Norway Maple
Acer platanoides

Much of the background for this article is taken from a 1990 article on the "History and Range of Norway Maple" by David Nowak and Rowan Rowntree (Journal of Arboriculture 16:291-296) and from Michael Dirr's Manual of Woody Landscape Plants, 5th edition, revised 1998.

From Whence it Came: As is perhaps no surprise, Norway maple is native to Norway. In fact, it is native to Norway, the whole Scandinavian peninsula, Belarus, Russia and central Europe, on into the northern part of Iran. Although it is geographically the most widespread native maple in Europe, in terms of numbers, it is not. That honor belongs to *Acer campestre*, the hedge maple. Also, the Norway maple is not native to the British Isles or to the coastal areas of Western Europe.

In its native habitat, Norway maple tends to be found scattered in small groups, mixed in stands with other hardwoods. The Norway maple does best in mesic, lowland sites with a good supply of water, such as at the base of slopes, although it will tolerate a range of conditions. Generally, it is considered to be shade tolerant when young, but only intermediate in shade tolerance when older. It matures into a moderately tall forest tree, some 60-90 feet in height (although the North American champion found in New Paltz, NY, stands 137 feet tall!).

The Norway maple is considered of minor value as a timber species – again losing out to its more populous cousin, the hedge maple, which is often sold as European maple. It is occasionally stated in the literature that the backs of Stradivarius violins are made from Norway maple, although there are no reports of any such violins being disassembled to test this claim.

Why it Got Here: It is likely that the first Norway maples came to North America around 1756. That is about when the species was first listed in the seed catalogues, and also when there is a record of the first planting (in Philadelphia). The original geographic source of these early trees is not known, and perhaps was not known to the first buyers and sellers, since much of this early stock came from English botanical gardens, where the tree is not native either. Regardless, early on Norway maple became established in North America and won the support of some early horticulturalists, although its real popularity did not begin until sometime around 1870.

There is a solid list of fans of the Norway maple from the 1800's. After all, what is not to like? It is a moderately large, well-formed maple, often with good summer and fall color, that establishes well, grows quickly, is relatively resistant to serious insect and disease problems when healthy, and can tolerate a variety of sites. It is somewhat geographically restricted - it does do best in the eastern and north-central parts of the country, and does less well in the far south and western US.

Because of the perceived potential of this tree, plant growers have been prodigious in developing Norway maple cultivars. In addition to the species, cultivars include the Crimson King, Emerald Queen, Schwedler and Parkway. In their 1990 article, Nowak and Rowntree reference 89 cultivars, while Dirr's *Manual* lists in 36 his 5th edition.

Norway maple's popularity as a street tree, however, appears to be a 20th century phenomenon. While it is often stated that supply will meet demand, sometimes the ability to provide supply is what leads to a demand. That seems to be what happened with Norway maple. In the wake of Dutch elm disease, which first began to show up in North America in the 1930's, city foresters and public work directors actively sought replacement species for that pre-eminent street tree, the American elm. Norway maple was already available. Once municipalities gave the tree a try, they found that its ease of production in the nursery, fast growth and tolerance of urban conditions made it a logical choice for city streets, particularly in the eastern and northern central US, where Dutch elm disease first hit. This, in turn, fueled increase interest by nursery growers, who responded with increased production to satisfy the growing demand.

Why Norway Maple is a Problem: Urban foresters today can cite a host of reasons why the Norway maple is not the preferred street tree it was originally thought to be. It has been overplanted, is prone to root problems (especially girdling roots), can scald when overpruned, is subject to a range of insect and disease problems, including aphids, tar spot and verticillium wilt, and tends to hold deadwood – the list could go on. However, the most serious objections have been raised relative to Norway maple's impact on native woodlands.

Norway maple is not an aggressive invader on the order of, say, garlic mustard or Japanese barberry; most exotic tree species are not. However, it does produce a prolific amount of seed that allows it germinate widely – urbanites know the species as a common weed of vacant lots, in hedges and along fence lines. Similarly, the presence of a local seed source will allow the tree to take advantage of disturbed woodlands where, once established, individual trees hold their own and then provide additional seed source for future establishments. As Norway maple seedlings are shade tolerant, they can persist in sites that would normally limit other woody species, including in edge settings and under existing forest canopy.

That alone might not make the Norway maple a problem. However, Norway maple as it grows, tends to steer the situation to its own advantage. The maturing tree casts a deep shade that hinders most vegetative growth beneath its canopy, and may also produce chemicals that further limit the ability of other plants to grow beneath it. It is that feature raises particular concern about this tree's impact on native forest systems. Norway maple trees do not simply just displace native tree species; they also significantly alter the vegetative dynamics of the forest, diminishing understory plants of all sorts. Often, the space beneath the canopy of Norway maples is dark, open and empty – devoid of any significant shrub or herb layer.

This, in turn, may lead to further problems. It has been suggested that pure stands of Norway maple can cause water quality issues, due to the bare soil beneath the stand and

the subsequent increased potential for erosion. The impact on wildlife is also very clear, and of great concern. (To see a good article describing Norway maple problems in a Boston woodlands, you may visit this Earthworks web site: www.earthworksboston.org/articles/UWnorway.htm).

What to Do about Norway Maple: The removal of Norway maples in any systematic way is not likely to be viewed as a practical solution anytime soon. There are an enormous number of Norway maple trees that already exist in the landscape. The Norway maple is, in its various forms, one of our most common street trees and is also a very popular yard tree. Any suggestion for wholesale removal of these trees from the planted landscape is likely to be greeted with a lack of support, if not outright hostility.

