



# Ohio Invasive Plants Council

## Newsletter • Spring 2019



### PRESIDENT'S CORNER

**Happy Spring!** As always, the invasive plants get a head start on the native species, so we are seeing garlic mustard and lesser celandine, along

with the non-native bush honeysuckles, leafing out in the woods already. Teasel rosettes and Callery pear are evident in the prairies and grasslands.

OIPC had another successful research conference on February 13<sup>th</sup> in Columbus with over 180 people attending. We had a variety of speakers, posters, and the OIPC Annual Meeting; see a more detailed article in this issue about the conference. We have begun work on a new and revised 5-year strategic plan. We hope to add a new section to our website which expands on our alternatives brochure by offering more suggestions for alternatives to invasives when replacing them in your landscaping or habitat restoration.

If you are looking for opportunities to help control invasive plants in natural areas, one way is to participate in the Ohio Natural Areas & Preserves Association's Stewardship Projects. See the ONAPA website at [www.onapa.org](http://www.onapa.org) for information on 2019 projects. Many local metro parks and park districts, state and federal agencies around the state may also have opportunities for volunteers to help control invasive plants. Each one of us can help to address invasive plant challenges on a local level!

As always, we look forward to working with any of our partners to plan educational efforts. If you have any upcoming events where OIPC may participate by providing a speaker, please let us know (see our website to contact any of our Board members). If you would like to host an OIPC

workshop, please let us know as we try to conduct 2-3 workshops each year.

Help us spread the word about invasive plants and visit our website at [www.oipc.info](http://www.oipc.info) frequently! If you need a plant identified or are looking for more information, just contact us through our website and we will respond as soon as possible.

*Jennifer L. Windus, OIPC President*

### INVASIVE PLANT WORKSHOP AT KINGWOOD CENTER GARDENS ON MAY 16<sup>th</sup>

The first OIPC workshop this year will be hosted by the Kingwood Center Gardens in Mansfield on May 16<sup>th</sup>, 10:30am-3pm, at the Carriage House. Two speakers will cover the topics of invasive plants, control methods, and alternative species to replace invasives in landscaping. The workshop will include breakfast, lunch, and a tour of Kingwood's gardens, including invasive plants found there. Kingwood Center has impressive formal gardens and will be building a brand new visitor's center this year, so it is a wonderful place for our workshop. See the OIPC website for more details and how to register through the Kingwood website! The cost is \$35 for non-members and \$28 for Kingwood members. We hope to see you there in May!

## DELORES COLE RECEIVES 2018 AWARD OF RECOGNITION



At the Ohio Invasive Plants Council Research Conference and Annual Meeting on February 13<sup>th</sup>, OIPC webmaster, Delores Cole, received the OIPC 2018 Award of Recognition. OIPC awards this distinction each year to someone that has been

outstanding in their contribution to OIPC, invasive plant control, education, or other related issues at a statewide or regional level. Delores received the award for her contributions during the past 4 years with the redesign and management of the OIPC website, registration for all OIPC events, design of event programs, and numerous IT services. Congratulations, Delores and thank you for all you have done for OIPC!

NOTE: Sadly, Delores passed away on May 5<sup>th</sup> after a courageous battle with cancer. Her amazing talents and generous heart will be missed by the many organizations she served in Ohio, including OIPC.

## 2019 OIPC RESEARCH CONFERENCE



The sixth OIPC Research Conference, co-hosted by Chadwick Arboretum, was a great success. Over 200 people attended this event, which

took place on February 13, 2019 at Nationwide and Ohio Farm Bureau 4-H Center in Columbus.

The theme of the conference was "Better Together: Connecting Invasive Plant Management and Research." Karin Kettinger from Utah State University, the keynote speaker, gave an excellent talk focused on integrating management and research for wetland invaders. Scott Maresh Nelson, from the University of Illinois at Urbana-Champaign, presented his recent work on the impacts of invasive plants on native dickcissels. Des Palik spoke about the invasion potential and traits of *Miscanthus sinensis*, a potential biofuel crop, and Art Gover presented an overview of invasive plant management and prioritization in Pennsylvania's State Park system. Finally, Jennifer Murphy, OIPC grant recipient in 2014 and 2016, gave an update about her work on multiflora rose invasions.

