



SPECIES FACT SHEET

Rays

Classification:

Kingdom:	Animalia
Phylum:	Chordata
Class:	Chondrichthyes
Subclass:	Elasmobranchii
Superorder:	Batoidea

Undescribed maskray (*Neotrygon* sp.)



Pink whipray (*Himantura fai*)



Smoothnose wedgefish (*Rhynchobatus laevis*)

Rays are the most diverse group of cartilaginous fishes, with approximately 600 species described worldwide. General characteristics of this group include ventrally located gill slits and mouth, and a dorsoventrally compressed body plan. Their teeth are often small and flattened and in some species form large plates. Many species have at least one venomous spine near the base of their tail. Most rays exhibit aplacental vivipary (live-birth), with only the skates laying eggs (oviparity). To help ventilate the gills, rays have an opening behind each eye called a spiracle. At least 18 species of rays have been recorded in Shark Bay. Some of the most commonly observed rays in Shark Bay belong to the families Rhinobatidae, Dasyatidae, Myliobatidae, Rhynchobatidae and Mobulidae.

The rhinobatids and rhynchobatids, sometimes referred to as shovelnose rays and wedgefishes, respectively, have an elongate shark-like body with a flattened pointy snout and two prominent dorsal fins. They lack a venomous spine and have functional caudal fins resulting in a swimming mode similar to that of sharks. Rhynchobatids can be distinguished from the rhinobatids due to their more distinct heads and presence of a distinct lower lobe on the caudal fin. Rhinobatids have a head more continuous with their bodies and tend to be more dorsoventrally flattened. Both are benthic and can be found on sand flats and often come very close to shore to feed during high tides.

The dasyatids have the largest species diversity in Shark Bay. These rays are the true stingrays. They are benthic and have a recognizable dorsoventrally flattened disc with either rounded or pointed wings used to swim and bury themselves in the substrate. They typically have long tails with one or

more venomous spines close to the base of the tail. In Shark Bay, individuals and aggregations can be found swimming over seagrass beds or more typically buried on the sandflats. The smaller maskrays can be found swimming or buried in the sand adjacent to seagrass beds in nearshore waters as well as deeper offshore areas. They can also be found using holes in rocky areas, possibly as refuge or in search of an easy meal.

The myliobatids and mobulids are graceful pelagic species with powerful pointed wings capable of launching them clear out of the water. The eagle rays (myliobatids) usually have a very long tail with one or more venomous spines. They have a distinct head, large spiracles, and plate-like teeth for crushing. They are usually found swimming near the surface in shallow or deep water of sand flats, seagrass beds, reefs and channels. The devil rays (mobulids) are the largest of all the rays and are one of the largest fish species in the sea. They can easily be distinguished from the eagle rays by their much shorter tail with or without a venomous spine and anteriorly projecting cephalic lobes. These skin flaps are extensions of the pectoral fins used to channel water towards the mouth and aid in feeding. They are planktonic feeders and are sometimes observed doing graceful 'back flips' through dense patches of plankton.

Common name	Scientific name	Max. Size*	Diet**	Status
Family: Rhynchobatidae (Wedgefishes)				
Smoothnose wedgefish	<i>Rhynchobatus laevis</i>	270 cm	F,C,M	Vulnerable
Family: Rhinobatidae (Shovelnose rays)				
Western shovelnose ray	<i>Aptychotrema vincentiana</i>	84 cm	F,Cb,S	Least Concern
Giant shovelnose ray	<i>Glaucostegus typus</i>	270 cm	F,Cb,S	Not Evaluated
Family: Dasyatidae (Stingrays)				
Smooth stingray	<i>Dasyatis brevicaudata</i>	210 cm	F,M	Least Concern
Blackspotted whipray	<i>Himantura astra</i>	80 cm	F,C,W	Not Evaluated
Pink whipray	<i>Himantura fai</i>	184 cm	S	Not Evaluated
Brown whipray	<i>Himantura toshi</i>	74 cm	S	Not Evaluated
Reticulate whipray	<i>Himantura uarnak</i>	160 cm	S	Not Evaluated
Bluespotted maskray	<i>Neotrygon kuhlii</i>	47 cm	W,F,M,C	Not Evaluated
Painted maskray	<i>Neotrygon leylandi</i>	27 cm	S,W	Not Evaluated
Undescribed maskray	<i>Neotrygon sp.</i>	?? cm	?	Not Evaluated
Cowtail stingray	<i>Pastinachus atrus</i>	200 cm	S	Not Evaluated
Family: Myliobatidae (Eagle rays)				
Whitespotted eagle ray	<i>Aetobatus narinari</i>	300 cm	M	Near Threatened
Ornate eagle ray	<i>Aetomylaeus vespertilio</i>	300 cm	M?	Endangered
Family: Mobulidae (Devil rays)				
Manta ray	<i>Manta birostris</i>	670-910 cm	P	Near Threatened

**F=bony fishes, C=crustaceans, Cb=crabs, M=shellfish, S=shrimp, P=zooplankton, W=worms

* Maximum size is disc width, except for the families Rhynchobatidae and Rhinobatidae, which are total length

Other families less commonly seen in Shark Bay are the Rhinidae, Pristidae, and Gymnuridae. The shark rays (Rhinidae) and sawfish (Pristidae), like the guitarfish, lack venomous spines, have elongate bodies with two prominent dorsal fins, and a shark-like caudal fin and mode of swimming. Shark rays, as their name implies, look a lot like sharks. Their heads are broad and tall and their bodies are more fusiform in shape than any other ray. They also have two pectoral fins that do not form a disk. Sawfish are unmistakable by their long rostrums that are bordered by sharp tooth-like projections. Sawfish forage along the ocean floor and can use this powerful weapon to stun or kill prey by sweeping it in a side-to-side motion. Sawfish also find themselves victim to entanglements in nets due to the extreme nature of their rostrum. The gymnurids, or butterfly rays, are very wide and flat rays with a short tail.

Common name	Scientific name	Max. Size*	Diet**	Status
Family: Rhinidae (Shark rays)				
Shark ray	<i>Rhina ancylostoma</i>	270 cm*	Cb,M	Vulnerable
Family: Pristidae (Sawfishes)				
Green sawfish	<i>Pristis zijsron</i>	540 cm*	F,C	Critically Endangered
Family: Gymnuridae (Butterfly rays)				
Australian butterfly ray	<i>Gymnura australis</i>	94 cm	F,C,Ce	Not Evaluated

**F=bony fishes, C=crustaceans, Ce=cephalopods, Cb=crabs, M=shellfish

* Maximum size is total length for Rhinidae and Pristidae and disc width for Gymnuridae.

SBERP Research: SBERP's studies of rays focus on documenting spatial and temporal variation in the ray species using the nearshore sandflats, understanding how they partition food resources, and determining the role of the distribution of their prey, temperature gradients and the risk of predation (from tiger and hammerhead sharks) in shaping their habitat use patterns. These studies are still ongoing, so be sure to check out our website (www.SBERP.org) for the latest results.

