Millsap Bridge & Cuivre River S.P.

March 11, 2024

	BOTANICAL NAME (with etymology & genus pronunciation)	**FAMILY** [CC] = Coefficient of Conservatism	**COMMON NAME** (with tips we learned)
☐	*Alliaria petiolata* (garlic-like + having a leaf stalk) (al-lee-AYR-ee-uh)	Brassicaceae [intro]	Garlic Mustard (non-native biennial / hard to get rid of with its self-compatible flowers and its seeds that remain viable in the soil for years / offers no known wildlife benefit and is toxic to larvae of several butterfly species / chopped leaves used as seasoning)
☐	*Cardamine concatenata* (kar-DAM-ih-nee)	Brassicaceae [CC4]	Toothwort (Thanks to its toothy leaves [that look a bit like marijuana leaves] nobody has much trouble identifying this plant. Its flower does resemble our native *Cardamine bulbosa*, but the leaves are completely different.)
☐	*Claytonia virginica* (klay-TOE-nee-uh)	Montiaceae [CC3]	Spring Beauty (perennial that overwinters from a corm / Spring ephemeral / leaves: somewhat grass-shaped / inflorescence: raceme with 5-18 flowers, all usually on one side of the peduncle; flower: 2 sepals, 5 petals (with pink striping), 5 stamens (with pink anthers) / fruit: capsule / elaiosomes on seeds attract ants for dispersal / all parts edible / chromosome numbers vary wildly)
☐	*Dicentra cucullaria* (2 spurs + hoodlike) (dy-SEN-truh)	Papaveraceae [CC6]	Dutchman's Breeches (perennial from rhizome / Stem: there is no above-ground stem, only a subterranean stem [rhizome] / Leaves: deeply cut, ferny, blue-gray cast, easy to identify / Flower: in comparison to Squirrel Corn, Dutchman's has a yellow waistband instead of white, Dutchman's has narrow, more pointed nectary tips [pant legs] instead of rounded puffy ones, Dutchman's flower has no odor instead of hyacinth fragrance)
☐	*Floerkea proserpinacoides* (botanist's name + name of goddess) (FLEER-kee-uh)	Limnanthaceae (Brassicales order) [CC10]	False Mermaid (annual – seeds germinate in winter, plants senesce by mid-June / cotyledon stage: like a 3-bladed propeller found on a child's beanie / habit: very weak and sprawling / leaf: hairless, shiny, divided into 3-7 linear or oval-shaped segments / inflorescence: solitary from leaf axils / flower: tiny cup of 3 pointed sepals, 3 white spoon-shaped petals, 6 stamens with yellow anthers / fruits: 2 or 3 bumpy, spherical nutlets / habitat: moist, cool, shady areas / intolerant of heat or disturbance)
☐	*Lindera benzoin* (person's name + aromatic resin) (lin-DEER-uh)	Lauraceae [CC5]	Spicebush (dioecious / Buds: male plants have conspicuously larger winter flower buds / Flowers: in comparison with Aromatic Sumac, Spicebush's yellow flowers do not show the underlying dark catkin scales of the male Sumac)
☐	*Trillium nivale* (flower parts in 3 + snow) (TRILL-ee-um)	Melanthiaceae (in Liliales) [CC9]	Snow Trillium (smallest and earliest-to-bloom / white flower on pedicel / found north of St. Louis on thin calcareous soils of north-facing slopes)

NOTES

This week's Monday Morning Botany Walk was an eclectic adventure. We drove north to 2 different locations where we walked in areas that had no signs and no trails. We saw at least 2 plants that we've never *ever* seen in St. Louis – and probably never will.

Our first stop was "Millsap Bridge Access" – not exactly a name that rolls off the tongue. From its tiny muddy parking area we walked south along Beck Road, crossing the Cuivre River on the new bridge (a solid one – unlike the old one whose remnants lay in the river below), and walked up an unmarked, trail-less hill on the left (east) side of the road. It was on the calcareous, north-facing slope of this hill that we found the object of our desire: the famous Snow Trilliums (*Trillium nivale*).

