

BLADDERWORTS

Utricularia macrorhiza, *U. radiata*, *U. purpurea* and *U. intermedia*

NATIVE TO MAINE

Habitat: Nine species of bladderwort are found in Maine. Four of these are possible invasive plant look-alikes:

- Common bladderwort (***Utricularia macrorhiza***)
- Floating bladderwort (***Utricularia radiata***)
- Large purple bladderwort (***Utricularia purpurea***)
- Northern bladderwort, or flat-leaf bladderwort (***Utricularia intermedia***)

All four species are aquatic and occur in both the floating-leaved and submersed plant communities. They may be found free floating at or below the water surface, or trailing along the bottom of lakes, ponds, slow-moving streams, and wetland pools. Most aquatic bladderworts are adapted to survival on dry land when stranded by low water levels. Unlike rooted aquatic plants, that draw their nutrients primarily from the sediments, bladderworts, lacking roots, draw nutrients directly from the water. Bladderworts are carnivorous, and supplement their nutrient intake by capturing small prey, such as zooplankton or small insects.

Description: Tiny, lopsided sack-like bladders used for capturing invertebrate prey are either attached directly to the leaves or to specialized leafless stems. In addition to this key shared feature, all four bladderworts discussed here have finely-divided, branched, submersed leaves and produce irregular snapdragon-like flowers. Beyond these common characteristics, however, the four look-alike bladderwort species are easily distinguishable. The chart on page 68 provides a summary of key distinguishing features.

US Range: All four species are native to Maine and found throughout much of New England and other parts of the United States.

Annual Cycle: All four species are aquatic perennials that propagate primarily from stem fragments. Flowers followed by fruits are borne at or above the surface in mid-summer, and winter buds are produced on the submersed stems toward the end of the growing season. At the end of the growing season, plants sink to the sediments and decay. The winter buds and some of the stem fragments overwinter intact. When the water warms in the spring, winter buds inflate with air and float to the surface where new growth begins.

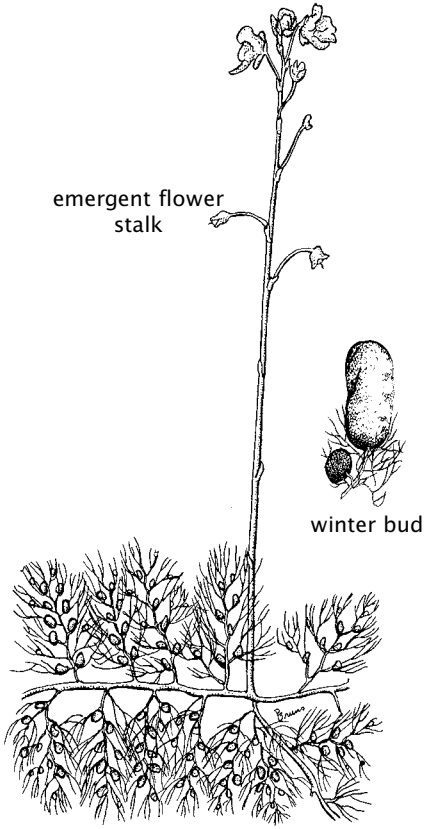
Value in the Aquatic Community: Bladderworts offer shade, invertebrate habitat and foraging opportunities for fish. Common bladderwort and large purple bladderwort often occur in extensive, dense colonies.

Look Alikes: May be confused with other plants with finely divided leaves including fanwort, hornworts, mermaid weed, water crowfoots, water marigold, and leafy water-milfoils.

**FANWORT & INVASIVE
MILFOIL LOOK ALIKES**

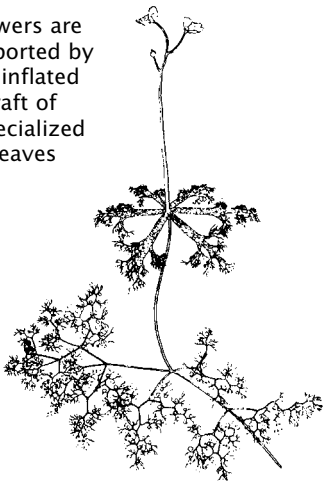


Common bladderwort with flowers and magnified bladders (insets)

