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Springtime blossoms at Fairchild

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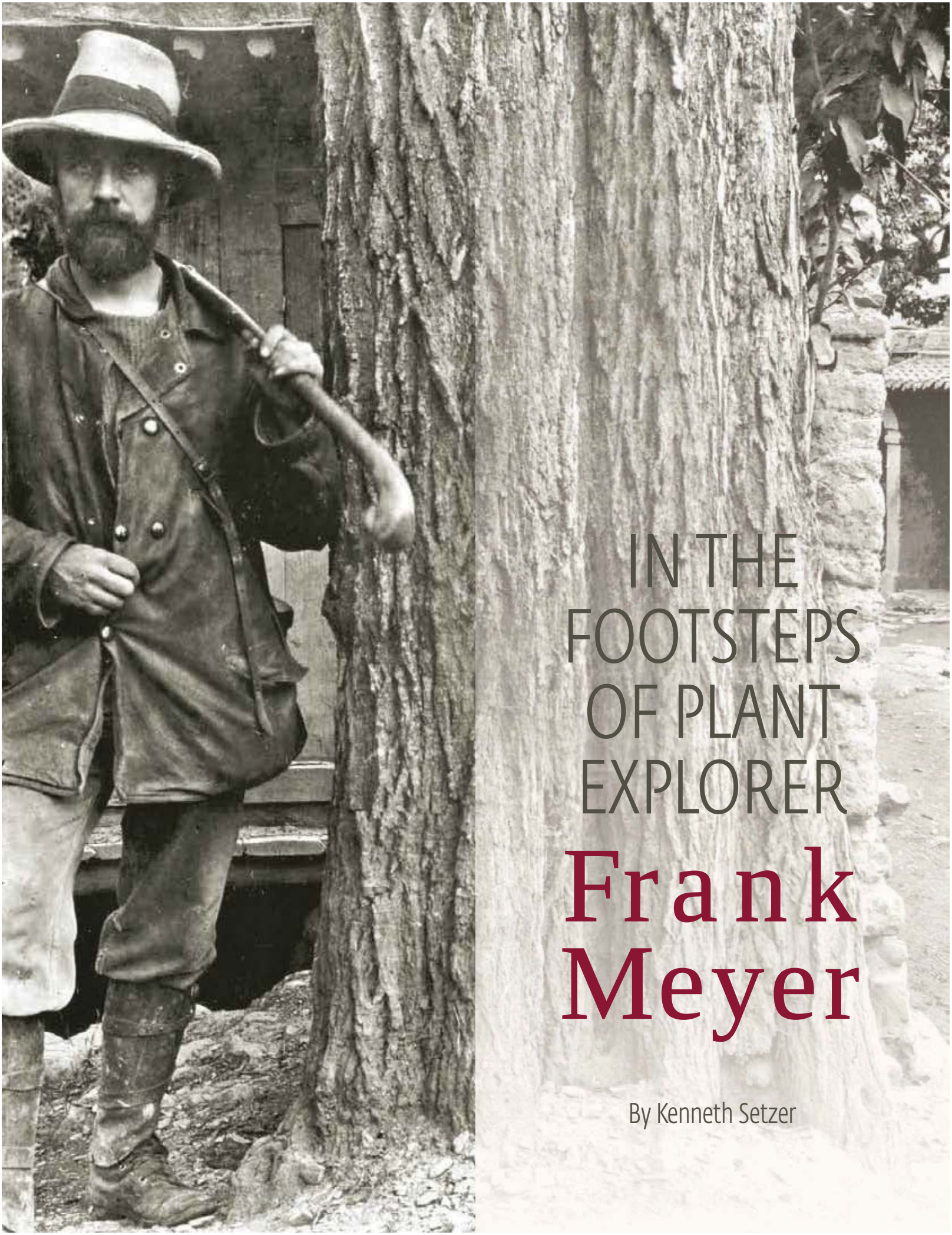

IN THE FOOTSTEPS OF PLANT EXPLORER Frank Meyer

By Kenneth Setzer

In Dr. David Fairchild's book, "The World Was My Garden," he describes an inveterate plant explorer: a man who loved plants, animals and the world in general, and who would just walk everywhere he wanted to go. This man, Frank N. Meyer, walked across continents—alone—just because he felt like it, taking only a compass and map. He wasn't a drifter; he was an insatiably curious polymath and autodidact, and he introduced thousands of new plants to the United States.

