

# Against All Odds: Growing *Franklinia* in Boston

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The year 2005 gives the Arboretum an excuse to celebrate two of its most historically significant plants: it marks the centennial of the *Franklinia alatamaha* located along Chinese Path, on the southwest slope of Bussey Hill. Two specimens, growing side by side, were propagated in 1905 as cuttings from a tree received by the Arboretum in 1884. Since then, the plants have become giant shrubs that sprawl across the landscape, taking root wherever their branches touched the ground. This "self-layering" habit of *Franklinia* is an important

part of its growth strategy and gives the plants an air of dynamism that suggests they will have moved to a completely different part of the Arboretum by the time of their next centennial.

The larger of the two plants (#2428-3-B) is now 21 feet (6.3m) tall by 53 feet (16m) wide and has eight more-or-less vertical "trunks" greater than 5 inches (12cm) in diameter (the largest is 7 inches, or 18cm). The smaller plant (#2428-3-A) is also 21 feet tall but just 30 feet (9m) wide, and has six stems larger than 5 inches in diameter. In the ranks of monumental trees, these are not



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*Franklinia alatamaha*, # 2428-3-B, at the Arnold Arboretum.





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The spectacular flower of Franklinia.

impressive dimensions, but they are enough to place them among the largest *Franklinias* anywhere in the world. More important, they are the oldest *Franklinias* of known, documented lineage. To put it another way, we know where the plants came from and when, which is more than most people can say about their *Franklinias*.

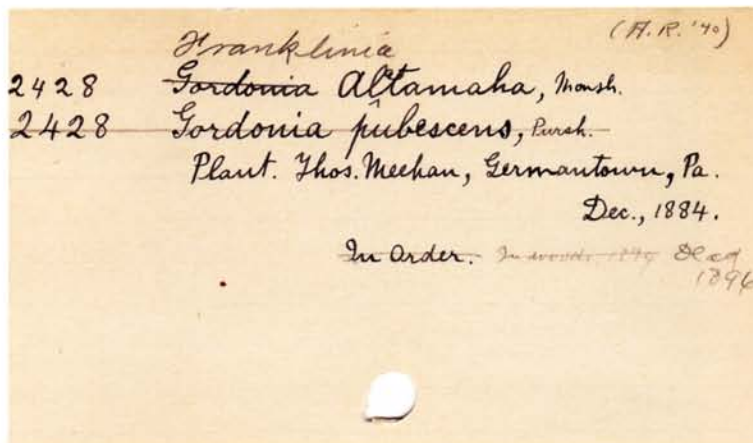
The title of "oldest documented *Franklinia*" was bestowed on the Arboretum's plants in 2000 after a two-year survey of cultivated *Franklinias* throughout the world that was conducted by Historic Bartram's Garden in Philadelphia.<sup>1</sup> To appreciate the significance of this finding, we must review the plant's colorful history. The species was discovered in southeast Georgia, along the Altamaha River near Fort Barrington, on October 1, 1765, by John Bartram and his son William. The plant was not in flower at the time, so its identity remained uncertain. William returned to the area in 1773 and produced a beautiful illustration of the plant in flower that he ranked as being "of the first order for beauty and fragrance." In 1776, William was

able to collect seed from the plants, which he took back to Philadelphia. Several other collectors later visited the Bartram's *Franklinia* site along the Altamaha River, the last being the English nurseryman John Lyon in 1803.<sup>2</sup> Since then, no one has reported finding *Franklinia* growing in the wild.<sup>3</sup>

