
Eudicots pt. 2

Attendance Code

water25

QOTD

If you were a seed, what adaptations would you want to have to be able to travel far away from your mother plant?







Elm - Ulmaceae

- Includes Elms (Ulmus), Zelkovas (Zelkova)
- Hackberries (Celtis) are in the Elm family on the tree list, but these days they are categorized in Cannabaceae (don’t do drugs kids)
- Appearance:
  - Leaves: alternate, simple, entire or toothed margins
  - Flowers: either bisexual or unisexual
  - Fruit: samara, drupe, or nut





Elm - Ulmus

- Appearance:
  - Flowers: bisexual, wind-pollinated
  - Leaves: alternate, simple or serrate margins, base is asymmetrical
  - Fruit: samara (winged seed)
- Ecology:
  - Dutch elm disease >:(wiped out most American elms







Elm - Ulmus

American Elm - Ulmus americana









Slippery Elm - Ulmus rubra









Hackberry - Celtis occidentalis

- Aka. nettletreee, sugarberry, beaverwood
- Appearance:
  - Height: 9-15m
  - Bark: light brown, gray ish, cork-like, wart-like lumps that look like gravel (this is how you can tell it apart from other Ulmaceae
  - Leaves: ovate, asymmetrical, coarse
  - Flowers: can be male, female, or bisexual
  - Fruits: small, orange red to dark purple
- Distribution:
  - Nebraska eastward





Mulberry - Moraceae

- 38 genera and 1100 species, but we'll only cover two of them
- Appearance:
  - Leaves: many different leaf shapes will exist on the same plant
  - Flowers: small, either have petals or sepals but not both
  - Fruits: breadfruit, jackfruit, mulberry







Mulberry (genus) - Morus

- Can be monoecious or dioecious
- Appearance:
  - Height: up to 24m
  - Leaves: alternate, simple, lobed or serrated margin



White Mulberry - Morus alba









Red Mulberry - Morus rubra







Osage-orange - Maclura pomifera

- Dioecious
- Appearance:
  - Height: 8-15m
  - Leaves: simple, 8-13cm, thick, firm, dark green
  - Flowers: male flowers in racemes (long bundles like a foxglove), females in a dense clump
  - Fruit: basically a spherical jackfruit. Not many things eat it so we don't know why natural selection didn't do its thing and make it more tasty (c'mon, evolution).
- Distribution:
  - A small area of Texas, Oklahoma, and Arkansas









Magnoliaceae - Magnolia

Southern Magnolia - Magnolia grandiflora















Bigleaf Magnolia - Magnolia macrophylla

Annonaceae - Custard apple

- 2,400 species, but we only have to learn one
- Pawpaw - Asimina triloba
  - Largest edible fruit native to the US
  - Appearance:
    - Height: up to 45m
    - Leaves: 25-30cm long, simple, alternate, spirally arranged, margin is entire
    - Flowers: 3-5cm across, maroon
    - Fruit: yellowish green, 5-15cm long with several black seeds
  - Distribution:
    - Midwest US to Florida, floodplains and shady bottomlands







Laurel - Lauraceae

- 45 genera and 2,850 species, but we only have to learn 2
- Sassafras - sassafras albidium
  - dioecious
  - Appearance:
    - Height: 15-20m
    - Bark: thick, dark red-brown, deep furrows
    - Leaves: alternate, yellow green, either un-lobed, two-lobed, or three lobed
    - Flowers: loose racemes (linear bundles), yellow
    - Fruit: dark blue-black drupe, 1cm long
  - Distribution: Texas to east coast
    - Rich, well-drained sandy loam







California Laurel - Umbellularia californica

- Aka. Oregon myrtle, California bay
- Only species in its genus
- Appearance:
  - Height: 30m
  - Bark: smooth, gray-brown when young, reddish brown and scaly when old
  - Leaves: lanceolate, margin is entire, green
  - Flowers: in umbels: small flowers spreading from one point, like an umbrella, bisexual
  - Fruit: 2cm, like mini avocados
- Distribution:
  - Coast of Oregon and California







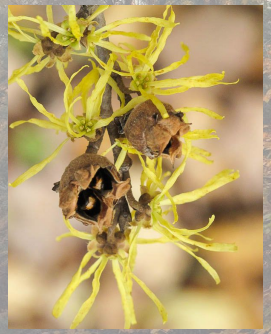




Witch hazel - Hamamelis virginiana

- Appearance:
  - Height: usually around 6m
  - Bark: light brown, smooth, scaly, inner bark is reddish purple
  - Leaves: oval, 4-16cm long, shallowly lobed margin, short petiole
  - Flowers: yellow, four ribbon like petals, cloisters
  - Fruit: small woody capsule that splits down the middle to reveal the two seeds
- Distribution:
  - Texas onward to east coast









