Lutjanus synagris (Lane Snapper)

Family: Lutjanidae (Snappers)
Order: Perciformes (Perch and Allied Fish)
Class: Actinopterygii (Ray-finned Fish)

Fig. 1. Lane snapper, *Lutjanus synagris.*

[https://www.flmnh.ufl.edu/fish/Gallery/Descript/LaneSnapper/Lanesnapper.html, downloaded 24 March 2015]

TRAITS. *Lutjanus synagris* (Fig. 1) has an oblong body, almost compressed and moderately deep. Maximum length is 37cm for males and 41cm for females (Bortone and Williams, 1986). Lane snappers have a pointed snout and an almost straight head. The pointed snout consists of a large mouth with villiform teeth (numerous thin teeth, like a brush) on both jaws and vomer bone (part of the roof of the mouth) (Hill, 2005). Caudal fin is slightly forked and emarginate (Murray and Bester, 2015). It contains a range of 12-13 and 8-9 soft rays on the dorsal fin and the anal fin respectively. Ten and 3 spiny rays can be found on the dorsal and anal fin as well. It can occasionally have dark green colouration between stripes. Fins may have a pink or red hue and anal fin generally dark grey to black. Lane snappers also have a diffused black splotch, slightly larger than the eye, near the rear dorsal fin (Bortone and Williams, 1986).

DISTRIBUTION. Can be found near coastal areas bordering the western Atlantic Ocean, inclusive of tropical and subtropical areas (Fig. 2). It can range from North Carolina on the east coast of the United States of America, throughout the Gulf of Mexico and the Caribbean until the south-eastern coast of Brazil (Karlsson et al., 2009). It is not known whether lane snappers migrate for the seasons, however data does suggest some sort of movement as the winter months

have a reduced population (Luckhurst et al., 2000). It is native to Trinidad and Tobago but have been heavily over-exploited during the years.

HABITAT AND ACTIVITY. Juveniles are found in habitats of sea grass beds and shallow reefs and estuaries. They are sometimes found near the eastern coast of North Carolina in the United States however this can be because eggs and larvae have been transported via waves and currents. Adults are mostly found offshore (FWC, 2015). Their habitats are highly variable, and can range from coral reefs, shipwrecks offshore, rock outcroppings, mangrove thickets, shallow algae covered flats in open areas to muddy brackish waters (Karlsson et al, 2009). It can be found in disturbed habitats such as coral reefs, and open waters where it is often fished. Juveniles are found to be diurnal when present in estuaries before maturation whilst adults are mainly nocturnal.

FOOD AND FEEDING. Adult lane snappers feed on the bottom of shallow waters preying on predominantly small benthic(sea floor living) fish, molluscs and crustaceans similar to the other snappers such as grey and mutton snapper but differ from yellowtail as the latter feeds on more pelagic (open waters) animals (Bortone and Williams, 1986; FWC, 2015). They are considered predators of convenience as they will hunt in the night time(ProAngler 2015). Juveniles prey on decapod remains such as shrimp and crabs, *Latreutes parvulus*, a specific type of shrimp, amphipods such as scuds and whale lice, and fish remains (Franks and Van der Kooy, 2000). According to a study done on juvenile lane snappers on the central coast of Brazil, their diets are very specific and shows little variation in the different seasons. Decapods, specifically *Natantia* tend to dominate the diets from August to spring, whereas *Peracarida*, both shrimp like, dominate in the other seasons (Pimentel and Joyeux, 2010).

POPULATION ECOLOGY. Juvenile lane snappers as well as related snapper species, tend to live around estuaries until maturity begins (Pimentel and Joyeux, 2010). Adults appear in schools in the warm shallow waters around the time of spawning about April during the day, and the number steadily increases as they move towards deeper waters (at oceanic shelves) at dusk where mating and spawning takes place. Lane snappers are considered to be long living reef fishes and reaches maturity at 1 year and 2 years for males and females respectively. According to Lurkhurst et al. (2000), a lane snapper can live up to 19 years, however this can depend upon the area found. However, it should be noted that in Trinidad, lane snappers have a faster growing rate and shorter life span and can increase lifespan with increasing latitude (Manickchand-Dass, 1987). They are abundant around summer months and gradually decline by the month of October (Luckhurst et al, 2000).

