

John George Jack: Dendrologist, Educator, Plant Explorer

Lisa Pearson

John George Jack was a notable figure in the early history of the Arnold Arboretum. His story is perhaps less well known than those of his colleagues, but his fifty-year dedication to the study of trees, plant exploration, formal and informal education, and especially the instruction of a generation of Chinese botanists is unmatched. In 2012, the Arboretum was fortunate to acquire a trove of John Jack archival materials from his granddaughter, Constance W. Cross. Included were three manuscripts written by Jack in the early 1940s, in which he gives a lively account of his early life in Canada as well as a detailed look at the beginnings of the Arnold Arboretum. These historical sketches provide new insight on Jack and served as a primary resource for this article.

Roots

John George Jack (1861–1949) was the son and grandson of Scottish immigrants who came in 1832 to Châteauguay, Quebec, then a farming community and now a suburb of Montreal on the south shore of the St. Lawrence River. His grandfather, also named John Jack (1787–1860), was a blacksmith by trade but his father, Robert Jack (1821–1900), instead took up farming on a 150-acre property that stretched from the Châteauguay River to the border with the Caughnawaga First Nations reservation some two miles distant. Early in his career, Robert raised similar crops to his neighbors—potatoes, grain, hay, and livestock—but as time went on he became increasingly interested in experimental fruit growing with an eye to identifying apple varieties that would be productive in Quebec’s challenging climate. His earliest and most successful orchard, planted in 1859 or 1860, was of the cultivar ‘Fameuse’, also known as the “snow apple” for its very white flesh. In effect creating a private agricultural experiment



A watercolor illustration of the apple cultivar 'Fameuse' painted by Mary Daisy Arnold in 1912. It is part of the USDA Pomological Watercolor Collection, a group of technically accurate paintings that document fruit and nut varieties developed by growers or introduced by USDA plant explorers around the turn of the twentieth century.

station, he trialed many other types of European apples but they were not sufficiently hardy in that severe northern climate. Robert was also an innovator in growing “boutique” produce for the city market in Montreal, decades ahead of other local farmers. He raised two to three acres of asparagus every year, which provided a welcome influx of much needed cash as well as valuable nutrition for the family at a time of year when it was sorely lacking.

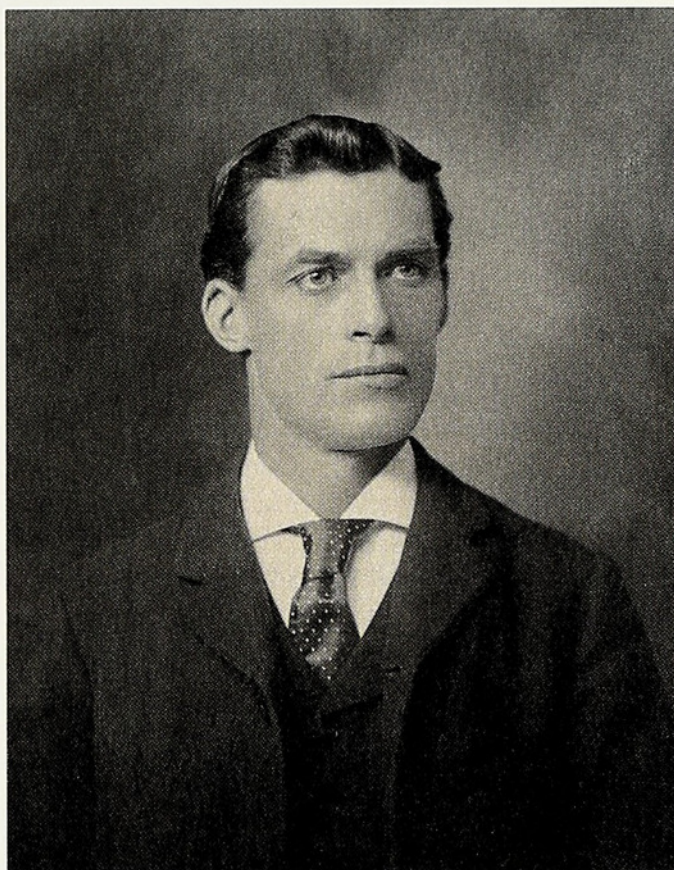
Jack's mother, Annie Linda Hayr Jack (1839–1912), was born in Northamptonshire, England, and immigrated with her family to the United States in 1852. She was educated at the

Troy Female Seminary in Troy, New York, and taught in the city for several years before moving to Quebec. She had been the teacher at the Protestant school in Châteauguay when she married Robert Jack in June 1860. Annie was a remarkable woman who raised eleven children to adulthood and educated them at home periodically, wrote extensively on gardening and agricultural subjects for the popular press, and kept up a voluminous correspondence.

