

Hydrilla (*Hydrilla verticillata*)

What is it?

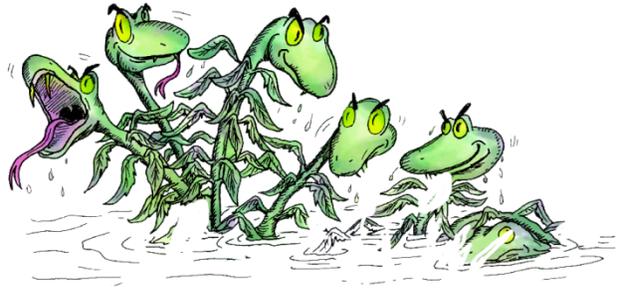
Hydrilla is a submerged, perennial aquatic plant that has earned the illustrious title “world’s worst invasive aquatic plant”. Listed as a federal noxious weed, this awful aquatic has made its home in just about every conceivable freshwater habitat including: rivers, streams, lakes, ponds, marshes, canals, ditches, and reservoirs.

FACT: Hydrilla is named after **Hydra** the 9-headed serpent of Greek mythology because it can grow an entirely new plant from a tiny stem fragment.

What does it look like?

In Washington State, hydrilla is often confused with the native aquatic plant American waterweed (*Elodea Canadensis*), or fellow non-native nasty Brazilian elodea (*Egeria densa*). Hydrilla can be distinguished from these look-alikes by its leaves and the presence of tubers. Hydrilla has small, bright green, pointed leaves with serrated edges and 1 or more sharp “tooth” under the center of the leaf (Brazilian elodea and waterweed lack this tooth). The leaves of hydrilla are arranged in whorls of 3-8 (but generally 5), that are connected directly to the stem. Hydrilla also produces potato-like tubers at the end of each underground stem that the plant uses for reproduction and food storage (neither Brazilian elodea nor waterweed has tubers). Stems of hydrilla are thin and may grow at a rate of one inch per day. As hydrilla nears the water surface, the stems branch prolifically and will continue to grow horizontally, often forming impenetrable mats of vegetation. Hydrilla generally grows rooted into substrate, but the plant is easily fragmented and it will also survive as a free floating mat at the water surface.

FACT: Stems of hydrilla may grow up to 30 feet long.



Hydrilla
Hydrilla verticillata
Photo by Vic Ramey
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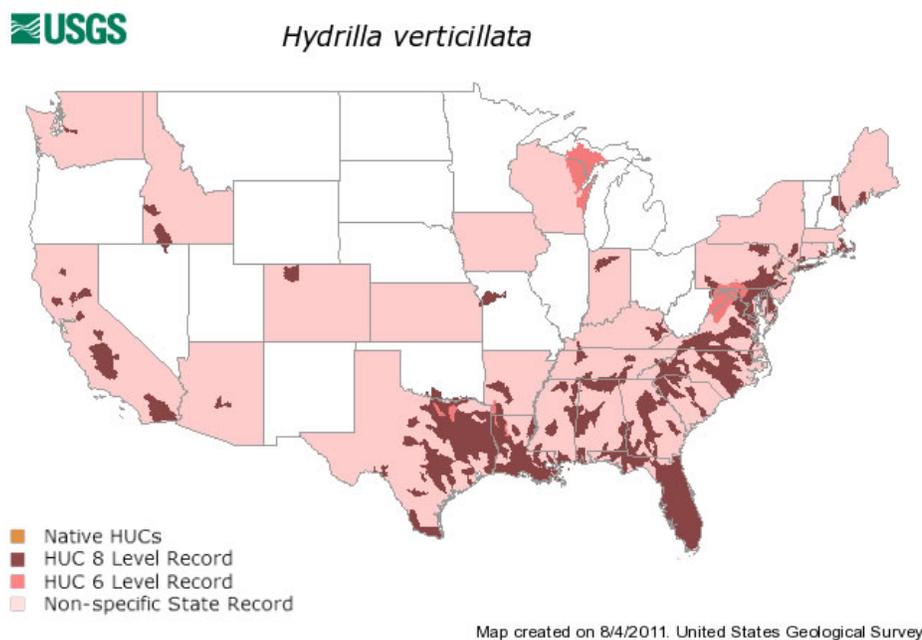
Photo Credit: Center for Aquatic and Invasive Plants,
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Where is it from & where is it now?

