

## *Caranx ruber* (Red Jack or Bar Jack)

Family: Carangidae (Jacks and Pompanos)

Order: Perciformes (Perch and Allied Fish)

Class: Actinopterygii (Ray-finned Fish)



**Fig. 1.** Red jack, *Caranx ruber*.

[<http://www.inaturalist.org/taxa/82330-Caranx-ruber>, downloaded 6 March 2016]

**TRAITS.** The red jack *Caranx ruber* grows to a recorded maximum length of 69cm (commonly less than 40cm) and weight of 6.8kg (Froese and Pauly, 2013). It is a laterally-flattened fish with medium sized eyes and long pectoral fins, silver in colour, tinted grey above and white below. There is an extended dark bar (golden-brown to black, with a streak of electric blue) along the back and into the lower lobe of the caudal (tail) fin (Fig. 1) which gives the species its alternative name of bar jack (Perrotta, 2004). The juveniles have six dark vertical bars. The mouth of the red jack has outer canine teeth and an inner band of teeth in the upper jaw, but the lower jaw only contains one band of teeth.

**DISTRIBUTION.** The red jack is found in both tropical and subtropical areas of the western Atlantic Ocean and is said to be a common species (Carpenter, 2002). In the north, its limit is New Jersey, USA, and it extends south along the continental coast to Venezuela, including

Bermuda and the West Indies, in offshore waters (Fig. 2) (Froese and Pauly, 2013). It has also been reported far offshore at Saint Helena in the south central Atlantic (Edwards, 1993).

**HABITAT AND ACTIVITY.** The preferred habitat is marine-coastal reefs, lagoons, clear and shallow waters about 20m deep. This is a mobile or oceanodromous species since they do not persist in one area for very long (Chapman and Kramer, 2000). Floating *Sargassum* seaweed mats are used by juveniles, which can also be found near pilings and dock areas (Schultz, 2004). The bar jack may form shoals alongside sharks, stingrays and barracuda (Fig. 3) (Edwards, 1993). This species is diurnal; it only consumes what it can see and is inactive at night.

**FOOD AND FEEDING.** The feeding of the red jack occurs along the seafloor as well as in midwater and it is therefore considered a benthopelagic predator. Its diet is made up of molluscs, crabs, krill, plankton, crustaceans, clams, shrimp, and mainly small fish such as herrings and sardines (Fig. 4). The diet of this species depends on its age. Juveniles consume fish larvae and plankton, but mostly shrimps. Fish that are nearly sexually mature consume small fish and shrimp, while the adults only prey on small fish, predominantly filefish, gobies, wrasses, butterflyfish and blennies. The feeding pattern depends on climate and season. The juveniles feed vigorously all year, but highest during autumn and spring, and the adults decrease feeding in early summer and during winter. Food intake of 3-7% of body weight per day is gained when vigorously feeding, and 0.5-2% when feeding is at a minimum. The annual food intake is said to vary from 1000-1500% of its body weight (Popova and Sierra, 1983).

**REPRODUCTION.** The vigorous eating previously mentioned is important for the accumulation of body fat for spawning, which occurs twice per year (March–April and June–July) and is dependent on seasonal changes (Bustamante, 1989). Schools of hundreds of fish congregate, which are then paired for spawning. It has been found that 67,000-231,000 pelagic eggs of diameter 0.75-0.85mm are released per female (Munro, 1983). Once eggs are released they no longer are cared for by their parents. Juveniles use floating *Sargassum* mats as protection and persist in shallow reefs until sexual maturity when they migrate off shore (Munro, 1983). Males are sexually mature at length 25cm and females at 31cm. There are no published studies on the growth of this species since it lacks discernible otolith rings (in the inner ear) (Munro, 1983).

