

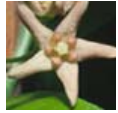


Invasive Plant Atlas of New England

Catalog of Species Search Results

Hydrilla verticillata

(Hydrilla)



[:: Catalog of Species Search](#)



[Common Name\(s\)](#) | [Full Scientific Name](#) | [Family Name Common](#) | [Family Scientific Name](#) | [Images](#) | [Synonyms](#) | [Description](#) | [Similar Species](#) | [Reproductive/Dispersal Mechanisms](#) | [Distribution](#) | [History of Introduction in New England](#) | [Habitats in New England](#) | [Threats](#) | [Early Warning Notes](#) | [Management Links](#) | [Documentation Needs](#) | [Additional Information](#) | [References](#) | [Data Retrieval](#) | [Maps of New England Plant Distribution](#)

COMMON NAME

Hydrilla

FULL SCIENTIFIC NAME

Hydrilla verticillata (L.f.) Royle

FAMILY NAME COMMON

Frog's Bit Family

FAMILY SCIENTIFIC NAME

Hydrocharitaceae

IMAGES



Whole plants out of water



Young plants



Habit



Incursion



Habit

NOMENCLATURE/SYNONYMS

Synonyms: *Serpicula verticillata* L.f.

DESCRIPTION

Botanical Glossary

Hydrilla verticillata is a submerged, aquatic perennial herb that can grow from depths of 6 m (20 ft.). The plants have both a monoecious and a dioecious form. The leaves of the plants are 2-4 mm (0.07-.15 in.) wide (down to 1 mm (0.04 in.) on monoecious plants) and are 0.6-2 cm (0.2-0.8 in.) long. The leaves are whorled around the stem, with 3-8 leaves per whorl. There can be "sharp" spines of variable size along the margins of the leaves, giving them a toothed appearance. The leaves have a midrib which is reddish in color.

This plant has various methods of reproduction. The monoecious form of the plant produces female flowers that have three translucent petals that may contain a few red streaks. These flowers are 1-5 cm (0.4-2 in.) long and 4-8 mm (0.15-0.3 in.) wide. There are also three sepals that are white in color. The flowers are attached to the axils of the leaves by a long hypanthium. The male flowers also have three petals that are around 2 mm (0.07 in.) long and are colored anywhere from white to red. There are three white, red or brown sepals. These flowers are short stalked, detaching from the plant and floating to the water surface. The dioecious plants in the U.S. so far are female (however the hydrilla collected in Connecticut did not have flowers present). Another reproductive structure which makes these plants a successful invaders are the stem tubers (turions). The stem tubers are bud-like structures that are produced along the stems of the plant, and can vary in color from dark green, to grey to whitish. They are 0.6 cm (0.25 in.) long and often appear spiny. These structures can break off of the plant and survive the winter in the sediment at the bottom of waterbodies. Tubers are also another way in which these plants spread. These tubers form at the end of the rhizomes of the plant and are 5-10 mm (0.2-0.4 in.) long and white or yellow in color.

Page References Crow & Hellquist 31, Flora of North America 35, Gleason & Cronquist 637, Holmgren 606. See reference section below for full citations.

SIMILAR SPECIES

Egeria densa Planch. (Brazilian waterweed)

Elodea canadensis Michx. (native)

Elodea nuttallii (Planch.) St. John (native)

Character	<i>Hydrilla verticillata</i>	<i>Egeria densa</i>	Native <i>Elodea</i> spp.
Leaf length	0.6-1.7 cm	1.2-4 cm	0.6-1.7 cm

Leaf whorls	(2) 4-6	4 (6)	3
Leaf margins	Conspicuously toothed	Fine teeth seen with 10x lens	Fine teeth seen with 10x lens
Lower leaf midrib	May be toothed	Toothless	Toothless
Flower size	Small (<1cm)	Large (>1.5cm)	Small (<1cm)

REPRODUCTIVE/DISPERSAL MECHANISMS

Stem tubers can break off and start new plants. Waterfowl and boats can carry pieces of the plants to new waterbodies, where these fragments can root and grow.

