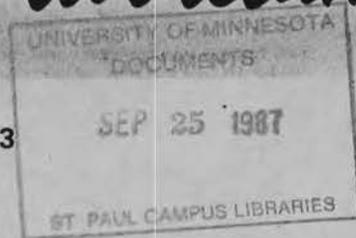


Arboretum Review



ARBORETUM NO. 16-1973

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Small Trees

There is a great deal of interest in trees of small stature that will be in scale with small yards and one-story homes. These trees are needed for shade and beauty. To bring some of these trees together for comparative purposes, we have started a special collection in the arboretum which is now attracting considerable attention. The following are under observation:

Acer ginnala (Amur Maple). This small maple is more commonly grown as a shrub for screen plantings, but it can be trained quite easily into a single-stemmed tree. The spring flowers and brilliant autumn coloration make this a very desirable small tree. Grown as a tree, this plant will reach a height of about 15 to 18 feet. A form with bright red summer fruits is being grown.

Acer tatarica (Tatarian Maple). This is very similar to the Amur maple and hybridizes readily with it. The leaves of the true Tatarian maple are not as deeply lobed as the Amur. The fruits are typically red.

Amelanchier laevis (Alleghany Serviceberry). There are several species of Amelanchier that grow in a tree form included in our Amelanchier collection. The Alleghany serviceberry is native in Minnesota and has the largest and most showy flowers. The serviceberries can be grown either as a large shrub or clump tree with several stems, or they can be trained as a small tree. The flowers bloom in early May followed by red to purple berries in early July. The fruits make excellent pies but the plants must be covered with a bird proof netting before they turn color. It can be planted as a bird food plant.

Aralia elata (Japanese Angelica Tree). This Aralia has the largest compound leaves of any tree that we can grow. These leaves are twice compound and can measure as much as 3 feet long and 2 feet wide. Large white clusters of flowers develop in August and it is not uncommon for a single flower cluster to be the size of a bushel basket. The plant is sparsely branched but since the large compound leaves resemble leafy branches, it is quite full during the growing season. Our oldest plants are now about 18 feet tall. The Devil's walking stick (A. spinosa) has not been hardy in our trials. Plant it in a protected site. Carpinus carolinianum (Blue Beech) is another native plant that normally grows with multiple stems. Trained with a single stem it develops into an attractive round headed tree about 18 feet tall. The bark is silvery gray, smooth, and muscular. The seeds are borne in dry pods that are produced in hoplike clusters. The European Hop Hornbeam (C. betulus) is similar but has a rougher stem.

Cercidiphyllum japonicum (Japanese Katsura). This species is not fully hardy and should be planted only in protected sites that have adequate moisture. This is a handsome tree under the right conditions. Young trees are quite upright but tend to spread out as they reach maturity.

Cercis canadensis (Redbud). The Eastern redbud is a handsome small tree with a spreading habit of growth, unfortunately the commercially available strains of this tree are often lacking in hardiness. A few trees have survived and continue to bloom each year including one over 30 years old at the Horticultural Research Center that blooms almost every year. The survival of redbuds in the arboretum has not been too good but we are getting a number of plants established. Someday we may have hardy redbuds if some of our hardy clones can be vegetatively propagated.

Cornus alternifolia (Pagoda Dogwood). This is the nearest approach to a tree form of dogwood that is hardy. The pagoda dogwood grows in clumps in nature. In cultivation, it can be grown either as a single- or multiple-stemmed tree. The small, creamy white flowers in late May and the reddish-purple autumn coloration of the foliage are attractive features. A mature specimen will have a spread of about 15 feet and a height of about 20 feet.

Corylus colurna (Turkish Hazel). This is a small tree reaching a height of about 25 feet. Several old trees are growing in the arboretum in Waseca and we have several younger plants established in our arboretum.



Cornus alternifolia (Pagoda Dogwood).

Indications are that this species is hardy in sheltered locations in the southern part of our area. The trees are narrow and upright with rough corky bark.

Cotinus americanus (American Smoketree). This is a small tree of questionable hardiness. The large leaves turn a brilliant orange-red color in the fall. Plant only in sheltered locations. Our plants have shown some dieback each winter.

Crataegus spp. (Hawthorns). The hawthorns will be the subject for a future Arboretum Review. Crataegus crus-gallii (Cockspur Hawthorn) and its cultivar 'Inermis' (The Thornless Cockspur Hawthorn) are the only hawthorns that exhibit much resistance to the cedar-apple rust. The glossy green leaves, the spreading habit of growth, and the small red fruits make this one of our good small trees for landscape planting.



Crataegris punctata (Dotted Hawthorn).

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Elaeagnus angustifolius (Russian Olive). This is a popular small tree because of its informal growth habit and its silvery leaves. The small yellow flowers that open in June are very fragrant. The silvery fruits resemble small olives. A yellow, fruited form is in our collection. This small tree is often used in screen plantings and as a specimen tree in the lawn or patio.