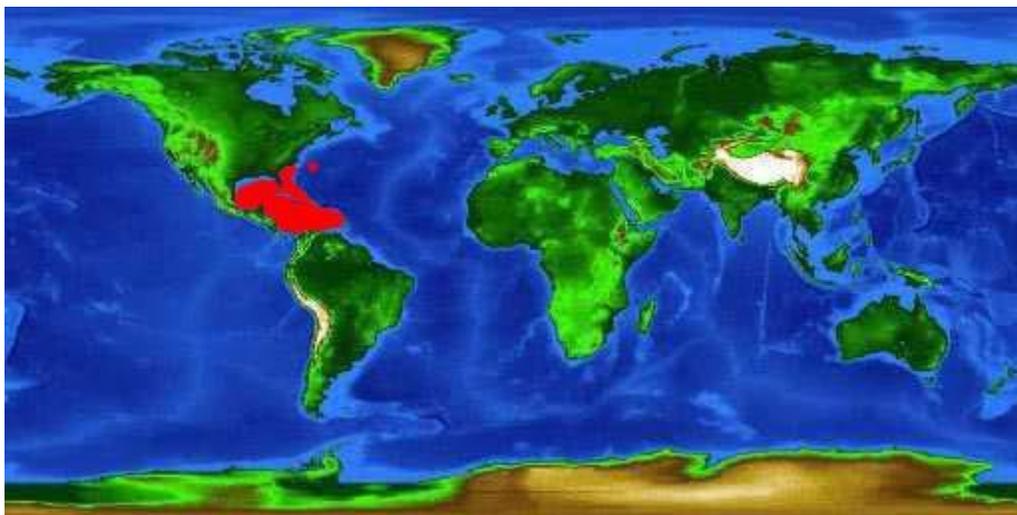
**APPLIED ECOLOGY.** The IUCN does not consider the red jack to be vulnerable or endangered and therefore it is excluded from the red list (Perrotta, 2004). The IUCN also stated that there is no current reduction of this species population but there is a recorded reduction in landings. There is a potential vulnerability due regional overfishing. There are no conservation actions for this species. This species is used in trade and is important to the economy in the Bahamas and Cuba for human consumption and bait. Red jacks are sometimes poisonous to humans when consumed, due to ciguatera poisoning caused by the dinoflagellate, *Gambierdiscus toxicus* in coral reefs. This toxin is ingested by coral grazers and passed up the food chain to humans (Perrotta, 2004).

**REFERENCES**

- Bustamante, G. (1989). Ecophysiological aspects of reproduction of the bar jack *Caranx ruber* (Pisces:Carangidae) in the southwestern region of Cuba. *Tropical Ecology* 30 (2): 205–217. ISSN 0564-3295.
- Carpenter, K.E. (ed.) (2002). The living marine resources of the Western Central Atlantic. Volume 3: Bony fishes part 2 (Opistognathidae to Molidae), sea turtles and marine mammals (PDF). FAO Species Identification Guide for Fishery Purposes and American Society of Ichthyologists and Herpetologists Special Publication No. 5. Rome: FAO. p. 1438. ISBN 92-5-104827-4.
- Chapman, M. R. and Kramer, D.L. (2000). Movements of fishes within and among fringing coral reefs in Barbados. *Environmental Biology of Fishes* 57 (1): 11–24. doi:10.1023/A:1004545724503.
- Edwards, A.J. (1993). New records of fishes from the Bonaparte Seamount and Saint-Helena Island, South Atlantic. *Journal of Natural History* 27 (2): 493–503. doi:10.1080/00222939300770241.
- Froese, R. and Pauly, D., eds. (2013). *Caranx ruber* in FishBase. February 2013 version.
- Graham, R.T. and Castellanos, D.W. (2005). Courtship and spawning behaviors of carangid species in Belize. *Fish. Bull.* 103:426-432.
- Munro, J. L. (1983). The Biology, Ecology and Bionomics of the Jacks, Carangidae. Caribbean Coral Reef Fishery Resources (A second edition of The biology, ecology, exploitation, and management of Caribbean reef fishes: scientific report of the ODA/UWI Fisheries Ecology Research Project, 1969-1973, University of the West Indies, Jamaica.). Manila: International Center for Living Aquatic Resources Management. pp. 82–94.
- Perrota, T. (2004). Bar Jack. Florida Museum of Natural History, Ichthyology. Archived from the original on 23 October 2008.
- Popova, O.A. and Sierra, L. (1983). Diet of the bar jack *Caranx ruber* (Carangidae) on the Cuban Shelf in Batabano Bay 1. Seasonal and age related fattening dynamics. *Voprosy Ikhtiologii* 23 (3): 460–468. ISSN 0032-9452.
- Schultz, K. (2004). Ken Schultz's Field Guide to Saltwater Fish. John Wiley and Sons. p. 288. ISBN 978-0-471-44995-9.
- Smith-Vaniz, W.F., Williams, J.T., Pina Amargos, F., Curtis, M. and Brown, J. (2015). *Caranx ruber*. The IUCN Red List of Threatened Species 2015: e.T16431737A16509637. <http://dx.doi.org/10.2305/IUCN.UK.2015-4.RLTS.T16431737A16509637.en>. Downloaded on 09 March 2016.

Author: Mariah F. Bayne

Posted online: 2016



**Fig. 2.** Red jack geographic distribution map.

[<https://www.flmnh.ufl.edu/fish/discover/species-profiles/caranx-ruber>, downloaded 1 May 2016]



**Fig. 3.** Red jack shoaling with a Caribbean reef shark.

[<http://www.alamy.com/stock-photo/caranx-ruber.html>, downloaded 1 May 2016]



**Fig. 4.** Red jack feeding on herring.

[<https://www.flmnh.ufl.edu/fish/discover/species-profiles/caranx-ruber>, downloaded 6 March 2016]

For educational use only - copyright of images remains with original source