It is the popularity of the tree, particular of its cultivars, that makes dealing with them so difficult. Despite regular articles detailing the invasive tendency of this tree and the problem that this causes, people still want to plant new Norway maples, especially such popular cultivars as Crimson King and Schwedler. Nurseries are caught in the middle, not wanting to lose customers or invest in stock that will turn into a liability.

So – saying "don't plant Norway maples" might have some positive impacts, but only in a limited manner. Legal restrictions on the availability of Norway maple stock may reduce supply and so decrease demand, but only if such restrictions are uniform and extensive – and, even then, their affect will only be over the very long term.

So – what to do? Removing Norway maples whenever possible from natural areas will help, as will encouraging forest management and open space practices that discourage the establishment of Norway maple seedlings. That is probably easier said than done. Foresters, however, tend to be very aware of invasive species, especially invasive tree species, and will be pro-active in implementing measures to reduce their presence as better techniques are discovered.

Also, while restricting nursery supplies might help, a better solution for the landscape use of Norway maple might come through increased understanding of the reproductive abilities of individual varieties and the promotion of those varieties that are not as prolific or, better, not capable of reproduction at all. Ideally, sterile varieties of popular cultivars would allow homeowners to keep these varieties without contaminating the woodlands.

Finally, it is possible that a biological control could arise. Along these lines, it is interesting to note that stressed Norway maple street trees are one of the primary targets of Asian longhorned beetle infestations in New York and, until recently, Chicago. However, as this beetle also attacks native maples and a variety of other desirable trees, it is not viewed by anyone as good control for Norway maples in any context.

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Norway Maple – Identification

An excellent summary of Norway maple characteristics can be found on the UConn Plant Selector web site - http://www.hort.uconn.edu/Plants/a/acepla/acepla1.html

Norway maple is a very popular shade tree, commonly used along streets, in yards and on campuses of all sorts.

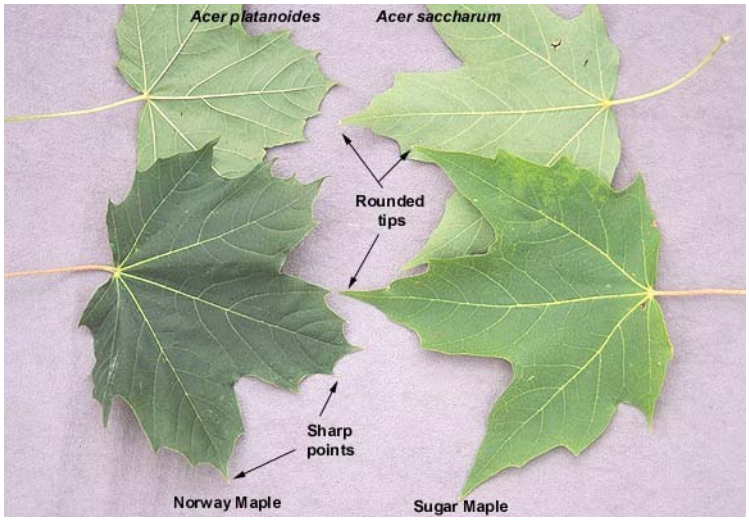
(This photo and all photos, unless otherwise noted, are used courtesy of the University of Connecticut)

Like all maples, the twigs, buds and leaves of Norway maple are opposite each other on the tree. The buds of the Norway maple tend to be brownish and larger than those of most other maples, native and introduced (the exception is the sycamore maple, which has larger, green terminal buds.)

(Photo courtesy of Chris Donnelly)

The leaves of the Norway maple are very similar to those of the sugar maple, and many people have difficulty telling them apart. On close examination, you might note that the Norway maple leaf is slightly more pointed than that of the sugar maple.

The best test, though, is the sap – Norway maple has a milky white sap, while that of all other maples you are apt to encounter is clear. That is the best test of a Norway maple. (One exception is the mono maple, which is occasionally planted in CT.) (Illustration used courtesy of Oregon State University).



The bark of the mature Norway maple has a very regularly ridged pattern highly reminiscent of white ash. (Photo used courtesy of Yale University School of Forestry and Environmental Studies.)

On younger trees, pattern is more diamond shaped, before the ridged pattern develops. (Photo used courtesy of Chris Donnelly.)

The fall color of Norway maple can be quite attractive and is one of the appealing features of this tree to many who know this tree. Norway maples also tend to hold their leaves longer in the fall than many of the native trees.

Norway maple is also one of the trees that flowers early in the spring, with characteristic green flowers in April. Norway maples are dioecious, meaning that male and female flowers are borne on separate trees.

The fruits of the Norway maple are two-winged samaras, which disperse widely as they helicopter down from trees and then move through flowing water. Reproduction sites often include within hedges and near foundations, as well as in disturbed soils in woodlands.

Another characteristic of Norway maple is very noticeable tendency for its leaves and samaras to be afflicted tar spot – a common and relatively benign foliar disease. In years when moisture is high, by late summer virtually all Norway maples will show some degree of tar spot on their leaves. (Photo used courtesy of Cornell University.)

There are many, many varieties of Norway maple – including the highly popular of which is the 'Crimson King'. To many people, this is the red maple they mean when they use that term.

Other varieties have been chosen for interesting color characteristics, including deep green and variegated forms.

The heavy shade cast by a Norway maple is both one of its greatest strengths when used in a landscape situation and one of its most objectionable characteristics when it escapes into the woods. Its heavy shade allows it to inhibit the growth of other, more desirable species, and, due to a tendency to invade woodlands, has led the Norway maple to be an unwelcome choice for many planting applications. (Photo used courtesy of Iowa State University.)