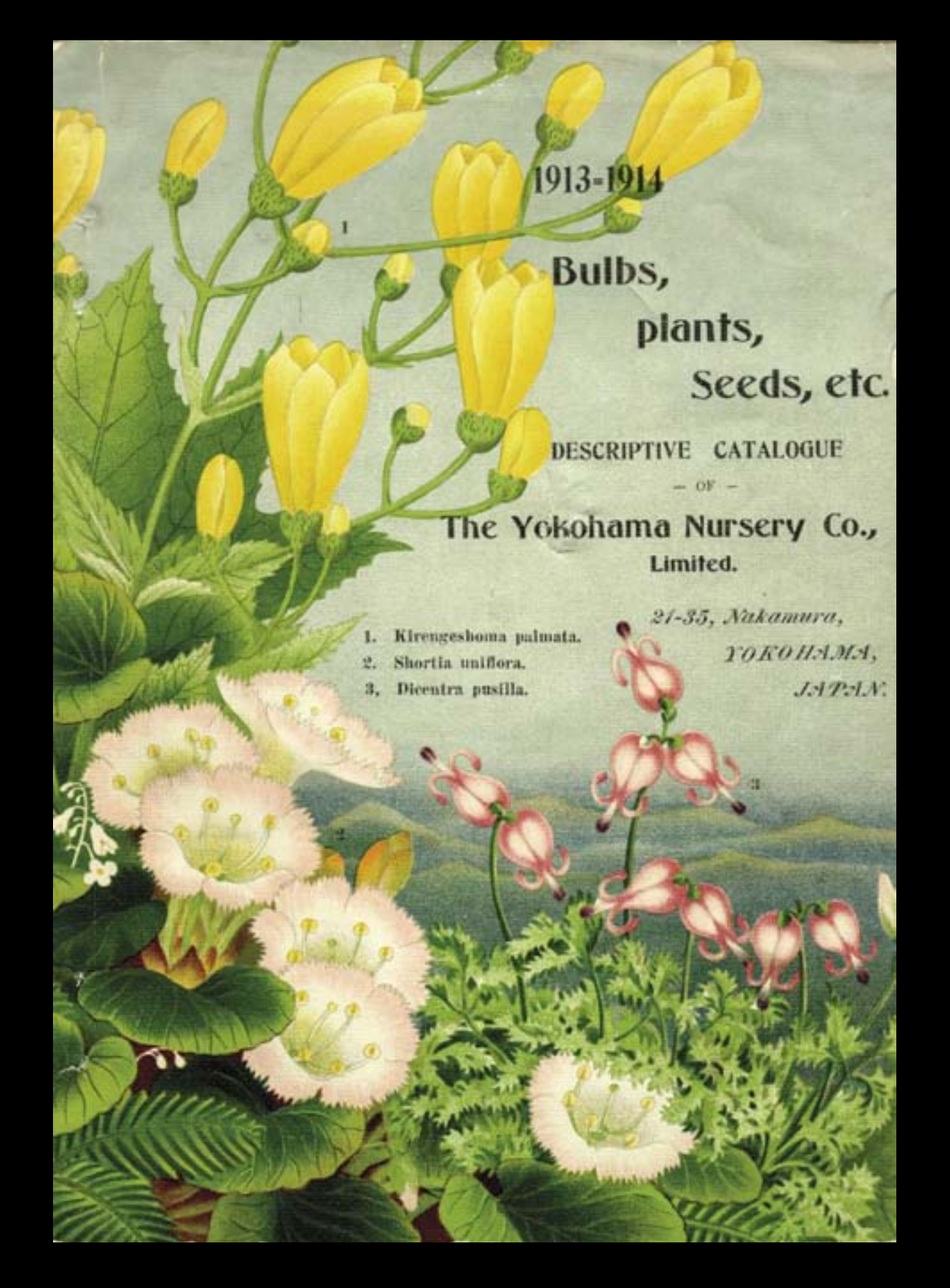


arnoldia

The Magazine of the Arnold Arboretum

THE LARZ ANDERSON BONSAI COLLECTION





1913-1914

**Bulbs,
plants,
Seeds, etc.**

DESCRIPTIVE CATALOGUE

— OF —

**The Yokohama Nursery Co.,
Limited.**

1. *Kirengeshoma palmata.*
2. *Shortia uniflora.*
3. *Dicentra pusilla.*

21-35, Nakamura,

YOKOHAMA,

JAPAN.

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THE LARZ ANDERSON BONSAI COLLECTION

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Andy Winther, *Designer*

This double issue celebrates the Arnold Arboretum's Larz Anderson Collection of Dwarfed Japanese Trees. At one level, it presents its history from their arrival in America in 1913 to the present; at another, it is a microcosm of cross-cultural exchange between Japan and the West. Among the thousands of plants shipped from Japan in the late nineteenth and early twentieth centuries, the trees in this collection are among the very few survivors left to tell the tale.

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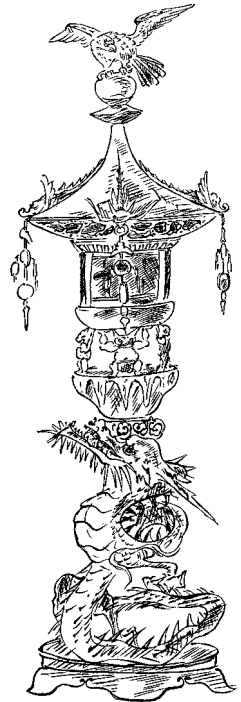
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Front cover:
Chamaecyparis obtusa
'Chabo-hiba', Arnold Arboretum #877-37, the oldest plant in the Larz Anderson Collection, started in 1737. Photographed in 2005 by Dave Henderson.

Inside covers: The front and back covers of the 1913–1914 Yokohama Nursery catalogue.

Back cover: The cover of the 1905 Yokohama Nursery catalogue. Note the 'Chabo-hiba' logo in the upper left hand corner.



Item #349 from the 1904 Boston Auction Catalogue.

FROM TEMPLE TO TERRACE

The Remarkable Journey of the Oldest Bonsai in America

Peter Del Tredici

The Larz Anderson Collection of Japanese Dwarfed Trees at the Arnold Arboretum was originally imported into the United States by the Honorable Larz Anderson in 1913, upon his return from serving as ambassador to Japan. The core of the collection consists of seven large specimens of compact hinoki

cypress (*Chamaecyparis obtusa* 'Chabo-hiba')—between 270 and 145 years old—that Anderson had purchased from the Yokohama Nursery Company (Figure 1). While these are certainly not the oldest Japanese dwarfed trees in the United States, they have been under cultivation longer than any other plants currently growing



Figure 1. Portrait of 'Chabo-hiba' #881-37 started in 1862. It stands 110 centimeters tall by 140 centimeters wide. Photographed in 2002 by Colin Lewis.

in North America. To be sure, dwarfed trees had been imported into the United States from Japan prior to 1913, but none of these plants are alive as far as I have been able to determine.

The fact that the Larz Anderson Collection has survived the ravages of both time and occasional neglect for the past ninety plus years is not only a testament to the care it has received, but also to the incredible durability of the plants themselves. In a very real sense, the 'Chabo-hiba' hinoki cypresses in the Larz Anderson Collection provide a direct link to the early 1900s, when the wealthy Americans and Europeans, infatuated with all things oriental, were passionately collecting cultural artifacts from Japan, and the Japanese, in their headlong rush to modernize, were only too willing to oblige this passion. The purpose of this book, then, is two-fold: to document the spirit of the early twentieth century as it relates to the importation of ancient bonsai plants from Japan into North America, and to show how this spirit has been miraculously preserved in the ancient 'Chabo-hiba' specimens that today make up the Larz Anderson Collection of the Arnold Arboretum.

The Yokohama Nursery Company

The story of the Larz Anderson Collection really begins with events that took place in July 1853 and February 1854, when Commodore Matthew C. Perry, led two separate armadas of American "black ships" into Edo Bay, and forced the Japanese government to open its ports to trade with the United States. This initial opening eventually led to establishment of the Meiji Restoration in 1868, which marked the end of the Tokugawa dynasty that had ruled Japan since 1603. The Meiji government moved quickly to established new political boundaries, instituted a new land tax system, and actively encouraged the development of an economy based on manufacturing and heavy industry. In an effort to speed up this modernization process, the government paid some three thousand foreign technical experts to come to Japan to start new businesses and train Japanese citizens to run them.

One of these foreign experts was Louis Boehmer, a German citizen who had immi-



Figure 2. A 'Chabo-hiba' wood cut from the 1892 Yokohama Nursery catalogue. Illustration courtesy of the United States National Arboretum.

grated to America around 1866 and become a successful gardener in Rochester, New York. He next moved to Japan in 1872 to head a government-owned farm that was operated by American agricultural officials. After the break-up of this farm, Boehmer established his own nursery in 1882, which specialized in exporting Japanese plants to Europe and the United States. In 1890, Boehmer sold his company to his German partner, Albert Unger, who operated it with his American wife, Mary, until 1908 (Creech, 1988).

At roughly the same time that Boehmer sold his nursery to Unger in 1890, a group of four Japanese nurserymen established the Yokohama Gardeners Association with the purpose of exporting Japanese plants to the west. One of these original founders of this cooperative was Uhei Suzuki, who had worked for Boehmer for seven years previously. In 1892, the Yokohama Gardeners Association issued their first English catalogue that offered both green and gold



Figure 3. “*Thuja Obtusa*, var. *Chabo-hiba*. Specimens of the famous Japanese minimized tree, above 100 years in pots.” Woodcut from the 1901 Yokohama Nursery catalogue.



Figure 4. “A rare specimen of dwarfed *Thuja obtusa* (400 years old). A relic of the Tokugawa Era.” Illustration from the 1905 Yokohama Nursery catalogue. Note the same type of concrete container in Figure 7.

‘Chabo-hibas’ for sale and was illustrated with a woodcut of a spectacular, 120-year-old potted ‘Chabo-hiba’ specimen (Figure 2). At some point between 1893 and 1894, the Yokohama Gardeners Association was re-organized into the Yokohama Nursery Company under the

leadership of Uhei Suzuki and his son Hamakichi (Elias, 2005).

The Yokohama Nursery Company catalogues from the mid-1890s through the mid-1920s are impressive documents, written in English and beautifully illustrated with colored plates, line drawings, and photographs of classic Japanese garden plants (see back and inside covers). Many of the colorful wood block prints were created by Tokejiro Hasegawa, one of the premier artists of his day. The 1901 catalogue contains a beautiful woodcut of three specimens of “*Thuja obtusa* var. *Chabo-hiba*” with the label, “the famous Japanese minimized tree, over 100 years in pots” (Figure 3). The 1905 and subsequent catalogues feature a photograph of a magnificent, 400-year-old ‘Chabo-hiba’ specimen that was labeled “A relic of the Tokugawa Era,” (Figure 4).

The Yokohama Nursery Company’s listings of “Dwarfed Trees Growing in Jardinières” featured a wide variety of both conifers and flowering trees in a range of sizes, and included remarkably detailed instructions, written in flawless English, on how to care for these dwarfed trees once they arrived at the customer’s home (see page 63). Interestingly, none of the Yokohama Nursery catalogues used word *bonsai* to describe the plants they offered for sale. The section on dwarfed plants was typically only a small part of the catalogue, which often ran over eighty pages long and featured an incredible array of plants, seeds and bulbs. They sold both wild species and horticultural varieties, along with an amazing selection of pots and other decorative objects for the garden and greenhouse. Numerous photographs of the nursery operation were published in the catalogues (Figure 5) which portray a prosperous, well-organized business. Many famous horti-



HEAD OFFICE OF THE YOKOHAMA NURSERY CO., LTD.



ARBOR OF THE YOKOHAMA NURSERY CO., LTD.

Figure 5. Photographs of main office and grounds of the Yokohama Nursery Company from the 1908 catalogue.

culturists from Europe and the United States visited the nursery, including E. H. Wilson of the Arnold Arboretum, who took a number of photographs of the grounds in 1918. Among his pictures is one which shows a impeccably groomed ‘Chabo-hiba’ (Figure 6), and another which shows a large group of ‘Chabo-hibas’ growing in the distinctive concrete containers as well as in the ground (Figure 7).

At the turn of the nineteenth century, there were at least twelve Japanese nursery companies exporting dwarfed trees and other nursery products to the west. Without question, ‘Chabo-hiba’ was the most common type of dwarfed tree being exported between 1890 and 1920. Many of the specimens offered for sale were hundreds of years old and had once



Figure 6. A beautiful ‘Chabo-hiba’ specimen at the Yokohama Nursery Company, photographed on June 7, 1918 by E. H. Wilson. The caption reads, “*Chamaecyparis obtusa* var. *nana* Carr. Genuine dwarf tree about 70 years old. Value 50 yen.”



Figure 7. A large group of pruned ‘Chabo-hibas’ at the Yokohama Nursery Company, photographed on June 7, 1918 by E. H. Wilson. The caption reads, “*Chamaecyparis obtusa* var. *nana* Carr. Group of trained specimens. *Tsuga diversifolia* Maxim. In center.” Note the concrete containers similar to those in Figure 4. The tall specimens in the background are also ‘Chabo-hibas’.

occupied places of honor in temples throughout Japan. They were usually trained into a conical shape—suggestive of a distant mountain—with regularly arranged, horizontal branches.

At roughly the same time that these traditionally trained trees, properly known as *hachi-no-ki*, were being shipped off to Europe and America, trees grown in the more modern, naturalistic *bonsai* style was gaining in popularity in Japan (Matsuki, 1931; Marushima, 2005). In this regard, the ancient specimens of ‘Chabo-hiba’ were no different than some of the other artifacts of traditional Japanese culture, which were being sold off to the highest bidder during the country’s headlong rush to modernize.

