

## Stealthy and Insidious Invasive PORCELAIN-BERRY

### Escape Artist and Opportunist, Predator on the Weak and Strong Alike

#### The Culprit

Porcelain-berry (*Ampelopsis brevipedunculata*), also called amur peppervine, is an Asian species that was brought to North America in 1870 for use as an ornamental vine. It has since escaped from cultivation in numerous locations to wreak havoc on the landscape up and down the East Coast and well into the



*The variegated form of porcelain-berry is a popular garden vine that can spread to natural areas via its seeds, which produce green-leaved plants.*

Midwest. Despite the vine's known invasiveness, unwitting gardeners continue to plant it, especially the form with showy variegated leaves.

This woody perennial is related to grapes, and grows so fast that it can engulf a small tree, such as a dogwood, in one growing season. Porcelain-berry has a vast, hard-to-kill root system and produces abundant colorful fruits. Birds devour the fruit and spread the plant hither and yon. When unleashed upon a natural area, this invasive vine blankets low shrubs and scales trees

to heights of 25 feet or more, forming impenetrable walls of tangled stems and foliage that kills and displaces desirable native and agricultural plants. The vine's weight makes the vegetation it grows upon susceptible to wind, snow, and ice damage.

#### Known Hangouts

Preferring full to part sun and moist soil, this aggressive invasive hangs out primarily in edge habitats and disturbed areas. You'll find it growing along and into the edges of woodlands and forests and in gaps in the tree canopy. It can smother vegetation along roadsides, in railroad and utility rights-of-way, old and new fields, fencerows, and recently timbered or cleared land. Although porcelain-berry cannot tolerate standing water, it will grow in riparian areas, especially along watercourses where sunlight is abundant.

#### Modus Operandi

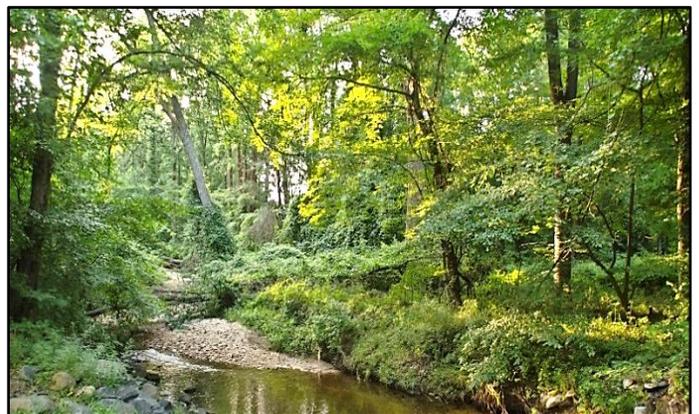
Although porcelain-berry leafs out late in spring, it begins rapid growth by midsummer. This escape artist operates by growing faster than almost anything else around it, except for kudzu, and perhaps Japanese honeysuckle, with which it likes to pal



*Almost all the green foliage here is a solid blanket of porcelain-berry. It smothers the shrubs on the forest edge and climbs high into the trees.*

around. Porcelain-berry may grow 15 to 20 feet in a single growing season. It runs right over and shades out most desirable plants while competing with them for moisture and nutrients. It has a deep taproot and also sends out shallow roots far and wide. These spreading roots sprout suckers that then create an extensive thicket.

Climbing with slender, two-pronged, branched tendrils, porcelain-berry can grasp onto stems, branches, and other supports up to 4 inches across. It even takes a leg up from twining vines such as Japanese honeysuckle, Oriental bittersweet, and Virginia creeper by grabbing onto those vines' stems to climb higher into a tree than it could on its own. Porcelain-berry does not usually choke tree trunks the way other invasive vines do; nevertheless, its vigorous, smothering growth proves deadly.



*Porcelain-berry blankets the banks and covers the low shrubs and tree branches along this stream.*

Porcelain-berry's colorful fruits seem to have been specifically designed to attract birds, who feast on them and thus spread and "plant" this invasive's seeds. The fruits are buoyant, and can float in a creek or river and plant themselves far away downstream. The seeds germinate readily after passing through a bird or animal's gut or enduring a cold winter.

