

Hickory Canyons Trail

December 18, 2023

	BOTANICAL NAME (with etymology & genus pronunciation)	FAMILY [CC] = Coefficient of Conservatism	COMMON NAME (with tips we learned)
<input type="checkbox"/>	Asplenium trichomanes (without spleen [medicinal for aiding spleen] + hair cup) (uh-SPLEE-nee-um)	Aspleniaceae [CC9]	Maidenhair Spleenwort (evergreen / fronds are simply divided into roundish pinnae / sori are linear and arranged like a drawing of a wheat seedhead / somewhat resembles a Maidenhair Fern)
<input type="checkbox"/>	Auricularia spp. (ear-shaped) (awr-rick-yoo-LAR-ee-uh)	Auriculariaceae [fungus]	Dead Man's Ear (ear-shaped gummy-bears grow on tree trunks and fallen branches; different species throughout the world, some cultivated and sold as food)
<input type="checkbox"/>	Carpinus caroliniana (= hornbeam tree) (car-PY-nus)	Betulaceae [CC6]	Musclewood Tree / American Hornbeam (habitat: shaded areas with moist soils / trunk ribbed like muscles / leaf: looks corrugated with prominent veins, but the veins are usually NOT forked [in contrast to <i>Ostrya</i>] / male and female catkins appear in spring with leaves)
<input type="checkbox"/>	Carya cordiformis (nut tree + heart-shaped) (KAYR-ee-uh)	Juglandaceae [CC5]	Bitternut Hickory (has naked buds, like the pecan / St. Louis has 7 different hickory species / the hickories can be divided into 2 sections: the Bitternut and Pecan belong to one section [Apocarya] while all the others, i.e. Pignut, Shellbark, Shagbark, Black, and Mockernut belong to the other section [Carya] which has scales on its buds)
<input type="checkbox"/>	Cunila origanoides (= mint + like oregano) (KOO-nil-lah)	Lamiaceae [CC6]	Dittany (producer of frost flowers / indicator [along with blueberries and White Oak] of acid soil)
<input type="checkbox"/>	Cunila origanoides (= mint + like oregano) (KOO-nil-lah)	Lamiaceae [CC6]	Dittany (producer of frost flowers / indicator [along with blueberries and White Oak] of acid soil)
<input type="checkbox"/>	Dennstaedtia punctilobula (person's name + dotted lobes) (den-STEE-dee-uh)	Dennstaedtiaceae [CC10]	Hay-Scented Fern (deciduous / acid soil / one of the first to die back in the fall / never met anybody who could smell "hay" in it)
<input type="checkbox"/>	Dryopteris carthusiana (= oak + fern + Carthusian monks?) (dry-OPP-tr-us) [but a more etymologically meaningful pronunciation would be "dry-o-TAYR-us"]	Dryopteridaceae [CC10]	Spinulose Shield Fern ("spinulose" = having small spines) / evergreen / this is the fern that has such a quirky identifying feature: first find the basal pinna (leaflet) on the rachis, then find the lower basal pinnule (sub-leaflet) on that pinna. It should be longer than the adjacent pinnule above it.
<input type="checkbox"/>	Dryopteris marginalis (= oak + fern + margins [where sori are located]) (dry-OPP-tr-us) [but a more etymologically meaningful pronunciation would be "dry-o-TAYR-us"]	Dryopteridaceae [CC7]	Marginal Shield Fern (evergreen / clump forming – sometimes plant is elevated by rootstock, appearing treelike / stipe = 1/4 th length of frond, stipe covered with bright golden-brown scales, grooved on upward-facing side, dark red-brown at base / pinnae curved toward tip of frond / sori along margin of pinna in sinuses of teeth /)
<input type="checkbox"/>	Goodyera pubescens (somebody's name + hairy) (good-YEER-uh)	Orchidaceae [CC10]	Downy Rattlesnake Plantain (basal rosette has broadly elliptic leaves with a stark white midvein and white doodlings all over the leaf blades)
<input type="checkbox"/>	Hieracium gronovii (hawk + somebody's name) (hy-RAY-see-um)	Asteraceae (Cichorieae tribe) [CC4]	Beaked Hawkweed (we have 3 hawkweeds in the St. Louis area, the other 2 being <i>H. longipilum</i> and <i>H. scabrum</i> / <i>H. gronovii</i> is hairy, but not nearly as hairy as <i>H. longipilum</i> / <i>H. gronovii</i> has a single unbranched stem, but <i>H. scabrum</i> has a branched stem)
<input type="checkbox"/>	Hydrangea arborescens (hy-DRAIN-jee-uh)	Hydrangeaceae [CC7]	Wild Hydrangea (winter capsules resemble summer inflorescences)
<input type="checkbox"/>	Ilex decidua (= deciduous) (EYE-lex)	Aquifoliaceae [CC5]	Possumhaw / Deciduous Holly (dioecious / spur branches useful for identification)
<input type="checkbox"/>	Ilex verticillata (holly + whorl) (EYE-lex)	Aquifoliaceae [CC10]	Winterberry (dioecious / both male and female trees come in "early flowering" and "late flowering" varieties, so matching is important / prefers wet acid soils / the leafless branches full of red berries are coveted by flower arrangers)
<input type="checkbox"/>	Ludwigia alternifolia (lood-WIG-ee-uh)	Onagraceae [CC4]	Seedbox

