



Beyond the Silken Shadow: The Mulberry Tree's Metamorphosis and Homecoming

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Introduction

*"The only appropriate food for the silkworm is the leaf of the mulberry tree. It should be the first business therefore of the silk grower to provide himself with the source of a constant supply of mulberry leaves."*¹

Addressing the House of Representatives on Thursday, February 24, 1831, Abel Wheeler, Chairman of the Committee on Agriculture, reported that the power and wealth of France were mainly derived from silk production and that a number of other European countries had embarked on the same path "with zeal."² Conversely, the United States was spending a fortune on foreign silk: between 1821 and 1825 the total value of imported silk was worth approximately \$945 million in today's currency.³ To further his point, Mr. Wheeler compared this vast sum to the revenue generated from US bread exports: a paltry \$5 million a year, or about \$180 million today. Not only could mulberry leaves—the food of silkworms—be transformed into stacks of cash, but the mulberry tree itself was undemanding, requiring neither good soil nor good climate.⁴ However, as we will discover, despite years of effort to establish sericulture in the U.S., Wheeler's dream of turning leaves into gold came to nothing.



⋮ The House of Representatives, painting by Samuel F.B....



Here we tell the story of loss, but also one of renewal and metamorphosis. In the shadows of the fields haunted by white mulberries rose the canopies of another tree: *Morus rubra*, the red mulberry native to North America. While the red mulberry is found almost nowhere else in the world but North America, more often than not it is the white mulberry that comes to mind when we think of a mulberry tree. The white mulberry has captured attention throughout history, both within and outside its native ranges, overshadowing the red mulberry, even in its home continent.



⋮ Leaf of *Morus rubra*, the red...



The story of the red mulberry is a less glamorous one than that of the white mulberry and the dreams of riches promised by silk. It is a story earthier in its substance, more of root, trunk, and twig; bark and berry; and the breeze that gets caught in a generous canopy. These are the threads of Indigenous wisdom, landscapes of heritage and memory, in which the red mulberry is a horticultural marvel: a medicine chest, source of food, fiber, wood, and respite. Neglected and overlooked because it was not the favorite food of the silkworm, the red mulberry tree is reclaiming its legacy in the landscapes of North America. It may not be the money tree of silk production like the white mulberry, but as we will discover, every part of the tree offers wealth of its own kind.⁵



⋮ *Morus rubra* 1818, Austrian Nationa...

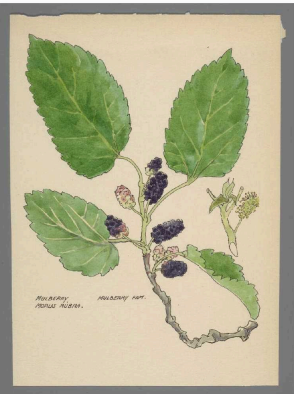


Taxonomy, Genus, and Types of Mulberry

The mulberry genus *Morus* is part of the family *Moraceae*, which includes mulberries and figs. Even within mulberry species, morphology differs greatly, especially with the white mulberry. It is unclear how many mulberry species listed in the genus are distinct, with estimates ranging from eight to seventeen.⁶ However, the three main types of mulberry are generally considered to be white, red, and black, the most common species of which are the *Morus alba* (white mulberry), *Morus rubra* (red mulberry), and *Morus nigra* (black mulberry).



Watercolor...



Watercolor...



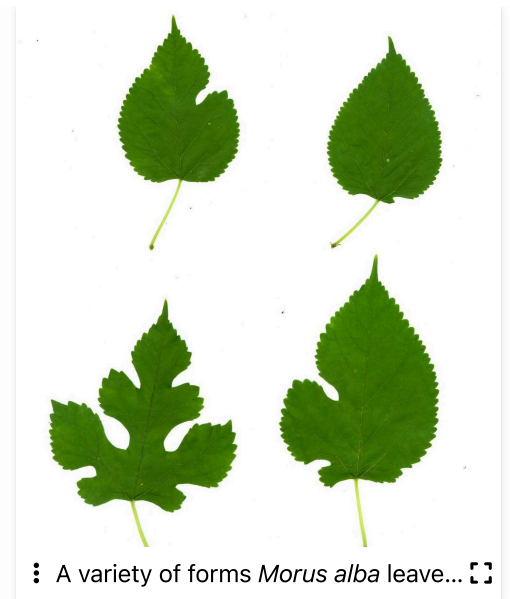
Illustration of...

