



Plant Risk Evaluator -- PRETM
Evaluation Report

Ampelopsis brevipedunculata -- Georgia

2017 Farm Bill PRE Project

PRE Score: 13 -- Evaluate this plant further

Confidence: 71 / 100

Questions answered: 18 of 20 -- Valid (80% or more questions answered)

Privacy: Public

Status: Submitted

Evaluation Date: June 28, 2017

This PDF was created on August 13, 2018



Plant Evaluated

Ampelopsis brevipedunculata



Image by James H. Miller, USDA Forest Service



Evaluation Overview

A PRE™ screener conducted a literature review for this plant (*Ampelopsis brevipedunculata*) in an effort to understand the invasive history, reproductive strategies, and the impact, if any, on the region's native plants and animals. This research reflects the data available at the time this evaluation was conducted.

Summary

Porcelain berry is a vigorous climber and has been reported to blanket native plant species. This species does particularly well in areas of high light where there has been recent soil disturbance. Although not described as a prolific seed bearer, the seeds are attractive to birds and other wildlife and have the potential to be carried by water due to their biology and therefore escape ornamental cultivation and planting. The distribution of Porcelain berry in the US clusters more to the north east in states that are not a climate match to the region of concern, there are, however, at least 8 states where all or some areas of the state are highlighted by the PRE climate matching tool, indicating a match for Georgia. The PRE score indicates that this species requires more research to determine its invasive potential. One area of further research should be to define its native distribution in China, Japan, and Korea as regions of these countries are a match for Georgia. Understanding its global distribution would help reviewers better understand the plants suitability to the climate of the region of concern. Lastly, it should be noted that *Ampelopsis cordata* or heartleaf peppervine, which is native to the southeast and not invasive in Georgia, could be suggested as an alternative for planting.

General Information

Status: Submitted

Screener: Kylie Bucalo

Evaluation Date: June 28, 2017

Plant Information

Plant: *Ampelopsis brevipedunculata*

Regional Information

Region Name: Georgia



Climate Matching Map

To answer four of the PRE questions for a regional evaluation, a climate map with three climate data layers (Precipitation, UN EcoZones, and Plant Hardiness) is needed. These maps were built using a toolkit created in collaboration with GreenInfo Network, USDA, PlantRight, California-Invasive Plant Council, and The Information Center for the Environment at UC Davis.

Click [here](#) to see the generated climate matching map for this region. This climate match database is hosted by GreenInfo Network and publicly accessible.



Evaluation Questions

These questions are based in an original article published at the University of California, Davis, and can be found on the PLOS One website, here: <https://doi.org/10.1371/journal.pone.0121053>

Invasive History and Climate Matching (Questions 1 - 6)

1. Has the species (or cultivar or variety, if applicable; applies to subsequent "species" questions) become naturalized where it is not native?

- Answer: Yes, which contributes 1 points to the total PRE score.
- The *screener* has a **Very High** confidence in this answer based on the available literature.

Answer / Justification:

Porcelain berry is native to Asia and occurs throughout most of the eastern states of the US, occurring as far north as New Hampshire, and as far south as Georgia. It is less common in the far western states, and seems to spread as far as Iowa and Wisconsin.

Reference(s):

- Waggy, M. A. (2009). *Ampelopsis brevipedunculata*. In: Fire Effects Information System.
- Invasive Plant Atlas of the United States (0). porcelain-berry: *Ampelopsis brevipedunculata* (Rhamnales: Vitaceae): Invasive Plant Atlas of the United States.
- NPS (0). Porcelainberry (*Ampelopsis brevipedunculata*)_NPS.

2. Is the species (or cultivar or variety) noted as being naturalized in the US or world in a similar climate?

- Answer: Yes, which contributes 2 points to the total PRE score.
- The *screener* has a **Very High** confidence in this answer based on the available literature.



Answer / Justification:

Porcelain berry is native to Asia and occurs throughout most of the eastern states of the US, occurring as far north as New Hampshire, and as far south as Georgia. It is less common in the far western states, and seems to spread as far as Iowa and Wisconsin. *Ampelopsis brevipedunculata* occurs in the region of concern (Georgia) and also North Carolina and Virginia which are climate matching states. Occurrences in Iowa, Illinois, Wisconsin and Michigan are NOT climate matching regions.

