

Hyporthodus flavolimbatus (Yellowedge Grouper)

Family: Serranidae (Groupers and Sea Bass)

Order: Perciformes (Perch and Allied Fish)

Class: Actinopterygii (Ray-finned Fish)



Fig. 1. Yellowedge grouper, *Hyporthodus flavolimbatus*.

[<http://biogeodb.stri.si.edu/caribbean/en/gallery/family/1099>, downloaded 22 November 2016]

TRAITS. *Hyporthodus flavolimbatus* is a large species of brown-bodied grouper, typically recognised by the yellow eyes and edges of the fins (Bullock and Smith, 1991) (Fig. 1). The eyes are only yellow while fish is still alive. This species was previously known by the name *Epinephelus flavolimbatus*. They do not grow larger than 115cm and weigh a maximum of 14kg (Heemstra and Randall, 1993). Females are not normally as large as males, growing to about 90cm maximum (Cook, 2007). They look very much like *Epinephelus niveatus*, the only differentiating feature being the yellow eyes and fin edges (Bullock and Smith, 1991).

DISTRIBUTION. Found in tropical waters from the USA, throughout Central America and down to South America (Fig. 2). They are especially found in the Gulf of Mexico and throughout the Caribbean (Smith, 1971). Yellowedge groupers have been caught in recent times off the coast of Trinidad and Tobago (Manickchand-Heileman and Phillip, 2000).

HABITAT AND ECOLOGY. Exists in both hard and soft-bottomed waters, particularly in the Gulf of Mexico. In soft-bottomed habitats, they form burrows of different types in the sea bed, such as vertical burrows, craters and trench burrows. Vertical burrows are typically not larger than 30cm in diameter. The crater burrows tend to be less than 2m in diameter and have depressed walls not deeper than 2m. However, trench burrows are approximately 8m long and 3m wide (Jones et al., 1989). They are frequently found living with tilefish, *Lopholatilus chamaeleonticeps*, in rocky areas. They are also closely associated with *Epinephelus niveatus*, the snowy grouper, and live in moderately deep; younger *Hyporthodus flavolimbatus* dwell closer to land than the adults (Smith, 1971). The diet mainly consists of a wide range of invertebrates and fish (Heemstra and Randall, 1993), and they can live up to 35 years (Manickchand-Heileman and Phillip, 2000).

REPRODUCTION. Females reach sexual maturity between the ages of 6-17 years on average (Cook 2007). March to August is the general spawning season (Cook, 2007), but between May and September, it is a very abundant occurrence (Bullock et al., 1996). The species exhibits protogynous hermaphroditism because they are born as females but as they grow, transform into males. There is no known difference between larvae or eggs of this species and those of *Hyporthodus niveatus* (Cass-Calay and Bahnick, 2002).

BEHAVIOUR. Grouper species tend to be more associated with rocky bottoms, but the yellowedge grouper burrows into the sand or muddy bottom of the softer regions in the ocean bed (Smith, 1971). They would usually hover around the mouth of the burrow, or a small distance away from it until small prey approach. They may then chase them into the burrow and advance when the prey attempt to exit. Larger species of prey do not usually enter the burrows unless chased in by the yellowedge grouper (Jones et al., 1989).

Burrows are typically occupied by one yellowedge grouper at a time. However, two or three may be found living in the same habitat on rare occasions. Other organisms have been observed near and in the burrows of these fish. It is believed that these may be carrying out symbiotic relationships with the *Hyporthodus flavolimbatus*. For example, certain species of shrimp were seen near the entrances of some burrows, possibly for the purpose of cleaning the fish. Tilefish were also observed to be sharing some burrows with yellowedge groupers (Jones et al., 1989).

REFERENCES

- Bullock, L. H., and Smith, G.B. 1991. Seabasses (Pisces: Serranidae), Volume 8, Part 2 of Memoirs of the Hourglass cruises. Florida Marine Research Institute.
- Bullock, L. H., Godcharles, M.F., and Crabtree, R.E. 1996. Reproduction of Yellowedge Grouper, *Epinephelus flavolimbatus*, from the Eastern Gulf of Mexico. *Bulletin of Marine Science* **59**: 216-224.
- Cass-Calay, S. L., and Bahnick, M. 2002. Status of the Yellowedge Grouper Fishery in the Gulf of Mexico. Assessment, Sustainable Fisheries Division.
- Cook, M. 2007. Yellowedge Grouper Age, Growth and Reproduction.
- Heemstra, P. C., and Randall, J. E. 1993. FAO species catalogue vol. 16 groupers of the world (family serranidae, subfamily epinephelinae): An annotated and illustrated catalogue of the grouper, rockcod, hind, coral grouper and lyretail species known to date. Food and Agriculture Organisation of the United Nations.
- Jones, R. S., Gutherz, E.J., Nelson, W.R. and Matlock, G.C. 1989. Burrow utilization by yellowedge grouper, *Epinephelus flavolimbatus*, in the northwestern Gulf of Mexico. Netherlands: Kluwer Academic Publishers.
- Manickchand-Heileman, S. C., and Phillip, D.A.T. 2000. Age and Growth of the Yellowedge Grouper, *Epinephelus flavolimbatus*, and the Yellowmouth Grouper, *Mycteroperca interstitialis*, off Trinidad and Tobago. Thesis, Trinidad.

