

## ABBREVIATED, KEY TO SALTWATER INVERTEBRATES (WITH COMMON NAMES)

The following key covers the 21 species of marine invertebrates located in the Aquatics Section study materials for the Connecticut Envirothon. This key is based on information in Marine Animals of Southern New England and New York (Weiss 1995), one of the listed references. The glossary below is intended to clarify the more technical terms within the key.

### GLOSSARY

**byssal threads** : the beard-like protein-based threads used by several species of bivalves to attach themselves to hard surfaces

**callus**- thickened & hardened part of the shell of a gastropod (single shell)

**carapace**: the portion of the exterior skeleton (shell) of the crustaceans enclosing the head, thorax, and major internal organs  
chitin: the structural protein from which the crustacean exoskeleton is formed

**front margins** (Crustacea): the edge of the carapace where the eyes are located

**marginal teeth** (Mollusca): small but distinctive grooves resembling a line of teeth at front end of carapace operculum: the horny shield used to close the opening of a round snail shell

**rostrum**: the pointed extension on the front margin of the carapace; located in the position of the nose in mammals

**siphon**(Mollusca):a muscular, straw-like appendage used to draw in or expel water from the organism. In some bivalves, the incurrent and excurrent siphons are separate; in others they are fused into a single appendage

**siphonal canal** : the long extension at the bottom of a gastropod (snail) shell through which the siphon can be extended

**umbilicus**: small hole in some gastropod (snail) shells

**umbo**: highest point of each valve of a bivalve shell

### KEY

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|--|---|
| 1a. body jelly-like, generally umbrella-like and radially symmetric; planktonic as adult   | Go to #2  |
| 1b. Adult organisms benthic  | Go to #3  |
| 2a. Pale, pink to milky white body; shallow and saucer shaped; 4 horseshoe shaped gonads   | <i>Aurelia aurita</i><br>moon jelly                         |
| 2b. Reddish body; thick lens-like umbrella with 8 major lobes; long reddish brown to yellowish tentacles and frills attached to underside  | <i>Cyanea capillata</i><br>lion's mane jellyfish            |
| 3a. Organism has spiny skin-like exterior and pentagonal (5-sided) symmetry  | Go to #4  |
| 3b. Organism has exoskeleton or shell  | Go to #5  |
| 4a. Madreporite bright orange-red; arms firm and slightly flattened; overall color brown to greenish-black with orange, red, or pink tinge | <i>Asterias forbesi</i><br>common sea star                  |
| 4b. Madreporite pale; arms slightly flabby with distinctly up-turned lips  | <i>Asterias amurensis</i><br>Japanese sea star              |
| 5a. Has calcium carbonate-based shell with no significant appendages   | Go to #6  |
| 5b. Has chitin-based carapace with jointed legs  | Go to #17   |
| 6a. Shell is a single piece (univalve)   | Go to #7  |
| 6b. Shell is made up of two or more plates or valves   | Go to #14   |
| 7a. Shell is coiled, snail-like  | Go to #8  |
| 7b. Shell is not coiled; empty shell has shelf on underside extending half the length of the shell   | <i>Crepidula fornicata</i><br>common Atlantic slipper-snail |
| 8a. Bottom of shell has a siphonal canal or siphonal notch   | Go to #9  |
| 8b. Bottom of shell is round, without a siphonal canal or notch  | Go to #13   |

9a. Siphonal canal is long (more than 1/4 of total shell length)	Go to #10
9b. Siphonal canal is short or more of a notch	Go to #12
10a. Shell is mostly smooth, without vertical ribs, and is large, usually > 5cm long	Go to #11
10b. Shell is heavily sculptured with vertical ribs and/or spiral ridges, & is small, <= 3.5cm long	Go to #12
11a. A deep groove or "channel" spirals around top of shell; outer edge of body whorl is flat, without large knobs	<b><i>Busycotypus canaliculatus</i></b> Channeled whelk
11b. No groove around top of shell; outer edge of body whorl has a series of large knobs	<b><i>Busycon carica</i></b> knobbed whelk
12a. Deep distinct ribs running length of shell & fine horizontal spiral ridges-->knobby texture; lips of opening rather thin	<b><i>Urosalpinx cinerea</i></b> Atlantic oyster drill
12b. Nodistinct ribs running length of shell + spiral ribs4corrugated texture; outer lip of opening rather thick	<b><i>Nucella lapillus</i></b> Atlantic dogwinkle
13a. Shell has D-shaped opening with an umbilicus and/or a callus; shell round, greyish-beige	<b><i>Euspira heros</i></b> northern moonsnail
13b. Shell has circular or teardrop-shaped opening; inner lip somewhat thickened; never larger than 3cm; no indentations between whorls	<b><i>Littorina littorea</i></b> common periwinkle
14a. Shell surface is very flaky, jagged and layered; shell is irregularly shaped but generally flattened and somewhat elongated	<b><i>Crassostrea virginica</i></b> eastern oyster
14b. Shell is not as in 14a.	Go to #15
15a. Shell has radiating ribs from umbo to edges of shell	<b><i>Argopecten irradians</i></b> bay scallop
15b. Shell has no radiating ribs but may have concentric lines	Go to #16
16a. Shell thick and sturdy, resembles rounded triangle; bottom inner edge of shell has marginal teeth; inside of shell has purple blotch; growth lines closely spaced	<b><i>Mercenaria mercenaria</i></b> northern quahog;hardshe/Vcherrystone clam
16b. Shell is somewhat oval; siphon of living animal is very long and can not be completely drawn into shell	<b><i>Mya arenaria</i></b> softshell/steamerAong neck clam
17a. Has a large horseshoe-shaped carapace with long, pointed tail and no antennae	<b><i>Limulus Polyphemus</i></b> horseshoe crab
17b. Has a carapace covering entire thorax with five pairs of legs	Go to #18
18a. Has abdomen (tail) about same length as carapace extending from end of carapace	<b><i>Homarus americanus</i></b> American lobster
18b. Abdomen (tail) folded tightly under carapace (thorax)	Go to #19
19a. Has teardrop-shaped carapace with long rostrum; carapace is rough, covered with fuzz and grayish-brown in color	<b><i>Libinia emarginata</i></b> portly spider crab
19b. Carapace smooth and round-to-elliptical in shape	Go to #20
20a. Rear legs flat and paddle-like, adapted for swimming; large, narrow claws; carapace extends at sides into long spines	<b><i>Callinectes sapidus</i></b> blue crab
20b. Rear legs are pointed	Go to #21
21 a. Five teeth to the side of each eye; carapace color usually dark green with yellow, black or brown blotches	<b><i>Carcinus maenas</i></b> green crab
21 b. Nine teeth to side of each eye; carapace color reddish-brown in appearance	<b><i>Cancer irroratus</i></b> Atlantic rock crab