DWARFED TREES AT NINETEENTH CENTURY INTERNATIONAL EXPOSITIONS



Figure 8. *The Japanese pavilion from The Centennial Exposition, Described and Illustrated, by J. S. Ingram, 1876.*

One particularly significant manifestation of Japan's opening up to the west was its participation in various international expositions which provided the opportunity to showcase its culture, its arts, and its commercial products, often in a garden setting. The famous "Centennial Exposition" held in Philadelphia in 1876 featured a Japanese pavilion along with a house and garden (Figure 8). The exhibit contained at least one dwarfed tree in a pot, most likely a specimen of 'Chabo-hiba':

In a box of blue porcelain, with white raised imitations of beets, carrots, etc., on the outer surface, and having porcelain supports of the size, shape and color of turnips, was a stunted cedar tree sixty years old and not more than thirty-two inches in height. The spread of its branches was four and half feet in the widest part. The trunk was eight inches in diameter. (Ingram, 1876)

The first extensive display of dwarfed trees outside of Japan occurred in Paris in 1878, during the famous "L'Exposition Universelle," and caused a sensation in the French horticultural world. Elie-Abel Carrière wrote an article about the exhibition in *Revue Horticole* in 1878, which contained illustrations of some of the

more spectacular plants (Figure 9). A second Paris Exposition, in 1889, featured an equally dramatic display of Japanese dwarfed trees, including several specimens of 'Chabo-hiba', which were illustrated in another *Revue Horticole* article by Carrière (Figure 10).

The first significant display of Japanese dwarfed plants in the United States took place at the "World's Columbian Exposition" held in Chicago, Illinois in 1893. The Japanese exhibit featured an elaborate building and a garden with several potted specimens of 'Chabo-hiba', which were probably supplied by the Yokohama Gardeners Association (Elias, 2005). In the March 15, 1893 issue of *Garden and Forest*, Charles Sprague Sargent, director of the Arnold Arboretum, described the sad history of one particular plant, no doubt a 'Chabo-hiba', which never made it into the display:

A remarkable dwarf Cedar, known to be three hundred years old, was sent some time ago to the Chicago Fair by the Emperor of Japan. It seems strange to learn that it was prepared for transportation by being taken from its pot and wrapped in paper; and not at all strange that when it reached Jackson Park it should have been nearly dead.



Figure 10. Two specimens of 'Chabo-hiba' illustrated in E.-A. Carrière's 1889 article "Japonaiseries," published in *Revue Horticole*. The plants, which he labeled *Retinospora obtusa breviraemea*, were 80 and 150 years old respectively and 70 to 80 centimeters tall.

Every effort was used to resuscitate it, but a few days ago it died. Nevertheless, its defunct form will be carefully set in a pot and exhibited in the Horticultural Building. It is described as a remarkable example of the skill of the Japanese in retarding the growth of trees and yet preserving, in miniature, the aspect of an ancient, weather-worn specimen. It is larger than the most interesting of these dwarfs which were shown at the Paris Exhibition [see Figure 10], being about three feet in height.

Five months later, in the August 30, 1893 issue of *Garden and Forest*, Liberty Hyde Bailey of Cornell University described two other 'Chabo-hiba' in the Columbian Exposition that survived the long journey from Japan:

There are many curious plants in this garden. The chief interest centers about two twisted trees of *Thuja obtusa*, which are three to four feet high, and a hundred years old. This Japanese garden cannot be called beautiful, as Americans understand rural art, but it is curious and gro-



Figure 11. A 'Chabo-hiba' at the World's Columbian Exposition in Chicago. Photograph from The World's Columbian Exposition, Chicago, 1893 by White and Igleheart.

tesque, and it is one of the best object-lessons in the art of patient and persevering garden-craft. (Figure 11)

A third article about the Japanese exhibit appeared in the September 6, 1893 issue of *Garden and Forest*, which reprinted the text of a public lecture by Henry Izawa, the gardener of the Imperial Japanese Commission to the Columbian Exposition. He described the methods used by the Japanese to produce dwarfed plants as well as the techniques of propagating 'Chabo-hiba':

We give plenty of fertilizer to the plants of *Thuja Lobbi*, and, in early spring, take two-inch shoots of *Thuja obtusa*, cut the ends slantwise and insert them in the smaller portions of the *Thuja Lobbi* trunk, using one graft to every inch on the trunk. We then wrap the grafts with rice straw and take them to a shaded, windless room with the temperature of thirty-five degrees Fahrenheit. For three weeks the temperature is raised one or two degrees daily, and by that time a little breeze may be admitted; the temperature of the room is kept at sixty degrees for two weeks, and at seventy degrees for two weeks, and then leaves will start from the grafted twigs. In the latter part of spring, when the temperature in and out-of-doors becomes uniform, the plants can be safely transferred to some shady position out-of-doors. In the fall, when all the grafts have taken good hold, all the remaining shoots of *Thuja Lobbi* are cut off. Transplant every year in good rich soil; six years will be sufficient to produce handsome specimens of dwarfed *Thuyas*.

DWARFED TREES SOLD AT PUBLIC AUCTIONS

In addition to the sale of dwarfed plants through Japanese nurseries, public auctions were another important channel for the dissemination of particularly choice 'Chabo-hiba' specimens to the west. Given their ephemeral nature, these auctions received only limited publicity, and there is precious little evidence of their occurrence. Indeed, only three catalogues for these major auctions are known to exist, all of which I was fortunate to obtain copies of. The oldest catalogue is from 1899, for an auction held in Boston, Massachusetts, and was generously provided by Mr. Michael Levin, owner of "Bonsai West" in Littleton, Massachusetts (Figure 12). A photocopy of the 1900 London auction catalogue came from Mr. Harry Tomlinson of Nottingham, England (via Dr. Tom Elias of the United States National Arboretum in Washington, D.C.). And finally, I discovered the 1904 New York City catalogue in the Archives of the Arnold Arboretum in 1988 (Del Tredici, 1989). This catalogue had been posthumously donated to the Arnold Arboretum in 1958 by Dr. Ernest G. Stillman, a graduate of Harvard College (class of 1907) and a well-known benefactor of that institution.

The Boston and London auctions were sponsored by Yamanaka & Company of

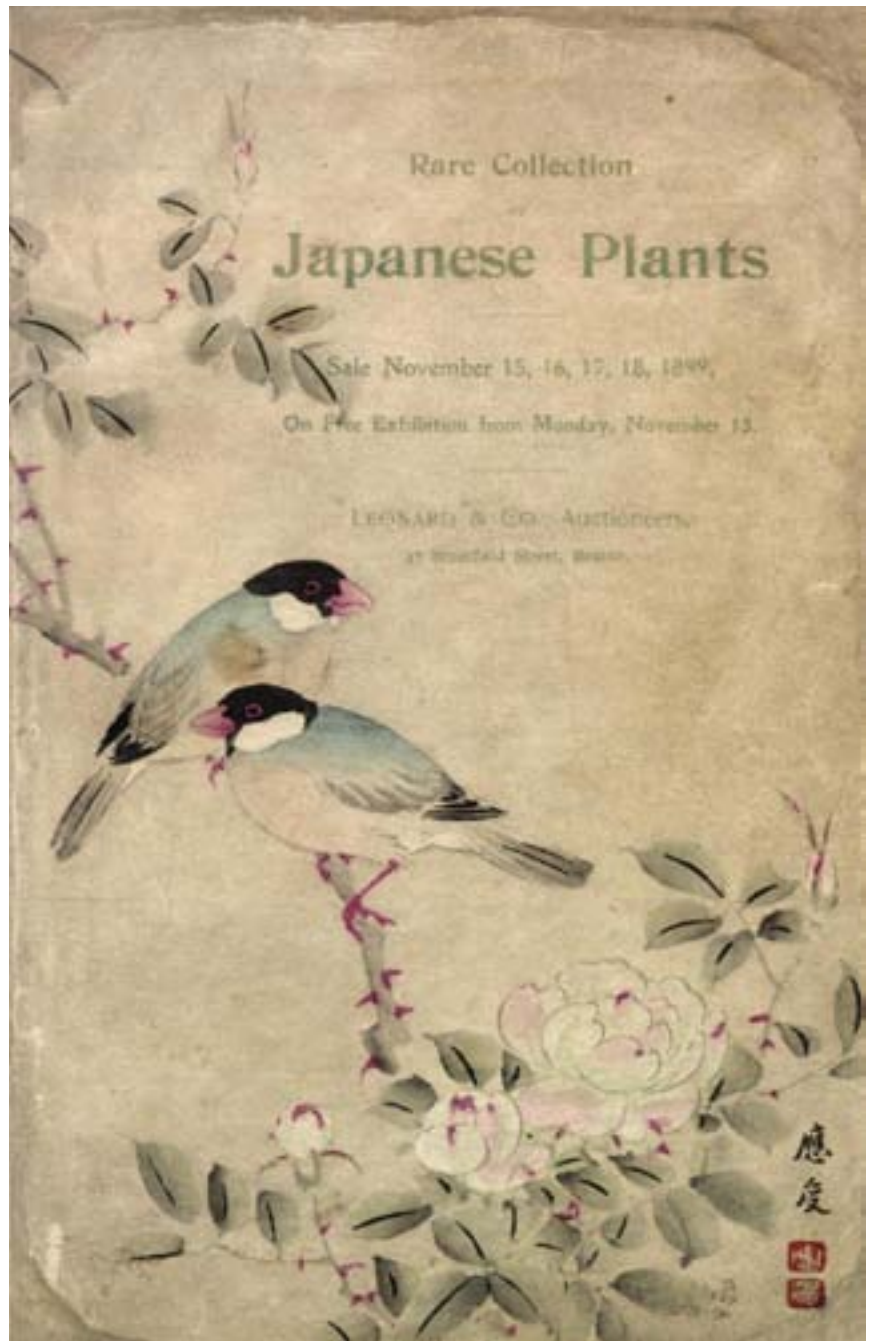


Figure 12. *The front cover of the November 15-18, 1899 auction catalogue, sponsored by Yamanaka & Co. in Boston.*



Figure 13. *The staff of the S. M. Japanese Nursery Company, from the 1904 New York auction catalogue.*

Osaka, Japan, while the New York auction was sponsored by the S. M. Japanese Nursery Company of West Orange, New Jersey (Figure 13). All the catalogues are profusely illustrated with black and white photographs of the plants and other miscellaneous art objects, and the Boston and New York catalogues have beautiful color covers, the later featuring a woodblock print of a woman watering *bonsai* plants by the famous artist Mizuno Toshikata (Figure 14).

While many different types of “arboreal plants, curiously and artistically trained” were offered for sale in the auctions, ‘Chabo-hibas’ were the most common specimens offered for sale in two of the three early auctions. Indeed, 321 (25%) of the 1310 total items offered for sale in the three auctions combined were ‘Chabo-hiba’. Statistically speaking,

the average ‘Chabo-hiba’ offered for sale was roughly 60 years old and 48 centimeters tall; it was most likely green in color (but it could also be golden or white-variegated), with a conical shape, and was growing in a blue and white pot. A complete summary of all the plants offered for sale in the three auction catalogues is presented in Table 1.

Interestingly, only one hundred and thirty-nine of the items offered for sale in the three auctions were specifically labeled as “Bon Sai,” a term that the glossary of the 1904 New York catalogue describes as: “Interpreted means a large tree of the forest that the tree trainer has taken as a model and trained in miniature to show every detail, even to the number of branches and shape of trunk, etc., that the large tree possesses, literally meaning a ‘tree on a

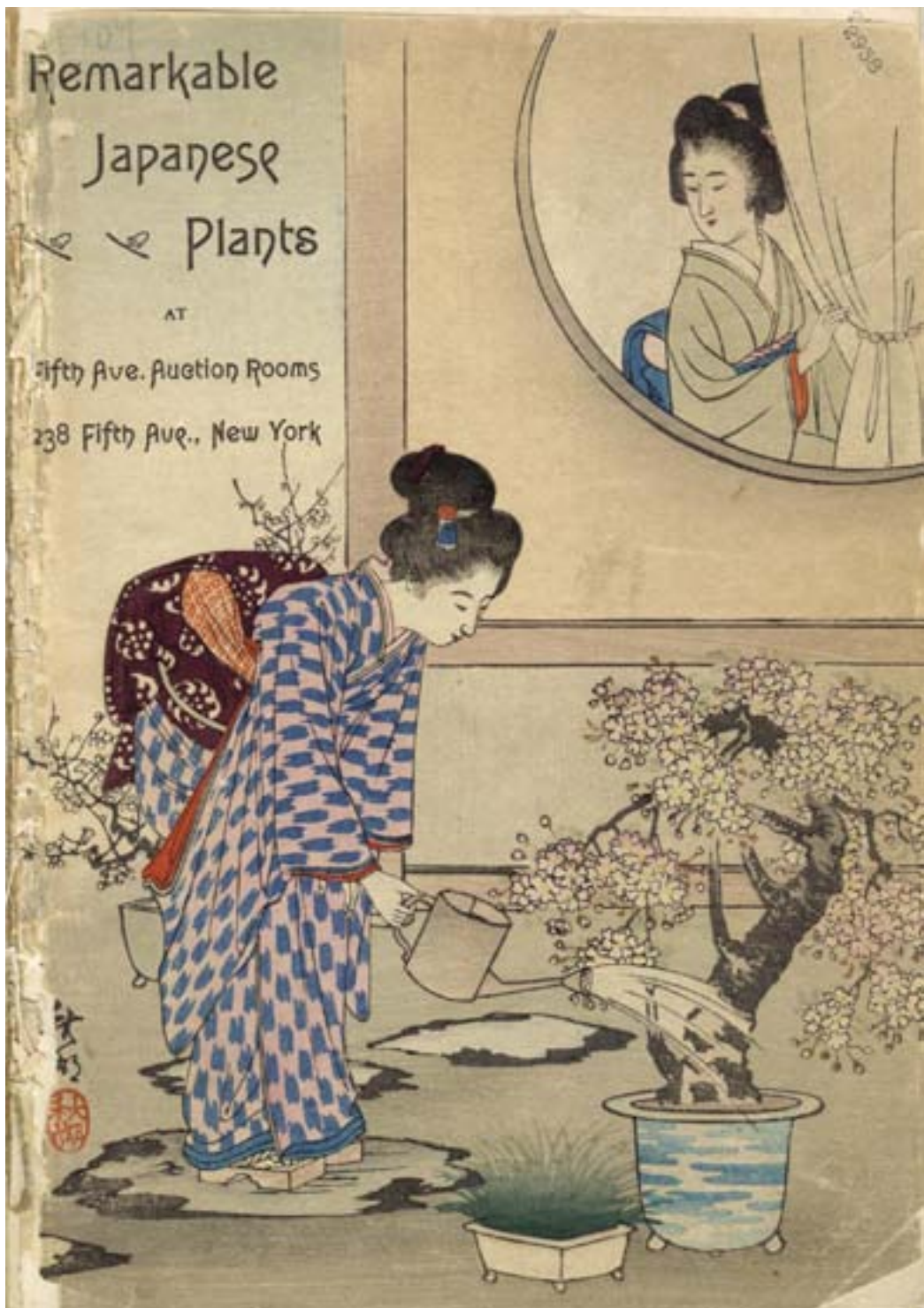


Figure 14. Front cover of the catalogue for the auction sponsored by the S. M. Japanese Nursery Company of West Orange, New Jersey on May 4-6, 1904 in New York City. This woodblock print is by Mizuno Toshikata, and is very similar to his March 1, 1899 print “#6 Woman watering bonsai,” from his “Contemporary Beauties” series.

