

Cladocora arbuscula (Tube Coral)

Order: Scleractinia (Stony Corals)

Class: Anthozoa (Corals and Sea Anemones)

Phylum: Cnidaria (Corals, Sea Anemones and Jellyfish)

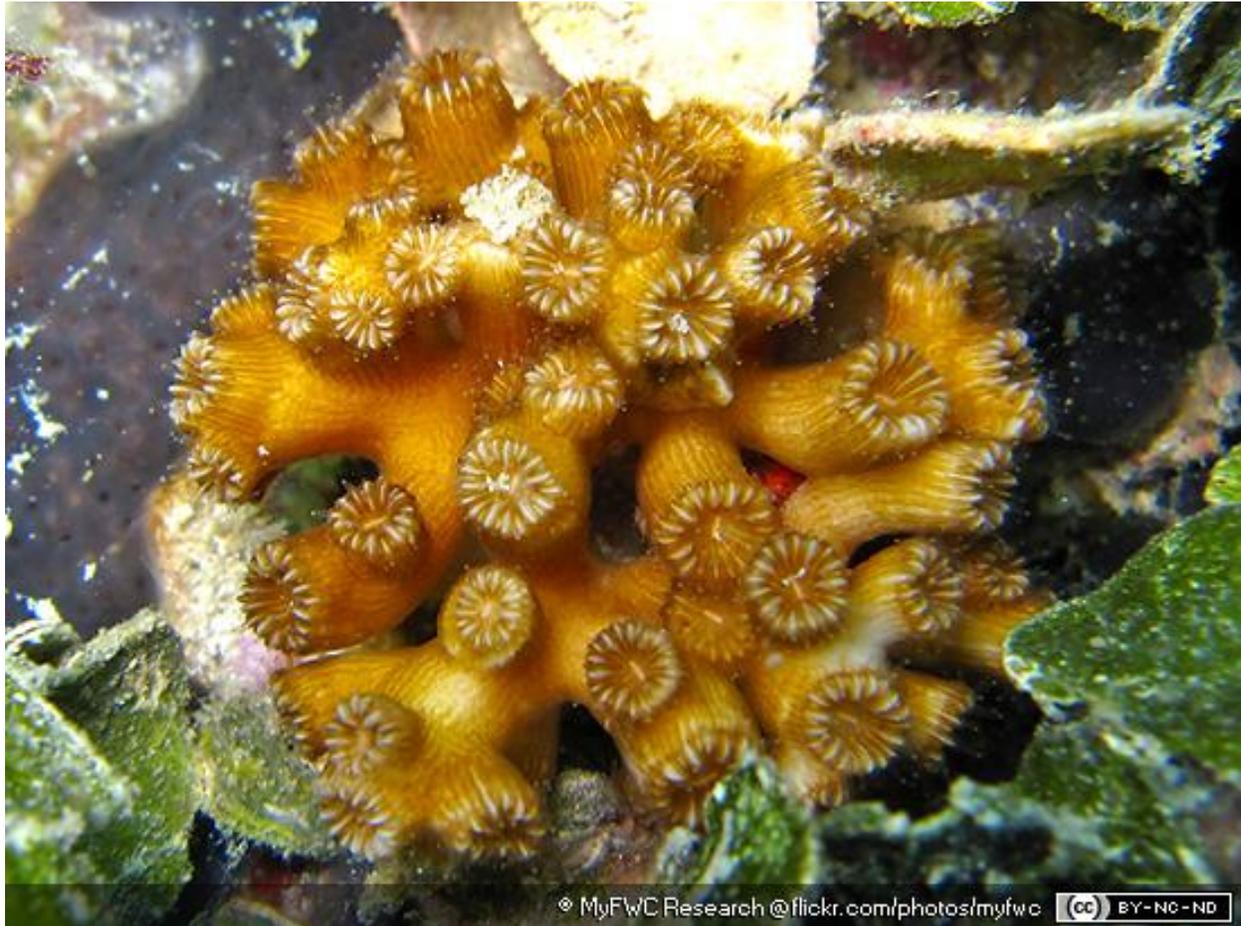


Fig. 1. Tube coral, *Cladocora arbuscula*.

[<http://marinebio.org/species.asp?id=1963>, downloaded 26 April 2016]

TRAITS. Living tube corals are tan, golden or dark brown clumps, which form colonies that are attached to firm substrates (Fig. 1) or partly embedded in loose substrates (Fig. 2). The non-living corallite tubes are white, irregularly shaped with perpendicular branches (Fig. 3). Tubes are less than 4mm in diameter and colony size ranges from 2.5-15cm (De Kluijver et al., 2016). The polyps are flower-like in appearance, while the corallite walls and septae (ridges) are delicate and thin. Colonies are gonochoristic, producing both male and female gametes.

DISTRIBUTION. Commonly to occasionally found in the Caribbean, southern Gulf of Mexico, Florida and the Bahamas (Fig. 4). Native to Trinidad and Tobago, especially surrounding Tobago because of the nature of the seabed present (Aronson et al., 2016).

HABITAT AND ACTIVITY. The tube coral is found in sea grass beds and areas where there is sedimentation occurring (De Kluijver et al., 2016). Also found in lagoons and reefs with soft-bottoms, on fore-reef slopes and at the base of the reef. The species is highly tolerant to changes in temperature and salinity. Upper and lower depth limits range from 1–25m (Aronson et al., 2016). The polyps secrete calcium carbonate which forms the corallite and as the polyp moves up and more calcium is secreted the old structure is left at the bottom. The polyps mainly come out at night and shelter during the day (Coral Reef Alliance, 2016).

