

Leathery sea squirt – case study

The leathery sea squirt, *Styela clava*, was probably introduced to Europe (Figure 1.5.5.2.5) as fouling on warships during the Korean War. The species is a filter feeder occurring mainly on docks in sheltered estuaries and inlets. It is native to the Pacific coast of Asia and once introduced to Europe, it was reported on ship and leisure craft hulls. The first introduction of *S. clava* in the Mediterranean occurred in the Bassin de Thau (Davis and Davis, 2008). The species may be spread with oyster stock movements and movement of floating port structures on which *S. clava* is a fouling organism. It is a hardy species that is capable of surviving at lower salinities for short periods of time and can survive temperature fluctuations of -2 °C to 23 °C (Eno *et al.*, 1997; Minchin, 2009). Although the larval stage only lasts for a short period of time (24–48 hrs) introduction by ship ballast water is possible during local short voyages. The sea squirt can attain densities > 1000/m² in sheltered areas, creating a high biomass that results in competition with other filter-feeders. Young individuals often attach to larger specimens (up to 200 mm) to form clusters and thus the long-lived *S. clava* may serve as substrate for other non-indigenous species (Pederson, pers. comm.). Some humans are susceptible to respiratory problems from sprays produced from damaged tissues when removing sea squirts from oysters. Fouling of artificial structures in port regions, ranched oysters, shellfish held in hanging culture, and fish cages result in economic costs associated with maintenance. In the southern Gulf of St Lawrence, Canada, *S. clava* abundance has caused declines in cultured mussel production (Minchin, 2009).



Figure 1.5.5.2.5 Distribution of the leathery sea squirt *Styela clava* in the OSPAR region (Minchin, 2009 DAISIE).

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