

INVASIVE SPECIES: HYDRILLA

Introduction

Although this submerged invasive plant has a common name associated with its physical similarity to a well-known spice, it is better known by its scientific name, hydrilla, because of its tendency to endanger like the many-headed serpent in Greek mythology, Hydra, which grew two appendages in each place where one was cut off.



A native plant in parts of Asia, Africa and Australia, hydrilla was probably brought into the U.S. in the 1950s by the aquarium trade. It is a popular aquarium plant, along with two other submerged plants, Eurasian watermilfoil and Brazilian elodea. One must look carefully at each plant to determine the differences among these three invasive species. Hydrilla is a submerged perennial forming dense stands of very long stems in the water. Leaves are small, pointed and arranged in whorls of 4 to 8 along the stem, and leaf margins are saw-toothed. (Watermilfoil's leaves are in whorls of 4-5, and elodea, whorls of three.) A stem feels rough when pulled through the hand. Seasonally, it has tiny white flowers. It is a freshwater plant that grows rooted to the bottom in still or flowing water, but it can tolerate up to 7 percent salinity.

Like the mythical Hydra, hydrilla reproduces by regrowth of stem fragments but it can also reproduce by axillary (like a feather) buds and subterranean tubers that can remain dormant but alive for up to four years. A single tuber can produce more than 6,000 new tubers per square meter of water area.

An Aquatic Nightmare

This plant is listed in the U.S. Department of Agriculture's Federal Noxious Weed Act. This means it cannot be imported into the or transported within the United States.

Hydrilla forms dense canopies at the water's surface that often shade out other submerged vegetation. Although it is eaten by waterfowl, it produces far more than they can consume. The plant supports many species of fish in its early stages, but once it begins to take over, the density reduces the dissolved oxygen and the fish population — especially those species popular with anglers — move away. Water gardeners and aquarium hobbyists control this occurrence by removing plants.

Many anglers have been stopped from a day of fishing by the tangles of this plant in their favorite bayou or lake. Camp owners complain about formation of an ugly green layer on their beautiful lakes or bayous, demanding state control of the plant. At great expense, the state of Louisiana controls it as much as possible. For example, in the past couple of years, Louisiana Department of Wildlife and Fisheries (LDWF) twice drew down one of its largest and most popular fishing lakes, Lake Henderson, in an attempt

to kill the hydrilla. When the lake was reflooded, the plant regenerated more densely than before in both cases. LDWF currently spends \$100-200 per aquatic acre for herbicides to control this plant and attempt to maintain the state's lakes.

Unique Physical Features

Besides its multiple methods of reproduction, hydrilla has other unique features that help it dominate its environment and out-compete many other submerged plants. It requires less light than many plants, and can tolerate shade over long periods. It can store extra phosphorous and absorb carbon from the water more efficiently than other plants, giving it a nutritional advantage. It tolerates a wide range of pH in flowing as well as still water.

Mechanical control methods such as chopping used with many invasive aquatic plants are ineffective because this plant can reproduce by fragmentation. Some states have introduced certain insects known to feed on the plant but these have not been found to effectively control hydrilla. Only grass carp, an animal that also has invasive tendencies, has shown an ability to control the plant in many states.

Printed Resources

- Kay, Stratford. **Invasive Aquatic and Wetland Plants: A Field Guide**. 2001. Barbara Doll (ed.), North Carolina Sea Grant, N.C. State, Raleigh, NC.
- Ramey, Victor. **Aquatic Plant Identification Deck**. 1998. University of Florida, Institute of Food and Agricultural Science.