			(the winter capsules are very boxlike - with a hole on top that John described as a pepper shaker)
<input type="checkbox"/>	<i>Mitchella repens</i> (somebody's name + creeping) (mit-CHELL-uh)	Rubiaceae [CC7]	Partridgeberry (leaves evergreen, roundish, leathery, small, opposite / grows on sandstone ledges / red edible berry has 2 dimples from the 2 flowers whose ovaries fused to create it / mat-like woody shrub or vine)
<input type="checkbox"/>	<i>Osmunda spectabilis</i> (fern name + worth seeing) (oss-MUN-duh)	Osmundaceae [CC7]	Royal Fern (American) (deciduous / bipinnate with the pinnules held on by a tiny base / sterile and fertile fronds similar, except that the tops of fertile fronds are reduced and turn brown when mature in early summer)
<input type="checkbox"/>	<i>Osmundastrum cinnamomeum</i> (os-MUN-duh-strum)	Osmundaceae [CC8]	Cinnamon Fern (deciduous / so-named because of the cinnamon-colored fibers near the frond bases / separate stiff fertile fronds appear in early spring, then turn brown /)
<input type="checkbox"/>	<i>Ostrya virginiana</i> (= Gk name of tree) (o-STRY-yuh)	Betulaceae [CC4]	Hop Hornbeam (hop-like fruit, shredded bark on older trees, leaves often marcescent [retained throughout winter], with venation that is forked [in contrast to <i>Carpinus</i>])
<input type="checkbox"/>	<i>Polypodium virginianum</i> (= many feet) (poly-PO-dee-um)	Polypodiaceae [CC9]	Rock Polypody / Common Polypody (evergreen / simple pinnae look like they've melted a bit around the margins)
<input type="checkbox"/>	<i>Polystichum acrosticoides</i> (many rows + resembling <i>Acrostichum</i> , the Elk-Horn Fern, which also has its sori densely packed on pinna underside) (po-LISS-tick-um)	Dryopteridaceae [CC5]	Christmas Fern (evergreen – which is how it gets its common name because it's still green at Christmas, except for the fertile tips of fronds which are dried up and brown)
<input type="checkbox"/>	<i>Pteridium aquilinum</i> (= fern + eagle [image in sliced root]) (tr-RIDD-ee-um)	Dennstaedtiaceae [CC4]	Bracken Fern / Eagle Fern (deciduous / triangular-shaped fronds, 2-3x pinnate / sori covered by rolled leaf margins / rhizomatous / linked to stomach cancer)
<input type="checkbox"/>	<i>Rhododendron prinophyllum</i> (= rose tree + oak leaf) (roe-doe-DENN-drum)	Ericaceae [CC8]	Early Azalea (dehiscid fluted capsule makes winter identification easy / all Azaleas are Rhododendrons, but not all Rhododendrons are Azaleas; George explained that Azaleas have 5 stamen, while the other Rhododendrons have 10 stamen / John mentioned that this species has a pleasant fragrance)
<input type="checkbox"/>	<i>Sassafras albidum</i> (sassafras + white) (SASS-uh-frass)	Lauraceae (Laurel Family) [CC2]	Sassafras (has green twigs, even in winter / scratch to enjoy Juicyfruit Gum or Fruit Loops fragrance / terminal buds green and plump / plant is dioecious / leaves: some mitten-shaped / no longer sold as food because of saffrole's cancer link)
<input type="checkbox"/>	<i>Smilax glauca</i> (= glaucous) (SMY-lax)	Smilacaceae [CC4]	Cat Greenbrier (underside of leaf is much paler than the upper side – even somewhat glaucous with a bloom that can be at least partially wiped off)
<input type="checkbox"/>	<i>Sphagnum compactum</i> (SFAGG-num)	Sphagnaceae [no CC for Bryophytes]	Compact Peat Moss (Sphagnum is a thick, woolly moss that is famous for its water-holding capacity / there are some 380 species of sphagnum in the world)
<input type="checkbox"/>	<i>Vaccinium arboreum</i> (blueberry + treelike) (vack-SINN-ee-um)	Ericaceae [CC6]	Farkleberry (of our 3 St. Louis blueberries [<i>V. arboreum</i> , <i>V. staminium</i> , and <i>V. pallidum</i>], this is the tallest and has the most OPEN leaf venation)

Highlights:

This is our last Botany Walk of 2023 (because both Christmas and New Years Day fall on a Monday). So it feels fitting that we end the year in one of our most diverse natural areas: Hickory Canyons.

