Guide to Maples of New York City

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Maple (Acer)

Acer (maple, Sapindaceae) is a genus of about 120 species of shrubs and trees distributed throughout the Northern Hemisphere (one species, *A. larurinum*, extends into the Southern Hemisphere). Maple diversity is highest in Asia, but there are 13 species native to the United States, as well as one naturally occurring hybrid (*A. x freemanii*).

General characteristics of maples include: opposite, palmately-veined, lobed leaves; pentamerous flowers borne in clusters; and paired, winged fruits called samaras. Maples display bright autumn foliage, and are fast growing, often shade tolerant trees with dense, fibrous roots.

Some species of maple can be tapped for sap which is used to produce maple syrup. Maple wood is often used in the construction of musical instruments, including violins, guitar necks, and drums due to its tonal properties. Other items commonly made using maple wood include pool cues, bowling pins, and furniture.

The common name, "maple", comes from the Old English "mapul", referring to these trees. The Latin name, *Acer*, comes from the Proto-Italic *akris,* meaning "sharp", referring to the shape of maple leaves.

Key to Maple Species

1a. Compound leaves, 3-7 leaflets	-
1b. Simple leaves2a. White exudate when petiole broken	
2b. No white exudate when petiole broken	
3a. Leaves with pointed lobes	
	<u>(A. platanoides)</u>
3b. Leaves with blunt lobes	. <u>Hedge Maple</u>
	<u>(A. campestre)</u>
4a. Fruits attached at an angle of >90°, maturing i	n early spring; flowers
red, in tight clusters	<u>Red Maple (A. rubrum)</u>
4b. Fruits attached at an angle of <90°, maturing	in late summer; flowers
greenish-white, in drooping clusters	5
5a. Buds completely enclosed in petiole base	<u>Sycamore Maple</u>
	<u>(A. pseudoplatanus)</u>
5b. Buds not enclosed in petiole base	6
6a. Sinuses angled, deep; fruits mature in spring	. <u>Silver Maple</u>
	<u>(A. saccharinum)</u>
6b. Sinuses rounded, shallow; fruits mature in late	e summer
	<u>Sugar Maple</u>
	<u>(A. saccharum)</u>

US natives planted in NYC (few known spontaneous occurrences)

<u>Black Maple (A. nigrum)</u> <u>Striped Maple (A. pensylvanicum)</u>

Common Ornamental Species

<u>Amur Maple (A. ginnala)</u> <u>Paperbark Maple (A. griseum)</u> <u>Downy Japanese Maple (A. japonicum)</u> <u>Japanese Maple (A. palmatum)</u> <u>Tatarian Maple (A. tataricum)</u>

Hedge Maple (Acer campestre)

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Leaves: 5 blunt lobes, entire margins; 5-16 cm long, 5-10 cm wide; petiole secretes milky juice when broken

Flowers: emerge at the same time as leaves; yellow-green, bisexual flowers in erect clusters; staminal nectar discs

Fruits: seeds flattened, 8-10 mm across; wings ~2 cm long, attached at a 180° angle

Hedge maple is a shorter, slow glowing tree that often produces several trunks and can be pruned to form tall hedges. It is an intermediate species in ecological succession - it exhibits shade tolerance and rapid growth early in its life, but in maturity is overtaken by other species.





planted and naturalized in all 5 boroughs of NYC



A. campestre in Eurasia green=native orange=naturalized **Distribution:** Native to Europe, southwest Asia, and northern Africa. It is the UK's only native maple species. **Etymology:** The specific epithet, *campestre* from the Latin "of the plains", and the common names "hedge" or "field" maple refer to the relatively short stature of the trees and common usage as hedgerows between farm fields.

NATIVE

Boxelder (Acer negundo)

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Leaves: pinnately compound, with 3-7 leaflets, each 5-10 cm long and 3-7 cm wide with slightly serrate margins; light green above and grey-green below Flowers: dioecious; pale green flowers; staminate flowers in clusters on short pedicels, pistillate flowers in drooping racemes 10-20 cm long Fruits: seeds 1-2 cm across; wings 2-3 cm long, attached at <60° angle; fruits persist on the tree through the winter

Boxelder is a fast growing and short lived tree which often occurs in riparian habitats. Its prefers bright sunlight and is vulnerable to storm damage. Boxelder saplings are for mistaken often poison ivy (Toxicodendron radicans) but can be distinguished by its opposite branching pattern. Boxelder's compound leaves set it apart from all other maples.





spontaneously occuring in all 5 boroughs of NYC



Native range of A. negundo

Distribution: native to North America from southern Canada to Guatemala, but absent from western US; naturalized nearly worldwide
 Etymology: The specific epithet, *negundo*, is from the Sanskrit *nergundi*, the name for a plant with similar compound leaves. The common name, "Boxelder", refers to the use of the soft wood for box making, and a resemblance of Elder (*Sambucus* sp.). Another common name, "Ash-Leaf Maple" compares its compound leaves to those of Ash.

