Watershed Nature Center

August 5, 2024

BOTANICAL NAME (with genus pronunciation)	FAMILY [CC] = Coefficient of Conservatism	COMMON NAME (with stage of flower)
Acalypha rhomboidea (ack-uh-LY-fuh)	Euphorbiaceae [CC1]	Rhomboid Mercury / Copperleaf (flower)
Agastache nepetoides (AGG-uh-STACK-ee)	Lamiaceae (Nepetoideae subfamily) [CC4]	Yellow Giant Hyssop (flower)
Ageratina altissima (AJ-jr-uh-TY-nuh)	Asteraceae (Eupatorieae tribe) [CC2]	White Snakeroot (flower)
Ampelopsis cordata (am-pel-OP-sis)	Vitaceae [CC3]	Raccoon Grape, Heartleaf Peppervine (fruit)
Andropogon gerardi (an-dro-PO-gon)	Poaceae (Panicoideae subfamily) [CC5]	Big Bluestem, Turkeyfoot (flower)
Apios americana (AY-pee-os)	Fabaceae (Faboideae subfamily) [CC6]	American Groundnut / Potato Bean (flower)
Arnoglossum atriplicifolium (awr-no-GLOSS-um)	Asteraceae (Senecioneae tribe) [CC4]	Pale Indian Plantain (flower)
Artemisia ludoviciana (ar-teh-MEE-zhee-uh)	Asteraceae (Anthemideae tribe) [CC3]	White Sagebrush
Asclepias incarnata (uh-SKLEE-pee-us)	Apocynaceae [CC4]	Swamp Milkweed (flower)
Asclepias syriaca (uh-SKLEE-pee-us)	Apocynaceae [CC0]	Common Milkweed (fruit)
Baptisia alba (bap-TIZZ-ee-uh)	Fabaceae [CC6]	White Wild Indigo (fruit)
Bidens bipinnata (BY-denz)	Asteraceae (Heliantheae tribe) [intro]	Spanish Needles (fruit)
Bouteloua curtipendula (boo-tuh-LOO-uh)	Poaceae (Chloridoideae subfamily) [CC7]	Sideoats Grama (flower)
<u>Calystegia sepium</u> (kal-leh-STEE-jee-uh)	Convolvulaceae [CC1]	Hedge Bindweed (flower)
<u>Campanula americana</u> (kam-PAN-yoo-luh)	Campanulaceae [CC4]	Tall Bellflower (flower)
<u>Celtis occidentalis</u> (SELL-tiss)	Cannabaceae [CC3]	Hackberry (fruit)
<u>Chamaecrista fasciculata</u> (kam-ee-KRISS-tuh)	Fabaceae (Caesalpinioideae subfam) [CC2]	Partridge Pea (flower)
<u>Cirsium discolor</u> (SR-see-um)	Asteraceae (Cardueae tribe) [CC3]	Field Thistle (flower)
Commelina communis (kum-uh-LY-nuh)	Commelinaceae [intro]	Asiatic Dayflower (flower)
Conoclinium coelestinum (konn-o-KLINN-ee-um)	Asteraceae (Eupatorieae tribe) [CC3]	Blue Mistflower (flower)
<u>Coreopsis tinctoria</u> (kor-ee-OPP-sis)	Asteraceae (Coreopsideae tribe) [CC1]	Plains Coreopsis (flower)
<u>Cornus drummondii</u> (KOR-nuss)	Cornaceae [CC2]	Roughleaf Dogwood (fruit)
<u>Cryptotaenia canadensis</u> (kripp-toe-TEE-nee-uh)	Apiaceae [CC2]	Honewort (fruit)
<u>Cyperus erythrorhizos</u> (SY-pr-us)	Cyperaceae [CC2]	Redroot Flatsedge (flower)
<u>Daucus carota</u> (DOW-kuss)	Apiaceae [intro]	Wild Carrot / Queen Anne's Lace / (flower)
Echinacea purpurea (eck-in-AY-see-uh)	Asteraceae (Heliantheae tribe) [CC5]	Purple Coneflower (flower)
Eclipta prostrata (ee-KLIP-tuh)	Asteraceae (Heliantheae tribe) [CC3]	False Daisy (flower)
Elephantopus carolinianus (el-eh-fan-TOE-pus)	Asteraceae (Vernonieae tribe) [CC3]	Elephant's Foot
Elymus virginicus (ELL-uh-muss)	Poaceae (Pooideae subfamily) [CC5]	Virginia Wild Rye (flower)