## Positive Identification

Porcelain-berry is a deciduous, woody, perennial, climbing vine in the grape family. The shiny, dark green leaves are arranged alternately and measure up to 4 inches wide and 5 inches long with prominent veins, coarsely-toothed edges, and pointed tips. Their shape varies from heart-shaped to 3- to 5-lobed or deeply dissected. Leaf undersides are hairy to the touch, especially along their veins. Slender, forked tendrils without adhesive



Porcelain-berry leaves may be 3- to 5-lobed or deeply dissected and a two-pronged tendril grow opposite the leaves on new stems.

discs form directly opposite the leaves on new stems.

Tiny, yellow-green, nectar-containing flowers are arranged in flat clusters and bloom June through August. They are followed by colorful clusters of 1/4- to 3/4-inch, shiny, speckled, hard berries that look like porcelain.

Each cluster contains berries of different colors, including creamy-white, green, yellow, and lilac. These eventually ripen to bright turquoise

blue in September and October. During late summer, flowers and fruits occur together on the vines.

New stems are squarish with swollen nodes, slightly hairy and whitish-green. As the stems age, the bark develops gray dots (lenticels), and as the vine matures, the bark acquires rough patches, but does not shred. If you cut through a stem, you will see that the center (pith) is porcelain white and solid at the swollen nodes. Large vines can attain 4 inches in girth.



Porcelain-berry flowers form flat clusters and bloom in summer.

## Mistaken Identity

Native vines in the grape family might be mistaken for porcelain-berry. Grapes have brown, not white pith, and the bark on their mature vines is dark and shredding, not patchy. Two grapes closely resemble porcelain berry. Frost grape (*Vitis vulpina*) has similar-sized, slightly heart-shaped

leaves with toothed edges; and its leaf undersides have white hairs along the veins, as does porcelain-berry. Fox grape (*Vitis labrusca*) has heart-shaped to lobed, dull green leaves with coarse teeth and leaf undersides with thick cobwebby white or reddish hairs. The young stems of both grapes do not have lenticels like those of porcelain-berry. The flowers of both these

grapes grow in elongated, not flat, clusters, and their fruits are juicy and purple, quite unlike those of porcelain-berry.

## Search and Destroy

If porcelain-berry infests areas nearby, look for it on your land in its known hangouts. If you find it, act quickly. This aggressive invader is an opportunist that spreads rapidly once introduced. It has a deep taproot, as well as surface roots that can ex-



Porcelain-berry fruits exhibit an array of bird-attracting colors.

tend to 25 or more feet. The spreading roots send up suckers and the sprawling stems can root at their nodes. Any part of the root system left intact will sprout new plants, making this invasive very difficult to kill.

### Manual & Mechanical:

Mechanical control methods can slow porcelain-berry down, but they almost always need to be followed up with herbicides. Hand-pull-

ing works only for young plants. With larger plants, pulling does not remove the entire root system. It is nearly impossible to dig up the taproot of an established porcelain-berry. Because its extensive network of roots meshes with roots of neighboring plants, pulling porcelain-berry harms desirable plants. Repeated mowing may reduce porcelain-berry's vigor, but will not provide complete control and might harm desirable plants. To prevent seed dispersal, if you do pull, cut or mow, do so from winter to mid-summer, before any fruits develop for that season.

**Foliar Spray:** Herbicidal foliar treatment is most effective when applied between mid-summer and early fall. Research indicates that some herbicides control porcelain-berry better than others and in higher concentrations than needed for most invasives. (See VDOF chart.) Add surfactant to the herbicide if it is not already in the product. To reduce the amount of herbicide needed, cut back the vines and spray the regrowth.

**Cut Stump:** Find the largest stems and cut them near the ground; spray the cut ends immediately with a concentrated, recommended herbicide. This method succeeds any time the temperature is above 40°F and remains that warm for 24 hours.

**Basal Bark:** If you can reach the largest stems in the tangle, you can use a basal bark application. Apply a concentrated, recommended herbicide mixed with horticultural oil to the lowest 12 inches of the stems; no cutting is needed. Be careful not to spray nearby desirable plants.

To achieve complete control of this opportunistic vine, for several years you need to check for regrowth from unkilld roots and reinfestation from outside sources. Do not plant this vine or its variegated form in a garden. It is sure to escape.

For currently approved herbicide recommendations, check the Virginia Department of Forestry chart *Non-Native Invasive Plant Species Control Treatments*, which you can download from the Blue Ridge PRISM website.