

Orange-striped sea anemone

Phylum Cnidaria
Class Anthozoa
Order Actinaria
Family Diadumenidae



Photo R. Manuel

DESCRIPTION

Small anemone with tentacular crown to 3.5 cm in diameter, 3 cm in height; column cylindrical, smooth green-gray or brown, with or without vertical orange or white stripes. Tentacles 50 to 100 in number, slender tapering, fully retractile, usually transparent, sometimes gray or light green flecked with white.

HABITAT

On solid substrates (undersides of stones or shells, on pilings or floating docks) in intertidal pools or shallow-water protected areas such as harbors and embayments, often associated with mussels or oysters. May occur in brackish water.

DISTRIBUTION

HAWAIIAN ISLANDS

Known only from Kaneohe Bay, Oahu

NATIVE RANGE

Western Pacific (Japan, China, and Hong Kong)

PRESENT DISTRIBUTION

Western Pacific, Indonesia, New Zealand, Hawaiian Islands, Pacific Coast of North America, North Atlantic

MECHANISM OF INTRODUCTION

Unintentional, as fouling on ships' hulls or with commercial oysters

IMPACT

Fouling organism. Ecological impact unstudied, but presumed minimal.

ECOLOGY

Feeding

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

Reproduction

Anemones can reproduce asexually by simply splitting themselves in half (longitudinal fission). Sexual reproduction is most likely achieved through the release of gametes by both sexes followed by external fertilization and embryonic development.

REMARKS

A population of this distinctive orange-striped sea anemone was discovered on a piling on the south shore of Kaneohe Bay on February 15, 1999. Native to the Western Pacific (Japan, China, and Hong Kong), it was introduced to the North Atlantic Ocean in the 1890s and to the Pacific coast of North America in the early 1900s (Carlton, 1979). It is also known from New Zealand and Dobo in Indonesia (D. Fautin, pers. comm., 1999).

D. lineata apparently shows extreme tolerance towards abiotic factors, e.g. salinity, temperature, (Gollasch & Riemann-Zürneck 1996), which undoubtedly has contributed to its success as an invading species. It is difficult to imagine that Edmondson would have missed this species in his explorations around Oahu, and thus it may be a relatively recent (1960s and later) introduction, most likely in ship fouling.

REFERENCES

- Carlton, J.T. History, biogeography, and ecology of the introduced marine and estuarine invertebrates of the Pacific coast of North America. Ph.D. Dissertation, University of California, Davis. 904 pp.
- Gollasch, S., & Riemann-Zürneck, K. 1996. Transoceanic dispersal of benthic macrofauna: *Haliplanella lineata* (Verrill, 1898) (Anthozoa, Actinaria) found on a ship's hull in a ship yard dock in Hamburg Harbour, Germany. *Helgoländer Meeresuntersuchungen*, 50: 253-258.