

Apogon townsendi (Belted Cardinalfish)

Family: Apogonidae (Cardinalfish)

Order: Perciformes (Perch and Allied Fish)

Class: Actinopterygii (Ray-finned Fish)



Fig. 1. Belted cardinalfish, *Apogon townsendi*.

[<http://biogeodb.stri.si.edu/caribbean/en/thefishes/species/3609>, downloaded 21 October 2016]

TRAITS. The distinguishing mark of *Apogon townsendi* is its vertical black bars (Snyder and Burgess, 2016). It is a small fish species, adults reach a maximum size of 6.5cm, with a blunt snout and a large eye that accounts for 15% of the body length (Fig. 1). There are two dorsal fins, the first with 6 rays and the second 1 spine and 9 soft rays. The pectoral fins have 12 rays and the anal fin has 2 spines and 8 rays. It has three dark vertical bars, one running from the second dorsal fin to the anal fin, the second further back, and the third at the base of the caudal (tail) fin. The scales have teeth-like projections (ctenoid) and are easily shed (deciduous). The caudal fin is forked (McEachran and Fechhelm, 2010). Colour is pinkish-orange on the dorsal side and yellowish below. Juveniles (larger than 1.2cm) have a single posterior dark bar (Fig. 2), and larvae (1.1cm or smaller) lack the dark bars (Fig. 3); both have vertical lines of orange chromatophores (Brito et al., 2011).

DISTRIBUTION. Widespread in the western Atlantic from south-eastern Florida (Gilmore and Fraser, 2015) including the eastern and western Gulf of Mexico (Snyder and Burgess, 2016), the Bahamas, and throughout the Caribbean Sea to Trinidad (Fig. 4).

HABITAT AND ECOLOGY. Found in coral reef structures, and can also colonize artificial reefs. Over reef structures it can be found in caves and holes and in rocky areas (Fig .5), patch reefs and coral spurs. It can also be found hovering among the spines of long-spined sea urchins (Gilmore and Fraser, 2015). It can be solitary or found in groups, in midwater at depths of 3-5m. It is nocturnal and feeds on plankton (Gilmore and Fraser, 2015).

REPRODUCTION. They have distinct pairing during courtship, as the female courts the male. They spawn in pairs near the bottom, and exhibit paternal mouth brooding behaviour. The male scoops up the eggs and they are held in the mouth of the male for incubation (Froese and Pablico, 2001). The males then have distended jaws and cannot feed, but occasionally eggs have been found in the stomach content of males (Snyder and Burgess, 2016).

BEHAVIOUR. These small fish are often preyed on by larger fish, most notably the lionfish (Albins and Lyons, 2012). They are nocturnal and stay undercover during the day (Reeflex, 2000), and exhibit hole-dwelling behaviour (Albins and Lyons, 2012).

APPLIED BIOLOGY. Due to its small size and bright colours it is occasionally used in the marine aquarium trade (Gilmore and Fraser, 2015). Listed on IUCN Red list as Least Concern, and has no species-specific conservation method in place.

REFERENCES

- Albins, M.A., and Lyons, P.J. 2012. Invasive red lionfish *Pterois volitans* blow directed. *Marine Ecology Progress Series* 3.
- Brito, J., Balam, C.C., Smith, D.G., and Weigt, L.A. 2011. Identification of early life-history stages of Caribbean *Apogon* (Perciformes: Apogonidae) through DNA Barcoding. *Zootaxa* 16-17.
- Froese, R., and Pablico, G.T. 2001. Fishbase. Accessed October 24, 2016. <http://www.fishbase.org/summary/3532>.
- Gilmore, G., and Fraser, T. 2015. The IUCN Red List of Threatened Species. Accessed October 23, 2016. <http://www.iucnredlist.org/details/185936/0>.
- McEachran, J.D. and Fechhelm, J. 2010. Fishes of the Gulf of Mexico, Volume 2: Scorpaeniformes to Tetraodontiformes. Texas: University of Texas Press.
- Reeflex. 2000. *Reeflex.net*. Accessed November 3, 2016. http://eng.reeflex.net/tiere/302_Apogon_townsendi.htm.
- Snyder, D.B. and Burgess, G.H. 2016. Marine Fishes of Florida. Maryland: Johns Hopkins University Press, 2016.

