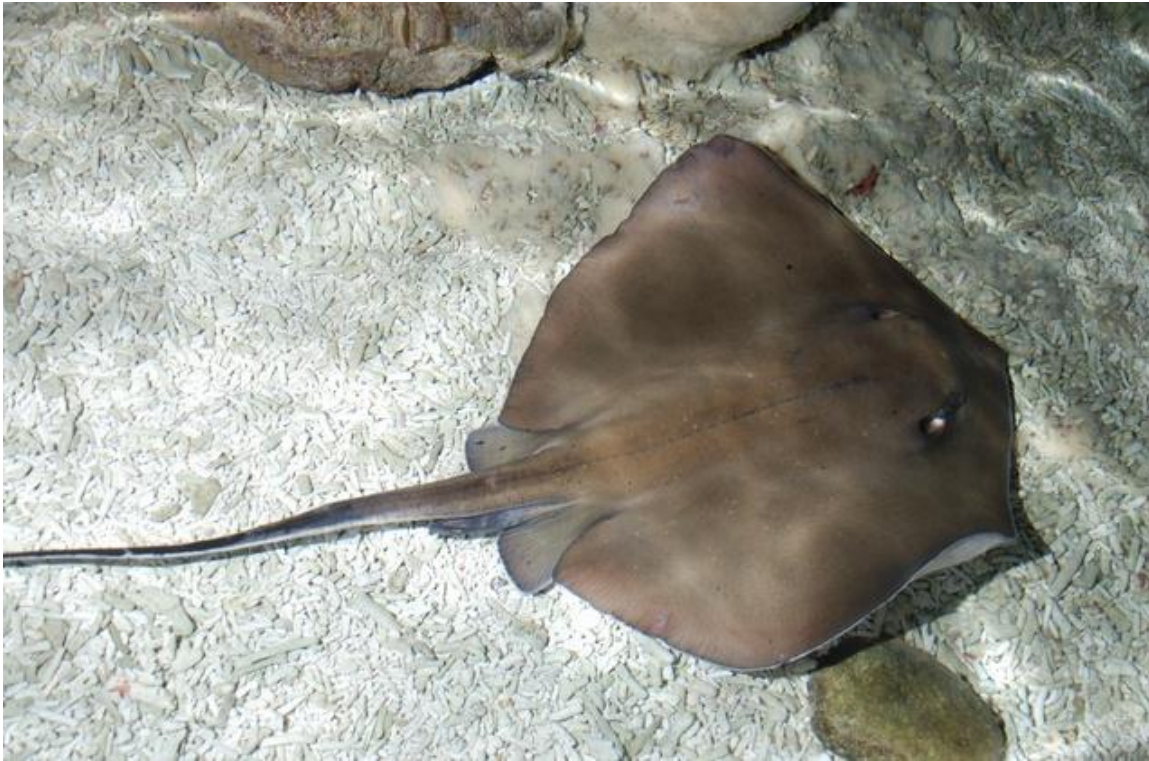


## *Dasyatis americana* (Southern Stingray)

Family: Dasyatidae (Stingrays)

Order: Rajiformes (Rays and Sawfish)

Class: Chondrichthyes (Cartilaginous Fish)



**Fig. 1.** Southern stingray, *Dasyatis Americana*.

[<http://giasipartnership.myspecies.info/eol/36370/nojs>, downloaded 27 January 2015]

**TRAITS.** This species of stingray, along with all other species, has a broad, flattened disc-shaped body that has corners which project outwards (Fig. 1). The skeleton of the fish is made up of cartilage tissue. There is no distinguishing pectoral or dorsal fin, since these are fused together with the body which expands outward. The tail bears a sharp, venomous, and rigid weapon known as a spine (Fig. 2). This species colour may vary from grey to green to dark brown as it matures. When looking at the underside of the ray, it is of a pale white colour. The eyes are positioned on the head at the upper surface, whereas the gills are located on the underside of the animal (Fig. 3). The females are generally larger (75-80cm) than the males (48-53cm) according to the width of the disc.

**DISTRIBUTION.** This species is native to most of the Caribbean and can also be found in some sub-tropical regions as well. It is a very coastal species, where in the summer time it travels to the USA. Some of the Caribbean regions it is native to are Trinidad and Tobago, Barbados, Belize, Jamaica, The Greater and Lesser Antilles and the Gulf of Mexico (Pavic, 2012). Some of the sub tropical areas include New Jersey, USA, and Southern Brazil (Fig. 4).

**HABITAT AND ACTIVITY.** This species inhabits shallow waters that consist of sandy bottoms and sea grass beds (Fig. 5) where there is an abundant source of algae and also small invertebrates and fish which can be found buried in the sand (Pavic, 2012). It can also be sighted near reefs and brackish estuaries.

**FOOD AND FEEDING.** The southern stingray spends most of its time exposing prey buried in the substrate, by unsettling the sandy bottoms and creating sinks on the sea bed, by flapping their pectoral fins and shooting out water from their mouths. They mostly feed on bivalves, worms, shrimps and even small fish that they can scavenge.

**POPULATION ECOLOGY.** Southern stingrays can be found in coastal, sub-tropical marine and brackish (estuaries) waters, which can also include reefs, where they can be found as deep as 53m. Since they are a benthic species they will be close to the sea bed, where there are sea grass beds and sand. The species are normally found swimming in pairs, or singly, rarely in groups (Fig. 6). This species is considered to be ovoviviparous (incubating eggs internally to give birth to live young), where the female can have 2-10 pups (born 17-34cm in width) in a litter for which the developmental period is 4.5-7.5 months (Fig. 7). They can reproduce annually in the wild, but if in captivity, the ray can reproduce twice a year and can even grow larger when mature.

