

## You ARE From Around Here! Opportunistic Native Species of the Quarter: Poison Ivy

By: Jennifer Gagnon, Virginia Tech

Each quarter I find inspiration for selecting a species to write about for this column. I found this quarter's inspiration in my own backyard. Those of you who receive my monthly e-Update know I have an on-going battle with the exotic invasive English ivy in my flower beds. What I didn't share was that another ivy was also lurking in the flower beds....the poison kind. Unfortunately, since it was before leaf-out, I wasn't aware of its presence as I rototilled through the root systems. Wearing shorts and a tank top. The next morning, I was aware.

I'm no stranger to poison ivy (*Toxicodendron radicans*). As a kid, I refused to wear shoes in the summer – resulting in months of poison ivy-covered feet. I've worked in areas where the poison ivy/oak reach heights of over 5' by August. I've shared an office with herpetology technicians who spent late winter days innocently digging through poison ivy roots to create pitfall traps, and regretfully heading to the Baker County Health Clinic for steroid shots the next. I routinely get poison ivy from petting my dogs. I know I am allergic. I know it can get bad. But never in my life have I experienced the type of reaction I had this spring. I finally gave in and went to the doctor. She took one look and said "You need steroids." Inspiring, right?

Plants like poison ivy are native but act invasive. Depending on where you live in Virginia, the list of these types of plants can include Virginia creeper, trumpet creeper, black locust, eastern redcedar, redbud, sweetgum, wild grapes, Virginia pine and blackberry. I'm sure many of you can add to this list. But how can this be? Aren't all native plants good plants? While I'll argue I'd much rather have an infestation of native Virginia creeper than exotic multiflora rose (of course, I have both, so no need to choose), natives that act invasive can be damaging and costly.

My tendency is to call these species native invasives. However, according to the USDA NRCS, only exotic or introduced plants can be called invasive. They call invasive-acting native plants *opportunistic native plants*. Since everything in the world needs an acronym, let's call them ONPs. An ONP is a native plant that is able to take advantage of disturbance to



***Opportunistic native plants on my property include eastern redcedar, Virginia creeper, and poison ivy. Photo by: Jennifer Gagnon, Virginia Tech.***

the soil or to existing vegetation and spreads quickly and out-competes other plants on the disturbed site. Using this definition, all ONPs are not bad. In fact, many ONPs are great for reclaiming disturbed sites, protecting soils, and providing wildlife habitat after a disturbance. A year-old clearcut filled with blackberries comes to mind.

But some ONPs can be problematic for woodland owners. For this article, I'll just focus on my recent nemesis, poison ivy. Poison ivy is in the *Anacardiaceae* (cashew) family (which also includes mango and sumacs).

Poison ivy's scientific name is quite descriptive. *Toxicodendron* means poison tree; *radicans* means bringing forth roots, probably a reference to the hair-like aerial roots that grow on the twigs.

The most obvious problem with poison ivy is that all parts of the plant, aside from the pollen, are toxic to humans (and perhaps a few other primates). Approximately 75% of humans have a reaction to urushiol, the oil found in poison ivy. The oil doesn't actually burn your skin. Instead, urushiol binds to proteins found in cell membranes. This interferes with the cell's ability to communicate with other cells. This fools your immune system into regarding your own skin cells as foreign. The rash is a result of your immune system attacking your skin cells. This is known as a cell-mediated immune response. Some lucky people are immune and will never have a reaction. However, repeated exposure to urushiol can cause some to lose their immunity and others to become even more sensitive. This is a result of our immune systems getting better at recognizing and attacking the oil-infected cells.

More severe cases of this cell-mediated immune response, like mine, can send victims to the doctor. I estimate my treatment cost me \$100 (co-pay, steroids, giant bottle of TechNu\*, 2 tubes of anti-itch ointment, and rubbing alcohol). So societally, there's a cost.

Controlling poison ivy on your property also comes with a cost. Poison ivy can take over a newly disturbed site, blanketing the ground and climbing up trees. It reproduces both sexually (by seeds – spread by animals) and asexually (from root sprouts). I read a story about a 6-acre historic site in New Jersey that was covered with poison ivy. The manager's solution was to hire 11 Nubian goats, eaters of poison ivy, at a cost of about \$12,000 for 6 months. If you choose to go the chemical route instead, you quickly realize herbicides aren't cheap either.

Of course, poison ivy isn't all bad. In fact, the fruits are a great source of food for many wildlife species including birds, deer, and insects. The leaves turn a brilliant red early in the fall. And the pollen is a major component of honey. So removal efforts should be concentrated in areas where you or your family are most likely to come into contact with it. The poison ivy in remote areas can be left alone.

## How to identify poison ivy:

**Form:** Typically a woody, hairy, perennial vine that either carpets the ground or climbs up trees; may also be in the form of a small shrub. Some poison ivy plants climb right away and others do not. Individual populations of these plants often contain a mix of climbing and non-climbing plants.

**Leaves:** Alternately arranged compound leaves made up of three leaflets (so the saying “leaves of three, let it be” would be more accurately stated as “leaflets of three...”); leaf margins can be smooth, wavy, toothed, or lobed. Shiny green above, paler below.

**Flowers:** Small, yellowish-green, in clusters; bloom late spring into early summer.

**Fruits:** Greenish-white, round drupes, ¼” in diameter, hanging clusters, ripe in late summer.

**Twigs:** Slender gray to red-brown, slightly fuzzy or smooth, slender aerial roots; older twigs become densely covered with aerial roots and look hairy.



*The shape of poison ivy leaflets varies quite a bit, from oak-shaped (left) to smooth (center). But, they will always occur in threes. Small aerial roots tend to give poison ivy vines a hairy look (right). Photos (from left to right) by: Paul Wray, Iowa State University, Mark Czarnota, University of Georgia, and the Ohio State Weed Lab, The Ohio State University.*

## How to control poison ivy:

**Mechanical:** For light infestations, individual plants can be dug up. Wear long sleeves, pants, and gloves for this activity (trust me!). Wash your clothes with an urushiol-removing formulation. Products that shield your skin, like Ivy Block\*, are also available. You may

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also repeatedly cut plants back to ground level. Repeated cutting will deplete root resources and eventually eliminate sprouting.

**Chemical:** Use an herbicide that contains glyphosate (apply 2 weeks before or 2 weeks after full bloom), or triclopyr (apply after leaves are fully expanded in spring and before leaf color changes), or a 3-way herbicide that contains 2, 4-D amine, dicamba and mecoprop (apply in late spring/early summer). These will also kill desired species, so use sparingly. To minimize effects on desired species, you may cut the vines and paint the cut surfaces or paint the herbicide mixture directly on the leaves. If no desirable species are present, you may broadcast spray. Repeated applications may be necessary.

**Biological:** Goats may be a good option for you. There are a few rent-a-goat options available. Since goats also eat many desirable species, have an assessment done to help ensure these are protected.

Right now, I am very keen on the idea of buying some goats to come clean up our hedgerows and edges. We have problems in these areas, not only with ONPs, but also with exotic invasives such as Japanese honeysuckle and multiflora rose. Of course, this will add more animals to our household and make finding a pet sitter even more difficult.

One last poison ivy story. There are a number of rites of passage for forestry students. One of them is dendrology class (tree identification). A favorite pastime of dendrology instructors is to have students identify a large tree covered in poison ivy. As the instructor stands back and laughs maniacally, students will unwittingly examine the poison ivy leaves, thinking they belong to the larger tree. Thankfully, my dendrology instructor was kind enough to stop students from actually tasting the leaves.

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