OIPC debuted a new type of session this year, Rapid Updates, which many participants listed as a highlight of the event. The aim was to have many



short updates from across Ohio, focused on different types of invasive plants. We are very grateful to the participants in this section, who took on a very difficult task: presenting the essence of a management project in just 5 minutes. The featured speakers were Mary Klunk from Five Rivers MetroParks, Kris Davis from The Dawes Arboretum, Ryan Schroeder from DNAP, Alexys Nolan from The Wilds, Carrie Morrow from Columbus and Franklin County Metroparks, Trey Scott from USDA Forest Service, Jennifer Hillmer from the Cleveland Metroparks, and Ben Piazza from the Cleveland Museum of Natural History. They did a fantastic job meeting this challenge. The presentations were

followed by a question and answer session with enthusiastic participation from the audience. We look forward to doing similar sessions in the future. The poster session highlighted projects from a



diverse set of universities and organizations. Posters were presented on research done at The Ohio State University, Cleveland State University, the University of Dayton, the University of Cincinnati, Ohio University and Bowling Green State University, as well as Dawes Arboretum, the Holden Arboretum and The Wilds. Several were focused on assessing management directly, and some were also focused on the interactions of invasive plants, insects and fungi. There were also several posters focused on fundamental questions about the biology of invasive



plants and the communities they invade. The conference hall was filled with lively conversation during the poster session.

OIPC is pleased to thank the many sponsors of this event: Listerman & Associates, The Holden Arboretum, Davey Resource Group, Stream and Wetlands Foundation, ONAPA, Columbus and Franklin Metroparks, NOVCO, Crane Hollow Preserve, Master Gardeners of Delaware County,

Five Rivers Metroparks, the Conservationist, the Cleveland Museum of Natural History, The Dawes Arboretum, Wild Ones, US Fish and Wildlife Service, the Cincinnati Wildflower Preservation Society, Metroparks Toledo and the Midwest Native Plant Society. We greatly appreciate their invaluable support.

*Emily Rauschert, Cleveland State University & OIPC Board*

## OIPC RESEARCH GRANT AWARDED

OIPC is pleased to announce that a research grant has been awarded to Dr. John Stierman and Sarah Workman from Wright State University. Their project is entitled "Herbivore host shifts onto invasive plants in Southwest Ohio: patterns, processes and consequences." Their work focuses on assessing patterns of native caterpillar herbivory on three invasive shrubs (Amur honeysuckle, common privet and autumn olive). They will characterize caterpillar abundance, herbivory and parasitism of caterpillars on invasive versus native plants. We greatly appreciate the work of all applicants, who took the time to write proposals about invasive plant concerns in the State of Ohio.

We also thank previous recipient Jennifer Murphy (2014 and 2016 recipient) for her excellent presentation at the OIPC Research Conference. Jennifer's presentation was entitled "Understanding the Ins and Outs of *Rosa multiflora* Invasions: What Mechanisms Make this Species a Successful Invader?" Jennifer is finishing her doctorate with Dr. Jean Burns at Case Western Reserve University.

We encourage students, academics, and land managers to apply for the 2019 grant cycle, which will be due in late fall. We especially encourage applications for projects that focus on OIPC's research questions, which can be found at [www.oipc.info/research](http://www.oipc.info/research) or projects that focus directly on invasive plant management.

*Emily Rauschert, Cleveland State University & OIPC Board*



**ODA INVASIVE PLANT LIST vs.**  
**OIPC INVASIVE PLANT LIST:**  
**What is the Difference?**

Now that we have two invasive plant lists in Ohio, it can be confusing as to what they each mean. The new ODA invasive plant rules went into effect in early January 2018 and the initial list was released. The Ohio Department of Agriculture (ODA) declared 38 plant species as invasive - **these species cannot be sold, propagated, distributed, or imported in Ohio.** ODA also formed an Invasive Plant Advisory Committee to determine how species will be added to this list; this committee met twice last year but has not added any more species yet. Approximately half of the species on the list were on the nursery market, so keep a lookout for these species and be sure to report any violations to ODA, if you see any of them for sale. All 38 species, except one (Callery pear, which has 4 more years before it must be off the market), can no longer be sold in Ohio.