There are abundant populations in the Caribbean Sea, the Gulf of Mexico, the Grand Cayman Islands, Belize, the Bahamas and the southern coast of Florida. The population densities can be measured and estimated up to 245 individuals per km<sup>2</sup> in mostly shallow areas such as the sea grass beds and sandy bottoms. This density was considered to be associated with nursery grounds for the species (Grubbs et al., 2006). When looked at closer it was also found that the groups that were found in such close proximity were in the mating process. During the summer periods the species migrates in large groups to higher latitudes such as the United States of America (where the population seems to be in healthy conditions). There was also study done near the Bahamas, where a large population of southern stingrays occupied the area at that time. The number approximated to be 40 individuals. The presence of these rays was related to the symbiotic relationship it has with the cleaner wrasse.

In Belize, distance sampling was used to estimate the number of southern stingrays in the lagoons and reefs. It was found that there were higher stingray densities in the lagoons than in the reefs. In the lagoons the density was 226-265 individuals per km<sup>2</sup>. When comparing the population density with the months of the year, it was found that there was a lower stingray density in November (16-37 per km<sup>2</sup>). The population density improved in the month of April (100-141 per km<sup>2</sup>). At the end of the study the total population size for all the lagoon habitats was estimated to be 8400 southern stingrays (Tilley and Strindberg, 2012).

**APPLIED ECOLOGY.** Generally there are no population trends that are apparent from 1996 to 2003 and the species is considered to be Data Deficient globally (Grubbs et al., 2006). Some of the major threats are being accidentally caught in trammel nets and other traps set on the sea bed (preferably for lobsters), also the species is harvested for consumption in some parts of South America. There are many other threats that are affecting this species population that are still unknown, some of them are related to tours

taken by tourist which changes the behaviour of these gentle creatures. There are no conservation actions in place to help safe guard this species but there are some potential ideas that are being looked over. Some of these ideas are monitoring the population, where over fishing in South America is concerned, and the protection of breeding and nursery areas.

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**Fig. 2.** Venomous tail spine of the southern stingray.

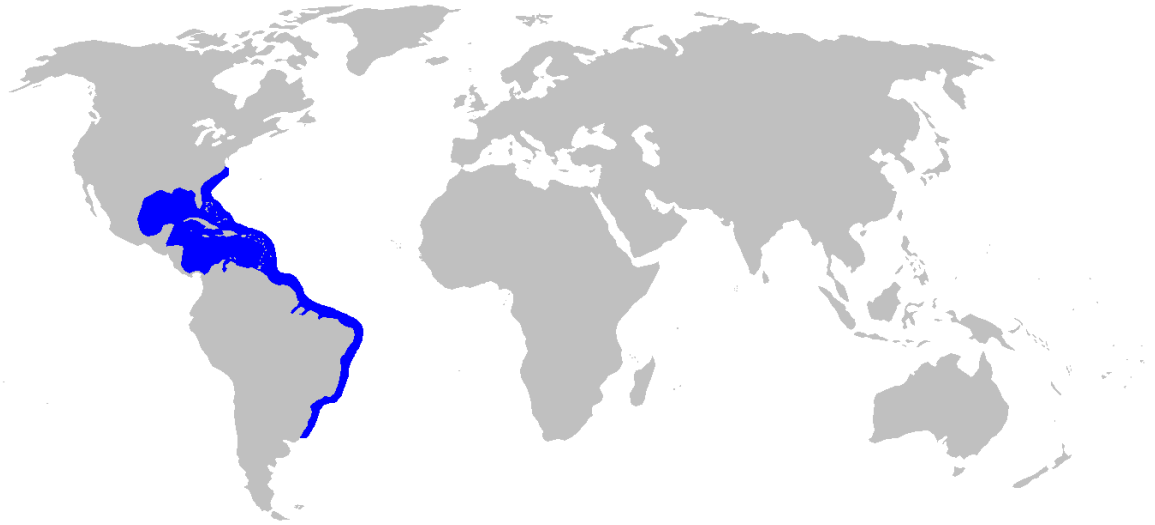
[<http://www.arkive.org/southern-stingray/dasyatis-americana/image-G26546.html>, downloaded 27 January 2015]



**Fig. 3.** Underside of southern stingray.

[<http://cdn2.arkive.org/media/D7/D75CCB3D-F9FA-4486-A3D8-D0B8FAACF51A/Presentation.Large/Southern-stingray-mouth-detail.jpg>, downloaded 27 January 2015]





**Fig. 4.** Geographic range of the southern stingray, *Dasyatis americana*.

[[http://upload.wikimedia.org/wikipedia/commons/4/4c/Dasyatis\\_americana\\_rangemap.png](http://upload.wikimedia.org/wikipedia/commons/4/4c/Dasyatis_americana_rangemap.png), downloaded 27 January 2015]



**Fig. 5.** Southern stingray over seagrass.

[<http://everydayyecandy.com/wp-content/uploads/2009/03/copy-of-copy-of-atlantic-southern-stingray-03.jpg>, downloaded 27 January 2015]



**Fig. 6.** Group of southern stingrays.

[<http://www.divernet.com/siteimage/scale/800/600/357658.png>, downloaded 27 January 2015]



**Fig. 7.** Young southern stingray (*Dasyatis americana*).

[[http://calphotos.berkeley.edu/imgs/512x768/0000\\_0000/0107/0045.jpeg](http://calphotos.berkeley.edu/imgs/512x768/0000_0000/0107/0045.jpeg), downloaded 27 January 2015]