

Coryphaena hippurus (Common Dolphinfish)

Family: Coryphaenidae (Dolphinfish)

Order: Perciformes (Perch and Allied Fish)

Class: Actinopterygii (Ray-finned Fish)



Fig. 1. Common dolphinfish. *Coryphaena hippurus*.

[<http://marinebio.org/species.asp?id=147>, downloaded 30 March 2015]

TRAITS. The common dolphinfish has an average length of 1m and can reach to a maximum of 2m, and an average weight of 14kg kilograms and maximum of 30kg. They possess an elongated body and sexual dimorphism exists between males and females (Bostwick, 2000). Males known as bulls are larger in size than females and have a large bulging squared-off head (Fig. 1). The females are known as cows and have a rounder shaped head (Fig. 2). Both sexes have large mouths which contain small, fine teeth and an oval shaped tooth patch present on the tongue. They possess a dorsal fin which runs along the back from above the head to the caudal fin containing 58-66 rays. The pectoral fin which aids in direction of movement spans greater than half the length. An anal fin stretches horizontally from the mid body to the bifurcate tail. The display of colour of the dolphinfish reveals a golden hue with iridescent green and blue that are located posteriorly and ventrally with splotched blue dots along the body. In addition, white and yellow colours are located on the underside of the fish. The juvenile dolphinfish possesses rear fins that are white-tipped and black pelvic fins. It also has pale and black perpendicular lines on the flanks which run on both caudal and unpaired fins.

DISTRIBUTION. They are distributed in seawaters that are tropical and temperate, in places like the Gulf of Mexico, Central America coasts, North Carolina and through the Caribbean Sea (Fig. 3). It can be caught off the north coast of Trinidad and off Tobago. They also occur in zones of the Pacific, Indian and Atlantic oceans (Benetti, et al., 1995).

HABITAT AND ACTIVITY. Found in habitats such as open and coastal waters, often in schools. Dolphinfish are found to a depth of 85m. They are found near floating objects and *Sargassum* weed lines and patches. This allows them to feed as their prey seek shelter near and in these floating objects such as the flyingfish and squid. They are hunters who rely on their vision to feed during the day (Massuti et al., 1998).

FOOD AND FEEDING. They are carnivorous and can eat based on size and the season. The smaller dolphinfish will eat smaller fish and the bigger dolphinfish will eat bigger fish. They feed mainly through the day on oceanic fish which include sargassum fish, flying fish and triggerfish as well as larger fish such as tunas, mackerels and invertebrates like crabs, and cephalopods. Their diet can change with growth. The juveniles (Fig. 4) feed on crustaceans like copepods and the adults eat bony fish. Dolphinfish from the eastern Caribbean are carnivorous with 98% of their stomachs containing fish as food. Two prey groups dominated the diet of the dolphinfish; flyingfish and epipelagic cephalopods.

POPULATION ECOLOGY. The common dolphinfish is widespread and common to the Mediterranean Sea with an increase in the number of catches of this fish. Schools of dolphinfish that move together have a size from 0.5-10kg. The larger individuals either reside alone or in pairs.

REPRODUCTION. The common dolphinfish spawn in surface waters. The spawning season is long and multiple spawnings occur all year in warm waters. Dolphinfish spawn in pairs. Spawning also occurs at body lengths of 20cm. It can take place twice to three times a year with 80,000-1,000,000 eggs being produced every time. The eggs are buoyant, colourless and spherical in shape with a diameter of 1.2-1.6mm. The reproductive season is extensive with frequent spawning (Johnson, 1978; Massuti, 1997).

BEHAVIOUR. These fish spend a significant amount of time in the pelagic areas in order to gather prey as they swim quickly. They swim continuously to ventilate their gills because of their need for oxygen (Benetti et al., 1995). Dolphin fish make the use of gathering into schools as a strategy for a defense against predators or possibly as a mechanism for enhanced predator's foraging activity. Dolphin fish hunt in small pairs or packs. They can be seen travelling in groups of up to 50 or more fish. Juvenile dolphinfish are attracted to floating kelp mats, logs, boats and *Sargassum*.

APPLIED ECOLOGY. The common dolphinfish is the most popular sport fish globally and highly prized as gamefish and commercially (Benetti et al., 1995). The species can be caught with long lines or attractive floating devices which lure the fish to the area. Parasitism can occur as the fish can be infested with copepods, protozoans or nematodes (round worms). Growth can occur fast when these fish are captive and have a less chance of death and can allow the existence of farms and hatcheries all over. It can be raised through methods of aquaculture. It is also a popular menu item and restaurants serve it under the Hawaiian name 'mahi mahi.'

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Fig. 2. Female dolphinfish, *Coryphaena hippurus*.

[<http://marinebio.org/species.asp?id=147>, downloaded 30 March 2015]



Fig. 3. Common dolphinfish geographic distribution.

[<http://www.flmnh.ufl.edu/fish/gallery/descript/dolphin/dolphin.html>, downloaded 1 March 2015]



Fig. 4. Juvenile common dolphinfish, *Coryphaena hippurus*.

[<http://www.flmnh.ufl.edu/fish/gallery/descript/dolphin/dolphin.html>, downloaded 1 April 2015]