The OIPC invasive plant list has been in process since 2014, with 15-20 species being evaluated each year by the 5-person OIPC Assessment Team. The most recent assessment was completed in December and added 4 more species to our list of invasive plants in Ohio, now at 46 species (those with a score of 45 or more). Another 28 species have been assessed and determined to be *Pending Further Review* (not enough data) or *Not Known to be Invasive*. The OIPC invasive plant list is being used by ODA for consideration of species that should no longer be sold in Ohio. The 4 species added to the OIPC invasive plant list this year are:

- Canada thistle (*Cirsium arvense*)
- Poison hemlock (*Conium maculatum*)
- Wild parsnip (*Pastinaca sativa*)
- Amur corktree (*Phellodendron amurense*).

While the first three species may be no surprise, Amur corktree is probably unknown to many public and private landowners, but has been documented to be spreading from landscaped areas, such as public gardens and arboreta. We plan to feature this new invasive tree in an article in our next newsletter to help people recognize it. The OIPC invasive plant list has no legal status, but it is based on scientific

data, distribution data in Ohio, and published literature. All results of the assessments can be found on our website under the *Invasive Plants* tab. You can review the Assessment Protocol and all the information used in each species assessment. If you have species that you think may be invasive and should be assessed, please send your suggestions to us via the website (i.e., *Contact Us* tab).

*Jennifer L. Windus, OIPC President*

**NATIVE ALTERNATIVE: ELDERBERRY**



Anemone 123 from Pixabay

The American elder, *Sambucus canadensis* is a shrub native to eastern North America, often found growing along streambanks, fence rows and roadways throughout the state of Ohio. Though partial to moist soils, elderberry is very tolerant of a wide range of soils and conditions. It is a sturdy vigorous plant that has few if any pest issues, but often requires an annual pruning all the way back to the ground to keep it in check for many landscapes. A dependable blooming shrub, it consistently provides masses of large, flat lemon scented flowers in the middle of June. The flowers mature as the season moves along and the flower clusters give way to thousands of shiny black fruits by late summer. Elderberry can be used to make jams, jellies, and pie fillings, but is best used to make wine (author's opinion). Elderberry is a valuable food source for wildlife. An ideal spot for birding is in a thicket of elderberries since it is visited by countless species of birds.



This large native shrub that can be used in the modern landscape if room allows. On the market now are some more reserved cultivars with some amazing new attributes such as

leaf color (purples and yellows) to finely serrated or variegated leaves. I know few other genera that have had such unique introductions as *Sambucus*. Some of the newest introductions available at your local garden centers are:

**'Black Beauty'** A European introduction, that exhibits very dark purple almost black leaves, with pinkish flower blooms

**'Black Lace'** Similar in leaf color of Black Beauty but with lacey serrated leaves

**'Laced Up'** A columnar form with foliage serrated like 'Black Lace'. A good choice for limited spaces.

**'Lemon Lace'** A serrated leaf selection with bright yellow foliage.

**'Instant Karma'** A variegated selection with green leaves and a creamy white margin

David Listerman, Listerman & Associates, Inc. & OIPC Board

## REED CANARY GRASS, ONE TOUGH INVASIVE TO CONTROL!

I remember a few years ago, while talking with some of the natural resources staff at Cleveland Metroparks, being asked if Metroparks Toledo had a problem with reed canary grass. I confidently said "no" and then two years later we found ourselves mowing and applying herbicide to patches of reed

canary grass in our newly restored wet prairies. Reed canary grass (*Phalaris arundinacea*) is a non-native grass from Eurasia that is one of the first to emerge in the spring. Although there are both non-



Leslie J. Mehnhoff, University of Connecticut, Bugwood.org

native and native genotypes, there is no reliable way to tell the difference between the two without genetic testing. Reed canary grass typically grows in wetter habitats such as wet prairies, marshes, stream banks, and ditches. It can quickly grow into dense colonies that rapidly displace native species, reducing biodiversity. It provides very little food for wildlife. It has been shown to increase water temperatures, decrease water flow, increase siltation, and increase flooding.



Caleb Slemmons, National Ecological Observatory Network, Bugwood.org

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Once you have the eye for it, reed canary grass is pretty easy to identify. It is a cool season sod-forming perennial grass that reaches 3-6 feet tall. The stems are hairless, hollow and often reddish toward the top. One distinct characteristic is the long ligule where the leaf attaches to the stem. The plant flowers May through July and the flowering panicle goes through several color transformations:



from greenish yellow to purple and then to a straw color when seeds form.



