

Stop

The Invasion



Photograph courtesy of Janna Nichols

Invasive Tunicate

Styela clava, *Didemnum vexillum*, *Ciona savignyi*

Report Sightings

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Ciona savignyi



Didemnum vexillum



Styela clava

What is it?

Tunicate, commonly called a sea-squirt, is an invertebrate marine animal that spends most of its life attached to docks, rocks, or the undersides of boats. A tunicate is built like a barrel. The name, "tunicate" comes from the firm, but flexible body covering, called a tunic. Most tunicates live with their posteriors, or lower ends of the barrel, attached to fixed objects, and two openings, or siphons, projecting from the other. Tunicates eat plankton and live by drawing seawater through their bodies.

Is it here yet?

Yes. *Ciona savignyi* is present throughout Hood Canal and in Puget Sound, from Olympia to Whidbey Island. Huge infestations appeared and suddenly disappeared in southern Hood Canal. *Styela clava* is at Pleasant Harbor Marina in Hood Canal, and at Blaine, Semiahmoo, and Elliott Bay Marinas. A few were found among heavy infestations of *Didemnum* on Maury Island, but the Washington Department of Fish and Wildlife eradicated them. A local diver sited a single *Styela clava* just south of Maury Island. For the past four years, the Department of Fish and Wildlife has cleaned boats at the infested marinas before boating season. There were plans to eradicate *Styela clava* at Pleasant Harbor Marina this year. *Didemnum* is present in various densities throughout Puget Sound with extremely heavy infestations in the Vancouver, B.C. area.

Why should I care?

Didemnum and *Styela clava* have been invading coastal waters in several countries, where they spread rapidly. Mats of tunicates can smother other sea life, and nothing eats them because they are toxic to other species. In some areas of the country, tunicates are becoming a major threat to aquaculture operations because they compete with native filter feeders such as clams, mussels, and oysters.

What should I do if I find one?

Report online at www.invasivespecies.wa.gov.

How can we stop it?

Although *Didemnum* mats can break apart and spread by currents or storms, the primary way that tunicates spread is through the ballast water of ships or by attaching themselves to boats that are moved from one water body to another. **Clean, drain, and dry** all watercraft and equipment before using them in another water body to prevent spreading. The Department of Fish and Wildlife works with commercial divers every summer to remove tunicates from six heavily infested marinas. Various marine resource areas and recreational dive groups also have undertaken control measures.



Styela clava photograph courtesy of Janna Nichols

What are its characteristics?

Didemnum

- Their color can vary from cream to white, yellow, or tan.
- Dense blob-like (look like pancake batter) colonies.
- May form long hanging, rope-like lobes, like "dreadlocks," or beard-like colonies on hard substrates.
- May form flat undulating mats with bumps or small lobes on the sea floor.

Styela clava

- *Styela clava* can reach densities of 500-1,500 per square meter. The juveniles do not move far before settling out of the water and becoming attached.
- Club-shaped with two siphons; anchored to substrate by a stalk.
- Tough, leathery, bumpy exterior; often covered with other organisms.
- Up to 8 inches (20 cm) with stalk about 1/3 of its total length.
- Found in shallow, sub-tidal waters on hard surfaces.

Ciona savignyi

- Whitish in color to almost clear. It can be so transparent that you can see its organs.
- It is generally tube-shaped, has two siphons of unequal length that are slightly scalloped at the edges with small yellowish to orange flecks forming at the rim.
- It is usually found in depths of 40-75 feet, but also can be found under cover in protected waters on hanging aquaculture rafts and in marinas under docks, pilings, boat hulls, and other structures.

Where do I get more information?

- Washington Department of Fish and Wildlife,
wdfw.wa.gov/fish/ans/identify/html/index.php?species=styela_clava

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