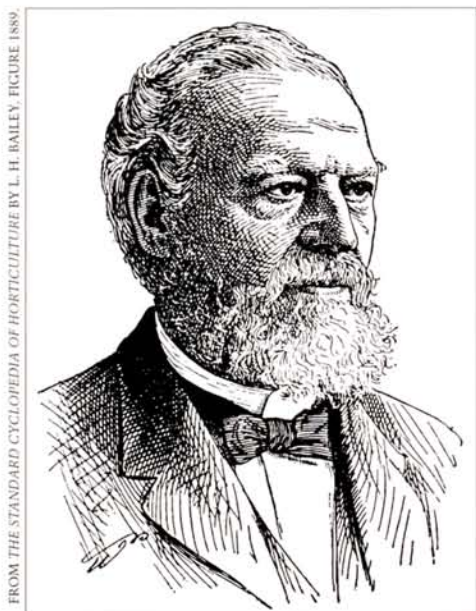
The species was first described and given the name *Franklinia alataamaha* in 1785 by William's cousin Humphry Marshall in his groundbreaking book, *Arbustum Americanum: The American Grove*. William's own description of his encounter with *Franklinia* in the wild did not appear until 1791, when he published *Travels* after a long series of delays. Unfortunately Bartram's very American name did not take hold in Europe, where botanists chose to refer to *Franklinia* as *Gordonia pubescens*.<sup>4</sup> This name stuck until 1889, when Sargent changed it to *Gordonia altamaha*.<sup>5</sup> It wasn't until after 1925 that Humphry Marshall's original name for the plant, *Franklinia alataamaha*, was widely recognized by botanists as legitimate.<sup>6</sup>

William sowed the *Franklinia* seed he had collected shortly after his return to Philadelphia in January 1777, and they germinated soon after. The resulting plants produced their first flowers four years later, in 1781, and their first seed in 1782.<sup>7</sup> On August 16, 1783, William wrote to Linnaeus that he had raised a total of five *Franklinia* seedlings—two he sent to France and two he planted in his own garden, which were currently flowering and “full of seed nearly ripe.”<sup>8</sup>

In November 1831, William Wynne, the foreman at Bartram’s Garden, reported that one of the original seedlings was fifty feet tall,<sup>9</sup> and in 1832, the botanist Constantine Rafinesque visited the garden and described a specimen that was “nearly 40 feet high.”<sup>10</sup> In 1846, D. J. Browne noted a *Franklinia* in Bartram’s garden that was “fifty-two feet in height, with a trunk three feet and nine inches in circumference [which equals a diameter of 14 inches].”<sup>11</sup> Seven years later, Thomas Meehan measured one of Bartram’s *Franklinias* at “about thirty feet high [with] a diameter of from



The Arboretum’s original accession card for the *Franklinia altamaha* (received as *Gordonia pubescens*) from Thomas Meehan in December 1884.



Thomas Meehan (1826–1901).



This drawing appears in *The Standard Cyclopedia of Horticulture*, rev. ed., 1916, with this caption: “A tender tree bound in branches of hemlock. The protected tree is a specimen of *gordonia* [*Franklinia*] about 10 feet high, at Arnold Arboretum, Boston.”



