

Faust Park – Governor Bates Trail

May 13, 2024

	BOTANICAL NAME (with etymology & genus pronunciation)	FAMILY [CC] = Coefficient of Conservatism	COMMON NAME (with tips we learned)
<input type="checkbox"/>	Actaea pachypoda (plant name + thick foot) (ak-TEE-uh)	Ranunculaceae [CC8]	Doll's Eyes / White Baneberry Its toothed compound leaves may look like quite a few other woodland plants [such as Goatsbeard, Sweet Cicely, Spikenard, and Water Hemlock], but its "eyeballs on red toothpicks" fruit clusters look like none other.
<input type="checkbox"/>	Ailanthus altissima (sky tree + high) eye-LAN-thus	Simaroubaceae / Sapindales order [intro]	Tree of Heaven (huge leaf scars help in identification)
<input type="checkbox"/>	Aplectrum hyemale (without spurs + winter) (ay-PLECK-trum)	Orchidaceae [CC8]	Adam and Eve Orchid [so-called because on older plants the corm develops a second linked corm] / Putty Root Orchid [so-called because crushed corms release a sticky substance once used to mend pots] Leaf: it only has one leaf, but it is eye-catching with its conspicuous, parallel white strips and its large, pleated blade / Flower: terminal raceme, large but rather dark / when leaf is present, there is no flower – and when the flower is present, there is no leaf
<input type="checkbox"/>	Asimina triloba (native American name of tree + 3 lobes) (uh-SIM-in-uh)	Annonaceae (a Basal Angiosperm family) [CC5]	Pawpaw (the only member of the family not confined to the tropics, hence the naked "paintbrush" buds in winter / tree branches can be flat, forming a terraced, planar architecture)
<input type="checkbox"/>	Blephilia hirsuta (eyelash + straight-haired) (bleh-FILL-ee-uh)	Lamiaceae (Nepetoideae subfamily) [CC7]	Hairy Pagoda Plant / Wood Mint (compared to <i>Blephilia ciliata</i> , <i>B. hirsuta</i> prefers moister and more shaded habitats, has longer leaf petioles, flowers that are mostly white instead of lavender, has a taller and more branched habit, a very minty pleasant fragrance)
<input type="checkbox"/>	Botrypus virginianus (cluster of grapes) (bo-TRY-pus)	Ophioglossaceae [CC4]	Rattlesnake Fern (Although it appears as a whorl of 3 leaves, the STERILE frond is just one large triangular leaf, 3 or 4 times pinnately compound, that is held parallel to the ground / the FERTILE frond is a branched cluster of "grapes" without leaf lamina.)
<input type="checkbox"/>	Celastrus scandens (evergreen tree + climbing) (sell-ASS-trus)	Celastraceae [CC3]	American Bittersweet (although crossbreeding is common, the native has narrower leaves, fruit in terminal [rather than axillary] clusters, and orange [rather than yellow] fruit valves)
<input type="checkbox"/>	Cornus drummondii (horn + someone's name) (KOR-nuss)	Cornaceae [CC2]	Roughleaf Dogwood (though not as famous as the Flowering Dogwood, this is our most common species / has white fruits)
<input type="checkbox"/>	Cryptotaenia canadensis (kripp-toe-TEE-nee-uh)	Apiaceae [CC2]	Honewort Flowers: tiny white sparks that seem to float over the dark green foliage / Leaves: easily confused with <i>Osmorhiza</i> and other plants with celerylike leaves /
<input type="checkbox"/>	Cystopteris protrusa (bladder + fern) (sis-STOP-tr-riss)	Cystopteridaceae [CC5]	Lowland Bladderfern (a springtime fern that wilts away when temperatures get too high / resembles <i>Woodsia obtusa</i> / most identifying feature is a shallow yellow-hairy rhizome that extends a couple of inches beyond the clump of fronds / only grows in soil)
<input type="checkbox"/>	Euonymus alatus (= good name + winged) (yoo-ONN-i-mus)	Celastraceae [intro]	Burning Bush or Winged Euonymus (at least some stems likely have corky ridges / flowers are pale / leaf undersides are glabrous / leaf petioles shorter than our native tree)
<input type="checkbox"/>	Homalosorus pycnocarpos (flat sori + dense fruit) / synonym: <i>Diplazium pycnocarpon</i> (ho-MAL-o-SOR-us)	Diplasiopsidaceae [CC10]	Narrow-Leaved Glade Fern
<input type="checkbox"/>	Humulus scandens [japonicus] (hops + climbing) (HYOO-muh-luss)	Cannabaceae [intro]	Japanese Hops (dioecious / invasive vine / stems with sharp, spiny hairs)

