

THE MAPLES OF NORTH AMERICA *reprinted from Farming, the Journal of Northeast Agriculture*
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At a recent meeting I was talking with some sugarmakers from Indiana, when I was asked “what does striped maple look like.” I had never really thought about the fact that the distribution of maple species is not uniform across the sugaring region, but in fact, it isn’t. Here then, is a description of all the maples native to North America.

Various sources list the number of North American maples, excluding transplants from other continents like Norway maple, at around 13, but that number is debatable. For example, sugar maple and black maple are often described as different species of maple, but many botanists consider black maple to be a subspecies of sugar maple. A subspecies is not considered genetically different enough to be a separate species. In any case, while we know that there are many more maples native to the East Asia, there is indeed a broad distribution of maples in North America, and they can be found in all the lower 48 states.

Acer negundo or boxelder, an odd maple since it has compound leaves like an ash, has the widest distribution of our maples. It can be found from Western New England to the Pacific coast and through the Rockies from Alberta to Guatemala. Not the most popular tree, and described by some as “trashy, poorly formed and short lived,” it is a source of syrup for some sugarmakers, presumably because nothing else of tree size is available. Boxelder can thrive in a variety of soils, both wet and dry, and is valuable in shelterbelt plantings because of its cold and drought tolerance.

Acer rubrum, or red maple, is another species that can thrive on widely diverse sites, from swamps to dry ridges. Red maple ranges over all of Eastern North America, from Newfoundland to Florida and from Minnesota and East Texas. The remaining common “soft” maple is *Acer saccharinum*, or silver maple, which has a range similar to red maple, but without the northern or southern extremes. Silver maple is primarily a floodplain species and can survive prolonged inundation that would kill sugar maple. Red maple is very suitable for sugaring, as described in a previous column, while silver maple also can be tapped for sap collection, but presumably like boxelder only because nothing better is available. We have heard descriptions of sap collecting from silver maples in Illinois, but one probably needs hip boots to visit floodplain trees in the spring.

Besides sugar maple and its subspecies, the remaining North American maple that is commonly a medium to large tree is *Acer macrophyllum*, or bigleaf maple. Appropriately named, the leaves of this species are often 12 inches across. Like Norway maple, the petioles have milky sap, and oddly, the seeds are covered with stinging hairs. Bigleaf, or Oregon maple is an important hardwood of the Pacific coast forest, where

most big trees are conifers, and its range extends from Alaska to southern California. The wood of this species is not as hard or strong as sugar maple, but is used especially for piano frames. The sap can be made into syrup, although one source says this syrup is of “lower quality” than syrup from sugar maple; also, freeze thaw cycles are much more irregular on the Pacific coast than in the East.

Acer saccharum, or the true sugar maple, ranges from Nova Scotia to Western Kansas and well into the southern Appalachian mountains. Subspecies *nigrum*, or black maple, with many similar qualities to sugar maple except for its leaf shape (3 lobed instead of 5), is adapted to somewhat warmer and drier climates than sugar maple. Thus, black maple is predominant in Iowa and rare in New England. It is described as somewhat slower growing than sugar maple, with leaves that drop earlier in the fall.

Subspecies *barbatum*, commonly known as Florida maple or Southern sugar maple, is native to the south from the Carolinas to Eastern Oklahoma and Texas. It has smooth, gray bark and leaves very similar in shape to our sugar maple but whitish underneath. An understory tree of rich soils, Florida maple can apparently reach large size, but such trees are unusual. It has been described as a source for maple syrup.

Subspecies *leucoderm*, or chalk maple is rare shrub or small tree with approximately the same range as Florida maple. Its leaves look like those of sugar maple, but are small, and yellow green underneath and its bark is chalky gray. Both Florida maple and chalk maple, as well as bigleaf maple are hardy only to zone five.

The remaining five species are all shrubs or small trees, and only one is described as a possible source for maple syrup. The two eastern species are *Acer spicatum*, or mountain maple and *Acer pennsylvanicum*, or striped maple. Striped maple, with white stripes on a green trunk, is often described as a nuisance species that can dominate an area after cutting to the exclusion of other species. While it is commonly only 10-15 feet tall, I have seen specimens with trunks that are 6-7 inches in diameter and 30-40 feet tall; at this size they are not easily recognized as striped maple. Like mountain maple, a shrubby species that is often found near mountain streams, both are important foods for moose, deer and snowshoe hares. The range of striped maple is smaller, extending through the Appalachian mountains in the west, plus northern Michigan (but not to Indiana), and to Nova Scotia and New Brunswick in the east, while mountain maple is found west all the way to Saskatchewan.

Three species of small maples are confined to the western mountains and beyond. *Acer glabrum*, or Rocky Mountain maple, ranges not only in those mountains, where it is very abundant, but to the Pacific coast of Oregon and Washington. This shrubby species has small 3-5 lobed leaves and conspicuously purplish young stems. *Acer grandidentatum*, or bigtooth maple, the largest of these three maples, inhabits sunny, dry mountain slopes from Montana to New Mexico, and is known for its brilliant fall foliage.

Although it is often has a trunk less than a foot in diameter when mature, some references list it as a source for maple syrup. Finally, *Acer circinatum*, or vine maple, is not a vine but a western shrubby species that often forms “impenetrable thickets” with its many twisted branches. Vine maple can be found from British Columbia to California. Its leaf shape is the model for the rank insignia of majors and lieutenant colonels in the US army.

It is often reported that maples are found only in North America and the area around Japan and Korea. In fact, various species of maple are also native to Western Europe, the Mediterranean including a small portion of North Africa, the Balkans, Turkey, Iraq, Afghanistan, the Himalayan Mountains, and tropical Indonesia. Some of these species attain very large size, and presumably all are capable of the same sap flow mechanism that causes sap to exude from wounds under certain conditions. Thus, it is primarily the weather, and our reliable seasons of freeze thaw cycles that are responsible for the location and the success of the maple syrup industry in northeastern North America.