

Washington State Park – Petroglyphs Area

April 22, 2024

	BOTANICAL NAME (with etymology & genus pronunciation)	FAMILY [CC] = Coefficient of Conservatism	COMMON NAME (with tips we learned)
<input type="checkbox"/>	Aquilegia canadensis (eagle [claw-like nectaries of some European species] + Canada) (ack-weh-LEE-jee-uh)	Ranunculaceae [CC6]	Red Columbine (leaves twice-ternately compound [9 leaflets] / nodding flower covered with 5 red sepals that also form 5 red nectar spurs; inside are 5 yellow honeycomb-shaped petals, about 20 stamens, and a gynoecium of 5-10 free carpels)
<input type="checkbox"/>	Arnoglossum plantagineum (lamb's tongue + plantain-like) (awr-no-GLOSS-um)	Asteraceae (Senecioneae tribe) [CC8]	Groovestem Indian Plantain (plantain-like leaves / red stripes on stem)
<input type="checkbox"/>	Botrypus virginianus () (bo-TRY-pus)	Ophioglossaceae [CC4]	Rattlesnake Fern (Although it appears as a whorl of 3 leaves, the STERILE frond is just 1 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"/>	Camassia scilloides (from its Native American name + like the sea onion) (kuh-MASS-ee-uh)	Asparagaceae [CC6]	Wild Hyacinth (scapose plant with long, straplike basal leaves / scape with terminal raceme of 7-50 beautiful flowers / flower: 6 light blue-lavender tepals, 6 stamens with yellow anthers, prominent ovary with white style and 3-lobed stigma)
<input type="checkbox"/>	Castilleja coccinea (kass-till-LAY-uh)	Orobanchaceae [CC6]	Indian Paintbrush (annual or biennial / hemiparasitic / leaves: upward-reaching linear leaves with their upward-reaching linear lobes stylistically match the flowers / flowers: the famous red paint colors come not from the petals, but rather from the sepals and especially the subtending flower bracts)
<input type="checkbox"/>	Clematis fremontii (climbing plant + somebody's name) (kleh-MATT-iss)	Ranunculaceae [CC10]	Fremont's Leatherflower (not a vine / leaves entire, opposite, persists through winter as skeletonized piece of art / flower: nodding, urn-shaped with reflexed tips of its 4 purple sepals [it has no petals] / numerous free stamens and carpels [primitive type flower])
<input type="checkbox"/>	Clematis pitcheri (kleh-MATT-iss)	Ranunculaceae [CC6]	Purple Leatherflower (twining perennial vine / leaves: pinnately compound with 4-8 leaflets, some of which are 3-lobed or ternately compound / leaves opposite, with opposite petioles interconnected at the nodes by a collar of tissue / flower: nodding, urn-shaped with reflexed tips of its 4 purple sepals [it has no petals] / numerous free stamens and carpels [primitive type flower])
<input type="checkbox"/>	Comandra umbellata (hair + man, umbel inflorescence) (ko-MAN-druh)	Santalaceae [CC7]	Bastard Toadflax (small [<10"] hemiparasite / leaves: alternate, elliptic, sessile, glabrous / flower: 5 white sepals [no petals], inferior ovary – interesting because the green, nectary-lined hypanthium edge can be seen with the 5 stamens attached to its rim / Comandra is in the fragrant Sandalwood family. It has no St. Louis relatives, but a bit farther South its cousin Mistletoe can be found.)
<input type="checkbox"/>	Cornus florida (also <i>Benthamidia florida</i>) (horn + flowering) (KOR-nuss)	Cornaceae [CC5]	Flowering Dogwood (twig tips bend upward / vegetative buds have 2 scales, like praying hands / has red fruits)
<input type="checkbox"/>	Cystopteris bulbifera (sis-STOP-tr-riss, [but a more etymologically meaningful pronunciation would be "sis-toe-TAYR-us"])	Cystopteridaceae [CC8]	Bulblet Fern (fronds: very long, slender, deltoid / bulblets occasionally found here and there on underside, starting as microscopic dots and eventually grow to a half-inch in diameter as they begin producing their own tiny fronds / habitat: found only on calcareous substrates such as limestone)
<input type="checkbox"/>	Dasistoma macrophylla (hairy mouth + big leaf) (da-sis-STO-muh)	Orobanchaceae [CC5]	Mullein Foxglove (even though it may reach 6' tall, it's just an annual or biennial / flowers: 5 yellow petals, with bases fused into tube; mouth of tube full of hair / known to be partially parasitic on trees such as maple, buckeye, and elm)