The [white mulberry](#) is believed to be native to East Asia and the Himalayas, although centuries of domestication and human movement have made it difficult to know its native range for certain.⁷ Less intensive human relationships have allowed more certainty to the whereabouts of the other groups' native ranges: the [red mulberry](#) is from North America and the [black mulberry](#) is from the area around the Caspian Sea in what used to be the Persian Empire. This narrative focuses on the white mulberry—most famous for its role in silk production—and the red mulberry, which, as we will discover, plays a less well-known but equally valuable role in North America's biocultural heritage.⁸



Possible native distribution of white, black, and red...

Morus trees bear long aggregate fruit, somewhat resembling a blackberry, which come in various colors—green, white, red, black—and are rich in antioxidants. But the most historically significant, valuable part of most mulberry trees has been their leaves. Like the trees themselves, the leaves of the mulberry vary greatly in form, with leaf texture and shape ranging from shiny to matte, lobed or not. There can be dozens of differently shaped leaves even on the same tree. On no other tree has the leaf been more valuable than the white mulberry. Characterized in one text as a “sociable and loyal” tree that is “used to being of service to others,” it is the white mulberry whose leaves allow the silkworm to produce the best quality of silk.⁹

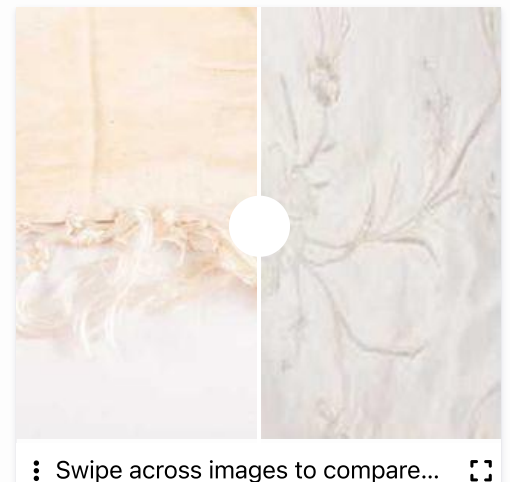


Sericulture: The Alchemy that Creates Raw Silk

The larvae of a species of moth called *Bombyx mori*, more commonly known as the silkworm, produce silk. Over centuries of domestication, the once-wild silk moth *Bombyx mandarina* was bred into the familiar *Bombyx mori*, maintaining its preference for white mulberry leaves, while the white mulberry was bred to contain fewer tannins and more protein to promote silkworm growth.¹⁰ For the blind, flightless larvae, the leaves of the white mulberry are one of the only foods they will eat and what they are most partial to. Their cocoons, made from the secretions from two glands, harden into a long delicate fiber rich in protein.¹¹ Measuring between 600 and 900 meters in length, it is this filament that the worms produce that becomes the luxurious material known as silk.



During the usual production process, sericulturists steam the cocoons to kill the larvae. This prevents the precious thread from breaking when the adolescent moth emerges, although sometimes twisting the filaments from several cocoons together is required.¹² A more humane production method uses the filament left over after the moth has emerged from the cocoon, rejoining them with the filaments that have been broken through twisting. By sparing the silkworm, the silk this method produces becomes Ahimsa silk. The result in either case is a single strand of silk thread.¹³ This incredible substance traveled around the globe, and where silk went, so too did the silkworm *Bombyx mori* and the white mulberry.¹⁴



Obsessed by Silk

Smooth and lustrous, silk has enchanted the wealthy all over the world for millennia. Imagine the wonder and delight of discovering the delicate threads that shone like silver. It's no surprise that the silkworm itself was revered as an extraordinary organism with its ability to convert white mulberry leaves into precious filaments. Writing about the mysteries of animal husbandry in 1668, John Worlidge, an English agriculturalist, mused on the sublime powers of "This, though but a Worm, yet glorious Creature."¹⁵ Cleopatra was enamored with the billowing silk sails of her pleasure boat.¹⁶ Possibly because it was so ephemeral and delicate, in ancient Rome silk was considered too effeminate for men to wear. In the reign of the second Roman Emperor, Tiberius (42 BCE—37 CE), a law was passed "that no man should dishonor himself by wearing silken garments."¹⁷



