The Shadbushes

As I was growing up in the rich farming country of southeastern Pennsylvania, one of my greatest pleasures was to walk through the fencerows and woodlots in April, searching for signs of spring. Herbs like Hepaticas and Bloodroots were always welcome finds, but I will never forget the Shadbushes. Looking across the brown and gray countryside to a woodland lined with these trees in full bloom never failed to lift my winter-weary spirit. Ever since, I have looked on these plants with a special fondness, a prejudice that may color some of my statements and descriptions in the present article.

These attractive members of the Rose Family are known by a variety of common names: Serviceberry or its corruption, Sarvisberry, from the resemblance of the fruit (not actually a berry) to that of the European Service-tree, a species of Sorbus; Juneberry, because the fruits of several species ripen in June; and Shadblow or Shadbush, because most species in the eastern United States started to bloom as the shad began to ascend the rivers. My preference for the last of these is based merely on a personal prejudice. It was the name by which I first learned the plants, and it is somewhat more romantic than the rest. The generic name Amelanchier is probably derived from “amelanche”, the name of the European species in Provence, a section of southeastern France.

Like so many of our native trees and shrubs, the Shadbushes have been largely neglected by gardeners, even though they are of considerable ornamental value. Most of the species are colonial shrubs, spreading by woody underground stems which send up innumerable aerial shoots, often forming dense clumps or small thickets in the process. A group of species, however, grow into small or medium-sized trees, usually with one or two trunks, but occasionally with more.

The arborescent species are probably the best from an ornamental viewpoint. The flowers appear in late April in New England when no other trees, except for the early Cherries and Magnolias, provide a spectacular showing. Although the flowering period may be short, perhaps only three or four days if the
The airy elegance of Amelanchier arborea in full bloom. Photo: H. Howard.
weather is hot or rainy, the display, in my opinion, is incomparable. It is a soft and delicate show, without the gaudiness of a Magnolia or a Crab Apple, entirely in tune with its season. One of the most beautiful sights in the Arnold Arboretum is the specimen of *Amelanchier arborea* planted on the edge of the Junipers near Bussey Brook. This tree, 30 feet tall and with a trunk diameter of 15 inches, is covered with a misty shroud of white in late April. To one driving or walking up Bussey Hill, it stands like a beacon among the drab brown of the field and the green of the conifers.

With their wonderful floral display in the springtime; the delicious fruits in early summer; the brilliant red-orange of the foliage in the fall; the smooth, soft gray, somewhat striped bark in the winter; and the tidy, graceful shape always, these are trees for all seasons. If one wanted a medium-sized specimen for a large or small yard, I could hardly think of a more beautiful plant. In a naturalized setting, by a pond or the edge of a woodland, only a Dogwood could be better.

The shrubby species of Shadbush are of somewhat lesser ornamental value. Although they are attractive in flower, and the fruits in some cases are superior to those of the arborescent species, there are many shrubs with a more durable, colorful bloom that would be more desirable for the average gardener. If used in a naturalized planting, however, all species can be very effective, and the tall, fountain-shaped *Amelanchier canadensis* would be suitable as a specimen plant or a deciduous screen.

All Shadbushes are susceptible to attack by a number of pests common to many rosaceous trees, which limits their usefulness. Lacewing fly, red spider, various scales, and fireblight all can become serious problems; if any of these are rampant in an area, Shadbushes, or any other rosaceous plants, should be planted with caution.

The fruit of the Shadbush is not a berry, as implied by the common names "Juneberry" and "Serviceberry"; rather it is a small pome, the technical name for a type of fruit found only in certain plants of the Rose Family, including Pears, Apples, Hawthorns, Mountain Ashes, and Pyracanthas, as well as Shadbushes. In most of the species they are 1/4-3/8 inch in diameter, firm but juicy in texture, sweet tasting, and basically dark red-purple in color, but thinly covered with a bluish, waxy bloom, as in blueberries and grapes. The fruits are high in Vitamin C content and were used as food to some extent by the American Indians of the eastern forests, as well as by the early

*Amelanchier canadensis, one of the clump-forming species of Shadbush.*
*Photo: H. Howard.*
The smooth, striped bark of a mature Amelanchier arborea. Photo: P. Bruns.
settlers. But it was the Indians of the prairies, with a dearth of other fruits to choose from, who used them most extensively. They crushed the fruit of *Amelanchier alnifolia* with dried bison meat and fat; the resulting mixture, called pemmican, served as their primary winter food. The Cree name for the fruits was *Mis-sask-qua-too-min*, or some similar phonetic rendering. Shortened to “saskatoon” by the fur traders, the name is still used to refer to *A. alnifolia*, and it was given to a city in Saskatchewan in whose environs the plant was abundant.