	Boston 1899	London 1900	New York 1904	Grand Totals
Total number of Auction items	450	300	560	1310
'Chabo-hiba' plants	112	74	135	321 (25%)
'Chabo-hiba' variety: green	88	67	123	278 (87%)
'Chabo-hiba' variety: gold	20	7	9	36 (11%)
'Chabo-hiba' variety: variegated	4	0	3	7 (2%)
'Chabo-hiba' < 50 years	74	21	71	166 (54%)
'Chabo-hiba' > 50 < 100 years	34	33	37	104 (34%)
'Chabo-hiba' > 100 years	4	18	15	37 (12%)
Average age of 'Chabo-hiba' (years)	48.2 yr (n = 112) range: 10 to 285	77.9 yr (n = 72) range: 18 to 300	58.8 yr (n = 123) range: 14 to 300	59.5 yr (n = 307)
Average height of 'Chabo-hiba' (in.)	20.7" (n = 112) range: 5" to 54"	18.6" (n = 72) range: 5" to 36"	17.4" (n = 126) range: 9" to 43"	18.8" (n = 310)
'Chabo-hiba' shape: jikka (or jikkei)	27	17	32	76 (50%)
'Chabo-hiba' shape: mikoshi	20	12	1	33 (22%)
'Chabo-hiba' shape: kengai	14	7	2	23 (15%)
'Chabo-hiba' shape: nakasu	12	8	0	20 (13%)
Other Plants in the Auction Catalogues				
<i>Pinus parviflora</i>	82	81	28	191 (15%)
<i>Podocarpus</i> species	49	10	9	68 (5%)
<i>Acer</i> species	5	0	59	64 (5%)
<i>Cycas revoluta</i>	43	12	2	57 (4%)
<i>Larix kaempferi</i>	0	0	38	38 (3%)
<i>Juniperus chinensis</i>	10	2	20	32 (2%)
"Bon Sai"	31	59	49	139 (11%)

Table 1. A statistical summary of the characteristics of the 'Chabo-hibas' and other dwarfed trees offered for sale in the Boston (1899), London (1900), and New York (1904) Auction Catalogues.

tray.” Most of the New York catalogue items that are listed as “Bon Sai” are described as consisting of several small plants grouped together to form a “charming landscape.” In contrast the older, solitary specimens are listed according to species and are categorized as having one of four basic shapes, which the glossary defines this way:

“Jikka” is a shape of tree having a regular and proportional arrangement of the branches, giving a conical shape to the tree. This tree is always planted in the centre or important position of the gardens.

“Mikoshi” is a shape of tree having generally no branches at the bottom, as this plant is always placed behind something, and only the top branches show; the literal meaning of “Mikoshi” being “to look over.”

“Kengai”—A shape to represent a tree overhanging a cliff.

“Nakasu”—A shape of a tree growing on an island and having its branches overhanging the water.

In 1902, the French horticulturist, Albert Maumené published a detailed study of the techniques used by the Japanese to produce dwarfed trees as well as the aesthetic principles that regulated their design. Based his experience with plants that had been imported into Europe for display at expositions or for sale at auctions, Maumené described the practical procedures used to keep the plants healthy and to maintain their original shapes. In his book, Maumené followed the same system for classifying the styles of dwarfed trees that was presented in the 1900 London auction catalogue, suggesting that it was his primary source of information.

The abundance of ‘Chabo-hibas’ in the auction catalogues, and the great age of some of the specimens (up to 300 years old) clearly suggest that the plants had lost favor in Japan in the late 1800s and were being “dumped” on the newly opened western markets. Hard evidence for this supposition comes from the statements of Kamajiro Yamada (1995) who, in an article written in 1977, described his experiences with ‘Chabo-hiba’ while working in his father’s nursery:



Figure 15. Item #422 from the 1899 Boston auction catalogue with the following description: “Chabo Hiba. Green variety; another style of the Jikkei shape, trained by the late Mr. Takagi, one of the best known cedar trainers; we wish to call attention to the fact that this specimen is a perfectly natural growth, in that it has never been cut to reduce its size, but has simply been kept back to its present height by the most skillful and careful training; a marvelous example when one considers this triumph of art; height, 2 feet, 6 inches; age about 90 years; Shigaraki pot. See illustration.”

When I was still a child (at the end of the Meiji Period, 1867–1911) my father and many other grew numerous specimens of ‘Chabo Hiba’ hinoki cypress, *Chamaecyparis obtusa* ‘Chabo Hiba.’ They propagated them by grafting and always used common hinoki cypress for understock. Each year we propagated two to three thousand hinoki cypresses from cutting to be used for grafting understock. The ‘Chabo Hiba’ hinoki cypress we produced were not popular in Japan for bonsai; we grew them for export to the United States, China, and Europe. We trained them so they had undulating trunks with many curves and a triangular crown shaped like the top of Mt. Fuji... At that time, people skilled in bonsai always had a hinoki cypress bonsai, but nowadays you do not see many of them. That is due to the fact that the care for hinoki cypress is rather laborious and people do not know the proper methods for caring for them.

Information in the auction catalogues clearly supports Yamada's recollection that 'Chabo-hiba' was typically trained to have the shape of Mt. Fuji. Indeed, of the 152 plants listed as having a specific shape, exactly half of them had the *jikka* or mountain shape. Those 'Chabo-hiba' specimens that did not fit any of the four primary shape categories are described as having shapes that were evocative of everyday objects such as a butterfly, a pair of eye glasses, a pagoda, a hellfish, a waterfall, a magnifying glass, or even the "long flowing sleeves of an ancient court lady."

From the historical perspective, most of the specimens described in the auction catalogues should be properly considered *hachi-no-ki* ("potted tree") rather than *bonsai*. The use of the term *hachi-no-ki* in Japan dates back at least to the 1400s and describes dwarfed trees with a variety of shapes growing in relatively deep containers. The word *bonsai*, which is equally ancient, was originally used as a synonym for the term *hachi-ue* ("potted plants"), but did not achieve linguistic dominance until the late-1800s when its meaning took on artistic connotations. In general, *bonsai* takes its inspiration from nature and utilizes shallow pots or trays, while *hachi-no-ki* is more stylized and uses deeper pots (Matsuki, 1931; Yoshimura, 1991a & b; Marushima, 2005).

The Lineage of 'Chabo-hibas' sold at Auction

The most fascinating aspect of the auction catalogues is their careful documentation of the horticultural lineages of many of the older specimens which were produced by famous master gardeners who worked at important temples. Among the 'Chabo-hiba' trainers mentioned by name, Mr. Kiyei Takagi of Tokyo stands out as the only person listed in all three catalogues, with a total of 17 plants credited to him. Item #422 from the 1899 Boston catalogue is one of his more spectacular productions (Figure 15). The second most common trainer in the catalogues is a Mr. Genbei of Tokyo with 8 plants to his credit, including the outstanding item #450 from the Boston auction (Figure 16).

Other noteworthy catalogue items included specimen #336 from the 1904 New York auction, which was created by three successive

generations of trainers in one family (Figure 17); and item #340, also from New York, that came from the famous Hongauji temple in Kyoto, where it was admired by close to a million people (Figure 18). One final plant that deserves special mention is item #270 from the 1900 London auction, which had made a big splash in Boston earlier in the year:

Chabo Hiba; green variety. A splendid specimen of Nagashi shape; trained by Genbei of Tokio. The wonderfully gigantic trunk and peculiar training of branches merit attention. Secured from Mr. Hamada's garden two years ago. This plant was exhibited at the Horticultural Show in Boston, and first prize awarded on this particu-



Figure 16. Item #450 from the 1899 Boston auction catalogue with the following description: "Chabo Hiba. Green variety; this remarkable tree was trained by the great cedar trainer, Genbei of Tokio; this family have had for more than 300 years the special honor of being gardeners to the different Lords Kaga, and they own at present the finest gardens in Tokio; this cedar was secured from these gardens, where it had been carefully trained for over 120 years; a more magnificent specimen of the Mikoshi shape would be difficult to find in Japan, and cannot be duplicated in the United States; without exception the finest specimen ever brought to this country; height, 4 feet, 6 in.; width, 5 feet, 6 inches; age 270 to 300 years; Shigaraki jardiniere."

lar Chabo Hiba. Circumference of the trunk, 15 inches; height 35 inches; age, about 300 years. Beautiful blue and white pot.

A check of the *Transactions of the Massachusetts Horticultural Society* for the year 1900 confirmed the fact that Yamanaka & Co. was awarded Honorable Mention for its "Display of Japanese Plants" at the annual Spring Exhibition, held from March 20 through 23, 1900 (Lunt, 1901). So here was a plant that traveled three-quarters of the way around the globe—



Figure 17. Item #336 from the 1904 New York auction catalogue with the following description: "Chabo-hiba (*Thuja Obtusa Nanus*). One of the most wonderful specimens in this collection. The arrangement of the branches and the fine growth of leaves, in spite of its age, has been admired by art loving people in Japan. It has been exhibited at many horticultural exhibitions and many medals were awarded to this specimen. It was trained by Kinhachi of Tokio in the famous Denchu garden, located at Sugamo, an outskirts of Tokio, and succeeded by his son Kinbei, and finally by his grandson Kingoro of the present time. A very valuable specimen. Height 2 feet, 10 inches. 125 years old. With beautiful Awaji pot and Kagomaki decoration."



Figure 18. Item #340 from the 1904 New York auction catalogue with the following description: "Chabo-hiba. One of the most imposing-looking specimens in this collection. This grand tree once belonged to the famous temple Hongauji, Kyoto, the ancient Capitol of the Japanese Empire. It has been said that owing to its most attractive shape, this specimen was admired by almost a million people, who made the pilgrimage to this noted temple of Buddha. It was trained by several master gardeners who gave their services to the temple. Trained in the standard Jikka style. Note: its most graceful branches extend into both sides. About 100 years old; height, 2 feet, 6 inches. With Chinese pottery pot on stand."

from Japan to Boston to London—in space of a single year, and lived to tell the tale!

The spectacular appearance and colorful history of these ancient 'Chabo-hiba' specimens raises the question of why the Japanese seemed to be so willing to part with them. Was it for the money? Was it changing fashion? Or had the plants simply become too big and too much trouble to take care of, as suggested by Yamada? The answer, undoubtedly, is some combination of all of the above reasons. Regardless of the rationale behind the decision to get rid of the plants, it's sad to think about these noble specimens being auctioned off to private western collectors who had no idea how to care for them.

WHO WAS LARZ ANDERSON?

At the other end of the Japanese dwarfed tree supply chain were the wealthy European and American collectors who collected everything the Japanese were willing to sell. In regards to horticultural “antiques,” Larz Anderson and his wife Isabel might serve as a model for the typical western customer. Larz was born in Paris in 1866, and grew up in Cincinnati, Ohio, a city founded by his grandfather, Nicholas Longworth, who had become a millionaire in the early nineteenth century. The Andersons traveled to Europe frequently and eventually settled in Washington, D.C. As a boy, Larz was tutored privately and attended a number of different schools, including Phillips Exeter Academy. Following in his father’s footsteps, Anderson enrolled in Harvard College and graduated with an A.B. degree in June 1888. Two months later, he set out on a trip around the world. The journey lasted two years and included a memorable visit to Japan (Kenworthy, 1991).

Larz served in the military as Captain and an Assistant Adjutant General during the Spanish-American War. After this experience, he joined the Foreign Service as a diplomat in England and Italy, and as Minister to Belgium. Anderson rose quickly to the rank of ambassador and in 1912 he returned to Japan as “Ambassador extraordinary and plenipotentiary.” He held this post for only six months, resigning in March 1913, with the change from the Republican Taft administration to the Democratic Wilson administration. This was the last official diplomatic position that Anderson held.