<input type="checkbox"/>	<i>Delphinium tricorne</i> (dolphin + 3 horns) (del-FINN-ee-um)	Ranunculaceae [CC6]	Dwarf Larkspur (leaf: resembles a toothwort, but with forked tips and no teeth / flowers can be white or purple / primitive flower with about 20 stamens and 3 free carpels)
<input type="checkbox"/>	<i>Fragaria virginiana</i> (= fragrant) (frag-GAYR-ee-uh)	Rosaceae [CC3]	Wild Strawberry (no aerial stems, the leaves grow from nodes on the strawberry's famous stolons [not to be confused with strawberry stollens] / leaves: trifoliate, stipulate, long hairy petioles / flowers: 5 green sepals [which appear as 10 because of 5 lookalike epicalyx members], 5 white petals, many stamens and even more free carpels, each of which must be pollinated to become a little "seed" [actually a fruit] on the surface of the red strawberry [which is actually a swollen receptacle] / these native strawberries are large in flavor but little in size, whereas the European strawberries are little in flavor but large in size.
<input type="checkbox"/>	<i>Glandularia canadensis</i> (gland-tipped hairs of calyces?) (gland-yoo-LAYR-ee-uh)	Verbenaceae [CC5]	Rose Verbena (flowers: in terminal clusters / 5 purple petals with notched tips / not quite actinomorphic / leaves opposite, deeply cut into an attractive treelike shape)
<input type="checkbox"/>	<i>Houstonia longifolia</i> (hew-STO-nee-uh)	Rubiaceae [CC5]	Longleaf Bluet (perennial, slender branching stalks rise about 8" from a basal rosette that withers away before flowers bloom / leaves: narrow and opposite, paired at intervals on flowering stem / flowers: small with white 4-lobed corollas [should be called "Whitets" instead of "Bluets"] / prefers full or partial shade in poor soil)
<input type="checkbox"/>	<i>Hybanthus concolor</i> (hump-backed flower + same color) (hy-BANN-thus)	Violaceae [CC7]	Green Violet (the rebel of the violet family; only its dehisced 3-armed fruit resemble other violets)
<input type="checkbox"/>	<i>Hydrastis canadensis</i> (= watery places) (hy-DRASS-tiss)	Ranunculaceae [CC6]	Goldenseal (highly textured leaves / flowers with many stamens and many apocarpous pistils)
<input type="checkbox"/>	<i>Hypoxis hirsuta</i> (under + sharp + straight hairs) (hy-POX-iss)	Hypoxidaceae / Asparagales / monocots [CC5]	Yellow Stargrass (small plant with grasslike leaves / flowers open in morning with 6 bright yellow tepals)
<input type="checkbox"/>	<i>Leavenworthia uniflora</i> (somebody's name + one-flowered) (leven-WRTH-ee-uh)	Brassicaceae [CC7]	One-Flowered Gladecress (divided leaves of its tiny basal rosette have unusually-shaped, somewhat pentagonal terminal lobes)
<input type="checkbox"/>	<i>Lithospermum canescens</i> (stone-seed + gray-haired) (lith-o-SPR-mum)	Boraginaceae [CC6]	Orange (or Hoary) Puccoon (perennial / leaves alternate, sessile, oblong / stems densely hairy / flowers distylous – some with long hatpin-like styles and short stamens, others with short styles and higher-placed stamens / flower color varies from deep orange to yellow / famously difficult to grow from seed because of mycorrhizal dependence)
<input type="checkbox"/>	<i>Matelea decipiens</i> (native name used in Guiana + deceptive) (muh-TEE-lee-uh)	Apocynaceae [CC5]	Climbing Milkweed (twining vine with opposite leaves and umbels of starlike flowers having long, linear, purple-brown petals)
<input type="checkbox"/>	<i>Monarda bradburiana</i> (somebody's name + somebody's name) (mo-NARR-duh)	Lamiaceae [CC5]	Bradbury's Beebalm (flower white with purple blotches / leaf: sessile [as contrasted with the long petioles of <i>M.fistulosa</i>] / of the "Big 4" St. Louis mints [<i>Monarda bradburiana</i> , <i>M.fistulosa</i> , <i>Blephilia ciliata</i> , <i>B.hirsuta</i>], this is the first to flower)
<input type="checkbox"/>	<i>Mononeuria patula</i> (one-veined + spreading) (mono-NOO-ree-uh)	Caryophyllaceae [CC7]	Sandwort (annual / wiry little plant [<12"] / leaves: linear, sessile, opposite pairs spaced widely apart / flowers: 5 pointed green sepals; 5 white petals with green stripes inside, broadly notched at tip [notched petal tips are a feature of the Caryophyllaceae]; 10 stamens / from a distance, the flowers appear suspended in mid-air – especially noticeable in large patches)
<input type="checkbox"/>	<i>Packera plattensis</i> (somebody's name + from the Platte River of Nebraska) (PACK-r-uh)	Asteraceae (Senecioneae tribe) [CC6]	Prairie Ragwort (cobwebby pubescence all over / basal leaves ovate-elliptic, toothed with long petioles, while stem leaves are more sawfish-like (pinnatifid) / found in upland prairies and glades)
<input type="checkbox"/>	<i>Pellaea glabella</i> (dark-colored + rather smooth) (pell-EE-uh)	Pteridaceae [CC9]	Smooth Cliffbrake (almost always seen growing from limestone or dolomite rock / stems brown, stiff and wiry / sori found along margin on underside of leaflets, protected by recurved edge)

