Little Indian Creek C.A.

March 3, 2025

	BOTANICAL NAME (with genus pronunciation)	**FAMILY** [CC] = Coefficient of Conservatism	**COMMON NAME**
☐	*Acer rubrum* (AY-sr)	Sapindaceae [CC5]	Red Maple
☐	*Acer saccharum* (AY-sr)	Sapindaceae [CC5]	Sugar Maple
☐	*Aesculus glabra* (ESS-kyoo-luss)	Sapindaceae [CC5]	Ohio Buckeye
☐	*Antennaria parlinii* (an-tin-AYR-ee-uh)	Asteracea (Gnaphalieae tribe) CC5	Parlin's Pussytoes
☐	*Asimina triloba* (uh-SIM-in-uh)	Annonaceae [CC5]	Pawpaw
☐	*Asplenium platyneuron* (uh-SPLEE-nee-um)	Aspleniaceae [CC4]	Ebony Spleenwort
☐	*Asplenium rhizophyllum* (uh-SPLEE-nee-um)	Aspleniaceae [CC7]	Walking Fern
☐	*Cardamine hirsuta* (kar-DAM-ih-nee)	Brassicaceae [introduced]	Hairy Bittercress
☐	*Carpinus caroliniana* (car-PY-nus)	Betulaceae [CC6]	Musclewood Tree
☐	*Carya ovata* (KAYR-ee-uh)	Juglandaceae [CC4]	Shagbark Hickory
☐	*Carya tomentosa* (KAYR-ee-uh)	Juglandaceae [CC5]	Mockernut Hickory
☐	*Cornus florida* (syn. *Benthamidia florida*) (KOR-nuss)	Cornaceae [CC5]	Flowering Dogwood
☐	*Danthonia spicata* () (dan-THO-nee-uh)	Poaceae [CC3]	Poverty Grass
☐	*Erigenia bulbosa* () (ayr-ih-JEE-nee-uh)	Apiaceae [CC6]	Harbinger of Spring
☐	*Euonymus atropurpureus* (yoo-ONN-i-mus)	Celastraceae [CC5]	Wahoo
☐	*Euphorbia commutata* (yoo-FOR-bee-uh)	Euphorbiaceae [CC6]	Wood Spurge
☐	*Frangula caroliniana* (FRANG-goo-luh)	Rhamnaceae [CC6]	Carolina Buckthorn / Indian Cherry
☐	*Galium aparine* (GAY-lee-um)	Rubiaceae [CC0]	Bedstraw
☐	*Hamamelis vernalis* (ham-a-MEE-liss)	Hamamelidaceae [CC7]	Spring Witch-Hazel / Ozark Witch-Hazel
☐	*Lindera benzoin* (lin-DEER-uh)	Lauraceae [CC5]	Spicebush
☐	*Lobelia inflata* (lo-BEE-lee-uh)	Campanulaceae [CC3]	Indian Tobacco
☐	*Ostrya virginiana* (o-STRY-yuh)	Betulaceae [CC4]	Hop Hornbeam
☐	*Packera obovata* (PACK-r-uh)	Asteraceae (Senecioneae tribe) [CC4]	Roundleaf Ragwort
☐	*Phacelia purshii* (fuh-SEE-lee-uh)	Boraginaceae [CC4]	Miami Mist
☐	*Phlox divaricata* (FLOCKS)	Polemoniaceae [CC4]	Woodland Phlox
☐	*Pinus echinata* (PY-nuss)	Pinaceae [CC5]	Shortleaf Pine
☐	*Polemonium reptans* (poe-leh-MOE-nee-um)	Polemoniaceae [CC6]	Jacob's Ladder
☐	*Quercus rubra* (KWERK-us)	Fagaceae [CC5]	Northern Red Oak
☐	*Sambucus canadensis* (sam-BOO-kuss)	Adoxaceae [CC2]	Black Elderberry

☐	*Sassafras albidum* (SASS-uh-frass)	Lauraceae [CC2]	Sassafras
☐	*Verbesina virginica* (vr-beh-SEE-nuh)	Asteraceae (Heliantheae tribe) [CC5]	White Wingstem / Frostweed

NOTES

WHERE WE WALKED: We met in the first parking area (north of the creek) but couldn't access our trail without crossing the creek. Nobody wanted to walk across the creek because the water was moving so fast. We decided to drive across it to a different parking area, but those who had cars with a low ground clearance were reluctant to chance it. Eventually we all got across by sharing rides with those who had vehicles with a high suspension.
Although cloudy, it was a beautiful day to hike and our large group (21) seemed happy to be out in nature. We began on a loop trail but found that it was too long for such slow botanizers as us, so with the help of June's navigation skills we took a shortcut through the woods to get back to the cars.

WHICH WITCH HAZEL IS WHICH?:
"A ham sandwich? Mama Mia!" If you put them together you kind of get "*Hamamelis*" (ham-meh-MEE-liss). Whichever way you pronounce it (there are variations), it's important to practice saying it over and over or else you'll forever avoid it like most people. (The word "*Hamamelis*" will be scattered here and there throughout this report so that we can practice saying it.)

