






Learn Fish by their Fins!



There are many, many, MANY different types of fish in the ocean, over 35,000 species as of May 2020! These fish live in numerous different habitats and swim differently, but did you know that you can often tell how a fish lives and swims just by looking at their shape?

The different shapes of a fish's tail fin or **caudal fin** tells you how fast it can swim, how far it can swim, and how well it can make sharp turns. Below is a chart showing the shapes, but don't worry about remembering the names, what they do is most important!

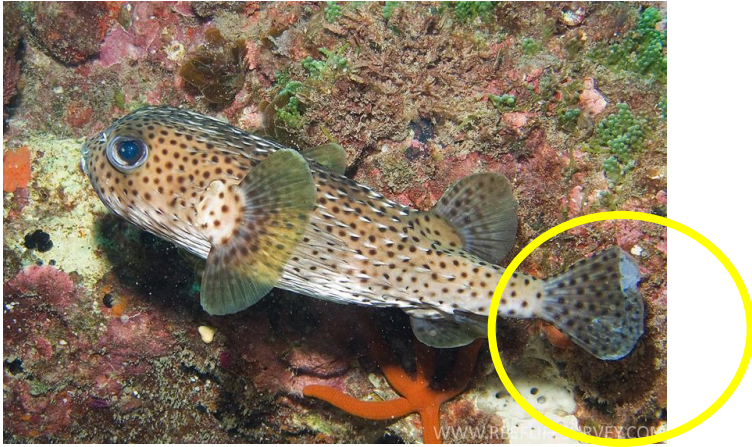
CAUDAL FIN SHAPE

Shape	Function
Rounded 	Large amount of surface area allows for effective acceleration and maneuvering, but creates drag causing fish to tire easily.
Truncate 	Effective acceleration and maneuvering. Not as much drag as a rounded shape.
Emarginate 	Effective acceleration and maneuvering. Not as much drag as a rounded shape or truncate shape.
Forked 	Good acceleration and maneuvering. Less surface area means less drag.
Lunate 	Rigid fin with less surface area means less drag and great acceleration, but decreased maneuvering.

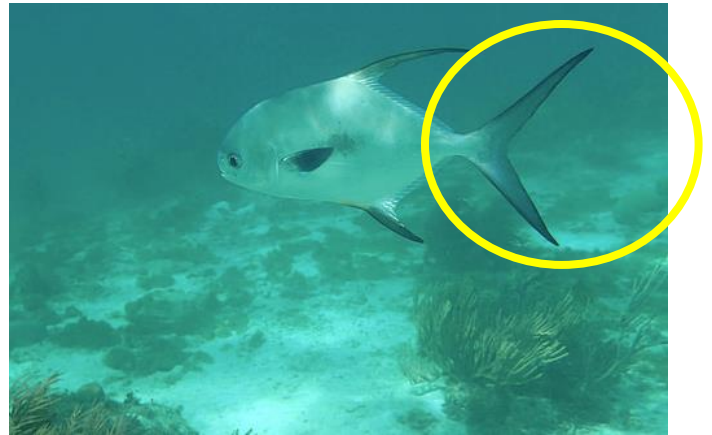
Check out the 3 different fish below. These fish are just a few of the species that live in the marine ecosystems of South Florida! Can you guess what type of swimmer they are?

Sources:

1. Fricke, R., Eschmeyer, W. N. & Fong, J. D. 2020. ESCHMEYER'S CATALOG OF FISHES: SPECIES BY FAMILY/SUBFAMILY. (<http://researcharchive.calacademy.org/research/ichthyology/catalog/SpeciesByFamily.asp>). Electronic version accessed 15 05 2020.
2. Bond, C.E. 1979. Biology of Fishes. Saunders College Publishing, Philadelphia. Pp. 11-32.
3. Robins, C.R., G.C. Ray and J. Douglass. 1986. The Peterson Field Guide Series - A Field Guide to Atlantic Coast Fishes of North America. Houghton Mifflin Company, Boston. Pp. 10-11.
4. Thurman, H.V. 1990. Essentials of Oceanography (3rd ed.). Merrill Publishing Company, Columbus. Pp. 286-287.



I am a **Spotted Porcupinefish** just like Gumbo Limbo's Kirby! I live in reefs and *my caudal fin is rounded.*



I am a **Permit**. I live in open water and *my caudal fin is lunate.*



I am a **Blue Striped Grunt**. I live in many places from mangroves to seagrass beds to coral reefs! *My caudal fin is emarginate.*

1. Which of these three fish is the best at accelerating very fast, but cannot turn as easily?
2. Which of these is the best at maneuvering around tight spaces, but gets tired quickly?
3. Which of these is just OK and effective at all types of swimming?

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