

**Climbing Euonymus**

*Euonymus fortunei* (Turcs.) Hand.-Mazz.  
Staff-tree family (Celastraceae)

**NATIVE RANGE**

China

**DESCRIPTION**

Climbing euonymus, also known as wintercreeper, Emerald'n Gold, and Gaiety, is an evergreen, clinging vine. It can form a dense groundcover or shrub to 3 feet in height, or climb 40-70 foot high vertical surfaces with the aid of aerial roots. Dark green, shiny, egg-shaped leaves, from 1-2 ½ inches long, with toothed margins and silvery veins, occur in pairs along the stems. Stems are narrow, minutely warty, and have abundant rootlets or trailing roots.

Clusters of inconspicuous green-white flowers are produced on a long stalk from June to July and are followed in the autumn by pinkish to red capsules that split open to expose seeds adorned with a fleshy orange seed coat, or aril.

**ECOLOGICAL THREAT**

Traits that make climbing euonymus a desirable ornamental plant, such as its rapid growth, evergreen nature and tolerance of harsh conditions, also make euonymus a threat to natural areas. Climbing euonymus can outcompete native vegetation by depleting soil moisture and nutrients, blocking sunlight, and by forming a dense vegetative mat that impedes the growth of seedlings of native species. Vines on trees continue climbing and can eventually overtop them, covering the leaves and preventing photosynthesis.

**DISTRIBUTION IN THE UNITED STATES**

Climbing euonymus is currently scattered throughout the eastern U.S. in populated areas.

**HABITAT IN THE UNITED STATES**

Climbing euonymus tolerates a variety of environmental conditions, including poor soils, full sun to dense shade, and a wide pH range. It does not do well in heavy wet soils. Natural forest openings resulting from wind throw, insect defoliation or fire are vulnerable to invasion and provide conditions for satellite populations of climbing euonymus to get started.

**BACKGROUND**

Climbing euonymus was introduced into the U.S. in 1907 as an ornamental ground cover.

**BIOLOGY & SPREAD**

Climbing euonymus spreads vegetatively with the help of lateral shoots produced along its long main branches and by new plants that emerge from rootlets also produced along the stem at short intervals. Vines climb rocks, trees, and other supporting structures. Flowers formed in the summer produce mature fruits by fall that are equipped with fleshy edible structures (arils) that are fed on by birds and other wildlife which disperse it. Climbing euonymus also escapes from neglected gardens and is carried by water, to undisturbed forest and riparian areas.

**MANAGEMENT OPTIONS**

A variety of mechanical and chemical methods are available for management of climbing euonymus. Grubbing, a rather labor intensive method, is effective for small populations or environmentally sensitive areas where herbicides cannot be used. Using a pulaski or similar digging tool, remove the entire plant, including all roots and runners. Juvenile plants can be hand-pulled when the soil is moist and root systems are small. Any portions of the root system remaining may resprout. All plant parts including stem fragments and mature fruits should be bagged and disposed of in a trash dumpster to prevent reestablishment.

## Chemical

### Cut stem application

Cut stem treatment, using systemic herbicides applied to freshly cut stems, is effective in areas where vines are well established on or around non-target plants, or where they have grown into tree canopies or other vertical surfaces. Cut the stem as close to the ground as possible and immediately apply a 25% solution of glyphosate (e.g., Roundup®) or triclopyr (e.g., Garlon®) and water to the cut stem. This procedure is effective at temperatures as low as 40° F. Subsequent foliar application of these herbicides may be required. Cutting without the application of herbicides is generally not recommended because this will lead to root sprouting.

### Foliar application

Foliar applications of herbicide can be used to control large populations. It may be necessary to precede foliar sprays with cut stem treatments to reduce the risk of damage to non-target plants. Apply a 2% solution of glyphosate or triclopyr and water plus a 0.5% non-ionic surfactant to thoroughly wet all foliage but not so heavily that it drips off leaves where it may affect desirable plants. Glyphosate is a non-selective systemic (i.e., travels through the plant vessels) herbicide that may kill even partially sprayed plants. Triclopyr is selective to broad leaf species and is a better choice if desirable native grasses are present. Ambient air temperature should be above 65° F.

**USE PESTICIDES WISELY:** Always read the entire pesticide label carefully, follow all mixing and application instructions and wear all recommended personal protective gear and clothing. Contact your state department of agriculture for any additional pesticide use requirements, restrictions or recommendations.

**NOTICE:** mention of pesticide products on this page does not constitute endorsement of any material.

## CONTACTS

For more information on the management of climbing euonymus, please contact:

- Kris Johnson, Great Smoky Mountains National Park, Gatlinburg, TN

## SUGGESTED ALTERNATIVE PLANTS

There are a variety of native creeping or climbing vines that make good alternatives for climbing euonymus. Some examples from the eastern U.S. include trumpet creeper (*Campsis radicans*), Dutchman's pipe (*Aristolochia macrophylla*), crossvine (*Bignonia capreolata*), trumpet honeysuckle (*Lonicera sempervirens*), American bittersweet (*Celastrus scandens*), and American wisteria (*Wisteria frutescens*), our only native wisteria\*.

\*NOTE: When purchasing or planting wisteria, make certain it is the native American wisteria (*Wisteria frutescens*) and not exotic Chinese wisteria (*Wisteria sinensis*) or Japanese wisteria (*Wisteria floribunda*), both of which are aggressive exotic invaders of natural areas and are difficult to control.

## OTHER LINKS

- <http://www.invasive.org/search/action.cfm?q=Euonymus%20fortunei>

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