

Flowers that Bloom in the Spring, Tra La
Lifetime Learning Institute
March 20, 2024
Class 24SP26

Presentation Notes

*“The flowers that bloom in the spring, Tra la
Breathe promise of merry sunshine —
As we merrily dance and we sing, Tra la
We welcome the hope that they bring, Tra la
Of a summer of roses and wine*

*And that's what we mean when we say that a thing
Is welcome as flowers that bloom in the spring
Tra la la la la, Tra la la la la
The flowers that bloom in the spring”*

The Mikado
Operetta by Gilbert & Sullivan
Sung by Nanki-Poo, the Wand'ring Minstrel

Spring Ephemerals

- *Expert in adapting/First to synch reproductive cycle with deciduous forests*
- *Grow in moist soils and grows quickly, in forests*
- **First plants in spring & first to flower**
- *May take years to bloom*
- **Uses sunlight through bare branches of deciduous forest**
- **Dies back by early summer**
- *Once bloom they retreat underground to wait til next spring*
- **Different From Other Plants**
- **Bloom regardless of late frost or snowstorm**
 - **Complete entire above-ground growth in few weeks**
- **Close petals in cold & at night to protect pollen & nectar**
- **Provides season's first nectar to many pollinators**
- **Relies on symbiotic relationships with insects**
 - **Ants carry seeds back to underground nest, eats top of seed (elaiosome), allows rest to germinate**
 - **Trout Lily miner bee only pollinates trout lilies**
 - **Spring Beauty miner bee only pollinates spring beauties**
- *Threatened by*
 - *Habitat destruction*
 - *Aging forests*
 - *Invasives*
 - *Air and water pollution*
 - *Over browsing*

- *Disruption of balance between plants & pollinators due to climate change*
- *Humans – pick or harvest*

Eastern NA produces multitude of spring ephemerals!

Please don't take from wild!

April best month to see ephemerals!

Skunk Cabbage

- **Common plant** *but bizarre*
- Earliest blooming flower *late January in NVA – even in snow*
- *Found in muck, bogs and swamps – or where very damp*
- **Flowers emerge before leaves**
- *Flower shape like Georgia O’Keeffe painting*
- **Attracts pollinators with foul smell** – *flies, carrion beetles*
- *Got its name from smell, especially when crushed*
- *Deer dislike it*
- *Leaves provide shelter and protection for insects*
- **Generates its own heat 70’**
- *Has deep root system so colonies can live centuries and indiv plant can live 200 years*
- **Leaves cause chemical burn** – *calcium oxalate crystals*
- **Many uses by Native People**
- *When dried, used for coughs & swelling, mixed with dyes for tatoos*
- *In 1800s sold as drug called Dracontium – tincture of fresh root used as stimulant, many ailments and respiratory problems*
- *Found at Foxstone Park, Vienna, final drop for famous spy Robert Hanssen*

Snow Drop

- **Non-native**, from *mountain regions of southern Europe, eastern Turkey, Caucasus and N. Iraq*
- *Moved to Europe by midwives and monks for medicinal uses*
- *100s of cultivars but all look about the same*
- *Galanthophile Society although England collect species in Feb – called Snowdrop Weekend*
- *Famous clump in Colesbourne (near Oxford) stolen in 1997 – next day roads clogged by over 1600 enthusiasts looking for “kidnappers”*
- **Blooms late winter January** – *one of first, still snow – first to emerge in my yard*
- **Produces natural antifreeze**
- *Amaryllis family*
- **Milk white flowers**
- **Flower dangles**
- *Not showy*
- *Has **3 petals**, 3 sepals (outermost part of flower, green like a leaf) and 2-3 long, narrow leaves*
- *All parts **Toxic** – deer and rabbit resistant causes stomach problems*
- **Pollinated by few early insects**

Spring Beauty

- *Different habitats – lawns, city parks, forests, roadsides, wetlands*
- *Blankets forest floor*
- **Small, 5-petal pink or white flowers**
- *1 leaf = no flower, 2 leaves = flower*
- *Grows near violets*
- **Pink stripes are nectar lines for pollinators**
- *Flower lasts one week*
- *First day produces pollen, then only nectar*
- **Other ephemerals with less nectar mimic it** *rue anemone & hepatica*
- **Closes up when cold to protect pollen and nectar**
- **The pollinated seeds "explode" up to two feet**
- **Seed coat attachments (elaiosomes) attract ants**
- **Long blooming thru May so many different insects can visit**
- **23 species of bees visit; miner bee can't reproduce w/o its pollen**
- **"Fairy Spuds" –edible tuber roots taste like sweet chestnuts**
- *Iroquois used for convulsions & ate raw plants as a contraceptive*
- **Common in Manassas National Battlefield Park near Stone Bridge**

