Winged Burning Bush and Alternative Native Shrubs

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Knowledge about invasive species like winged burning bush (Euonymus alatus) is important in protecting the natural environment. Burning bush is included in a list of plants that Massachusetts has prohibited for sale, trade, purchase, or distribution. The US Department of Agriculture reports that burning bush is invasive in 15 states, including 4 New England states (CT, MA, NH, RI). Invasive plants that crowd out native plants are very harmful to ecosystems.

Winged burning bush is a favored landscaping shrub because of its beautiful bright red foliage in the fall. Many hedges of burning bush are seen in yards around Lexington. These shrubs have spread into conservation lands and other open spaces in Lexington and in national forests and other conservation lands in many states. Burning bush has also been commonly planted along interstate highways. Unfortunately, birds disperse seeds of winged burning bush broadly, and the seeds germinate readily.

Burning bush is a highly invasive plant that came into the US from Northeastern Asia around 1860. As with most other alien plants, it took a long time for people to realize how pernicious they are. This shrub grows in any level of light, from full sun to dense shade, and in many soil types with a range of acidity. Thus they can intrude into varied habitats, including forests, fields, and floodplains. They shade native herbaceous plants and crowds out native shrubs. Established burning bushes have huge roots that are difficult to dig out; new shoots may arise yearly for decades from remaining parts of those roots.

Burning bush is a fast-growing shrub that may reach 10–20 feet in height and width. The stems have "corky wings" on them. The leaves are opposite, oval, and 1–3 inches long. The tiny, inconspicuous flowers are yellowish green and occur in May and June. The small, paired red fruits about $\frac{1}{2}$ inch long appear in the leaf axils. The capsules split open in September and October exposing up to 4 red seeds.

Fortunately, several native species of deciduous shrubs that provide red foliage in the fall are good alternatives to the burning bush. Attractive shrubs that do not have red foliage in the fall are also good alternatives. The native plants described below vary in growth conditions so that you can choose shrubs that look attractive and also suit the conditions of your yard. All of these native species have more conspicuous flowers than burning bush. Many also provide food for birds and other wildlife. Some are larval hosts for caterpillars that will turn into butterflies or moths.

The Plant Materials Guide for Lexington (available at `http://www.clclex.org`) lists exotic invasive plants as well as plants native to Lexington. Shrubs described below are all native to Lexington:

Highbush blueberry (Vaccinium corymbosum): This deciduous shrub grows 6–12 feet high, with numerous branches. Small white or pink, bell-shaped flowers form pretty drooping clusters in spring that develop into blue fruits in the summer. Leaves are reddish green in spring, blue-green in summer, and bright red, orange, and purple in the fall. About 30 species of songbirds and game birds eat the berries, including mourning dove, blue jay, black-capped chickadee, tufted titmouse, and American robin. Small mammals and bears, if around, feast on the fruit, too. Highbush blueberry is a larval host to brown elfin and striped hairstreak butterflies and major datana and saddleback caterpillar moths. Growth conditions are broad: highbush blueberries can grow in sun, partial shade, and shade, and in wet or dry acid soil.

Red-osier dogwood (Cornus sericea) and other dogwood shrubs: The red-osier dogwood is a deciduous shrub that grows 4–8 feet tall and about 10 feet wide. Flat-topped clusters of small white blossoms appear in May to July. The oblong leaves are 4–6 inches long and dark red in fall. The red-osiers conspicuous red twigs stand out in the snow in winter. Interestingly, red-osier dogwoods are the preferred nest sites of goldfinches because they form a dense thicket that provides good cover. The nests can be seen only after the leaves have dropped off. Some birds and mammals eat the fruits and twigs. The red-osier dogwood prefers moist well-drained soil and a pH about neutral, but is adaptable to a range of soils. It likes partial shade.

Gray dogwood (C. racemosa) is a medium-sized shrub up to 15 feet tall, but generally shorter. The small, white flat-topped flowers in clusters of about 2 inches across emerge in May to July. Leaves of gray dogwood are 1–5 inches long and turn dull red in fall. The fruits develop in July to October and some may persist into early winter. The natural habitats of the shrub are moist lowlands to dry uplands. They tolerate a wide range of climatic conditions and soil types.