<input type="checkbox"/>	<i>Hydrophyllum appendiculatum</i> (water + leaf + with appendages) (hy-dro-FILL-um)	Boraginaceae [CC6]	Great Waterleaf / Woolen Breeches (biennial / the “waterleaf” name refers to the “water-spot” mottling of its early spring leaves / the epithet “appendiculatum” refers to the tiny sepal-like appendages that hang down between the real sepals of the calyx / St. Louis has 3 <i>Hydrophyllum</i> species; this is the species with maple-like leaves, flowers held ABOVE the leaves, and tiny appendages tucked between the sepals /
<input type="checkbox"/>	<i>Hydrophyllum canadense</i> (water + leaf + Canada) (hy-dro-FILL-um)	Boraginaceae [CC7]	Broadleaf Waterleaf St. Louis has 3 <i>Hydrophyllum</i> species; this is the only species that holds its flowers BELOW its maple-like leaves rather than above them (because the Canadian’s visa has expired and he doesn’t want to draw attention to himself)./
<input type="checkbox"/>	<i>Impatiens capensis</i> (impatiant + Cape of Good Hope) (im-PAY-shenz)	Balsaminaceae [CC3]	Orange Jewelweed / Orange Touch-Me-Not / St. Louis has 2 <i>Impatiens</i> species (in fact they’re the only 2 species we have from the entire Balsaminaceae family – not counting the popular New Guinea Impatiens we buy at the store). Both <i>I.capensis</i> and <i>I.pallida</i> have their namesake glaucous leaves that cause raindrops to bead-up like jewels, and they both have fun namesake fruits that dehisce explosively with the slightest touch when ripe. Yet <i>I.capensis</i> does have some distinguishing features: <ul style="list-style-type: none"> • Its flowers are ORANGE (instead of yellow) • It generally has FEWER THAN 9 TEETH (instead of more than 9) on each side of its leaves.
<input type="checkbox"/>	<i>Laportea canadensis</i> (somebody’s name + Canada) (luh-POR-tee-uh)	Urticaceae [CC4]	Wood Nettle (perennial, monoecious, alternate-leaved nettle that stings probably worse than the opposite-leaved <i>Urtica dioica</i>)
<input type="checkbox"/>	<i>Lindera benzoin</i> (person’s name + aromatic resin) (lin-DEER-uh)	Lauraceae [CC5]	Spicebush dioecious shrub / Leaf: alternate, entire, smooth, leathery, elliptical, tapered base, acuminate tip, torn leaf has strong, bracing fragrance / Buds: male plants have conspicuously larger winter flower buds / Bark: smooth with goose bumps /
<input type="checkbox"/>	<i>Lonicera japonica</i> (= somebody’s name + Japanese) (lo-NISS-r-uh)	Caprifoliaceae [intro]	Japanese Honeysuckle Vine (berries black)
<input type="checkbox"/>	<i>Matricaria discoidea</i> (uterus + discoid) (mat-trick-CARE-ee-uh)	Asteraceae / Anthemideae (Chamomile) tribe []	Pineapple Weed discoid (disk florets only) / edible leaves and flowers smell very much like pineapple
<input type="checkbox"/>	<i>Morus alba</i> (black mulberry tree + white) (MOHR-us)	Moraceae / Rosales [intro]	White Mulberry St. Louis only has 2 mulberry trees, but they’re difficult to differentiate – plus they hybridize with each other making identification a lost cause. They’re both dioecious (separate male and female trees), they both exude a white milky sap, they both have 3 leaf-shapes (entire, mitten, 3-lobed), they’re both wind-pollinated, and they both produce so-called “multiple” fruits that are formed from an inflorescence rather than from a single flower. But here are some features that helps set <i>Morus alba</i> apart: <ul style="list-style-type: none"> • White is less shade-tolerant • White has smaller leaves (3-4”) • Upper leaf surface: White is smooth and shiny • Leaf underside: if White has hair, it’s on main veins. Minor veins are not prominent. • Leaf margins: White has larger, more rounded teeth • Buds: White’s are smaller, more domed, with short and needle-sharp tip, with each scale having a brown band (not necessarily on the margin), and bud sits on center of twig (instead of off-center) • Bark: White has thick, braiding ridges that are tannish-brown with yellow inner bark nearly always exposed between ridges
<input type="checkbox"/>	<i>Packera glabella</i> (PACK-r-uh)	Asteraceae (Senecioneae tribe) [CC1]	Butterweed St. Louis has 4 <i>Packera</i> species [list HERE]. Butterweed is a large annual – the others are smaller perennials. It can be

