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USGS National Geologic Studies of Benthic Habitats, Northeastern United States

Marine Nuisance Species



Genus *Didemnum*
colonial tunicate; ascidian; sea squirt

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New Zealand
Didemnum vexillum



California
Didemnum sp.



Washington
Didemnum sp.



British Columbia
Didemnum sp.



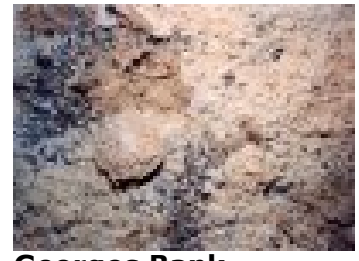
Netherlands
Didemnum sp.



New Hampshire
Didemnum vestum



Massachusetts
Didemnum sp.



Georges Bank
Didemnum sp.

Taxonomic Classification

Phylum *Chordata*, Subphylum *Tunicata*, Class *Asciacea*, Order *Aplousobranchia*, Family *Didemnidae*, Genus *Didemnum*.

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Summary of Occurrence

Within the past few years, several species of the colonial tunicate genus *Didemnum* from different parts of the world have drawn attention as nuisance species because they reproduce rapidly and foul marine habitats (including shellfish aquacultures and fishing grounds), ship's hulls, and maritime structures. Two species have been formally named: *Didemnum vexillum* described from the North and South Islands of New Zealand (Kott, 2002); and *Didemnum vestum*, described from Portsmouth Harbor, New Hampshire, USA (Kott, 2004). Species of the genus *Didemnum* that are possibly different but related to *D. vexillum* and *D. vestum* have been recorded from Europe, the U.S. west coast, British Columbia, and from coastal and offshore regions of New England other than New Hampshire, and recently from Japan. These organisms have not yet been formally compared to either *D. vexillum* or *D. vestum* in the published literature, and here they are provisionally called *Didemnum* sp. for purposes of communication.

The rapid spread of *Didemnum* colonies alters marine habitats and threatens to interfere with fishing, aquaculture, and other coastal and offshore activities. The colonies shown here are found on hard substrates that include dock structures and floats, wood and metal pilings, moorings and ropes, steel chain, automobile tires, polythene plastic, rock outcrops, gravel seabed (pebbles, cobbles, boulders), and ship hulls. They overgrow organisms such as tunicates, sponges, macroalgae, hydroids, anemones, bryozoans, scallops, mussels, and oysters. Where these colonies occur on the seabed, they likely cover the siphons of infaunal bivalves. The colonies have been found at water depths ranging from intertidal to continental shelf depths of 65m (213 ft).

Gross Morphology and Growth Habits

Didemnum colonies shown here exhibit a wide variety of morphological variants that range from: 1) long, ropey or beard-like colonies that commonly hang from hard substrates such as docks, lines, and ship hulls; to 2) low, undulating mats with short surficial appendages that encrust and drape rocky seabeds (pebbles, cobbles, boulders, and rock outcrops).

Purpose and attribution

The goal of this website is to assemble and communicate information on the distribution, biology, and marine habitat impacts of the nuisance species of *Didemnum*. Researchers and others are encouraged to share their observations on these topics.

- *Growth Rates and Patterns*
- *Overgrowth on Other Species*
- [Predation](#)
- [Reproduction-Larvae](#)
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Contributions to the website can be sent to Page Valentine, USGS, pvalentine@usgs.gov

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Image processing and archival: Dann Blackwood, USGS

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 - [Program with Abstracts \(PDF\)](#)
- [International Invasive Sea Squirt Conference, Woods Hole, MA, Apr. 21-22, 2005](#)
- [Imagery of the Family *Didemnidae*](#)
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