Silky dogwood (C. amomum) grows to about 10 feet tall. Creamy white flowers in flat-topped clusters $1\frac{1}{2}$–$2\frac{1}{2}$ inches across emerge in June to July. The leaves are 3–5 inches long and purple to red in fall. This shrub grows in moist areas, often along streams, ponds, and swamps, but can grow in drier soil. Its light requirement is partial or full shade.

These species of dogwoods all have similar fruits. They are small, round drupes, each containing one seed with a fleshy cover. Red-osier and gray dogwoods have white fruits; silky dogwoods have blue fruits. Forty or more birds eat the fruits of these three shrubs with some differences in preferences. Some of the birds are wild turkey, downy-, hairy-, and red-bellied woodpeckers, northern mocking bird, American robin, cedar waxwing, and northern cardinal. All of these shrubs provide nectar for butterflies and are larval hosts for the spring azure butterfly.

Red chokeberry (Photinia pyrifolia): This shrub grows up to about 8 feet. In spring it has clusters of striking white, 5-petaled flowers about $\frac{1}{2}$ inch in diameter. Subsequently dark green glossy leaves emerge. In fall the leaves turn an orange-red color and bright red pear-shaped fruits about 1/4 inch in diameter appear that remain until January. About 10 to 12 species of birds eat the fruits, including wild turkey, black-capped chickadee, American robin, cedar waxwing, and eastern bluebird, though they are not as tasty as those on some other shrubs. Red chokeberries like moist, acid soil, but can grow well in drier soil. They prefer sun and partial shade.

Southern arrowwood viburnum (Viburnum dentatum) and other viburnum species: Arrowwood viburnum generally grows 6–10 feet in height. Small, white flowers in flat-topped clusters 2–4 inches across appear in June to August. The elliptic-shaped leaves turn to yellow and then wine red in fall. The fruits, blue-black oval drupes $\frac{1}{3}$ inch long, are also in clusters. The fruits ripen in August or September and persist throughout the winter. This shrub's natural habitat is moist ground. It grows well in partial shade or full shade.

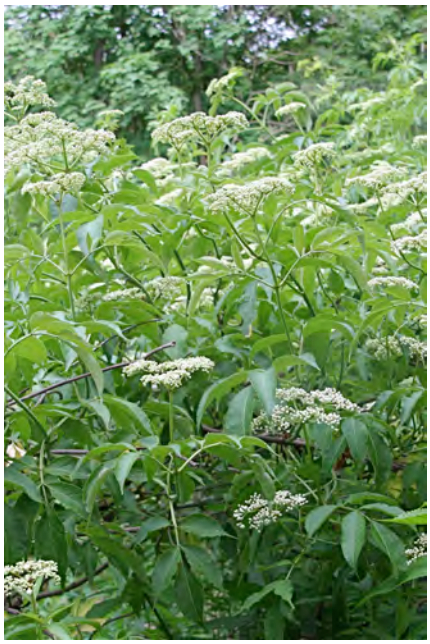
Witherod viburnum or wild raisin (Viburnum nudum var. cassinoides) is a dense shrub that can grow 6 to 20 feet high. The small white flowers in flat clusters appear in May to July. The egg-shaped leaves, 2 to 5 inches long, are thick and leathery; they turn bright red in fall. The fruiting period starts in September and ends in mid-winter. The fruits are oval drupes $\frac{1}{2}$ inch across that ripen to blue-black in the fall and look similar to raisins. The habitats are thickets, swamps, and forest edges in moist soil, though they can grow in drier soil. They tolerate sun, partial shade, and shade.

The American cranberrybush (Viburnum opulus) grows 6 to 15 feet tall. The attractive flowers that bloom in May to July are in clusters of 2 to 4 inches with large sterile flowers on the outside and small fertile flowers on the inside. The dark green leaves, 2 to 4 inches long with 3-pointed lobes, turn reddish in autumn. The fruits are oval, red-orange drupes, about $\frac{1}{2}$ inch long. The fruiting period is August to October and the drupes persist throughout winter. The habitat of this shrub is moist woods in low areas, but it can grow in drier soil. This shrub prefers partial shade.