Larz married Isabel Weld Perkins of Brookline, Massachusetts, in June of 1897. Isabel, who was born in 1876, came from a wealthy, aristocratic New England family. While still a young woman, she inherited the then fabulous sum of \$17 million derived from a variety of family enterprises, most notably the clipper ship company operated by her grandfather, William Fletcher Weld. She attended college rather late in life, earning a Doctor of Letters (Litt. D.) degree from George Washington University in 1918 and her Doctor of Law (LL.D.) degree from Boston University in 1930. She



Figure 19. *Ambassador and Mrs. Larz Anderson. Portrait by Philip de Laszlo. From Larz Anderson, Letters and Journals of a Diplomat, edited by Isabel Anderson, 1940.*

was a prolific writer, producing seventeen books between 1909 and 1933, as well as two plays and a volume of poetry.

As newlyweds, Isabel and Larz purchased a residence—including a huge stable and substantial land—in Brookline from one of Isabel’s cousins. They called their new home “Weld,” which served as their summer house from late spring through fall. As befits a diplomatic couple, the Andersons made Washington, D.C., their primary home. Isabel loved traveling the world as much as her diplomat husband did and, over the course of her life, wrote no less than thirteen travelogues about her experiences (Figure 19) (Kenworthy, 1991).

The part of Brookline where "Weld" was located, in the vicinity of Jamaica Pond, was one of the centers of American horticultural activity from the early 1800's up until the late 1920's. The estates of Col. William Perkins, Thomas Lee, Charles Sprague Sargent, and Francis Parkman, the historian, were showpieces of their time. Later Olmsted acquired property in the area, and the Arnold Arboretum was established nearby in 1872. In the now classic 1841 edition of *The Theory and Practice of Landscape Gardening*, Andrew Jackson Downing described the area this way:

The whole of this neighborhood of Brookline is a kind of landscape garden, and there is nothing in America of the sort, so inexpressibly charming as the lanes which lead from one cottage, or villa, to another. Nor animals are allowed to run at large, and the open gates, with tempting vistas and glimpses under the pendent boughs, give it quite an Arcadian air of rural freedom and enjoyment. These lanes are clothed with a profusion of trees and wild shrubbery, often almost to the carriage tracks, and curve and wind about, in a manner quite bewildering to the stranger who attempts to thread them alone; and there are more hints here for the lover of the picturesque in lanes than we ever saw assembled together in so small a compass.

"Weld" was famous in horticultural circles well before the Andersons went to Japan in 1912. The terraced Italian garden was designed in a lavish, formal European style by Charles A. Platt in 1901. It was featured in several magazines of the day, including *Town and Country* (Anonymous, 1904), *Country Life in America* (Miller, 1905), and *House and*



Figure 20. "The bosquet at the end of the garden, the pergola, flower draped, the marble balustrade, the wall fountain and the great Ludovisi jars." Note the parrot in the center of the picture. Illustration from the March 12, 1904 issue of *Town and Country*.



Figure 21. "The end of the [Italian] garden, showing the wall fountain and vases." Illustration from the March 12, 1904 issue of *Town and Country*.



Figure 22. *The Japanese Garden at “Weld” constructed in 1907. Photograph by T. E. Marr from Isabel Anderson’s 1909 House and Garden article.*



Figure 23. *A view of the Japanese Garden at “Weld.” Photograph in 1908 by T. E. Marr, courtesy of the Museum of Transportation, Brookline, MA.*



Figure 24. 'Chabo-hiba' specimens on the terrace of the Anderson's home at "Weld." Top, c. 1916, courtesy of the Museum of Transportation, Brookline, MA; bottom, from *House Beautiful*, June, 1933.

Garden (E. T., 1904). This last article waxes poetically about the glories of the garden as a true work of art:

Not the work of many hands is this, nor the result of piecemeal additions nor the accidents of changing Time. The long probation which gardening as an art has served appears not to have entered here. "Weld" is a deliberate creation, rather than an outgrowth; a consummate work started and finished, as it were, in a day. All difficulties of the work have disappeared, nor can they longer be imagined to have halted the hand of the artist who here, apparently unhindered

and unvexed with the toil and moil of execution, put all parts into place with the seeming ease of a child who turns his kaleidoscope at play. (Figures 20 and 21)

Larz and Isabel added a Japanese garden to "Weld" in 1907, with stepping stones, a large stone bridge, a variety of Japanese lanterns and statuary, and a collection of tightly trimmed conifers (Figures 22 and 23). The garden was laid out by the Anderson's personal Japanese gardener, simply referred to as "Onchi San," and was featured in an article that Isabel wrote for *House and Garden* in 1909. She described the garden this way:

A little corner near a Massachusetts country house has been made into a most bewitching spot. When you enter the thatched gateway you forget New England—you are in Japan. You see Onchi San, dressed in his native costume, standing by the birds' bath-tub, watching the pretty feathery creatures as they splash in the hollow stone filled with rain-water. Presently he steps inside the wicker enclosure and washed too, for he has been weeding the garden which he has designed and made with his queer little upside-down tools...

Here and there among the greens are bright-colored bowls with grotesque designs, and gray stone lanterns. Above you rises the huge bronze eagle; he is the one high point, the key of the Japanese garden. His piercing eye looks down to frighten you, but, reflected in the smooth surface of a pool near by, sits the calm and smiling Buddha to dispel the fear; and so peace and happiness pervade this little fragment of the far East. It is only when your eye suddenly catches sight of the big elm hanging over all that you realize that you are at home.

An Infatuation with Japan

Larz Anderson's interest in Japanese horticulture dates back to at least 1889, when, at the age of 23, he returned home from his trip around the world with two dwarfed maples that he had

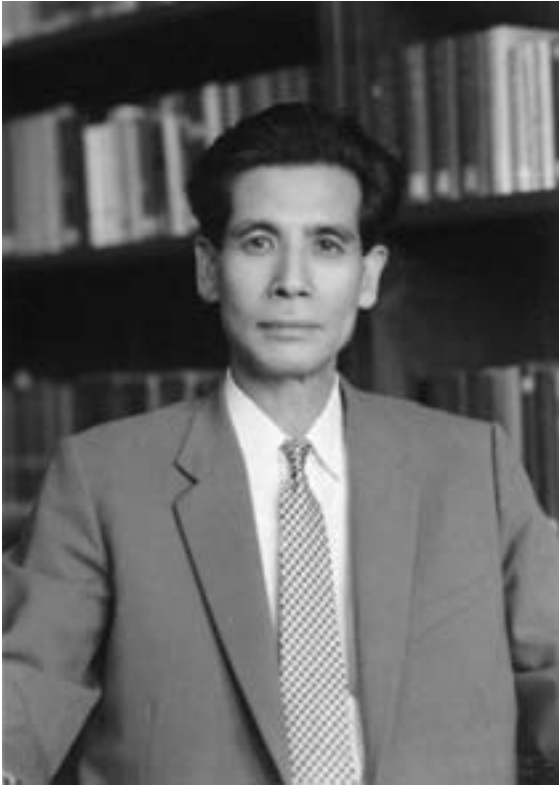


Figure 25. *Rainosuke Yori Awano in 1950. Photograph courtesy of Ohio Wesleyan Univeristy.*

purchased in Japan. But it was not until 1913 that this interest fully matured. His journal entry for February 1, 1913, shows the moment of enchantment:

About us were dwarf trees of fantastic shape and stunted plum in fragrant bloom, white and pink, and gnarled trees hundreds of years old with branches blossoming out of seemingly dead trunks in pots of beautiful form and color. Isabel and I stopped so long in this little fairy place that we had to drive like the dickens through the congested streets of endless villages to Yokohama, which we reached without disaster in a little over an hour, in time for one o'clock luncheon. (Anderson, 1937)

Anderson must have purchased at least forty dwarfed trees from the Yokohama Nursery Company shortly after this experience, since he returned to the United States a little more than a month later, on March 6 (Anderson, 1937) (Figure 24). Exactly how much Larz Anderson paid for his plants is not recorded, but the 1913–14 edition of the Yokohama Nurs-

ery catalogue lists the “dwarfed trees we have always on hand to select from ranging in price from \$1 to \$50 [in U.S. gold], depending on age, size, etc.” (see inside front and back covers). A survey of the catalogues revealed that the prices remained remarkably stable at \$1 to \$50 from 1901 through 1924. From 1919 on, however, the mode of payment shifted from gold dollars to gold yen. Multiplying this figure by twenty, to make the price roughly comparable to today's dollars, would make the cost roughly \$20 to \$1,000.

Living plants were typically shipped by boat from Yokohama to North America during their dormant period, from October through February. Around the turn of the century, the boat trip to San Francisco took 18 to 20 days, while the trip to New York City via the Suez Canal took 70 to 80 days. It was common practice to deliver the plants to San Francisco and then transship them to the east coast via railroad, which took about 28 days, for a total delivery time of 46 to 48 days when shipped east from Japan to New York (Elias, 2005). The Connecticut nurseryman, Ernest F. Coe purchased some dwarfed trees from Japan in 1911, and described an experience that was probably typical for the time: “Their journey over land and sea covered three months, but so skilfully [sic] had they been packed that they appeared but little the worse for their long subjection ‘in durance vile.’”

The purchase of plants from the Yokohama Nursery represented a serious escalation of Anderson's commitment to Japanese horticulture. Not only were the plants expensive to import but, once in the United States, they had to be maintained by someone knowledgeable in the techniques of dwarfing trees. Undoubtedly the task would have been assigned to Onchi San, and later to other members of the gardening staff. In 1932, the Andersons hired a Japanese scholar by the name of Rainosuke Yori Awano to take care of the plants. Awano had earned an A. B. degree from Ohio Wesleyan in 1927 and a M. A. degree from Columbia University in Hellenic studies in 1930. He had met the Andersons in 1932 while studying Greek antiquities at Harvard, and worked for them as both a gardener and the caretaker of their Asian collections until 1938 (Figure 25). He worked



Figure 26. Larz Anderson's display at the 1933 New England Spring Flower Show. Note that the small plant in the background on the right has a label that reads, "Gift from Imperial House of Japan—60 years old." This is the only known photograph of the 'Chabo-hiba' specimen which had been given to the Andersons by the Emperor of Japan. From the Archives of the Arnold Arboretum.

for the Boston Museum of Fine Arts as an Assistant Librarian from 1938 through 1940, when he returned to Japan to join the staff of Kobejogakuin College with a specialization in ancient Greek papyrology. In 1950, he was appointed professor of history at the University of Kanseigakuin (Anonymous, 1951; Kenworthy, 1991).

On at least two occasions, Larz Anderson put his collection of dwarfed trees on public display: at the 1916 spring flower show of the Massachusetts Horticultural Society (May 12–14), where it was awarded first prize and a silver medal; and again from November 23 to 26, 1933 at the M.H.S. show of chrysanthemums and Japanese dwarfed trees, were the exhibit—which was sponsored by the Japan Society of Boston—was awarded a gold medal. The display featured a straw shelter with a background of gold screens (Figure 26).

Also in 1933, a popular article about the Larz Anderson Collection appeared in the June edition of *House Beautiful*, which contained a number of photographs of the plants along with an interview with Awano (Guthrie, 1933). The author had no problem anthropomorphizing her subject matter:

It seems unholy to move such venerable patriarchs from the land where they have lived so long in meditation and repose. But they are here, nevertheless, in this country which was a wilderness when they and their art had reached a high degree of elegance and culture. And on the wide green terrace before the stately Brookline home of Mr. Larz Anderson, noted statesman and scholar, these noble trees, samurai of their realm, seem quite at home. That may be because adaptability is a quality of the nobly born (see Figure 24, bottom).

The author goes on to quote Awano regarding his approach to training the trees:

"There are two ways for the tree to grow—vertically and horizontally. The tree will want to grow vertically, reaching up to heaven, drawn by the sun, but that way it will grow too fast, for it wants to reach heaven soon. So we must make it grow horizontally and then it will grow slowly. So we trim the top branches and train it to grow horizontally." From then on it is a matter of thin wires and tiny bamboo sticks to flatten out the branches and keep them disciplined. There must be three branches, or five or seven, he told me—never more than seven.



Figure 27. The Italian garden at “Weld” was transformed into an ice hockey rink by the Town of Brookline in 1958. Compare with Figure 21. Photographed in 2004 by Peter Del Tredici



Figure 28. The remains of the Japanese garden at “Weld” with the Boston skyline in the distance. Photographed in 2004 by Peter Tredici.

The End of an Era

Larz Anderson died in April, 1937, and six months later Isabel donated the major portion of his dwarfed tree collection—thirty plants in all—to the Arnold Arboretum, along with the funds necessary to build a shade house for their display. Isabel died eleven years later, in November of 1948, and in July of the following year the remaining nine plants in the collection were donated to the Arboretum, including one that the Andersons considered their most special possession, a seventy-six-year-old ‘Chabo-hiba’ that had been given to them as a gift from “the Imperial House of Japan” (AA #885-49). According to Guthrie, “Mr. Anderson, himself, carefully supervised the journey of this precious tree” across the Pacific in 1913. The only known image of this plant is on the right side of the photograph of Anderson’s 1933 exhibit at the Massachusetts Horticultural Society (see Figure 26). The fact that Isabel held onto nine plants after Larz’s death clearly indicates that she had become as attached to the collection as her husband had been.

Following Isabel’s death in 1948, “Weld” was donated to the Town of Brookline to become part of its park system. Today it is called Larz Anderson Park, and its stables now house the *Museum of Transportation*, which was founded in 1949 with the Anderson’s antique car collection forming its core. Very little remains of the once glorious Italian garden, with its marble balustrade, wall fountains, and geometric planting beds, which was destroyed by the Town of Brookline in the 1950s to make room for an ice-hockey rink (Figure 27). As for the Japanese garden, it survive only as an



Figure 28. The golden eagle that formerly dominated the Anderson’s Japanese garden, now dominates the campus of Boston College. Compare with Figure 22. Photograph by Peter Del Tredici.

echo of its former self, marked by the presence of some granite steps, a slate bridge, four Sawara Cypresses (*Chamaecyparis pisifera*), a large Japanese maple (*Acer palmatum* ‘Yatsubusa’), and three spreading Japanese yews (*Taxus cuspidata* ‘Nana’) (Figure 28). The bronze eagle that once dominated the Japanese garden has been relocated to the campus of Boston College in Chestnut Hill, where it now oversees campus life as the college mascot (Figure 29).