ABOVE
Dr. David Fairchild (far left) receives the Meyer Medal for distinguished services in plant introduction from Secretary of Agriculture Henry A. Wallace.
Library of Congress, LC-DIG-hec-27032, Harris & Ewing Collection.

LEFT
Frank Meyer standing beside a very large Chinese privet (*Ligustrum lucidum*), October 18, 1914.

Frank Meyer's intense wanderlust may have originated from a childhood spent in Amsterdam's Houthaven neighborhood, near the harbor. Its ships connected Europe to all points of the globe, and his father's tales of his own youth spent as a sailor must have ignited a spark within Meyer. From early childhood, Meyer, who was born Frans Meijer, loved plants, animals, travel stories and working in his family garden. At 14, he became a gardener's helper at the Amsterdam Botanical Garden. This would be a major turning point in his life: The famous Dutch botanist and geneticist Hugo de Vries was involved with the garden and took note of Meyer's diligence, determination and growing knowledge of plants. He supported Meyer wholeheartedly, even paying for his tuition, room and board at the University of Groningen. Alas, Meyer's studies there didn't last long: After six months, his restlessness growing, he returned on foot to Amsterdam and his job at de Vries' experimental garden.

Even then, Meyer's restlessness grew. He longed to see vineyards and orange groves in Italy, and eventually quit his job at the garden and simply walked to them, and throughout Europe, for months. Thereafter, yearning to see America, he earned money working for nurseries around London. Soon he saved enough to make the purchase so many other Europeans had: a one-way steamship ticket to the United States. In 1901, armed with a letter of recommendation from de Vries, he worked his way from Ellis Island to Washington, D.C. and a job at the United States Department of Agriculture greenhouses.

The Perfect Man for the Job

Meanwhile, David Fairchild was away from his D.C. office checking on plant experiment stations across the U.S. He was long aware of the potential China—an area of great floral and faunal diversity—offered for economic botany. He spread the word that he sought a talented plantsman who could recognize new and useful plants in China and at the same time endure walking for hundreds of miles in difficult and dangerous locations. Meyer fit that description perfectly, but he and Fairchild didn't manage to meet at this time. Instead, Meyer again sought the road, working for a short time in California, and then exploring Mexico. He eventually returned to the U.S. to work in the Missouri Botanical Garden in 1904. Then, at last, Fairchild was able to pin down this wanderer and offer him the job of USDA plant explorer to China, which Meyer immediately accepted.

Ta hua shan (Big Flower Mountain) Shansi, China. Meyer noted: "Here *Pinus bungeana* grows truly wild, while lilacs, Exochordas, Davidiana peaches and many other interesting plants are found clinging to the granite rocks." (Current-day Huashan Mountain)

To China, 1905-1909

Meyer's mind must have reeled upon his arrival in what was then called Peking (now Beijing) in 1905. Before him lay a foreign world to explore, with extraordinary possibilities for plants. He soon hired a guide, with whom he explored the mountains for 10 days. A "sweet, seedless persimmon" was first of his thousands of plant discoveries. Scions and seeds of grapes, apricots, catalpa, pears, *Ginkgo biloba*, *Pinus bungeana,* pistachio (*Pistacia chinensis*) and others soon followed. Though these species were known to science, many had never been seen in the U.S. and many cultivated varieties were previously unknown.

From there, Meyer traveled north through current-day North Korea, entering forests previously unseen by westerners, and now even less accessible. Walking 20 to 35 miles a day, Meyer's group ultimately reached Siberia, where he sought cold- and drought-tolerant vegetables and trees that could be of use, particularly in America's northwestern prairie states. Once, when threatened by brigands, he avoided conflict by simply brandishing his pistol. Meyer was not easily discouraged by danger, and his determination was soon rewarded when he found the legendary "pound peach" (*Prunus persica*) of Shantung, which sometimes weighs more than a pound. Still restless, he journeyed for six more months, finding oaks, forage crops, ornamentals (such as *Syringa meyeri*, a dwarf lilac Meyer found in a garden in Peking in 1909, which is not known to exist in the wild) and fruit—including a small lemon the Chinese near Peking used as a potted ornamental plant. This dwarf citrus later became known as the Meyer lemon (*Citrus* x *meyeri*).

After such bold adventure, the time came for Meyer to return to the U.S., where he spent much of 1909 in "hot and humid Washington," as he put it, cataloging his acquisitions and writing "Agricultural Explorations in the Fruit and Nut Orchards of China."