	Erigeron strigosus	Asteraceae (Astereae tribe)	Daisy Fleabane
	(er-RIJ-er-on)	[CC3]	(flower)
	Eryngium yuccifolium (er-RIN-jee-um)	Apiaceae (Apioideae subfamily) [CC8]	Rattlesnake Master (flower)
	Eupatorium altissimum	Asteraceae (Eupatorieae tribe)	Tall Boneset
	(yoo-puh-TOR-ee-um)	[CC3]	(bud)
	Eupatorium perfoliatum	Asteraceae (Eupatorieae tribe)	Common Boneset
	(yoo-puh-TOR-ee-um) Eupatorium serotinum	[CC3] Asteraceae (Eupatorieae tribe)	(flower) Late Boneset
	(yoo-puh-TOR-ee-um)	[CC1]	(flower)
	Eutrochium purpureum	Asteraceae (Eupatorieae tribe)	Sweet (or Purple) Joe Pye Weed
	(yoo-TRO-kee-um)	[CC6]	(flower)
	Geum canadense (JEE-um)	Rosaceae [CC2]	White Avens (flower)
	Heliopsis helianthoides	Asteraceae (Heliantheae tribe)	Ox-Eye Sunflower, False Sunflower
	(hee-lee-OPP-sis)	[CC5]	(flower)
	<u>Hibiscus laevis</u>	Malvaceae	Halberd-Leaved Rose Mallow
	(hy-BISS-kuss) Hibiscus lasiocarpos	[CC4] Malvaceae	(flower) Hairy-Fruited Rose Mallow
	(hy-BISS-kuss)	[CC5]	(flower)
	Humulus scandens (japonicus)	Cannabaceae	
	(HYOO-muh-luss)	[intro]	Japanese Hops
	Hydrangea arborescens (hy-DRAIN-jee-uh)	Hydrangeaceae [CC7]	Hydrangea (flower)
<u> </u>	Impatiens capensis	[CC7] Balsaminaceae	Orange Jewelweed
	(im-PAY-shenz)	[CC3]	(flower)
	Ipomoea pandurata	Convolvulaceae	Wild Sweet Potato
<u> </u>	(I-po-MEE-uh)	[CC2]	(flower)
	<u>Iva annua</u> (EYE-vuh)	Asteraceae (Helianteae tribe) [CC1]	Sumpweed (bud)
	Lactuca floridana	Asteraceae (Cichorieae tribe)	Woodland Lettuce
	(lack-TOO-kuh)	[CC3]	(fruit)
	Laportea canadensis	Urticaceae	Wood Nettle
	(luh-POR-tee-uh) Liatris pycnostachya	[CC4] Asteraceae (Eupatorieae tribe)	(flower) Prairie Blazing Star
	(LY-a-triss)	CC6	(flower)
	Lindera benzoin	Lauraceae	Spicebush
	(lin-DEER-uh)	[CC5]	(fruit)
	Lonicera sempervirens (lo-NISS-r-uh)	Caprifoliaceae [CC]	Coral Honeysuckle (flower, fruit)
	Ludwigia peploides	Onagraceae	Floating Primrose-Willow
	(lood-WIG-ee-uh)	[CC3]	(flower)
	<u>Lycopus americanus</u>	Lamiaceae (Nepetoideae subfamily)	American Bugleweed
	(ly-KO-pus)	[CC4]	(flower) Fringed Loosestrife
	Lysimachia ciliata (ly-seh-MAH-kee-uh)	Primulaceae [CC5]	(flower)
	Monarda fistulosa	Lamiaceae	Wild Bergamot
	(mo-NARR-duh)	[CC4]	(flower)
	Oenothera biennis (ee-no-THEER-uh)	Onagraceae [CC0]	Common Evening Primrose
	Oxalis stricta	Oxalidaceae	(flower) Yellow Wood-Sorrel
	(oks-AL-iss)	[CC0]	(flower)
	Panicum virgatum	Poaceae (Panicoideae subfamily)	Switchgrass
<u> </u>	(PANN-i-kum)	[CC4]	(flower)
	Passiflora incarnata (pass-i-FLOR-uh)	Passifloraceae [CC2]	Purple Passionflower (fruit, flower)
	Persicaria hydropiperoides	Polygonaceae	Swamp Smartweed / Water Pepper
	(pr-si-KAYR-ee-uh)	[CC4]	(flower)
	Persicaria lapathifolia	Polygonaceae	Pale Smartweed
	(pr-si-KAYR-ee-uh) Persicaria longiseta	[CC0] Polygonaceae	(flower) Long-Bristled Smartweed
	(pr-si-KAYR-ee-uh)	[intro]	(flower)
	Persicaria virginiana	Polygonaceae	Jumpseed, Virginia Knotweed
	(pr-si-KAYR-ee-uh)	[CC1]	(flower)
	Phalaris arundinaceae (fuh-LAYR-iss)	Poaceae [intro]	Reed Canarygrass
	(1001 127 1 1 100)	[mao]	(fruit)
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	Phlox paniculata	Polemoniaceae	Garden Phlox
	(FLOCKS) Phragmites australis	[CC3] Poaceae	(flower) Common Reed
	(frag-MY-teez)	[intro]	(buds)
	Phryma leptostachya	Phrymaceae	Lopseed
_	(FRY-muh)	[CC2]	(fruit) Pokeweed
	Phytolacca americana (fy-toh-LACK-uh)	Phytolaccaceae [CC2]	(fruit, flower)
