Anisotremus virginicus (Atlantic Porkfish)

Family: Haemulidae (Grunts)
Order: Perciformes (Perch and Allied Fish)
Class: Actinopterygii (Ray-finned Fish)

Fig. 1. Atlantic porkfish, *Anisotremus virginicus.*

[http://nemofish.us/marine-fish/porkfish-anisotremusvirginicus.html, downloaded 14 May 2015]

TRAITS. The Atlantic porkfish, also known as the paragrate grunt, can be identified by its yellow snout and a head which has two dark bands, one running through the eye and the other along the edge of the operculum (gill cover). They are commonly called grunts, because of the characteristic grunting sounds produced when their pharyngeal teeth are rubbed together. The thick and tapered body of the fish is silvery blue. It has bright yellow stripes and a solid yellow tail and yellow fins (Fig. 1). The yellow stripes, beginning near the pectoral fins, are perpendicular to the dark bands and these extend lengthways toward the tail of the fish. The juvenile has different features from the adult and exhibits a black spot at the base of the caudal fin, faint bands on the head and one or two black lines lengthways the silver body of the fish (Fig. 2). The adult fish is usually about 15-25cm long and can sometimes weigh up to 1 kg. The Atlantic porkfish has a total of three anal spines and 12 dorsal spines, and 9 anal and 16-18 dorsal soft rays. The multitude of spines as well as razor sharp gill covers can easily slice flesh and this makes the Atlantic porkfish a fairly difficult fish to handle when caught.

DISTRIBUTION. They are found in the western Atlantic, the Bahamas and throughout the Caribbean Sea to Brazil. They are also well distributed in Bermuda and Florida and in the Gulf of Mexico. In the Caribbean, the porkfish is the only grunt fish known to have yellow stripes on its body as well as two black bars on its head.

HABITAT AND ACTIVITY. Porkfish are marine fish and can often be found dwelling in and around reefs, on rocky bottoms and in caves at depths of 2-20m. They can be found swimming in schools in coastal, shallow water (Fig. 3). They can also be seen roaming the waters as singles and are often noticed to be swimming with *Haemulon plumierii*, the white grunt. Porkfish fall under the predation of large piscivores such as snappers and sharks although they themselves are aggressive fish. The juvenile *A. virginicus* act as cleaners of the reef and often play a part in symbiosis as they feed on the parasites on other fish species. Porkfish adults and more often the juveniles can occasionally be found residing in mangrove environments.

FOOD AND FEEDING. Atlantic porkfish are carnivorous nocturnal hunters and feed on bottom dwellers such as annelids, crustaceans, echinoderms and molluscs. These fish have strong jaws within their snouts and these jaws are used to crush the hard carapaces of the invertebrates upon which they feed. Teeth are located on the pharyngeal bone of the mouth and although the porkfish is a grunt, it lacks canines on its jaw. Usually the porkfish feeds in open water and ventures from coastal reefs to feed at night in open areas. Juveniles feed on the reef itself, and clean other fish there.

POPULATION ECOLOGY. The porkfish is said to be the eleventh most sighted species in the waters off Florida. It is closely related to the burrito grunt (*Anisotremus interruptus*) of the Pacific Ocean, and it is believed that these two species formed millions of years ago when separated by the Isthmus of Panama. According to Bond (1979), porkfish are extremely susceptible to habitat loss since mangrove and reef environments are continually under stress locally as well as globally. The collapse of such delicate systems would have detrimental effects not only on porkfish populations but also entire marine ecosystems.

REPRODUCTION. Atlantic porkfish are known to be pelagic egg layers, common in reef-dwelling fish. Pelagic spawners lay their eggs directly into the open water. The eggs of the porkfish are easily carried by the ocean currents due to their small size and buoyancy. When hatched, the planktonic larvae settle in well covered areas such as beds of sea grass or muddy bottoms. The porkfish larvae have a black spot on the caudal fin and this remains throughout its juvenile life.

BEHAVIOUR. Belonging to the family Haemulidae, the porkfish acquired its name because of the grunting sound it makes, usually when in a state of distress. This sound is generated when the fish grinds its teeth together, amplified by the air within the swim bladder.

APPLIED ECOLOGY. *Anisotremus virginicus* is not considered to be a species at risk especially since consumption of their flesh by humans is linked to ciguatera poisoning. This form of poisoning is derived from the ciguatera toxin which is usually found in varied concentration in the flesh of large reef fish such as barracuda and snapper. Porkfish are rarely commercially fished and are of little fishery value when caught. Although they are collected for aquatic show, their numbers are not vulnerable. According to the World Conservation Union (IUCN), a global

union which evaluates the conservation level of species, the porkfish is not endangered nor is it susceptible to species extinction at current times or in the near future.

REFERENCES

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Fig. 2. Juvenile Atlantic porkfish, *Anisotremus virginicus.*

[http://quizlet.com/26745879/52-grunts-advanced-flash-cards/, downloaded 28 March 2015]

Fig. 3. School of Atlantic porkfish, *Anisotremus virginicus.*

[http://www.oceanwideimages.com/species.asp?s=Porkfish, downloaded 28 March 2015]