

Crustaceans

SKELETON SHRIMP, CAPRELLID AMPHIPOD *Caprella mutica*



Description: Slender crustacean, large claws, long antennae, spines on body; males twice as large as females, over 2 in (5 cm)
Distribution: Maryland to Newfoundland
Introduced from: Western Pacific
Habitat: Found in fouling communities, attaches to algae, ropes, docks, and pilings; subtidal

EUROPEAN ROCK SHRIMP *Palaemon elegans*



Description: Shrimp with five pairs of legs, two with claws, and one pair of claws have orange and bright blue bands; 2.5 in (6.4 cm)
Distribution: Long Island Sound to Maine
Introduced from: Europe
Habitat: Near docks, rocky coasts and tidepools, also associated with algae; subtidal

ORIENTAL SHRIMP *Palaemon macrodactylus*



Description: Shrimp with five pairs of legs, first pair have claws with orange and beige stripes; up to 2.7 in (6.9 cm)
Distribution: Chesapeake to New Hampshire
Introduced from: Western Pacific
Habitat: Docks, marinas, soft bottoms, and vegetation; subtidal

ASIAN SHORE CRAB *Hemigrapsus sanguineus*



Description: Banded legs, red spots on claws, variable color, square shape, three marginal teeth; 1.9 in (4.8 cm)
Distribution: North Carolina to Canada
Introduced from: Western Pacific
Habitat: Rocky shores, cobbles, often found under rocks; mid-intertidal to subtidal

EUROPEAN GREEN CRAB *Carcinus maenas*



Description: Green, reddish orange, or tan carapace with darker mottling; five marginal teeth; 2.5–4 in (6.4–10.1 cm)
Distribution: Virginia to Newfoundland
Introduced from: Europe
Habitat: Hard and soft surfaces; intertidal to subtidal

DEFINITIONS

Intertidal: The area between the high and low tide

Subtidal: Areas below low tide

Estuarine: Where fresh water and sea water mix

Carapace: The shell of a crustacean

Zooid: Individual animal of a colony of bryozoans or ascidians

■ = Organisms may be found further north or south

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Hitchhiker's Guide to Non-Native Species



■ This guide identifies 19 species of the many marine non-native (introduced) species that may be found along the New England coast.

Some species, such as the common periwinkle snail, the green fleece alga, the European green crab, and many of the sea squirts, have been here for a long time and are very common. Others, such as the Asian shore crab, two shrimp species, a red alga, and a bryozoan, are relatively new invaders. Not included in the guide are the “down under” barnacle and the Chinese mitten crab, which have not yet been observed on our shores, but are likely to arrive soon. You may find these non-native species washed up on the shore or in the wrack zone along the high tide line. Most of the organisms in this guide can also be observed on the bottom of the sea floor, or attached to hard structures like rocks, pilings, and floating docks in marinas and harbors.

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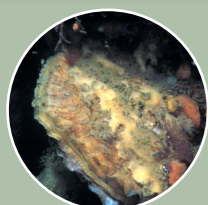
Mollusks

COMMON PERIWINKLE SNAIL *Littorina littorea*



Description: Shell usually dark, transverse black stripes on tentacles, poorly developed sutures on whorls; up to 1.7 in (4.3 cm)
Distribution: Nova Scotia to Virginia
Introduced from: Europe
Habitat: Prefers hard surfaces, estuarine to marine; intertidal to subtidal

EUROPEAN OYSTER *Ostrea edulis*



Description: Shell rounder than native oyster, grayish white, slightly scalloped, white muscle scar; up to 8 in (20.3 cm)
Distribution: Maine to Massachusetts
Introduced from: Europe
Habitat: Rocks, hard structures, estuarine and marine; intertidal to subtidal, becoming more abundant

Sea Anemones

STRIPED ANEMONE *Diadumene lineata*



Description: 50–60 tentacles, white or orange stripes, may be greenish; small, up to 1.5 in (3.8 cm)
Distribution: Nova Scotia to Florida
Introduced from: Western Pacific
Habitat: Attached, estuarine, protected areas; subtidal

Algae

GREEN FLEECE ALGA *Codium fragile* subsp. *fragile*



Description: Green, spongy, finger-like branched alga; bleaches white; up to 36 in (91.4 cm) long
Distribution: Nova Scotia to North Carolina
Introduced from: Western Pacific
Habitat: Attached to hard surfaces, rocks, shells, bays; subtidal and often washed up on the beach