There has been some interest recently in growing several species of *Amelanchier* as commercial crops. Several cultivars have been named on the merits of their superior fruit. The earliest, “Success”, a cultivar of *A. canadensis*, was offered for sale as early as 1878. The flowers are resistant to late frosts, and the fruits ripen evenly making them amenable to mechanical harvesting. However, the fruits deteriorate in flavor rapidly upon standing, limiting their commercial possibilities. So Shadbushes probably will remain basically a “home crop.” The fruits are delicious when served fresh, and they make excellent preserves. They also can be used like more traditional fruits as a pie filling, or in muffins, much like blueberries.

The fruits of the Shadbushes are attractive to a wide variety of birds. This may be good or bad, depending on one’s point of view. They generally last only a very short time here at the Arboretum. If a homeowner wishes to save the fruits for his own use, at least in a quantity large enough to make the effort worthwhile, it may be necessary to cover the plants with a cheap netting as the fruits are maturing. If one is interested in planting trees or shrubs to attract birds, a species of Shadbush would be a good choice. But a word of caution from a friend of mine: do not plant such a tree near a patio or any other place where one would like to sit out on a pleasant late June evening. The fruits have rather an immediate effect on the birds.

Most of the 20–30 species of *Amelanchier* are native to North America, but three species are found in Europe, North Africa, and southwestern Asia, and another in Japan, Korea, and China. All the American species are mostly closely interrelated and quite similar in general appearance. Therefore their identification is difficult for the layman. In addition, hybrids occur between many of the species, both in the wild and in cultivation. These hybrids are usually intermediate between their parents in many respects, making identification even more difficult.

Below is a list and a key to the identification of the species of Shadbush which are most commonly encountered in cultivation.
Amelanchier arborea (as A. canadensis), from the Silva of North America by C. S. Sargent. 1, flowering branch; 2 floral diagram; 3, vertical section of flower; 4, stamens; 5, cross section of ovary; 6, ovule; 7, fruiting branch; 8, vertical section of fruit; 9, cross section of fruit; 10, seed; 11, embryo; 12, winter buds.
in the Northeast. [For a summary of how to use a key, as well as an explanation of terms, see the March, 1972 issue of *Arnoldia* (Volume 32, pp. 59–97).] The key makes use of flower, leaf, and fruit characters. Therefore for identification it is necessary to make observations, perhaps aided by photographs and pressed specimens, at different seasons of the year. Keys of this sort are frustrating to use, but in the case of difficult plants like the Shadbushes, they are frequently the only ones possible to construct.

**KEY TO THE SPECIES OF AMELANCHIER MOST COMMONLY CULTIVATED IN THE NORTHEAST**

1. Flower clusters held horizontally or slightly drooping; plants tree-like, usually with 1–5 trunks, sometimes shrub-like with many trunks, but at maturity more than 12 feet tall.
   2. Unfolding leaves densely hairy.
      3. Unfolding leaves bronze or purplish.  *A. × grandiflora*.
      3. Unfolding leaves green or silvery white.
         4. Fruits dry and insipid; mature leaves hairy beneath, at least along the veins.  *A. arborea*.
         4. Fruits juicy and sweet; mature leaves not hairy, except perhaps on the stalk.  *A. asiatica*.
   2. Unfolding leaves not or only sparsely hairy.  *A. laevis*.
1. Flower clusters held erect, colonial or clump-forming shrubs, with many stems, often less than 6 feet tall.
   5. Stalks of fruits and mature leaves hairy.  *A. ovalis*.
   5. Stalks of fruits and mature leaves not hairy.
      6. Petals 1/2 inch long or longer.  *A. sanguinea*.
      6. Petals 3/8 inch long or less.
         7. Top (in the area between the tooth-like projections) of the fruit hairy; low shrubs, less than 6 feet tall.  *A. spicata*.
         7. Top of the fruit not hairy; tall shrubs, more than 6 feet tall at maturity.  *A. canadensis*.

