



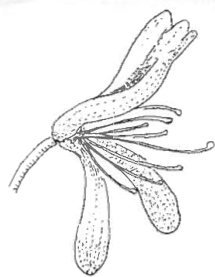
Highstead Log

Autumn
News 2003

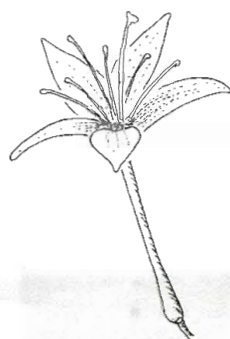
native azaleas: poetic license

*Rhodora! if the sages ask you why
This charm is wasted on the marsh and sky,
Dear, tell them, that if the eyes were made for seeing,
Then beauty is its own excuse for being.
Why thou wert there, O rival of the rose,
I never thought to ask; I never knew,
But in my simple ignorance suppose
The selfsame Power that brought me there brought you.*

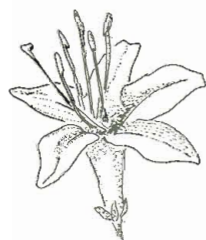
Ralph Waldo Emerson



the rotate-campanulate flower
form of a rhodora
(*Rhododendron canadense*)



the slender, tubular-funnel flower
form of a swamp azalea
(*Rhododendron viscosum*)

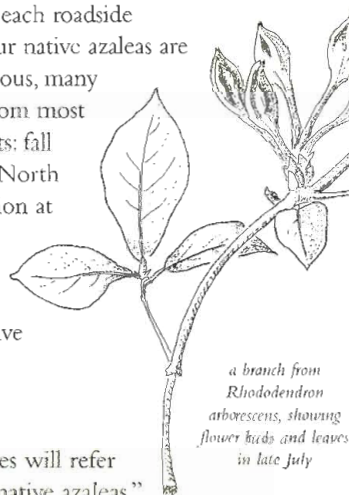


the tubular-funnel flower
form of a sweet azalea
(*Rhododendron arborescens*)

The beauty of our native plant species have been extolled for centuries. Emerson, captivated by rhodora (*Rhododendron canadense*), gushed over a native azalea. Many people are surprised to find that any of our native species are worth gushing over, never suspecting that our native habitats are capable of producing and supporting such attractive plant material. Instead, we settle for what is readily available at a nearby home center, or are caught up in the eye-catching springtime display of the numerous alien introductions available at each roadside nursery we pass. While our native azaleas are not evergreen but deciduous, many offer two things absent from most of their Asian counterparts: fall color and fragrance. The North American Azalea Collection at Highstead provides the opportunity to enjoy, study, and view fourteen of the sixteen species native to North America.

restless natives

Many horticultural articles will refer to all sixteen species as "native azaleas." At Highstead, only four species would qualify for this designation. When the azalea collection was first established, an effort to plant species indigenous to the east coast of the United States was made. This would include fifteen of the sixteen species growing in North America, with only western azalea (*R. occidentale*) growing on the west coast. It was determined that most of the azaleas hardy to the east coast grew within the Piedmont region, an area that runs from Alabama to New York, defined by the eastern base of the Appalachian Mountains on one side, and the fall line and Coastal Plain on the



a branch from
Rhododendron
arborescens, showing
flower buds and leaves
in late July

Highstead Arboretum

other. It would be these species that would comprise the collection. This was how the Arboretum originally defined the term *native*. But, this definition was too broad for an arboretum focussing on local vegetation. The term *native*, in and of itself, is loosely defined. It can describe an area as small as your backyard, or an area that encompasses an entire continent.

Highstead made the decision to use a one hundred mile radius from the Arboretum to determine which plants we would classify as native. Any plant, woody or herbaceous, that bears the *native* tag at Highstead can be found growing naturally within this radius, and was

indigenous to this specified area in pre-colonial times.

The redefinition of the term, as it applies to the Arboretum, necessitated the renaming of this collection,

from the Native Azalea

Collection, to the

North American Azalea Collection. This will enable us to potentially include two other species, thus completing a very unique collection.

