



Hydrilla

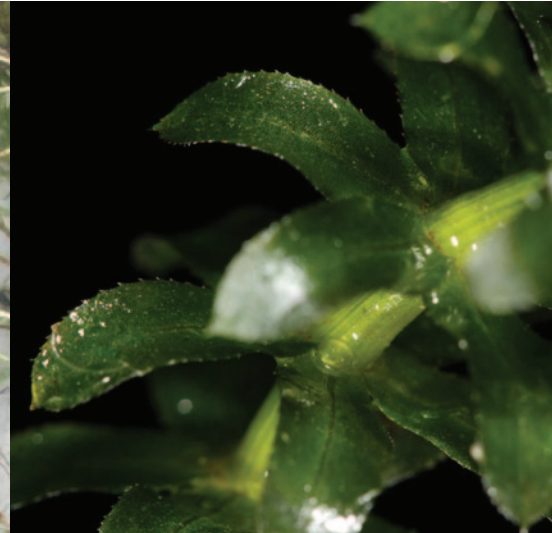
Hydrilla verticillata (L. f.) Royle

syn. *Elodea verticillata*, several *Hydrilla* spp. (Aka water weed, water thyme)

Alberta Regulation:
Fisheries Act



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Overview:

Hydrilla is a submerged aquatic perennial plant native to Asia and India.² It forms dense masses and floating mats which shade out native aquatic plant species and competing for nutrients. Fish size and populations levels may be affected where dense hydrilla stands interfere with fishing.² Hydrilla interferes with boating, fishing, and swimming. It can also slow water movement in waterways and irrigation canals. Dense stands can even cause flooding and water quality deteriorates as oxygen decreases and pH and temperature increases.² These impacts are both environmental and economic in consequence.

Hydrilla has thread-like roots which anchor the plant to the sediment; although it can grow as floating mats.² Heavily branched stems grow to the waters surface. Runner-like branches extend along the bottom of a waterbody and vertical branches and roots are produced at nodes along these runners.¹ A fragment of Hydrilla is capable of producing a new plant if it finds a favourable spot to root. Hydrilla populations can consist of both

or either dioecious (male and female plants) and monoecious (male and female flowers on same plant) plants. Both can be found on every continent.² This means that hydrilla can reproduce both sexually and asexually, which supports rapid growth and monopolization of resources.

Hydrilla survives unfavourable growing periods by producing turions - short, specialized shoots which store energy and eventually become detached from the parent plant. Turions can remain dormant for long periods of time.¹ Turions can form in leaf axils or at the tips or the runner-like branches which root into the substrate. It habitats where hydrilla dies back for the winter, turions form in the fall.¹ Turions can also survive digestion and regurgitation by waterfowl.²

Habitat:

Hydrilla is tolerant of a wide variety of water conditions, including pollution and disturbance. It is a freshwater plant but can tolerate salinity up to 7%.² It is also tolerant of low light and CO₂.² Hydrilla grows in "alka-

line, moderately calcareous, mesotrophic, or slightly eutrophic waters."¹

Identification:

Stems: Are about 1mm thick and consist of distinct nodes and internodes. Stems can be 3 m¹ to 9m long²; the internodes 3 to 50 mm long.¹ The internodes tend to lengthen in flowing water.

Leaves: Are sessile,¹ 6-20 mm long, 2-4 mm wide and are formed in whorls of 4-8 around the stem.² The leaves are strap-shaped, have pointed tips and saw-tooth edges, and can vary in colour from green, translucent, yellowish to brown.²

Flowers: Are small, white, and borne on long slender stems² emerging from the leaf axils.¹ Each flower has 3 sepals and 3 petals. The male spathe (bract subtending the flower) is about 1.5 mm long, solitary in the leaf axils, and somewhat spiny. The female spathe is about 5mm long and solitary in the leaf axils.¹ There are 3 stamens and 3 styles. The fruit is cylindrical, about 7mm long, 1.5 mm wide, and it contains 2-7 long, elliptic seeds.¹

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Hydrilla (Continued)

Prevention:

Initial introductions of hydrilla may be from discarded aquarium material or as contaminants of aquatic garden plants. Once introduced spread is mainly via boating and fishing equipment.¹ Do not purchase hydrilla for your aquarium and never release any contents of an aquarium into waterbodies. Learn to recognize hydrilla and thoroughly clean all equipment and tire treads when leaving a hydrilla infested waterbody. Any hydrilla debris should be left at the infested site or placed in landfill-bound garbage.

Control:

Grazing: Not applicable. Invasive plants should never be considered as forage.

Mechanical: Manual or mechanical removal would be effective for new, small patches of hydrilla but for large hydrilla infestations can be very labor intensive as well as expensive. Any missed stem pieces can produce new plants. Occasional water draw down has proven effective in the US by exposing and drying the plants.¹

Chemical: Acrolein is registered for use on floating and submerged weeds. The use of herbicides in water requires permits. Always check product labels to ensure the herbicide is registered for use on the target plant in Canada by the Pest Management Regulatory Agency. Consult your local Agricultural Fieldman or Certified Pesticide Dispenser for more information.

Biological: A species of grass carp have been used in some countries but presents other management problems. Four insects of the genera Bagous and Hydrellia has been introduced into the US. Research on these insects and other potential candidates continues.²



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Steve Hurst, USDA NRCS PLANTS Database, Bugwood.org

REFERENCES

- 1 Datasheet report for Hydrilla verticillata. Invasive Species Compendium. www.cabi.org/isc. Accessed: September 14, 2015.
- 2 Hydrilla verticillata. Global Invasive Species Database. www.issg.org/database. Accessed: September 14, 2015.