Norway Maple (Acer platanoides)

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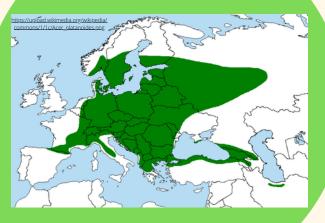


Leaves: 5 lobed, each with 1-3 teeth; 7-14 cm long, 8-25 cm wide; petiole secretes milky juice when broken Flowers: emerge prior to leaf-out; corymbose inflorescences of 15-30 flowers; yellow to yellow-green petals; staminal nectar disc Fruits: seeds flattened, 10-15 mm across; wings 3-5 cm long, attached at nearly 180° angle

Norway Maple was first introduced to North America around 1760 in PA and NY. It is often planted as a street tree, due to tolerance of pollution and poor, impacted soil. It readily escapes cultivation and naturalizes, often outcompeting native understory plants due to its shade tolerance, high photosynthetic rate, high seed production, and potentially allelopathic properties.



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Native range of A. platanoides

Distribution: Native to Europe and western Asia; naturalized throughout the northeastern US

Etymology: The specific epithet *platanoides*, is from the Latin "leaves like *Platanus* (plane tree)". The common name, "Norway", refers to the northernmost native occurrence of the tree in Europe.

Sycamore Maple (Acer pseudoplatanus)

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Leaves: 5 lobed, margins coarsely toothed to serrate; dark green above, paler beneath with prominent veins; 10-25 cm long and wide; petiole base encloses bud Flowers: emerge in the late spring; yellow green; often functionally unisexual; borne on pendulous panicles 2-8 cm long, with up to 100 flowers

Fruits: seeds 5-10 mm across; wings 2-4 cm long, attached at a 90° angle

Sycamore Maple was introduced to the US in the 1870s in NJ and NY. It readily invades disturbed areas and thrives in a range of soil and pH conditions. A number of moth species feed on leaves of Sycamore Maple, and the flowers produce large amounts of nectar which attract a variety of pollinators. Due to its fast growth and large leaves, it can quickly outcompete understory competition, and is considered invasive in the US.





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A. pseudoplatanus in Eurasia green=native orange=naturalized **Distribution:** native to Central Europe and Western Asia, naturalized in the UK, US, and Australia.

Etymology: The specific epithet, *pseudoplatanus*, and the common name, "Sycamore Maple", both reference the similarity in leaf shape to *Platanus occidentalis* (sycamore), whose name in turn references another plant with morphologically similar leaves, *Ficus sycomorus*.

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Red Maple (Acer rubrum)

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Leaves: 3-5 lobed, with narrow sinuses and serrate margins; 5-10 cm long, 5-10 cm wide; turning bright red in autumn; red petioles and young twigs Flowers: emerge in late winter to early spring; generally unisexual in sessile clusters; red petals; pedicels of pistillate flowers lengthen during flowering to <5 cm. Fruits: seeds 15-25 mm across; wings 12-15 mm long, attached at a 50-60° angle; fruits mature in spring

Red Maple is the most abundant native tree in the eastern United States, adaptable to a wide range of site conditions. This modern dominance is due to a combination of heavy logging, loss of native forest management practices, and the decline of American Elm and American Chestnut. Red maple is an important winter food source for animals such as deer and rabbits, and several Lepidoptera feed on the leaves.

spontaneously occuring in all 5 boroughs of NYC







Native range of *A. rubrum*

Distribution: native to the US east of the 95th meridian, and north to SE Canada

Etymology: The specific epithet *rubrum*, means "red" in Latin. Both the Latin and common names refer to the color of the tree's fall foliage.

Silver Maple (Acer saccharinum)

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Leaves: 5 lobed with deep, angled sinuses; 8-16 cm long, 6-12 cm wide; green above, pubescent silver below

Flowers: dioecious or monoecious; no petals; small, reddish bracts; sessile clusters of 6-10; bright red styles
Fruits: seeds globose, 5-10 mm across; wings 3-5 cm long, attached at an 80-90° angle; fruits mature in spring

Silver Maple is a tall and fast growing tree which grows in open sunlight in riparian habitats. Their trunks tend to produce cavities which provide shelter for various creatures. The rapid growth of Silver Maple is an asset in urban environments, however this propert in turn can produce weaker wood susceptible to damage. Their extensive shallow root systems can crack sidewalks and foundations! The trees also readily resprout and can grow multiple trunks,.





