

Purple and European Wand Loosestrife

Many of you will be familiar with the invasive species purple loosestrife (*Lythrum salicaria*), an infamous wetland plant with beautiful spikes of purple flowers that can be found in some cases taking over sites previously dominated by native cattails and turning them into vast fields of purple in mid-summer. This species produces seeds by the millions, tolerates conditions from deep flooding to merely moist soils, casts deep shade that reduces colonization by other plants, and eliminates waterfowl nesting habitat. Some studies even suggest that the anti-herbivore chemicals in its leaves might hinder tadpole development! With such clear evidence of its negative ecological impacts, it is no wonder that purple loosestrife has been banned for sale throughout most of North America ([including Ohio](#)) and has the [highest score](#) of any invasive plant yet assessed by the OIPC Assessment Team.

You may also have seen plants that look curiously similar to purple loosestrife growing in your neighbor's yard, or in the landscaping of the local gas station or donut shop (to pick a few non-hypothetical examples from my own neighborhood). Although these *might* be old purple loosestrife plants, most of these plantings are likely the closely related European wand loosestrife (*Lythrum virgatum*), or a hybrid between it and another loosestrife species. The differences between purple loosestrife and wand loosestrife are subtle: purple loosestrife plants are bigger and hairy, and they have appendages between the sepals that extend beyond the sepal tips (a bit technical, but a good character for differentiating the two species). Wand loosestrife was introduced by the horticultural industry as a supposedly sterile alternative to purple loosestrife that would be safe to plant without the fear of it spreading seeds beyond its planting site, but multiple studies have clearly shown that crosses between the two species results in viable seed. Thus, wand loosestrife plantings may contribute to loosestrife invasions, perhaps by adding to the genetic diversity of what might otherwise be pure stands of purple loosestrife.

We lack clear data about the extent to which hybrids between these two species actually occur in the wild, but the *potential* for this to occur is high. This is why BOTH species occur on the Ohio Department of Agriculture's list of banned invasive plants, despite the absence of wand loosestrife from



Figure 1. Close up of inflorescences of (Left) *Lythrum salicaria* and (Right) *L. virgatum*. Images by Kali Mattingly.

OIPC's Assessment Results website. The lack of assessment information isn't for lack of trying by the OIPC Assessment Team, though; instead, it reflects the fact that published scientific studies on the ecology of wand loosestrife are exceedingly rare. Until more is known about how wand loosestrife contributes (or doesn't) to loosestrife invasions, this issue will represent an important gap in our understanding of loosestrife invasion dynamics overall. In the meantime, let's err on the safe side and replace any non-native loosestrife in landscape plantings with [alternatives](#) like native blazing-stars, milkweeds and phlox!



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