

Lutjanus buccanella (Blackfin Snapper)

Family: Lutjanidae (Snappers)

Order: Perciformes (Perch and Allied Fish)

Class: Actinopterygii (Ray-finned Fish)



Fig. 1. Blackfin snapper, *Lutjanus buccanella*.

[<https://www.flmnh.ufl.edu/fish/Gallery/Descript/BlackfinSnapper/BlackfinSnapper.html>, downloaded 18 February 2015]

TRAITS. The body of this fish is moderately deep with 10 dorsal spines, 14 dorsal soft rays, 3 anal spikes and 8 soft rounded anal soft rays (Cuvier, 1828). The upper canine teeth of this fish are larger than its lower and the pectoral fins are long with approximately 14-18 rays (Bester and Murray, 2015). The blackfin snapper primary colour is scarlet, with a silver colour on the undersides and belly with the fins ranging from yellow to orange in colour. It is named the blackfin snapper due to the distinctive black spot on the bottom of the axil of the pectoral fin (Fig. 1). Early juvenile fishes are usually pale blue with a wide yellow band extending from the caudal fin all the way to the tail fin (Fig. 2). The black spot is present in older juvenile fish rather than the younger ones. This fish can grow up to a maximum recorded length of 62cm with a common length of 50cm and a maximum recorded weight of 14kg. The blackfin snapper is also known as the blackspot snapper, blackfin red snapper or the redfish.

DISTRIBUTION. This fish inhabits a subtropical region between the 42°N and 3°S and 100°W and 40°W, throughout the tropical Western Atlantic, all the way to the north in Northern Carolina of the United States of America, Bermuda, Trinidad, to north Brazil in the south and including the Gulf of Mexico. It is common especially in the Antilles and Caribbean Sea. Native to the Atlantic Ocean, Caribbean Sea, Eastern, Southern and Northern Brazil Shelf, Gulf of Mexico, Northeast and Southeast US Continental Shelf (Fig. 3).

HABITAT AND ACTIVITY. This fish lives in a marine environment that is reefs associated with depth ranging 20-200 m. Adults live in deeper waters that are near drop-offs, ledges, continental shelves or cliffs with a depth of about 120-200m. The juvenile fish tend to inhabit shallower waters near sandy or rocky bottoms or rock outcroppings near reefs with a range of 5-20m.

FOOD AND FEEDING. The blackfin snapper is a carnivorous predator that feeds on grunts and smaller fish. This fish preys near the bottom of the ocean and is an opportunistic feeder, feeding on any small animal in range such as shrimp, worms, invertebrates and other fish depending on their size. Just as the blackfin snapper is a predator, it is also prey to larger fish such as sharks, barracuda, grouper, moray eels and larger snapper species. Humans also catch this fish and it is sold commercially. Due to the habitat location of this fish, it is caught with the use of hook line fishing along the shelf margin as well as pot fishing. The snappers that dwell in the deep water shelf slope tend to be less ciguatoxic (having poisons from dinoflagellates, single-celled organisms in the seawater) than some of the relatives which inhabit the shallower waters.

POPULATION ECOLOGY. This fish is observed in schools of approximately 20-30 individuals. The blackfin snapper has a relatively long life span with a very slow growth rate and weak seasonality of growth. The month of least growth is March and the recruitment period is all year long however there are two spikes in recruitment at different times of the year that is July at 34% and November at 65%. The most common group of piscivorous (fish-eating) fish recruited to reefs were mahogany and blackfin snappers. Statistics show that where there is a high population of blackfin snappers, there is a low population of the food they feed on (such as grunts), also where there is a low population of blackfin snappers, there is a high population of grunts. This statistic proves the theory that juvenile snappers settle in shallow waters due to less predators and more food (Brownell, 1970).

REPRODUCTION. Spawning occurs throughout the year with peak activity during a 5 month period of April to September. These fishes spawn mainly off the island of Jamaica. Blackfin snappers are oviparous that is to say they lay eggs. The eggs and larvae hatched are pelagic that is they utilize the ocean's currents as a means of transport and dispersal (Bester and Murray, 2015). The juvenile blackfin snappers inhabit shallower waters and then move to deeper waters with age. Sexual maturation of female blackfin snappers occurs at approximately 18-20cm whereas male sexual maturation occurs at approximately 38-40cm.

BEHAVIOUR. This fish is a deep water species which inhabits drop-offs, ledges and continental shelves however they don't inhabit this region from birth. This fish species show ontogenetic habitat shifts with growth, maturing and then migrating to deeper waters. Studies show that the younger, juvenile fish prefer shallower waters and favour deeper waters with maturity or age. This juvenile fish is found in the shallow waters of the artificial reef of Broward County, Florida. This inshore environment contains three separate reefs in deeper waters

symmetrical to the coastline. The blackfin snapper prefers the artificial reef located in the separation of the 2nd and 3rd reefs, providing a juvenile habitat in 30m water or less. This gives fewer predators, less time searching for food which leads to conservation of strength and energy which is then contributed towards maximum growth (Arena et al., 2004). Competition may be a factor where adult and sub-adult snappers may interfere with the juvenile settlement through aggression or predation where there may be preying on juvenile residents (Shulman et al., 1983).

APPLIED ECOLOGY. The blackfin snapper is among the most important lutjanids caught in the Caribbean and off Costa Rica (Tabash and Sierra, 1996). This fish is caught for commercial purposes and is sometimes marketed as red snapper. Fisheries show that there has been a steady decline in the catch of this species, no doubt due to overfishing and its natural slow growth rate (Brownell, 1970). Despite the decline in catches of this fish, it is not listed as threatened or susceptible or endangered in any way according to the World Conservation Union (IUCN) (Bester and Murray, 2015).

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Fig. 2. Young juvenile blackfin snappers.

[<http://reefguide.org/blackfinsnapper.html>, downloaded 17 April 2015]



Fig. 3. Regions inhabited by blackfin snapper.

[http://www.aquamaps.org/receive.php?type_of_map=regular, downloaded 25 March 2015]

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