Sweetgum - Liquidambar styraciflua

- Aka. American storax, hazel pine, alligator wood
- “Liquidambar” meaning “liquid amber”
- Can live 400 years
- Appearance:
  - Height: 15-20m, up to 45m
  - Bark: light brown with dark streaks, deeply fissured
  - Branches: sometimes have “wings” - ridges that make them wider
  - Leaves: 5ish lobes, glossy, leathery, alternate unlike maples
  - Fruit: spikeballs
- Distribution: southeast US, but it’s grown everywhere









Sycamore - Platanus (genus)

American sycamore - Platanus occidentalis



















California sycamore - Platanus racemosa

Rose - Rosaceae

- Plums, apples, strawberries, almonds, etc.
- Can be trees, shrubs, bushes, etc.
- Appearance:
  - Leaves: spirally arranged, sometimes oppositely arranged, simple or pinnately compound
  - Flowers: radially symmetrical, bisexual, five petals

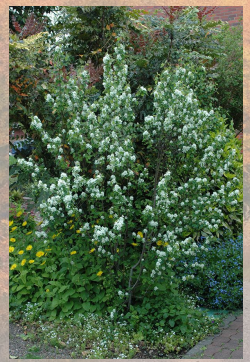
Rose- Rosaceae

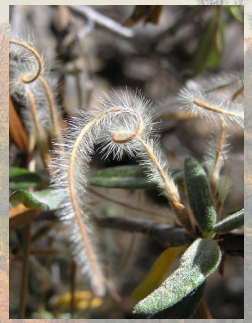
Western Serviceberry - Amelanchier alnifolia

















Curlleaf Cercocarpus - Cercocarpus ledifolius

Rose - Rosaceae

Toyon - Heteromeles arbutifolia









American Mountain Ash - Sorbus americana









Plum - Prunus

- 430 species, but we only have to learn 3
- Appearance:
  - Fruits: drupes
  - Leaves: simple, alternate, lanceolate,
  - Flowers: white or pink, five petals
- Prunus americana









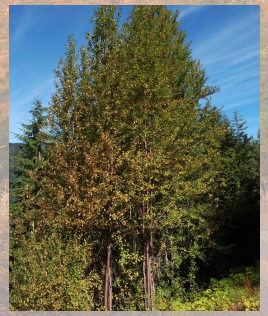
Plum- Prunus

Bitter Cherry - Prunus emarginata





















Common Chokecherry - Prunus virginiana

Hawthorn - Crataegus

Black Hawthorn - Crataegus douglasii

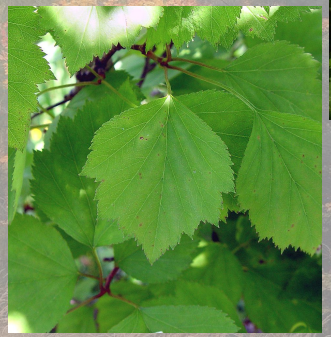






Frosted Hawthorn - Crataegus pruinosa



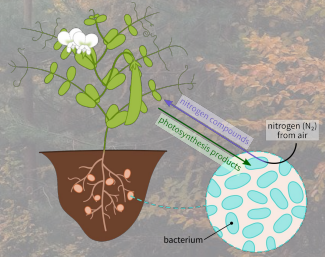




Legumes - Leguminosae

- Legumes, peas, beans, peanuts (derogatory)
- Appearance:
  - Leaves: usually alternate and compound, often trifoliate or bipinnate
  - Roots: have bacteria called rhizobia that take nitrogen gas out of the air and convert it to NO3- (nitrate) or NH3 (ammonium) - nitrogen fixation
  - Flowers: five fused sepals and five free petals, bisexual, pollinated by insects
  - Fruit: legume, which is a pod with the seeds in it