Within the OIPC Invasive Plants Assessment Protocol, reed canary grass scores the highest of all of the plants assessed so far. Its ability to reproduce through several mechanisms is one of the reasons that it is so successful. It reproduces through seed production, rhizomes and vegetatively. Because the plants take root near water, it is easy for them to spread throughout a wetland system by floating either seed or plant parts. The seeds can also be transported by wind, equipment, boots, and animals. Another reason for its success is that although it prefers saturated soils, it can tolerate prolonged drought. It does not tolerate shade well so it is typically only prolific in habitats with at least patches of sun.



It is best to control reed canary grass using an integrated pest management approach which means that you should use a range of control methods

depending on the specific site and plant density. The goal is to maximize control while minimizing negative environmental, social, and economic effects. Mechanical control methods such as hand pulling or digging are possible when infestations are very small and isolated. If this method is used, care should be taken to bag all biomass so that the plant cannot re-root or seed. Mowing, discing or cutting is an option for large infestations and if repeated 3-5 times/year, the density of the population can be

reduce. If done for 4 years, it should deplete the seed bank, depending on how long the population has been present. These methods will reduce density, but they will not kill the plants. Mowing, cutting, and discing should be coupled with other control methods such as herbicide application to actually kill the plants. Since reed canary grass typically grows in or near water, it is important to use an herbicide that is approved for use in aquatic systems and to use a non-ionic surfactant. Non-selective glyphosate products such as AquaNeat, Accord, and Rodeo are typically used. The most effective time for herbicide application late summer to early fall, after the plant has gone to seed and is beginning to pull energy into its root system. A good integrated plan for effective herbicide control is to mow in the spring to reduce any dead standing vegetation and then to spray all of the new growth in July-September. Prescription fire does not provide control and can actually stimulate the growth of reed canary grass. An effective approach to controlling reed canary grass, is to consider a widely used 5 step plan:

**Step 1 Prevention:** If you have a high quality wetland, monitor and treat the edges and areas where you have water inputs from outside sources.

**Step 2 Removal:** Kill and remove all existing plants using a variety of control methods, depending on the site and population density.

**Step 3 Deplete the Seed Bank:** Reed canary grass can remain viable for up to 4 years, so be diligent on control methods for at least 4 years.

**Step 4 Revegetate:** Use shade producing native plants or highly desirable and competitive herbaceous native plants such as blue-joint grass. It is not recommended to begin revegetation until after the second year of control. Depending on how long reed canary grass has been present on the site, native plants may begin to return as early as the first 1-2 years after treatment.

**Step 5 Monitor and Maintenance:** Until native vegetation is well established and soil disturbance has stopped, a site that is unmanaged will revert back to reed canary grass within a few years.

At Metroparks Toledo, we have been using a combination of mowing, and AquaNeat herbicide application for initial removal of reed canary grass. In our native nursery we grow plants and harvest native local genotype seed that we are then using to revegetate the infested areas with great success. Our wet prairie system is extremely fragmented with surrounding ditch systems, therefore there is a lot of reed canary grass seed and vegetation that can always enter the prairie system from the surrounding area. Our wet prairies are also at a pretty early stage of restoration so frequent disturbance creates windows of opportunity for reed canary grass establishment. Annual monitoring and maintenance is key so that we do not lose the tremendous progress that we have made.