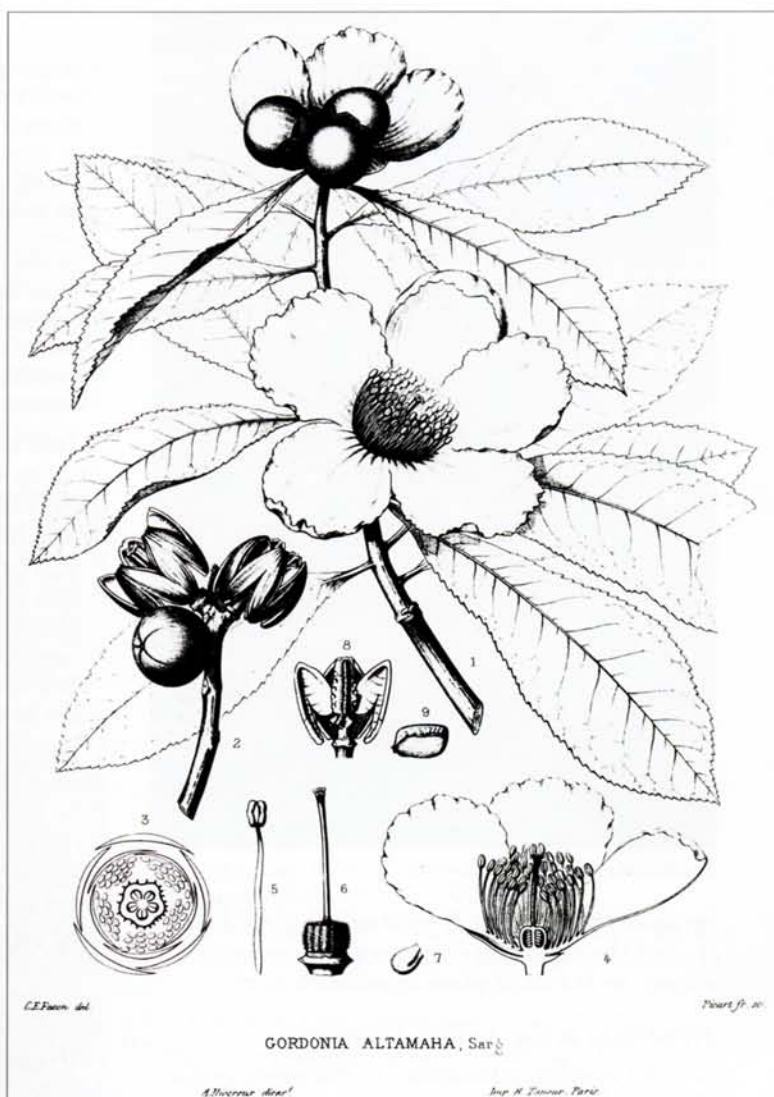
nine to twelve inches." He went on to note that "the finest specimen lately blew off in a gale,"<sup>12</sup> a statement that clearly indicates that only one of Bartram's original seedlings—the smaller of the two—was alive in 1853.

The last measurement of the original trees was in 1890, by Joseph Meehan, Thomas' younger brother, who reported in *Garden and Forest*:

This tree was supposed to be dead, and in fact it did die to the ground, but on a recent visit to it I observed a sucker of several feet in length from a portion of the stump beneath the ground.

In this same article, Meehan reported the existence of a 25-foot-tall specimen of *Franklinia* growing in the garden of William De Hart in Philadelphia that was "raised by layering a branch of the original tree in Bartram's Garden."<sup>13</sup> Unfortunately this tree no longer exists.

The two plants that grew in Bartram's garden were a ready source of *Franklinia* seed—indeed, the only source—and they were distributed by William and later by his nephew, Robert Carr.<sup>14</sup> As *Franklinia* became more common in the Philadelphia area, a number of local nurseries began propagating it. Foremost among the early propagators was Thomas Meehan, who had immigrated to the United States in 1848 and worked as the gardener at Bartram's Garden before establishing his own nursery in Germantown in 1853.<sup>15</sup> In that same year, Meehan published *The American Handbook of Ornamental Trees* in which he described the cultivation and propagation of *Franklinia*: "It seems to thrive best in a light rich loam, contiguous to moisture; and may be propagated by either seeds or layers."<sup>16</sup> During the 1870s and 80s, the Arboretum's first director, C. S. Sargent, worked closely with Meehan to save Bartram's house and what was left of the garden from destruction, a goal that was accomplished in 1891 when the property officially became part of the Philadelphia park system.<sup>17</sup>



C. E. Faxon's illustration of *Franklinia alatamaha* (Tab. XXII) from volume one of *Silva of North America* by C. S. Sargent (1890).

