

Plant Diversity Website

Euonymus fortunei (Turcz.) Hand.-Mazz.

Common Names: Winter creeper, Euonymus, Climbing Euonymus, Wintercreeper Euonymus

Etymology: *Euonymus* is ancient Greek meaning “good name.” *Fortunei* is after Robert Fortune, a botanist who made collections in China (4).

Botanical synonyms (1):

Elaeodendron fortunei Turcz.
Euonymus hederaceus Champ ex Benth.
E. japonicus var. *chinensis* Pamp.
E. japonicus var. *radicans* Miq.
E. kiautschovicus Loes.
E. kiautschovicus var. *patens* (Rehder) Loes.
E. patens Rehder
E. radicans var. *alticolus* Hand.-Mazz.
E. wensiensis J.W. Ren & D.S. Yao

FAMILY: Celastraceae (the staff-vine family)

Quick Notable Features:

- ↪ Simple, opposite, coriaceous leaves with prominent white venation
- ↪ Adventitious roots when climbing
- ↪ Ornamental
- ↪ Pinkish capsule with orange arillate seeds

Plant Height: Up to 10m (5).

Subspecies/varieties recognized: *E. fortunei* is a popular ornamental for ground cover and hedges, thus numerous varieties exist. These include ‘Blondy’, ‘Colorata’, ‘Dart’s Carpet’, ‘Emerald Gaiety’, ‘Emerald ‘n Gold’, ‘Harlequin’, ‘Ivory Jade’, ‘Kewensis’, ‘Minimus’, ‘Moonshadow’, var. *radicans*, ‘Sarcoxie’, ‘Sunspot’, ‘Vegetus’, and ‘Variegatus’ (5, 7).

Most Likely Confused with: May be confused with a native relative *E. obovata* and low trailing individuals of *Lonicera*. *Hedera helix*, especially leaves near its inflorescence, may resemble *E. fortunei*.

Habitat Preference: Mesic, fine to coarse soils; woods, roadsides, and gardens. Shade tolerant (2, 3, 5).

Geographic Distribution in Michigan: Naturalized in Calhoun county in the south central Lower Peninsula, Benzie county in the northwest Lower Peninsula, and six additional counties in southern Michigan (2,12), although cultivated plants are likely distributed throughout the state.



Known Elevational Distribution: Found in the mountainous Sichuan and Yunnan provinces in China (9): at least 750m and up to 4,000m.

Complete Geographic Distribution: Native to China, Japan, and Korea, cultivated as an ornamental in the United States, and in many cases escaped as an invasive. Can be found east of the Mississippi with the exceptions of Maine, Vermont, New Hampshire, West Virginia, and Florida. Also reported in Missouri and Arkansas (3, 5).

Vegetative Plant Description: The form of the plant varies greatly among varieties. In nature, it is a low evergreen trailing shrub or climbing woody vine. The branches and twigs are rounded, warty, sometimes striate, usually brown or green-brown. The leaves are simple, opposite, serrate, elliptical, and coriaceous, and bear prominent whitish veins. The glabrous leaves are up to 2-5.5 (8) cm long and 2-3.5 cm wide (4, 9). Petioles are 2-9 mm, but leaves are sometimes sessile.

Climbing Mechanism: Climbs with adventitious roots (2, 4).

Flower Description: Plants are seldom flowering. Flowering occurs in July; flowers white to green about 5mm across, perfect, inconspicuous, 4-merous, and develop in axillary cymes. Stamens are 4 and inserted on the margin of a disk that immerses the superior ovary (2, 11). The generic description (from 11) of the flower details indicates that we expect a sessile stigma with 3-5 lobes, an ovary with 3-5 locules and 2-6 ovules per locule.

Flowering Time: June and July in eastern U.S. (5, 11).

Pollinator: *E. fortunei* is reported to be insect pollinated (5).

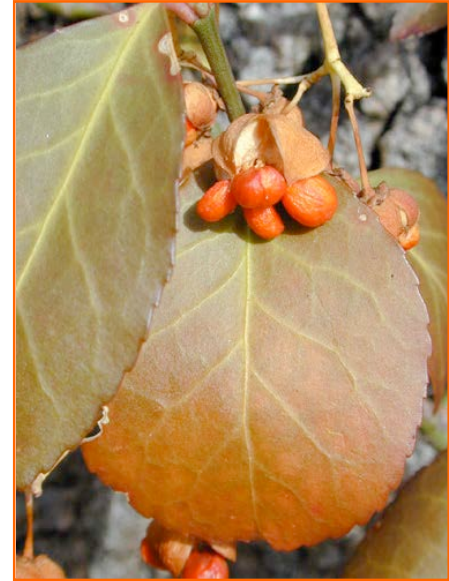
Fruit Type and Description: The capsulate fruit is 6-12mm in diameter, with a long peduncle, and pedicel < 5mm long. It is pinkish in color and contains an orange-arillate seed. Fruits ripen in October (9, 10, 13).



Seed Description: Seeds are brown and oblong, one to many in each fruit (10, 13).

Dispersal Syndrome: Birds and other wildlife feed on the aril and disperse the seeds (10).

Distinguished by: *E. fortunei* can be distinguished from *E. obovata* by its elliptical leaf shape and from *Lonicera* by its serrate margins. *E. fortunei*'s dark green leaves with pale venation are very characteristic. *Hedera helix* may have similarly pale venation and elliptical to suborbicular,



unlobed leaves. However, such unlobed leaves in *H. helix* only grow near the inflorescence; all other leaves throughout the plant are entire, 5-lobed, and have palmate venation.

Other members of the family in Michigan (number species): *Celastrus* (2), *Euonymus* (4).

Ethnobotanical Uses: *E. fortunei* was used in China as a tea plant (8). Stems and leaves are used for medicine (9).

Phylogenetic Information: Families Celastraceae and Lepidobotryaceae both belong in the order Celastrales. Celastrales belong in the taxa Eurosids I. They form a monophyletic group with the Malpighiales and Oxidales. They are part of the rosoid clade of the eudicots angiosperms (6).

Interesting Quotation or Other Interesting Factoid not inserted above: Winter creeper was first introduced to the United States in 1907 (10).

Literature and websites used:

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- 2) Voss, E.G. 1985. *Michigan Flora* Part II. Cranbrook Institute: Ann Arbor, Michigan
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- (4) Fruiting plant image courtesy of The Nature Conservancy: The Global Invasive Species Initiative. <http://tncweeds.ucdavis.edu/photos/eufo01.jpg>

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<http://www.semencesdupuy.com/2F346-Euonymus-Fortunei-Burningbush-Euonymus.html>

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