

Species Spotlight: Common dolphinfish (*Coryphaena hippurus*)

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A.K.A. (Dorado, Dolphin, Mahi-mahi, Pappagallo (Italy), Dourado (Brazil))



Class: Actinopterygii (ray-finned fishes)
Order: Perciformes (perch-like fishes)
Family: Coryphaenidae (Dolphinfishes)
Genus: *Coryphaena*
Species: *Hippurus*

This month we focus on one of the sea's most colorful and sought-after sportfish—the common dolphinfish. Popular in restaurants and fish markets worldwide, these fast-living, apex predators can often be found congregating under floating debris and patches of Sargassum weed where they are targeted by recreational fisherman for their superior fighting abilities and great table fare. Not to be confused with the mammal also commonly named dolphin, seafood lovers will more likely know this fish by its Polynesian name *Mahi-Mahi*, which translates to *strong-strong*. There are 2 representative species in the family Coryphaenidae: *Coryphaena Hippurus* or Common dolphinfish and *Coryphaena equiselis*, or Pompano dolphinfish.

Description: Dolphinfish are a species of fish that is termed sexually dimorphic, meaning that there is a marked difference between males and females of the species. In males, the profile of the head becomes noticeably larger at increasing sizes. These fish are commonly referred to as bull dolphins.

The dolphin's dorsal fin originates on the nape of the fish, and extends back nearly to the base of its deeply forked tail fin which is designed for high maneuverability at speed.

A dolphin's anal fin is slightly longer than half of its body length; its pelvic fins fit into grooves along the sides of its body. Male dolphinfish possess a pronounced bony crest on the front of their heads, while female dolphinfish possess a slightly convex forehead. Male dolphinfish tend to be larger than females.

Color: The dolphinfish is famous for its brilliant hues and for the vivid waves of color that flash across it when first taken from the water. Alive in the sea, its sides are vivid blue, variously mottled and washed with gold; its tail is generally golden yellow. Many dolphins' heads and body are marked by many small, brilliant phosphorescent blue and black spots which fade within seconds to minutes after the fish is removed from the sea.



Size: The maximum length generally obtained by a dolphinfish is approximately 6 feet.

Its lifespan is short--a maximum of 5 years, with males living longer than females. The IGFA all tackle world record for dolphinfish is an 87 lb. specimen that was caught off of the west coast of Costa Rica in September of 1976. Rates of growth vary among regions and are sensitive to ambient water temperatures.

Range: Dolphin can be found inhabiting tropical and subtropical waters of all oceans. Their distribution can be termed circum-tropical, but they can also be found in seasonally warm waters between latitudes 45° N and 45° S. Commonly, dolphins are considered a pelagic or "open ocean" species, although they are occasionally found in coastal or inshore waters in waters warmer than 68 degrees Fahrenheit.

Habits: Dolphinfish will often follow ships and boats, and they tend to aggregate around and under floating objects. In the Atlantic, dolphinfish are attracted to Sargassum weed, a floating brown alga, which serves as a hiding place and source of food. Garbage is often entangled in the Sargassum and is eaten by the dolphinfish. Plastic wrappers, small light bulbs, rope, and string have been removed from their stomachs. They tend to school by sex and size.

Feeding: Dolphins are active and voracious feeders and prefer large, fast-moving prey. Juveniles feed primarily on copepods; larger juveniles feed on fish and cephalopods, while adults feed mainly upon fish. They feed in surface water during the day and are known to eat a wide variety of species including small pelagic species such as flying fish, halfbeaks, man-o-war fish, Sargassum fish, and rough triggerfish, as well as the juveniles of large pelagic species such as tunas, billfish, jacks, and dolphin, and pelagic larvae of nearshore, bottom-living species such as; flying gurnards, triggerfish, pufferfish, and grunts. Dolphinfish also eat invertebrates such as cephalopods (octopus, squid, etc.), mysids (small, shrimp-like creatures), and scyphozoans (jellyfish), which suggests they are essentially non-selective, opportunistic foragers.

Predators: Predators of dolphinfish include large tuna, dolphin (the mammal), marlin, sailfish, and swordfish. With the latter showing a marked preference for dolphinfish juveniles.

Reproduction: Females begin to mature at 14" fork length; all are mature after attaining a length of 21-1/2" fork length, which correlates to an age of approximately 4 to 5 months old. Each dolphinfish may produce from 240,000 to 3,000,000 eggs annually, depending on size. The buoyant, colorless, spherical eggs measure about 1.2-1.6 mm in diameter and have a single, light-yellow oil globule 0.3-0.4 mm in diameter.

Male dolphins grow rapidly, attaining a weight of 40 lbs in their first year of life.

In the Indian Ocean waters of east Africa, they spawn inshore from March to early June. In the western Pacific, spawning likely occurs year round. In the area of the Florida coast, spawning occurs from November through July and during June and July in the Gulf Stream near North Carolina. Off southern California and Mexico, peak spawning occurs from August to September.

Conservation status: At present, population estimates for Atlantic populations of dolphinfish are high, and no overfishing appears to be occurring. Size and harvest restrictions have been implemented in the Atlantic to ensure that the U.S. fishery remains stable. Catch trends in the Pacific have indicated that specific management measures for dolphinfish are not yet necessary. The life history of dolphinfish suggests that the species may be able to withstand a relatively high rate of exploitation given its population doubling time. Dolphinfish also comprise a large proportion of the by-catch of the tuna purse-seine and longline fisheries in the Pacific.

References: This article draws freely from Henry Bigelow and William Schroeder's classic "Fishes of the Gulf of Maine", fishery bulletin 74, Vol. 53 1953, and its 3rd edition edited by Bruce Collette and Grace Klien-MacPhee (2002) and from Bernard Ludwig Gordon's, "The Secret Lives Of Fishes" 1977 Grosset and Dunlap publishers, New York, NY, three books that any fish lover must have on their bookshelf.

Links:

<http://www.fishbase.us/Summary/SpeciesSummary.php?id=6>

<http://www.swfsc.noaa.gov/publications/CR/1986/86133.PDF>

<http://www.swfsc.noaa.gov/publications/CR/1986/86128.PDF>

<http://www.spo.nmfs.noaa.gov/mfr681-4/mfr681-42.pdf>

<http://www.swfsc.noaa.gov/publications/CR/1973/7312.PDF>

<http://www.nmfs.noaa.gov/fishwatch/species/dolphinfish.htm>