Viburnums are host plants to the spring azure butterfly and hummingbird clearwing moth. Ten to 20 bird species eat viburnum fruits, with some differences in preference. Some of the birds are wild turkey, American robin, cedar waxwing, northern cardinal, rose-breasted grosbeak, purple finch, and white-throated sparrow. The fruits of the American cranberrybush are preferred less than those of other viburnums so they persist through winter and serve as emergency food for birds in late winter when most of the other fruits have been eaten.

Common winterberry (Ilex verticillata) grows 6 to 15 feet high. The small white flowers are not particularly conspicuous, but they are arrayed interestingly along the small twigs. The bright red berries look stunning against the dark green leaves in fall and against the snow on the branches in winter. These shrubs are dioecious so you need to have one male shrub for pollinating several female shrubs. The leaves are hosts for caterpillars that will grow into elf and striped hairstreak butterflies. About 10 species of birds eat the berries, including American robin, eastern bluebird, northern cardinal, cedar waxwing, chickadee, and northern mockingbird. Like fruits of the American cranberrybush, birds only eat the berries when tastier food is no longer around, usually in late January or later. Winterberries prefer moist soil, but can grow in drier soil. They do well in sun, partial shade, or shade.

Common elderberry (Sambucus canadensis): This shrub is large and spreads quickly. It grows to a height of 12 feet. The white flowers, about $\frac{1}{4}$ inch across, that appear in June and July form large clusters. The compound pinnate leaves can have 5 to 11 leaflets and reach 11 inches long. In late summer, red-stemmed clusters of small, juicy, dark purple berrylike drupes emerge and are devoured quickly by many bird species. Some common ones in Lexington are mourning dove, blue jay, American robin, eastern bluebird, cedar waxwing, northern cardinal, rose-breasted grosbeak, American goldfinch, and song sparrow. Small mammals also like the fruits. The flowers are a nectar source for butterflies. Elderberry shrubs prefer rich, moist, slightly acid soil, but tolerate dry soil. They like partial shade.



Summer sweet (Clethra alnifolia): This shrub has dense foliage and grows about 10–12 feet high with a spread up to 8 feet. The small white flowers emerge in mid-summer in dense clusters on 3- to 6-inch spikes. The leaves are shiny dark green above and paler below; in fall the leaves are brilliant yellow and orange. The flowers provide nectar to bees, hummingbirds, and butterflies. The fruits are brown dry capsules that persist through the winter. Many songbirds, including American robin, goldfinch, and warblers, and small mammals eat the seeds. These shrubs thrive in rich moist to wet acidic soil, but can grow in almost any soil, including sandy soil and clay. They favor light shade, but can grow in full sun to full shade.

Spicebush (Lindera benzoin): This shrub grows to 15 feet or more in height. The yellow flowers emerge in early spring before the leaves come out. The flowers are small but numerous and showy. Spicebush is sometimes called "forsythia of the wild." The leaves are 3 to 5 inches long, green in spring and summer, and bright golden-yellow in the fall. When the leaves are crushed, a fragrant, spicy odor is emitted. These shrubs are dioecious so both genders are needed for fruit to develop. The ripe fruits, bright red drupes, $\frac{3}{8}$ inches long, each containing one large seed, emerge in July to October. The high-fat fruits are eaten by about 20 species of birds, including American robin, northern cardinal, white-throated sparrow, gray catbird, and hermit thrush. Spicebush is a larval host for spicebush swallowtail, promethea silk moth, and eastern tiger swallowtail.

References

- US Forest Service "Weed of the Week"
- DCNR Invasive Exotic Plant Tutorial (see fact sheet on burning bush)
- Invasive Plant Atlas of New England
- MA prohibited plant list
- Lady Bird Johnson Wildflower Center Plant Database; pictures of the plants are available, too
- Missouri Botanical Garden: Plant finder
- Connecticut Botanical Society
- Trees, Shrubs, and Vines for Attracting Birds, Richard M. DeGraaf (2002)
- Bringing Nature Home, Douglas W. Tallamy (2007)
- National Audubon Society Field Guide to Butterflies (North America) (1981)