FEATHERY RED ALGA *Dasysiphonia japonica*



Description: Filamentous red alga with many branches; difficult to identify from native species; up to 2.5 in (6.4 cm)
Distribution: Long Island Sound to Maine
Introduced from: Western Pacific
Habitat: Likely to be seen on shore (decaying alga smells like rotten eggs); subtidal to depths of 6–20 m

RED ALGA *Grateloupia turuturu*



Description: Usually red to burgundy, flat silky blades, simple or divided, single or in clumps; up to 15 in (38.1 cm) wide and 6 ft (1.8 m) long
Distribution: Long Island Sound to Maine
Introduced from: Western Pacific
Habitat: Attached to rocks, stones, mussels, piers, pontoons, and other hard structures; low intertidal to 18 ft (5.5 m)

Ascidians

CLUB TUNICATE *Styela clava*



Description: Brown, tough, bumpy exterior, stalked; 6 in (15.2 cm) or more
Distribution: Virginia to Gulf of St. Lawrence
Introduced from: Western Pacific
Habitat: Attached, hard surfaces, docks; subtidal

STAR TUNICATE *Botryllus schlosseri*



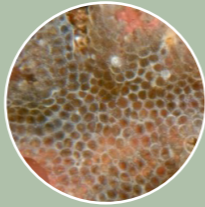
Description: Colorful star-like colonies from white, yellow, green, orange, and black, or combinations; microscopic individual zooids .06 in (0.2 cm); colonies can be several inches wide
Distribution: Chesapeake to Gulf of St. Lawrence
Introduced from: Europe, but also may be native in some regions
Habitat: Attached, floating docks, bivalves, aquaculture cages, hard surfaces, grows over other organisms; subtidal

ORANGE OR RED SHEATH TUNICATE *Botrylloides violaceus*



Description: Variety of colors, tan, orange, red, purple; microscopic zooids 0.1 in (0.3 cm) arranged in loose circles, rows or dense clusters; clumps over 5 in (12.7 cm)
Distribution: Virginia to Gulf of St. Lawrence
Introduced from: Western Pacific
Habitat: Attached, floating docks, bivalves, aquaculture cages, hard surfaces, grows over other organisms; subtidal

DIPLOSOMA TUNICATE *Diplosoma listerianum*



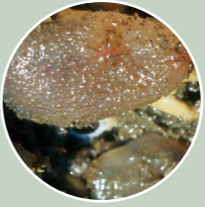
Description: Smooth encrusting colony, gray tint, white dots (zooids), sometimes black; microscopic individual zooids; sprawling colony can grow to over 8 in (20.3 cm)
Distribution: North Carolina to Nova Scotia
Introduced from: Cosmopolitan, origin unknown
Habitat: Attached, floating docks, bivalves, aquaculture cages, hard surfaces, grows over other organisms; subtidal

COLONIAL TUNICATE *Didemnum vexillum*



Description: Cream to white with brownish channels; microscopic individual zooids; gritty, large colonies with hanging lobes; colonies up to 12–18 in (30.5–45.7 cm)
Distribution: Virginia to Maine
Introduced from: Western Pacific
Habitat: Attached to hard surfaces, docks, ledges, ropes hanging in water, grows over other organisms, aquaculture cages; subtidal to 70 m

TUNICATE *Ascidella aspersa*



Description: Grayish to whitish with pink tinges, rigid surface with bumps, rough surface, elongated, attached on side; up to 5 in (12.7 cm)
Distribution: Long Island Sound to Nova Scotia
Introduced from: Europe
Habitat: Attached, docks; shallow subtidal

Bryozoans

BROWN OR RED BRYOZOAN *Bugula neritina*



Description: Group of feeding animals (zooids) that look like a clump of red seaweed, alternate branching; individual zooids .04 in (0.1 cm), clumps 3.4 in (8.7 cm)
Distribution: Virginia to Massachusetts
Introduced from: Cosmopolitan from Mediterranean
Habitat: Hard substrates, floating docks; subtidal

LACY CRUST BRYOZOAN *Membranipora membranacea*



Description: Encrusting bryozoan with small animals (zooids) with rectangular shapes and spines on each corner; microscopic individual zooids up to .04 in (0.1 cm)
Distribution: Long Island Sound to Labrador
Introduced from: Europe
Habitat: Primarily seen on kelp, other algae, and hard surfaces, zooids form large colonies, often with a concentric growth covering most of kelp blades; subtidal