LARZ ANDERSON COLLECTION AT THE ARNOLD ARBORETUM

When Isabel donated Larz's dwarfed plant collection to the Arnold Arboretum, she also donated the funds necessary to build a lath house to display and protect them. This structure was situated on the grounds of the old Bussey Institution that was formerly located on the southeastern boundary of the Arboretum and is now occupied by University of Massachusetts Medical Laboratories (Figure 30) (Wyman, 1938). Unfortunately the Larz Anderson Collection did not continue to get the attention of knowledgeable Japanese gardeners following its donation to the Arboretum. The staff did the best it could with its limited knowledge of how to maintain the plants and its limited financial resources during the Depression/World War II era.

In the 1950's and early 60's, additional stress was put on the collection by the practice of forcing some of the plants into growth for the spring flower show of the Massachusetts Horticultural Society (1954 and 1959) as well as for other shows in the region (most notably the Detroit flower show in 1961). While this made for a spectacular display, it seriously weakened the collection and contributed to its overall decline. As a result of these factors, the collection shrank from the original thirty-nine plants to twenty-seven in 1962. Included among the casualties was the 'Chabo-hiba' that had been the Japanese emperor's gift to the Andersons.

Things began looking up for the collection in 1962, when work on the Charles Stratton Dana Greenhouses of the Arnold Arboretum was completed (Wyman, 1964). This new horticultural facility included an attractive hexagonal redwood lath house for displaying the collection during the growing season and a concrete-block cold-storage unit for winter protection. The construction of this building, which maintains temperatures between 1 and 3 degrees Centigrade (34 and 38 degrees Fahrenheit), brought an end to the practice of storing

the plants in covered pits and cold frames for the winter. Not only was this dangerous to the health of the plants, but the consequent freezing of the root ball also cracked some of the original Japanese containers.

Another positive turn of events for the collection occurred in 1969 when Connie Derderian of Watertown, Massachusetts, was made Honorary Curator. Connie had been teaching courses in *bonsai* at the Arboretum for several



Figure 30. *The Larz Anderson collection in the old lath house at the Bussey Institution, May 1938. Photograph by D. Wyman, from the Archives of the Arnold Arboretum.*

years prior to her appointment, and was well known to the greenhouse staff. Her own words describe how she became involved with the plants:

Perhaps because I was the only Bostonian who, for almost ten years, had steadily pursued the study of bonsai in the United States and in Japan, in 1969, through the efforts of Mr. Alfred Fordham, Dr. Donald Wyman asked me to repot the Anderson collection of bonsai. I did and began a program to renew the vigor and beauty of these venerable trees. Dr. Richard A. Howard, director, pleased with the initial effort, had me appointed Honorary Curator of the Bonsai Collection.

Working patiently and with a clear sense of purpose, Connie began the long process of revitalizing the collection after years of neglect.



Figure 31. *Connie Derderian working on one of the Larz Anderson 'Chabo-hibas' in 1970. From the Archives of the Arnold Arboretum.*



Figure 32. *The hexagonal home of the Larz Anderson Collection at the Arnold Arboretum. Photographed in 1987 by Peter Del Tredici.*

She continued as curator until 1984, when her failing health forced her to resign her position (Figure 31). Having worked as Connie's apprentice since 1979, I became the new curator the year she resigned. During the spring of 1987 the deteriorating redwood slats on the hexagonal lath house were replaced with more structurally substantial vertical-grain Douglas fir, and a new security system was installed. In June, the newly renovated structure was dedicated to Connie (Figure 32). She died a year later, on September 20, 1988. A highlight of Connie's

tenure as curator came in the fall of 1982, when three plants from the Larz Anderson Collection were put on display at the Boston Museum of Fine Arts to celebrate the opening of its newly renovated Asian wing.

Two of the large 'Chabo-hibas' were displayed at the New England Spring Flower show in 1987 and again in 1997, when they were also featured in an article in *Horticulture Magazine* by Public Television's "Victory Garden" host, Roger Swain. In 1998, the noted English *bonsai* expert, Colin Lewis, became involved with the Larz Anderson collection, initially as a volunteer and later as a paid consultant. Since that time, Colin and I have worked closely together to reestablish the traditional form and character of the 'Chabo-hibas', as documented in the Japanese auction and nursery catalogues. This work came to fruition in March, 2006 with their display at the New England Spring Flower Show (Figure 33).

As of this writing, fifteen plants still remain of the original thirty-nine plants in the Larz Anderson Collection. These include seven *Chamaecyparis obtusa* 'Chabo-hiba,' four Japanese Maples (*Acer palmatum*), one Trident Maple (*Acer buergerianum*), one Higan Cherry (*Prunus subhirtella*), one Japanese White Pine (*Pinus parviflora*), and one Sawara Cypress (*Chamaecyparis pisifera* 'Squarrosa') (Table 2).

The 'Chabo-hiba' specimens that make up the core of the Larz Anderson Collection are clearly of the same vintage as those described so vividly in the early auction catalogues. They started out life in the 1700s as venerated temple decorations throughout Japan, and then, starting in the late 1880s, were summarily shipped off by the boat load to a variety of western countries through the early 1920s, when their importation into the United States dropped off due to the enforcement of new plant quarantine laws that had been enacted to prevent the accidental introduction of plant diseases and harmful insects (Creech, 2001). The fact that seven of Larz Anderson's original ten 'Chabo-hiba' trees are still alive, ninety-three years after leaving their homeland, is nothing short of miraculous; especially when you consider that all their peers are mostly dead and their once lofty status in Japan all but forgotten.

NOMENCLATURAL CONCLUSIONS

The hinoki cypress cultivar name ‘Chabo-hiba’ is not widely grown in Japan today, and it took some effort to uncover its precise meaning. *Hiba* is the common name for the arborvitae-like conifer that is endemic to Japan, *Thujaopsis dolobrata*. The word literally means “hatchet-shaped” and refers to the scale-like foliage of the plant. The word *chabo* means bantam or dwarf chicken, and when combined with *hiba* is translated to mean “compact or dwarf cypress.”

The earliest use of the name ‘Chabo-hiba’ that I have been able to find is from the three-volume book *Somoku Kihin Kagami*, published origi-

nally in 1827 and reprinted in 1976 with modern Japanese characters and Latin plant names (Kintaro, 1827; Tsukamoto, 1976). This work covers hundreds of plants considered highly unusual or rare at the time. While ‘Chabo-hiba’ itself is not covered in the book, a *Chamaecyparis* cultivar listed as *Chabo-yadori*, meaning “bantam’s nest” is described. The accompanying illustration shows a plant with two types of foliage, the loose, feathery growth (“*Cryptomeria*-like”) rising out of a “nest” of tight congested growth (“*Chabo-hiba*-like”). In the text, the author states that he first noticed the plant as an unusual branch (or sport) on a specimen

Accession #	Scientific Name	Common Name	Age ¹
870-37	<i>Acer buergerianum</i>	Trident Maple	1852
872-37	<i>Acer palmatum</i>	Japanese Maple	1887
877-37	<i>Chamaecyparis obtusa</i> ‘Chabo-hiba’	‘Chabo-hiba’ Hinoki Cypress	1737
878-37	<i>Chamaecyparis obtusa</i> ‘Chabo-hiba’	‘Chabo-hiba’ Hinoki Cypress	1787
879-37	<i>Chamaecyparis obtusa</i> ‘Chabo-hiba’	‘Chabo-hiba’ Hinoki Cypress	1802
880-37	<i>Chamaecyparis obtusa</i> ‘Chabo-hiba’	‘Chabo-hiba’ Hinoki Cypress	1832
881-37	<i>Chamaecyparis obtusa</i> ‘Chabo-hiba’	‘Chabo-hiba’ Hinoki Cypress	1862
889-37	<i>Prunus subhirtella</i>	Higan Cherry	1852
899-37 ²	<i>Chamaecyparis pisifera</i> ‘Squarrosa’	Sawara Moss Cypress	1907
886-49	<i>Acer palmatum</i>	Japanese Maple	1887
888-49	<i>Acer palmatum</i>	Japanese Maple	1897
889-49	<i>Acer palmatum</i>	Japanese Maple	1897
890-49	<i>Chamaecyparis obtusa</i> ‘Chabo-hiba’	‘Chabo-hiba’ Hinoki Cypress	1832
892-49	<i>Chamaecyparis obtusa</i> ‘Chabo-hiba’	‘Chabo-hiba’ Hinoki Cypress	1787
893-49	<i>Pinus parviflora</i>	Japanese White Pine	1887
101-69 ³	<i>Chamaecyparis obtusa</i> ‘Chabo-hiba’	‘Chabo-hiba’ Hinoki Cypress	1969
¹ Ages from Anderson, 1937 ² This plant was originally part of a miniature planting that also included one <i>Cryptomeria japonica</i> and one <i>Euonymus fortunei radicans</i> . ³ This plant was created by separating off a lower branch of from #879-37			

Table 2. Inventory of the Larz Anderson Collection of Japanese Dwarf Trees as of January, 2006.



Figure 33. A portion of the Larz Anderson Collection on display at the 2006 New England Spring Flower Show from March 10–19. Photograph by Peter Del Tredici.

of 'Chabo-hiba', and propagated it specially. As this reference in *Somoku Kihin Kagami* indicates, the name 'Chabo-hiba' has a long tradition of use in Japan that predates any naming of the plant by western botanists. This reference also indicates that 'Chabo-hiba' is a rather unstable stable selection that has given rise to a number of bud-sport mutations—namely the gold and white-variegated varieties—over the course of its cultivation.

The fact that 'Chabo-hiba' was a well established name in Japan did not stop European botanists from trying to change it. *Nana* is the oldest Latinized name that possibly describes 'Chabo-hiba'. It was published by Elie-Abel Carrière in 1867 as: "much smaller than the species, this rarity is distinguished mostly by its branches, branchlets and twigs which are very slender and very short." George Gordon, in his famous book, *The Pinetum* published in 1875, defined the variety *compacta* as: "The leaves and branches of this variety resemble those of the species in every way, except that they are much smaller, and the plant has a very dense and compact habit." In the same book, Gordon published the name *pygmaea*, which might also have described 'Chabo-hiba':

"This very singular variety forms a dwarf, cushion-shaped, little bush, which seldom grows more than a foot or two high, but spreads out in a horizontal direction all round, more than double that

distance, and forms a large, dense, flat tuft of glossy-green spray when old, with branchlets and leaves exactly like those of the species. A very curious miniature evergreen bush, much cultivated in the Japanese gardens about Yeddo. On account of its very dwarf habit, dense, compact appearance, and glossy deep green colour. It is quite hardy, and forms an interesting object for rock-work or miniature gardens."

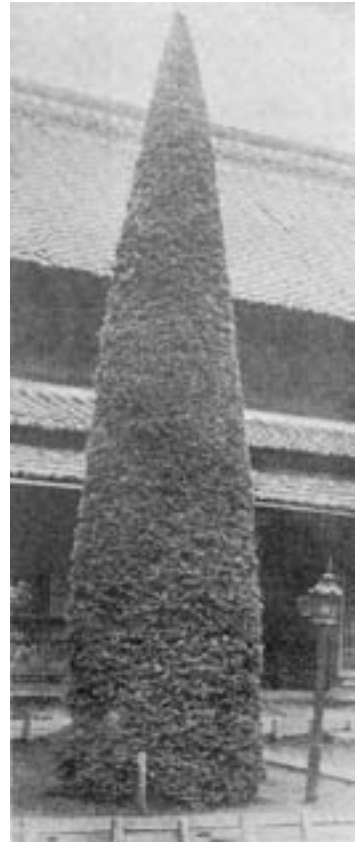
A fourth Latinized name, *breviramea*, was used by Carrière to describe the 'Chabo-hiba' specimens he observed at "L'Exposition Universelle" in Paris in 1889. This name had originally been published by Maximowicz in 1866 to describe a supposedly new species of *Chamaecyparis* from southern Japan, but later authors reduced it to synonymy with *C. obtusa*, rendering its use obsolete.

Despite the fact that all of these various names can be interpreted as more or less accurate descriptions of 'Chabo-hiba', they suffer from the same drawback that affects all Latinized botanical names for horticultural cultivars: they were originally intended to describe groups of plants that share similar characteristics rather than distinct, clonally propagated individuals. The lack of precision of these older Latinized names, in conjunction with their obvious lack of priority, provides ample justification for selecting 'Chabo-hiba' as the official cultivar name for the plant (Del Tredici, 1989).

Nomenclature and Pruning

When I first started working with the Larz Anderson collection in 1979—and I had not yet discovered the Yokohama Nursery Catalogues—the Arboretum’s accession records simply listed the plants as *Chamaecyparis obtusa*. This seemed strange to me, given that their congested foliage and contorted growth habit didn’t look anything like the typical hinoki cypress. Was their distinctive form the result of genetic selection or of the annual pruning they had received over the course of their long lives? To resolve this question, I planted a ten-year-old rooted cutting from one of the Larz Anderson ‘Chabo-hibas’ in the ground to see how it would develop without pruning (Fordham, 1971). This cutting retained the dwarf habit and congested foliage of its parent until 1984, when it suddenly produced an upright leader with loose, feathery foliage. By 1989 the plant was a meter and a half tall and a meter wide; and now in 2006, at thirty-five years of age, it is approximately four meters tall by two meters wide and periodically produces abundant crops of cones that are characteristic of the species.

