

## *Lutjanus apodus* (Schoolmaster Snapper)

Family: Lutjanidae (Snappers)

Order: Perciformes (Perch and Allied Fish)

Class: Actinopterygii (Ray-finned Fish)



**Fig. 1.** Schoolmaster snapper, *Lutjanus apodus*.

[<http://keywordsuggest.org/gallery/736969.html>, downloaded 2 February 2017]

**TRAITS.** *Lutjanus apodus* is the most encountered lutjanid (snapper) on coral reefs in the Caribbean, Florida and the Bahamas. The body of the fish is olive grey or brownish in colour with a yellow tail and fins, and eight pale vertical bars (Fig. 1) that are faint or absent in adults. Running just below the eye is a blue line, either solid or broken, which with growth may disappear. The species has a long, pointed snout with a mouth that is relatively large; a pair of upper canine teeth is visible when the mouth is closed. The long pectoral fins extend to the level of the anus. There are 8 anal soft rays, 3 anal spines, 10 dorsal spines and 14 dorsal soft rays (Allen, 1985). They can grow up to 62cm in length (Lindeman et al., 2016).

**DISTRIBUTION.** Found mainly in coastal areas in the Caribbean, the Bahamas, and Florida and is native to the western Atlantic (Fig. 2).

**HABITAT AND ACTIVITY.** Adult *Lutjanus apodus* can be found in coastal waters up to 89m in depth and is mainly confined to reef areas or in areas adjacent to or inside mangrove root habitats (Rooker, 1995) (Fig. 3). Juveniles are found in seagrass flats, small adults near the shore in elkhorn coral reefs, and larger adults on the continental shelf (Peebles, 1999). They are said to be confined to reefs more than any other species of snappers (Austin, 1971). *L. apodus* spend

most of their time (approximately 32-84%) within the roots of mangrove habitats. The size of the fish determines the position in which it thrives in the water column. The activity of the species is, however, the same regardless of its position. *Lutjanus apodus* spend 84% of their time swimming, 13% resting, 2% eating and <0.5% doing other activities. They feed on small organisms during the day and feeding nocturnally on larger organisms (MacDonald et al., 2009).

**FOOD AND FEEDING.** *Lutjanus apodus* diet and feeding undergoes ontogenetic (with growth) shifts. Small juveniles' diet is made up mainly of crustaceans. As the *L. apodus* matures and grows into intermediates, their feeding patterns become varied with fish being their dominant prey. Small fish  $\leq 70$ mm prey on amphipods and larger crustaceans in large quantities. Fish  $> 100$ mm prey on smaller fish. Their diet and feeding patterns are also based on their habitat. Fish  $< 100$ mm that live in mangrove habitats feed on mid-water baitfish in large quantities, while those fish of the same size living in coral reefs feed on fish that live and feed near the bottom (eg. scarids, acanthurids) (Rooker, 1995).

**POPULATION ECOLOGY.** Within a population of *Lutjanus apodus*, they aggregate as a means of defence and for feeding. They cluster themselves into "selfish-herds" or shoals where the chances of an individual being attacked and eaten are substantially reduced if it is on the inside of the group (Dickinson, 2017). For this reason, *Lutjanus apodus* move around in large shoals rather than smaller ones. The maximum age which a mature fish would live to is 42 years. They live to this maximum age with slow growth throughout the years (Potts, 2016).

**REPRODUCTION.** *Lutjanus apodus* are gonochoristic - having separate male and female fish that reproduce externally. Spawning occurs in open waters, offshore, away from the inshore reef habitat, mainly during winter. Here both male and female fish release their gametes simultaneously into the water for fertilization to take place. Once fusion occurs the fertilized eggs will sink to the bottom, where they are left unguarded with no parental care, being substratum egg scatterers (FMP, 2017).

**APPLIED ECOLOGY.** The species is listed as one of Least Concern as it common in mangrove and reef habitats throughout its range. There are few major threats from regional level fishing. These include trawling seagrass beds and dynamite fishing practices. Juveniles inhabit shallow reefs and mangrove habitats and can be impacted from construction activities done on the coast. Those fish that thrive in coral habitats may be subjected to harm when corals are impacted by climate change (Lindeman et al., 2016).

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**Fig. 2.** Schoolmaster snapper geographic distribution.

[<http://maps.iucnredlist.org/map.html?id=155152>, downloaded 2 February 2017]



**Fig. 3.** Schoolmaster snappers in typical mangrove habitat.

[<http://sharkswhalesdolphins.photoshelter.com/gallery-image/mangrove-photos/G00009B3fjfTQbWU/I000011xgWaO6wlg>, downloaded 12 February 2017]

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