



Porcelain-berry

Ampelopsis brevipedunculata (Maxim.) Trautv.

Grape family (Vitaceae)

NATIVE RANGE

Northeast Asia - China, Korea, Japan, and Russian Far East

DESCRIPTION

Porcelain-berry is a deciduous, woody, perennial vine. It twines with the help of non-adhesive tendrils that occur opposite the leaves and closely resembles native grapes in the genus *Vitis*. The stem pith of porcelain-berry is white (grape is brown) and continuous across the nodes (grape is not), the bark has lenticels (grape does not), and the bark does not peel (grape bark peels or shreds). The leaves are alternate, broadly ovate with a heart-shaped base, palmately 3-5 lobed or more deeply dissected, and have coarsely toothed margins. The inconspicuous, greenish-white flowers with "free" petals occur in cymes opposite the leaves from June through August (in contrast to grape species that have flowers with petals that touch at tips and occur in panicles). The fruits appear in September-October and are colorful, changing from pale lilac, to green, to a bright blue. Porcelain-berry is often confused with species of grape (*Vitis*) and may be confused with several native species of *Ampelopsis* -- *Ampelopsis arborea* and *Ampelopsis cordata*.



ECOLOGICAL THREAT

Porcelain-berry is a vigorous invader of open and wooded habitats. It grows and spreads quickly in areas with high to moderate light. As it spreads, it climbs over shrubs and other vegetation, shading out native plants and consuming habitat.



DISTRIBUTION IN THE UNITED STATES

Porcelain-berry is found from New England to North Carolina and west to Michigan (USDA Plants) and is reported to be invasive in twelve states in the Northeast: Connecticut, Delaware, Massachusetts, Maryland, New Jersey, New York, Pennsylvania, Rhode Island, Virginia, Washington D.C., West Virginia, and Wisconsin.

HABITAT IN THE UNITED STATES

Porcelain-berry grows well in most soils, especially forest edges, pond margins, stream banks, thickets, and waste places, where there is full sunlight to partial shade, and where it is not permanently wet. Porcelain-berry appears

to be less tolerant of heavily shaded areas, such as that found in mature forest interiors.

BACKGROUND

Porcelain-berry was originally cultivated around the 1870s as a bedding and landscape plant. In spite of its aggressiveness in some areas, it is still used in the horticultural trade (for example, the ornamental *A. brevipedunculata* 'Elegans' is often recommended as a landscape plant with a cautionary note that "care must be taken to keep it from overtaking and shading out small plants"). The same characteristics that make porcelain-berry a desirable plant for the garden -- its colorful berries, good ground coverage, trellis-climbing vines, pest-resistance, and tolerance of adverse conditions -- are responsible for its presence in the United States as an undesirable invader.

BIOLOGY & SPREAD

Porcelain-berry spreads by seed and through vegetative means. The colorful fruits, each with two to four seeds, attract birds and other small animals that eat the berries and disperse the seeds in their droppings. The seeds of porcelain-berry

germinate readily to start new infestations. Porcelain-berry is often found growing in riparian areas downstream from established patches, suggesting they may be dispersed by water also. The taproot of porcelain-berry is large and vigorous. Resprouting will occur in response to cutting of above-ground portions.

MANAGEMENT OPTIONS

Because porcelain-berry vines can grow up to 15 ft. in a single growing season, especially when rainfall is abundant, and seed may be viable in the soil for several years, effective control requires dedicated followup. Treatment measures often must be repeated during the growing season and for several years afterwards to fully eradicate the plant. Prevention of flowering, fruiting and production of mature seeds will help reduce its spread.

Manual

Hand pulling of vines in the fall or spring will prevent flower buds from forming the following season. Where feasible, plants should be pulled up by hand before fruiting to prevent the production and dispersal of seeds. If the plants are pulled while in fruit, the fruits should be bagged and disposed of in a landfill. For vines too large to pull out, cut them near the ground and either treat cut stems with systemic herbicide or repeat cutting of regrowth as needed.



Chemical

Chemical control in combination with manual and mechanical methods is effective and likely to be necessary for large infestations. The systemic herbicides triclopyr (e.g., Garlon® 3A and Garlon® 4) and glyphosate (e.g., Roundup® and Rodeo®) have been used successfully by many practitioners.

Foliar applications

The most effective control has been achieved using triclopyr formulations. From summer to fall, apply a water-based solution of 2.5% Garlon® 3A (triclopyr amine) to foliage or cut plants first, allow time for regrowth and then apply the mixture. Smaller infestations can be controlled to some extent with spot applications of glyphosate to leaves, used sparingly to avoid contact of desirable plants with spray. Cut the vines back during the summer and allow to resprout before applying herbicide, or apply glyphosate to leaves in early autumn, just prior to senescence.