That this is typical behavior for unpruned ‘Chabo-hiba’ is attested to by the fact that the 1913 and 1914 editions of the Yokohama Nursery catalogue modified the listing of the plant to “*Thuja obtusa compacta* or Chabo-hiba,” and published a photograph on a nearby page of a narrowly pyramidal conifer—5 to 6 meters tall—with the caption, “*Thuja obtusa compacta*”. Clearly the nursery was using the same cultivar to produce dwarfed trees in containers as well as narrow, conical shaped landscape specimens. E. H. Wilson’s 1918 photograph of the ‘Chabo-hibas’ at the Yokohama Nursery (see Figure 7) provides further confirmation that tall, conical plants and the dwarf spreading plants were one and the same.



A sheared specimen of “*Thuja obtusa compacta*” from the 1914 Yokohama Nursery catalogue.

The rooted cutting (#1100-71) propagated from one of the Larz Anderson ‘Chabo-hibas’ after 16 years of unpruned growth. The same plant in 2005, after 35 years of unpruned growth. Photos by Peter Del Tredici



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Acknowledgements

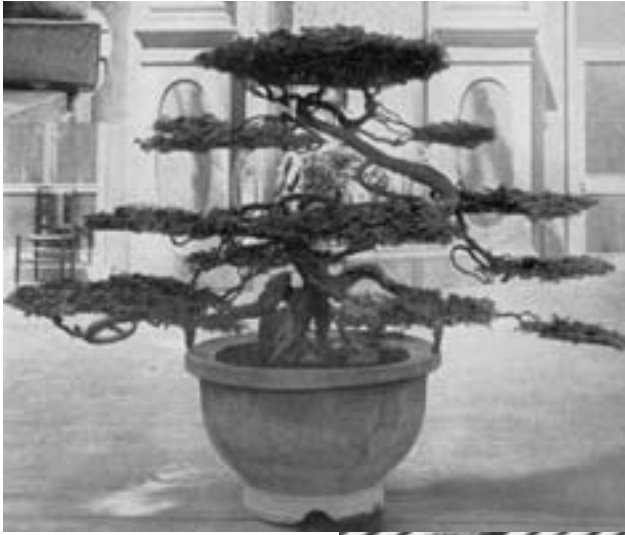
Many people have helped the author write this history of the Larz Anderson Collection. Foremost among them are Michael Levin, of Bonsai West in Littleton, Massachusetts, who provided me with a copy the 1899 Yamanaka Nursery Company Boston auction catalogue, and Dr. Tom Elias, Director of the United States National Arboretum in Washington, who invited me to speak at the 2002 Scholarly Symposium on Bonsai and Viewing Stones. I would also like to thank the Archivists of the Arnold Arboretum for their untiring assistance in tracking down illustrations for this book, and the staff of the Dana Greenhouses for their ongoing care of the Collection over the years. And finally, I would like to acknowledge the work of Dave Henderson whose photographs of the collection in 2005 grace this publication.

Peter Del Tredici has been the Curator of the Larz Anderson Collection of Japanese Dwarfed Trees since 1984. He is also a Senior Research Scientist at the Arnold Arboretum and a Lecturer in Landscape Architecture at the Harvard Graduate School of Design.

PORTRAITS OF THE LARZ ANDERSON COLLECTION 1913–2005



All photographs in this section of the book taken prior to 2005 are from the Archives of the Arnold Arboretum. Those with the blue background were taken by Dave Henderson in November, 2005.





Facing page, top, *Chamaecyparis obtusa* 'Chabo-hiba' from the Yokohama Nursery Company on display at "Weld" in 1933. Note how wires were used to hold the branches in a horizontal position. The structure of the main trunk, with a heavy branch strongly curving to the right, indicates that it is the same plant as Arnold Arboretum #892-49, started in 1787. Illustration from *House Beautiful*, June 1933. Facing page, bottom, 'Chabo-hiba' #892-49, photographed at the Arnold Arboretum in 1952. Notice how the branches were tied to bamboo sticks in a desperate effort to maintain their horizontal orientation. Above, 'Chabo-hiba' #892-49, photographed in 2005. Note the same concrete container in all three pictures, as well as similar ones in Figures 4 and 7. The plant in its pot is 140 centimeters tall by 185 centimeters wide.





Trident Maple (*Acer buergerianum*), Arnold Arboretum #870-37, started in 1852. Facing page, top, the plant c. 1913; facing page, bottom left, a photograph of the plant in 1933 from the June, 1933 *House Beautiful* article; facing page, bottom right, the plant in 1954. Above, the plant in 2005. Note how it has stayed in the same container since its arrival in the United States. The plant is 85 centimeters tall by 85 centimeters wide.

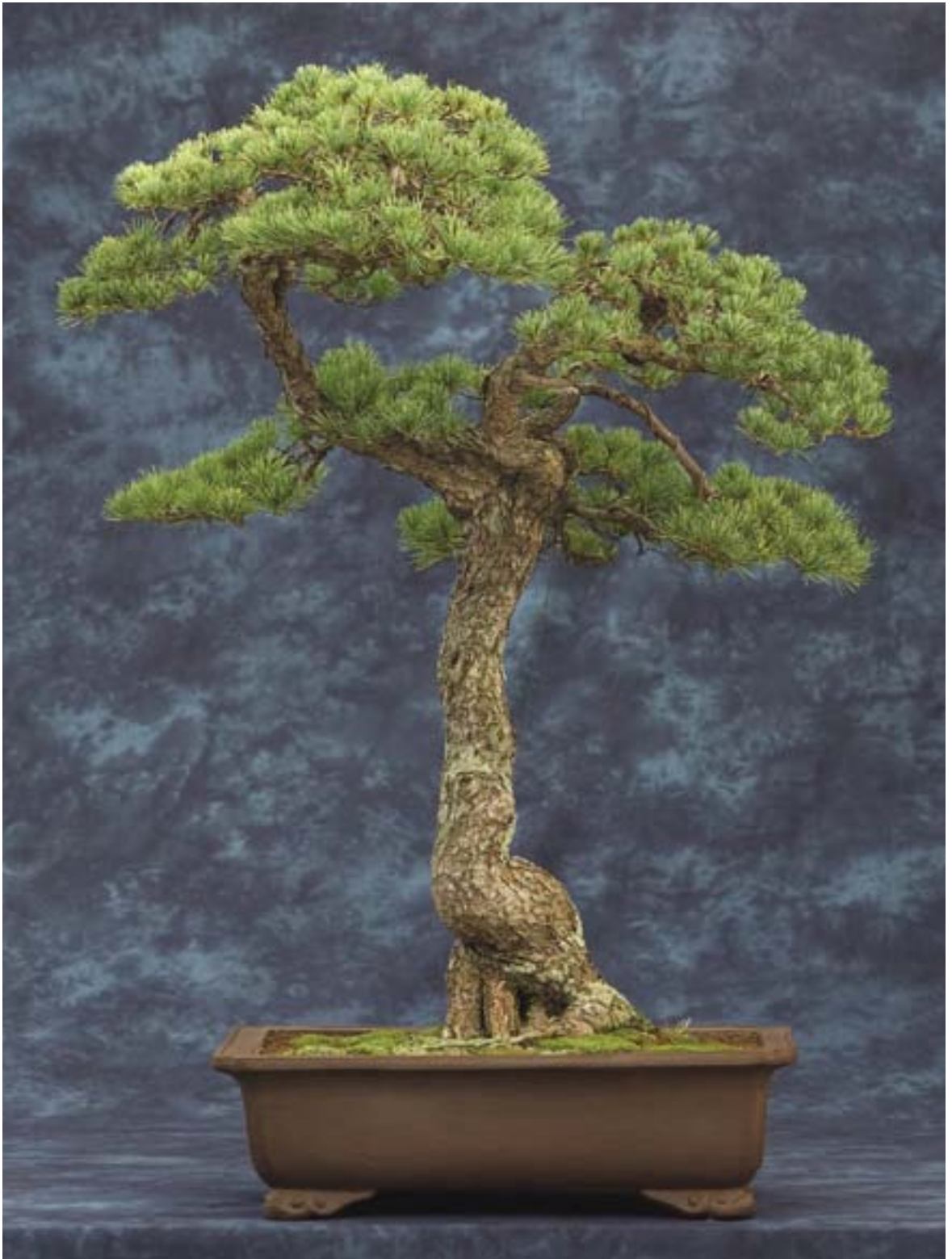




Chamaecyparis obtusa 'Chabo-hiba,' Arnold Arboretum #877-37, the oldest plant in the Larz Anderson Collection, started in 1737. Facing page, top, the plant in 1954; facing page, bottom, the plant in 1987. Above, the plant in 2005, which is 127 centimeters tall by 140 centimeters wide.



Japanese White Pine (*Pinus parviflora*), Arnold Arboretum #893-49, started in 1887. Above, the plant in 1952. Note how wires and bamboo sticks were used in training the branches. Left, the plant in 1965. Facing page, the plant in 2005, which is 177 centimeters tall by 82 centimeters wide.







Chamaecyparis obtusa 'Chabo-hiba,' Arnold Arboretum #879-37, started in 1802, and #101-69, its lower branch. Left, the mother plant in 1963 with its lower branch intact. Above, the mother plant in 2005, without its lower branch, 110 centimeters tall by 125 centimeters wide. Facing page, top, the final result of a successful operation performed by Connie Derderian on February 19, 1969. As she describes it, "A lower branch had split away from the main trunk of 879-37. Rather than cut it off and lose it, a wedge-shaped piece of soil was cut away from the root ball to create anew plant. It was put into the container on the right." Facing page, bottom, the lower branch after 36 years of independence.





Chamaecyparis obtusa 'Chabo-hiba,'
Arnold Arboretum #878-37, started in
1787. Facing page, top, the plant in 1938;
facing page, bottom, the plant in 1954.
Above, the plant in 2005. Note how
the curved branch at the lower left has
remained a constant, identifiable feature.
The plant is 125 centimeters tall by 135
centimeters wide.





Chamaecyparis obtusa 'Chabo-hiba,'
Arnold Arboretum #881-37, started in
1862. Facing page, top, the plant in 1965;
facing page, bottom, the plant in 1987.
Above, the plant in 2005, 110 centimeters
tall by 140 centimeters wide.





Higan cherry (*Prunus subhirtella*), Arnold Arboretum #889-37, started in 1852. Facing page, bottom, the plant circa 1913; facing page, top, the plant in 1965 (note the same pot as in 1913). Left, the plant in bloom in April, 2005; above, the plant in 2005, 60 centimeters tall by 48 centimeters wide.





Chamaecyparis obtusa 'Chabohiba,' Arnold Arboretum #880-37, started in 1832. Facing page, top, the plant in 1954; facing page, bottom, the plant in 1963. Above, the plant in 2005, 82 centimeters tall by 90 centimeters wide.



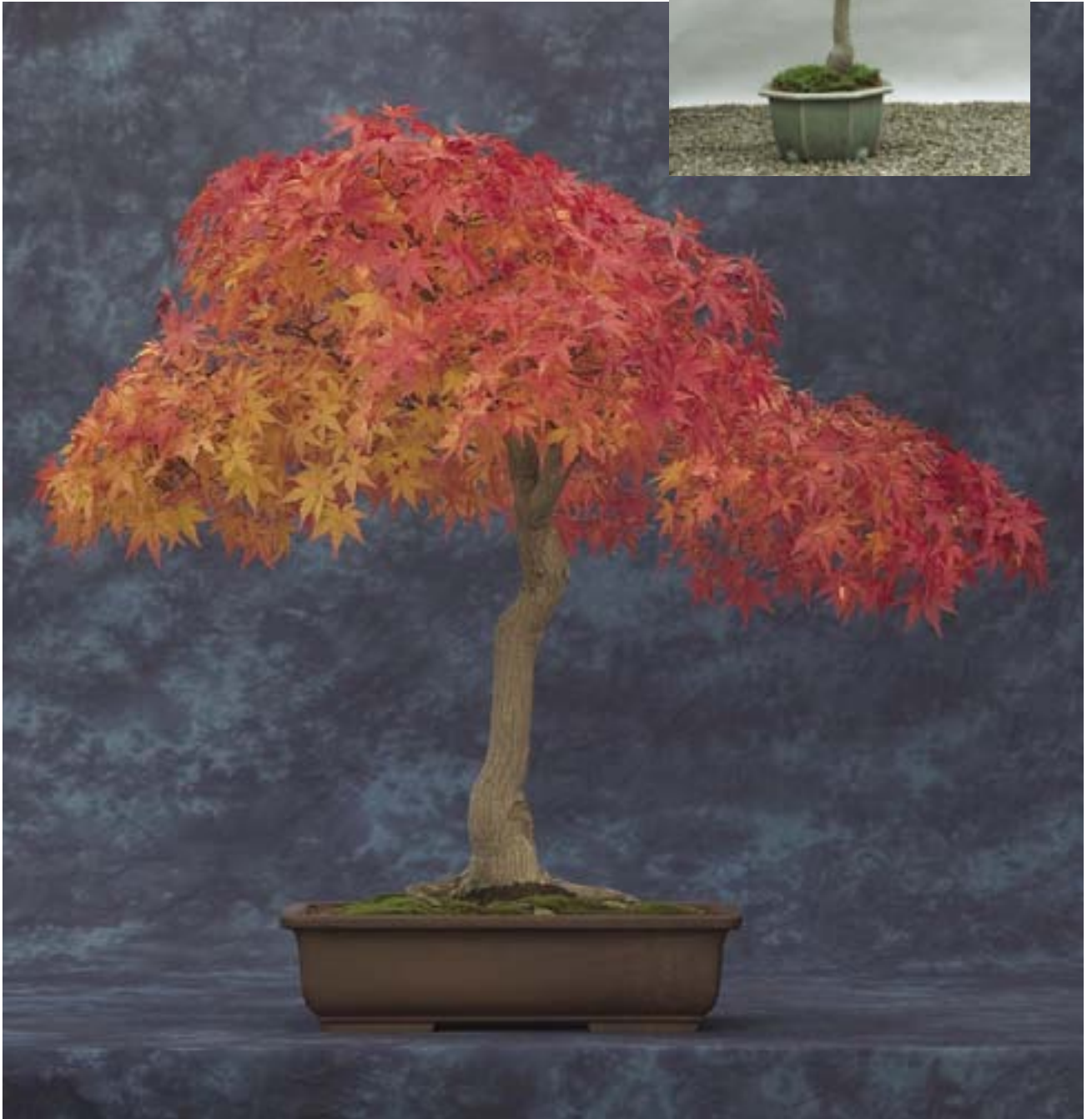
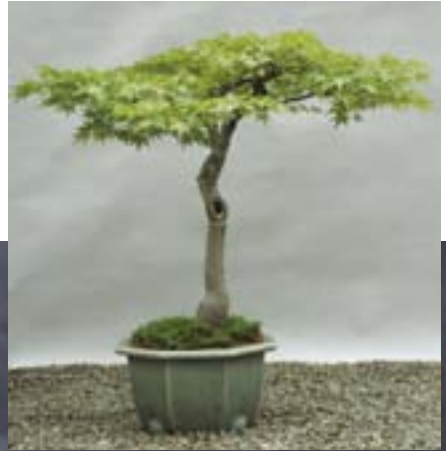
Chamaecyparis obtusa 'Chabo-hiba,'
Arnold Arboretum #890-49, started in
1832. Above, the plant in 1965; right,
the plant in 1989. Facing page, the plant
in 2005, 100 centimeters tall by 90
centimeters wide, with exposed stilt-
roots that once clung to a rock.