SPECIES: The witch hazel that we saw today was our St. Louis native *Hamamelis vernalis* (the SPRING-BLOOMING Witch Hazel). But on other walks we sometimes find *Hamamelis virginiana* (the FALL-BLOOMING Witch Hazel) which is commonly planted. Technically the FALL Hamamelis is not a St. Louis native. Its BONAP map shows it to be more of an Eastern U.S. plant (as its "*virginiana*" epithet suggests). But it's here and everybody seems to confuse the 2 species, so let's sort them out once and for all:

NAMES: The SPRING species has "*vernalis*" as its epithet. "Vernalis" means "of spring" in Latin (e.g. vernal equinox), so that'll be easy to remember. Unfortunately, it's also called the "Ozark" Witch Hazel. So we'll have to link "Spring" with "Ozark". That should be easy too, because Spring is the best season to be in the Ozarks with all its wildflowers.
The FALL species has "*virginiana*" as its epithet. That should be easy to remember because Fall is a wonderful time of year to visit Virginia and the northeast part of the country because of its vivid autumn colors. Unfortunately *H.virginiana* is also called the "Common" Witch Hazel. But if you look at its BONAP map again, you'll see that its range covers the whole eastern half of the country! So the FALL Witch Hazel is "common" for sure (especially in comparison to the tiny range of our Spring species.)

FLOWER COLOR: The flowers we saw today on our SPRING *Hamamelis vernalis* had 4 long, mostly yellow, ribbonlike petals. Unfortunately that's not going to help us much because the FALL species also has 4 long, yellow ribbonlike petals. But at the base of the flowers we saw today was the color red. That's important. The SPRING *Hamamelis vernalis* flowers have 4 short stubby sepals that are red. Although the FALL Witch Hazel flowers also have short stubby sepals, they're pale green instead of red. How can we mentally link "*vernalis*" with "red"? Fortunately there's a red pigment called "vermillion". VERmillion suggests VERnalis which suggests "Spring in the Ozarks". *Hamamelis*!

OTHER HAMAMELIS TIDBITS:
* Witch Hazels are known for their intoxicating fragrance that wafts through the air for long distances. Yet the plants we found this morning were only faintly fragrant. Why? It's expensive for plants to pump out volatiles, so they won't do it if there are no insects to attract (the sun was not out this morning and we noticed no pollinators) or if there is no need for insects (some of the flowers seemed to be past their prime, as if they had already been pollinated).
* A few weeks ago at the Missouri Botanical Garden, some of us seemed disappointed that so many of their Witch Hazels were hybrids with the label "*Hamamelis x intermedia*". But we weren't seeing the big picture. We were looking for native plants in a refined world of Witch Hazel culture. We were looking for a glass of local grape-juice at an international wine-tasting event. Our native SPRING and FALL witch-hazel plants have very little to do with the hybrids. Those discouraging words "*Hamamelis x intermedia*" are not important. What's important is the cultivar name (in single quotation marks) that follows those words. That identifies the valuable plant that the Witch Hazel connoisseurs have

come great distances to see. How are the hybrids made? By crossing *Hamamelis mollis* (Chinese Witch Hazel) with *Hamamelis japonicus* (Japanese Witch Hazel). Our native witch hazels aren't even in the picture (except when used as a grafting rootstock to give the hybrids greater vigor).
* Is it possible for a Witch Hazel to get Witch's Broom? That would be interesting (except for the poor Witch Hazel which is already beset with its own problems, especially with galls). However the two "witch" words would have different meanings. For *Hamamelis* the word "witch" refers to a "bendable" branch. (In fact the branches were used for water-witching or dowsing.) For the deformity called "Witch's Broom" in which a broomlike mass of shoots grow like a cancer from a single point, the word "witch" refers to the iconic Halloween character.
* The Witch Hazels belong to their own family, Hamamilidaceae. The SPRING Witch Hazel is the only St. Louis plant in that family. However the family is in the Saxifragales order, so our Witch Hazels grow-up in a rather rarefied neighborhood with other unusual St. Louis plants, including Gooseberry (Grossulariaceae); Coral Bells, Saxifrage, and Bishops Cap (Saxifragaceae); Sedum (Crassulaceae); Ditch Stonecrop (Penthoraceae); 2-leaved Water Milfoil, and Marsh Mermaidweed (Haloragaceae).
* The Witch Hazels launch their seeds at quite a speed. John told us the story of a time when he was in New York City watching the Macy's Day Parade. He felt a sharp thump on the back of his neck. He turned around expecting to see a kid with a pea-shooter. Instead it was a Witch Hazel!

THE MUSTARDS ARE COMING! THE MUSTARDS ARE COMING!
It was exciting to find a patch of tiny flowering mustard plants. We knew they were mustards right away because their 4 white petals formed an "X" or "cross" pattern (which is why the mustard family plants are called "crucifers"). John identified them as the non-native *Cardamine hirsuta* (Hairy Bittercress) plants.