Hydrilla is native to Asia (i.e., India, Sri Lanka, Korea) and possibly mainland Australia.

Today, hydrilla is considered a cosmopolitan species – more of a super invader than a super model, this wily weed can now be found on every continent except Antarctica. Hydrilla was first discovered in the United States in the 1960's at two separate locations in Florida. Since this time it has spread to many parts of the US including four western states. The map below depicts states with hydrilla presence as of 2011.

FACT: Hydrilla has been found in 30 US states.



How did it get here?

Hydrilla was first brought to the United States intentionally to sell as an aquarium plant. Today it is spread primarily by human activities. Small fragments of hydrilla can be transported from one water body to another on boats, trailers, recreational gear, earthmoving equipment, and even our furry four-legged friends (yes I'm talking about you Fido). Hydrilla has been spread by careless pet owners dumping plants from aquariums into ponds and streams. It has been found hitchhiking in shipments of water lilies or other aquatic plants used in water gardens, and incredibly, it is still sold through the occasional aquarium supply dealer or over the internet.

FACT: Hydrilla has been intentionally introduced by fisherman hoping to improve fishing in their favorite lakes.

Why does it do so well?

Talk about a habitat generalist, this pesky plant can grow in a wide variety of water conditions (e.g., high/low nutrients, high/low turbidity, variable pH, up to 7% salinity), substrates, and water temperatures. Unlike most native aquatic plants, hydrilla is capable of growing under extremely low light conditions at depths of up to 30 feet. Hydrilla is able to begin photosynthesizing much earlier in the morning than native plants so it is able to capture most of the carbon dioxide in the water (which limits growth of other plants). In its non-native range hydrilla grows very rapidly (it can double its biomass every two weeks in summer) and has no natural predators or diseases to limit its population.

FACT: Hydrilla can reproduce four different ways: fragmentation, tubers, turions (buds in leaf axil), and seeds.

What are its impacts?

Hydrilla is best (or worst) known for its tendency to completely take over a water body.

Dense infestations of hydrilla can shade or crowd out all other native aquatic plants, alter water chemistry, cause dramatic swings in dissolved oxygen levels, increase water temperatures and affect the diversity and abundance of fish populations. Thick mats of vegetation can impede navigation, reduce recreational boating, fishing and swimming opportunities, reduce flow in irrigation canals and clog industrial pipes and intake grates.

FACT: Tubers of hydrilla can lie dormant for over four years in undisturbed soil before sprouting into a new plant. One square meter of hydrilla can produce 5,000 tubers.

What is being done about it?

Unfortunately once hydrilla infests a water body, it is difficult and very costly to eradicate. Millions of dollars are spent each year on physical (e.g., hand pulling, dredging, suction harvesting and water level drawdowns), chemical (herbicides) and biological controls (e.g., triploid grass carp, snails, leaf-mining flies and tuber-feeding weevils) each with varying levels of success and environmental risks. For now, the best method of controlling hydrilla is preventing



Hydrilla at Wakulla Springs, Florida
Hydrilla verticillata
Photo by Vic Ramsay
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Photo Credit: Center for Aquatic and Invasive Plants, University of Florida, IFAS



Hydrilla leaf mining fly. Photo Credit: USDA
Agricultural Research Service

new infestations through public outreach and education.

FACT: Even manatees (*Trichechus manatus*) have been considered for biological control of hydrilla in Florida.

How can YOU prevent the spread of Hydrilla?

It only takes a one inch fragment of hydrilla to begin an infestation. To minimize the potential spread of this persistent plant, follow these simple steps.

- **AVOID:** boating through mats of hydrilla. This will minimize fragmentation and the spreading of plants.
- **CLEAN:** any mud and/or plant fragments from your boat, propeller, boat trailer and all your gear including waders and boots before leaving a water body.
- **DRAIN:** all of the water from your boat (including the bilge, live well, motor), trailer, tackle and gear before leaving the area.
- **DRY:** your boat, trailer and gear after each use.
- **NEVER:** release aquarium or water garden plants into the wild. Instead, seal them in a plastic bag and throw them in the trash.

What if I find a Hydrilla?

If you find Hydrilla or any other “tenacious trespasser” contact the Aquatic Nuisance Species Task Force at 1-877-STOP-ANS. If you spot a potential aquatic invader in Oregon, contact the Oregon Invasive Species Hotline at 1-866-UNVADER. In Washington State you can report a potential sighting at 1-877-9-INFEST.