The St. Louis area has 3 Trilliums: the Drooping Trillium (*T.flexipes*), the Prairie Trillium (*T.recurvatum*), and the Green Trillium (*T.viride*). So where'd this new guy come from? He's probably asking the same question about us. The Snow Trillium is picky about where it likes to grow. It prefers rocky, calcareous slopes without much competition. It also prefers a cooler climate. We're on a north-facing slope in a county quite north of St. Louis. And this is about as far south as the Snow Trillium is ever found.
Trilliums are often divided into 2 groups: those which have their flower on a pedicel (the pedicellate group), and those whose flowers have no pedicel (the sessile group). That's why John made a point of telling us that the Snow Trillium flower was on a pedicel. (Our Drooping Trillium is also pedicellate. Our Prairie and Green trilliums are both sessile.)

While we were admiring the Snow Trilliums, Bruce Schuette climbed the hill to join us. Bruce is an old friend to many in our group and is well-respected among naturalists. He served for 36 years as a naturalist at Cuivre River State Park and is a guiding light in the Missouri Prairie Foundation. He's made a number of instructional YouTube videos, including these that you can click-on to watch:

- The Conservation Significance of Missouri Prairies (an important webinar that explains the "CC" Floristic Quality system); it starts at 5:45 because of Zoom problems
- Virtual Hike on the Prairie – Spring Edition (a plant-identification walk through Golden Prairie at the beginning of the growing season); identifications [of a turtle!] begin at 7:00
- Virtual Hike on the Prairie – Fall Edition (a plant-identification walk through Golden Prairie at the end of the growing season); introduction over at 4:46

Bruce even has a prairie named after him! ("Schuette Prairie" north of Springfield in Bolivar Mo) He's a font of knowledge and of good stories. When we were done at Millsap Bridge, we followed Bruce in a caravan to Cuivre River State Park.

Cuivre River State Park is not exactly next door to Millsap Bridge. It's a 23.7 mile drive! It's like saying: "Well, as long as we're in Tower Grove Park, we might as well look for flowers in Babler Park too." Normally this wouldn't make any sense. But both parks are on either side of Troy Missouri, some 60 miles north of St. Louis. So from an airplane's point-of-view, it does indeed make sense to pair them together rather than visiting each separately.

When we finally reached Cuivre River State Park, we first made a restroom stop at the Visitor Center, after which Bruce led the caravan to what was once the Pawpaw House (gone now except for its chimney) where we turned and went down an unnamed gravel road to an unmarked location. (I was totally lost. Fortunately Kathy Bildner brought a camera that recorded the GPS coordinates for each photo she took, so she was able to tell us *exactly* where we were. We were HERE.)

After we got out of our cars and gathered in a wooded area alongside the road, Bruce drew our attention to the small green plants popping-up all around us. None of us had even noticed them. They looked like little 3-bladed propellers that might be found on a child's beanie. Bruce explained that these were called "False Mermaid Weeds". "Oh!" we replied with an interested tone. Most of us had never even seen a *Floerkia proserpinacoides* before. John added that they were C10 plants and very intolerant of disturbance. "Ah!" we exclaimed in a very different tone as we repositioned our feet to avoid stepping on them. (By the way, these were just the 3-parted cotyledons. The actual leaves would look much different.).

"False Mermaid Weed" isn't the greatest of names. Father Sullivan would probably want to replace the "false" part. And the "weed" part is downright libelous. But those with sharp eyesight (or a hand lens) know that its tiny flower is beautiful. John promised a "shiny quarter" to anybody who could find one of its flowers. Since the plants around us were just annuals in their cotyledon stage, none of us went home 25-cents richer. His point was that there's something special about its tiny flowers. John told us that the "Flora of North America Association" uses this flower as their logo for good reason. Not only is it beautiful, but it's also only native to North America. The FNA logo can be found HERE.