Spring brings St. Louis a whole parade of mustard plants. In just a couple weeks or so we're sure to see Hairy's popular brother *Cardamine concatenata* (Toothwort). Toothwort is one of everybody's favorites not just because he's easy to identify with his much larger white flower and distinctive leaf shape, but because he's a native St. Louisan with an endearingly goofy name.

Most people seeing the word "*Cardamine*" for the first time would probably pronounce it "CAR-duh-mine" – especially if they're familiar with Calamine Lotion. But John and other botanists surprisingly pronounce it as "**car-DAM-eh-nee**". And if that seems strange, get ready because the granddaddy of strange pronunciations is also coming into bloom very soon: *Corydalis*. There are a number of people actually named "Cory Dallas". What are the chances that any of them pronounce their name as "**kor-RIDD-uh-liss**"? Not very high. *Corydalis* is in the poppy family (far away from the mustard family), so we won't discuss it here. But if we want to pass ourselves off as suave, knowledgeable taxonomists this spring, we'll need to pronounce *Cardamine* and *Corydalis* with confidence. They're the weirdest of the names we'll encounter. As for all the other names, we should be able to wing them.

Next in the Mustard Parade we'll probably see the sleek, rubbery-looking *Borodinia laevigata* (Smooth Rockcress). He seems a bit haughty and elitist for a C6. But don't worry, the parade is not becoming gentrified. The sorry fellow following him in line, our homely non-native *Capsella bursa-pastoris* (Shepherd's Purse), more than cancels-out *Borodinia*'s elegance.

Getting hungry watching the parade? The Mustards have that covered too!
From our gardens march dishes of Broccoli, Cauliflower, Cabbage, Kale, Brussels Sprouts, Collard Greens, and Kohlrabi served from the most famous jack-of-all-cultivars: *Brassica oleracea*. Yes, all from one species!
Similarly we can choose from dishes of turnips, rapini, napa cabbage, fresh canola oil, and bok choy served from another jack-of-all-cultivars: *Brassica rapa*. Yes, again all from one species! (There's a genetic explanation for *Brassica*'s great capacity to diversify.)

Don't listen to the jealous Rose Family! The Brassicaceae isn't all somber and severe with sulfurous body odors. Later in the parade we'll see some really colorful beauties. Wearing yellow we'll see *Barbarea* (the Yellow Rocket), wearing purple we'll see *Iodanthus* (the Purple Rocket), and wearing orange we'll see *Erysimum* (the Western Wallflower). With some 46 different St. Louis species of mustards (list HERE), we've got the best seat on Planet Earth to watch the Mustard Parade!

Speaking of 46, we hoomans have 46 chromosomes (same as an olive tree). But there's a very simple mustard plant known around the world (and even up in the International Space Station) by the name of *Arabidopsis thaliana* (the Thale Cress) It only has 10 chromosomes. It only grows 8-10 inches tall. Its complete life cycle is only 6 weeks. And for these reasons, this mustard is the most studied, most well-understood plant on the planet. It's genome was sequenced even before the human genome was sequenced! This model organism is the lab-rat of botanists. And although it's not native, we've got this winter annual growing right here in St. Louis! And as a bonus, we also have its native C8 brother *Arabidopsis lyrata* (the Sand Cress).

With the famous *Arabidopsis thaliana*, St. Louis can claim to have a plant with one of the lowest chromosome numbers. But wonder of wonders, St. Louis also has plants with the *highest* numbers of chromosomes! We have *Equisetum arvense* (the Field Horsetail) with 216 chromosomes! We have *Morus nigra* (the Black Mulberry) with 308 chromosomes! And to top it all off (hold onto your hiking boots!) we've got *Ophioglossum vulgatum* (Adder's Tongue Fern) with possibly more than a thousand chromosomes! Yes, St. Louis has it all! *Hamamelis*!

SHORT OBSERVATIONS:

- Even though Little Indian Creek is south of St. Louis, John observed that this morning's plants seem to be a few weeks behind ours. We even found a mound of snowy ice in the shadow of some large rocks.
- Kathy Bildner has kindly shared her photos (including the snow!) on our group's Google Drive HERE.
- Upon finding a Pawpaw tree, Ted joked that if the species were dioecious, we could have both Pawpaw and Mawmaw trees.
- Everybody shouted "Butterfly!" as our first butterfly sighting of the year darted in angular directions before us. It was a large black butterfly. "Is it a Mourning Cloak?" asked somebody. "Yes" answered John. "It's our winter butterfly."

PARTICIPANTS:

There were 21 of us botanists today. *Hamamelis*! We are (in alphabetical order):
Gisela Baner, Prem Barton, Renee Benage, Kathy Bildner, Jerry Castillon, John Christensen, Wayne Clark, Ann Esswein, Karen Gabbert, HD Key, Michael Laschober, Ted & Lynne MacRae, Burt Noll, John Oliver, David Steinmeyer, Ruth Tenbrink, Kathy Thiele, Steve Turner, George Van Brunt, and Laura Yates.