Reference(s):

- Waggy, M. A. (2009). *Ampelopsis brevipedunculata*. In: Fire Effects Information System.
 - USDA Plants Database (0). Plants Profile for *Ampelopsis brevipedunculata* (Amur peppervine)_USDA.
 - NPS (0). Porcelainberry (*Ampelopsis brevipedunculata*)_NPS.
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3. Is the species (or cultivar or variety) noted as being invasive in the U.S. or world?

- Answer: Yes, which contributes 2 points to the total PRE score.
- The *screener* has a High confidence in this answer based on the available literature.

Answer / Justification:

Excerpt from weed of the week resource: Porcelain berry 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. It is suggested that the highest impacted region is likely coastal areas of the Northeast where porcelain berry is most common. Excerpt from (Waggy, 2009).... In the US Forest Service's Eastern Region, porcelain berry is classified as a Category 1 invasive species. Plants in this category are "nonnative, highlyinvasive plants which invade natural habitats and replace native species"

Reference(s):

- US Forest Service (0). *Ampelopsis brevipedunculata*_Weed of the week.
 - Waggy, M. A. (2009). *Ampelopsis brevipedunculata*. In: Fire Effects Information System.
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4. Is the species (or cultivar or variety) noted as being invasive in the US or world in a similar climate?

- Answer: Yes, which contributes 3 points to the total PRE score.
- The *screener* has a Medium confidence in this answer based on the available literature.

Answer / Justification:

Excerpt from weed of the week resource: Porcelain berry 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. SOME of these are a climate match for Georgia such as Virginia (parts), Pennsylvania (parts), Maryland (parts) and Delaware (all). I have indicated above in parenthesis whether only part or all of the state is a climate match for Georgia. It is noted that the Georgia Exotic pest plant council rates Amur peppervine as a category 3 threat. Which is described as "Exotic plant that is a minor problem in Georgia natural areas, or is not yet known to be a problem in Georgia but is known to be a problem in adjacent states."

Reference(s):

- Georgia Invasive Species Task Force (0). List of Non-native Invasive Plants in Georgia - Georgia Invasive Species Task Force- LIST.
 - US Forest Service (0). *Ampelopsis brevipedunculata*_Weed of the week.
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5. Are other species of the same genus (or closely related genera) invasive in a similar climate?

- Answer: No, which contributes 0 points to the total PRE score.
- The *screener* has a Medium confidence in this answer based on the available literature.

Answer / Justification:

Ampelopsis aconitifolia is described as invasive by MOBOT resource, other studies suggest it has the potential to be invasive.



Reference(s):

- Missouri Botanical Garden PlantFinder (0). *Ampelopsis aconitifolia* var. *glabra* - Plant Finder-MOBOT.
 - Burnam, R.J.. (0). *Ampelopsis aconitifolia*_CLIMBERS..
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6. Is the species (or cultivar or variety) found predominately in a climate matching the region of concern?

- Answer: **No**, which contributes **0** points to the total PRE score.
- The *screener* has a **Medium** confidence in this answer based on the available literature.

Answer / Justification:

US Distribution is

Impact on Native Plants and Animals (Questions 7 - 10)

7. Does this plant displace native plants and dominate (overtop or smother) the plant community in areas where it has established?

- Answer: **Yes**, which contributes **1** points to the total PRE score.
- The *screener* has a **Very High** confidence in this answer based on the available literature.

Answer / Justification:

Excerpt from NPS resource: "Porcelainberry is a vigorous invader of open and wooded habitats where it shades out native shrubs and young trees. As it spreads, it climbs over and blankets existing plants and weakens and kills them by blocking sunlight."

Reference(s):

- NPS (0). Porcelainberry (*Ampelopsis brevipedunculata*)_NPS.
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8. Is the plant noted as promoting fire and/or changing fire regimes?

- Answer: **No**, which contributes **0** points to the total PRE score.
- The *screener* has a **High** confidence in this answer based on the available literature.

Answer / Justification:

Excerpt from (Waggy, 2009). "It is unclear how historical fire regimes might influence porcelainberry or how porcelainberry populations may influence fuel characteristics and fire regimes in native plant communities."

