

Gray's Bird Cherry (*Prunus grayana*): A Fitting Tribute to Asa Gray

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If you've ever noticed the similarity between North American and Asian species of *Liriodendron*, *Hamamelis*, or *Stewartia*, then you've recognized the same biogeographic phenomenon that botanists have for well over a century (for an overview of disjunct floras see: Yih, D. 2012. The Eastern Asian–Eastern North American Floristic Disjunction. *Arnoldia* 69(3): 14–22). One of the first to recognize the similarity between species native to eastern North America (ENA) and eastern Asia (EA), specifically Japan, was Harvard botany professor Asa Gray, who first compared the two floras in 1840 while reviewing Siebold and Zuccarini's *Flora Japonica*. Fascinatingly, much of Gray's own evolution of thought related to biogeography was nurtured by his extensive correspondence with Charles Darwin.

Gray's work recognized "identical species" that co-occurred in ENA and EA, and in an 1859 analysis he referred to a Japanese bird cherry as either *Prunus virginiana* (of North America) or possibly *P. padus* (a Eurasian species), though his inclination was that it was *P. virginiana*. Dutch botanist Friedrich Miquel described this bird cherry as *P. padus* var. *japonica* in 1865, but it was Russian botanist Carl Maximowicz who, in 1883, named it as a separate species, *P. grayana*, commemorating Asa Gray. *Prunus grayana* along with *P. virginiana*, *P. serotina*, and *P. padus* form a group of deciduous, racemose-flowering *Prunus* species that have a compelling evolutionary and geographic history that extends from eastern Asia to eastern North America and northern Eurasia. How fitting a specific epithet!

I was first drawn to Gray's bird cherry in the spring of 2001 while ogling spectacular floral displays in the Arboretum's Living Collections. The 2- to 4-inch (5- to 10-centimeter) -long terminal racemes of densely packed white flowers (each about 1/3 inch [7 to 8 millimeters] across) have leafy bases and lack peduncles: the lowermost flower emerges directly from a leaf axil. The abundant flowers typically appear in early to mid-May, turning the entire canopy into a dazzling green and white display that lasts about a week or two. The fruits mature from green to bright red and eventually a dark purple by mid-August.

The elliptic leaves, up to 4 inches (10 centimeters) long, become intensely yellow gold in the autumn, while the short petioles and midveins often turn bright red—quite a striking contrast. Mature trees are rounded to upright and can grow nearly 50 feet (about 15 meters) tall. Although uncommon in cultivation, *P. grayana* offers wonderful spring and autumn ornamental interest. Arboretum specimens have been free of major disease or pest issues. It grows at the Morton Arboretum, near Chicago, confirming USDA Zone 5 cold hardiness, and also survives the oppressive heat and humidity at Philadelphia's Morris Arboretum and the United States National Arboretum in Washington, D.C. I have never noticed naturalized seedlings, but since birds eat the fruit and may disperse seeds, I recommend careful invasiveness evaluation before major production and introduction into the trade.

Prunus grayana is native to Japan, where it is common in mesic forests from Hokkaido to the southern islands of Shikoku and Kyushu, and also occurs in mainland China from Zhejiang westward to Yunnan. The Arboretum currently has eight living specimens, all from Japan. The oldest (16694-A) was collected by E. H. Wilson in 1914 on Mount Hayachine in northeast Honshu. It grows near Forest Hills Gate, stands 35.4 feet (10.8 meters) in height, and has a diameter of 30.3 inches (77 centimeters) at 2 feet (0.6 meters) above the ground. Our tallest tree, at 42.3 feet (12.9 meters), is 1698-77-C, which grows nearby with three others (1191-77-A and B, and 1698-77-B). All were collected on Hokkaido by then Arboretum staff members Richard Weaver and Steven Spongberg during their 1977 expedition. They also made an additional collection (1777-77) from northern Honshu, with specimens A and C now growing on Bussey Hill and specimen D on Peters Hill. So, this autumn (or during bloom next spring), take a tour of our collection of Gray's bird cherries and think about Asa Gray's laudable contributions to botany—especially his notice of the North American–Asian floral connection.

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