Three years in Central Asia, 1909-1912

After his first trip through Asia, Meyer studied collections at the Arnold Arboretum in Boston, London's Royal Botanic Gardens, Kew and throughout Europe, working ever east. Leaving St. Petersburg, Russia, he ventured south to the Crimea, where he found the common privet (*Ligustrum vulgare*). In the Caucasus, he found hardy varieties of apples, cherries, almonds and wheat. From Tbilisi, Georgia, his small band ventured through dry, mountainous Azerbaijan and Armenia, sending back grapes, plums, apricots, barley and the paradise apple (*Malus pumila* var. *paradisiaca*), which tolerates extreme cold. Meyer trudged through deserts of Russian and Chinese Turkestan and over 13,000-foot peaks in the Tian Shan, finding in the bitter cold only wild asparagus and alfalfa to eat. Along the Mongolia-Siberia border, he found extremely cold-tolerant apples, currants and apricots, among others.

Though he intended further exploration in China, news of revolution forced him west to Omsk, Russia. Working westward, he eventually returned to the U.S. on the *Mauretania,* which would depart just one day behind the *Titanic*, but escape that ship's fate after slowing its speed in the icy area where the *Titanic* sank.

Modern view of Huashan Mountain in China. The building at right looks to be the same one in Meyer's photo at left.

War and blight, 1912-1915

Shortly afterward, Meyer became involved in the research related to chestnut blight, which plagued the American chestnut tree during the early 20th century. Caused by a fungus, it decimated the species. Meyer was tasked with finding the pathogenic fungus in China to help determine if it had been carried to the American trees through non-native introductions. He showed that the Chinese chestnut (*Castanea mollissima*) was injured, but not killed, by the blight. The blight had indeed been introduced to the U.S. through earlier imports of infected Asian chestnuts. Thanks partially to Meyer's discoveries, attempts continue to this day to cultivate a blight-resistant American chestnut.

Despite the increased danger of outlaws and from malaria, Meyer and his assistant continued collecting and shipping samples from China, and finally left Sian (Xi'an) and went east to Shantung (Shandong). While crossing the mountains of Shansi province in 1914, Meyer discovered, as he wrote to Fairchild, "a small, green peach the size of a marble lying on the side of the road … here at last was the original wild peach [*Prunus davidiana* var. *potaninii*], from which probably most, if not all, of the cultivated strains have been developed."

As Meyer's party neared the border of Tibet, trouble that had been brewing with his native translator and assistant grew worse, and they eventually deserted him. Meyer and Johannis de Leeuw, his Dutch assistant, returned to Lanchow, where they learned of the war in Europe. They had walked 1,000 miles from Sian. Once again Meyer returned to the U.S. to face normal life (writing "China, a Fruitful Field for Plant Exploration"), but not before seeing his introductions thriving at the USDA introduction nursery in Chico, California.

An abrupt end, 1916-1918

Meyer was rarely discouraged by the physical hardship, poor sanitation or danger he encountered. However, the loneliness of travel among people whose language he didn't share took a toll. He also was often plagued by malaria, dysentery and "pessimistic thoughts," which he expressed in his letters to Fairchild. Fairchild, in turn, encouraged Meyer by stressing what a "most valuable asset" he was to his adopted country. Meyer was certainly bolstered by news that the USDA had distributed *Ulmus pumila*, the Siberian elm, to settlers in the American West. This drought-resistant species, along with Chinese elms, was later used as part of a 17,000-mile system of windbreaks that conserved soil during the Dustbowl of the 1930s.

Meyer's final expedition began in 1916 in Yokohama; he spent weeks in Japan, then sailed on to Peking. He discovered centipede grass (*Eremochloa ophiuroides*), ubiquitous throughout the southeast U.S. today, and was the first to document seeing wild-growing *Ginkgo biloba***.** While in Ichang, he expressed that America's entry into the World War caused him great consternation and upset. Despite civil war spreading to Hupeh, he continued exploring, slipping past battles and walking 80 miles through destroyed villages. Along with his guide, Meyer returned to the Yangtze River and boarded a boat to Hankow. He intended to board a connection to Shanghai to sort his herbarium material and mail his latest samples. But one day after departing, he was reported missing. His body was soon recovered from the Yangtze. It remains a mystery whether he fell, jumped or was pushed. But his contribution of more than 2,500 plant samples—some new to science—herbarium specimens, soil samples and acquired knowledge of agriculture laid the groundwork for innumerable plants and research we rely on today for food, fodder, erosion control and simple beauty.