			distinguished not just by its conspicuous size difference, but also by its hefty, hollow, RIDGED stem.
<input type="checkbox"/>	<i>Paulownia tomentosa</i> () (pow-LO-nee-uh)	Paulowniaceae / Lamiales [intro]	Empress Tree (Leaves: very large, opposite / Flowers: large, purple, fragrant, mint-shaped)
<input type="checkbox"/>	<i>Penstemon digitalis</i> (PENN-steh-mun)	Plantaginaceae [CC3]	Foxglove Beardtongue St. Louis has 2 penstemons, the other being <i>P.pallidus</i> . They both have opposite leaves and a white bilabiate flower with 4 fertile stamens and the famous 5 th infertile staminoid that lays on the bottom of the corolla tube like a hairy tongue. But there are differences: Our <i>P.digitalis</i> is a larger plant of 4-5ft (rather than 1-3ft) Our <i>P.digitalis</i> has mostly glabrous stems and leaves (rather than fuzzy all over) Our <i>P.digitalis</i> flower has a lower lip that flops down (rather than sticking out like an underbite or an angler fish.) Our <i>P.digitalis</i> blooms a bit later than <i>P.pallidus</i> .
<input type="checkbox"/>	<i>Podophyllum peltatum</i> (foot + leaf + peltate) (po-do-FILL-um)	Berberidaceae [CC4]	Mayapple (all parts of plant are toxic except for the ripe fruit / grows in colonies from creeping rhizomes / leaf is umbrella-like [peltate] with palmate lobes / flower develops from axil of DOUBLE-leaved stems, not single-leaf stems / plants dependent on soil mycorrhizae / habitat: woodlands / yellow spots commonly found on leaves are caused by Mayapple Rust, a fungal parasite)
<input type="checkbox"/>	<i>Sanicula odorata</i> (healthy + odor) (suh-NICK-yoo-luh)	Apiaceae [CC2]	Clustered Black Snakeroot St. Louis has 2 <i>Sanicula</i> species (<i>S.canadensis</i> and <i>S.odorata</i>). Although they're not truly symmetrical, they give an impression of being very symmetrical – as if a mirror has been placed along their stem. Hence the mnemonic: “Don’t be so divisive, Sanicula! It isn’t healthy!” / This <i>Sanicula odorata</i> can be distinguished from its sibling by: <ul style="list-style-type: none"> • greenish flowers with YELLOW anthers • most leaves have 5 equal leaflets • umbel contains mostly MALE flowers which are showier with longer pedicels • flower STYLES long and recurved • usually grows in large colonies • sunnier habitat on disturbed soils
<input type="checkbox"/>	<i>Sassafras albidum</i> (sassafras + white) (SASS-uh-frass)	Lauraceae (Laurel Family) [CC2]	Sassafras (dioecious / leaves: some mitten-shaped / terminal buds green and plump / has greenish twigs, even in winter / scratch to enjoy Juicyfruit Gum or Fruit Loops fragrance / extract no longer sold as food because of safrole’s cancer link)
<input type="checkbox"/>	<i>Tilia americana</i> (= linden tree) (TILL-ee-uh)	Malvaceae [CC5]	Basswood “Has red buds, but it’s not a Redbud” – Fr. Sullivan’s joke / zigzag twigs / look for telltale bracts with attached peduncles / asymmetric leaf base, hyaline tissue along leaf margins, upper leaf surface glabrous /
<input type="checkbox"/>	<i>Urtica dioica gracilis</i> (nettle + dioecious + graceful) (UR-tick-kuh)	Urticaceae [CC3]	Tall Stinging Nettle This is the Real McCoy stinging nettle. It has opposite leaves and is not too prickly; however in St. Louis we more commonly find 2 other nettles: “ <i>Boehmeria cylindrica</i> ” (our opposite-leaved pacifist) and <i>Laportea canadensis</i> (our mean, alternate-leaved stinger)
<input type="checkbox"/>	<i>Verbesina helianthoides</i> (vr-beh-SEE-nuh)	Asteraceae (Heliantheae tribe) [CC5]	Yellow Crownbeard / given the “ <i>helianthoides</i> ” epithet, “Yellow Sunflower Wingstem” would be a more practical name / (It’s great to have such an identifiable feature as winged stems – and with a wonderfully practical common name “Wingstem” to match. Unfortunately, St. Louis has 3 Wingstems [<i>V.alternifolia</i> , <i>V.helianthoides</i> , <i>V.virginica</i>]. How to tell them apart? Our attractive <i>V.helianthoides</i> can be distinguished by: <ul style="list-style-type: none"> • SIZE: the shortest of the three (<4ft) • FLOWERING: first to bloom in early summer • WINGEDNESS: reliably has winged stems • LEAVES: mostly elliptic /

