



RUTGERS
THE STATE UNIVERSITY
OF NEW JERSEY

Meet Your Urban Trees
Part 1:
Identification



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COMMON URBAN TREES

SIMPLE

- Red maple, Norway maple, maple comparisons
- London plane tree, sycamore comparison
- Sweet gum, seedless cultivar
- Pin oak, red oak group comparisons
- Swamp white oak, white oak group comparisons
- Cherries, Crabapples, Hawthornes
- Callery (Bradford) pear, look-alikes Red Bud, catalpa, paulownia
- Little leaf linden, & basswood look-alikes
- Elms, & elm cousins Hackberry & Zelkova

COMPOUND

- Honey locust
- Tree of heaven
- Black walnut
- Confusing compounds chart

OPP., PALMATELY LOBED

ALT., PALMATELY LOBED

ALT., PALMATELY LOBED (STAR)

ALT., BRISTLE TIP LOBED/INCISED

ALT., ROUNDED LOBES/WAVES

ALT., SERRATED (some LOBED) – FLOWERS

ALT. SMOOTH MARGIN – FLOWERS

OVATE to CORDATE

ALT., SERRATED, CORDATE, OBLIQUE BASE

ALT., SERRATED, OBLIQUE BASE

ALT., ENTIRE LEAFLETS, SMALL, OVAL

ALT., LEAFLETS POINTED, WAVY-LOBED MARGIN

ALT., LEAFLETS POINTED, FINELY SERRATED

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FONT COLORS

NATIVE – to Newark Area

HYBRID or CULTIVAR

NON-NATIVE – to Newark Area

INVASIVE SPECIES
(BOTH Non-native AND causes harm or has potential to cause harm, environmental, economic, or to human health)

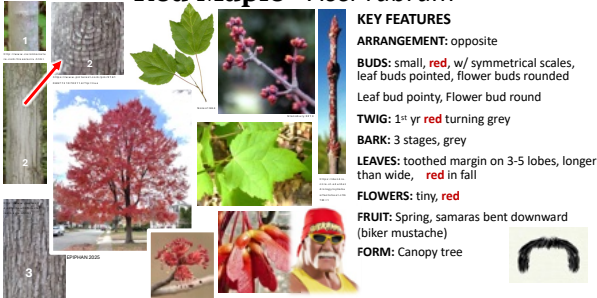
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Red Maple - *Acer rubrum*



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Red Maple - *Acer rubrum*



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Norway Maple - *Acer platanoides*



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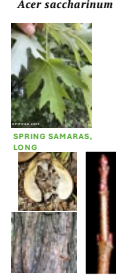
Maple Comparisons

Red Maple
Acer rubrum



SPRING SAMARAS, SHORT

Silver Maple
Acer saccharinum



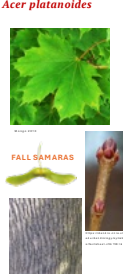
SPRING SAMARAS, LONG

Sugar Maple
Acer saccharum



FALL SAMARAS

Norway Maple
Acer platanoides



FALL SAMARAS

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London Planetree – *Platanus x hispanica* A.K.A. *Platanus x acerifolia*

Hybrid of (*P. occidentalis* x *P. orientalis*)



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KEY FEATURES

ARRANGEMENT: alternate

BUDS: Triangular, single cap, **Green turning red**

TWIG: Zig zag, stout, greenish to Brown. Leafy stipules on new growth

BARK: Mottled & Exfoliating, Creamy-chartreuse & exfoliating olive-tan, light brown
Mature – lumpy trunk

LEAVES: Wide/Large, 3-5 lobes, Coarsely toothed, Palmate venation

FLOWERS: green globose, Inconspicuous, Occur w/ leaves

FRUIT: spherical "ornament" 3"- 6" stalk – "Disco ball"

FORM: Large tree, large limbs

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Sycamore - *Platanus occidentalis*