	Plantago lanceolata	Plantaginaceae	English Plantain
	(plan-TAY-go)	[intro]	(fruit)
	Plantago rugelii (plan-TAY-go)	Plantaginaceae [CC0]	Rugel's Plantain (fruit)
	Polygonum aviculare	Polygonaceae	Prostrate Knotweed
	(po-LIGG-o-num)	[intro]	(flower)
	Pontederia crassipes (pon-teh-DEER-ee-uh)	Pontederiaceae [intro]	Water Hyacinth
	Prunella vulgaris	Lamiaceae (Nepetoideae subfamily)	Self-Heal
	(pru-NELL-uh)	[CC1]	(flower)
	Pycnanthemum pilosum (pik-NANN-thuh-mum)	Lamiaceae (Nepetoideae subfamily) [CC5]	Hairy Mountainmint (flower)
	Quercus macrocarpa	Fagaceae	Bur Oak
	(KWERK-us)	[CC4]	
	Ratibida pinnata (ruh-TIBB-i-duh)	Asteraceae (Heliantheae tribe) [CC4]	Gray-Headed Coneflower (flower)
	Rosa setigera	Rosaceae	Climbing Rose
	(RO-zuh)	[CC4]	(fruit)
	Rubus occidentalis (ROO-bus)	Rosaceae [CC3]	Black Raspberry
	Rudbeckia laciniata	Asteraceae (Heliantheae tribe)	Cutleaf Coneflower / Goldenglow
	(rood-BECK-ee-uh) <u>Rudbeckia subtomentosa</u>	[CC4] Asteraceae (Heliantheae tribe)	(flower) Sweet Coneflower
	(rood-BECK-ee-uh)	[CC5]	(flower)
	Rudbeckia triloba	Asteraceae (Heliantheae tribe)	Brown-Eyed Susan
	(rood-BECK-ee-uh)	[CC3]	(flower)
	Ruellia strepens (roo-ELL-ee-uh)	Acanthaceae [CC3]	Smooth Wild Petunia (fruit)
	Sanicula odorata (suh-NICK-yoo-luh)	Apiaceae [CC2]	Clustered Black Snakeroot (fruit)
	Scirpus atrovirens	Cyperaceae	Dark Green Bulrush
	(SKR-pus)	[intro]	(fruit)
	Scutellaria incana (skoo-teh-LAYR-ee-uh)	Lamiaceae (Scutellarioideae subfamily) [CC5]	Downy Skullcap (flower)
	Setaria faberi	Poaceae (Panicoideae subfamily)	Giant Foxtail
Ш	(set-TAYR-ee-uh)	[intro]	(fruit)
	Sicyos angulatus (SISS-ee-os)	Cucurbitaceae [CC4]	Bur Cucumber
	<u>Sida spinosa</u> ()	Malvaceae	Prickly Sida / Prickly Fanpetals /
	(SY-duh)	[intro]	(flower) Rosinweed
	Silphium integrifolium (SILL-fee-um)	Asteraceae (Heliantheae tribe) [CC4]	Rosinweed (flower)
	Silphium laciniatum	Asteraceae (Heliantheae tribe)	Compass Plant
	(SILL-fee-um) Silphium perfoliatum	[CC6] Asteraceae (Heliantheae tribe)	Cup Plant
	(SILL-fee-um)	[CC3]	(flower)
	Silphium terebinthinaceum (SILL-fee-um)	Asteraceae (Heliantheae tribe) [CC5]	Prairie Dock
	Smilax tamnoides (S.hispida) (SMY-lax)	Smilacaceae [CC3]	Bristly Greenbrier
	Solidago rigida	Asteraceae (Astereae tribe)	Stiff Goldenrod
	(so-li-DAY-go) Strophostyles helvola	[CC5] Fabaceae (Faboideae subfamily)	(buds opening) Trailing Fuzzybean
	(stro-fo-STY-leez)	[CC2]	Trailing Fuzzybean (flower)
	Symphyotrichum lateriflorum (SIMM-fee-o-TRY-kum)	Asteraceae (Astereae tribe) [CC3]	Calico Aster
	Symphyotrichum novae-angliae	Asteraceae (Astereae tribe)	New England Aster
	(SIMM-fee-o-TRY-kum)	[CC4]	(flower)
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	<u>Trifolium repens</u>	Fabaceae (Faboideae subfamily)	White Clover
	(try-FOH-lee-um)	[intro]	(flower)
	Typha angustifolia	Typhaceae	Narrowleaf Cattail
	(TY-fuh)	[CC0]	(fruit)
	<u>Verbena urticifolia</u>	Verbenaceae	White Verbena
	(vr-BEE-nuh)	[CC2]	(flower)
	<u>Verbesina alternifolia</u>	Asteraceae (Heliantheae tribe)	Yellow Wingstem
	(vr-beh-SEE-nuh)	[CC4]	(flower)
	<u>Vernonia missurica</u>	Asteraceae (Vernonieae tribe)	Missouri Ironweed
	(vr-NO-nee-uh)	[CC5]	(flower)
	Veronicastrum virginicum	Plantaginaceae	Culver's Root
	(vr-ron-ik-KASS-strum)	[CC7]	(flower)
	<u>Viburnum lentago</u>	Adoxaceae	Nannyberry
	(vy-BURR-num)	[CC5]	(fruit)
	Zizia aurea	Apiaceae	Golden Alexanders
	(ZIZZ-ee-uh)	[CC5]	(fruit)