LaRae Sprow, Metroparks Toledo & OIPC Board

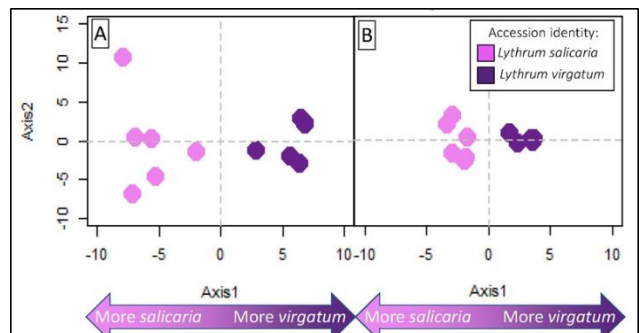
### A SEARCH FOR HYBRID LOOSESTRIFE

Purple loosestrife (*Lythrum salicaria*, Figure 1A) is a beautiful ornamental species with an unfortunate tendency to invade wetlands. After the negative impacts of *L. salicaria* became apparent in the 1970s and '80s, most states, including Ohio, restricted its sale. However, the closely related *L. virgatum* (European wand loosestrife, Figure 1B), has remained unregulated in many states. *Lythrum virgatum* can hybridize with *L. salicaria*—a concern because hybridization has been linked with invasiveness in several systems. Thanks to OIPC's efforts, both loosestrife species are now regulated, but has landscaping with *L. virgatum* left its genetic signature on invasive loosestrife populations? If so, this would provide grounds for regulating *L. virgatum* in other states. If not, what is going on with the genetics of *L. salicaria*?



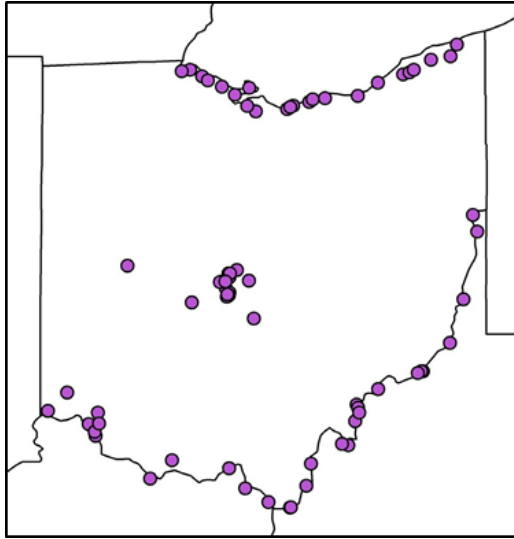
**Figure 1.** The two loosestrife species differ little, mostly in flower size, leaf shape, and hairiness. **A)** European wand loosestrife (*L. virgatum*) grown from seed collected in Germany, donated by the University of Rostock Botanical Garden. **B)** Purple loosestrife (*L. salicaria*) grown from seed collected in the United Kingdom, donated by the Kew Botanical Garden.

Searching for hybrids in Ohio's wetlands requires a genetic tool able to differentiate these two very similar loosestrife species. To develop this tool, I used non-hybrid, native-range *L. salicaria* and *L. virgatum* obtained from European botanical gardens. I genotyped these "pure" parental samples using a low-cost, reproducible genetic marker



**Figure 2.** **A)** PCA (principal components analysis) plot showing separation based on all 1,086 markers from an assay of 24 SRAP primer pairs. The two species primarily differentiated along Axis 1, with more positive loading scores corresponding to *L. virgatum* markers, and more negative loading scores associated with *L. salicaria*. **B)** PCA plot showing separation based on just two of the 24 primer pairs, which contained a large proportion of all species-specific markers. The two species still cluster away from each other along Axis 1, suggesting that a small number of primer pairs are sufficient for differentiating these species, saving substantial time and money.

system called SRAP (sequence-related amplified polymorphism). The genotypes yielded many informative markers—greater than 3x the average usually obtained for SRAP! I also identified many species-specific markers (Figure 2).



**Figure 3.** I sampled ~10 individuals from each of 72 loosestrife populations across Ohio. I am in the process of genotyping these samples to screen for evidence of hybridization.

The large number of informative genetic markers means that this tool should have high power to detect *L. virgatum* genes in loosestrife populations, and to do so inexpensively. This is useful because actual conservation applications will require sampling many individuals spanning a wide geographic range. That is my next step, currently underway: screening Ohio’s invasive loosestrife populations for hybrids (Figure 3). Stay tuned for more updates!

*Kali Mattingly, Ohio State University & OIPC Grant Recipient*

## 2 EASY WAYS TO SUPPORT OIPC!



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Visit: [KrogerCommunityRewards.com](https://KrogerCommunityRewards.com) sign in or create a new account. Select OIPC and click on “enroll.” The codes for OIPC are:  
 #23916 Cincinnati Region (includes Dayton and Lima)  
 #47319 Great Lakes / Columbus region (rest of Ohio)

**OIPC Thanks You for Your Support!**



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