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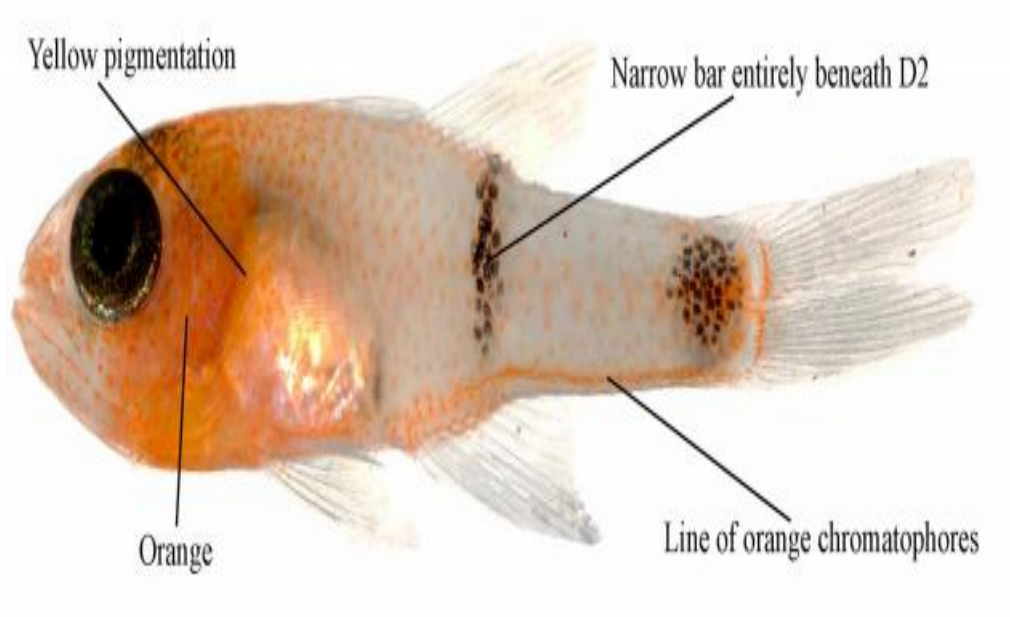


Fig. 2. *Apogon townsendi* juvenile.

[<http://www.mapress.com/zootaxa/2011/f/zt03133p036.pdf>, downloaded 14 November 2016]