Lesser Celadine

- Invasive perennial ground covering *attractive but spreads quickly*
- Crowds out ephemerals
- Symmetrically round yellow flower – with sepals
- Buttercup family *not poppy*
- Poisonous to livestock; *causes blisters & rashes & nausea but edible when dried/cooked*
- Alt. name Pileroot to treat hemorrhoids (or “piles”)
- Hard to eradicate – ground disturbance spreads roots
 - Herbicides only practical control
- Not Greater Celadine poppy (wood poppy) – *is a poppy*
 - similar flowers but uncommon & *grows in wet forests & bogs*

Not Marsh-Marigold

- Similar flowers (no sepals);
- But grows in wet forests and bogs
- *Look for flower sepals on underside; yes = lesser celadine*

Trout Lily

- *Also called dogtooth violet, adders tongue, rattlesnake tooth*
- **4"-6" tall plant with a few mottled leaves like trout**
- *Seems to grow same time as fishing season*
- **Grows like ground cover near streams**
- *A number of different species*
- **Yellow blossoms resemble miniature lilies**
- **Are true lilies and not violets**
- **Bulbs sink into soil over time**
- *Great erosion control – holds back soil*
- **Takes 8 years to bloom; some colonies over 200 years**
- **Only plants with 2 leaves bloom – about 1%**
- **Flower closes up when dark to protect pollen**
- **Trout lily miner bee & bumblebee major pollinator**
- **Only 10% of pollinated plants produce seeds**
- **Ants disperse the seeds by eating elaiosome appendages**
- *Few wildlife feed on it*
- **Lore has trout lily tea good for hiccups**
- **Native people used for stomach aches, fever reducer, to induce vomiting & contraceptive**
- *Japanese collect in forests and use in food dishes*
- *Roman soldiers used for sore feet*
- **Cherokee spit chewed leaves in water to catch fish**
- **Found at Riverbend State Park**

Virginia Bluebell

- **All across eastern NA**
- *Native and first sent to England in late 1600s*
- *Many names – VA cowslip, Gentlemen’s britches, Old Ladies Bonnets*
- *Not same as Texas blue bonnets – lupines from legume or pea family*
- *Bell shape blooms like hyacinths*
- **Large colonies both in the wild and in cultivation**
- **Peak first - second week April**
- **Typically grow in moist woodlands and river floodplains**
- **Can be outcompeted by invasives such as lesser celandine**
- **Large, soft-green leaves and bright blue, white or pink flowers**
- **Plants emerge with purple leaves before turning green**
- **Pink buds before blooming *then turn blue***
- **Flowers hang downwards to protect nectar from rain**
- **Primary pollinator bumblebee QUEENS & other long-tongued bees**
- *Also tiger and zebra swallowtails*
- *Host for 3 different caterpillars*
- **Lose pollinated petals soon so pollinators visit unpollinated flowers**
- **Lasts for only three weeks**
- **People favorite; Monticello called " Jefferson's blue funnel plants"**
- **Native people used for whooping cough, TB, & poison antidote**
- *Also used as food plant; Navajos made tea*
- *Tradition to give bluebells for Mother’s Day & Easter – symbol of good luck*
- **At Riverbend SP, Burke Lake, Bull Run Regional Park & Manassas NBP**

May apple - *maybe not true ephemeral – “apple” fruit ripens in July*

- **Native in moist woodlands**
- **Creates colonies through *long living root system* and *dispersal by box turtles & raccoons***
- **Lobed umbrella-like leaves with fruit at Y**
- **Only Y stems flower**
- **Toxic but ripened golden fruit eaten tastes like concord grapes and made into preserves –*ripen on window sill & make smoothies***
- **Will grow under black walnut trees – *other plants die***
- **Flowers fragrant and pollinated by bubblebees and other bees**
- *Has elaisomes like many other ephemerals*
- **Flowers in early May and “apple” ripens in late summer**
- **Podophyllotoxin (WHO essential medicine) & derivatives treat many cancers – *used carefully***

