

GUIDE TO MARINE INVADERS IN THE GULF OF MAINE

Membranipora membranacea lacey crust bryozoan



Rob Gough

M. membranacea colonies on base of kelp blades

HABITAT PREFERENCE

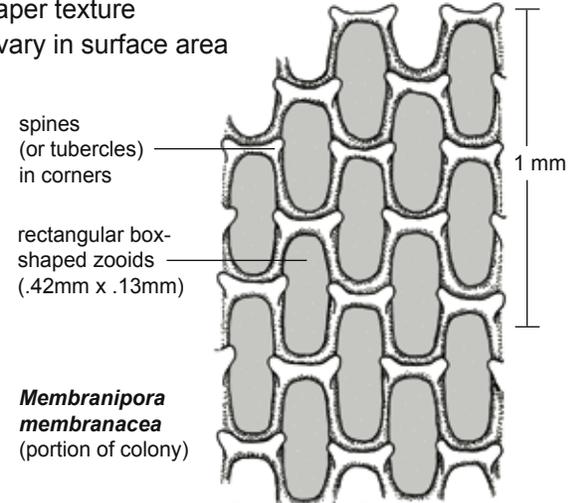
- Found in shallow, subtidal waters on kelp and other algae
- Grows best in areas of fast flowing water or high tidal exchange



Close-up of *M. membranacea* colony on kelp

PHYSICAL DESCRIPTION

- Bryozoan encrusts algae and other firm surfaces
- Colonies form a white or gray net or lace of tiny rectangular (or rhomboid) zooids, often beginning as a round colony spreading outward
- Each animal (zooid) has short spines (tubercles), giving the colony a sandpaper texture
- Thin, encrusting colonies vary in surface area



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INVASION STATUS & ECOLOGICAL CONCERNS

M. membranacea is a native of European waters as well as North America's Pacific coast from Alaska to Baja California. This species was first discovered at the Isles of Shoals in 1987, probably introduced via ballast water. Within a few years, the species had spread throughout the entire Gulf of Maine, first growing primarily on kelp, then on a variety of species.

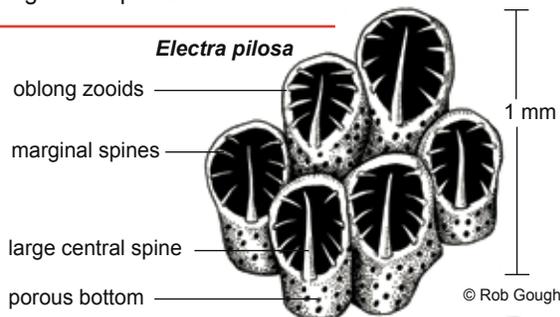
While the full impact of this species is still being investigated, it appears to have a negative affect on the algal species that often serve as its host. As a *M. membranacea* colony grows, it forms a sheet across the surface of its host plant, reducing its ability to photosynthesize and making the algal body brittle, often causing it to break under the surrounding wave energy. As kelp beds become damaged or destroyed, they then may serve as ideal locations for the establishment of other invasives plants, including *Codium fragile* ssp. *tomentosoides*. The synergistic relationship between these two opportunistic species increases the potential for negative impacts.

Below: A specimen of *Fucus* sp. nearly completely covered by *M. membranacea*.



SIMILAR SPECIES

M. membranacea may at first glance be mistaken for *Electra pilosa*, another encrusting bryozoan. However, closer inspection using a hand lens, reveals that *E. pilosa* zooids are ovoid (vs. rectangular), surrounded by 4-12 spines (typically nine) including one larger central spine, and contain large pores throughout the bottom third (see right). Perhaps the most apparent difference is the often spiny appearance of *E. pilosa*, caused by the protruding central spine and the rounded zooids.



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 EOEEA 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.