Hippophaea rhamnoides (Russian Sea Buckthorn). This is more commonly grown as a large shrub but it can be trained as a single-stemmed tree. We have two plants 18 feet tall, not mature specimens, but it is expected that a fully grown tree will be about 20 feet tall. The silvery, willow-like foliage and the bright orange to red berries are most attractive. The sexes are separate so one should plant several to be sure of getting fruit. Plant on well-drained soil. So far our plants have been fully hardy.

Magnolia spp. (Magnolias). Although magnolias must generally be considered borderline in hardiness, we have had some encouraging results. At least 5 species have flowered for us in the arboretum and all of these could be planted in sheltered locations from the Twin Cities southward. M. acuminata (Cucumber Magnolia) is one of the hardiest. There are fairly large trees in Como and Lyndale parks. M. stellata (Star Magnolia) has bloomed for us each year for the past 10 years with no observable winter injury. M. tripetala (Umbrella Magnolia) has also done well. This species blooms after the leaves open. M. x loebneri 'Merrill' and M. Kobus borealis 'Wade's Memory' have also done well in our trials. M. salicifolia is still another species that shows promise. Only M. soulangeana (Saucer Magnolia), of all the species tested, has shown serious winter injury and has been discarded. Some of the magnolias may bloom too early and the flowers can be injured by late spring frosts.

Malus spp. (Crabapples). The crabapples comprise a large and diverse group. We have over 150 species and cultivars. These will be the subject of a future Arboretum Review.

Ostrya virginiana (Ironwood). This is one of our really good native trees. We are pleased to see that our nurseries are finally recognizing the value of this hardy native. This tree grows to a height of about 35 feet and can be grown either as a clump or with a single stem. The hop-like fruits add to the late summer interest.

Prunus spp. The cherries, plums, and apricots include many good ornamentals as well as fruits. The 'Shubert' chokecherry, Amur cherry, and the Mayday tree are examples. This group will be treated in a future Arboretum Review.

Ptelea trifoliata (Hoptree). This small tree is interesting because of its hop-like fruits. The fruits are dry and 2- to 3-celled and winged. The leaves are trifoliolate and resemble the ash, hence the name wafer-ash that is sometimes applied to this tree. Although commonly grown as a shrub, this plant can easily be trained as a small tree that will grow to a height of about 15 feet.

Quercus mongolica (Mongolian Oak). This is the only oak we grow that fits in the small tree category. The leaves resemble the burr oak in out-

line but are much smaller and the bark is corky. Our oldest plants are about 15 feet tall and mature specimens growing at Morden, Manitoba are about 25 feet. This is a very hardy and rugged species and should be more widely planted. We have had no problem in getting this species established.

Rhamnus cathartica (Buckthorn). The common buckthorn is widely planted by the birds and volunteers in many fence rows and other uncultivated fields. The species is quite shade tolerant and can be found in most woods. This common buckthorn is the alternate host for crown rust of oats and should not be planted in rural areas where oats are an important crop. When trained with a single stem this makes an attractive round-headed tree. The leaves are dark green and prominently veined. The fruits are black and remain on the plants well into winter.

Sassafras albida (Sassafras). This interesting small tree is of borderline hardiness. Considerable dieback can be expected most winters. Once established, recovery from winter injury is rapid. The fall color of the sassafras is a beautiful orange-red. Plant only in a sheltered location and then only if you are willing to cut out the dead wood each spring.

Sorbus spp. (Mountain-ash). This is another large group of small-to medium-sized trees that will be covered in a future Arboretum Review. The Korean Mountain-ash has attracted a great deal of interest and is being propagated by our nurseries. This mountain-ash has simple leaves, a dense crown, and is reported to be more resistant to fireblight than other species.

Staphylea trifolia (Bladdernut). This is a beautiful small tree with trifoliolate leaves and white, bell-shaped flowers. These are followed by dry, bladder-like fruits. The lenticels are prominent and give a white, speckled appearance to the young stems. Although this plant is native it is seldom planted. Our plant is about 10 feet tall and has a nice round crown.

Syringa amurensis japonica (Japanese Tree Lilac). This is an excellent, very hardy small tree that grows to a height of about 25 feet. It can be grown as a single-stemmed tree or as a clump. The species S. amurensis is a large shrub with many stems. The variety from Japan is the one grown as a tree. The large clusters of white flowers opening in late June extend the lilac season. The tree is inclined toward biennial flowering but removal of the faded flower clusters would increase annual flowering. Syringa pekinensis (Peking Tree Lilac) is a similar species with smaller leaves.

Viburnum lentago (Nannyberry). This tall native shrub can easily be trained as a small tree. The creamy white flowers and the black berry-like fruits add to its interest. The fall color is a dark red.

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