

Pieris phillyreifolia: The Opportunistic Climbing Fetterbush

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At its core *The Campaign for the Living Collections* is a strategic endeavor involving years of planning and ten years of execution. Each expedition is organized thoroughly in advance, and anchored by specific target species or desiderata. However, no amount of planning can account for all of the factors at play when collecting plants in the wild, and as such non-target species are often collected opportunistically. Opportunistic collections can include biological outliers, like *Pieris phillyreifolia* (climbing fetterbush), the only Ericaceous (belonging to the heather family) plant native to North America that is also a woody vine or liana. After seeing this unique *Pieris* species, I could not resist the chance to collect it for the Arnold Arboretum, as a participant in 2017's Coastal Southeast Expedition (COSE).

Pieris comprises seven known species. The two most utilized as ornamentals are the North American native *Pieris floribunda* (mountain andromeda) and *Pieris japonica* (Japanese andromeda). During our trip, we sought out the lesser-known *P. phillyreifolia*, found only in South Carolina, Georgia, Florida, and coastal areas of Mississippi and Alabama. Walter Judd (1982) wrote about this species in detail, but W.J. Hooker first described it in 1837, initially placing it in the genus *Andromeda* (Lemon and Voegeli, 1962).



An 1837 illustration of *Pieris phillyreifolia*, appearing in Volume 2 of W. J. Hooker's *Icones plantarum*, where he originally placed it in the genus *Andromeda*. The specific epithet (*phillyreifolia*) reflects the resemblance of its leaves to those in the Mediterranean genus *Phillyrea*, in the olive family (Oleaceae).

While exploring Francis Marion National Forest in South Carolina, we crossed paths with Clemson University's Patrick McMillan leading a group tour of the natural history of the area. Ethan Kauffman of Stoneleigh Gardens (one of the COSE participants) was keen to collect the unusual climbing fetterbush, and mentioned this to Patrick, who then produced a hand-drawn map of a nearby location of *Pieris phillyreifolia* for the team. Armed with this treasure map, our group eagerly set out in the National Forest along US Route 17 to find it. Our collecting routine was a bit comical: we would drive along the highway and then every few minutes Ethan would jump out and run into the woods, only to emerge seconds later to let us know we were not there yet. This occurred several times and admittedly, I was growing skeptical that we would find ever this population. Finally, after turning around on the

highway several times, Ethan got out of the car and motioned for us to join him in the woods: he believed he found the spot and the particular *Taxodium ascendens* (pond cypress) we were seeking. We all got out and trudged through the swampy borderlands of the highway to see if he was correct. He was! We found lianas just 9 meters (10 yards) from the highway.

It is often unique plant form and function that interest people the most, and what makes the story of this species so fascinating is not just where and how we found, but what it grew on, and the mechanics of that growth. The common name, climbing fetterbush, is apt as we found it climbing on *Taxodium ascendens* in a cypress swamp. The root system was nestled in the buttressing roots of the cypress, and the stem traveled up the host tree *underneath* the bark, emerging from vertical cracks every 1 to 2 meters (3.3 to 6.6 feet) as aerial



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Climbing fetterbush rhizomes grow underneath fissures in the fibrous pond cypress bark, emerging periodically to produce leafy green branches.

shoots that extended outward up to half a meter (20 inches) from the tree. The plants we found were robust climbers reaching at least 6.1 meters (20 feet) up the *Taxodium*. On our trip last fall, we only observed this plant climbing *T. ascendens*, however it also grows on *Chamaecyparis thyoides* (Atlantic white cedar), *Cyrilla racemiflora* (swamp cyrilla), *Pinus elliotii* (slash pine), and other downed trees and soil mounds, most likely to avoid standing water (Lemon and Voegeli 1962; Judd 1982).

As a plant propagator, it is invaluable to understand a plant's life cycle to grow it successfully in a controlled environment. For many taxa there are established protocols for germinating seeds, rooting cuttings, or grafting budwood. However, this is not the case for *Pieris phillyreifolia*. When in doubt we often look to established protocols for related species, so I decided to treat the seed via cold stratification for 90 days at 4 degrees Celsius (39 degrees Fahrenheit), which our propagation records indicate work for other species of *Pieris*. My first-hand knowledge of climbing fetterbush's natural environment will also be put to good use as we figure out where to cultivate this unique Southeastern U.S. native once we have successfully propagated it. Given where we found it growing, I recommend we site this plant in a wet depression under heavy deciduous shade where it can grow up a trunk or trellis. Given its native range, we should protect it from harsh winters by establishing it in a warmer microclimate within the Arboretum. Observing a plant's unique form in the wild, and researching its fascinating history upon return, deepens the appreciation for all propagules collected afield. The climbing fetterbush is no exception.



The white, bell-like flowers of *Pieris phillyreifolia* are borne in short, axillary racemes.

Literature cited

- Hooker, W.J., and J.D. Hooker. 1872. *Icones Plantarum, Or Figures, with Brief Descriptive Characters and Remarks, of New Or Rare Plants, Selected from the Author's Herbarium* (Vol. 12). London: Longman.
- Judd, W.S. 1982. A taxonomic revision of *Pieris* (Ericaceae). *Journal of the Arnold Arboretum* 63:103–144.
- Lemon, P.C., and J.M. Voegeli. 1962. Anatomy and ecology of *Pieris phillyreifolia* (Hook.) DC. *Bulletin of the Torrey Botanical Club* 89:303–311.

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