From a very early age, John Jack was passionately interested in insects. One of his earliest books was the 1862 third edition of Thaddeus William Harris's *A Treatise on Some of the Insects Injurious to Vegetation*, which was his constant guide in the field. He collected specimens in his brief spare time between farm chores and carefully mounted the insects on pins in cigar boxes obtained from tobacconists in Montreal. He later remarked that the lingering tobacco smell probably served as a natural insecticide for his collection. His parents encouraged his collecting, "although they did not have much specific scientific knowledge of insects or plants," he later reminisced. His father, who was liberal-minded when it came to religious exercises, allowed him to spend his Sundays outdoors collecting specimens. Their neighbors came to look upon John Jack as a peculiar child for his single-minded devotion to nature. However, he was vindicated some years later when the Colorado potato beetle infested the region and those same neighbors sought out his extensive knowledge of insect pests. Jack joined the Entomological Society of Ontario when he was just 13 years old. Although the Montreal chapter was small, the dozen or so members gave him great encouragement towards his collecting; through his contacts he was later able to network by mail with entomologists in the United States.

Education

Growing up on a busy farm meant that John Jack's opportunities for formal education were often limited, especially as he grew older and more able to assist his father with the heavy farm work. As a young child he was sent to the local Protestant school with his younger siblings, but on occasion, when their parents



John Jack in March 1898 at age 37, just before his expedition to Pike's Peak.

were in disagreement with the management of the school, all the children were taken out and educated by their mother at home.

Winter was a time when farm work was much reduced, so Jack's parents used that opportunity to send him to boarding schools in the region. Over the winter of 1875–76 he attended the Franklin Academy in Malone, New York, boarding in the home of Mary J. Cantwell, a family friend who was, "a landscape painter of some ability and a woman of liberal ideas and education." According to Jack, it was the longest period of "well ordered" high school education he would ever receive. The next winter he boarded at a private school run by an Episcopal priest. Jack found him "straight-laced" and felt he had not gotten very much out of the experience. After this interlude, his formal education effectively ended, save for some lessons in Latin and Greek that he received from the family's local minister. These lessons became less attractive for Jack when he realized that the clergyman was trying to lead him towards becoming a clergyman himself! His parents had enter-

tained the idea of his attending nearby McGill University and he had conversations with the principal, Sir William Dawson, who became a supportive friend. Further discussions of higher education were curtailed, however, because of the potential cost and the pressures of the busy family farm where his younger brothers were not yet able to provide significant help.

Despite his lack of consistent formal education, John Jack received an excellent informal education in horticulture from his father. By age fifteen he was large and strong enough to do much of the heavy farm work with his father but remembered, "Besides the heavier labor there was always a plentiful supply of lighter work. Of such, pruning, grafting, and budding of trees was probably the most important. My father was my first advisor or teacher in this generally little understood part of horticulture." His parents also allowed him about half an acre of land to cultivate as he chose. With careful husbandry on this plot he could raise crops for sale to earn a small independent income.

A turning point for John Jack came in August 1882, when the American Association for the Advancement of Science (AAAS) conference was held at McGill University. He joined the organization and attended many of the sessions, but more importantly he was able to meet scientists whose papers he had read or with whom he had exchanged specimens. Perhaps the most significant friendship he made that week was of the Cheney family, Mrs. Ednah Dow Littlehale Cheney and her daughter Margaret, a chemistry student at the Massachusetts Institute of Technology. Tragically, Margaret died of typhoid fever the very next month after her return to Massachusetts. She is remembered at MIT by the Margaret Cheney Room, a lounge for the exclusive use of women. Mrs. Cheney wrote to Jack that fall to offer him accommodations in her home on Forest Hills Street in Jamaica Plain so he could attend classes and lectures in Boston and Cambridge that winter. He accepted and came to Boston in November. He soon made the acquaintance of Alpheus Hyatt, professor of zoology at Boston University, and Dr. Hermann August Hagen, professor of entomology at Harvard, both of whom welcomed Jack into their laboratories and lectures.