Reference(s):

- Waggy, M. A. (2009). *Ampelopsis brevipedunculata*. In: Fire Effects Information System.
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9. Is the plant a health risk to humans or animals/fish? Has the species been noted as impacting grazing systems?

- Answer: **No**, which contributes **0** points to the total PRE score.
- The *screener* has a **Medium** confidence in this answer based on the available literature.

Answer / Justification:

There is no information to warrant a yes on this question

Reference(s):

- [Anonymous] .
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10. Does the plant produce impenetrable thickets, blocking or slowing movement of animals, livestock, or humans?

- Answer: **Yes**, which contributes **1** points to the total PRE score.
- The *screener* has a **Very High** confidence in this answer based on the available literature.



Answer / Justification:

Porcelain berry is a vigorous grower and as a vine can develop dense mats, covering other vegetation.

Reference(s):

- US Forest Service (0). *Ampelopsis brevipedunculata*_Weed of the week.
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Reproductive Strategies (Questions 11 - 17)

11. Does this species (or cultivar or variety) reproduce and spread vegetatively?

- Answer: **No**, which contributes **0** points to the total PRE score.
- The *screener* has a **Medium** confidence in this answer based on the available literature.

Answer / Justification:

Excerpt from (Waggy, 2009). "Although reviews indicate that porcelainberry regenerates vegetatively, it is unclear by what means this occurs or how important this characteristic is to wild populations." There are several suggestions in this resource that talk about sucker shoots, sprouting from crown, and regeneration from root segments, but this is not the main or common form of reproduction so screener selected the NO option.

Reference(s):

- Waggy, M. A. (2009). *Ampelopsis brevipedunculata*. In: Fire Effects Information System.
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12. If naturally detached fragments from this plant are capable of producing new plants, is this a common method of reproduction for the plant?

- Answer: **Yes**, which contributes **1** points to the total PRE score.
- The *screener* has a **Medium** confidence in this answer based on the available literature.



Answer / Justification:

Excerpt from (Waggy, 2009). "Reviews indicate that porcelainberry regenerates from root segments", though i am unsure if this is common. Reviewer still chose a yes answer.

Reference(s):

- Waggy, M. A. (2009). *Ampelopsis brevipedunculata*. In: Fire Effects Information System.
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13. Does the species (or cultivar or variety) commonly produce viable seed?

- Answer: **Yes**, which contributes **1** points to the total PRE score.
- The *screener* has a **Very High** confidence in this answer based on the available literature.

Reference(s):

- Waggy, M. A. (2009). *Ampelopsis brevipedunculata*. In: Fire Effects Information System.
 - US Forest Service (0). *Ampelopsis brevipedunculata*_Weed of the week.
 - NPS (0). Porcelainberry (*Ampelopsis brevipedunculata*)_NPS.
 - Encyclopedia of Life (0). Porcelainberry - *Ampelopsis brevipedunculata* - Details - Encyclopedia of Life.
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14. Does this plant produce copious viable seeds each year (> 1000)?

- Answer: **No**, which contributes **0** points to the total PRE score.
- The *screener* has a **Medium** confidence in this answer based on the available literature.

Answer / Justification:

There is no reference to prolific seed production.

Reference(s):

- [Anonymous] .
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15. Is there significant germination (>25%) of seeds the next growing season, with no requirement of an infrequent environmental condition for seeds to germinate (i.e. fire) or long dormancy period?

Answer / Justification:

Going to leave blank because not sure if this answer should be a yes or a no, refs seem to contradict each other but many give suggestions for other factors that influence the rate of germination. Some resources suggest high germination occurs in conjunction with soil disturbance. Other references infer germination yields increase with a short period of chilling (1 month) which may break dormancy.

Reference(s):

- Waggy, M. A. (2009). *Ampelopsis brevipedunculata*. In: Fire Effects Information System.
 - NPS (0). Porcelainberry (*Ampelopsis brevipedunculata*)_NPS.
-

16. Does this plant produce viable seed within the first three years (for an herbaceous species) to five years (for a woody species) after germination?

Answer / Justification:

Leave blank there is no evidence of this.