REPRODUCTION. Lane snappers are summer spawners beginning from Late May through to Early September (Luckhurst et al., 2000). Peak spawning occurs during the months of June to August (FWC, 2015). The alternations of rainy and dry seasons affect the period of spawning for lane snappers (Manickchand-Dass, 1987). Studies off Cuba have noted spawning aggregations which journey against the powerful currents and begin spawning at 30-40 m near oceanic shelves (Martinez-Andrade 2003). Pelagic eggs up to 568,400 are released into the open water by the female and are fertilised by males, then hatch in 23 hours (Murray and Bester, 2015). Spawning occurs on offshore reefs and larvae produced may disperse within 20-50 days, hundreds of kilometres away from site. After spawning, snappers return to shallow water during the next day

and this is repeated over a period of 4-5 days. These larvae are very susceptible to death and have many eggs dying before reaching destination. These larvae (Fig. 3) then deposit in mangrove, oyster reefs and marshes nursery habitats until maturation (Coleman et al, 2000). During spawning, lane snappers will encounter sharks, barracudas, groupers and other predators. The formation and quick dispersal of schools are one of the ways how lane snappers escape these predators (Claro et al., 2009).

APPLIED ECOLOGY. One of the important species of fish used in commercial fishing especially on the south coast of Trinidad. These fish are almost over-exploited especially in the island of Cuba (Claro et al., 2009) and are exported to the rest of the world. However, it is not reported endangered or vulnerable by the International Union for Conservation of Nature (IUCN).

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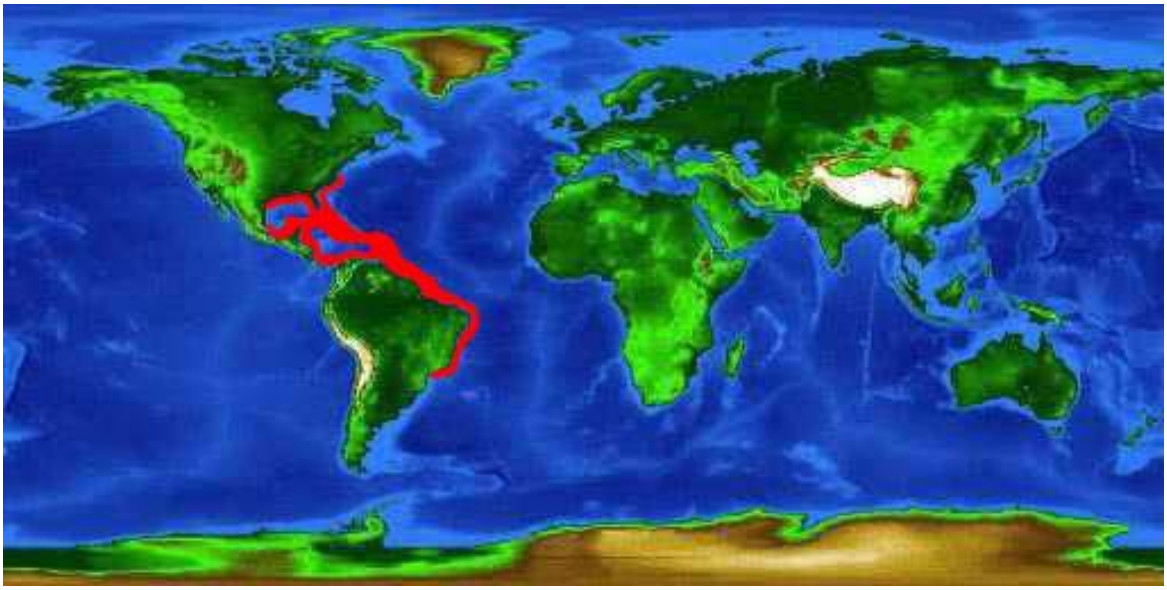

Fig. 2. Lane snapper geographic distribution.

[https://www.flmnh.ufl.edu/fish/Gallery/Descript/LaneSnapper/Lanesnapper.html, downloaded 30 March 2015]

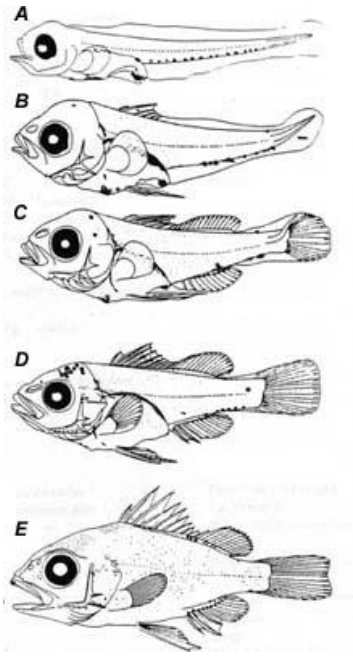

Fig. 3. Larval stages of lane snapper at 3.3mm, 4.6mm, 5.8mm, 8.7mm, 11.6mm (A to E).

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