Flowerwise, we didn't find much this week. A couple weeks ago at Beckemeier we started our flower countdown. We found 2 flowers there. Last week at St. Francois we found those same 2 flowers plus 5 more for a total of 7. This week we were expecting even more new flowers – exponentially more – but the only new ones we found were the Snow Trilliums (which don't count as St. Louisans), a Spicebush, and the dandelions next to the visitor center (which were actually quite beautiful). It must be colder up here. We did see lots of buds (Virginia Bluebells, Toothwort, even Dutchman's Breeches) but no reliably open flowers (except for the ever-reliable Spring Beauty that we've been seeing for the past 2 weeks). It's as if we've gone backwards in time. But that's okay. Today's opportunity to visit a new habitat, to

learn new things from Bruce, to meet a new plant from a new family, and to examine up-close the trillium to which we've given such mythical status was an adventure we will long remember.

SHORT OBSERVATIONS:

- Renee observed that the leaf-shape of garlic-mustard is similar to the leaf-shape of violets (palmate venation, scalloped margins, cordate base). John replied that the Violaceae family is in a bit of a mess. He said that the "common" violets we find in our lawns have hairless stems, so they're probably not the same as the "common" violets we find in natural areas which have hairy stems. He also suggested that the so-called "Confederate" violets are just aberrations. He recommended that we follow Harvey Ballard at Ohio University for the latest in Violet botany. An article about Harvey and a photo of him can be found HERE.
- While talking about the Snow Trilliums, Bruce and John used the term "Elaiosome" (ee-LY-o-som) – a fleshy, oily body that is attached to the seed to encourage ant dispersal. The word "elaiosome" would be easy for Greek speakers to remember because it comes from words meaning "oil" and "body". Elaisomes can be found not just on the Trilliums, but on many of our other early Spring plants, such as: Spring Beauty, Corydalis, Dutchman's Breeches, Bloodroot, and Violets.
- The common name "FALSE Mermaid-Weed" (*Floerkea proserpinacoides*) and the "OIDES" ending of its species epithet suggests that somewhere in the world there must be a "TRUE Mermaid-Weed" without any "OIDES" in its name. And there is! John told us that the "true" Mermaid-Weeds have the genus name "*Proserpinaca*" (without the "oides"). However they're not in the same family or even in the same order as our *Floerkea*.
- At one point Fran noticed that there were a lot of spiders in the area. Our naturalist Kathy Thiele replied that this would be a good place to go "spider sniffing" some evening. Spider sniffing? What's that? As Kathy and John explained, it's when you hold a flashlight on your nose, parallel to your eyes. The light reflected back from the spiders' eyes looks like stars sparkling in the dark. The Missouri Parks Department has a pleasant little video that describes it HERE.
- David was curious about a group of Spring Beauties (*Claytonia virginica*) that had very pink flowers, with matching pink pollen on its pink anthers. Burt attributed it to recessive genes. John added that Spring Beauties have chromosome numbers that are all over the map. Its cells can be diploid, tetraploid, hexaploid, octaploid, or dodecaploid. (Instead of a dozen or two, a Spring Beauty in New York was found to have 191 chromosomes! A variety of Spring Beauty that grows in New Jersey has yellow flowers! See it HERE.)
- Bruce spotted a flowering Spicebush plant (from quite a distance!). We all walked over to it. Renee noticed that there were pollinators darting around it, but they moved so quickly it was hard to see what kind of insects they were. John took out his hand lens and examined a flower, determining that the dioecious plant was male. He then explained that the flowers of a male plant produce more nectar than the flowers of a female plant. The insects will still visit the female flowers and pollinate them, but they don't get as much of a nectar reward as they do with the male flowers.
- At the end of our walk, the group discussed where they plan to view the upcoming solar eclipse on April 8. Bruce informed us that on the following 3 days (April 9-11) the annual "Missouri Native Grasslands Summit" will be held at the Capitol Plaza Hotel in Jefferson City. He told us that the first day would be of special interest to our group. We can view the agenda and register HERE.

PARTICIPANTS: There were 14 of us botanists today, who are (in alphabetical order):
Rick & Fran Armstrong, Renee Benage, Kathy Bildner, Jerry Castillon, Wayne Clark, June Jeffries, Michael Laschober, Burt Noll, John Oliver, Bruce Schuette, David Steinmeyer, Kathy Thiele, and George Van Brunt.