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Native range of A. saccharinum

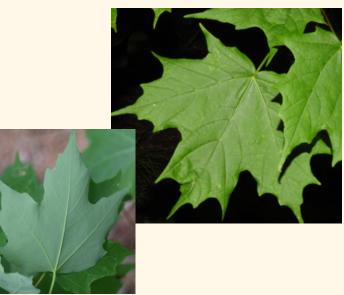
Distribution: Native to the eastern US and southeastern Canada

Etymology: The specific epithet saccharinum, meaning "like sugar" in Latin, in reference to its sap (less sweet than *A. saccharum* but still used for syrup). The common name, "Silver Maple", refers to the silvery underside of the leaf. Another common name, "River Maple" references its tendency to grow near rivers.

Sugar Maple (Acer saccharum)

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Leaves: 5 long-pointed lobes; rounded sinuses; dark green above, whitish and ±pubescent below; 5-11 cm long and wide Flowers: unisexual (monoecious or dioecious); yellow green sepals, no petals; pistillate fls. in drooping umbels 7-10 cm long; staminate fls. similar but 2-5 cm long. Fruits: seeds globose, 7-10 mm across; wings 2-3 cm long, attached at a 60-90° angle; mature in late summer

Sugar Maple is an important component of forests in the northern US and often forms pure stands. It is the state tree of NY, VT, WV, and WI. Sugar Maples are the major source for maple syrup production. It takes 40 liters of sap to produce 1 liter of maple syrup. A single tree may produce 5-60 liters per season. Seed germination is contingent on temperatures close to freezing. Sugar maple was more widely planted as a urban tree in the past, but has proven to be less pollution and salt tolerant than other species such as Norway Maple.

> spontaneously occuring in all 5 boroughs of NYC





Native range of A. saccharum

Distribution: Native to midwestern and eastern US into Canada, north of the 45th parallel.

Etymology: The specific epithet *saccharum*, which is from the Sanskrit *sarkara*, meaning ground sugar or grit. The common name, "Sugar Maple" refers to the high sugar content of the sap.

Black Maple (Acer nigrum)

Sometimes classified as a subspecies of Sugar Maple (*A. saccharum* subsp. *nigrum*). Black Maple is morphologically similar to Sugar Maple, but with darker bark, and drooping, generally 3 lobed leaves (versus 5 in Sugar Maple) with downy undersides.

Black Maple's range does not extend to NYC, however the tree is sometimes planted in the city. They generally prefer calcareous or rich soils

Striped Maple (Acer pensylvanicum)

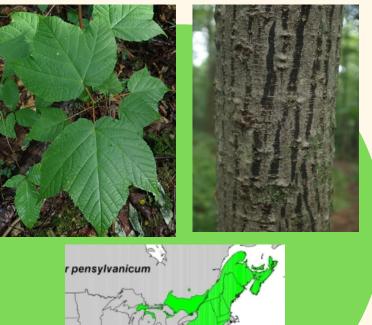
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Striped Maple is a small understory tree native to the northeastern US. NYC is just outside the native range of Striped Maple, but it is planted as a street tree in most boroughs.

The name comes from their distinctive striped bark, The leaves have 3 lobes with shallow sinuses, and finely doubly serrate margins. Another common name, "Goosefoot Maple", refers to the shape of the leaves.





NATIVE



ORNAMENTAL

Amur Maple (Acer ginnala)

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Amur Maple is a small tree native to eastern Asia, that was first introduced to the US in the 1860s. It is commonly planted as an ornamental for its bright red fall foliage and fragrant yellow-white flowers. It is considered invasive in some US states due to its shade tolerance and fast growth. The glossy leaves have a large central lobe, and the winged fruits are tinged red or pink.







ORNAMENTAL

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Paperbark Maple (Acer griseum)





Paperbark Maple is a small tree native to central China. lt is considered Endangered in the wild by the IUCN. It was first planted in the US in the early 1900s. It has peeling, brown-red bark and striking fall foliage. It is a slow growing and shade intolerant plant which often produces seedless fruits. Young shoots are downy but become glabrous with age. Paperbark Maple has trifoliate compound leaves, dark green above and glaucous blue-green below.

Downy Japanese Maple ORNAMENTAL (Acer japonicum)

Downy Japanese Maple is a small tree native to Japan and South Korea. The young shoots and leaves are covered in white hairs. The leaves have 7-11 pointed lobes. It is widely planted as an ornamental, and is more coldtolerant than the related Japanese Maple.



Japanese Maple (Acer palmatum)

ORNAMENTAL

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Japanese Maple is a shrub or small tree native to eastern Asia. The leaves have 5-9 acutely pointed lobes, and flowers have red-purple sepals and whitish petals. There are thousands of cultivars which are planted worldwide with a wide variation in leaf shape and color.

Tatarian Maple (Acer tataricum)

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Tatarian Maple is native to eastern Europe and temperate Asia. Leaves are unlobed or shallowly 3 lobed, with doubly serrate margins, and their petioles with a pinkish tinge. Flowers are greenish-white in upright clusters, and fruits turn red as they mature.





References and More Information

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