

Caranx crysos (Blue Runner)

Family: Carangidae (Jacks and Pompanos)

Order: Perciformes (Perch and Allied Fish)

Class: Actinopterygii (Ray-finned Fish)



Fig. 1. Blue runner, *Caranx crysos*.

[<https://www.flickr.com/photos/naaphotolib/5187472005/>, downloaded 24 March 2015]

TRAITS. The blue runner is a species of marine fish. Relatively large, 70 cm was the highest length ever recorded. Its weight is around 5.05 kg (Fishbase, 2015). Its colour varies from bluish green to olive green (Food and Agriculture Organisation of the United Nations, 2015). Its body is elongated, and compressed with top and bottom arched equally. Adipose eyelid covers the posterior section of the eye, with the jaw's posterior extremity located directly under the eye. The first part of the dorsal fin is made up of 8 spines while the second part consists of one spine with around 25 soft rays. 2 detached spines make up the anal fin, which is followed by one spine and around 21 soft rays (Carpenter, 2002). 23 soft rays are found in the pectoral fin, located a little lower than the eye (Fig. 1). The chest is scaled completely, upper jaw contains outer canines and regularly spaced teeth inside.

DISTRIBUTION. Eastern Atlantic: Senegal to Angola, found in the Mediterranean. Western Atlantic: from Nova Scotia, the Caribbean and Gulf of Mexico, to Brazil (Fig. 2). It is native to Trinidad and Tobago (Herdson, 2010).

HABITAT AND ACTIVITY. It is a pelagic species meaning that it lives neither close to the bottom nor near the shore in oceans (Fig. 3). It forms schools inshore and not usually found around reefs (Herdson, 2010). Depth range is 0-100m while juveniles are found floating beneath seaweed which provides both food and protection for them. It has been able to survive in low salinity environments (Stanley and Scarborough, 2003). *Caranx crysos* is a predator able to swim quickly capturing smaller fish easily (Carpenter, 2002). When found close to oil rigs, the blue runner can be seen foraging on zooplankton during the months of summer, with feeding periodicity suggesting that it has the ability to feed during the day and night (Keenan, 2002).

FOOD AND FEEDING. Studies have shown that the blue runner feeds on crabs, shrimps, copepods, prawns and jellyfish (Beltran-Pedrerasde and Araujo Pantoja, 2003). The juveniles feed more on zooplankton, starting off by feeding on crustaceans and then progressing to a diet that is fish-based as they mature. However the adult blue runner living offshore is known to forage on larger zooplankton during summertime, feeding extensively on fish during the night, and consuming smaller organisms during the daytime (Beltran-Pedrerasde and Araujo Pantoja, 2003). The foraging takes place in small schools, actively alongside dolphins at times, and the adult blue runner feed on the dolphin excrements.

POPULATION ECOLOGY. The blue runner usually moves in small schools (Carpenter, 2002). Shoaling may occur in unusual conditions, for instance where offshore oil platforms are present, and here the number of blue runners can go up to about 10,000 individuals (Stanley and Scarborough 2003). Within its distributive range, the *Caranx crysos* is one of the most commonly found species of fish, with a study in 1990 stating that it was the second most abundant species in South Carolina, USA (Herdson, 2010). The reported maximum age of a blue runner is 11 years and able to achieve this lifespan in subtropical climates (Fishbase, 2015). More females are present in the adult population than males, although the annual mortality rate for the species is 0.41 to 0.53; recorded in the Gulf of Mexico (Goodwin and Johnson, 1986).

REPRODUCTION. Sexual maturity is reached at different lengths for the blue runner depending on where it is found. In Florida it reached maturity at 267mm, in a Louisiana study it reached 225mm in males and in Jamaica it is recorded as being 260mm (Goodwin and Finucane, 1985). There are two main spawning peaks for this species; June, July and August are the months associated with the main one while the secondary one is in October (Herdson, 2010). There is evidence however, that suggests that spawning occurs yearlong offshore (Goodwin and Finucane, 1985). Females produce from 41,000-1,000,000 eggs, with larger ones producing more. These along with the larvae are pelagic. At the larval stage, it has distinguishing features such as a shallow body and heavy pigment present on the head and body. Several dark vertical bars are also present along the body during this early juvenile stage. According to Fishbase (2015), the species does not take care of its young. Juveniles remain offshore and live in water about 15m deep or congregate around floating masses such as *Sargassum* seaweed (Wells and Rooker, 2004). Congregations also form around oil platforms (Fig. 4).

