

Editor's note: This issue of the RhodoGravure is a lamentable mess, all because a hipster at the Apple Store's "Genius Bar" grievously failed to tell the editor of the consequences of the upgrade that said hipster claimed would make things better. Oh no no no. At least he didn't get his flying fingers on any texts, which follow. The RhodoGravure hopes to overcome these wicked circumstances in time for the next issue.

-- The Editor

January 12 speaker: Tom Smarr, new honcho at Jenkins

Hie thee to Morris Arboretum on Sunday, Jan. 12, to hear from the new director of Jenkins Arboretum, Tom Smarr.

The meeting begins at 1:30 with coffee, cookies and conviviality, with the program beginning around 2:00. We meet in the main room of the Visitor Center at Morris, the first building at the top of the winding driveway. When arriving at the entrance kiosk, simply say "Rhododendron meeting" and you'll be admitted without charge.

Following is background on Director Smarr, as circulated by Jenkins:

"Tom Smarr comes to Jenkins with over two decades of experience in horticulture, conservation, botanic gardens, public parks and organic landscaping. He holds a master's degree in urban horticulture from the University of Washington in Seattle and has worked for established institutions such as the University of Washington Botanic Gardens in Seattle, WA; New England Wild Flower Society's Garden in the Woods in Framingham, MA; the Rose Fitzgerald Kennedy Greenway in downtown Boston, MA; and the High Line, a public park in New York City along unused elevated train rails. Most recently, he led garden and natural areas design for The Parklands of Floyds Fork, a nearly 4,000-acre ribbon of parks in Louisville."

The intriguing Pine Barrens

Super drainage, acidic soil in South Jersey

By Janet Novak

Greater Philadelphia Chapter, ARS

New Jersey is a paradoxical state. It's the most densely populated state in the United States, and it's hardly the first place people think of for natural areas. However, New Jersey is among the top states in the nation in terms of the percentage of land protected from development. That status is thanks largely to the Pine Barrens in southeastern New Jersey, which is

recognized as worthy of protection by both federal and state governments.

Why are the Pine Barrens so special? To residents of nearby cities, this an accessible wild area. To naturalists, it's a unique habitat with many rare plant species. To gardeners, it's a place with really cool plants.

The Atlantic coastal plain, the zone of low, relatively flat land along the coast from Long Island to

Florida, is characterized by sandy and gravelly soils, typically acidic and low in nutrients. The soil is particularly so in the New Jersey Pine Barrens. The sandy character of the soil means that it retains very little water. Instead, that soil acts as a filter, purifying water before it collects in a huge aquifer underlying the Pine Barrens.

This aquifer explains, in part, why the region is protected from development. In the 1870s a Philadelphia industrialist was scheming to tap into the aquifer to supply pure drinking water for Philadelphia. In the ensuing outcry, New Jersey banned the export of water from the state. A century later, New Jersey partnered with the federal government to create the Pinelands Reserve, encompassing one-fifth of New Jersey's acreage, where development is limited.

The sandy soil means that upland areas in the Pine Barrens are very dry. That, combined with the acidic, nutrient-poor soil, limits the number of trees that can grow. Note that, on the coastal plain, "upland" isn't very far up. The highest point in the Pine Barrens is only 208 feet above sea level, and a hill of only 121 feet was deemed significant enough to be named Mount Misery.

The uplands are dominated by pitch pine (*Pinus rigida*) and oaks, most commonly blackjack oak (*Quercus marilandica*) and post oak (*Q. stellata*). These dry sites are susceptible to fire, and the pitch pine is exquisitely adapted to fire. In a moderately hot fire, a pitch pine may lose its branches but it can sprout new branches from old wood, even directly from the trunk. In a hotter fire, the pine may burn down to the ground but it can regrow from dormant buds at the base of the trunk. A fire that is hotter still may kill the trees outright, but the heat will also induce the cones on nearby trees to open, scattering their seeds just when they have open ground to take advantage of. Where fire is very frequent, the pine trees never have a chance to grow to full size. Entire forests can be less than 6 feet tall. It's quite an experience to be able to look over the top of a pine forest.