FERNS: Our main objective was to identify as many different ferns as we could find. John mentioned that George Yatskievych considered this place to be the best fern habitat in all of Missouri. We believe it, having found at least 9 of them! It was fun looking for a tenth fern, the elusive Bradley's Spleenwort (*Asplenium bradleyi*). And although we spent quite some time looking for it under fallen leaves, and although Mark made everybody laugh when he joked about having found it in a hard-to-access area, we never did find that rare spleenwort. Here are the 9 that we did find:

Asplenium trichomanes (Maidenhair Spleenwort) - evergreen
Dennstaedtia punctilobula (Hay-Scented Fern) – deciduous

Dryopteris carthusiana (Spinulose Woodfern) - evergreen
Dryopteris marginalis (Marginal Shield Fern) - evergreen
Osmunda spectabilis (Royal Fern [American]) – deciduous
Osmundastrum cinnamomeum (Cinnamon Fern) – deciduous
Polypodium virginianum (Rock Polypody) - evergreen
Polystichum acrostichoides (Christmas Fern) - evergreen
Pteridium aquilinum (Bracken Fern) – deciduous

PARTRIDGE BERRY (*Mitchella repens*): We're always happy to find this plant from the coffee family (Rubiaceae). It's easy to identify with its red coffee-like berries. And how strange that red berry is with those 2 dimples on it – a birthmark from the 2 flowers whose ovaries fused together to create it. (It would be interesting to return in late June or July to actually see those 2 flowers which share the same calyx.) Even its evergreen leaves are rather easy to identify (small, roundish, leathery, growing opposite in pairs). Both its habit and habitat are also unusual. Its mat-like habit is hard to describe. Is it a vine? Is it a woody shrub? And as for its habitat, there aren't many plants that grow on sandstone ledges. As a bonus, the berries and leaves are both edible. Prem and HD tasted the berries and can attest that they have a barely perceptible but pleasant flavor.

WINTERBERRY (*Ilex verticillata*): Finding this C10 holly has become an obsession. A few weeks ago we thought we had found lots of them in Tower Grove Park, but John disagreed. Today we knew we were in winterberry's habitat, but what were the chances that we could actually find one? The leaves would be gone, so we'd have to rely on its berries. But the plant is dioecious, so only the female plants would have berries. Worse yet, the berries might already be gone because they're eaten by deer, squirrels, robins, and other bird species. We searched and searched and had more-or-less given up when Kathy Bildner pointed way up on a cliff. Red berries. Those of us who don't have telescopic vision just scratched our heads in disbelief. But the intrepid ones actually climbed up to visit the famous-to-us shrub. Success!

HICKORIES: You would think that with a name like "Hickory Canyons", we'd be looking for hickories. But there were so many other plants on our radar that we didn't take much notice of the everyday hickories. John did draw our attention to a couple of hickories along the trail: the Bitternut Hickory (*Carya cordiformis*) and the Mockernut Hickory (*Carya tomentosa*).

It was fortuitous that these were the two hickories we noticed because they are in different taxonomic sections from each other. Just as our local Oaks are divided into the "Red section" and the "White section", our local Hickories are divided into the "Carya section" (typical Hickories) and the "Apocarya section" (the Pecan Hickories). John pointed to the long, naked, mustard-colored buds of the Bitternut. The buds were not covered with scales. Bitternut is therefore classified as a Pecan Hickory. He contrasted those naked buds with the scale-covered buds we found on the Mockernut Hickory.

PINE TREES: The Shortleaf Pine (*Pinus echinata*) is the only pine native to Missouri. We often comment on the beauty of its bark. The name "Shortleaf" is rather peculiar because the tree's needles aren't particularly short. Ted later made-up a joke: "How can you tell the difference between a Shortleaf Pine and a Jack Pine? Answer: the Shortleaf is the one with the long needles." (I probably messed-up his joke, but you get the gist.) Ted also observed that in addition to the scattered towering pine trees in the canopy, there were large groupings of pine saplings here and there on the forest floor just waiting for a tree to fall – just waiting for their big chance to bask in the sunlight and fulfill their destiny. Just like everybody else!