Following Highstead's current interpretation of the term *native*, the four species of azaleas native to the Arboretum are:

pinxterbloom (*R. periclymenoides*), swamp azalea (*R. viscosum*), rhodora (*R. canadense*), and roshell azalea (*R. prinophyllum*).

all for one

You may have noticed the reference to azaleas as rhododendrons within the parentheses. In discussing azaleas and rhododendrons, many of us have clear and separate images of each as a plant. In the past, azaleas were a distinct genus, limited to deciduous shrubs whose flowers contained five stamens. Rhododendrons were mostly evergreen and had flowers with ten or more stamens. Over time, discoveries of new species have made the difference between these two groups less distinct. We use the term *Rhododendron* when referring to an azalea's scientific or botanic name, and the term *azalea* when referring to the same plant's common name.

Today, azaleas are considered a sub-genus of rhododendron. In other words, all azaleas are rhododendrons, but not all rhododendrons are azaleas.

native azaleas: all for one

The term *rhododendron* comes from the Greek “rhodon” for “rose,” and “dendron” for “tree,” which suggests the effect when the rhododendron flower trusses are in full bloom; an allusion Emerson makes in his poem. *Azalea* is also from the Greek, meaning “dry,” referring to those azaleas whose habitat is dry, rocky woodland.

oak kindling

Unlike our native mountain laurel (*Highstead Log*, Spring 2003) which blooms for ten to fourteen days at the beginning of June, the azalea collection at Highstead has an extended period of bloom, commencing in late April, and continuing sequentially by species through to the beginning of August. When most other flowering shrubs have finished their show, this collection continues to produce. This is not however, a loud, “look at me” production. The setting of this collection is two acres at the northwest end of the property, a quiet woodland setting offering dappled shade under a canopy of oak and maple.

The site was originally planned as a display area for the variety of oaks found growing within close proximity (five of the seven species found on the property). In accessioning the plant material at this site, pinxterbloom (*R. periclymenoides*) was found to be growing natively and naturally. The accommodating soils and canopy resulted in the decision to introduce other azaleas native to Highstead and to North America.

Set in an area that was partially disturbed from the road cut, the azalea collection was begun in 1992. The variety of soils at this location, ranging from well drained to poorly drained, has allowed for a variety of species to be introduced. This location is also the most protected site on the property. All of the land surrounding is at a higher elevation, protecting the plants from the harsh winds and temperature extremes of a more open location. As a collection, this is an actively managed area, where plants are maintained through pruning, watering, mulching and fertilizing.

One does not need a two acre woodland to have an effective display of native azaleas. Even the smallest of gardens could be enhanced by the punch of color and/or fragrance these species have to offer. In late June and early July when the smooth azalea (*R. arborescens*) is in bloom, anyone entering this area cannot help but react to the sweet fragrance filling the entire two acres. Fragrance can also be enjoyed with coast azalea (*R. atlanticum*), Florida azalea (*R. austrinum*), western azalea (*R. occidentale*), and

roseshell azalea (*R. prinophyllum*).

Colors range from white to pink, from yellow to brick red, and every variation in between. This color variation is a key part of the success of the azaleas planted in this collection. Curators of this collection, past and present, have been careful to select plants which have been grown from seed. The resulting natural variation of flower color within each species produces the soft blending of colors in bloom, as opposed to solid blocks of uniform color. Cumberland azalea (*R. cumberlandense*), and flame azalea (*R. calendulaceum*), accomplish this clearly in the yellow to orange range, while pinkshell azalea (*R. vaseyi*) will quietly do the same from pink to white. Solid blocks of color do little to mimic nature, only setting out to prove that each plant was cloned from the same parent.