Japanese Maple (*Acer palmatum*), #872-37, started in 1887. Right, the plant in 1976. Below, the plant in 2005, 70 centimeters tall by 70 centimeters wide.



Japanese Maple (*Acer palmatum*),
#886-49, started in 1887. Right, the
plant in 1989. Below, the plant in
2005, 85 centimeters tall by
90 centimeters wide.







Japanese Maple (*Acer palmatum*), #888-49, started in 1897. Facing page, top, the plant in 1954; facing page, bottom, the plant in 1987. Above, the plant in 2005, 98 centimeters tall by 100 centimeters wide.

REJUVENATING AND RESHAPING THE LARZ ANDERSON ‘CHABO-HIBAS’

Colin Lewis

The compact hinoki cypresses (*Chamaecyparis obtusa* ‘Chabo-hiba’) in the Larz Anderson Collection are the elder statesmen of bonsai, the high priests whose secrets we had to learn before approaching them with tools in our hands. In their early youth, two or three centuries ago, their supple trunks had been wrapped around canes; their young branches pruned and tied into fanciful shapes, their foliage trained to form cloud-like layers. As the trees matured, the trunks and branches strengthened until their twisted shapes evoked coiled snakes trying to break free from the calm order and visual stability of the canopy or, perhaps, the violent energy of Mount Fuji’s volcano held in check by the stable mass of the mountain.

By the time we began our restoration work in 1999, some of the trees’ original branch structure had been destroyed—partly by nature, partly by man—but the essential design and conceptual intent were still evident. For a Western bonsai artist of the twenty-first century, the notion of restoring a collection of eighteenth-century bonsai was a humbling prospect. Rather than impose on these venerable masterpieces a twenty-first-century bonsai aesthetic, we hoped to restore their visual power by recreating the original design. It was not only the great age of the trees that gave them that power but also the masterly training and care they had received for so long.

Rejuvenation Regime

When working with ancient plants like these, the restorer must spend a few years observing and learning from them before attempting major reshaping. In 1999 these trees were stable and healthy but not vigorous, so the first task was to rejuvenate them. We began by addressing the question of fertilization: changing the

regimen from a dose of dilute chemical fertilizer every two weeks to an application of dry organic fertilizer pellets to the surface of the pots every three months. We got noticeable results within the first year—foliage color improved and growth became more robust. This regimen is now the standard practice for all the trees in the collection.

The second problem concerned the amount of light the trees received. When the lath house was built in 1962 it provided the ideal balance between sun and shade; over time, however, the surrounding white pines had become large trees, creating far too much shade. Almost all the trees in the lath house showed the effects of insufficient light in weak or lost lower branches, strongly vertical growth of new shoots, pale foliage, and the absence of inner adventitious growth. By happy coincidence, the offending trees were removed to make way for the Leventritt Garden of Shrubs and Vines. Here again, after only a year the improvement in growing conditions was visible in better foliage color and stronger adventitious growth.

Repotting the ‘Chabo-hibas’

The third and most important part of the rejuvenation process—and the most difficult—was improving the condition of the roots. The central core in each pot was, and still is, a compacted block of centuries-old loam. (Much of it will remain there forever since it would be impossible to replace it without severely damaging essential roots.) The only area available for roots for annual growth was in the fresh soil that each tree received every three to five years during repotting, and it was here that changes were needed.

The volume of soil replaced at each repotting had been minimal: an outer shell no more than two inches thick. For large trees in such large



The rootball of 'Chabo-hiba' 878-37 is showing signs of needing to be repotted. The parallel lines of root growth are due to the presence of grooves in the pot which directed the roots downward towards the bottom rather than around in a circle as is the case with more typical containers.

containers, this was barely enough to maintain a minimal level of health and totally inadequate for regaining and maintaining vigor. Each year the roots had pushed upwards toward the surface in an attempt to escape the inhospitable conditions below. Once on the surface, they accumulated dust and detritus, in effect creating another layer of soil. Gradually the soil level had risen until the lower inch or two of the trunks was engulfed. By first lowering the surface of the soil to its original level (or even lower) we were able to use slightly shallower containers and still gain valuable space for fresh soil below the roots.

To increase the volume of new soil introduced when repotting, we had to remove more of the original soil. But rather than arbitrarily cut away "pie slices" of the root ball, we adopted a far more cautious approach. We carefully

remove the soil introduced during the previous repotting and comb out the roots to avoid excessive damage. Then we use a hose to wash away loose portions of the original core and reveal the more accessible areas around the exposed root ball. These areas are then carefully excavated in an operation that more closely resembles an archaeological dig than a horticultural exercise. In addition to copious amounts of lifeless clay, we have unearthed rocks, brick fragments, and pottery shards. With each repotting the volume of additional new soil increases. When we have finally removed around fifty percent of the original soil, the excavations will cease.

We also made changes in the growing medium. The commercial bonsai soil we used for the first few repotting cycles was made of calcined clay, sand, and decomposed organic matter. None of the ingredients had been sifted



On old, pot-bound 'Chabo-hibas' the roots often grow upwards around the trunk. It is important to remove these girdling roots when repotting the plant. In this picture, taken in 1996, the removal of upward-growing roots exposed a full two inches of trunk that have previously been buried.

and the organic matter in particular was little more than dust that tended to clog the air spaces among the larger particles. This soil—designed primarily for high-volume nursery production of tropical and subtropical plants—was unsuitable for long-term cultivation of hardy bonsai. The 'Chabo-hibas', in common with all the trees in the collection, require a growing medium with a coarser, more free-draining structure. The current recipe seems to be working well: 50 percent akadama; 20 percent calcined clay; 20 percent grit; 10 percent organic matter.

Akadama is an untreated, surface-mined, clay-like mineral with a granular consistency that it retains for many years, even when constantly wet. When *akadama* finally does break down into finer particles after some years, it does not become compacted, as do clay, loam, and even peat moss. In addition to structural stability *akadama* offers the advantage of allowing the roots to grow into and through the particles, not only around them, thus maximizing the volume and nutrients available for root growth.

Calcined clay, in this instance Turface®, is a clay that has been heated enough to drive structural moisture out of the grains so that they will not soften or break down when wet—but not so much as to reduce their porosity. These grains absorb a large volume of water and release it gradually and evenly to the roots. Grit is used to maintain good drainage and to prevent compac-

tion. Although the pots are large, the grit used is an eighth-inch aggregate of well sand #3. Larger particles would obstruct root growth while doing little to help drainage.

The ten percent of organic matter is supplied in the form of decomposed pine bark that binds with the minerals in the fertilizer to create a medium that not only supplies nutrients to the plants but also encourages the growth of beneficial microorganisms, which also helps to break down the outer edges of the remaining original soil. At each repotting, organic matter from the old root ball is salvaged and reintroduced with the new ingredients.

Restructuring the 'Chabo-hibas'

As the trees' twisted branches had increased in girth over time, they had also straightened somewhat, a perfectly normal phenomenon in all conifers. In addition, they had grown outward and lost many of their inner branches. Consequently, each branch ended in a tuft of foliage far from the trunk, with no spatial relationship or harmony among the tufts. These remote tufts of foliage needed to be brought closer to the trunk and once again consolidated into clearly defined layers, and the trees' silhouettes needed to be restored to the denser and more stable pyramidal form of the original design, instead of the open, irregular shapes they had taken on.



Colin Lewis is seen here using water pressure from a hose to wash away the old soil from 'Chabo-hiba' 877-37, exposing the plant's dense, fibrous root system.



The branches of old specimens of 'Chabo-hiba' are often extremely contorted as a result of their slow growth and the annual pinching they receive

In spite of their great age, the trees had responded to the new soil and fertilizing practices within a year of repotting. However, it was three years before the new growth on the larger specimens was extensive and supple enough for training work to begin. Meanwhile, I was able to work on the three smaller trees and learn a great deal about the way 'Chabo-hiba' responds to various training techniques. One of the most surprising discoveries was that once the tension provided by multiple layers of dead bark has been removed, even hundred-year-old branches well over an inch thick are astonishingly pliable—a crucial factor in enabling us to restore the original design.

We quickly learned that normal wiring techniques, using annealed copper wire, are very

effective on branches up to three-quarters of an inch thick. We knew from the texture of the bark that the branches varied in age, but age seemed to make little if any difference in their response to being bent with wire. For example, a six-inch length of a branch a half-inch thick would accept an initial bend in the region of forty-five degrees and a quarter-inch thick branch would bend beyond ninety degrees, both seemingly regardless of age.

On larger branches, the very heavy wire and significant pressure needed to effect a bend might have resulted in scarring. We therefore pulled these branches into position with fine tension wires attached to other parts of the tree. Normally this method introduces gentle curves over the entire branch, with the branch requiring a long time to adopt its new position. Sharper curves adopt new positions much faster and, in this case, sharp curves were our aesthetic goal.

Where possible, then, we worked to sharpen the existing curves, focusing the entire bend more efficiently in a limited area and thus reducing the setting time. Manipulating the branch at the point of the bend before applying the tension wire and again when tightening it helps significantly to concentrate the bend at one point. The wire usually remains on the tree for about four months, the time necessary

for the branch to produce a new layer of wood. Beyond four months the damage to the bark may become too severe. If the tree is not particularly vigorous, the wire may stay on the branch for up to a year.

In one instance we successfully used a more drastic technique to lower a branch that was too thick and too short to respond to any other method. After cutting a fifteen-degree notch into the underside of the branch through about half its diameter, we pulled it down with tension wires until the cut surfaces of the notch were in close contact and under pressure. This was done in early June 2005; as of October 2005, no adverse effect on the health or vigor of the branch is evident and the two sides of the notch appear to have bonded perfectly. The tension

wire will remain undisturbed for another growing season.

The speed with which the branches adopt their new position, regardless of their age or position on the tree is another remarkable property of the 'Chabo-hiba' cultivar. After four months, most branches of a quarter-inch or thinner have set more or less permanently. Thicker branches with more severe bends can also set within four months although a second wiring is applied to consolidate the new position. This rate of setting contrasts with that of spruce, fir, and many species of juniper and pine, some of whose branches can take more than six years to become fixed in a new position.

Pruning the Branches

Occasionally it has been necessary to remove a part or all of a heavy branch. Here again we adopted a cautious approach out of respect for the age and value of these trees. Removing too much foliage from a branch at any one time can seriously weaken it or even cause death, especially in the case of older trees with complex compartmentalization of the vascular system. Therefore, we do the work in stages, cutting away the targeted areas bit by bit. It is important to leave enough healthy foliage to sustain the balance and vigor of the branch as a whole. As more growth develops on the desirable portions of the branch, more of the undesirable portions can be removed.

Removing entire large branches is also a gradual process. We first weaken the branch by cutting away up to seventy percent of its foliage; we then continue to cut back new growth to further reduce the vigor of the branch. After one year, the branch can safely be cut back to a short stub, which then remains untouched for yet another year. At that time it is cut as closely as possible to the trunk unless, as we have seen in some instances, the vascular system at the base of the stub—known as a collar—is too complex or too fragile. In these cases the stubs will remain in place for the foreseeable future.

From time to time some of the smaller branches succumb to competition from their stronger neighbors and begin to deteriorate. New growth is reduced to almost nothing and the foliage becomes pale and inactive. This is

not a tragedy; rather, it is the tree deciding for itself which branches it wishes to rely on for the future and which it has no further use for. This helps us greatly by telling us which branches to discard and which to maintain. Furthermore, since the tree has spontaneously decided to bypass these branches, they can be removed instantly and without ceremony.

Refurbishing the Foliage

Once the branches have been repositioned, we can begin remodeling the dense foliage layers, often referred to as clouds. Almost without exception, this calls for reducing the canopy's height and increasing its width to achieve a more horizontal appearance. Height can easily be reduced by pruning out strong vertical smaller branches and repositioning the more flexible lower growth. Foliage on lateral branches is left to grow freely until the extension shoots are robust enough to wire into position. This process took three years for the first trees we worked on but currently, thanks to the trees' continually increasing vigor, shoots can reach this stage in two years.

