

GUIDE TO MARINE INVADERS IN THE GULF OF MAINE

Botryllus schlosseri star tunicate (colonial tunicate, ascidian)



Andrew Martinez

PHYSICAL DESCRIPTION

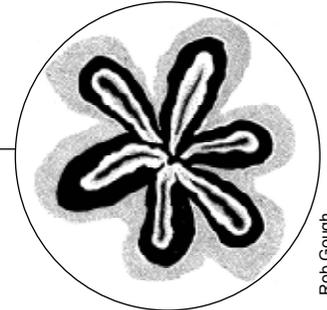
- Colonies of zooids (individual animals) arranged in conspicuous starlike systems
- Each zooid 0.06 in (2-4 mm) across with 5-20 zooids in a system
- Colonies grow up to 3-4 in (7.5-10 cm) wide
- May form lobes when mature
- Color variable: green, violet, blue-black, brown and yellow

HABITAT PREFERENCE

- Grows on a variety of stable substrates including algae, rocks, docks, pilings and ships
- Primarily subtidal; occasionally found in lower intertidal zone
- Can survive in estuaries with low salinities (18 ppt or less)



Botryllus schlosseri colony



system of zooids (5-20)

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INVASION STATUS & ECOLOGICAL CONCERNS

This fouling organism is found in lower intertidal to subtidal waters from the Bay of Fundy to North Carolina. It was introduced from Europe where it is abundant along rocky shores of the Mediterranean and other European seas. Although *B. schlosseri* can grow on nearly any submerged hard surface, star tunicates often grow on mussels and oysters. The tunicate colonies can negatively impact these mollusks by competing for food and resources. The entire colony replicates every week through a synchronized asexual budding process. *B. schlosseri* can shed eggs that are fertilized in the water. A single free-swimming larva settles within 36 hours and begins dividing into genetically identical clones to form a colony. Colonies appear to fuse with close relatives, providing the advantage of a larger colony that may be more resistant to overgrowth and may reach sexual maturity earlier.

SIMILAR SPECIES

Mature *Botryllus schlosseri* may be initially confused for a sponge because of the protruding lobes typically observed in this tunicate's mature stage. *Botrylloides violaceus* (right) is another invasive colonial tunicate that is bright orange, red, or purple and does not have the star-like configuration of *Botryllus schlosseri*.

Botrylloides violaceus



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This identification card is one of a series produced by Salem Sound Coastwatch (www.salemsound.org) highlighting introduced species that pose a threat to the marine environments of Massachusetts and the Gulf of Maine. The original development of these cards was funded by the MA EOOEA Office of Coastal Zone Management with funding from the U.S. Fish and Wildlife Service. For additional species information or to report sightings, please visit www.mass.gov/czm/invasives/monitor/reporting.htm.

