

Sea Vase

Ciona intestinalis

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Pathway

- Hull fouling
- Ballast water
- Aquaculture
- Fishing
- Natural spread

Impacts



Biodiversity

Can exclude native species, lower biodiversity of sessile invertebrate communities and alter the properties of communities by reducing substrate availability and competing for food.

They can filter large amounts of water for phytoplankton, effectively altering the composition of phytoplankton in the water column and potentially reducing food availability for other species.



Human Health

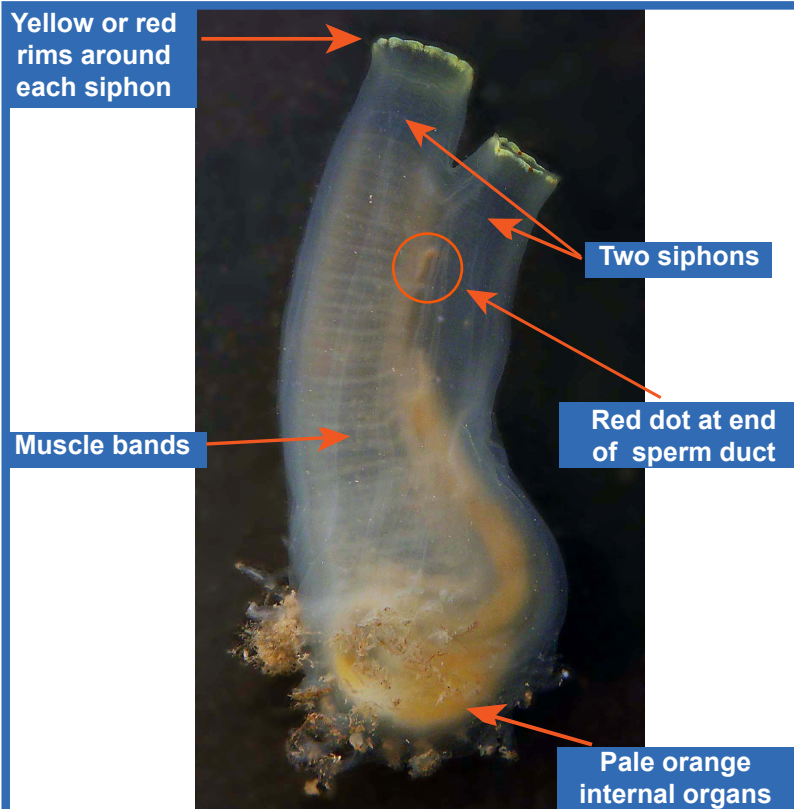
None known.



Economy

Aggregations can have significant impacts on the shellfish industry, where they compete with the shellfish for food and space, they can cause up to 50% mortality of mussels and reduce the size and quality of mussels produced. Sea squirt fouling of ports, hulls and ropes can also increase handling costs.

Key ID Features



Description

It has a cylindrical body with two openings known as siphons at the top, one of which is lower than the other on the body. If it is clean of other organisms then it is possible to see 10 horizontal muscle bands that run across the body.

Size

10 – 15 cm.

Colour

Translucent body that can have a pale yellow or pale green hue. Pale orange internal organs can be seen through the translucent body and yellow or orange rims with red spots can be seen around each of its two siphons.

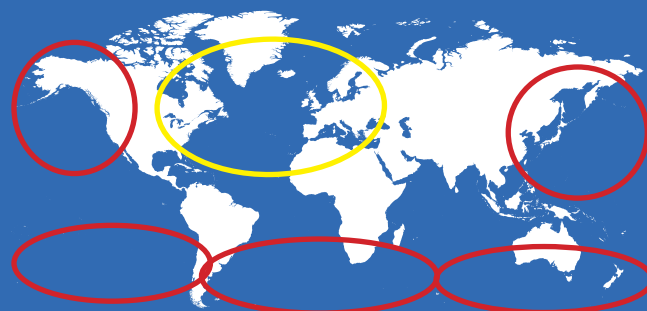
*Note: Images not to scale



Distribution

Native range: North Atlantic, excluding northern Canada.

Non-native range: All temperate regions where not native, including the South Atlantic, Pacific and Indian oceans.



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Habitat and Ecology

Habitat: They typically anchor onto fully submerged, hard substrates, most commonly in sheltered bays. They are typically found in shallow water, however they have been found at 100 m, 500 m and 1000 m. They grow on rock, seaweeds, wood, metal, concrete and aquaculture gear forming dense aggregations of more than 5000 individuals per m². Once settled, the sea vase produces strong anti-microbial compounds that prevent other creatures from attaching to its body. This can reduce species biodiversity in areas dominated by these sea squirts.

Environmental preference: Adults can tolerate a wide range of temperatures and salinities ranging from -1 - 30°C and from 8 – 40 PSU.

Diet: Suspension feeders, who filter phytoplankton and other food particles from the water column.

Reproduction: They become sexually mature when they reach approximately 4 cm. Adults are hermaphrodites but do not self-fertilise, instead eggs and sperm are released into the water column where they produce free-swimming tadpole larvae. The larvae can swim in the water column for 2 - 10 days before settling on a hard substrate and transforming into the adult sea squirt. They can live 1 - 2 years.

Confusion with similar species

Similar to *Ciona savignyi* (see below) but can be distinguished by two main features: *C. intestinalis* has a red dot at the end of its sperm duct that is not present in *C. savignyi* and *C. intestinalis* lacks white pigment flecks in its body wall that are present in *C. savignyi*.



If you think you have seen this species, please contact the person below who will confirm its identity.

Please also refer to the mitigation strategies guidance document, provided as part of the Marine Biosecurity Toolkit.

Further Information

- <https://www.cabi.org/isc/datasheet/88555>
- <https://www.marlin.ac.uk/species/detail/1369>
- <http://invasions.si.edu/nemesis/calnemo/SpeciesSummary.jsp?TSN=159113>
- <http://www.iucngisd.org/gisd/species.php?sc=1127>

Images

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