FOOD AND FEEDING. The polyp extends its tentacles and as prey drifts by, the nematocytes sting the prey. After the prey is subdued, the tentacles forcefully guide the food into the mouth then into the hollow space where digestion occurs. Waste exits the mouth since only one opening is present. The prey of *Cladocora arbuscula* includes various types of plankton and small fish and crabs (Qurius, 2016). Since *Cladocora arbuscula* is a stationary species, there is a dependence on water currents. The flower-like form, and pigment produced by zooxanthellae, attracts prey that are interested in shelter or food (herbivores). Nocturnal feeding is usually performed (Coral Reef Alliance, 2016).

POPULATION ECOLOGY. This is a colonial species where the average colony is around 9cm and the average age of a colony is 30 years (Carpenter, 2008). Symbiotic relationships are formed with dinoflagellate algae (zooxanthellae), which provide the coral with chemical energy from the products of photosynthesis. Local abundance in soft-bottom waters may be possible; however, adequate information on population is not available for this species (Aronson et al., 2016).

REPRODUCTION. *Cladocora arbuscula* can reproduce both sexually and asexually. Under the category ‘broadcasters’, the sperms and eggs are released into the water and when fertilization occurs the planula larva formed lands on substrate to form a new colony. The medusa stage is absent, so the planula develops into mature polyp, and then the cycle continues. Polyps undergo asexual reproduction when budding occurs, and the colony can also reproduce asexually after breakage, each fragment regenerating into a new colony.

APPLIED ECOLOGY. *Cladocora arbuscula* is not affected by any main threats; however, most corals around the world are affected by coral bleaching (Aronson et al., 2016). The species is important in acting as a barrier for coral reefs due to the calcium carbonate corallites, resulting in reef bed formation.

REFERENCES

- Aronson, R., Bruckner, A., Moore, J., Precht, B. and Weil, E. (2016). *Cladocora arbuscula*. The IUCN Red List of Threatened Species, downloaded 11 March 2016.
- Carpenter, K. (2008). One-Third of Reef-Building Corals Face Elevated Extinction Risk from Climate Change and Local Impacts. <https://www.researchgate.net/publication/237782668>, downloaded 9 March 2016.
- Coral Reef Alliance. (2016) Corall Polyps. <http://coral.org/coral-reefs-101/coral-reef-ecology/coral-polyps/> downloaded 9 March 2016.
- De Kluijver, M., Gijswijt, G., de Leon R., da Cunda, I. (2016) Robust ivory tree coral (*Cladocora arbuscula*). <http://species-identification.org/>, downloaded 9 March 2016.
- Qurius. (2016). Tube Coral. <https://qrius.si.edu/browse/object/10009534#.VuLgXEIrLIV> downloaded 9 March 2016.

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Fig. 2. Tube coral on loose substrate.

[<http://coral.aims.gov.au/factsheet.jsp?speciesCode=0567>, downloaded 9 March 2016]

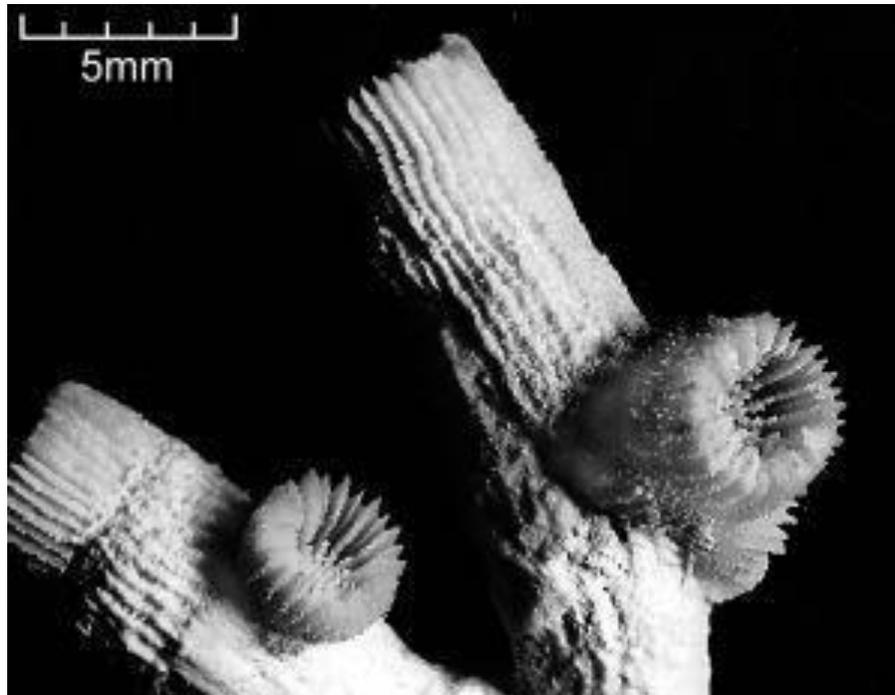


Fig. 3. Corallite of tube coral.

[<http://coral.aims.gov.au/factsheet.jsp?speciesCode=0567>, downloaded 9 March 2016]



Fig. 4. Geographic distribution of tube coral, *Cladocora arbuscula*.

[<http://www.iucnredlist.org/details/summary/133575/0>, downloaded 9 March 2016]

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