

Winged Euonymus

(burning-bush, winged wahoo, winged spindle-tree, Japanese spindle-tree)

Euonymus alatus (Thunb.) Siebold

Staff-tree Family (Celastraceae)



winged euonymus in fruit

DESCRIPTION

Winged euonymus is a deciduous shrub that is native to China and Japan.

Height - It is relatively fast-growing reaching a height (and width) of 15–20 feet. Compact forms that reach only 5–10 feet are common in the nursery trade.

Bark - The bark is gray-brown and the stems usually have 2–4 prominent, corky wings. In some cultivars, these wings can be reduced to mere ridges.

Buds - The leaf buds are brownish-green, and strongly divergent.

Leaves - The leaves are opposite, elliptic, and measure 1–3 inches long and ½–1½ inches wide with fine, sharp serrations on the margin. In autumn the dark green leaves turn brilliant purplish-red to scarlet before dropping; the color is less intense on plants growing in the shade.

Flowers - In Pennsylvania the flowers bloom in late April in the south to late June in northern counties. The flowers are small, yellowish green in color, and inconspicuous.

Fruit - The smooth, purplish fruits are ½ inch-long capsules that split open in September and October exposing four red to orange seeds, which are eaten by birds.

Roots - Winged euonymus has a dense, fibrous root system.



winged twig

DISTRIBUTION AND HABITAT

Winged euonymus was introduced into the USA from northeastern Asia about 1860 for use as an ornamental shrub and is hardy to USDA Zone 4. The bright red fall foliage makes this shrub a popular ornamental; it is commonly planted along interstate highways, as hedges, and in foundation plantings. While it behaves well in urban areas, burning-bush planted near woodlands, mature second-growth forests, and pastures can be a problem. It has escaped from

cultivation in the Northeast and Midwest, notably in Connecticut, Virginia, Pennsylvania, and Illinois.

The earliest evidence of naturalized populations of winged euonymus in eastern Pennsylvania dates from the 1960s. Today it is found with increasing frequency in moist forests throughout eastern counties.

EFFECTS OF INVASION

Winged euonymus is a threat to mature forests and successional fields and woodlands because it out-competes native species. It is adaptable to various environmental conditions although it generally does not do well in very dry areas. It grows well in a variety of soil types and pH levels, has no serious pest problems in North America, and most importantly of all, is tolerant of full shade. It has invaded moist forested sites creating dense thickets that can shade out native herbs and shrubs.

REPRODUCTION AND METHODS OF DISPERSAL

Seed production is prodigious; many germinate where they fall close to the mother plant creating dense beds of seedlings. Others are spread by birds that are attracted to the seeds by their nutritious, fleshy, red covering (aril). Seeds dispersed this way germinate easily and spread the infestation rapidly. Wide usage of this a popular landscape ornamental increases the probability that more will escape from cultivation.

CONTROL

Mechanical - Seedlings up to 2 feet tall can be easily hand-pulled, especially when the soil is moist, due to the fibrous root system. Larger plants can be dug out with a spading fork or pulled with a weed wrench. Larger shrubs can be cut down, but the stump must be ground out or the re-growth clipped.

Chemical - The cut stump can also be painted with glyphosate immediately after cutting, following the label directions. Where populations are so large that cutting or pulling are impractical, glyphosate may be applied as a foliar spray. This treatment is most effective during the early summer months.

Biological - No biological control options are available at this time.

LANDSCAPE ALTERNATIVES

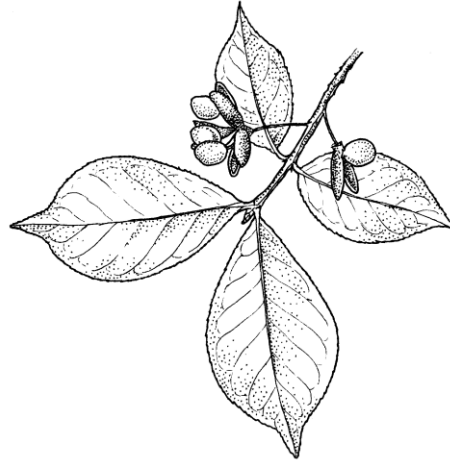
Winged euonymus is a very popular landscape ornamental; however, it should not be planted anywhere near native forest stands because of its invasiveness and prolific seed production. The following native shrubs are suggested as alternatives: winterberry holly (*Ilex verticillata*), red chokeberry (*Aronia arbutifolia*), Virginia sweetspire (*Itea virginica*), arrow-wood (*Viburnum recognitum* or *V. dentatum*), blackhaw (*Viburnum prunifolium*), gray dogwood (*Cornus racemosa*), kinnikinnick (*Cornus amomum*), ninebark (*Physocarpus opulifolius*), witch-hazel (*Hamamelis virginiana*), bayberry (*Myrica pensylvanica*).

REFERENCES

Rhoads, Ann Fowler and Timothy A. Block. 2007. *The Plants of Pennsylvania: An Illustrated Manual*, 2nd edition. University of Pennsylvania Press, Philadelphia, PA.

Rhoads, Ann Fowler and William McKinley Klein. 1993. *The Vascular Flora of Pennsylvania: Annotated Checklist and Atlas*. American Philosophical Society, Philadelphia, PA.

Internet resources – <http://www.paflora.org>, <http://www.invasivespecies.gov>



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