

## *Halichoeres cyanocephalus* (Yellowcheek Wrasse)

Family: Labridae (Wrasses)

Order: Perciformes (Perch and Allied Fish)

Class: Actinopterygii (Ray-finned Fish)



**Fig. 1.** Yellowcheek wrasse, *Halichoeres cyanocephalus*.

[<http://www.photographia.com.br/usa.htm>, downloaded 5 February 2017]

**TRAITS.** *Halichoeres cyanocephalus* possess a moderately elongate, compressed body with a symmetrical upper and lower profile (McEachran and Fechhelm, 2005), and maximum length of 30cm (Robins and Ray, 1986). Its snout is pointed leading to a protusible mouth with thick lips. The jaw is lined with small teeth, with enlarged front canines and a canine located in the top rear of jaw, and toothed grinding plates in the throat (Claro et al., 2015). The dorsal fin has 12 rays and 9 spines, pectoral fins with 13 rays, anal fins with 12 rays and 3 spines. Scales cover the body and the base of the slightly rounded caudal fin. The lower body, below the level of the mouth, is coloured light blueish green while above the mouth it is yellow, with darker blue between (Fig. 1) (Randall, 1996).

**DISTRIBUTION.** Found in the western Atlantic Ocean with a range as far north as the Florida coast in the United States to as far south as Trinidad (Claro et al., 2015) (Fig. 2). They are reef fish staying in regions of shallower water close to the shoreline.

**HABITAT AND ACTIVITY.** Found in tropical marine waters within a water depth of 18-91m (Robins and Ray, 1986), mainly associated with inshore reef habitats of corals, reef, rocks or sand

and gravel. Active during the day while less active at night as they usually bury themselves into the sandy substrate (Snyderman and Wiseman, 1996). *H. cyanocephalus* inhabit the lower or bottom portions of the water column mainly over harder substrates (Cervigón, 1993). These fish are active with a peaceful temperament however they eat avidly (Thresher, 1980). Juveniles perform specialized cleaning activities on other reef fish at defined cleaning stations on isolated rocks at a sandy or gravel bottom (Fig. 3) (Sazima et al., 1998). *H. cyanocephalus* swim in a swaying or 'teetering' motion at cleaning stations.

**FOOD AND FEEDING.** *Halichoeres cyanocephalus* at cleaning stations, clean the fins and margins of client fish leaving the head alone. Ectoparasites and tissues are picked off clients along with gnathiid isopods, copepods and scales (Sazima et al., 1998). They fall within the feeding groups of carnivore and ectoparasite cleaner. Individuals actively forage by scanning for small prey within the reef which can be picked off. The diet consists primarily of bony fish, shrimps, crabs and ectoparasites (Claro et al., 2015). Prey is often chased or followed, and large amounts of food need to be eaten to compensate for a high energy expenditure. Rocks are used as anvils for crushing crustaceans such as bivalves (Sazima et al., 1998).

**POPULATION ECOLOGY.** Adult *H. cyanocephalus* are commonly found in deeper areas where the reef may be up to 30m deep. Juveniles are observed in shallow water of about 12m deep (Garzón-Ferreira, 2004). Little information on population is published for the species, however they are common.

**REPRODUCTION.** This species is dioecious, with distinct males and females. In tropical waters *H. cyanocephalus* mate year-round. Mating type can be classified as monogamous. When mating begins a male and female pair off, followed by the female laying eggs which are fertilized by the male. Fertilization is therefore external (Breder and Rosen, 1966). Larvae are pelagic, eventually going through two stages of development. These are the initial phase to terminal phase where individuals undergo changes in colour patterning (Fig. 4) (Claro et al., 2015).

**BEHAVIOUR.** Juveniles tend a designated cleaning station of radius 50-100cm where they perform a "cleaner dance" to get the attention of client fish species. The motions of the "dance" involve swimming forward slowly or remaining stationary followed by consecutively lowering vertically in the water then rising again. These swimming patterns act as visual cues for the potential clients which include *Chromis multilineata*, diurnal fish found in the reef, herbivores, omnivores and plankton pickers (Sazima et al., 1998).

**APPLIED ECOLOGY.** This species is under no threats, with no conservation measures enforced, but its range includes protected areas. It is not considered a game fish due to small size, but is caught and sold in the pet and aquarium trade (Rocha and Craig, 2017).

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Author: Ajay Ramlogan

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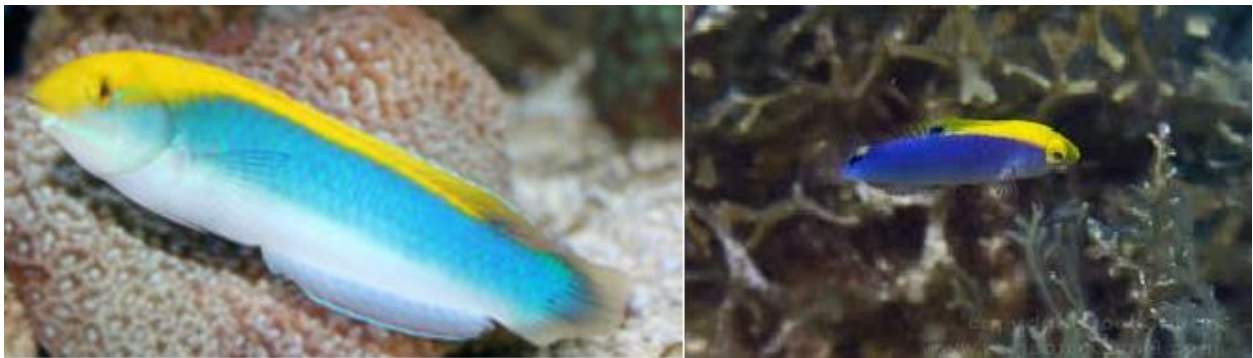
**Fig. 2.** Yellowcheek wrasse geographic distribution.

[<http://biogeodb.stri.si.edu/caribbean/resources/img/images/automaps/smap3896.png>, downloaded 9 March 2017]



**Fig. 3.** Yellowcheek wrasse at a cleaning station, cleaning another reef fish.

[[https://www.researchgate.net/figure/262908395\\_fig1\\_Figure-1-A-juvenile-Halichoeres-cyanocephalus-cleaning-a-Chromis-multilineata-client-at](https://www.researchgate.net/figure/262908395_fig1_Figure-1-A-juvenile-Halichoeres-cyanocephalus-cleaning-a-Chromis-multilineata-client-at), downloaded 9 March 2017]



**Fig. 4.** Yellowcheek wrasse terminal phase on left and initial phase on right.

[<http://www.wetwebmedia.com/halichoeres.htm>; <http://www.eaglerayphotography.com/keyword/wrasse>, downloaded 9 March 2017]

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