NOTES

WHERE WE WALKED:

This was a fun and easy walk with lots of diversity. We botanized counter-clockwise around the lake, adding the interesting "boardwalk" section too.

4 SILPHIUMS:

St. Louis has 4 Silphiums. Each one is special with its own personality. And we found all 4 of them on this one walk!

- 1. Silphium integrifolium (Rosinweed)
- 2. Silphium laciniatum (Compass Plant)
- 3. Silphium perfoliatum (Cup Plant)
- 4. *Silphium terebinthinaceum* (Prairie Dock)

MILKWEED FRUIT PRODUCTION:

Ugh. Every time you look at a milkweed there's yet another confusion that needs to be resolved. This time there was confusion about the number of fruits (follicles) that are typically found on a plant. Each inflorescence (an umbel) has lots of flowers, maybe 150 of them. Yet out of all those flowers we're lucky if we get a measly 2 or 3 fruits. This observation is easy to confirm just by counting the number of follicles in any milkweed infructescence.

While it's not likely that any chosen flower will become fertilized and produce a fruit, it's vanishingly less likely that a chosen flower will become fertilized and produce TWIN fruits. Yet it is possible. John explained to us that milkweed flowers have 2 ovaries. Occasionally it happens that both of the ovaries get fertilized. This is how the "twins" are produced. QUESTION: When looking at a pair of fruits on a plant, how do you know if they came from 2 different flowers, or from both ovaries of a single flower? ANSWER: If they're from 2 different flowers, they will be connected to 2 different pedicels. If they're twins from the same flower, they'll be sharing the same pedicel.

(<u>HERE</u> is a webpage that explains "twin fruits" with photos, and <u>HERE</u> is a webpage that quite clearly explains most everything else about milkweeds.)

SHORT OBSERVATIONS:

- *Phlox paniculata* ("Garden Phlox", or "Fall Phlox") attracted a lot of attention early in our walk. It's a perennial with fragrant clusters of dark-pink flowers. The leaves are worth looking-at too. John mentioned that the leaves have secondary veins that form loops. You can see for yourself (HERE) on its "MissouriPlants.com" webpage. Scroll down to find a photo of the leaf's underside. You'll see how distinctive and eye-catching those looping veins are.
- The iconic **Bur Oak** (*Quercus macrocarpa*) with its huge acorns is one of our favorites. We saw several of them along the trail. John pointed-out 2 of the Bur Oak's identifying features: "corky twigs" and (often but not always) "whisker-like growths" from the tips of its terminal buds (bud photo <u>HERE</u>).
- Speaking of burs, June found a **Bur Cucumber** vine (*Sicyos angulatus*). Its leaves look a bit like Moonseed's (*Menispermum canadense*). It's too bad that we didn't find any flowers because it has separate male and female flowers. Both flowers look interesting, but the male (staminate) flowers are particularly fascinating because the