We use fine pruning for a variety of purposes: to eliminate weak shoots and give the healthier shoots more room to flourish; to direct future growth to where it is needed; and to eliminate growth where it is not needed. This kind of pruning is also used for other bonsai, but the foliage of the 'Chabo-hibas' presents its own unique challenges and rewards. For example, unlike many species of *Chamaecyparis*, whose foliage fronds or fans are presented in different planes, 'Chabo-hibas' (at least when grown in containers and heavily pruned) tend to present their fronds on a horizontal plane in all parts of the tree. It is hardly ever necessary to reposition wayward fronds with wire—they are so few in number that they can usually be cut away; and once any zone of foliage has settled into "horizontal frond mode" very few, if any, vertical fronds are produced.

An important part of foliage manipulation begins in late summer. At this time, a typical new shoot comprises two or three small (less than half-inch) recurved fronds at the base, then two or three medium-sized fronds up to an inch across and, overlaying all these, a spread-



The mature shoots produce branchlets which overlay each other like tiles on a roof. The upper branchlets are larger and more vigorous than those below. By snipping off the larger upper branchlets and leaving the smaller and less vigorous lower ones, the foliage can be encouraged to become more dense and finely textured. At the same time, any branchlets that are not horizontal are removed.

ing terminal frond that expands to a diameter of two inches or more if left unchecked. To increase bulk and encourage fine branching, we remove the terminal fronds entirely, leaving the two medium-sized fronds intact. These will develop during the following year into duplicates of the parent shoot, with equal vigor and size. Although slow, this process builds a more sturdy and organized network of smaller outer branches than merely allowing the foliage mass to expand without control.

With trees of this size, every process from branch shaping to fine pruning can be carried out simultaneously on different parts of the tree. The final process, however—building density—can only begin once the branch terminals are sufficiently balanced over the entire tree. Foliage density is needed not only to create a neater and more defined bonsai image, but also to allow the large clouds of foliage to be divided into smaller interrelated sections, giving the tree a more massive and more vibrant appearance.

So when the branch terminals have been properly established, we return to the shoots in late summer, this time cutting away almost the entire shoot and leaving only two of the very small, recurved fronds at the base. These fronds seem to be of a different nature from the others, as if destined to remain small. Their growth is slow but robust. Extension is rare

and is usually confined to one terminal, which is easily pinched off. Rather than try to extend these small fronds, the tree responds to the loss of a shoot by producing more small fronds from other internodes. Eventually the foliage becomes so dense that we must thin out some of the heavier branch terminals and allow younger inner growth to replace them.

This density-building technique has worked well, first on the small cascade (#101-69) and then on the two medium-sized trees (#880-37; 890-49). The larger specimens have not yet reached the stage of density building, although that time is near.

Ongoing Maintenance

The gradual process of old soil removal will continue, ideally for several decades, until it is complete. Even after that, however, the roots should receive ongoing care and structuring in much the same way as do the branches. As new roots develop closer to the trunk, some of the heavy pieces at the extremities of the root ball can be removed. The eventual goal is to have the majority of the root ball consist of healthy young roots.

Restructuring the branches on the large trees will take perhaps another three to five years after which the focus will be on building foliage density. From that point forward, the trees will be maintained by a sort of micromanagement



The foliage of 'Chabo-hiba' becomes tight and dense as a result of annual pinching.



Peter Del Tredici is seen here using a chop stick to tamp new soil around the older portion of the rootball of 'Chabo-hiba' 879-37, which he was repotting in March, 1996.

that includes cyclical thinning and replenishment of branch terminals as well as selective fine pruning to guide foliage growth in anticipation of future thinning.

Overwintering

In the milder parts of the United States, as in much of Japan, bonsai can be left out-of-doors all winter with only minimal protection from the elements. In New England, however, even though 'Chabo-hibas' are hardy in zone 5, the plants need to be protected from the cold. A plant that is perfectly hardy growing in the ground is not as hardy when grown in a container above ground and surrounded by air. This is because the soil, which has great insulating power, never gets as cold as the air, which has no insulating power.

The Arboretum bonsai are stored in a windowless concrete-block structure for the winter. The temperature in the building is maintained between 33 and 36 degrees Fahrenheit, and the plants are checked for water once a week. In general, they need watering about once a month.

Extreme care is taken to keep the plants from drying out during storage; it can be difficult to rewet them come spring. On the other hand, if the plants are kept too wet during storage, they become susceptible to fungal infections.

As long as the temperatures remain below 36 degrees, the plants survive in total darkness (and, surprisingly, continue to need water). However, such dark storage will not work at higher temperatures. The key to successful winter storage is to make sure that the plants are fully dormant before they go in and that they come out before they show any sign of growth. Traditionally, the plants went into cold storage on Armistice Day (November 11) and came out on Patriots' Day (April 19), but in recent years these dates have shifted to a week later in the fall and a week earlier in the spring as a result of changes in the weather.

Colin Lewis has been working with the Larz Anderson Collection since 1998. He is the author of four books on bonsai and the founder of the Hô Yoku School of Bonsai. He has been a practicing bonsai artist for twenty-seven years.

YOKOHAMA NURSERY COMPANY INSTRUCTIONS FOR GROWING DWARFED TREES

The Yokohama Nursery Company Catalogues issued between 1901 and 1922 all contain the identical instructions for how to take care of the dwarfed trees that the nursery sold. This information is historically significant for being among the earliest English descriptions of how the Japanese took care of the plants. The instructions are reprinted below in their entirety. According to Dr. John Creech, these instructions were most likely written by Mary Unger, the American wife of Alfred Unger, the German horticulturist who operated the Louis Boehmer Nursery Company in Yokohama from 1890 through 1908.

Dwarfed Trees Growing in Jardinières and Their Cultural Directions

Treatment of *Thuja obtusa*. During spring and summer, by preference keep this plant in a sunny airy situation where the wind will pass freely through the branches; water once a day giving just enough to make the soil moist; in dry hot weather it may be necessary to give water twice a day. Care however should be taken not to have the soil wet and never water unless the plant needs it. Watering overhead in dry weather is bad but rain is always beneficial. During winter keep the tree in a cold greenhouse partially shaded, or in an unheated orangery, giving water about once in 10 days; the soil however must never be allowed to get dry. (The science of successful culture of all plants in pots consists in judicious watering, giving too much or too little is equally bad.)

Treated as above this plant is very ornamental on balconies, terraces, etc. If this plant is kept indoors, it should always be placed out-of-doors at night and as often as it is not wanted for decoration. Indoors it should never be exposed to the dry heat from a stove or open fireplace, otherwise the leaves will drop off and the plant perish.

Pinus pentaphylla and pine trees in general growing in jardinières require the same attention in watering and general treatment as *Thuja obtusa* but are not so much influenced by atmospheric conditions; nevertheless sun and air are necessary to maintain health, therefore keep the plants out-of-doors as much as possible.

Maples and other deciduous trees take the same treatment as *Thuja obtusa* as regards watering, but are much more accommodating than evergreens; in fairly mild climates the maples may remain out-of-doors all winter, but where the frost is very severe they should be kept in a cool cellar after the leaves have fallen in autumn; the soil must always be kept moist but not *wet*; early in spring put the plants out-of-doors and fully exposed to all weathers and when in full leaf use for decoration indoors as needed.

MANURING: When the trees commence growing in spring, we give manure twice a month, say March, April, May and June, again September and October. In the hot days of July and August, we give no manure and the same in winter and early spring, the plants then being at rest; the best manure is finely powdered oil cake or bone meal. To a jardinière one foot in diameter we give 3 or 4 large teaspoonfuls *not heaped* of this dry manure spread evenly around the edge of the jardinière; a

larger or smaller jardinière will require more or less. For a small jardinière, say three inches by six inches, half a teaspoonful will be ample each time.

REPOTTING: This is done by us once in two or three years as follows: lift the plant out of the jardinière and with a sharp pointed stick remove about one-third of the old soil around the *edges and bottom*, cutting away a portion of the *old fine* roots but none of the strong roots, then replace the plant in the same jardinière first looking to the drainage; for a small shallow jardinière we use a flat piece of tin or a flat crock over each hole; over this spread some rich fresh soil; neatly balance the plant and fill up with the same rich fresh soil to within one-half an inch of the rim; this holds the water and prevents the manure being washed over the sides of the jardinière; also the soil should be made sufficiently tight round the edges of the jardinière to prevent the escape of water, it being of the first importance that the entire ball of soil around the plant be moistened at each watering. Should the watering of the plant at any time be neglected and the soul has become quite dry, put the jardinière in a tub of water for 10 or 15 minutes, *not longer*, and if the injury is not too serious, the plant will recover. In the case of large plants, we use hollow crocks for drainage, the same as is used by growers of specimen plants. After several repottings, the plant having increased in size, shift into a larger pot, but as dwarfness is the thing aimed at, the smaller the shift the better. Repotting should be done in February or March just before spring growth commences.

We advise when it is possible to get the above work done by a good gardener who has been accustomed to the handling of heaths, New Holland plants, etc. In the care of *very* shallow jardinières we find it desirable annually to replace a portion of the old soil to maintain a healthy growth.

PRUNING: To maintain dwarfness in the trees, pinch back the young growth; this we usually do from April to the middle of June and always with the finger and thumb, a practice followed by the late Mr. Thomas Rivers of Sawbridgeworth, England, when preparing his dwarfed fruit trees fruiting in pots. In *Thuja obtusa* we pinch out the points of the young growth all over the plant to maintain the form; this practice we also apply to *Cryptomeria* and all other conifers except *Pinus*. *Pinus*: we pinch out the points of the irregular growth simply to maintain the shape of the plant. Pomegranate, *Lagerstroemia indica*, flowering peach, flowering cherry, etc.: we pinch back the *nonflowering* shoots either before or after blooming. Wisteria: in July and August we pinch back all the young growth leaving only four or five leaves on each shoot.



Maple and other deciduous trees are pinched back at the same time as *Thuja obtusa* leaving two to four leaves as may be necessary to maintain the desired shape of the plants. Should a second growth be made, the same rule is followed of pinching out the points.

4. *Anemonopsis macrophylla*.

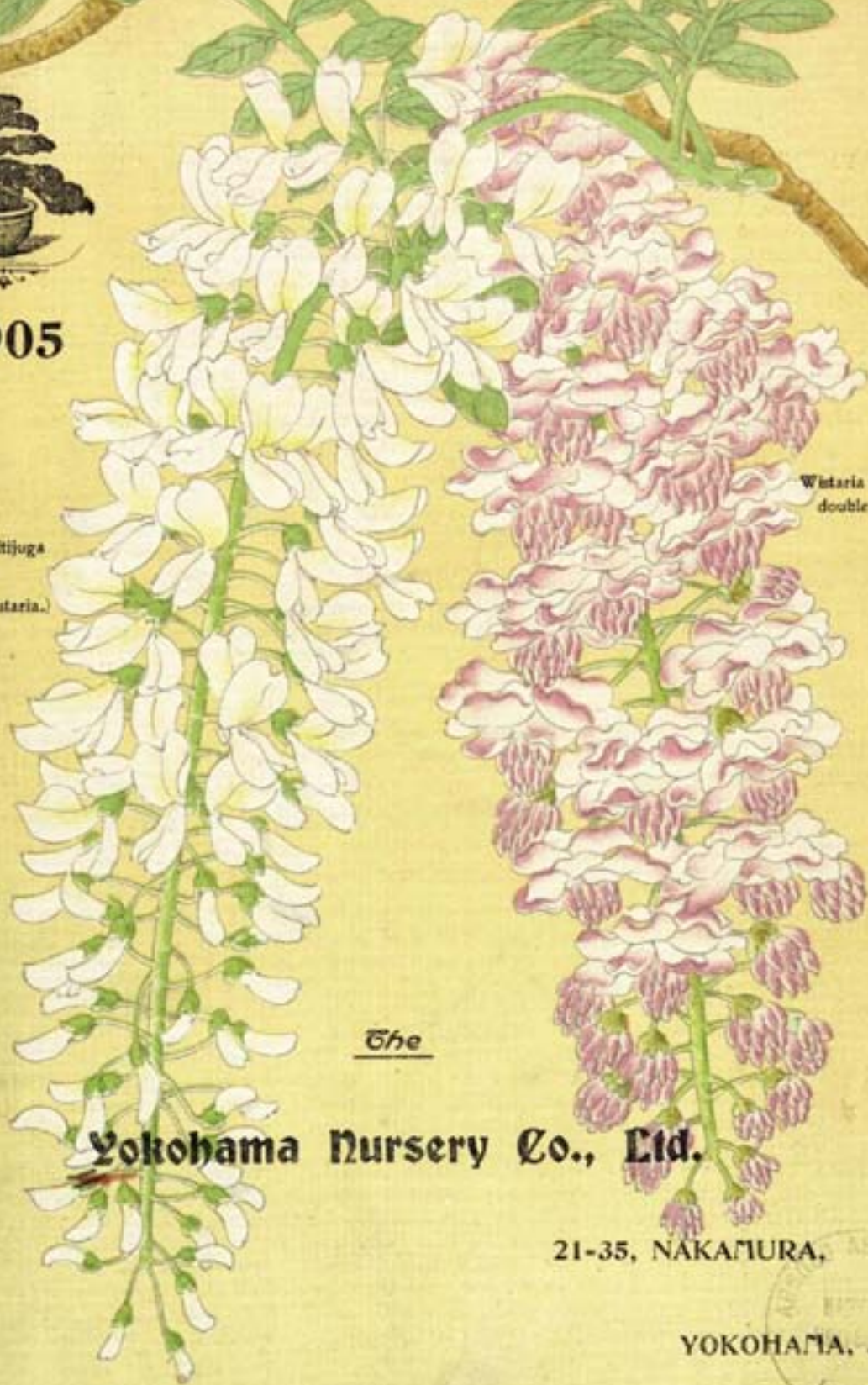
5. *Pteridophyllum racemosum*.





1905

Wistaria Multijuga
white.
(Fragrant *Wistaria*.)



Wistaria Chinensis
double purple.

The

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