

Threatened fishes of the world: *Epinephelus striatus* (Bloch, 1792) (Serranidae)

Mark A. Albins · Mark A. Hixon · Yvonne Sadovy

Received: 10 December 2008 / Accepted: 2 July 2009 / Published online: 25 July 2009
© Springer Science + Business Media B.V. 2009

Common name: Nassau grouper. **Taxonomy:** Groupers (*Epinephelus*, *Mycteroperca*, etc.) will likely move to the newly resurrected Family Epinephelidae based on Smith and Craig (2007). **Conservation status:** Listed as *endangered* (A2ad) by IUCN, *threatened* in US and Mexico by AFS, a *species of concern* by NMFS, and *overfished* by the CFMC, SAFMC and GMFMC (Sadovy and Eklund 1999; Musick et al. 2000; Cornish and Eklund 2003). **Identification:** Typically has buff ground color, with 5 dark bars, black saddle at caudal peduncle, row of black spots below/behind eye, dark “tuning fork” mark from upper jaw to top of head (Fig. 1a). May rapidly assume one of three alternate color phases including bicolored (Fig. 1b), white-bellied, and dark. Max length, 122 cm TL; max weight, 23–27 kg. GR, 8–9+15–17; D, XI+16–18; A, III+8; P, 17–19 (Heemstra and Randall 1993; Sadovy and Eklund 1999). **Distribution:** Bermuda, Florida, Bahamas, Yucatan, throughout Caribbean,

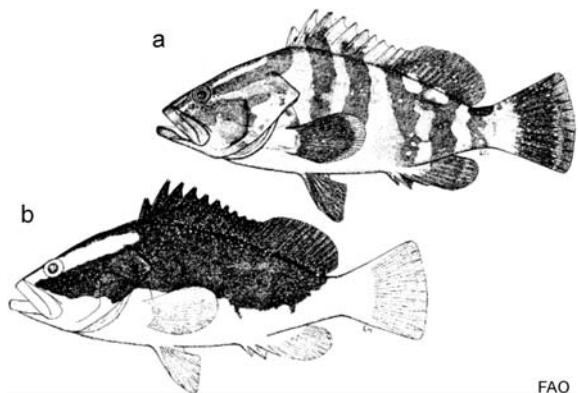


Fig. 1 Typical coloration (a) and bicolor pattern (b) (modified from Heemstra and Randall 1993)

rare/transient in Gulf of Mexico. **Habitat and ecology:** Shallow (0–130 m), insular, clear waters with coral, rocky, or artificial substrate. Juveniles inhabit back-reef macroalgae, coral, and seagrass beds. Generalist, benthic predators of fishes, crustaceans and mollusks. Predators include conspecifics, sharks, and barracuda. **Reproduction:** Gonochoristic with potential for sex change (Sadovy and Colin 1995). Max life span ca. 29 yrs. Sexual maturation at 4+ yrs. Forms large (tens of thousands of individuals) annual spawning aggregations at specific times/locations (Smith 1972). **Threats:** Historically common and important fisheries species. Severe declines across range due to overfishing, especially on spawning aggregations (Sadovy and Eklund 1999).

M. A. Albins (✉) · M. A. Hixon
Department of Zoology, Oregon State University,
3029 Cordley Hall,
Corvallis, OR 97331-2914, USA
e-mail: albinsm@science.oregonstate.edu

Y. Sadovy
Division of Ecology & Biodiversity,
School of Biological Science, University of Hong Kong,
Room 3S-01, Kadoorie Biological Sciences Building,
Pokfulam Road,
Hong Kong, China

Conservation action: Landings prohibited in U.S. Elsewhere, gear and size restrictions and/or protection for spawning aggregations, with varying degrees of success. **Conservation recommendations:** Range-wide prohibition of fishing on spawning aggregations and take of juveniles. Implementation of network of no-take marine reserves protecting adult and juvenile habitats, especially in the vicinity of current and historical spawning aggregation sites.

References

- Cornish A, Eklund A-M (2003) *Epinephelus striatus* In: 2007 IUCN Red List of Threatened Species. <http://www.iucnredlist.org/search/details.php/7862/all>. Accessed 20 May 2009
- Heemstra PC, Randall JE (1993) Groupers of the world. FAO, Rome 522 pp
- Musick JA, Harbin MM, Berkeley SA et al (2000) Marine, estuarine, and diadromous fish stocks at risk of extinction in North America (exclusive of Pacific salmonids). *Fisheries* 25(11):6–30
- Sadovy Y, Colin PL (1995) Sexual development and sexuality in the Nassau grouper. *J Fish Biol* 46:961–976
- Sadovy Y, Eklund A-M (1999) Synopsis of biological data on the Nassau grouper, *Epinephelus striatus* (Bloch, 1792), and the jewfish, *E. itajara* (Lichtenstein, 1822). NOAA Technical Report NMFS 146. pp 68
- Smith CL (1972) A spawning aggregation of Nassau grouper, *Epinephelus striatus* (Bloch). *Trans Am Fish Soc* 101:257–261
- Smith WL, Craig MT (2007) Casting the percomorph net widely: the importance of broad taxonomic sampling in the search for the placement of serranid and percid fishes. *Copeia* 1:35–55