Where the upland pine-oak forest is tall enough to have an understory, that's dominated by huckleberries (*Gaylussacia baccata* and *G. frondosa*). In some places, black huckleberry forms a uniform carpet under the trees. In more open upland areas, there are some interesting dwarf shrubs. Bearberry (*Arctostaphylos uva-ursi*) is familiar to many, but do you know broom crowberry (*Corema conradii*)? This rare plant, a cousin of *Empetrum*, has deep green, needle-like foliage and a habit reminiscent of heath. A more common plant in this habitat is goldenheather (*Hudsonia ericoides*). Despite the common name, it is not in the same family as heather, but rather in the rockrose family (Cistaceae). In spring, goldenheather is graced by flowers of an unbelievably bright yellow. Here and there are flowers of pink lady's slipper (*Cypripedium acaule*). A rather strange sight in spring is the flowers of ipecac spurge (*Euphorbia ipecacuanhae*). Before any leaves emerge, naked stalks are topped by pale green inflorescences, looking

like something designed for a sci-fi movie. I've never heard of anyone gardening with ipecac spurge, but some forms have attractive foliage, and the plant stays compact.

In the upland forest in spring, we get to enjoy the huckleberries in bloom, but this can become monotonous. So let's look instead at moister areas: the pitch pine lowlands. Here, the surface usually looks dry, but the water table is only a foot or so below, easily accessible to the plants. The pitch pines still dominate, but the understory is more diverse and showier. Here, we find a greater variety of ericaceous shrubs, including highbush blueberry (*Vaccinium corymbosum*) and a lowbush blueberry (*V. pallidum*), as well as lesser-known ericaceous shrubs like staggerbush (*Lyonia mariana*), fetterbush (*Eubotrys racemosa*, syn. *Leucothoe racemosa*). All of these have pretty, white, urn-shaped flowers in spring. Showier is the sand myrtle (*Kalmia buxifolia*, syn. *Leiophyllum buxifolium*). This is a small shrub that can be covered with starry white flowers. It's also an excellent plant for a rock garden if it is given acidic, low-nutrient soil. A favorite, especially among rock gardeners, is pixiemoos (*Pyxidantha barbulate*), a charming subshrub in the diapiensia family. Pixiemoos starts blooming very early—sometimes in February—but fortunately for visitors, its bloom period is quite long, so we are almost sure to find it in bloom in early May.

Let's move lower still, into the wetlands, which have the greatest diversity of plant species. Wetlands are also where we find the fun ones—the carnivorous plants. In the acidic, low-nutrient bogs, plants have a hard time getting enough nitrogen. Carnivorous plants have solved that problem by letting the nitrogen find them, in the form of insects that they trap and digest. The carnivorous plant species in the Pine Barrens consist of one pitcher plant (*Sarracenia purpurea*), three sundews, and quite a few bladderworts.

Many are familiar with pitcher plants, which trap and digest insects inside leaves modified into the shape of pitchers. But did you know that those liquid-filled pitchers contain an entire food web of organisms? The remains of the trapped insects feed bacteria, which feed protozoa, which feed mites and other tiny invertebrates, which feed fly larvae. Some species of mosquitos lay their eggs almost exclusively inside pitchers. The larvae thrive on nitrogen-rich bacteria and insect remains. When they emerge as adults, they don't feed on blood because the larvae grew in a nitrogen-rich environment and don't need extra nitrogen from blood to be able to produce eggs. In early May, the plants will still have their pitchers from last year, along with fat round flower buds. The new pitchers emerge only after flowering is done; it wouldn't be adaptive for the plant to eat its own pollinators.

Sundews (*Drosera* spp.) have leaves covered with hairs, each tipped with a droplet of sticky fluid. That fluid causes the plants to glisten in the sun (hence the common name), and it also traps insects.

The least familiar of the carnivorous plants of the Pine Barrens are the bladderworts, genus *Utricularia*. These plants, which grow in ponds or wet ground, have feathery leaves dotted with 1/8-inch bladders, which are traps. When a tiny invertebrate brushes against trigger hairs near the trap door, the door springs inward, sucking the victim inside. This happens fast: the trap opens and closes in 2 milliseconds. Most bladderworts have rather showy flowers that look something like toadflax (*Linaria* sp.) flowers, but in spring we will only see the leaves with their bladders.

