

Horticultural News and Research Important to American Gardeners

Super-hardy Finnish Rhododendrons

Nine new extraordinarily hardy rhododendron cultivars, developed through a Finnish breeding program, are turning up in American and Canadian nurseries. Their development can be traced back to 1935, when a batch of rhododendron seeds arrived at Finland's Mustila Arboretum, located east of Helsinki. The seeds, originally collected in the mountain ranges of Korea and Japan, produced plants that for many years could not be classified. In 1970, they were identified as *R. brachycarpum* and given the subspecies name *tigerstedtii* to honor amateur plant breeder C.G. Tigerstedt, who introduced them.

Having withstood 49 degrees below zero Fahrenheit at the Mustila Arboretum, *R. brachycarpum* subsp. *tigerstedtii* is considered the most cold-hardy of all known rhododendrons. It became the mainstay of a breeding program begun at Helsinki University in 1973 under C.G. Tigerstedt's son, Peter, who is now professor emeritus at the university. This eight- to 10-foot, pink-flowered species may or may not hand down its height or flower color to its hybrid progeny, but usually manages to bequeath extreme hardiness.

Peter Tigerstedt started his evaluation program with hybrid

seedlings of *R. brachycarpum* subsp. *tigerstedtii* and its crosses with other species including *R. smirnowii*, *R. metternichii*, and some forms of the American native *R. catawbiense*.

In collaboration with the Helsinki Parks Division, 22,000 of Tigerstedt's hybrids were planted out in various sites. Then the harsh Finnish winter did the work of selecting for hardiness, culling from thousands to just 80 that were propagated clonally. Of these, nine immensely cold-hardy survivors have been introduced so far. "Generally my cultivars are hardy in [USDA] Zones 3 and 4," says Tigerstedt. "They are doing quite well at the Minnesota Landscape Arboretum in Chanhassen, Minnesota."



Finnish hybrid rhododendrons in a Helsinki park.

The nine cultivars are red-flowered 'Elvira'; pink-flowered 'Haaga', 'Helsinki University', 'Kullervo', 'Pekka', and 'Pohjola's Daughter'; deep rose 'Hellikki', and white 'St. Michel'—the hardest of the cultivars, and 'P.M.A. Tigerstedt' (sometimes

listed as 'Peter Tigerstedt').

One American mail-order source for these new cultivars is Rice Creek Gardens, 11506 Highway 65, Blaine, MN 55434. (763) 754-8090. www.ricecreekgardens.com. Catalog available online only.

A TREE GROWS (BETTER!) IN BROOKLYN

Researchers studying differences in growth habits between trees growing in urban and rural areas got a surprise when the trees in urban areas grew larger than their rural counterparts.

This finding, published in the July 10 issue of *Nature*, countered the researchers' expectation that city-grown trees would fare less well than those planted in rural areas. In the city, they hypothesized, trees would struggle in air thick with particulate and photochemical pollutants while grow-

ing in soils laden with heavy metals.

The team of researchers from Cornell University and the Institute of Ecosystem Studies in Millbrook, New York, planted cloned cottonwood trees (*Populus deltoides*) in and around New York City as well as in rural areas of the Hudson River valley and Long Island, about 50 miles from the city center. The ones in the city thrived, growing double the size of the rural trees.

Because urban areas experience so many variables, "it was difficult to tease

apart the influence of the multiple different factors" that might account for the difference, says Jillian W. Gregg, a Cornell University ecologist and lead author of the study. In the end, the researchers were able to eliminate variables such as soils, temperature, light, carbon dioxide, nutrient deposition, and microclimates. "Instead, we found that higher cumulative ozone exposures accounted for the reduced growth at the rural sites," Gregg says.

Ozone—a pollutant formed by a chemical reaction between oxygen and sun-

light—is tougher on trees in rural areas, Gregg explains, because in urban areas other air pollutants, such as nitric-oxide, quickly break down ozone into benign constituents. “So in most rural areas, where nitric oxide concentrations are low,” says Gregg, “ozone that has migrated from urban areas remains in the air longer.”

Lest anyone jump to the conclusion that polluted city air is good for plants, the researchers caution that the study explored only the short-term effects of pollutants on the growth of trees. Longer-term studies would be required to give a complete picture of how pollutants affect plants.

THE STENCH OF SUCCESS

When the titan arum (*Amorphophallus titanum*) began blooming at the United States Botanic Garden in Washington, D.C., on the morning of July 23, lines of those waiting to view the behemoth flower snaked around the conservatory building. Inside, five-deep rows of people encircled the regal rain forest flower, fascinated by its amazing size—almost five feet tall—and otherworldly appearance. They posed for



This titan arum bloomed at the U.S. Botanic Garden in July and drew crowds of visitors.

photos with it and inhaled the fetid stench emitted from its spadix.

