Thousands of plants have been introduced to the United States from other parts of the world. Some have come here accidentally in seed stock, while others were brought here intentionally for horticultural use. A small number of these introduced plants have gotten a little too comfortable in their new environment. Because they have no native predators and produce a lot of fruit and seed that are efficiently dispersed, they are invading natural areas. The aggressiveness of these invasive plants affects natural areas and wildlife by decreasing biodiversity, competing with native and rare plants and eliminating wildlife habitat and food sources.

**Plant This, Not That** features a list of native alternatives to a commonly used landscape plant that has become invasive. The alternatives were chosen because their characteristics—form, flowers, fruit or fall color—are similar to that of the invasive and fulfill the same landscaping need. Plants that are native to Ohio are recommended when possible as native species are generally well-adapted to local climates and provide additional resources for wildlife. However, there are many non-native plants on the market that are also non-invasive and possess great ornamental value.

### The Invasive

*Elaeagnus umbellata* (autumn olive)

The autumn olive is a non-native, deciduous shrub that can grow up to 20 feet tall. Native to countries from eastern Asia to Afghanistan, it was introduced into our area for erosion control and landscaping purposes in 1830. In the 1950s the plant was promoted as a wonderful landscaping addition for wildlife habitat, food and cover. The autumn olive is rapid growing and quickly re-establishes after it is cut down or burned. Because it leafs out early in the spring, it often shades out native species, which can reduce plant diversity. While autumn olive can fix nitrogen in the soil and adapt to poor soils, it can also disrupt nutrient cycles in native plant communities.

The leaves of the plant are held alternate on the same stem and are small, oval and dark green. They have silver scales on the underside of the leaves and wavy edges. *E. umbellata* also has small, light cream-yellow clusters of fragrant flowers, which bloom in April to June. Autumn olive is a prolific fruit-bearing plant. The fruits are small, round and red to pink during the fall, but silvery with brown scales when immature. Just like the leaves and fruit, the bark is silvery with brown scales, but with age can turn to a light grey or even a grayish brown.

The shrub comes to flowering age three years after germination. Pull plants before fruiting to avoid the spread of seeds by birds and mammals.

### The Alternatives

#### *Alnus incana* ssp. *rugosa* (speckled alder)

Alders are not given the respect they deserve! The speckled alder has a host of alternate names: gray alder, hoary alder, hazel alder and swamp alder. This particular species is easily trained into tree form by trimming off the lower branches. It can grow up to 30 feet tall. The bark is gray, reddish or brown, and thin and smooth with irregular plates and obvious white lenticels—spongy openings for gas exchange. Its leaves are oval shaped with a dull, dark green color.

Wide tolerance of different soil types is a hallmark of this species. Speckled alders can even aid in the rehabilitation of disturbed soils, such as old mine sites. This high tolerance for adverse soil conditions make the species useful for erosion control. The roots of the speckled alder are colonized by nitrogen-fixing bacteria, which help to promote tree growth. It provides food for songbirds, such as redpolls, goldfinches and woodcocks.

#### *Aronia arbutifolia* (red chokeberry)

*Aronia arbutifolia*, better known as the red chokeberry, is native to Ohio. It is a small shrub, growing approximately 6-8 feet in height and 4 feet in width. It is multi-stemmed and can grow new stems from roots and stumps. Red chokeberries prefer rich, moist, well-drained soil but can also tolerate poor soils. It grows in colonies and is fantastic for naturalistic landscaping.

The leaves have an alternate arrangement, with a green, glossy appearance and turn orange-red in the fall. The berries are small, brilliant red and round. Red chokeberry have five-petaled white flowers with red anthers. The bright berries can add some welcome color to our often gray Ohio winters!

#### *Corylus americana* (American hazelnut)

The American hazelnut is a deciduous shrub. At maturity, it can range from 10 to 16 feet in height and eight to 13 feet in spread. It is a leggy shrub, with a fast growth rate and a coarse texture. The leaves are alternating, broadly oval, with a heart-shaped or rounded base, are doubly serrated and hairy on the underside. *C. americana* is monoecious, meaning male and female flowers are both found on the same shrub. Male flowers are in long, pendulous, clustered stalks (catkins) and female flowers are tiny and clustered together near the ends of twigs. Most notably, the American hazelnut produces nuts. Hazelnuts, or filberts, are smaller than acorns, but have a higher nutritional value than acorns or beechnuts. They can be eaten raw or ground into flour. Hazelnuts have significant wildlife value and are eaten by squirrels, foxes, deer, turkey, woodpeckers, phoebas and northern bobwhites.

This shrub is planted both as an ornamental and for naturalization and can grow in full sun to partial shade. Once established, it is very drought tolerant. The leaves turn yellow or red in the fall. They also grow in colonies, which can be beneficial when creating a natural barrier in your yard.

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*Elaeagnus umbellata* (autumn olive)

*American hazelnut flower and foliage. Ken A. Rawlins, University of Georgia, Bugwood.org*

*Speckled alder bark with lenticels. Bill Cook, Michigan State University, Bugwood.org*

*Red chokeberry flower, foliage and fruit. Karin A. Rawlins, University of Georgia, Bugwood.org*