

## Invasive Species Profile: Oriental Bittersweet (*Celastrus orbiculatus*)

By Greg Sykes ([greg@grsykes.com](mailto:greg@grsykes.com))

**Native Range:** China, Korea, and Japan

**U.S. Introduction:** 1860s

**Life Cycle:** woody perennial

**Means of Spreading:** seeds; rapid vine growth

**Commercially Available:** maybe

**Control Method:** hand-pull small specimens; mature vines may need repeated cutting or herbicidal treatment

**Good Alternative Species:** coral or trumpet honeysuckle (*Lonicera sempervirens*), pipevine (*Aristolochia macrophylla*)

### Comments:

Like so many other non-native invasive species, oriental bittersweet came to America as an ornamental plant with added erosion control properties. Unfortunately, this thick, woody Asiatic vine grows uncontrollably here. If not girdling trees, the vines' excess weight distorts or breaks tree trunks and branches. Bittersweet's dense foliage smothers native trees, bushes, and groundcover, blocking sunlight and killing the plants beneath it. Sale of this tree-strangling weed and its seeds are banned in many states, but sometimes the red and yellow fruiting vines are sold in wreaths and other seasonal decorations between Halloween and Christmas.

Seed distribution is oriental bittersweet's primary means of multiplying. Fortunately, seeds that do not germinate the following season usually perish, leaving a shallow seed bank. Preventing the plant from fruiting presents a major control strategy. Hand-pulling seedlings and saplings are also effective since the plants mature over several years before they produce fruits. However, the tough, extensive roots of older vines make extraction nearly impossible, even with a Weed Wrench. Large vines need to be killed through either repeated cutbacks (thereby slowly starving the weed) or herbicidal treatments. Only Fairfax County Park Authority (FCPA) and its contractors are authorized to apply the latter in parklands.

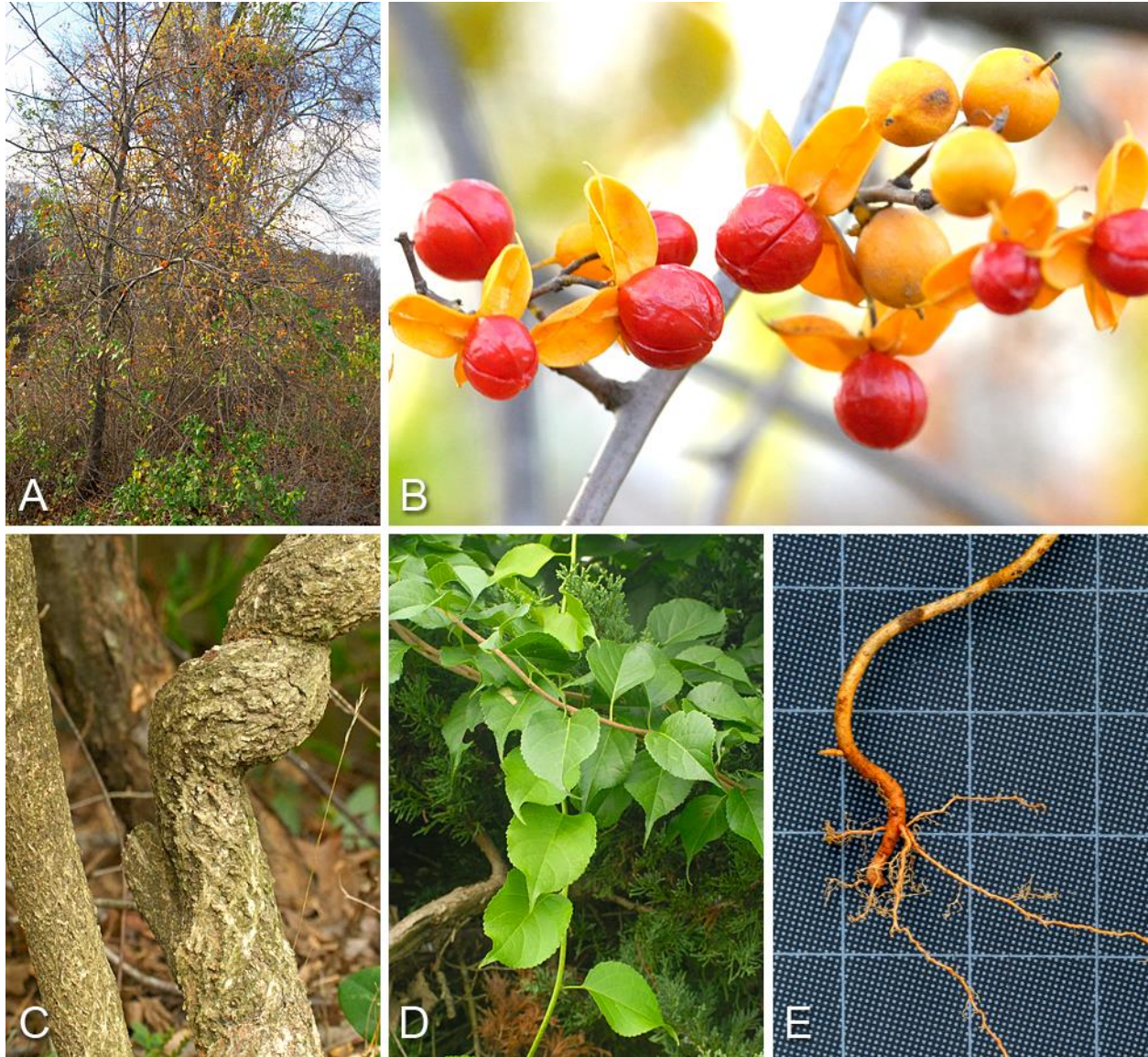
Around Royal Lake, Invasive Management Area (IMA) volunteers noticed increasing oriental bittersweet numbers. Most of the plants are still easy-to-pull saplings. To help stop the spread, several workdays throughout 2013 were held at Lakeside Park, where volunteers sliced the huge, mature, seed-generating vines by the baseball diamond. The severed vegetation was left in place so as to not disturb any nesting birds. Hitting it early in the season denied this weedy tangle from fruiting later; subsequent autumn patrols eliminated berries from sections missed earlier. The tight area and established root system prevented volunteers from removing many of the roots; to kill these vines, successive defoliating workdays will be scheduled or FCPA may apply an herbicide.