In March 1883, Jack did not return home to the farm but instead continued farther south to River Edge, New Jersey, and the 80-acre farm of Elbert Sillick Carman, the publisher of the *Rural New Yorker*, a newspaper to which Jack's mother was a regular contributor. Carman ran an extensive experimental agricultural operation and it was hoped that Jack would be able to assist and learn techniques to bring home to Canada. No doubt while he was there he met Carman's daughter Cerise, whom he would later marry in 1907. Unfortunately his time in River Edge was cut short by recurrent malaria and he returned home at the end of August. That winter (1883–84) and the following (1884–85) he returned to reside at Mrs. Cheney's and continue his studies in Boston.

At the Arboretum

John Jack next returned to Boston in the spring of 1886. By this time his younger brothers were finally able to do the heavy farm work with their father so Jack was at liberty to pursue a career elsewhere. He recalled years later, "armed with a letter of introduction ... I went to Professor Sargent's home in Brookline and applied to him for work in the new arboretum which would enable me to get further knowledge of trees and at the same time earn a little money to pay incidental expenses." Charles Sprague Sargent, the director of the Arnold Arboretum, offered him manual labor at first. A short time later, Sargent set him to creating a catalog of the plants in the nursery, a task which coincided with the first planting out of material onto the grounds in their Bentham and Hooker botanical sequence. For the next few years Jack acted in the capacity of a curatorial assistant, preparing herbarium specimens, packaging and distributing seeds, preparing planting plans, mapping the collection, and keeping records of flowering and fruiting. He performed all those duties to a greater or lesser degree throughout his career, but in 1891 he also became "Lecturer at the Arnold Arboretum" and began to conduct springtime classes on trees and shrubs for the general public. They proved to be very popular and additional fall classes were instituted as well. They were finally discontinued in 1908 when attendance dropped off; however, classes

continued in the community and were taught by many of the same people who had originally taken classes from Jack years before.

In the first twenty years of his career in Boston, John Jack was a bachelor of presumably thrifty habits, boarding with Mrs. Cheney in Jamaica Plain. As such, he was able to accumulate enough savings to periodically travel in order to botanize and visit botanic gardens and arboreta. Travel in that period was truly an expedition; it took about a week to reach Europe by sea, and once there, ground transportation was by rail or horse-drawn conveyance. Jack's trips were lengthy, lasting six months in the case of his visit to Asia (see textbox on page 6). He made his first trip overseas in 1891, visiting Paris, Berlin, Geneva, northern Italy, Copenhagen, Hamburg, Brussels, and Britain. He spent several weeks at Kew alone and at

Special Notices.

ARNOLD ARBORETUM OF HARVARD UNIVERSITY.

Mr. J. G. JACK will conduct 15 Field Meetings during the months of May and June, and will explain in a popular manner the character and habits and the economic and ornamental qualities of the trees and shrubs which grow in New England. These meetings will be held on SATURDAY MORNINGS and WEDNESDAY AFTERNOONS, beginning on May 9. The fee for the course will be \$5. Circulars and full information can be obtained from Mr. J. G. JACK, Jamaica Plain, Mass. C. S. SARGENT, Director.
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An announcement for a spring session of John Jack's popular tree classes from around 1900.

every stop was able to meet in person the botanists and horticulturists with whom he had corresponded.

He took another leave of absence in 1898 to explore and report on the forests of the Pikes Peak region, his first exposure to the Rocky Mountain flora. Jack went west again in 1900 to



This image of *Abies lasiocarpa* at Lake Louise, Alberta, Canada, was made by Alfred Rehder in August 1904 while on a plant collecting trip with John Jack.

A JOURNEY TO THE FAR EAST

In 1905, John Jack decided to visit Japan, Korea, and China. He hoped that the things he would invariably learn while abroad and the plants he might find would enrich his teaching and the collections of the Arboretum. For some unknown reason, Charles Sargent was opposed to his trip. He refused to pay for any of Jack's expenses and he docked Jack's pay of fifty dollars a month for the duration of his six-month leave of absence. Undeterred, Jack left Boston at the beginning of July and arrived in Yokohama at the end of the month. He spent the next month and a half visiting gardens, parks, and forests in the area and made an expedition further afield to Nikko and Lake Chuzenji. He decided to alter his itinerary and pay a visit to Sapporo where he was hosted by Professor Kingo Miyabe, whom he had known many years earlier when Miyabe was a doctoral candidate at Harvard University.