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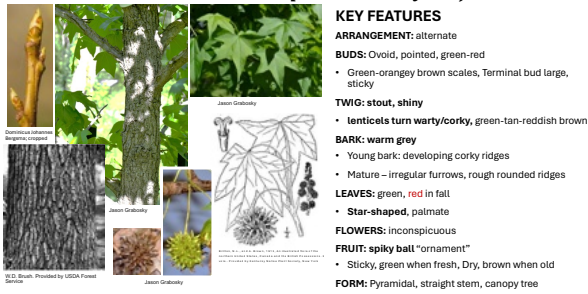
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London Plane Look-a-Likes



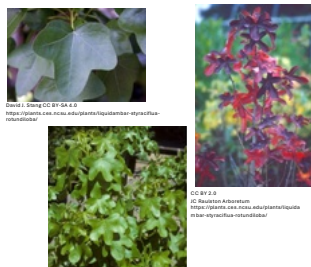
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Sweet Gum- *Liquidambar styraciflua*



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Fruitless Sweet Gum *Liquidambar styraciflua* 'Rotundiloba'



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Black Gum– *Nyssa sylvatica*

KEY FEATURES

ARRANGEMENT: alternate

BUDS: Ovoid – pointed, scales

TWIG: greyish to brown, lenticels, diaphrammed pith

- **spurs** common – curved

BARK: tan light brown to grey brown

- Young – texture developing flat ridges and furrows
- Mature – Alligator Bark

LEAVES: green, glossy, Oval to **Spatulate**, 1-few teeth at tip **Sometimes**, Pinnate venation, **Red in fall**

FLOWERS: inconspicuous, sticky, green

FRUIT: blue-purple ½" long

FORM: Often w/ Crook in trunk **horizontal branching**

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Black Gum– *Nyssa sylvatica*

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Pin Oak - *Quercus palustris*

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Pin Oak - *Quercus palustris*









KEY FEATURES

ARRANGEMENT: alternate

BUDS: pointed w/ scales, clustered terminal buds, laterals small,

BARK: grey to tan-grey – tight Young bark - developing wavy vertical striations

Mature bark –wavy tight ridges and very shallow furrows, not chunky like other oaks.

LEAVES: narrow lobes, pointed tips w/ bristles, U-shaped sinuses, glossy green turning chestnut brown in fall.

FLOWERS: pendulous, green

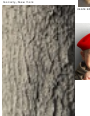
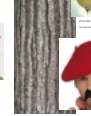
FRUIT: Small Acorns – ½ long –thin flattened cap – sometimes vertical striation are visible

FORM: straight trunk, top branch point upwards, middle perpendicular, lower downwards,

Canopy tree

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Red Oak Group Comparisons

Pin Oak <i>Quercus palustris</i>	Northern Red Oak <i>Quercus rubra</i>	Scarlet Oak <i>Quercus coccinea</i>	Black Oak <i>Quercus velutina</i>
			
			
			

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Swamp White Oak – *Quercus bicolor*





KEY FEATURES

ARRANGEMENT: alternate

BUDS: small, blunt, often w/ thread-like stipules

BRANCHES: Shaggy texture

BARK: grey to tan-grey

- Young bark "Scrappy" exfoliating
- Mature bark – irregular rough ridges w/ horizontal breaks (similar color to white oak, but a chunkier look)

LEAVES: Bicolor! Pubescent whitish underside, Shallow sinuses, Rounded wavy- shallow lobes, Spatulate shape

FLOWERS: pendulous, green

FRUIT: Acorns – Cap shaggy, Long stem – pipe shaped, Cap covers close to ½ of nut

FORM: Canopy tree

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White Oak Group Comparisons

Swamp White Oak <i>Quercus bicolor</i>	White Oak <i>Quercus alba</i>	Chestnut Oak <i>Quercus montana</i>	Willow oak <i>Quercus phellos</i>

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Black Cherry– *Prunus serotina*