Most neighbors do not deliberately grow oriental bittersweet. Due to birds depositing seeds, bittersweet sometimes pops up in yards. The best strategy against this weed is learn to recognize it by leaf and stem (see Figure 1 for details) and pull new growth before they become "monsters"—volunteers cutting into mature, dense tangles often report thoughts of battling "krakens!" Distinguishing fruits emerge in specimens several years old at which time oriental bittersweet will be tough to yank or leave root fragments with potential to regenerate. Besides pulling this weed from your own property, you can further help halt oriental bittersweet's spread by:

- becoming a Royal Lake IMA volunteer (send the requesting e-mail to [greg@grsykes.com](mailto:greg@grsykes.com))
- discarding products containing oriental bittersweet fruits in the trash; neither recycle nor compost them!

American bittersweet (*C. scandens*) is available as a native alternative. It has solid orange fruits and longer leaves than the Asian species. However, avoid or be extremely careful when buying American bittersweet since it hybridizes with the oriental version. Adding to the confusion, the specimen may actually be the mislabeled Asian invasive weed! If you would like an attractive native vine, consider pipevine (*Isotrema macrophylla*, previously called *Aristolochia macrophylla*)—a Virginia native that hosts

caterpillars of pipevine swallowtails (*Battus philenor*). Also, go for trumpet honeysuckle (*Lonicera sempervirens*), which blooms from spring to late autumn followed by scarlet berries in winter.



**Figure 1.** In this late November photograph (A), oriental bittersweet strangles an unrecognizable maple tree. A close-up (B) reveals the bright red and yellow fruits. Bark on the mature vine (C) resembles a blistered, braided rope. Thin stems and branches (D) are smooth and thornless. Summer foliage is oval, coming to points at each end. Small serrations line the leaf edges. The bright orange of freshly pulled roots (E) fades slightly as it dries. This specimen is from a sapling; the grids are 1 in<sup>2</sup>.

For more information on oriental bittersweet:

<https://www.fs.fed.us/database/feis/plants/vine/celorb/all.html>

<https://www.invasive.org/browse/subinfo.cfm?sub=3012>

<https://www.cabi.org/isc/datasheet/12009>

[https://www.in.gov/dnr/files/Oriental\\_Bittersweet.pdf](https://www.in.gov/dnr/files/Oriental_Bittersweet.pdf)

[http://www.docs.dcnr.pa.gov/cs/groups/public/documents/document/dcnr\\_010240.pdf](http://www.docs.dcnr.pa.gov/cs/groups/public/documents/document/dcnr_010240.pdf)

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