From Japan, Jack sailed to Korea where he spent several weeks exploring the region around Seoul. Unfortunately the Japanese government, which had ruled the country since the end of the recently concluded Russo-Japanese War, would not allow travel out of the area, thus precluding any chance of botanical collections outside of the capitol. Jack then traveled to Shandong, China, and then on to Beijing. There he spent time botanizing with his old friend Frank N. Meyer, who was collecting economic plants for the U.S. Department of Agriculture. He returned to Japan in October to spend time with his brother, Milton, and to revisit Lake Chuzenji where he had noted numerous rhododendron and azalea species from which he collected seeds.

He finally sailed for home by way of Naples, Italy, in November, arriving in New York on December 20. Jack considered this trip a success, notwithstanding the recently concluded war between Russia and Japan that hampered his movements somewhat. It cost him some \$2,000, so it came as a pleasant surprise when Sargent, in an uncharacteristically apologetic manner, admitted the great value of Jack's collections and allowed him the \$300 in back pay that had been withheld during the trip.

The library has digitized a collection of John Jack's photographs from Japan, which are available at <http://via.harvard.edu>. A short introduction is available on the Library website: <http://arboretum.harvard.edu/library/image-collection/botanical-and-cultural-images-of-eastern-asia/john-george-jack/>



Japanese black pine (*Pinus thunbergii*) grows above the wall and moat surrounding the Imperial Palace in Tokyo, Japan, in this John Jack photo from August 19, 1905.



John Jack photographed this large specimen of Japanese chestnut (*Castanea crenata*, known then as *C. japonica*) along a road between Narai and Fukusawa, Japan, on September 2, 1905.



In addition to making his own photographs in Asia, Jack also purchased colored lantern slides to use in his lectures. Seen here are two lantern slides from Japan showing people under a wisteria-covered arbor (left) and women digging shellfish on a beach (right).

examine the Big Horn Forest Reserve in Wyoming for the U.S. Forest Service. At the request of Forest Service director Gifford Pinchot, he surveyed the forests of Vermont in 1901. He again went west in 1904, this time in the company of Arboretum colleague Alfred Rehder. They "collected assiduously for the Arboretum, both herbarium and living material," traveling west on the Canadian Pacific Railroad to Vancouver, then on to Washington, Oregon, and down into California in a stagecoach. Probably the most notable collection from this trip was *Picea glauca* var. *albertiana*, the dwarf Alberta spruce. During all these trips, Jack was busy collecting herbarium material, seeds, and plants for the Arboretum. He was keenly encouraged by Charles Sargent to do so, even though during his times away he was required to take leaves of absence without pay.

Teacher

The Massachusetts Institute of Technology instituted a program in landscape architecture in 1899, headed by Charles Sargent's nephew Guy Lowell. Sargent recommended that Jack be appointed the instructor in landscape horticulture. His curriculum included dendrology, use of trees in the landscape, creation of planting plans, plant pathology, and practical tree care. Women were admitted to the program (MIT allowed female students while Harvard did not) but in spite of that, enrollment was never very great and competition from a similar course at Harvard sounded its death knell in 1908. During the same period Harvard, in the person of President Charles Eliot, decided that the University needed an undergraduate program in forestry, not associated with the Arboretum, and asked John Jack to be one of the lecturers. He later recalled, "As Professor Sargent was abroad at the time I had to decide. He afterwards told me he would have been opposed if he had been consulted." It was Sargent's feeling that one forestry program—the



