

Epinephelus niveatus (Snowy or Spotted Grouper)

Family: Serranidae (Groupers and Sea Basses)

Order: Perciformes (Perch and Allied Fish)

Class: Actinopterygii (Ray-finned Fish)



Fig. 1. Snowy grouper, *Epinephelus niveatus*.

[https://upload.wikimedia.org/wikipedia/commons/5/5e/Snowy_grouper_%28Epinephelus_niveatus%29.jpg
downloaded 24 October 2016]

TRAITS. *Epinephelus niveatus* is a protogynous fish meaning that it can change sex from female to male during its lifetime. The minimum size recorded for a male is 72.7cm and it possessed an age of 8 years. The maximum size of snowy grouper ever recorded was a length of 120cm and weight of 30kg; 29 years was the oldest recorded age for the snowy grouper (Wyanski et al., 1999). The smaller fish possess a dark brown colour spotted with white dots on their sides (Fig. 1), and a black saddle shaped mark on the caudal peduncle (tail base). The larger snowy groupers however lose their white spots and the caudal saddle.

DISTRIBUTION. *E. niveatus* are found from North America all the way to Brazil as well as the Gulf of Mexico, including Barbados, Cuba, as well as Trinidad and Tobago (Fig. 2).

HABITAT AND ECOLOGY. The habitat of *Epinephelus niveatus* is rocky ocean floors between depths of 30-525m, however the majority are found from 100-200m. Jones et al. (1989) discovered that *E. niveatus* were seeking shelter among a rocky ridge in the Gulf of Mexico, and Wyanski et al. (1999) found that adults were mainly in waters at a depth of 100m in North Carolina. Adult *E. niveatus*, according to research done by Bielsa and Labisky (1987) and Weaver and Sedberry (2001), consume mainly gastropods, crustaceans, fish, and cephalopods. *Epinephelus niveatus* is categorized as being very rare in the southern United States (Huntsman et al., 1999).

REPRODUCTION. On observation of the gonads, it was found that *E. niveatus* was a protogynous hermaphrodite; each individual can change sex from female to male. Moore and Labisky (1984) determined that the earliest appearance of males was at ages 7-9 years. Later it was concluded by Wyanski et al. (1999) that the transition between the female and male was determined by the organism's size as well as its age. In the USA, *Epinephelus niveatus* were discovered to spawn at two major locations, the Florida Keys (Moore and Labisky, 1984) and oceanic slopes off the coast of South Carolina (Wyanski et al., 1999). Those in the Florida Keys had a spawning season from April to July while those in South Carolina spawned from April to September.

APPLIED BIOLOGY. *Epinephelus niveatus* is listed by the IUCN Red List under the name of *Hyporhamphus niveatus*, due to a change in the generic name. On the IUCN Red List it is categorized as being Vulnerable. As a result of this status the United States began monitoring this species and placed conservation measures in order to manage the rate at which *E. niveatus* is fished (Fig. 3).

REFERENCES

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Posted online: 2016



Fig. 2. Snowy grouper geographic distribution.

[<http://dx.doi.org/10.2305/IUCN.UK.2008.RLTS.T7861A12857720.en> downloaded 19 October 2016]



Fig. 3. Adult snowy grouper.

[http://www.saltwatersportsman.com/sites/saltwatersportsman.com/files/styles/medium_1x_/public/import/2011/files/images/201108/snowy-grouper-record.jpg?itok=ACTHpPg downloaded 19 October 2016]

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