



SHARKS

Shark relatives

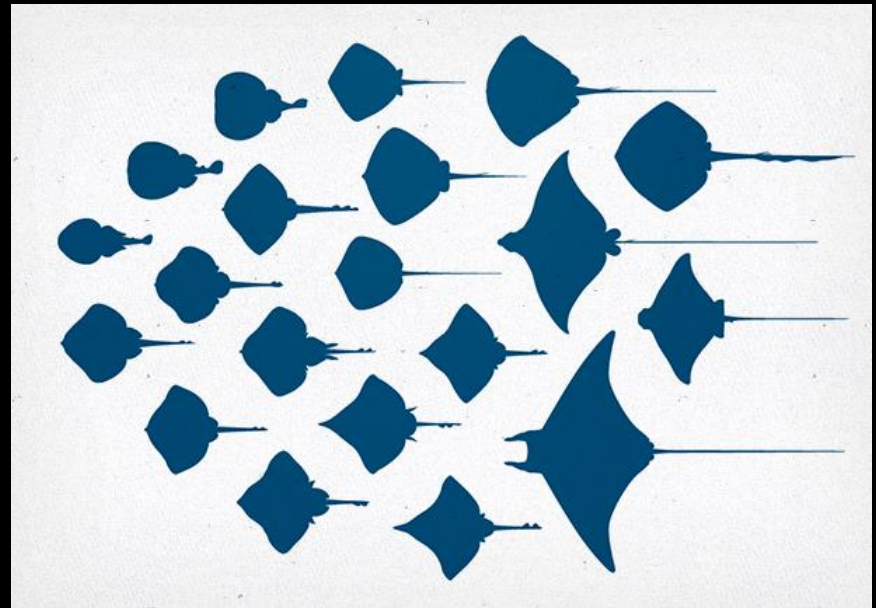
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Shark relatives



- Sharks are closely related to two other groups of fish- the batoids and the chimaeras.
- The batoids include rays, skates, sawfish and guitarfish. There are more than 550 species of batoids-more than the number of shark species.

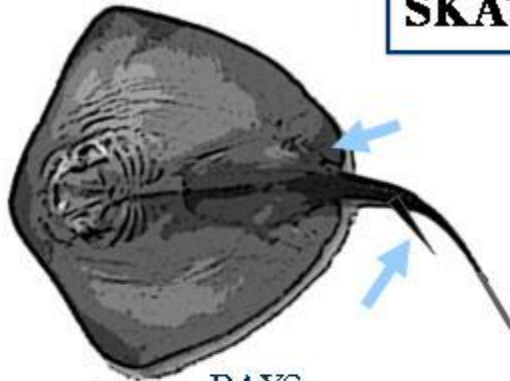


Skate and Ray



Skate and Ray

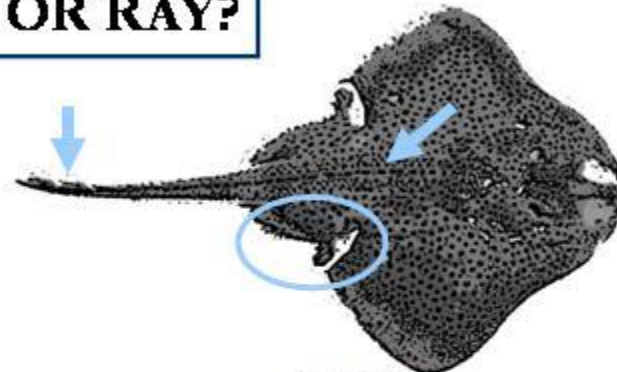
SKATE OR RAY?



RAYS
(Order Myliobatiformes)

- No thorns (or bucklers) along the midline of the back.
- Each pelvic fin has only one lobe.
- Tail is very slender and whip-like with a stinging spine midway along its length and usually without a dorsal fin. When a dorsal fin occurs, it is near the base of the tail. The caudal fin is either reduced and contiguous or absent.
- Mature males do not have malar or alar spines.
- Give live birth (viviparous reproduction)

vs.



SKATES
(Order Rajiformes)

- Most have enlarged thorns along the midline of the back extending onto the tail.
- Pelvic fins have two lobes (bilobate).
- Tail relatively stocky without a stinging barb, and usually with two small dorsal fins near its tip. The caudal fin is tiny, when present.
- Mature males have enlarged spines near the eyes (*malar spines*) and pectoral wingtips (*alar spines*).
- Lay eggs (oviparous reproduction)

Skate and Ray



Manta rays



Stingrays



- Stingrays have a poisonous spine in the middle of their tails.