

Didymo

Background, Life History

Didymo (*Didymosphenia geminata*), commonly referred to as “rock snot,” is an alga native to the northern parts of Europe and North America. Didymo has adapted to a wide range of water quality conditions. It has demonstrated increased tolerance across a variety of habitats and has been spreading since the 1980s. The introduction of didymo can alter the entire stream ecosystem. Didymo grows to create extensive white, beige or brown (not green) underwater carpets in moderately flowing freshwater streams that are clean and cool with stable flows. Although not in Missouri at the time of this writing, procedures are being put in place to minimize the risk of this invasive being introduced to Missouri’s waterways.

Missouri’s trout streams provide ideal conditions for didymo to flourish. Optimal conditions for didymo include constant velocities of moderate to high flow, shallow water up to six feet deep, plenty of sunshine, cool water temperatures, and waters low in nutrients and high in levels of dissolved oxygen with pH levels near 7.

Even though didymo is one of the largest freshwater diatoms, the individual cells cannot be seen with the naked eye. Only one cell is needed to establish a colony. Newly established didymo colonies are characterized by small, thick, brown bubbles on rocks. It can appear slimy, but actually feels like wet cotton or scratchy wool. The longer the colony persists, the longer the filaments become. These filaments detach and float downstream like a flotilla of tissue paper, thereby spreading the invasive organism.



Fish and Game New Zealand

How Didymo Spreads

Felt-soled waders and wading boots, worn by many trout anglers, appear to be a likely pathway for the spread of didymo. Felt soles are porous and hold moisture for days. A single cell of didymo can survive in the sole of the boot. Didymo can then be introduced unknowingly to the next stream the angler visits. In addition to waders and angling equipment, canoes, kayaks and other watercraft are also considered pathways for didymo to spread.



Dr. Russell Rhodes



Use a wash station to prevent the spread of didymo.

Shane Bush



Didymo feels coarse, not slimy like many other algae.

MAF Biosecurity NZ



Didymo infested streambeds can alter aquatic invertebrate communities.

MAF Biosecurity NZ

Impacts

Didymo can alter the entire stream ecosystem. Didymo can create extensive blooms by attaching its stalks to rocks or plants and covering the stream bottom. Didymo cells secrete a mucuslike substance to create a firm hold on substrates and to help keep the alga moist. Changes in the stream can be extensive and can include an increase in suspended organic material, fluctuating pH levels, and a change in macroinvertebrate population structures. Fish populations may suffer as the habitat (interstitial spaces between rocks) for macroinvertebrates (especially the pollution-sensitive taxa—caddisfly, stonefly and mayfly) is covered by the algal colonies, reducing preferred food supplies. The resulting loss of quality habitat can also lead to a shift to pollution-tolerant macroinvertebrates like midges, leeches, etc.

Once didymo is established in an area, wading is hazardous due to slippery, algae-covered rocks. The spread of didymo can also affect the fishing industry by clogging water intakes of boat motors and interfering with fishing gear and lines. Excessive blooms of didymo can render fishing impossible, with devastating economic consequences.

Control

Once established, didymo is difficult to control or eradicate. If you will be using your waders and other gear in another

body of water without sufficient time to completely dry them, please take the following precautions to prevent transporting didymo to new waters.

- **Check** all gear and equipment after use and remove any visible algae. If you notice algae on your equipment at a later time, do not dispose of the algae by putting it down a drain. Dispose of it in the trash.
- **Clean** all equipment with a 2 percent household bleach solution, 5 percent saltwater solution, or dishwashing detergent. Allow all equipment to stay in contact with the solution for at least three minutes. Soak all soft items, such as felt-soled waders and life jackets, in the solution for at least 20 minutes.
- **Dry** all equipment in sunlight for at least 48 hours.
- Consider replacing felt-soled waders with a new, environmentally sensitive alternative.

It is important that Missourians work together to prevent the spread of didymo. Please share this information with others.

For Additional Information

www.epa.gov/region8/water/didymosphenia/

www.invasivespeciesinfo.gov/aquatics/didymo.shtml

www.fort.usgs.gov/news/news_story.asp?WebID=100528

www.MissouriConservation.org

For more information or to report a population, contact your local Missouri Department of Conservation office, e-mail WildlifeDivision@mdc.mo.gov, or write:

Didymo
Missouri Department of Conservation
Invasive Species Coordinator
P.O. Box 180
Jefferson City, MO 65102-0180