<input type="checkbox"/>	<i>Primula meadia</i> (first [to bloom] + somebody's name) (formerly <i>Dodecatheon</i>) (PRIMM-yoo-luh)	Primulaceae [CC7]	Shooting Star (perennial plant whose smooth, silky, elliptic leaves emerge from a basal rosette and whose handful of pinkish flowers nod from an umbel atop a long scape)
<input type="checkbox"/>	<i>Ptelea trifoliata</i> (TEE-lee-uh)	Rutaceae [CC5]	Wafer Ash (aromatic, trifoliolate leaves / citrus family)
<input type="checkbox"/>	<i>Quercus muehlenbergii</i> (somebody's name) (KWERK-us)	Fagaceae (white group) [CC5]	Chinkapin Oak (leaves are narrow with very shallow lobes [or large teeth] each having a rounded tip and a tiny gland that secretes waxy suberin to cover the stomata in order to prevent water loss [which distinguishes it from Chestnut Oak] / acorns: longer than wide, with short stalks / note that there's an "e" in this "muehlenbergii", but not for the muhly grasses)
<input type="checkbox"/>	<i>Sideroxylon lanuginosum</i> (iron + wood + woolly) (SY-dr-o-ZY-lun)	Sapotaceae [CC5]	Gum Bumelia (tough, slow-growing tree with some thorns, some leaves growing from spurs)
<input type="checkbox"/>	<i>Sisyrinchium</i> (we have 3 species of <i>Sisyrinchium</i> in St. Louis [<i>S.albidum</i> , <i>S.angustifolium</i> , <i>S.campestre</i>]. Not sure which one we found. (sis-seh-RINK-ee-um)	Iridaceae	Blue-Eyed Grass ()
<input type="checkbox"/>	<i>Trillium viride</i> (triple lily + green) (TRILL-ee-um)	Melanthiaceae [CC7]	Wood Trillium / Green Trillium (St. Louis has several lookalike trilliums; the best way to verify <i>T.viride</i> is to find that the entire upper surface of each leaf is covered with tiny white dots; these stomata are easier to see with a 10x lens)
<input type="checkbox"/>	<i>Ulmus alata</i> (= elm + winged) (UL-muss)	Ulmaceae [CC4]	Winged Elm (conspicuous wings on branches / base of leaf more symmetrical than other elms / terminal leaf is larger than lateral leaves / leaves double-serrated /)
<input type="checkbox"/>	<i>Viola pedata</i> (vy-O-luh)	Violaceae [CC5]	Birdsfoot Violet (we could only find the "hen" color variation – no "roosters")

Washington State Park – 1,000 Steps Trail (Flat Part)