It was therefore appropriate that Thomas Meehan should have donated a *Franklinia* plant to the Arnold Arboretum. It was accessioned under #2428 as *Gordonia pubescens* in December 1884. Meehan's donation was most likely propagated from a specimen of *Franklinia* growing in his nursery in Germantown, just outside Philadelphia. Sargent mentions this tree in the *Franklinia* entry of the first volume of *Silva of North America* where he published a beautiful illustration of it.<sup>18</sup> The specific technique that was probably used to propagate this plant was described by Thomas Meehan's younger brother Joseph in *Garden and Forest*: "The tree can be





Franklinia's fall foliage.

increased by layering. If good soil be placed about it, and the layer not disturbed for two years, a strong, well-rooted plant results."<sup>19</sup>

#### **Franklinia at the Arnold Arboretum**

In 1889, Sargent announced in the pages of *Garden and Forest* that:

*Gordonia pubescens* has flowered this year at the Arnold Arboretum, growing in the open ground. The plant was bent over and covered with soil last winter. Though not hardy at Boston, it might do well when trained against a sheltering wall. A few of its beautiful flowers would well repay a little trouble and care.<sup>20</sup>

The following year, in the September 24, 1890, issue of *Garden and Forest*, the Arboretum's dendrologist, J. G. Jack, reported that *Franklinia* was again flowering at the Arboretum, and in 1893 he elaborated on the technique used to protect the plant in winter:

[A]t the Arboretum, after growing in its present position for about eight years, it is a several-stemmed shrub eight or ten feet high. Moreover, it

is necessary every autumn here to bend its stems over, to as near the ground as possible, and protect them from the rigors of winter with leaves, soil or other protecting material. After pegging the branches down, the best protection is afforded by putting dry leaves over and among them, and then covering the whole with soil thrown up in the form of a little mound, so as to shed the rains. It might pass the winters without such protection if planted in the shelter of some warm walls. In any case, it is well worth any extra care bestowed upon it . . . It may be propagated by layers or cuttings.<sup>21</sup>

Jack's reference to the propagation of *Franklinia* by cuttings was later corroborated by Sargent, also in the pages of *Garden and Forest*, where he noted:

Two or three plants of *Gordonia altamaha* are now in flower in the Arnold Arboretum. The plants are only about three feet high and are from cuttings taken in July, 1891. They have stood out two winters without protection and nothing but the new growth was killed.<sup>22</sup>

Indeed, a check of the Arboretum's records shows that cuttings from #2428 were taken in July 1891 and given a new accession number, 2428-1. And it's a good thing, too, because the original plant from Meehan died in 1896. Cuttings from #2428-1 were successfully rooted in July 1900, on July 5, 1905, and finally in 1908. The plants from both the 1905 and 1908 cuttings were given the accession number 2428-3. Two of the plants from this third-generation accession of *Franklinia* are still growing on Bussey Hill, one hundred and twenty-one years after their arrival at the Arnold.

The decision to plant *Franklinia* on the southwest slope of Bussey Hill was based on the knowledge—gained from experience—that this was one of the best locations for growing plants in the Arboretum's 260 acres. Over the years, this area (now known as "Chinese Path") has consistently provided Arboretum staff with a perfect location for growing plants whose hardiness is either marginal or unknown. The soil, which is deep and relatively free of stones, provides an excellent balance of moisture retention and drainage, and the mid-slope location gives protection from both the cold winter winds and the unpredictable frosts of spring and fall.

The Arboretum's early experiments with cultivating *Franklinia* were primarily focused on



its hardiness. From the perspective of 120 years' hindsight, however, the plant's susceptibility to disease—especially from the wilt-causing fungus *Phytophthora cinnamoni*—appears to be a more critical problem. This pathogen is particularly troublesome in heavy, wet soils, but even where drainage is not an issue, *Franklinia* has the well-deserved reputation of being difficult to keep alive—a “miffy” plant, to use an English horticultural term. A second factor that makes *Franklinia* tricky to grow is its requirement for acid soil—with a pH between 5 and 6—an observation that was not documented until 1927.<sup>23</sup>

This reconstruction of *Franklinia*'s long history at the Arboretum makes it obvious that much of the horticultural knowledge that we take for granted today exists only because of the work of persistent staff members constantly pushing the limits of what they could cultivate. The *Franklinia* growing today on Bussey Hill are a living legacy to the untiring efforts of John Bartram and his son William, Thomas Meehan, Charles Sargent, and John Jack. Indeed, on a crisp fall day in October, a knowledgeable visitor to the Arboretum can sense the presence of these men amidst the stunning display of pure white flowers and rich crimson foliage. They were able to accomplish great things because they believed in the importance of their work and stuck with it through all kinds of adversity. Without their concerted efforts, *Franklinia* might never have survived into the twenty-first century, let alone come into flower on Bussey Hill in the year 2005.