Legumes - Leguminosae

Huisache (Sweet Acacia) - Acacia farnesiana







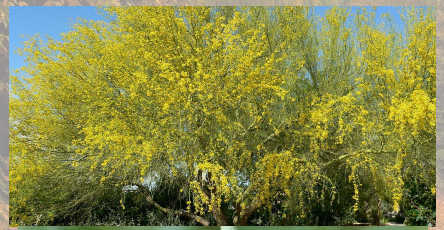




Eastern Redbud - Cercis canadensis

Legumes - Leguminosae

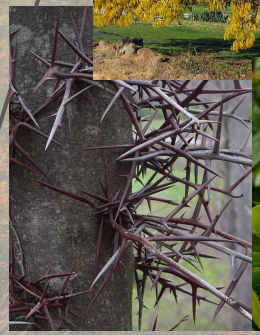
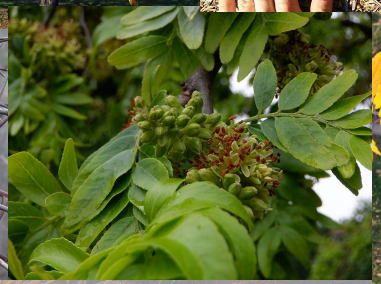
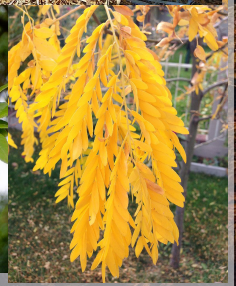
Blue Palo Verde - Cercidium floridum






Honeylocust - Gleditsia triacanthos



Legumes - Leguminosae

Kentucky Coffeetree - Gymnocladus dioicus













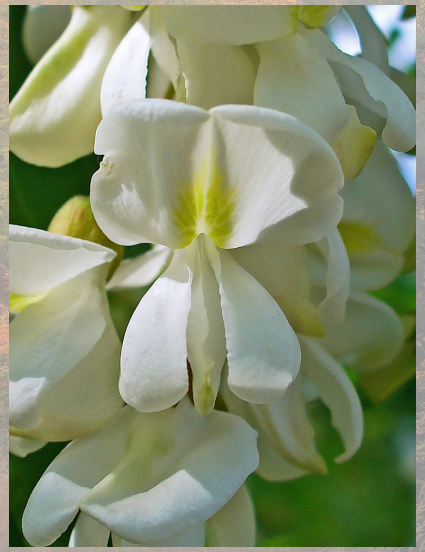


Honey Mesquite - Prosopis glandulosa

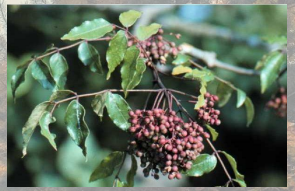
Legumes - Leguminosae

Black Locust - Robinia pseudoacacia






Rutaceae (Rue/Citrus)



- 160 genera, but you only have to learn one: Zanthoxylum
- Hercules' club - Zanthoxylum clava-herculis
  - Aka. pepperwood, southern prickly ash
  - "Toothache tree: because chewing on the bark makes your mouth numb
  - Appearance:
    - Height; 10-17m
    - Bark: thick, corky lumps
    - Leaves: leathery, pinnately compound
    - Flowers: dioecious, in bunches, each flower is small 6-8mm diameter
    - Fruit: small rough capsule with black seeds
  - Distribution: Southeast US, Texas to Florida







Quassia - Simaroubaceae

Tree of Heaven - Ailanthus altissima

- Idk why this qualifies as a North American tree because its from China (ah the motherland)
- Appearance:
  - Height: 17-27m, grows fast
  - Bark: smooth, light grey
  - Leaves: large, pinnately compound, 1-3ft long, leaflets are ovate-lanceolate with entire margins, 5-18cm long
  - Flowers: dioecious,

Anacardiaceae - Cashew/Sumac Family

- only species you need to know is *Rhus glabra* aka the smooth sumac
- a shrub (10-20 feet)
- only tree native to all 48 contiguous states
- leaves are a lanceolate shape, pinnately compound with alternate arrangement, serrated margin
- dicot, dioecious
- will grow in dry waste areas, such as impossible slopes where even junipers struggle
- pest and disease-free, drought-tolerant





Aquifoliaceae (Holly)

- 560 species (but you only have to know 2!)
- widespread throughout temperate & subtropical regions; sea level to 2,000+ meters
- small, evergreen trees w/smooth, glabrous, pubescent branchlets
- generally slow-growing
- simple, alternate glossy leaves, frequently w/a spiny leaf margin.
- inconspicuous flower: greenish white, 4 petals, generally dioecious
- fruits: often referred as berries (technically drupes)
    - ripen in winter (widely used in Christmas decoration)
    - generally slightly toxic to humans; important food source for birds and other animals, which help disperse seeds