A planting of azaleas would also be appropriate for a wooded lot. Many homeowners today leave as many trees as possible on their homesite, but quickly clear away all understory plants, leaving a woodland of little or no dimension. A variety of these native treasures would be a great step in the enhancement of this type of home landscape.

don't fence me in

Highstead's collection could not exist without the presence of protection from deer. Originally, wire hoops encircled each plant. Unsightly and difficult to maintain, in 1993, a decision was made to fence the entire two acre parcel. A metal fencing (originally used for ostrich farming) was used alongside wooden posts. Although the current fence

only rises to eight feet, the posts will allow us to add an additional two feet of fencing material should the need arise. With enough other vegetation on the surrounding properties, the deer have not yet made any attempts (that we know of) to gain entrance. But, even at ten feet, deer would still be able to clear this fence. They have been known to jump heights exceeding twelve feet from a standing start!

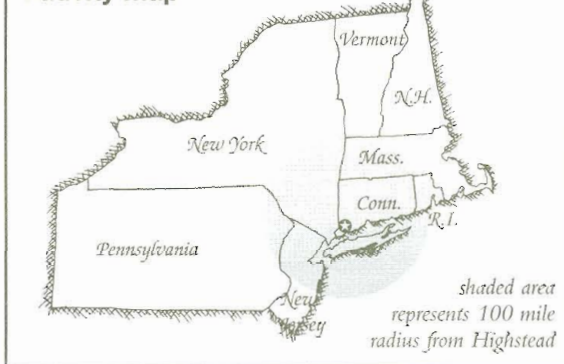
Although this fencing was installed to protect the azaleas, it has actually created a unique habitat. With the deer currently excluded from this site, many native plants have begun to re-establish and proliferate. Hundreds of pinxterbloom azalea (*R. periclymenoides*) seedlings can now be found alongside sugar maple, hemlock, sassafras, witch hazel, and viburnum seedlings. The most exciting flora recordings have been of herbaceous material. Red trillium, pink lady's slipper orchid, sweet white violet, and wild sarsaparilla have all begun to establish sustainable populations. Our greatest joy was the discovery of

Plant exploration in the United States is far from over. Those who are familiar with azaleas will note in this issue we make mention of a new species, *Rhododendron eastmanii*. This species was recently discovered in South Carolina. The specific epithet “eastmanii” is for Charles Eastman, who first noticed this stand along route 20 in South Carolina. Kathleen A. Kron and Mike Creel subsequently published a description of this plant in NOVON, a publication of the Missouri Botanical Garden.

Additionally, Dr. Kron's analysis of the DNA of our North American azaleas led to the regrouping of several azalea species, which is noted on the enclosed chart.

We present this nomenclature as the most current scientifically available information. Further DNA analysis is likely to bring about continued modification to plant nomenclature in azaleas and many other plant species world-wide.

nativity map



North American deciduous azaleas represented in the collection at Highstead Arboretum



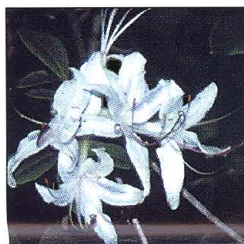
Rhododendron alabamense

Alabama azalea



Rhododendron cumberlandense

Cumberland azalea



Rhododendron arborescens

smooth azalea



Rhododendron periclymenoides

pinxterbloom



Rhododendron atlanticum

coast azalea



Rhododendron prinophyllum

roseshell azalea



Rhododendron austrinum

Florida azalea



Rhododendron prunifolium

plumleaf azalea



Rhododendron calendulaceum

flame azalea



Rhododendron vaseyi

pinkshell azalea



Rhododendron canadense f. *albiflorum*

rhodora, white flowering form



Rhododendron viscosum

swamp azalea



Of the sixteen species of deciduous azaleas native to North America, fourteen are represented in the collection at Highstead Arboretum. The twelve pictured above are photographs from the collection.