APPLIED ECOLOGY. According to the IUCN, the species is harvested from the wild for food and for aquarium trade, by being bred in captivity. These are listed as major threats to the species, which includes being used for bait (Fig. 5). It is captured and sold in the US as well as in other countries with up to 1000 tons of the species being landed per year. However despite this, there is no evidence that suggests that global population is declining hence no species-specific conservation methods are in place (Herdson, 2010).

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Author: Kishan Patloo

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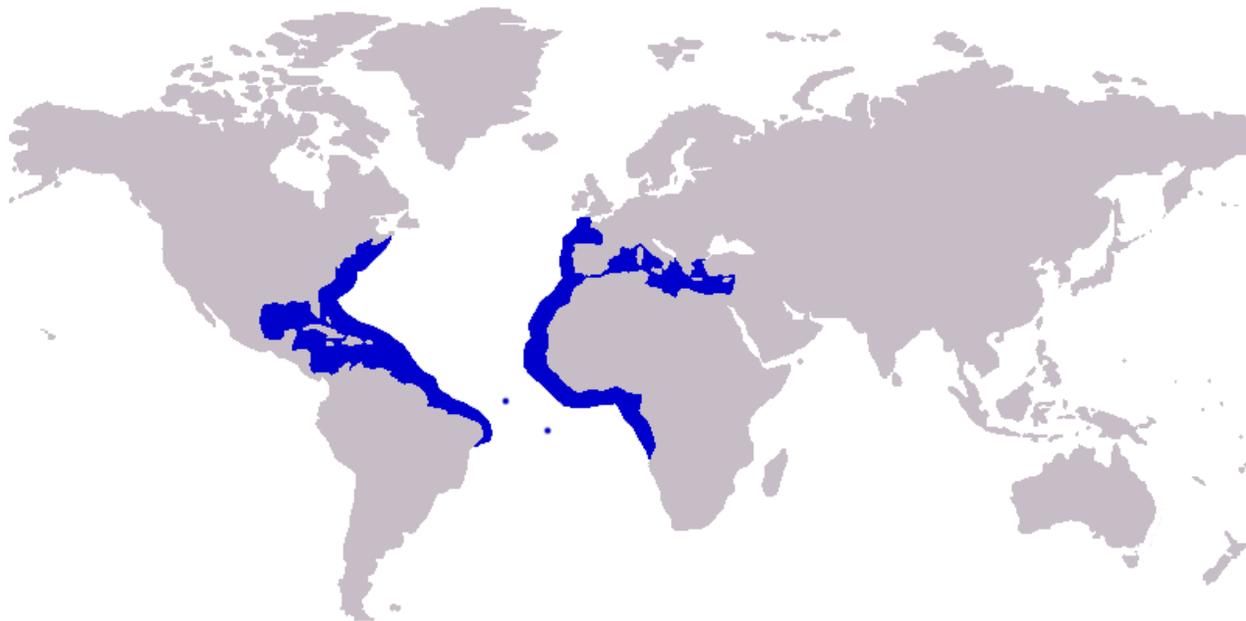


Fig. 2. Distribution of the blue runner.

[http://commons.wikimedia.org/wiki/File:Caranx_crysos_distribution.png, downloaded 6 April 2015]



Fig. 3. Blue runner offshore habitat.

[<http://marinebio.org/upload/caranx-crysos/1.jpg>, downloaded 6 April 2015]



Fig. 4. Blue runner congregating under oil platform.

[http://en.wikipedia.org/wiki/Blue_runner#/media/File:Blue_runner_under_platform.jpg, downloaded 6 April 2015]



Fig. 5. Blue runner used as bait.

[http://seafavorites.com/bmz_cache/5/5d9a13bc9d563d077bbc79898e656367.image.504x335.jpg,
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