KEY FEATURES

ARRANGEMENT: alternate

BUDS: small, glossy scales

TWIG: Slender, Dark to reddish brown, w/ Lenticels, **Burnt Almond odor when broken**

BARK: Dark, blackish horizontal lenticels
Young – dark, shiny, horizontal lenticels
Maturing – breaks up, scaly, "burnt potato chips"

LEAVES: Dark Green, Glossy, White or **Orange**
Pubescence ~halfway up mid-vein, **Finely serrated margin**

FLOWERS: White flowers, Pendulous panicles, Blooms after leaves, (late = serotina)

FRUIT: Round small drupes, Birds go bananas for them

FORM: Canopy tree, Variable growth habit -grows towards light quickly

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Ornamental, Small Cherry Trees

LEAVES: Finely serrate margin, pronounced venation, pronounced petiole glands

BUDS: Pointed, ovate, w/ scales →

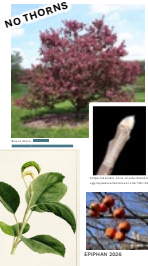
Kanzan Cherry <i>Prunus serrulata</i> 'Kanzan'	Okame Cherry <i>Prunus</i> 'Okame'	Sargent's Cherry <i>Prunus sargentii</i>
LEAVES: Ovate	LEAVES: Narrow	LEAVES: Broadly ovate
FLOWERS: Showy, pink, b4 leaf out		
← MATURE BARK: grey, pronounced horizontal lenticels w/ orange		

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Crab Apples & Hawthorns

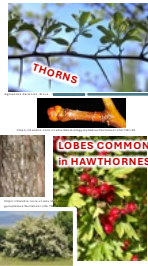
Malus spp.

NO THORNS



Crataegus spp.

THORNS



KEY FEATURES

ARRANGEMENT: alternate

BUDS: large terminal, small laterals

Apple: w/ white hairs

Hawthorn: shiny, dark red

TWIG: Grey to reddish brown, Spurs common

BARK: grey w/ lenticels, developing cracked or scaly texture

LEAVES: Finely serrated OR Toothed & Lobed margin, Arced venation

FLOWERS: Showy, mid-spring, white to pink

FRUIT: Berry-like pomes yellow to red

FORM: Small tree, dense crown

LOBES COMMON in HAWTHORNS



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Bradford Pear aka Callery Pear - *Pyrus calleryana*






KEY FEATURES

ARRANGEMENT: alternate

BUDS: Whitish wooly hairs, large terminal bud

TWIG: Stout, glossy brown, lenticels, spurs common

BARK: Young – smooth w/ lenticels, light or reddish brown, Mature – greyish brown w/ scaly ridges and shallow furrows

LEAVES: Glossy, ovate-cordate, Finely serrate (almost crenate) margin, STIPULES: paired, narrow

FLOWERS: White flowers, unpleasant scent, spring

FRUIT: brown, berry-like pome

FORM: Small tree, Dense crown, strongly decurrent = poor branching structure

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Cordate Leaf Look-alikes

Red Bud
Cercis canadensis



ALTERNATE

TWIGS: Slender zig-zag twigs

MATURE BARK: Scaly tight

FLOWERS: pink, b4-w/ leaves

FRUIT: "Pea" pods

FORM: Small tree, dense



Catalpa
Catalpa spp.



OPPOSITE

TWIGS: Stout, lenticels

MATURE BARK: Ridges & furrows

FLOWERS: showy white clusters, after leaf out

FRUIT: Long skinny pods

FORM: Medium size tree, open



Princess Tree
Paulownia tomentosa



OPPOSITE

TWIGS: Stout, lenticels

MATURE BARK: Ridges & furrows

FLOWERS: showy purple clusters b4 & w/ leaves emerging

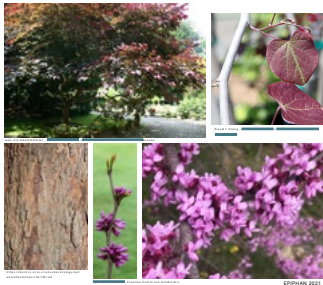
FRUIT: Long skinny pods

FORM: Medium size tree, open



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Forest Pansy Red Bud – *Cercis canadensis* ‘Forest Pansy’