- anthers are all fused into a ball. Of course it's the female (pistillate) flowers that turn into the prickly fruit. [see male, female, and fruit photos HERE]
- Which Punctuation? We found a butterfly and were trying to figure out if it was a "Comma" or a "Question Mark". Fortunately Rich was on hand to explain the difference. It's such a bonus to have an entomologist with us on our Botany walks!
- Poor **Hackberry** (*Celtis occidentalis*) is going through some rough times. On one tree we found galls on its leaf petioles (caused by the Hackberry Leaf Gall Psyllid a jumping-plant-louse). Nearby was another Hackberry tree that had "Witches Broom" abnormal twig growth from non-terminal nodes. The hormone "auxin" in the terminal bud inhibits shoot growth in the nodes below it. But when the terminal bud is damaged and auxin production is disrupted, the nodes below it go haywire. Different species have different culprits that kill the terminal bud. For Hackberry it is the "powdery mildew fungus" plus an eriophyid mite.
- Sweet Coneflower (*Rudbeckia subtomentosa*) put on a stunning display. There was a whole field of it which we could see from a quarter-mile away. When it was just an orange blur far in front of us, Kathy asked "what kind of *Rudbeckia* do you think that is way up ahead?" John answered without hesitation "*Rudbeckia subtomentosa*". And when we eventually got there we found that he was right! The leaves help with identification. They have 3 "turkey-foot" lobes. But we have to be careful. Like Sassafras and Mulberry not all of the leaves have those lobes. Plus there are other yellow-composite species that also have 3-lobed leaves, such as the Tall Coreopsis (*Coreopsis tripteris*) and the Gray-Headed Coneflower (*Ratibida pinnata*), the later which coincidentally we also saw today.
- Our group seems to be measurably changing over time, widening our focus and growing not just as botanists but as true **naturalists**. In the past we didn't pay as much attention to the birds and insects. Now they're a lively topic of conversation. Classical musicians always refer to the 3 B's (Bach, Beethoven, and Brahms). But we have 3 B's too: Bees, Butterflies, and Birds. And fortunately we now have experts for all 3.
- We found 2 different *Hibiscus* species and were able to compare their very different leaves side-by-side. But in real life nobody would think to compare their leaves because their spectacular Rose Mallow flowers would steal the show. But since this isn't real life, we can say that *Hibiscus lasiocarpos* has large, fuzzy, lance-shaped leaves while *Hibiscus laevis* has smaller, smooth, halberd-shaped leaves.
- While on the boardwalk, we noticed a cute little plant all alone in the water. It had round, succulent, delicious-looking leaves. Using an online app, we determined that it was a **Water Hyacinth** (*Pontederia crassipes*). Being unfamiliar with it, we admired it for a few moments and then moved on. But when Rich came around the corner and heard the name "Water Hyacinth", he popped our bubble and brought us back to earth. He knew that this little fellow was a fast-growing pernicious invasive that has caused havoc to bodies of water all over the world. [By the way, its sibling Pickerel Weed (*Pontederia cordata*) is a valued, quite conservative (C7), native St. Louis plant.]
- We found several *Agastache nepetoides* (Giant Yellow Hyssop) plants in their architectural splendor. They look like candelabras. But before they develop their candelabra-like flowering stems, the tall, big-leaved plants look like Figworts (*Scrophularia marilandica*). John gave us a tip for telling them apart: *Agastache* leaves have a pleasant fragrance while *Scrophuarlia* leaves have an unpleasant one.
- The Asteraceae (Aster Family) is so large that it's more useful to deal with its "tribes" than to deal with it at the "family" level. That said, we really hit the jackpot with its "**Eupatorieae**" tribe! This tribe is special because its flowerheads are discoid (they only contain disc florets, no ray florets). St. Louis only has 12 plants from the entire *Eupatorieae* tribe (list <u>HERE</u>), and we found 7 of them on one trail! (1)White Snakeroot, (2)Blue Mistflower, (3)Perfoliate Boneset, (4)Tall Boneset, (5)Late Boneset, (6)Purple Joe Pye Weed, and (7)Prairie Blazing Star.

PARTICIPANTS:

There were 11 of us botanists today, who are (in alphabetical order):

Renee Benage, Kathy Bildner, Wayne Clark, Tom Hardy, June Jeffries, Michael Laschober, Sharon Lu, John Oliver, Anne Rankin, Tayebeh, and Rich Thoma.