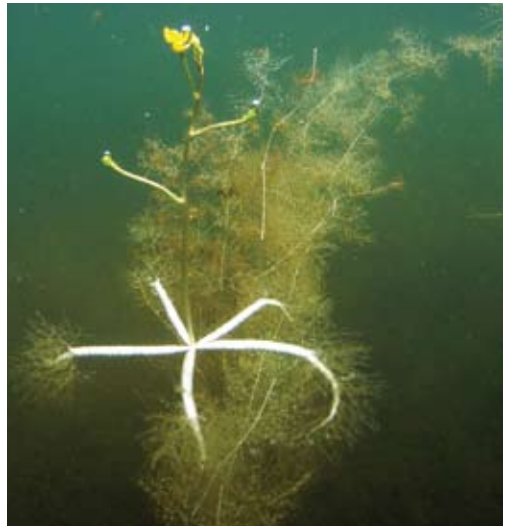


Common bladderwort has coarse, alternately arranged branch-divided leaves

flowers are supported by an inflated raft of specialized leaves



Floating bladderwort has fine, alternately arranged branch-divided leaves



Floating bladderwort in flower

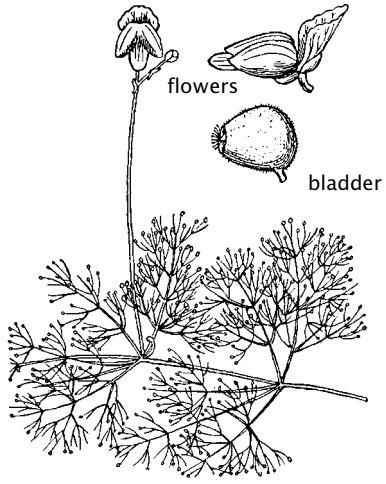
Bladderwort Species Comparison Chart

BLADDERWORT SPECIES	RELATIVE STEM LENGTH	LEAF ARRANGEMENT	LEAF DESCRIPTION	FLOWERS	BLADDERS
Common bladderwort (<i>Utricularia macrorhiza</i>)	Long (up to 3 meters)	The leaf arrangement is alternate , but leaves may be divided in such a way that they appear to occur in pairs, or lopsided whorls. The leaves are moderately to tightly arranged, giving the plant a coarse appearance .	Finely divided leaves are thread-like (round in cross-section). Leaves are typically paler and greener toward the growing tip.	Yellow snapdragon-like flowers emerge on flower stalks at the surface. There may be 4-20 flowers per stalk.	Bladders are attached along the edges of the divided leaves . Young bladders near the growing tip are transparent and tinted pale green. Bladders become darker and less transparent as they age.
Floating bladderwort (<i>Utricularia radiata</i>)	Medium (up to 1 meter)	The leaf arrangement is alternate , but leaves may be divided in such a way that they appear to occur in pairs, or lopsided whorls. The leaves are moderately to tightly arranged, but much finer than common bladderwort giving the plant a delicate appearance .	Finely divided submersed leaves are thread-like (round in cross-section) and finer than leaves of common bladderwort .	Yellow snapdragon-like flowers emerge from a slender stalk, ascending from the center of a whorl of specialized, inflated branches that act like a float.	Bladders are attached along the edges of the divided leaves . Bladders are generally transparent with a pale green tint.
Large purple bladderwort (<i>Utricularia purpurea</i>)	Medium (up to 1 meter)	The leaves are arranged in strict whorls . The whorls are openly spaced along the stem. The whorls at the growing tip curl upward to form a distinctive bird cage-like structure.	Finely divided leaves are thread-like (round in cross-section).	Pale purple snapdragon-like flowers emerge on slender flower stalks at the surface, often several flowers per stalk.	Tiny transparent bladders are attached to the tips of the divided leaves .
Northern bladderwort (<i>Utricularia intermedia</i>)	Short (less than 0.5 meters)	The leaves are alternately arranged in a tight radiating (whorl-like) pattern along the stem.	Finely divided leaves are flattened and serrated .	Yellow snapdragon-like flowers emerge on flower stalks at the surface.	Bladders occur on separate, leafless stems .

FANWORT & INVASIVE
MILFOIL LOOK ALIKES



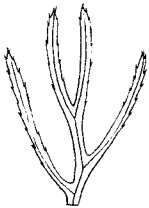
Large purple bladderwort with flowers
(inset)



Large purple bladderwort has
finely branch-divided leaves
arranged in whorls



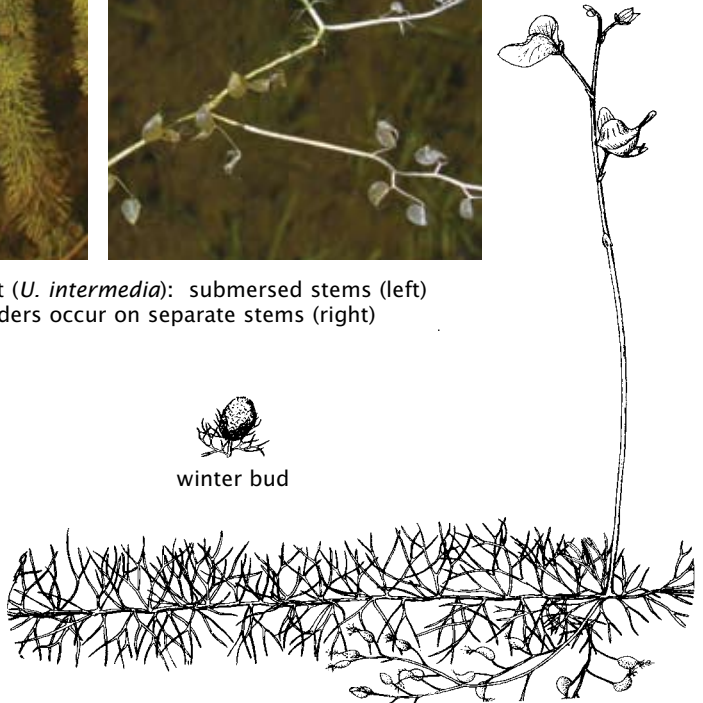
Northern bladderwort (*U. intermedia*): submerged stems (left)
Leaves and bladders occur on separate stems (right)



divided leaves are
flat in cross-section



winter bud



Northern bladderwort leaves are arranged in whorls