Another fun plant of wetlands is a fern, but one that doesn't look remotely ferny. It's curlygrass fern (*Schizaea pusilla*). The sterile fronds look like curls of very fine green wire. The fertile fronds look just a bit like the metal ornament on the prow of the gondolas of Venice. The whole fern is so tiny that it's hard to spot. Most people never find this fern on their own until they are shown what to look for.

A final item on the list of fun wetland plants is golden-club (*Orontium aquaticum*), a plant in the arum family. Locals give it the charming common name of never-wet because water beads up and rolls right off the leaves. (This is assumed to be an adaptation to prevent mud from collecting on the leaves and blocking out the sunlight.) The flowers are—you guessed it—golden and club-shaped. They bloom in spring and are sometimes numerous enough to create a band of gold along the edge of a lake.

The wetlands are also home to numerous orchid species. In spring, the only wetland orchid we might see in bloom is southern twayblade (*Neottia bifolia*). Compared to a pink lady's slipper, the southern twayblade is almost comically homely. The flowers are tiny and brownish. It also typically grows in the heavy shade of white cedar swamps, making it still harder to spot. Later in the year, the Pine Barrens have showy wetland orchids: the pink of rose pogonia (*Pogonia ophioglossoides*), grass pink (*Calopogon tuberosus*), and dragon's mouth (*Arethusa bulbosa*) in June and the white, yellow, and orange of *Platanthera* species in July.

The wetlands, like the uplands, are home to some ericaceous plants. Rhododendrons are represented by swamp azalea (*Rhododendron viscosum*), which can often be found the edges of bogs. Its June flowers are sweetly fragrant. *R. atlanticum* and *R. periclymenoides* have been reported but are seldom seen. A notable subshrub is cranberry (*Vaccinium macrocarpon*). This species is the same one grown commercially.

The Pine Barrens, despite its unusual environment, is home to a fair number of horticulturally important species. In addition to the blueberries and cranberry are sweet pepperbush (*Clethra alnifolia*), possumhaw viburnum (*Viburnum nudum*), red chokeberry (*Aronia arbutifolia*), American holly (*Ilex opaca*), and inkberry holly (*I. glabra*). Seeing these plants in the wild can be inspirational, especially if your soil is

acidic And if you fall in love with bog plants, you can easily grow many of them in an artificial mini-bog.

(A version of this article first appeared in the North American Rock Garden Society's journal.)

Where to see Jersey carnivores and pygmies

Pakim Pond, Brendan Byrne State Forest

The one-mile walking trail around the pond has a wide variety of Pine Barrens plants, including swamp azalea, pitcher plants, sundews, curlygrass fern, cranberry, and rose pogonia. Directions are available on the internet or from the park office.

Directions: Entrance is on Route 72, Woodland Township, Burlington County, 1 mile east of the Routes 70-72 circle. Zip 08088. From Philadelphia, take Route 70 as if going to Garden State Park and keep going east. Route 72 is also known as Magnolia Road; basically turn right from Rte. 70 onto Rte. 72. At Mile Marker 1, turn left into the preserve; take the first right to get to the office, which has trail info. Also consult:

www.state.nj.us/dep/parksandforests/parks/byrne.html.

Warren Grove Range, Barnegat

Here is a pygmy pine forest, with such upland plants such as broom crowberry, bearberry, and goldenheather.

Directions: This is near the site in the previous paragraph. Continue east from Byrne State Forest on Rte. 72 (which becomes Barnegat Road) to County Road 539 and turn right (south). Between mile markers 8 and 9, look for a sign for Warren Grove Range and the 177th Fighter Wing. That sign marks Bombing Range Road (Log Lane on some maps). Turn west on Bombing Range Road and drive approximately 1.5 miles, then park in the parking lot on the left. Walk down the unpaved road/fire break perpendicular to Bombing Range Road. At the top of the next rise is a particularly short pygmy pine forest.



Hudsonia ericoides (left); *Kalmia buxifolia*. Photos by Janet Novak

Plant sales and truss show not yet resolved

The board of the chapter is still considering the options for selling plants and staging the Cut-Flower Competition (truss show) in May. For the ARS, Morris Arboretum's decision to terminate its plant sale falls into the category of Monkey Wrench, Huge. As soon as things are decided, an email will go out to all.

See you at the beach?

It being, ahem, winter, who isn't pining for the likes of a Riviera holiday? The intrepid Flower Show brigade of our chapter is on the case, offering up a "Coastal Paradise" in March.