Smith, C. L. 1971. A revision of the American groupers: *Epinephelus* and allied genera. Vol. 146, article 2. *Bulletin of the American Museum of Natural History*.

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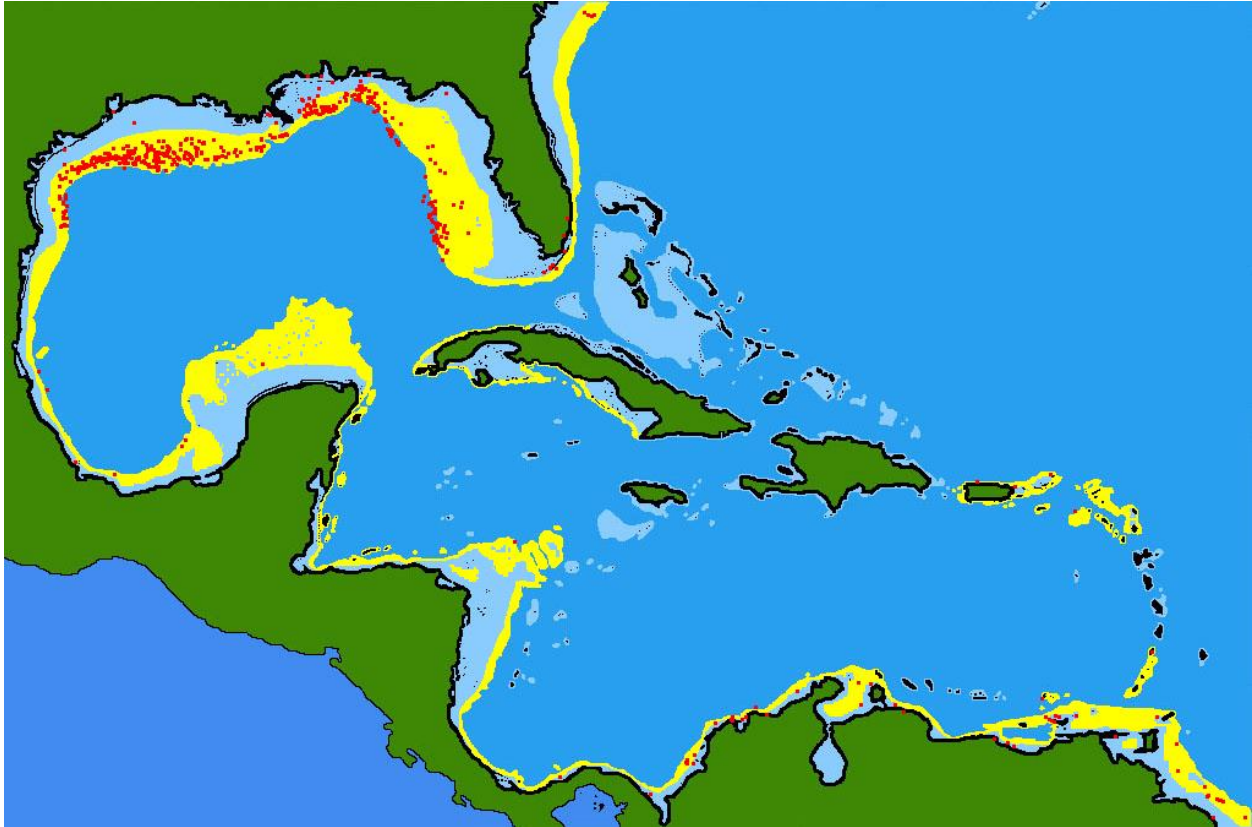


Fig. 2. Yellowedge grouper geographic distribution.

[<http://biogeodb.stri.si.edu/caribbean/resources/img/images/automaps/smap3489.png>, downloaded 22 November 2016]

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