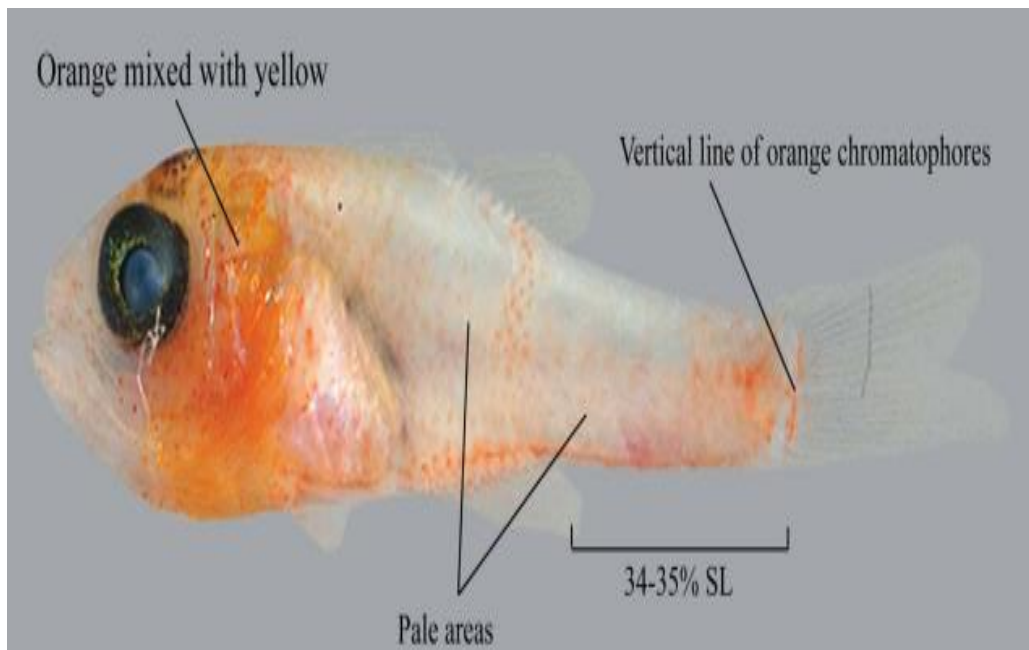


Fig. 3. *Apogon townsendi* larva.

[<http://www.mapress.com/zootaxa/2011/f/zt03133p036.pdf>, downloaded 14 November 2016]

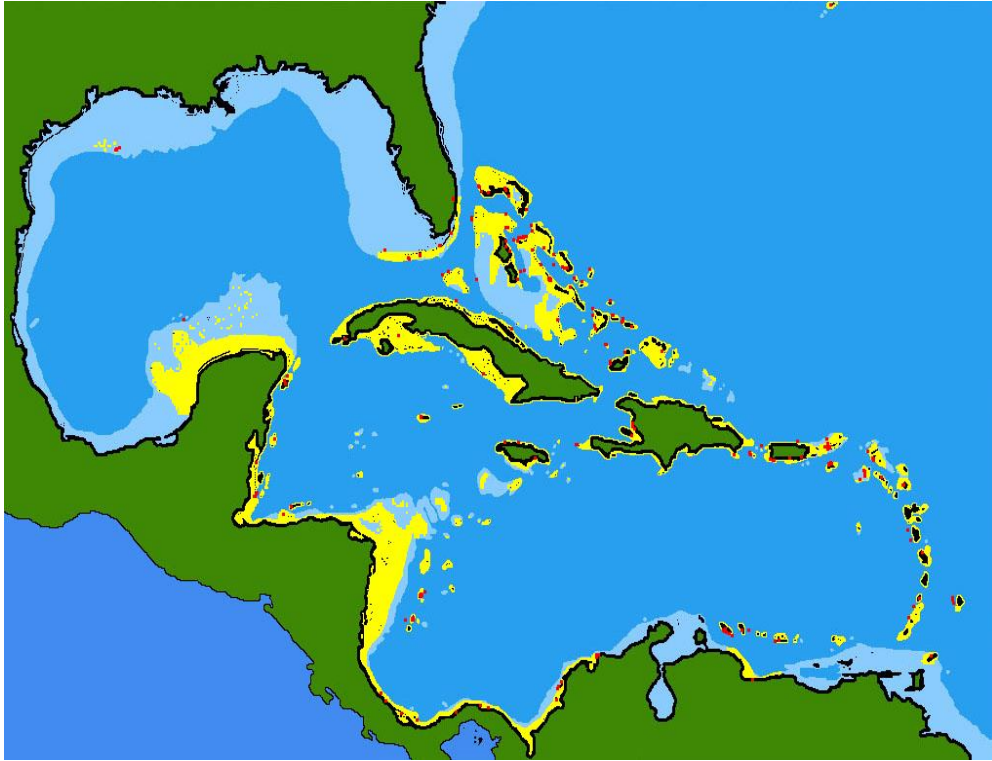


Fig. 4. *Apogon townsendi* geographic distribution.

[<http://biogeodb.stri.si.edu/caribbean/en/thefishes/species/3609>, downloaded 14 November 2016]



Fig. 5. *Apogon townsendi* in rocky reef habitat.

[<https://www.pinterest.com/pin/459437599455981134/>, downloaded 14 November 2016]

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