

# European Sea Squirt

*Ascidrella aspersa*

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**Pathway** • Hull fouling • Aquaculture • Ballast water

## Impacts

### Biodiversity

Can form dense aggregations which can redirect energy gathered from phytoplankton straight to decomposers, rather than up the food chain, as the sea squirt lacks predators. Can cause a threat to local ecosystems by displacing native fauna.



### Human Health

None known.



### Economy

It can also foul aquaculture gear which increases operation and maintenance costs.

## Key ID Features

2 oral siphons per individual

Rough outer layer



Attached debris

Paler markings around siphons

## Description

The body is oval in shape and attaches to the substrate on its side. It has two oral siphons, a larger one at the top of its body and a smaller one a third or halfway down the side, both of which have lighter markings around their edges. When the animal is fully expanded with seawater you can see defined tentacles in the open siphon. The outer layer of the sea squirt is firm to the touch, thick and rough with small bumps covering it.

### Size

0.5 – 1 cm in size with some reaching 15 cm.

### Colour

Greyish-black to brown in colour, the outer layer is semi-transparent and often covered with attached debris.

\*Note: Images not to scale



## Distribution

**Native range:** European coasts from Norway to the Mediterranean and northwest African coasts.

**Non-native range:** Countries within the northwest Atlantic, India, Australia and New Zealand.



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## Habitat and Ecology

**Habitat:** Found in the intertidal zone and to depths of up to 90 m usually in shallow, sheltered sites such as harbours, sea lochs and estuaries. It attaches to shells, pebbles, silty rocks, wharf piles or any submerged structures and can form dense aggregations.

**Environmental preferences:** Tolerates salinities of 18 – 40 PSU and a maximum temperature of 27 °C. Its abundance is increasing as global temperatures increase.

**Diet:** Suspension feeders which filter the water for phytoplankton.

**Reproduction:** They are hermaphroditic, with each individual developing male and female organs. They become sexually mature at 4 cm size and in spring to early summer they release sperm and eggs into the water column where fertilisation takes place. The larvae swim briefly before settling and transforming into an adult form. Each adult participates in a single spawning event, due to their short life cycles which are about 18 months, from mid-summer to the following year's winter.

## Confusion with similar species

The following are listed as identifying features of the European sea squirt which should be used to discern it from other sea squirts:

- The inhalant siphon is at the top of the body, with the exhalant siphon about 1/3 down the edge. Siphons may sometimes be frilled.
- A ring of 30 - 40 well separated, slender tentacles may be found at the base of the inhalant siphon.

The sea squirt *Ciona intestinalis* (pictured below - see ID card for this species) always has yellow marks around the siphon and is different in shape and consistency. *Ascidia* spp. have a firmer body wall than *Ciona* spp.



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.marlin.ac.uk/species/detail/1566>
- <https://www.cabi.org/isc/datasheet/92557>
- <https://invasions.si.edu/nemesis/browseDB/SpeciesSummary.jsp?TSN=159213>

## Images

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Reverse: © John Bishop