KEY FEATURES

ARRANGEMENT: alternate
BUDS: inconspicuous & tiny, flower buds round, in clusters
TWIG: Slender, zigzag, dark w/ light dotted lenticels
BARK: Young- smooth grey Mature- grey to orangey brown, scaly to ridges & furrows
LEAVES: Maroon-purple, cordate, Entire margin
STIPULES: paired, narrow
FLOWERS: Showy pink, flowers b4 leaf out
FRUIT: Highly sterile, seldom w/ pods
FORM: Small tree, dense crown, often w/ twisted trunk, spreading branches

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Little Leaf Linden – *Tilia cordata* ‘Greenspire’



KEY FEATURES

ARRANGEMENT: alternate
BUDS: Ovate, one side plump w/ scale “mouse w/ motorcycle helmet”
TWIG: shiny, zigzag-curved, green-red brown
BARK: Grey, smooth forming tight flat-topped ridges & vertical fissures, looking braided
LEAVES: 1-3” Long, Cordate, Serrated margin, pointed tip, Unequal (Oblique) base, Paler below vein axils brown hairs
FLOWERS: Pale yellow clusters from leafy bract
FRUIT: round fuzzy nutlets, 2-3 hanging from leafy bract
FORM: Small/Mid-size tree, dense canopy, rounded crown, strongly decurrent, especially ‘Greenspire’ cultivar

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Linden Look-a-Likes

Basswood *Tilia americana*

LEAVES: 5-6” Long



FORM: Canopy tree can be multi-stemmed



Silver Linden *Tilia tomentosa*

LEAVES: 2-5” Long, Silvery pubescent below



FORM: Mid-size tree



White Mulberry *Morus alba*

LEAVES: 3-6” Long, Blunt teeth → Forms irregular lobes, Glossy



YOUNG BARK: Orangy, tight vertical striations

MATURE BARK: grey brown, develops vertical fissures & flat ridges buckle & gnarl w/ age, often w/ weeping stains

FORM: Short, canopy spreads & bows, Often multi-stemmed



ALSO, ELM LOOK-A-LIKE



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American Elm - *Ulmus americana*



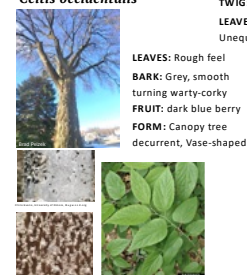
KEY FEATURES

- ARRANGEMENT:** alternate
- BUDS:** Ovate, pointed, reddish-brown, scales w/ darker edges
- TWIG:** shiny, brown, slight zigzag
- BARK:** Grey, braided, flat-topped ridges, slightly spongy when developing; Cross-section of flat ridges has layers - "Ham & Cheese"
- LEAVES:** Doubly-Serrated margin, Rough feel, Unequal (Oblique) base
- FLOWERS:** early spring, inconspicuous
- FRUIT:** oval, flat papery samaras, margin w/ hairs
- FORM:** Canopy tree, decurrent, Vase-shaped

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Elm Cousins

Common Hackberry
Celtis occidentalis



LEAVES: Rough feel
BARK: Grey, smooth turning warty-corky
FRUIT: dark blue berry
FORM: Canopy tree decurrent, Vase-shaped

Japanese Zelkova
Zelkova serrata

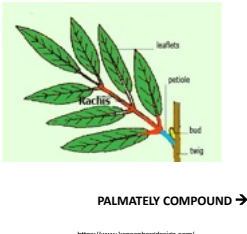


LEAVES: Glossy, smooth
BARK: Tan, lenticels, exfoliating w/ age
FRUIT: Tiny triangular nutlet
FORM: Canopy tree Extremely decurrent, Poor structure!, V-shaped