The plant’s odor of rotting flesh evolved to attract carrion beetle and flesh

fly pollinators and is the inspiration for one of this plant’s common names, “corpse flower.” Its botanical name describes the flower’s anatomy: *Amorpho*-meaning “shapeless,” and *phallus*, “penis,” refer to the enormous, upright spadix, revealed when the pleated, blood-colored spathe unfolds; the specific epithet, *titanum*, of course refers to its gigantic proportions.

From the beginning, the titan arum has excited curiosity. In 1898, a plant raised from seed collected in Sumatra by Italian botanist Odoardo Beccari bloomed at England’s Royal Botanic Garden at Kew, igniting the Victorian passion for exotic plants. When the plant bloomed again in 1926, police were needed to control the crowds.

The first titan arum to bloom in the United States was in 1937 at the New York Botanical Garden. It achieved instant fame, drawing enormous crowds, and earning the title of the official flower of the Bronx. Since that time, fewer than 20 flowerings have occurred in the United States, but each became an event unto itself.

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The largest flower measured six feet eight inches at the University of Wisconsin—Madison in June, 2001; two simultaneous blooms appeared at the Marie Selby Botanical Gardens in Sarasota, Florida in May, 1999; a titan arum tuber at the Fairchild Tropical Garden in Coral Gables, Florida weighed in at 68 pounds.

CLUMPING BAMBOOS

Have you always admired bamboo, but were afraid of runaway shoots and neighbor's lawsuits? *Fargesias* have all of bamboo's delightful attributes—Graceful form and delicate, elegant foliage—but none of its scary potential. *Fargesia's* runners will



Tall-growing *Fargesia robusta* offers the look of bamboo but is better behaved.

never poke up through your neighbor's asphalt driveway. Like many of the tropical *Bambusa* spp., they are clumping, but unlike *Bambusa* spp., they are hardy, frost-proof, and suitable for many parts of the United States. Fountain bamboo, *Fargesia nitida* (USDA Zones 5–9, AHS Zones 9–5), grows into a dense, six-foot clump with mahogany-colored culms; umbrella bamboo (*F. murielae*, Zones 5–9, 9–4), has six-foot arching green culms; *F. robusta* (Zones 6–9, 10–5) is heat-tolerant and grows to 20 feet.

THE OLDEST LIVING MOTHER

Methuselah, the oldest known tree, a 4,733-year-old bristlecone pine (*Pinus longaeva*), has recently produced a dozen

healthy saplings from seeds taken from one of her pine cones.

One sapling will be presented to the U.S. Botanic Garden, where, says Director Holly Shimizu, “we’ll keep it in our production greenhouses, where we can control the environment. Ultimately, we will probably plant it in the oasis section of the new conservatory. It’s a cool desert oasis, an environment where it will be happy. It actually has air conditioning. In Washington, D.C., this is the only place where it will have a chance of survival.”

The oldest bristlecone pines are found in the dry, cold, wind-swept high elevations of 10,000 feet or more, such as California’s White Mountains near Death Valley, where there is only a thin layer of topsoil. The bristlecone also grows in Colorado, Nevada, and New Mexico.

Many ancient trees exhibit large areas of die back (deadwood) and only the thinnest strips of living bark, which may hold a secret to their longevity. With a minimum of bark and canopy, these trees reproduce and cling to life as they have done for countless centuries. Ironically, their greatest threat is not drought, wind,

or cold, but tourists. For this reason, Methuselah’s exact location is kept secret.

GRAHAM STUART THOMAS DIES

Horticultural artist, author, and garden designer extraordinaire Graham Stuart Thomas died on April 17, 2003, aged 94.

Born in 1909 in Cambridge, England, he studied at the University Botanic Garden at Cambridge before taking positions with several different nurseries.

Over a lifetime of gardening, he acquired a vast knowledge of plants that was distilled in his many books, including *Old Shrub Roses* (1955), *Perennial Garden Plants* (1975), and his most recent, published this past April, *The Garden Through The Year*.

For his work supervising the restoration of National Trust Gardens, Thomas was awarded the Order of the British Empire in 1975; His many other honors include the Veitch Memorial Medal (1966); the Victoria Medal of Honor (1968); a vice-presidency of the Royal Horticultural Society; and the Royal National Rose Society’s Dean Hole Memorial Medal (1976).



Dear Sirs,
 Approximately 10 years ago we decided to plant a Rhododendron in our backyard. We were told by many that it would not survive the winter cold temperatures in Illinois. I discussed this with a local nursery and they suggested I use Wilt-Pruf prior to freezing weather.
 I have used Wilt-Pruf every winter since then and the Rhododendron has done GREAT!
 I am attaching a photo of this year's blossoming. It has continued to grow and produce these kind of results every year. We have never seen a Rhododendron this large.
 The neighborhood is continually impressed every year.
 Thank you,
 Ernie & Edna West
 Peoria, Illinois

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