

Christmas tree hydroid

Phylum Cnidaria
Class Hydrozoa
Order Hydroida
Family Halocordylidae



DESCRIPTION

Colonies are large, as tall as 30 cm, with a dark brown to black perisarc, a protein-chitin exoskeleton which surrounds the stem and branches. This perisarc is usually overgrown with diatoms and algae, making the branches of the hydroid appear muddy brown. Branching is alternate. The polyp has a circle of 10 to 18 filiform tentacles at the base and as many as 12 capitate tentacles on the upper part of the hydranth. The polyps are white with a reddish tinge. Annulations occur on the branches which bear the polyps, and on the main stem and side branches.



Large colony of *Pennaria* in Pearl Harbor (photo J. Hoover)

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HABITAT

Attached to artificial and natural hard substrates where there is some water movement. Very common as fouling in harbors throughout the main islands, and commonly found on reefs usually in more protected areas or in cracks and crevices.

DISTRIBUTION

HAWAIIAN ISLANDS

All main Hawaiian Islands

NATIVE RANGE

Western Atlantic

PRESENT DISTRIBUTION

World-wide in warm seas

MECHANISM OF INTRODUCTION

Unintentional, as fouling on ships' hull

IMPACT

Fouling organism. Ecological impact unstudied, but some competition for space with other invertebrates likely. This hydroid will sting humans, causing a mild irritation.

ECOLOGY

Feeding

The hydroid is a carnivore, using the stinging cells in its tentacles to capture small plankton which drifts by in the currents. The feeding tentacles carry the prey to the mouth region where it is ingested whole.

Reproduction

Hydrozoan polyps can reproduce asexually by budding. The medusa (gonophores) bud off singly from the hydranth body just above the proximal tentacles. A single colony bears gonophores of one sex only. The mature medusae are similar in the two sexes; they have an elongate bell, a velum, four radial canals and four rudimentary tentacles. *Pennaria* medusae generally break away from the colony and swim about during the discharge of the sex products, but depending on environmental conditions, they may remain attached. At the onset of spawning, the ripe medusae gradually begin a rhythmic twitching. The males emit puffs of white sperm, the females eject three to six eggs. The spent medusae finally drop off, swim feebly if at all, and shrivel and die in a few hours.

Fertilization is external. In about a day, developing embryo becomes a young free-swimming planula, which will eventually settle and develop into a young hydroid colony.

REMARKS

We regard this common fouling hydroid as introduced with ship fouling. It is reported, with various synonyms, from warm-water seas worldwide. Edmondson (1933) reported it (as *Pennaria tiarella*) in Pearl Harbor and Kaneohe Bay, attached to stones, pilings of old wharves, buoys, and other floats. He noted that it appeared to be identical to the Atlantic Ocean *P. tiarella* McCrady, and may have been transported to Hawaii on the bottoms of ships.

Boone (1938) redescribed *P. disticha* as a new species, *Corydendrium splendidum*, from Kaneohe Bay (later synonymized by Cooke, 1977), collected as a single large colony in 2 meters of water at low tide, in 1928. It has been widely reported by numerous authors throughout the main Hawaiian islands.

REFERENCES

- Boone, L. 1938. Family Clavidae. Bull. Vand. Mar. Mus. 7: 33-34.
- Cooke, W.J. 1977. Order Hydroida. in: D.M. Devaney and L.G. Eldredge (eds), Reef and Shore Fauna of Hawaii, Section 1: Protozoa through Ctenophora. Bishop Mus. Spec. Pub. 64(10): 71-104.
- Edmondson, C.H. 1933. Reef and Shore Fauna of Hawaii, Bishop Museum, Spec. Pub. 22.