

## AMERICAN BITTERSWEET

*Celastrus scandens* L.

Plant Symbol = CESC

Contributed By: USDA, NRCS, National Plant Data Center & the Biota of North America Program



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### Alternate common names

Climbing bittersweet, false bittersweet, climbing orange-root, fever-twig, fever-twitch, staff-vine, jacob's-ladder

### Uses

American bittersweet is valued for its glossy green summer foliage followed by orange and red fruits and seeds, and several landscape cultivars are commercially marketed. The branches with colorful berries and arils are used in dry flower arrangements and winter decoration.

All parts of bittersweet are reported to be poisonous, but songbirds, ruffed grouse, pheasant, and fox squirrel eat the fruits. The Menominee, Ojibwa, and Potawatami tribes of North American Indians have used the inner bark as an emergency food. Various parts of the plant have been used in decoctions and ointments for a variety of ailments, including cough, intestinal, and gynecological problems.

Oil expressed from the seeds of the related species *Celastrus paniculatus*, a shrub native to India, has been used medicinally in India for centuries. The oil is used to increase memory and facilitate learning. It induces a feeling of well being and has reported aphrodisiac effects.

### Status

Please consult the PLANTS Web site and your State Department of Natural Resources for this plant's current status, such as state noxious status and wetland indicator values.

### Description

**General:** Bittersweet family (Celastraceae). Native dioecious or partly dioecious, semi-shrubs or semi-shrubby vines, forming low, thick stands from root suckers, clambering and climbing onto fences and trees, broadly twining and sometimes reaching nearly 20 meters high, the older stems becoming several cm broad; roots long, woody, bright-orange, creeping, about 2-3 cm thick, with a thick, red or yellowish-red bark (the medicinal part). Leaves are deciduous, alternate, spiral or somewhat 2-ranked by the twisting of the stem, glabrous, 5-12 cm long and about half as wide, oblong-elliptic to ovate or obovate, acuminate at the tip, with small, rounded teeth, the petioles 1-2 cm long. Flowers are unisexual (with either the stamens or the ovary abortive) or rarely bisexual, fragrant, small (ca. 4 mm wide), greenish-white or greenish-yellow, in clusters at the branch tips, usually with 14-44 flowers per cluster. Fruits are orange to yellow-orange, globose, 7-10 mm wide, with 2-4 cells; seeds 1-2 in each cell, each seed enclosed in a bright scarlet fleshy aril.

The related oriental bittersweet (*Celastrus orbiculatus* Thunb.) is becoming more common than American bittersweet and is attaining a similar geographic range. The following contrast gives information for their separation:

1. Leaves mostly oblong-elliptic to ovate, 1.8-2.6 times longer than wide; flowers and fruits 6 or more in panicles (irregularly branching) at the branch tips. *Celastrus scandens*

2. Leaves mostly obicular to suborbicular or broadly obovate, 1.2-1.7 times longer than wide; flowers and fruits 2-3 in cymes (regularly branching) in the leaf axils below the branch tips. *Celastrus orbiculatus*

### Distribution

American bittersweet grows over the eastern two-thirds of the US (except for Florida), on the western edge of the range from Texas and Oklahoma to Wyoming and Montana, and across southeastern Canada from Saskatchewan to New Brunswick.

### **Adaptation**

In rich or swampy woods, or appearing weedy in disturbed areas in thickets, roadsides, field edges, fences, and other disturbed sites. This species flowers in late May through June and produces fruits in June through November.

### **Establishment**

The seeds are widely distributed by birds, which accounts for the tendency of the species to occur in disturbed habitats. Prechilling apparently is required to break dormancy -- seeds stratified for 90 days at 5° C., then planted in soil maintained at 20-25°, germinated at 71%.

### **Management**

American bittersweet vines can girdle and kill live plants used for support, but the native species rarely presents a problem because of its relative lack of abundance. Oriental bittersweet, however, is displacing the native species where they have begun to occur together, and there is some indication that they are hybridizing. The non-native species grows over vegetation and kills other plants by preventing photosynthesis, girdling, and uprooting by force of its massive weight. Its seeds are more numerous and more desirable by birds, thus more widely dispersed and they have a higher germination rate. The non-native species has higher pollen viability and also is more efficient in photosynthesis. Further, oriental bittersweet has been planted along roadsides for erosion control, it is propagated for horticulture and sold commercially, and its seeds are spread to waste places through disposal of dried flower arrangements.

### **Cultivars, Improved and Selected Materials (and area of origin)**

Contact your local Natural Resources Conservation Service (formerly Soil Conservation Service) office for more information. Look in the phone book under "United States Government." The Natural Resources Conservation Service will be listed under the subheading "Department of Agriculture."

### **References**

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Edited: 13nov00 jsp; 10jun03 ahv; 05jun06 jsp

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