RATTLESNAKE PLANTAIN ORCHID (*Goodyera pubescens*): Everybody was really excited when this unannounced rock-star suddenly appeared along our path. Finding any green leaf is a welcome sight this time of year. But these green leaves would be a treat to see even in the middle of summer. They belong in a frame on a gallery wall. That white midvein and especially the doodling of white secondary veins is a sight to behold. In weeks past, we've been mesmerized by the white venation of the Adam and Eve Orchid. But those veins are parallel as one would expect in a monocot. The beautifully reticulate venation of *Goodyera*, however, disregards the textbooks and exceeds our expectations. We were lucky to find a number of these orchids today. They are often associated with the Shortleaf Pine.

BRYOPHYTES: We were happy to find one lonely liverwort (which John thought was probably in the "*Riccia*" genus). We also found several areas covered with the famous water-absorbing Sphagnum Moss. We think it is *Sphagnum compactum* (Compact Peat Moss), but there are some 380 species to get confused with. As for all the other bryophytes, we left them for Wayne to deal with. Wayne (who has an MDC collecting permit) devoted his time to gathering small

bryophyte samples (liverworts, mosses, hornworts) for analysis by his friend John Atwood at the Missouri Botanical Garden. Usually we tend to walk right past these ancient land plants because they are so difficult to identify. But thanks to Wayne's initiative, we have begun listing the bryophytes that we find on our walks. His cumulative Bryophyte List can be found on our webpage: <https://stlms.org/monday/>

SMILAX: Where is all this *Smilax glauca* coming from? We've been finding it and talking about it nearly every week recently. Maybe it's always been here along with its 6 regional siblings (*S.bona-nox*, *S.ecirrata*, *S.lasioneuron*, *S.pulverulenta*, *S.rotundifolia*, and *S.tamnoides*) but in the past we just threw them all into the same "Smilax" bin. Now we're better able to sort-out that bin.

MISCELLANEOUS:

- ◆ We found a small leafless hazelnut tree (*Corylus americana*) with just a few catkins hanging from it. But the catkins were swollen and distorted. John suggested that it was a type of gall. Sure enough, there's a Hazelnut Gall Mite (*Phytoptus avellange*) that takes up residency in *Corylus* buds and catkins, causing them to swell.
- ◆ Rick pointed to a huge brown leaf hanging from a small oak tree. All of us exclaimed in unison "Oh, wow!". Yes, the leaf was really that big.
- ◆ We found a large hornet's nest dangling high-up from a broken branch.
- ◆ When we were in a large recess under a rock overhang, Rick noticed that a big root was partly exposed on the floor of the recess. "Here's the root, but where's the tree?" he jokingly asked. We traced the root out of the rock formation to a tree that was surprisingly far away. John told of a similar experience. He was hiking out East somewhere when he noticed Beechdrops (*Epifagus virginiana*) growing on the ground below. *Epifagus* is a white, parasitic plant from the Orobanchaceae that grows on Beech Tree roots. (Great name. *Epifagus* grows on *Fagus grandifolia*.) But there was no Beech Tree nearby! He eventually found a Beech Tree far away. From the experience he learned that roots can travel quite a distance.
- ◆ Here's a thorough Hickory Canyons [VASCULAR PLANT-LIST](#) from the Missouri Native Plant Society's website.
- ◆ Here's a thorough Hickory Canyons [BRYOPHYTE PLANT-LIST](#) from the Missouri Native Plant Society's website.
- ◆ We have 5 Betulacs (members of the Betulaceae) in the St. Louis area. Today we found 3 of them (Musclewood, Hop Hornbeam, and Hazelnut) but John said that we probably could have found all 5 (including the Alder and River Birch) in this richly diverse place.
- ◆ HD found some "Dead Man's Ear" fungus growing on a fallen branch. *Auricularia* – great name.
- ◆ Kathy Bildner found some dormant Rhododendron plants with their iconic dehisced winter capsules. These were rather close to some Wild Hydrangea remnants. Yet two more reasons to return in the spring!
- ◆ Near the end we found a Possumhaw Tree (*Ilex decidua*). In defiance to its species epithet, it still had its leaves (which seem more paddle-shaped than the Winterberry's elliptic leaves). But if it only had its berries, might we have mistaken it for a Winterberry (*Ilex verticillata*)? Possumhaw is a larger tree. But are the berries noticeably smaller and less plentiful than our much-sought-after Winterberry?

Here (in alphabetical order) are the 14 participants in this morning's Botany Walk:

Rick Armstrong, Prem Barton, Kathy Bildner, Steve Bizub, Tina Cheung & Keith Woodyard, Wayne Clark, June Jeffries, HD Key, Michael Laschober, Ted MacRae, John Oliver, Kathy Thiele, and Mark Tolcou.