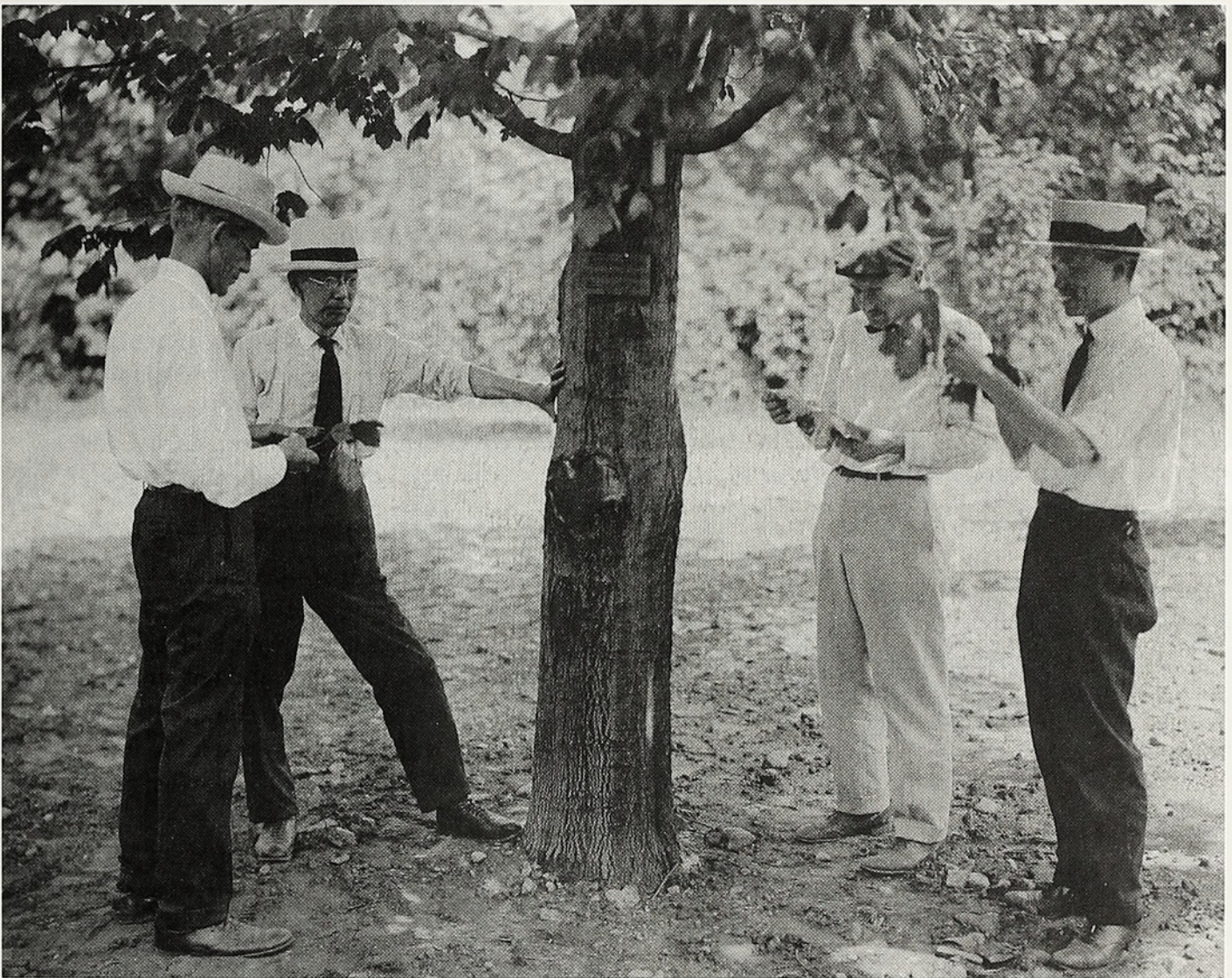
John Jack with a class of forestry students examining trees in the hickory (*Carya*) collection. The photograph is from around 1900.

one at Yale—was plenty for New England. Jack, however, had a different take on it, "I always thought that his real opposition was due to the idea that a forestry department would get money that might otherwise come to the Arboretum, his own pet creation." The course met on campus during the cold months but moved out to the Harvard Forest in Petersham, Massachusetts, for field studies in the spring and fall. In 1908, Jack was appointed Assistant Professor of Forestry and at about that time the course switched from undergraduate to postgraduate level. Later, Harvard discontinued the forestry school but Harvard Forest continued as a center for research.

The first quarter of the twentieth century saw an influx of Asian students to Harvard. While the Arboretum did not confer degrees, students

could matriculate at the Bussey Institution and then study with John Jack, one-on-one or in small groups. An early student was Woon-Young Chun (Chen Huanyong) who had previously studied forestry at the Massachusetts Agricultural College and the forestry school at Syracuse University and came to study dendrology with Jack in 1915. Students like Chun came halfway around the world to study the tree flora of their native country because of the convenience of having an extensive living collection and a complete herbarium all in one place. In a 1917 interview Chun remarked, "It would take me a lifetime of travel to study what I can find out here about Chinese trees in a few years." One of Jack's most notable Chinese students was H. H. Hu (Hu Xainsu), the botanist who,

along with colleague W. C. Cheng (Zheng Wan-jun), first identified and named living examples of dawn redwood (*Metasequoia glyptostroboides*), a tree previously thought to be extinct but found growing in Hubei in the late 1940s. Hu greatly respected and admired Jack and corresponded with him for the remainder of his life. In a letter dated June 17, 1931, Hu asks Jack for a portrait that they might hang in their herbarium, "Since most of Chinese systematists studied under you and you have exerted such an important influence toward Chinese botany, your photograph is specially needed." In addition to their education at the Arboretum, Jack also brought his students to his property, "Folly Farm," in Walpole, Massachusetts, for practical horticultural training in the garden and orchard.