			<ul style="list-style-type: none"> HEADS: Yellow / terminal clusters of 1-5 heads, each with 8-15 ray florets / disk florets mostly aligned (rather than pointing in all directions) <p>[the genus name “<i>Verbesina</i>” is easier to remember if we consider that we have to use more words – more VERBS – to describe not just the leaf but also the special stem.]</p>
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NOTES

WHERE WE WALKED: We met at the parking lot on Henry Jackson Road closest to the big red Lamella Barn. We walked the entire 1.3 mile Governor Bates Trail, and then beyond it to the Butterfly House, the Historic Village, and back along Henry Jackson Road to make a complete circle of the park.

A HUMOROUS BEGINNING: As we began walking the road from the parking lot towards the big red barn, it seemed that almost every plant we found was an invasive. For example, instead of our common native Bedstraws, we were walking in an area covered with the non-native Piedmont Bedstraws. And we weren’t just finding herbaceous plants that didn’t belong here, we were finding huge trees like the Empress Tree and the Tree of Heaven. Even the bush honeysuckle had a specialness to it, as if it might be *Lonicera morrowii* instead of *Lonicera maackii*. It was weirdly fun.

GRAPES:

Vitis is a genus that we usually “overlook” – and not because we don’t see them. St. Louis has 6 grape species [listed [HERE](#)]. Trying to figure out which species is which can be frustrating. But today we couldn’t ignore them because they sure weren’t ignoring us.

It all started when we were walking over a wooden bridge. John noticed that on the damp handrail boards were tiny, strange growths that looked like green stars. What were they? A type of fungus? They were rather beautiful. As we stood there perplexed, we noticed a strong beckoning fragrance. Prem led us over to some flowering grape vines, telling us that Fr. Sullivan had once introduced her to their sweet scent. John identified the vines as *Vitis riparia* - Riverbank Grape. (Riverbank leaves often have many large, sharp teeth, which they need to eat fish. My mnemonic aid.) We spent quite some time enjoying this plant that usually brings us frustration. We hardly ever notice them in flower. Kathy Bildner even took some photos.

Later Kathy enlarged her photos and noticed that all the grape flowers were staminate (male). John explained that wild grapes are mostly dioecious, with some plants being male and others being female. (Commercial grapes are bisexual, which makes cultivation easier.)