And what should the overall theme of the Flower Show be this year but "Riviera Holiday"! As in gardening on the Mediterranean. That's a somewhat tricky concept when our favorite genus is in the mix, but the crew, led by Linda Hartnett, Barbara Olejnik and Kim Kopple, is focusing on azaleas, which can more readily handle the sun conditions of Capri, Monaco and Saint Tropez.

Following up on the prize-winning exhibit of 2019, this year's display will also have explanatory signs on the cultural needs when planting azaleas in littoral soils.

The "Coastal Paradise" will feature a patio and pathway, with lavender, rosemary, opuntia (prickly pear cactus) and Drift® roses.

As always, ARS members and friends are (1) needed to create the exhibit at the Convention Center and (2) invited to take a shift as docents to explain things to the throngs. Contact Linda Hartnett (lindahartnett@gmail.com) to work on setup on Feb. 25 and Michael Mills (mmm19119@

gmail.com) to get a decent shift, which includes free admission to the show.

We in Philadelphia can easily forget how singular the Philadelphia Flower Show is. It's the largest indoor forced-flower

exhibit in the world, the likes of which are not to be seen in Rome or Rio. The Greater Philadelphia Chapter has been exhibiting at the show for more than 50 years, this year from February 29 through March 8.

Calendar

Important: If you do not receive this newsletter electronically, you will not receive email reminders a week before events. Please use this calendar to mark your own.

January 12, Sunday, 1:30 p.m. Chapter meeting, Morris Arboretum. Speaker: Tom Smarr, new director of Jenkins Arboretum.

January 19, Sunday, 2:00 p.m. Valley Forge Chapter meeting, Jenkins Arboretum. Speaker, Linda Eirhart, "Azaleas and Rhododendrons at Winterthur"

February 11, Tuesday, 7:30 p.m. Board of Directors meeting. Home of Craig Conover.

February 16, Sunday, 2:00 p.m. Joint Greater Philadelphia-Valley Forge meeting, Uwchlan Meeting House, Lionville, Pa. Steve Kristoph channels Alex Trebek with "Rhododendron Jeopardy"

February 29-March 8 Philadelphia Flower Show

April 18, Saturday Chapter Banquet. Sunny Brook Golf Club, Plymouth Meeting, Pa. Speaker: Nancy Bell, frequent class leader at Mt. Cuba Center.

April 29-May 3 ARS national convention, Portland, Oregon. More information at <http://ARS75.org>.

May 9, Saturday Joint Greater Philadelphia-Valley Forge Cut-Flower Competition (truss show).

Greater Philadelphia Chapter, American Rhododendron Society www.GPChapterARS.org

President: Craig Conover (2019-20) 215-901-1034;
sterling@sterlingfinishing.com

Vice President: Ron Rabideau (2019-21) 856-465-2344;
rhodyrex@verizon.net

Treasurer: Myo Myint (2018-20) 610-525-0599; myintm933@verizon.net

Secretary: Michael Martin Mills (2018-20) 215-844-6253; mmm19119@gmail.com

Past President: Kim Kopple (2019-20) 215-242-0391; kkopple@vet.upenn.edu

Director: Gary Ammon (2018-20) 215-988-2981; gary.ammon@dbr.com

Director: Karel Bemady (2019-21) 610-827-0113; bernadk@verizon.net

Director: Kate Deregibus (2019-21) 215-247-5777;
kderegib@exchange.upenn.edu

Director: Linda Hartnett (2018-20) 610-940-9478; lindahartnett@gmail.com

Director: Maris Ogg (2018-20) 215-836-0637;

mogg@towerbridgeadvisors.com

The American Rhododendron Society is a horticultural organization devoted to the genus Rhododendron – which includes azaleas. At the national level, the society holds annual conferences, publishes the quarterly Journal of the ARS, and fosters plant research and conservation. Its website, www.rhododendron.org, is a trove.

The Greater Philadelphia Chapter gathers eight times a year. Sunday afternoon meetings are held September, October, and January at Morris Arboretum. February through August we are mobile, with a banquet, plant sale and picnic at various sites. Latest meeting information may be found at www.GPChapterARS.org.

Dues are \$40 per year, for chapter and national membership and a subscription to the Journal. Contact the president or treasurer for a form or go to www.GPChapterARS.org; click on "Join us."