John Jack (far left) with some of his Chinese students, including Woon-Young Chun to the far right in the boater hat, in a 1917 photograph by A. A. Greenlaw.



× *Sorbaronia jackii*



Rhododendron schlippenbachii



Indigofera kirilowii

JACK'S ACCESSIONS

John George Jack left an indelible mark on the Arnold Arboretum, particularly through the prudent care and attention he gave to the early curation of the rapidly expanding collection. He was also quite the collector of plants himself and over 1,700 accessions originally collected by Jack have moved through the Arboretum. These represent collecting efforts in Asia as well as considerable sampling throughout North America. The majority of his collections did not survive beyond the 1930s, but some 100 accessioned plants collected by Jack do continue to grow at the Arboretum. These include three interesting hybrids, all named in honor of Jack, and some Korean accessions from Jack's 1905 trip to Asia.

Hybrids:

- × *Sorbaronia jackii* – A naturally occurring hybrid between *Aronia* × *prunifolia* and *Sorbus americana* that was collected in 1924 from Halifax, Nova Scotia.
- × *Amelasorbus jackii* – Another naturally occurring hybrid, this time between *Amelanchier alnifolia* and *Sorbus scopulina* that was found in 1918 at Elk Butte, in Clearwater County, Idaho.
- Quercus* × *jackiana* – A naturally occurring hybrid between *Quercus alba* and *Quercus bicolor* whose type specimen was collected by Jack locally in Boston and named by Austrian botanist Camillo Schneider.

Three plants collected in 1905 in Korea:

- Rhododendron schlippenbachii* – One of the most amazing azaleas for both early-flowering displays of large pink blossoms and wonderful gold, orange, and red autumn foliage.
- Hemiptelea davidii* – A monotypic small tree in Ulmaceae, its leaves resemble its relatives elm and zelkova but it also bears formidable spines on its branches.
- Indigofera kirilowii* – A small suckering shrub in the pea family, often used as a ground-cover and bearing racemes of lilac-pink flowers in midsummer.

Michael S. Dosmann, Curator of Living Collections

Legacy

In 1926, Charles Sargent personally asked Jack to go to the Atkins Institution in Cuba, near Cienfuegos in the western part of the island, to collect specimens for the Arboretum herbarium, which lacked material from that part of the Caribbean. He made several trips over the next ten years, sometimes accompanied by special students from the Arboretum. The Atkins Institution was started as a private experiment station at about the turn of the twentieth century to develop better varieties of sugar cane. It was given to Harvard some years later and comprised over two hundred acres of open and forested land populated with Cuban and West Indian woody plants.

In addition to his collections for the Arboretum, Jack also began a herbarium for the use of the Institution containing specimens from their collection as well as other Cuban flora. Karl Sax, Bussey Institution colleague and future director of the Arnold Arboretum, spent time with Jack at the Atkins Institution in 1936. He remembered, "I discovered that although he was 75 years old Professor Jack was up at 6 A.M., worked all day, often travelling into the surrounding country on horseback, and continued to work until 11 or 12 o'clock at night." The Institution remained part of Harvard until 1961 when its director, Dr. Duncan Clement, left Cuba due to pressures associated with the Cuban Revolution and the University ended its support. Today the garden is managed by the Cuban government.

John Jack continued to busily curate the Arboretum collections, to teach, and to collect plant material up until his retirement in 1935 at age 74, the mandatory retirement age imposed by Harvard University. In his later years he lived on his farm in Walpole where he maintained an extensive apple orchard that yielded large crops every year. His wife Cerise had died just after his retirement but his adopted daughter Betty, her husband, and their two daughters shared the farm with him. While pruning in his orchard in 1948, Jack fell from a ladder and broke his hip, leaving him bedridden. He died several months later in 1949, aged 88.

A person like John George Jack would be a rarity today. He was a smart self-starter who made the most of opportunities when they pre-



John Jack in Cuba, April 1927.

sented themselves, and was fortunate to live at a time when it was not absolutely necessary for an academic to have an advanced degree. He was a teacher with an amazing gift for engaging his students, no matter what their background and education might have been. He was a methodical and diligent naturalist, in the broadest meaning of the term, whose interests ranged from entomology to forestry, horticulture, dendrology, and all points in between. The Arnold Arboretum was extremely fortunate that Jack chose to spend his long career here in Boston.

Acknowledgement

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