Now for the grand finale of our story. John looked closely at Kathy’s enlarged flower photo and noticed a few of those mysterious “handrail growths” caught in the flowers. Eureka! John explained that flowers of the *Vitis* genus are special. They don’t have an ordinary corolla with a fused base and an open top. It’s almost the opposite. The little green “petals” are fused at the top to form a protective cap over the flower bud. This cap, or **CALYPTRA** then falls off when the flower opens. In our case, the caps floated down onto the bridge to cause us such puzzlement.

So this time the grapes really delivered. Instead of being their usual “no, I don’t see you” background noise, they puzzled us with a huge mystery, delighted us with their fragrance, and finally taught us a bit of botany – and a new term too!

WATERLEAF (x2):

In the early spring, Waterleaf plants are easy to identify because the leaves have those “water stains” on them. It makes us feel smart being able to quickly identify both their common and botanical names (“Waterleaf” and the perfectly-named “*Hydrophyllum*” [water + leaf]). But this time of year there are no more water marks, no more feeling smart. (I even dug down through the new foliage looking for a water-marked leaf left-over from winter. No luck.). Their leaves now look confusingly similar to those from several other unrelated plants – some of which even have “water-marks”!. Worse yet, St. Louis has more than one Waterleaf plant! We’ve got 3 of them: [Hydrophyllum appendiculatum](#), [H.canadense](#), and [H.virginianum](#). So NOW what?

Fortunately, now’s the time that Waterleaf plants are flowering. The plant we are looking at has clusters of lavender flowers held above its maple-like leaves. It is *Hydrophyllum appendiculatum*. John points-out the famous “appendages” from which the species gets its name. They are like tiny green sepals that hang down between the flower’s regular sepals. Just when we are starting to feel secure – maybe even a little smug – disaster strikes: we come upon a different *Hydrophyllum*. It’s on the other side of the trail from the *H.appendiculatum*. This new one has maple-like leaves too. Is it *H.canadense* or *H.virginianum*? His flowers give him away. Instead of holding his flowers high like *H.appendiculatum* and *H.virginianum*, this fellow keeps them hidden down beneath his leaves so that nobody can see them. Smart move.

This is *Hydrophyllum canadense*, the Canadian who has overstayed his visa and doesn't want to draw attention. (My mnemonic aid.)

SHORT OBSERVATIONS:

- As we struggled to identify a fern, John quipped: “*With ferns like these, who needs Anemones?*” Everybody laughed.
- One of the highlights of this walk was finding so many “Doll’s Eyes” plants along the trail. There is nothing special about the foliage of *Actaea pachypoda*. But just knowing that this toxic plant will soon be displaying racemes of eyeballs on red toothpicks gives it a “creepiness status” far above any of its neighbors.
- The Sassafras trees growing along the Governor Bates Trail are stunning in their massiveness. They seem more like Cottonwoods than Sassafras. Next time we should bring a DBH tape with us so that we can determine their diameters. They might be State Champions!
- It is surprising that we had such a large group today because storms were in the weather forecast. Although not a single raindrop fell, it was rather dark throughout our walk. When people took photos in the woods, I noticed that their cameras flashed.
- We’re all quite familiar with our beloved Flowering Dogwood. But St. Louis has 5 species of *Cornus* [list [HERE](#)]. They’re difficult to differentiate. John mentioned that people who try to identify different Dogwood species often just throw up their hands in frustration and call them all “Roughleaf Dogwoods” (*Cornus drummondii*). Many of us probably secretly smiled, happy to hear that we weren’t alone.
- We found a field with Beardtongues, but they were the taller, later-blooming *Penstemon digitalis*. Before today we had only seen the smaller *Penstemon pallidus*. Time is passing.

PARTICIPANTS:

There were 17 of us botanists today, who are (in alphabetical order):

Prem Barton, Renee Benage, Kathy Bildner, Steve Bizub, Jerry Castillon, Wayne Clark, Sebastian Forward, June Jeffries, Michael Laschober, Pat Lynn, Len Meier, Burt Noll, John Oliver, Tina Richardson, David Steinmeyer, Kathy Thiele, and George Van Brunt.