Basal bark applications

Apply a mixture of 20-30% Garlon® 4 (triclopyr ester) mixed with commercially available basal oil, horticultural oil, diesel fuel, No. 1 or No. 2 fuel oil, or kerosene, to 2 - 3 ft. long sections of stem near the base of the vines.

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.

CONTACT

For more information on the management of Porcelainberry, please contact:

- Lisa Jameson, National Park Service, National Capital Region, Exotic Plant Management Team, Washington, DC, 20007; Lisa_Jameson at nps.gov
- Susan Salmons, National Park Service, Rock Creek Park, Washington, DC; Sue_Salmons at nps.gov; 202-426-6834, ext. 33
- Jil Swearingen, National Park Service, Center for Urban Ecology, Washington, DC; Jil_Swearingen at nps.gov

SUGGESTED ALTERNATIVE PLANTS

Many lovely non-invasive vines are available. Some native substitutes to consider include trumpet honeysuckle (*Lonicera sempervirens*), trumpet creeper (*Campsis radicans*), American wisteria (*Wisteria frutescens*)*, Virginia creeper (*Parthenocissus quinquefolia*), and goldflame honeysuckle (*Lonicera heckrottii*). In the southeast, several species of

native *Ampelopsis* occur and should be considered if the habitat is appropriate. Please consult the native plant society in your state for more suggestions and information on sources of native plants.

***NOTE:** If you wish to plant wisteria, make certain that it is the native species. Two commonly planted ornamental wisterias, Chinese wisteria (*Wisteria sinensis*) and Japanese wisteria (*Wisteria floribunda*), are exotic and aggressive invaders.

OTHER LINKS

- <http://www.invasive.org/search/action.cfm?q=Ampelopsis%20brevipedunculata>
- <http://www.lib.uconn.edu/webapps/ipane/browsing.cfm?descriptionid=38>

AUTHOR

Jamie Young, National Research Council, Washington, DC

EDITOR

Jil Swearingen, National Park Service, Washington, DC

REVIEWERS

Carol Jelich, Ann F. Rhoads, and Louisa Thompson

PHOTOGRAPHS

Jil Swearingen, National Park Service, Washington, DC

REFERENCES

- Dirr, Michael A. 1998. Manual of Woody Landscape Plants. Stipes Publishing, Chicago.
- Gleason, H.A. and Cronquist, A. 1991. Manual of Vascular Plants of Northeastern United States and Adjacent Canada, Second Edition. The New York Botanical Garden, Bronx, NY.
- Magee, D.W. and H.E. Ahles. 1999. Flora of the Northeast. University of Massachusetts Press, Amherst.
- Maryland Native Plant Society. Control of Invasive Non-Native Plants: A Guide for Gardeners and Homeowners in the Mid-Atlantic Region. Online. Available: <http://mdflora.org/publications/invasives.htm>
- Randall, J. M., and Marinelli, J. 1996. Invasive Plants: Weeds of the Global Garden. Brooklyn Botanic Garden, Handbook #149.
- Rehder, A. Manual of Cultivated Trees and Shrubs Hardy in North America Exclusive of the Subtropical and Warmer Temperate Zones, 2nd ed. The MacMillan Company, New York. 996 pp.
- Rhoads, A.F. and T.A Block. 2000. The Plants of Pennsylvania, An Illustrated Manual. University of Pennsylvania Press. 1061 pp.
- Robertson, D.J., M.C. Robertson, and T. Tague. 1994. Colonization dynamics of four exotic plants in a northern Piedmont natural area. Bulletin of the Torrey Botanical Club 121(2):107-118.
- Rose, N. 1998. Field Notes: *Ampelopsis brevipedunculata* 'Elegans'. American Nurseryman.
- Salmons, S. 2000. Rock Creek Park Invasive Non-Native Plant Mitigation Program. Final Report. National Park Service, Rock Creek Park, Washington, DC.
- Swearingen, J. 2004. WeedUS: Database of Invasive Plants of Natural Areas in the U.S. Plant Conservation Alliance. <http://www.nps.gov/plants/alien>

USDA, ARS, National Genetic Resources Program. Germplasm Resources Information Network - (GRIN) [Online Database]. National Germplasm Resources Laboratory, Beltsville, Maryland. URL: <http://www.ars-grin.gov/var/apache/cgi-bin/npgs/html/taxon.pl?2964> (01 September 2004).

Virginia Native Plant Society. Invasive Alien Plant Species of Virginia: Porcelain-berry (*Ampelopsis brevipedunculata* (Maxim.) Trautv.).