Haemulon vittatum (Boga)

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

Fig. 1. Boga, *Haemulon vittatum.*

[http://biogeodb.stri.si.edu/caribbean/en/thefishes/species/3739, downloaded March 1 2017]

TRAITS. The boga, *H. vittatum*, possess an elongate, spindle-shaped body that is wide at the middle but tapers at both ends (Fig. 1). This feature allows for fast swimming. Its mouth is more protrusible in comparison to other fish, hence it is also called bonnetmouth because the mouth can be greatly extended both forward and downward when it opens. The colour of the body is dorsally blue-greenish with bluish-white below. It has a distinct yellow snout and a deeply forked caudal (tail) fin that is also similar to other grunts. A distinct broad greenish strip runs along its lateral line from eye to tail and 3-4 narrow dark stripes above and below. The dorsal fins contain 14-15 spines but there are only 10 soft rays. The two dorsal fins are close together but not attached. They also have 2 spines and 9 rays in the anal fin. The fins are generally whitish and the tail lobes are blackish with grey borders. The standard length of *H. vittatum* ranges from 11-23cm, and the longest recorded boga is 23cm (STRI, 2017).

DISTRIBUTION. This species is widely dispersed in the west-central Atlantic. This will include the Florida coast, Bahamas, Bermuda, along the Yucatan Peninsula from Mexico to Cuba and all

through the Caribbean Sea to Trinidad (Fig. 2). There is a possibility that it could be found in other areas as well, however, there is no information available because of the poor occurrence of directed fisheries offshore (Smith, 1997).

HABITAT AND ACTIVITY. *H. vittatum* is mainly associated with the reefs that are present in tropical waters (Lieske and Myers, 1994). They are pelagic and occur in open waters near to the surface. They are also found off oceanic islands in schools above corals, hard bottom habitats and near reefs in 15-50m depths (Fig. 3). Boga occur near the coast where they are able to feed on benthic organisms such as mysids, larvae, small planktonic shrimp and small filter feeder fish that live in mid-water (Cervigón et al., 1992).

FOOD AND FEEDING. Another common name for *H. vittatum* is the bonnetmouth, since its mouth is highly protrusible and hence resembles a bonnet when feeding. This feature enables them to filter prey such as mysids, sergistid shrimps and larvae from the water column (Rocha et al., 2008). *H. vittatum* feeds on mid-water zooplankton by day, compared to other grunts which feed by night. This mechanism allows the mouth to reach forward and pull the prey closer by a suction movement without causing disturbance to its forward motion. They differ from other grunts by having a greater jaw protrusion that is finely coupled with a faster jaw protrusion speed (Richards and Lindeman, 2006).

POPULATION ECOLOGY AND REPRODUCTION. Bogas occur in large schools and are reef associated (Fig. 3). They exhibit distinct pairing during mating and are oviparous substratum egg scatterers, which scatter their eggs close to the reef so that the juveniles could live in the seagrass beds. They have greater body depths as juveniles, which also distinguishes their larvae from other types of grunts. However, these juvenile stages are poorly known. These juveniles are hence distinguished by their dorsal spine count, the small keels on the caudal peduncle and their unusually elongate bodies (Orrell, 2002).

APPLIED ECOLOGY. There are no major threats to the boga, but they are prey to red hind (*Epinephelus guttatus)* a member of the grouper family and the extremely invasive *Pterois volitans* (lionfish) (Cote et al., 2013). This species is of no economic importance as food because of its small size, but it is marketed as fresh baitfish (Cervigón and Fischer, 1979).

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Fig. 2. Map showing the distribution of *Haemulon vittatum.*

[http://biogeodb.stri.si.edu/caribbean/resources/img/images/automaps/smap3739.png, downloaded 8 March 2017]

Fig. 3. Shoal of *H. vittatum* off the coast of Cuba.

[https://en.wikipedia.org/wiki/Haemulon_vittatum#/media/File:Haemulon_vittatum.jpg, downloaded 8 March 2017]