#### Endnotes

- <sup>1</sup> Historic Bartram's Garden. 2000. *Franklinia* Census. Special publication of the John Bartram Association.
- <sup>2</sup> F. Harper, ed. 1958. *The Travels of William Bartram, Naturalist's Edition*. New Haven: Yale University Press; J. Ewan. 1968. *William Bartram: Botanical and Zoological Drawings, 1756–1788*. Philadelphia: American Philosophical Society.
- <sup>3</sup> F. Harper and A. N. Leeds. 1937. A supplementary chapter on *Franklinia alatanamaha*. *Bartonia* 19: 1–13.
- <sup>4</sup> J. Fry. 2000. *Franklinia alatanamaha*, a history of that “very curious” shrub. *Bartram Broadside*, Spring 2000.
- <sup>5</sup> C. S. Sargent. 1889. *Gordonia pubescens*. *Garden and Forest* 2(96): 616
- <sup>6</sup> C. E. Kobuski. 1951. Studies in the Theaceae, XXI: the species of Theaceae indigenous to the United States. *Journal of the Arnold Arboretum* 32: 123–138.
- <sup>7</sup> H. Marshall 82(6): 6. 1785. *Arbustum Americanum: the American Grove*. Joseph Cruikshank: Philadelphia.
- <sup>8</sup> J. T. Fry. 2003. More on *Franklinias*. *The American Gardener*.
- <sup>9</sup> W. Wynne. 1832. *Gardener's Magazine* (London) 8: 272–277.
- <sup>10</sup> C. S. Rafinesque. 1832. New plants from Bartram's Botanic Garden. *Atlantic Journal* 1, 2: pp. 79–80.
- <sup>11</sup> D. J. Browne. 1846. *Trees of America: Native and Foreign*. New York: Harper Brothers.
- <sup>12</sup> T. Meehan. 1853. *The American Handbook of Ornamental Trees*. Philadelphia: Lippincott, Grambo, and Co.
- <sup>13</sup> J. Meehan. 1890. *Gordonia Altamaha* (pubescens). *Garden and Forest* 3(133): 445. See also J. Meehan. 1888. *Garden and Forest* 1(36): 429.
- <sup>14</sup> J. Fry. 1996. Bartram's garden catalogue of North American plants, 1783. *Journal of Garden History* 16.
- <sup>15</sup> L. H. Bailey. 1916. *The Standard Cyclopedia of Horticulture*, pp. 1587–88. New York: The Macmillan Co.
- <sup>16</sup> T. Meehan. 1853. *The American Handbook of Ornamental Trees*. Philadelphia: Lippincott, Grambo, and Co.
- <sup>17</sup> J. Meehan. 1897. In Bartram's Garden. *Meehans' Monthly* 7: 50.
- <sup>18</sup> C. S. Sargent. 1890. *Silva of North America* 1: 45–46. Houghton Mifflin, Boston. *Franklinia* is classified as *Gordonia altamaha* in this work.
- <sup>19</sup> J. Meehan. 1888. *Garden and Forest* 1(36): 429.
- <sup>20</sup> C. S. Sargent. 1889. Notes. *Garden and Forest* 2(84): 480.
- <sup>21</sup> ———. 1893. Noteworthy late-flowering shrubs. *Garden and Forest* 6(295): 436–437.
- <sup>22</sup> C. S. Sargent. 1884. Notes. *Garden and Forest* 7(344): 390.
- <sup>23</sup> F. V. Coville. 1927. The effect of aluminum sulfate on rhododendrons and other acid-soil plants. *Smithsonian Institution 1926 Annual Report*, Washington, D.C., pp. 369–382.

#### Acknowledgments

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