April 22, 2024

	BOTANICAL NAME (with etymology & genus pronunciation)	FAMILY [CC] = Coefficient of Conservatism	COMMON NAME (with tips we learned)
<input type="checkbox"/>	<i>Aesculus glabra</i> (a type of tree + smooth [leaf]) (ESS-kyoo-luss)	Sapindaceae [CC5]	Ohio Buckeye (leaves: opposite, palmately compound with usually 5 leaflets / early to lose its leaves / chunky twigs / terminal buds very large, sharply-pointed / broad leaf scars / flower: terminal panicle is insect-pollinated)
<input type="checkbox"/>	<i>Asarum canadense</i> () (uh-SAYR-um)	Aristolochiaceae (Piperales) [CC6]	Wild Ginger (big, round, heart-shaped leaves of the forest floor / brown flowers can be found under the leaves in early spring; flowers are pollinated by gnats and flies, then dispersed by ants / not related to culinary ginger / one of the ancient Basal Angiosperms)
<input type="checkbox"/>	<i>Carex albursina</i> (CARE-x)	Cyperaceae [CC9]	White-Bear Sedge (habitat: north-facing, rich, wooded, limestone slopes / its leaves are the widest of any Missouri sedge species)
<input type="checkbox"/>	<i>Collinsia verna</i> (ko-LINN-zee-uh)	Plantaginaceae [CC7]	Blue-Eyed Mary (annual spring ephemeral creates vast carpets of blue and white in moist areas)
<input type="checkbox"/>	<i>Enemion biternatum</i> (= Anemone + two clusters of 3) (eh-NEE-mee-un)	Ranunculaceae [CC5]	Lowland Rue-Anemone / False Rue-Anemone (in comparison with the "True" Rue-Anemone [<i>Thalictrum thalictroides</i>], <i>Enemion</i> has 5 "petals" [actually petaloid sepals, of which <i>Thalictrum</i> often has more], it is white [instead of sometimes pink], its habitat is moist lowland [instead of drier upland], it often grows in large groups [instead of solitary or in small groups], its leaflets have longer fingerlike lobes [instead of "kitten-paw" leaflets with short lobes])

<input type="checkbox"/>	<i>Erigeron philadelphicus</i> (early old man + philadelphia) (er-RIJ-er-on)	Asteraceae (Astereae tribe) [CC3]	Philadelphia Fleabane (St. Louis has 5 species of <i>Erigeron</i> (<i>E. annuus</i> , <i>E. canadensis</i> , <i>E. philadelphicus</i> , <i>E. pulchellus</i> , <i>E. strigosus</i>). Philadelphia Fleabane can be distinguished by: stem leaves are wide and clasping / flowers have the most ray ligules [up to 400 ray florets] of any other St. Louis fleabane)
<input type="checkbox"/>	<i>Hydrophyllum appendiculatum</i> (water + leaf + with appendages) (hy-dro-FILL-um)	Boraginaceae [CC6]	Great Waterleaf / Woolen Breeches (biennial / maple-shaped leaves / the “waterleaf” name refers to the “water-spot” mottling of early spring leaves / the “appendiculatum” of the species epithet refers to the tiny sepal-like appendages that hang down between the five sepals of the calyx)
<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>Nabalus crepidineus</i> () (NAB-uh-luss)	Asteraceae (Cichorieae tribe) [CC9]	Great White Lettuce / Nodding Rattlesnake Root (conspicuously-winged petioles on a long, arrow-shaped blade)
<input type="checkbox"/>	<i>Osmorhiza claytonii</i> (oz-mo-RY-zuh)	Apiaceae [CC3]	Sweet Cicely (monoecious / female flowers have INFERIOR ovary and a 2-branched style, each sitting on a stylopodium like a rabbit-ears antenna. St. Louis has 2 species of Sweet Cicely. How to tell the difference between this <i>Osmorhiza claytonii</i> from its more common lookalike <i>O. longistylis</i> ? Stem Hair: Our <i>O. claytonii</i> has densely hairy stems. Style Length: Our <i>O. claytonii</i> has a shorter pair of styles that do not protrude beyond the petals Fragrance: Our <i>O. claytonii</i> has a weak licorice smell) # of Flowers per Umbellet? 4-7
<input type="checkbox"/>	<i>Phlox divaricata</i> (FLOCKS)	Polemoniaceae [CC4]	Woodland Phlox (St. Louis has 3 Phlox species: <i>P. divaricata</i> [woodland], <i>P. paniculata</i> [garden], <i>P. pilosa</i> [prairie] / the best way to differentiate this Woodland Phlox from Prairie Phlox is to look for hair on the outside of the floral tube. This Woodland Phlox flower does not have hair, whereas Prairie Phlox does.)
<input type="checkbox"/>	<i>Polymnia canadensis</i> (Greek muse of sacred music and dance) (po-LIMM-nee-uh)	Asteraceae (Polymnieae tribe) [CC6]	Whiteflower Bearsfoot / Whiteflower Leafcup (compared to our Yellowflower Bearsfoot [<i>Smallantus</i>], this Whiteflower Bearsfoot is the one with the tacky glandular leaves and pleasant but hard-to-describe fragrance)
<input type="checkbox"/>	<i>Ranunculus abortivus</i> (=little frog + stunted) (ruh-NUN-kyoo-lus)	Ranunculaceae [CC1]	Small-Flowered Buttercup (stems and basal leaves are smooth [the lookalike “Hairy Mike” <i>R. micranthus</i> has pubescent stems and basal leaves] / leaf base is heart-shaped [the lookalike <i>R. micranthus</i> has flat or wedge-shaped leaf bases] / prefers a wetter habitat [the lookalike <i>R. micranthus</i> prefers a drier habitat])
<input type="checkbox"/>	<i>Rudbeckia laciniata</i> (somebody’s name + lacerated [leaves]) (rood-BECK-ee-uh)	Asteraceae (Heliantheae tribe) [CC4]	Cutleaf Coneflower / Goldenglow / Green-headed Coneflower (perennial / leaves resemble <i>Rudbeckia triloba</i> but with an extra pair of lobes; the Joe Hollis video is HERE)
<input type="checkbox"/>	<i>Staphylea trifolia</i> (cluster [of flowers] + trifoliate leaf) (staff-ill-LEE-uh)	Staphyleaceae [CC5]	American Bladdernut (inflated, bladderlike, papery seed capsules often persist into winter / terminal bud lacking, but often replaced with 2 lateral buds / opposite leaf arrangement)
<input type="checkbox"/>	<i>Viola pubescens</i> (violet + hairy) (vy-O-luh)	Violaceae [CC5]	Downy Yellow Violet (unusual in producing aerial stems [which are hairy] and having entire [not fringed] stipules.)
<input type="checkbox"/>	<i>Viola striata</i> (vy-O-luh)	Violaceae [CC3]	Striped Creamy Violet (a white violet with purple “landing stripes” venation on its lower petal / unusual in producing aerial stems and having fringed stipules)