Jack in Pulpit *May not be spring ephemeral*

- **Found in moist rich soils**
- **Pitcher like flower**
- *Also called Indian turnip, gob onion, dragon root*
- *Common name Jack in the Pulpit with sounding board*
- *Lives up to 20 years*
- **3-leaved, not symmetrical, is characteristic of plant**
- **Fall berries bright red**
- **Pollinated by gnats and beetles**
- *Plant smells like fungus to lure gnats as pollinators*
- *Male flowers have holes so gnats can leave after pollinating*
- *Female flowers no holes and traps gnats so can't continue pollinating*
- **Changes sex throughout lifetime**
- *Flower starts as male with one stalk, as builds up enough nutrients develops two stalks as female; when loses nutrients reverts back to male*
- *Arum family = Arabic for "fire"*
- **Leaves Protected by producing calcium oxalate crystals- burns when consumed**
- *Regardless, berries eaten by grouse, turkeys and black bears*
- **Many medicinal and ceremonial uses**
- *Used roots as starch to stiffen clothing*
- *Many uses in the Confederate Medical Botany Book (used plants when Civil War blockade cut off*
- *Some native people ate the berries in boy's manhood ceremonies*
- *Sioux story – mixed berries in meat and fed to their enemy; then attacked when enemy became sick*

Trillium

- **Most valued native ephemeral; *favorite on spring walks***
- **50 species with bulk in eastern US**
- *Can live over 70 years but take up to 7 years to mature*
- *Grows in group of 3s; 3 heart-shaped leaves, 3 green sepals & 3 three petals; although technically no true leaves/stems above ground; just flower with bracts*
- **Prefers slightly acidic *rich* soils and shade**
- *Belongs to lily family*
- **Red, white & yellow flower color; even same species**
- **Some showy; others hidden under a leaf**
- **Two major groups**
 - -- flower sitting above or “nodding” below bracts whorl
 - -- flower rises directly from bracts
- **Beetle primary pollinator of trillium**
 - Like smell & color so gather on flower & mate!
- **Common name birthwort or Indian balm because chemical compounds in several used medicinally *as astringents, expectorants and coagulants***
- **More showy wildflowers rare, threatened by pressure from *overzealous* collectors and habitat loss**
- **Found at Thompson Wildlife Management Area**
- *Please do not collect in wild!!*

Where to Find Ephemerals

- Turkey Run Trail, George Washington Memorial Parkway
- Thompson WMA, off Rt 66 about 1hr out of DC
- Riverbend SP, near Great Falls NP
- Bull Run RP
- Manassas NBP
- Meadowlark Botanical Gardens near Vienna
- Long Branch Nature Center, Arlington
- Carderock Recreation Area, Potomac, MD
- National Arboretum in DC

Saturday, April 6 – possible spring walk

Other Ephemerals

- **Bloodroot**
 - *Reddish root with bright orange sap*
 - *Petals shed 1-2 days after pollination*
 - *Example of ants carrying seeds to nest and discarded seed germinates*

- **Dutchmen breeches**
 - *Resembles white pantaloons with yellow belt hanging on a clothes line*
 - *Relies on Queen bumblebee to pollinate*
 - *Queen beats wings fast which scattered pollen on body*
 - *Not to be confused with Squirrel corn without yellow belt*

- **Wood (Rue) anemone**
 - *Resembles spring beauty*
 - *Greek mythology, flower created by tears of Aphrodite as she mourned death of her lover, Adonis*
 - *Symbolizes anticipation and arrival of something new, like spring*

- **Cutleaf toothwort**
 - *Forest floor*
 - *Flowers from white to light purple to light pink*
 - *Identified by dissected and coarsely toothed leaves*
 - *Underground rhizome resembles animal's tooth*
 - *Host for extirpated West Virginia White butterfly – similar to garlic mustard*

- **Solomon seal**

- *Asgeragus family*
- *Shape of leaves thought to resemble signet ring of King Solomon*
- *Roots or rhizomes harvested after first frost – look like segmented worm or intestines (indicator of kind of uses)*
- *Many medicinal uses, including lubricant, diuretic, & expectorant*
- *Particularly used for joint injuries*
- *Recorded use back to 1st C in China*
- *In alchemy, symbol of balance and harmony – perfect union of physical & spiritual realms*
- *Believes seal encapsulates secrets of universe and has power to harness deep wisdom and insight*

- **Columbine**
 - *Colorado state flower*
 - *Has claw-like spurs like eagle's*
 - *Associated with Christianity*
 - *"Columbine" is Latin for dove*
 - *Inverted flower looks like 5 doves clustered together*