

Discovering the Fen Orchid, *Liparis loeselii*, in Vinton County

Finding orchids in the wild is fun. Many people don't even know that there are orchids native to Ohio. For those who do, their usual experience is being led into the habitat by someone else who has found the orchids. I've been in both of these categories. But now, after nearly forty years of observing orchids in the wild, I am thrilled that I've become fairly adept at finding individuals and populations on my own.

This isn't some magical talent, and I didn't get there overnight. It comes from spending time out in natural habitats, finding interesting orchids and other species (plant and animal), and keenly observing where they are living. When I find a member of a plant species in the wild, I frequently ask myself, "why is it growing here, and not over there?" Sometimes, the answer simply is, that's where the seed fell. Usually, it's far more complex than that. It's a combination of where the seed fell, and subsequent factors: Was the seed able to germinate? (This requires specialized fungi for orchids and many other plants.) Were the moisture, light, and temperature correct? Did the seed or plant get predated by herbivores? How long is the natural life span of individuals of that species? I'm sure this list of questions could go on and on.

Having grown up in suburbia, I consider myself lucky to now live in an area with many natural habitats and a great diversity of wild species. If I try, I can find native orchids every day of the year, unless the ground is deeply covered with ice and snow. But I really knew I'd "arrived" when I started recognizing habitats. I frequently see an area of habitat, and get that "gut feeling" that I should look there. Sometimes I don't find the species I'm looking for, but more often than by pure chance, I find it. And there are the times when I find a plant growing seemingly out of place. I joke that "the plants don't read the books", but this can lead to a greater understanding of the natural world. One example was finding a wetland species growing high on a ridgetop. Several observations of this have led me to speculate, and then confirm, that just below the surface there was a "perched water table" on top of a solid rock formation. This allows moisture loving species to grow in atypical habitats.

I keep trying to find new populations of species, and document the rare, or otherwise interesting ones. When I do, I report my findings to the botanists at the Ohio Department of Natural Resources.

There are two species of the genus *Liparis* native to Ohio. The Large Twayblade, *Liparis liliifolia*, is the more common of the two. It grows in mesic forests throughout eastern and southern Ohio. The other species, the Fen Orchid, *Liparis loeselii*, has a scattered distribution from northeast through southern Ohio. It is noticeably absent from the far western counties and most of southeast Ohio. This makes sense when you consider that it likes to grow in moist to mesic woodlands and wetlands, usually with a bit of lime in the soil. Since Hocking County has

no naturally occurring limestone, for years there was only one known population of this species. I've since found two more in Hocking County, both growing near roadways and driveways where crushed limestone was used. From all the botanical records I've been able to find, *L. loeselii* has never been found in Vinton County. Until now...

On June 21, 2020, I was hiking in the fantastic Bison Hollow nature preserve, which straddles the Hocking/Vinton County line. I found four species of orchids this day. (I'm averaging almost one new species of orchid each time I go to Bison Hollow.) In an opening in the woods, I found a population of Tall Green Milkweed (*Asclepias hirtella*), one of my favorite milkweeds. I've nicknamed this site the milkweed prairie. I found Large Twayblades in the woods nearby. These were juvenile plants, not yet blooming. A little farther into the woods I found a *Liparis* plant with a stem of seed pods. This one caught my eye for several reasons. While both species bloom in late May and early June, and should set seed pods by this time, their pollination mechanisms are totally different. *L. liliifolia* is insect pollinated, probably by mosquitoes. (See, they are good for something!) *L. loeselii* is a self-pollinating species. The flowers point upward at about a 45-degree angle, and the lip is funnel shaped. It is thought that they may be rain assisted pollinators. A raindrop that lands on the lip splashes up against the column, jostling the antheridia into contact with the stigmatic surface. For this reason, *L. loeselii* can set a large number of seed pods, while I rarely find more than four pods on a stem of *L. liliifolia*.

The plant I found had seven pods on the five-inch stem. It was slightly smaller than most blooming plants of *L. liliifolia*, and the leaves were proportionately narrower, and just a shade lighter green than *L. liliifolia*. Good clues, but these characteristics can all overlap between the two species. I would have to see it in bloom for a positive identification.

So, on June 6, 2021, I headed back to Bison Hollow. Finding a five-inch plant in 250 acres of greenery can be a little bit daunting, but I knew where it was in relation to the milkweed prairie, and last year I had strategically placed some flagging tape on a nearby tree. (Smart move!) Nearby were Rattlesnake Plantains (*Goodyera pubescens*), Ragged Fringed Orchids (*Platanthera lacera*), and the large Twayblades (*L. liliifolia*) that I had found last year.

And then I found my plant. It had grown two inflorescences, but the larger one had been damaged, and did not bloom. I found a few mealy bugs on the plant, which may have caused the bloom failure. Fortunately, there was the smaller inflorescence with one open flower and two buds. Not a very good blooming, but enough to positively identify the species. *L. loeselii* has light green upturned flowers, while *L. liliifolia* has liver-colored flowers that emerge horizontally from the stem. A photograph and GPS location were later sent to ODNR to document this find.

After finding and identifying this plant, I continued hiking for several more hours. Creeping Mint (*Meehania cordata*) were in full bloom in the bottom lands near the streams. This is an Appalachian endemic, ranging in only seven states, from western Pennsylvania to northeast

Tennessee. It is only found in eleven counties in Ohio, all near the southeast edge of the state. The light purple, inch-long tubular flowers were at their peak, and blooming by the hundreds, if not thousands. I found a nice colony of Large Yellow Wood Sorrel (*Oxalis grandis*). Looking like a giant version of the Common Yellow Oxalis (*Oxalis stricta*), this is another Appalachian species. It grows knee-high, with large yellow flowers. And I would be remiss if I didn't mention that the Swainson's Thrushes (*Catharus ustulatus*) provided a beautiful musical soundtrack for most of the hike.