*Amelanchier arborea*. Downy Shadbush. Found in dry to moist woods or clearings throughout the eastern half of the United States (west to Iowa and Oklahoma), this species is generally a shapely small tree in cultivation. Although seldom growing more than 30 feet tall, the largest recorded specimen, growing near Standish, Michigan, is 48 feet tall with a trunk circumference of 10 1/2 feet and a spread of 76 feet. The name *A. canadensis* has been applied erroneously to this plant by many authors, including Alfred Rehder in his *Manual of Cultivated Trees and Shrubs*. It may be distinguished from *A. laevis*, the only other arborescent Shadbush native in the Northeast, by the downy, silvery-white unfolding leaves and the dry, insipid fruits.
Amelanchier laevis. Alleghany Shadbush. Similar to and often confused with the preceding, this species grows in woodlands and thickets from Newfoundland and Minnesota southward to Missouri and Indiana, and in the Appalachians to Georgia. It holds the record for size among Shadbushes. The largest individual, from Siler's Bald in Great Smoky Mountains National Park, is 60 feet tall with a circumference of 6 feet, 2 inches. Its bronze-colored unfolding leaves and delicious fruit, as well as the spectacular floral display, make this one of the more desirable of the Shadbushes. At the Arnold Arboretum it blooms from late April until mid-May, and the fruits appear in late June.

Amelanchier X grandiflora (also known as A. confusa and A. lamarckii). Apple Shadbush. This is apparently a hybrid between the above two species. The type specimen was collected in the Botanical Garden of the Forest Academy at Muenden, Germany, but the plant is also known in the wild. Specimens have been collected in several states from New Hampshire to Missouri and Georgia, and it is apparently naturalized in parts of Europe. It is more floriferous than its parents, the fruits are larger and more succulent, and the unfolding leaves are purplish. All in all, it is probably the handsomest of the Shadbushes. A form of this plant, 'Rubescens', found as a spontaneous seedling in Seneca Park, Rochester, New York, has flowers which are purplish-pink in bud and suffused with pink when open.

Amelanchier asiatica. Asiatic Shadbush. A native of Japan, China, and Korea, this plant was introduced into the United States in 1865. It is not common in cultivation. It is similar to A. arborea, but it has palatable fruit and blooms somewhat later.

Amelanchier canadensis (A. oblongifolia). Thicket Shadbush. A species of bogs, swamps and other low areas chiefly in the Atlantic Coastal Plain from Newfoundland to Georgia, this differs from all of the preceding in that it is never treelike, although it may grow to be 25 feet tall. In the wild it often forms dense clumps, hence its common name. This same attribute makes it desirable in cultivation where a tall, deciduous screen is wanted. It was reputedly cultivated in this country as early as 1641, the succulent fruits undoubtedly providing a welcome addition to the diet of the early settlers. In the Arnold Arboretum this
Amelanchier arborea, shown here, and several of its close relatives form tidily shaped, small to medium-sized trees. Photo: P. Bruns.
species blooms during the first half of May and the fruits ripen in early July.

Amelanchier sanguinea. Round-leaved Shadbush. Native to woods, thickets, and lake shores from Maine westward along the Great Lakes to Minnesota, with a few isolated stations in the mountains of North Carolina, this is perhaps the best of the shrubby species for general cultivation. It is of medium height (3–9 feet), it has large flowers, and the fruits are particularly tasty. Here it blooms during May and the fruits ripen in mid-July.

Amelanchier spicata. Low Shadbush. A low, colonial shrub, growing from 1–6 feet tall, this species occurs in woods and thickets, sandy barrens, dunes, and other open places in eastern North America from Newfoundland to the eastern Dakotas, south to Missouri, Ohio, and Georgia. The correct name for this plant is the subject of considerable debate. Some authorities break it down into several species, with names including A. stolonifera and A. humilis. And, due to confusion as to the identity of the plant which the original author had in mind, some botanists use the name “spicata” to refer to an entirely different plant, a hybrid between A. canadensis and A. ovalis. At the Arnold Arboretum this species blooms during the first half of May and the fruits ripen in early July.

Amelanchier ovalis (A. vulgaris). Snowy Mespilus. The only Shadbush native to Europe, this species is rarely cultivated in the United States. It is an attractive shrub with large flowers and palatable fruits, and it was grown in Europe as early as the 16th century. In this country it grows to 6 feet tall; it blooms in early May and the fruits ripen in late June.

One or more of the above species is offered for sale by many nurseries. Raymond Nelson, in DuBois, Pennsylvania even specializes in one of them (probably Amelanchier laevis) which he calls the “Sarvistree”.

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