Reference(s):

- [Anonymous] .
-

17. Does this plant continuously produce seed for >3 months each year or does seed production occur more than once a year?

- Answer: **No**, which contributes **0** points to the total PRE score.
- The *screener* has a **High** confidence in this answer based on the available literature.



Reference(s):

- [Anonymous] .
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Dispersal (Questions 18 - 20)

18. Are the plant's propagules frequently dispersed long distance (>100 m) by mammals or birds or via domestic animals?

- Answer: **Yes**, which contributes **1** points to the total PRE score.
- The *screener* has a **High** confidence in this answer based on the available literature.

Answer / Justification:

Fruits are eaten by birds and other small animals and dispersed frequently. Each fruit contains 2-4 seeds. White tail deer have also been reported to eat the fruit.

Reference(s):

- Waggy, M. A. (2009). *Ampelopsis brevipedunculata*. In: Fire Effects Information System.
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19. Are the plant's propagules frequently dispersed long distance (>100 m) by wind or water?

- Answer: **No**, which contributes **0** points to the total PRE score.
- The *screener* has a **Medium** confidence in this answer based on the available literature.

Answer / Justification:

Porcelain berry fruits do float, and it has been speculated they could be dispersed by water, but this is either not common or unreported. Med CL because of the seeds biology giving it the possibility for distribution.



Reference(s):

- Waggy, M. A. (2009). *Ampelopsis brevipedunculata*. In: Fire Effects Information System.
-

20. Are the plant's propagules frequently dispersed via contaminated seed (agriculture or wildflower packets), equipment, vehicles, boats or clothing/shoes?

- Answer: **No**, which contributes **0** points to the total PRE score.
- The *screener* has a **High** confidence in this answer based on the available literature.

Answer / Justification:

No evidence of this

Reference(s):

- [Anonymous] .
-

Total PRE Score

PRE Score: 13 -- Evaluate this plant further

Confidence: 71 / 100

Questions answered: 18 of 20 -- Valid (80% or more questions answered)

PRE Score Legend

The PRE Score is calculated by adding the point totals for each (answered) question.

< 13 : accept (low risk of invasiveness)

13 - 15 : evaluate further

> 15 : reject (high risk of invasiveness)



Questions Answered Legend

It is important to answer at least 16 questions to consider a PRE Score as "valid".

>= 16 : valid (80% or more questions answered)

<= 15 : invalid (not enough questions answered)

Organization Ownership and Content Privacy

Organization: 2017 Farm Bill PRE Project

Content Privacy: Public



Evaluation Reviewers

The PRE approach is to base decisions on science and make decisions by consensus of diverse horticultural stakeholders. The literature review and process of answering PRE's questions are based on science; the decisions of which plants to prioritize are based on consensus. To ensure this process is in place and that PRE is collaborative, volunteer stakeholders are recruited from each region to review evaluations. The following experts in their profession (plant science, conservation, or horticultural trade) have participated as volunteer PRE reviewers for this evaluation:

- | | |
|-----------------|-------------------|
| • Karan Rawlins | February 22, 2018 |
| • Timothy Daly | January 2, 2018 |

This evaluation has a total of 2 reviewer(s).



Evaluation Issues

The following section lists all public issues for this evaluation. Issues provide a way for stakeholder reviewers to communicate any concerns or suggestions they might have with the plant or evaluation. Please email PlantRight@suscon.org if additional action is required to resolve open issues.

There are currently no issues associated with this evaluation.



About PRE and this Plant Evaluation Report

The PlantRight Plant Risk Evaluator -- PRE is an online database and platform enabling those involved in non-native, terrestrial plant production to know before they grow if a plant poses a regional invasive risk. This tool offers many benefits, and we encourage you to visit the PRE website (<https://pre.ice.ucdavis.edu>) for more information.

If you are a nursery trade association, or involved in the research, development or distribution of horticultural plants we invite you to join the PRE community. If you are a plant scientist, affiliated with a horticultural college or botanic garden, and would like to learn more about becoming a PRE Screener, please drop us an email, PlantRight@suscon.org, requesting a PRE Account.

PRE beta funding is provided by Sustainable Conservation (<http://www.suscon.org/>) and a USDA Farm Bill grant.