DISTRIBUTION

The origin of *Hydrilla* is uncertain. It is now found in parts of Asia, Australia, Europe and South America. Canada has not yet reported hydrilla, though it has been found near the boarder. In the United States, the dioecious form is found across the South from Florida to California. The monoecious form is located on the West Coast in Oregon and Washington. The monoecious form is also found in Delaware, Maryland and Washington D.C. in the Potomac River. Both forms can be found in Virginia and the Carolinas. It is also present in Pennsylvania, New Jersey, Tennessee and Iowa. In New England, it occurs infrequently in southern Connecticut, on Cape Cod in Massachusetts, and in southern Maine.

HISTORY OF INTRODUCTION IN NEW ENGLAND

Hydrilla verticillata was first introduced into the U.S. in the 1950s in Florida for use as an aquarium plant. The first record of it outside of cultivation was in Florida in 1960. It was found in the Potomac River in 1981. The plant was collected in Mystic, Connecticut in 1989, and misidentified as *Egeria densa*. This error was unknown until 1995 when it was finally determined to be *Hydrilla verticillata*. On returning to this pond in 1996, the population was still persisting. Subsequently *Hydrilla* has been reported from other localities in Connecticut, a pond on Cape Cod (MA) in 2001, and a pond in southern Maine in 2002.

HABITATS IN NEW ENGLAND

Aquatic
Lake or Pond
River or Stream

Hydrilla verticillata can be found in both still and running water. These habitats include lakes, rivers, reservoirs and ponds. However, in Connecticut hydrilla has only been found in ponds and lakes that range in size from a 1 acre pond to a 50 acre lake. It can tolerate acidic to basic, oligotrophic to eutrophic and fresh to brackish water.

THREATS

Hydrilla verticillata forms dense, monotypic mats that can shade and crowd out the native vegetation. It can grow at lower light levels than other aquatic plants. It has the ability to store extra phosphorous, can survive a wide range of pH conditions and can tolerate a fair amount of salinity. It alters the water quality by raising the pH, decreasing the oxygen and raising the water temperature. It also causes water to stagnate, providing a good habitat for breeding mosquitoes. It is an impediment to fish as well as water recreation and navigation.

This plant has spread via waterfowl and by fragments remaining attached to boats that travel between waterbodies. Its turions and tubers can overwinter and it can also reproduce via plant fragments and seeds (though no seedlings have been seen in the natural environment). It was reported as having spread along 500 ha of the shoreline of the Potomac River in eight years. Currently, it has infested over 65,000 acres in Florida alone. It can even outcompete other aggressive invasives such as *Myriophyllum spicatum* (Eurasian watermilfoil) and *Egeria densa* (Brazilian waterweed). The control and management of this plant in the South has cost millions of dollars. It is listed on the federal noxious weed list.

EARLY WARNING NOTES

The plant has now been found in southern Connecticut, Cape Cod in Massachusetts, and southern Maine. It is still rare in the region and new localities should be reported immediately.

MANAGEMENT LINKS

[The Nature Conservancy](#)

DOCUMENTATION NEEDS

Documentation required: Herbarium specimen or mounted snippet of the plant with stem turions.

Best time for documentation: Late spring, summer, fall.

ADDITIONAL INFORMATION

[Integrated Taxonomic Information System](#)
Taxonomic information about the species

The PLANTS Database

General information and a map

Center for Aquatic and Invasive Plants, University of Florida

Extensive general information

Aquaphyte Newsletter, University of Florida

Article on Hydrilla in Connecticut

USGS- Nonindigenous Aquatic Species

General information, maps and links

Washington Department of Ecology

General information

Washington Department of Ecology

General information and control

Aquatic Plant Control Research Program, US Army Corps of Engineers

General information and a map

Maine Department of Environmental Protection

Account of Hydrilla occurrence in Maine

The Nature Conservancy

Extensive descriptive and control information

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DATA RETRIEVAL

Select a task by clicking the radio button and then click "Submit Selection."

- Formatted display as table
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MAPS OF PLANT DISTRIBUTION IN NEW ENGLAND

Select a study area by clicking the radio button and then click "Submit Selection."

- The whole New England area
- One or more states
- One or more counties
- One or more towns (county sub-divisions)

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