Aquifoliaceae (Holly)

American Holly - Ilex opaca













Yaupon - Ilex vomitoria

Aceraceae (Maple)

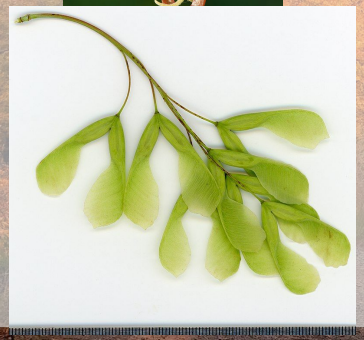
- Deciduous trees/shrubs, some evergreen
- Opposite leaves; palmately lobed simple or pinnately compound leaves
- Flowers are seen with cymes, panicles, or corymbs
- Monoecious or dioecious
- Renowned for their autumn leaf colour
- Shade tolerant, riparian
- Dense and fibrous root systems
- Fruits: called samaras “helicopters”



Aceraceae (Maple)

Boxelder - Acer negundo



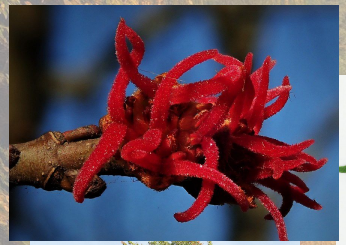
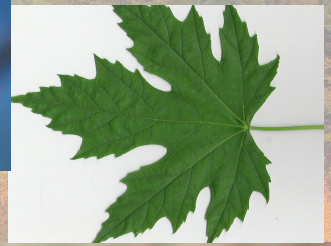





Red Maple - Acer rubrum

Aceraceae (Maple)

Silver Maple - Acer saccharinum








Sugar Maple - Acer saccharum

Buckeye (Hippocastanaceae)

- Genus Aesculus is the one you have to know - Aesculus californica and Aesculus glabra (Ohio/Texas buckeye)
- also known as horse chestnuts but aren't real chestnuts
- opposite, palmately divided leaves
- flowers have four or five petals
- largest seed of non-tropical plants
- they're all moderately toxic
    - Native Americans would crush the seeds and use them to stun fish
- official symbol of Kyiv on its coat of arms used from 1969 to 1995 and is an official symbol of Kyiv







Hippocastanaceae (Buckeye)

California Buckeye - Aesculus californica







Ohio Buckeye - Aesculus glabra







Tiliaceae (Basswood)

- American Basswood (Tilia americana)
- medium to large deciduous tree (18 to 37m)
- grows fast! almost twice the annual growth rate of American beech and many birch species
- Life expectancy: ~200 years
- Crown: domed, branches spreading, often pendulous
- Bark: gray to light brown; narrow, well defined fissures
- Roots: large, deep, spreading
- Twigs: smooth, reddish-green
- Winter buds: stout, ovate-acute, smooth, deep red
- Native to E. North America
- Leaves: simple, alternately arranged, ovate to cordate shaped, asymmetrical, coarsely serrated margin
- Flowers: small, fragrant, yellowish-white, 10–14 mm in diameter
- Fruit: small, globose, downy, hard and dry cream-colored nutlet



Tiliaceae (Basswood)









Myrtaceae (Myrtle)

- Bluegum Eucalyptus (Eucalyptus globulus)
- Tall, evergreen; endemic to southeastern Australia
- Smooth bark, juvenile leaves that are whitish and waxy on the lower surface
- Ribbed flower buds arranged singly or in groups of 3 or 7 in leaf axils
- White flowers and woody fruit
- Adult leaves: arranged alternately, the same glossy to dark green on both sides, lance-shaped or curved





Cornaceae (Dogwood)

- Simple, untoothed leaves; veins curve distinctively as they approach margins
- Most have opposite leaves, a few have alternate leaves
- Fruits: drupes w/1-2 seeds, often brightly colorful; edible! although not much flavor :(high in vitamin C
- Ecology:
    - Food plants by the larvae of some species of butterflies and moths

Cornaceae (Dogwood)

Flowering Dogwood - Cornus florida











Pacific Dogwood - Cornus nuttallii

Cornaceae (Dogwood)

Black Tupelo (Blackgum) - Nyssa sylvatica









Your Homework

As you know, Tatiana goes on vacation somewhat frequently. Because she is a huge freaking nerd, everywhere she goes she takes pictures of trees. In a few minutes a slideshow will be uploaded to the google classroom that has a bunch of pictures of trees that I took that I would like you to ID for me. Thanks guys and have funnnn