NOTES

WHERE WE WALKED: Our walk was split into 2 parts. We first met at the Petroglyphs parking lot and botanized at least a quarter mile eastward along a botanically rich segment of the 5.9 mile Rocky Wood Trail. After returning to our cars, we then drove down to the Thunderbird Lodge parking lot and botanized another quarter mile or so along the low, flat section of the spectacular Thousand Steps Trail.

DICENTRA

Although many of us are aware that there are flower differences between Duchman's Breeches and Squirrel Corn, John showed us that there are leaf differences too. A side-by-side comparison of the 2 species can be found [HERE](#). (We were too late to see any flowers – or more accurately the flowers were too early to see any of us.)

SHORT OBSERVATIONS:

- As we walked down from the Petroglyphs lot along a dry streambed, we passed a rock face onto which some vandals had spray-painted something unintelligible with white paint. We all disappointedly walked past the defacement without saying anything until Len said “Petroglyphs!” Everybody laughed.
- John made a comment about Indian Paintbrush plants not being very persistent (probably in response to somebody wondering why they couldn't find any). He went on to tell the humorous story of [Paint Brush Prairie](#) (a Conservation Area south of Sedalia) being so named because of the plentiful Indian Paintbrush that once adorned its 314 acres. But now the Paintbrush is gone in all but its name. Their webpage doesn't even mention the plant!
- Of the countless *Hydrophyllum appendiculatum* (Waterleaf) plants that carpeted large swaths of the 1,000 Step Trail, John walked over to one of the small waterfalls where he happened to find an earlybird plant that was already in flower. He pointed-out the little “appendages” [of “*appendiculatum*” fame] that hung between the flower's sepals. Tina then passed around the flower so we all got the chance to see and understand it. One more of life's mysteries solved!

PARTICIPANTS:

There were 19 of us botanists today, who are (in alphabetical order):

Brenda Adams, Rick Armstrong, Fran Armstrong, Kathy Bildner, Steve Bizub, Jerry Castillon, Wayne Clark, Michael Laschober, Pat Lynn, Len Meier, Burt Noll, John Oliver, Anne Rankin, Tina Richardson, David Steinmeyer, Mark Tolcou, Deb Tolcou, Steve Vogel, and Laura Yates.