North American deciduous azaleas represented in the collection at Highstead Arboretum

Rhododendron species	common name	flower color	fragrance	USDA zone	bloom
<i>R. alabamense</i>	Alabama azalea	white, pink	lemon-scented	6-8	late May
<i>R. arborescens</i>	smooth, sweet azalea	white, pink	heliotrope-like	5-8	mid to late June
<i>R. atlanticum</i>	coast, dwarf azalea	white	sugary sweet	6-8	mid May
<i>R. austrinum</i>	Florida, orange azalea	yellow-orange	sweet, fruity	6-9	mid May
<i>R. calendulaceum</i>	flame azalea	yellow, orange, red	none	6-7	mid June
<i>R. canadense</i>	rhodora	pink to rose-purple	none	4-6	late Apr, early May
<i>R. canescens</i>	Piedmont, mountain azalea	light pink, white	delicate sweet	6-8	early to mid May
<i>R. cumberlandense</i> ¹	Cumberland, Bakers azalea	yellow to red-orange	none	6-8	mid June
<i>R. eastmanii</i> ²	Eastman azalea	white	fragrant	n/a	May
<i>R. flammeum</i> ³	Oconee, Piedmont azalea	scarlet, red, orange	none	6-8	May
<i>R. occidentale</i> ³	western azalea	white-pink to orange	fragrant	6	May to June
<i>R. periclymenoides</i>	pinxterbloom azalea	pink, white	faint to none	6-8	mid May
<i>R. prinophyllum</i>	roseshell, election pink azalea	pink, rose	clove-like	5-7	May
<i>R. prunifolium</i>	plumleaf azalea	brick red to orange	none	6-8	mid to late July
<i>R. vasyi</i>	pinkshell azalea	pink, white	none	5-7	early to mid May
<i>R. viscosum</i> ⁴	swamp azalea	white to pink	spicy sweet	5-8	early to mid July

1. formerly *R. bakeri*

2. new species, insufficient current data

3. not represented in collection

4. includes *R. oblongifolium*, Texas azalea, and *R. serrulatum*, sweet azalea



Highstead Arboretum

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native azaleas: don't fence me in

whorled pogonia in this collection, with over four dozen blooming this past spring. One only realizes the barrenness of our native woodlands that deer have effected after passing through a protected habitat such as this.

concluding introductions

If you choose to introduce azaleas to your home landscape, treat them as you would other members of the heath family (rhododendrons, blueberries, and mountain laurel). Provide them with well-drained, acid soil and a level of moisture suitable to the particular species you choose. Swamp azalea (*R. viscosum*), by its common name implies the desire for a moister soil, while Oconee azalea (*R. flammeum*) a denizen of hilltops will tolerate drier soils.

Acidity should range between a pH of 4.5 and 6.0. Dappled shade is ideal, and morning sun preferable to midday or late afternoon sun. Dense shade can be as inhospitable to these plants as full sun. And don't forget exposure. Winter winds can cause as much harm as any other poor cultivation practice. In the collection at Highstead, Florida azalea (*R. austrinum*) will often lose any spring buds that remain above the snow line. But don't be too quick with your pruning shears in the spring. This same species will often recover on its own by mid to late June without our assistance. Follow the sage advice that can be applied to many rhododendron species — "Do not prune, 'til the end of June."

As with other plantings, mulch can provide great benefits when done properly. Leaf mold, hardwood leaves, pine straw or pine bark are all suitable mulches for deciduous azaleas. Mulch should be two to three inches deep, and taper down as you approach the plant stem(s). These surface blankets help to keep the soil temperature moderated, conserve moisture, and keep the soil "open" to receive the benefit of rainfall. A sparse fertilization program is required. Proper soil preparation and adequate moisture for the first two seasons in particular will go a

long way in establishing a happy plant.

Start with a healthy plant. This sounds like simple advice, but we have all fallen prey to pride in bringing "the last one they had" home. Don't be afraid to talk to the nursery staff. Find out the source of the plant material. Is it locally grown? Was it rooted from cuttings or grown from seed? Remember, the answer to this last question will determine whether or not there will be variation in bloom color from one plant to the next. Most of all, be persistent. There are many sources for native plant material. Seek them out. You will be rewarded with the joy of color and fragrance, and the pride of "native" plants in your home garden.



flower buds of
Rhododendron arboreum

There are a number of helpful sources for more information on these colorful plants. Books (all in the library at the Arboretum) would include:

Davidian, H.H., 1995, *The Rhododendron Species: Volume IV, Azaleas*, Timber Press, Portland, OR, 184p.