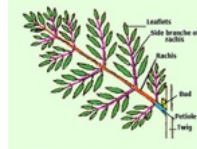
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Main Compound Leaf Types

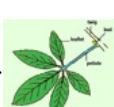
PINNATELY COMPOUND = once divided



BI-PINNATELY COMPOUND = twice divided



PALMATELY COMPOUND →



<https://www.kapenbargdesign.com/leafstructures/compound.php>

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Honey Locust (Thornless) – *Gleditsia triachanthos* var. *inermis*



KEY FEATURES

ARRANGEMENT: alternate
BUDS: very small, sunken
TWIG: light brown-reddish, **zigzag**, numerous lenticels
YOUNG BARK: grey-brown smooth w/ horizontal lenticels
MATURE BARK: long, narrow, buckling plates
LEAVES: compound 15-30 leaflets or bipinnately compound
LEAFLETS: egg to oval-shaped, rounded tip
FLOWERS: green-yellow, small hanging clusters
FRUIT: 6-8" brown twisted pod
FORM: Mid-size to Canopy height, airy, spreading crown

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Honey Locust – *Gleditsia triachanthos* Straight species - NOT *inermis*



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Tree of Heaven – *Ailanthus altissima*

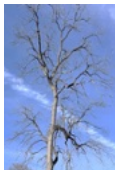


KEY FEATURES

ARRANGEMENT: alternate
BUDS: small, blunt, brown
TWIG: stout, dotted lenticels, **Large triangular leaf scars**, soft tan pith
BARK: light grey, smooth w/ wavy, vertical, white striations
LEAVES: pinnately compound 1-2 ft. long, 10-24 leaflets, **Rotten peanut butter smell**
RACHIS: smooth, green-red
LEAFLETS: smooth-wavy margin, one to few basal lobes
FLOWERS: inconspicuous, stinky
FRUIT: clusters of twisted, oblong, yellow-pink samaras
FORM: Canopy tree, Open branching habit, "Palm-tree visual effect"

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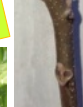
Black Walnut – *Juglans nigra*





Citrusy-Pine-sol Smell





KEY FEATURES

ARRANGEMENT: alternate

BUDS: grey-buff fuzzy, terminal bud large

TWIG: stout, monkey face leaf scars just below buds

BARK: grey developing ridges and furrows, diamond pattern

LEAVES: pinnately compound 1-2 ft. long, 10-24 leaflets, Citrusy-pine-sol smell

RACHIS: somewhat pubescent

LEAFLETS: finely serrated, pointed tip

FLOWERS: inconspicuous

FRUIT: 2-2.5" "tennis balls" Citrusy-pine-sol smell

FORM: Canopy tree, Open branching habit
"Palm-tree visual effect"

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Confusing Compounds

 LEAFLETS: Oval to Ovate, Margin Entire FRUIT: Pea pods (all in Fabaceae-Pea family) Tree of heaven Honey locust -Black locust -Mimosa -Amur maackia -Yellowwood -Kentucky coffeetree	 LEAFLETS: Lanceolate Margin Entire-Wavy w/ 1-few basal lobes FRUIT: Twisted samaras w/ 1 round seed Black walnut -Hickories LEAFLETS: Ovate-Lobed Margin irregularly toothed & Lobed FRUIT: Papery lantern Goldenrain tree	 LEAFLETS: Ovate to lanceolate Margin has Serrations FRUIT: Nuts Black walnut -Hickories FRUIT: Cluster of red berries -Staghorn sumac -Smooth sumac FRUIT: Long straight samaras -Ashes (Opposite)
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Happy ID'ing!




Bitternut Hickory
Carya cordiformis

Butternut
Juglans cinerea

End of day survey!
Please fill this out – super important



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