Dirr, Michael A., 1975, *Manual of Woody Landscape Plants*, Stipes Publishing Co., Champaign, IL, 1007p.

Galle, Fred C., 1987, *Azaleas*, Timber Press, Portland, OR, 519p.

websites include:

Azalea Society of America — www.azaleas.org

Donald Hyatt's web site — good information on native azaleas, including photographs and plant identification key — donalddhyatt.com/natives.html

A New Leaf Arboretum News

what's in a name?

Highstead Arboretum, with a kind recommendation from Dr. Richard Jaynes, has recently been appointed the International Cultivar Registration Authority for Kalnia. This appointment by the International Society for Horticultural Science, strengthens the Arboretum's link to the plant world at large and Highstead's own laurel collection as well. Ted Lockwood, executive director, will serve as international registrar. More information will follow as we update our website to reflect this new responsibility.

a bittersweet moment

A welcome gift from Arnold Arboretum adds to Highstead's collection of native plants. Bittersweet will soon be part of our native plant collection. Obviously, this will be American bittersweet (*Celastrus scandens*), not the invasive alien species (*Celastrus orbiculatus*). The flower and resulting fruit on our native bittersweet occurs at the terminal end of the vine, not at each leaf axil of current year's growth as does the Asian species. This newest introduction will be used to clearly display these differences and help educate visitors on both native and invasive species.

Autumn 2003
 Baba Dioum, Senegalese ecologist
 "In the end we will conserve only what we love.
 We love only what we understand.
 We will understand only what we are taught."



Highstead Arboretum
 127 Longtown Road
 P.O. Box 1097
 Redding, CT 06875

Highstead Programs

For outdoor programs, come dressed to walk and plan to stay one to two hours. Reservations are requested; call ahead for weather-related rescheduling. For further information, call Highstead Arboretum at 203 938 8809, 9am-4pm Mon.-Fri. There is a non-member fee of \$5 per program, unless otherwise noted.

Autumn 2003

Connecticut Botanical Society

Saturday, September 13

Connecticut College, New London

CBS welcomes members and friends to join them in celebrating their 100th anniversary. Lectures, workshops and field trips will take place on Saturday, September 13th and Sunday, September 14th. Keynote speaker, Michael J. Donoghue, Director of the Yale Peabody Museum will present *What Makes Botany Interesting Today?* Registration forms are available at the Arboretum or visit the CBS website: www.ct-botanical-society.org.

Receptive to Art

Sunday, September 21, 1pm-4pm

Meet the internationally-known, botanical artist Manabu Saito, during an afternoon reception at the Barn (see exhibit details at right).

Woodland Demonstration

Saturday, October 18, 10am

The Woodland Demonstration at Highstead was established five years ago as a best-practices stewardship demonstration. This year marks the data-measurement cycle that provides us with the first round of documented statistics for analysis. Join us as we discuss our current findings on a walk to this woodland site.

Autumn Walk

Saturday, November 8, 10am

Enjoy the morning light and color of early November with a guided tour of the Arboretum. Native trees and shrubs will be the focus of this walk, including the late flowering witch hazel. Learn to identify some of our native trees as we collect fallen leaves along the way. For children and adults.



ball cactus
Notocactus magnificus
 by Manabu Saito

Botanical Art Exhibit

September 2 – October 31, 2003

Artist's Reception, Sunday, September 21, 1-4pm

Over twenty works by one of the United States' best-known botanical artists will be on view at the Barn this autumn. Manabu Saito has travelled the world, recording plant material from South Africa and Costa Rica, to Arizona and New Jersey. Represented in the Shirley Sherwood Collection and the Brooklyn Botanic Garden Florilegium, the Arboretum is honored to host this exhibit. Viewing is by appointment.

A reception invitation will be mailed in September.