⋮ Emperor Tiberius rejected silk as... 📐

Silk is sacred in many cultures.¹⁸ As is the mulberry tree. In cosmologies, myths, and legends, there is an aura of reverence for the mulberry tree. In Hindu-Buddhist cosmology for example, the divine Kalpavriksha is thought to be a white mulberry.¹⁹ The Romans considered the black mulberry sacred to Minerva.²⁰ Sicilians still celebrate the Feast of St Nicholas by cutting a branch from the black and keeping it home for a year.²¹



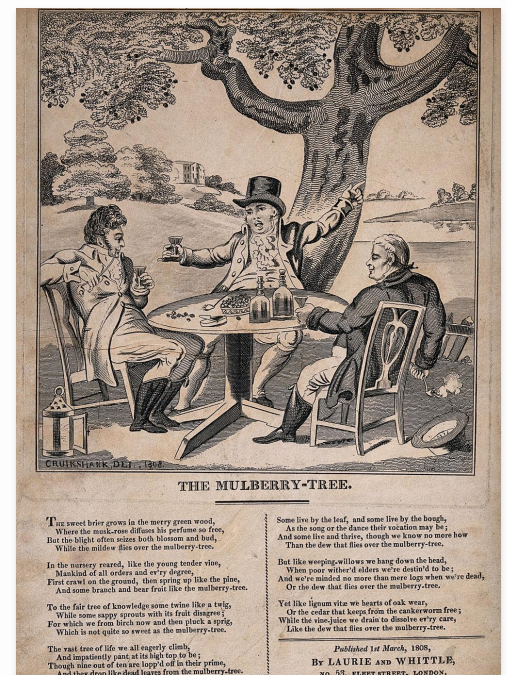
⋮ Thought to be over 800 years old, this tree in Rajasthan,... 📐

Fame is surely secured by myths, art, and song, and the mulberry plays a prominent role in all three. In the Babylonian love story about Pyramus and Thisbe by the Roman poet, Ovid in the first century BCE, the lovers arrange to meet under a mulberry tree, most likely a black mulberry since the white mulberry was not present in Babylon as the time. Thisbe arrives first but runs away after a lion attacks her, leaving behind her bloodied scarf. When Pyramus arrives, he sees the scarf and, believing Thisbe to be dead, stabs himself. When Thisbe returns to the tree and sees her lover's body, she ends her life. It is said their blood is what gave the berry its dark color.



Pyramus and Thisbe by Hans...

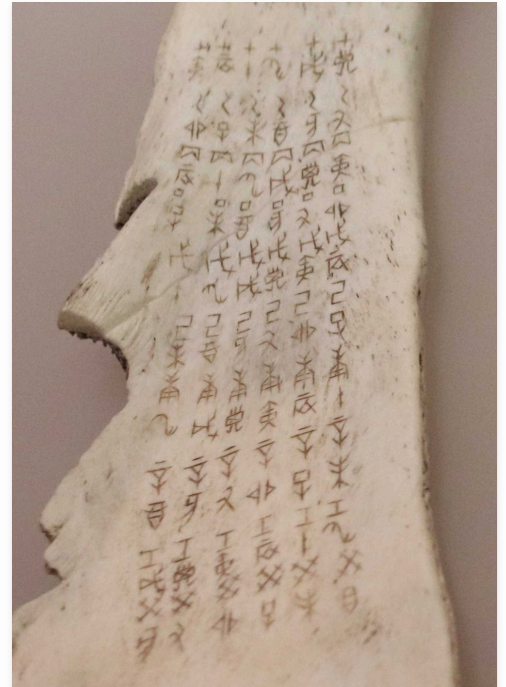
Van Gogh painted a mulberry tree in 1889, one year before his death, in brushstrokes that pulsate with life, echoing perhaps his feverish state of mind during a stay at an asylum. More cheerful is the depiction in folklore where the mulberry tree inspires carousing songs, odes to its juicy fruit,²² and the tree around which children dance as they sing the popular nursery rhyme.²³



Three men carousing beneath a...

The Beginnings of Silk

We begin in 2700 BCE, with the invention of sericulture: the production of silk. Illustrations on ox bones from 1600 BCE show that early versions of the process included the cultivation of mulberry groves and silkworms, silk reeling and spinning, preparing the silk threads, and weaving the threads together, like sericulture practices today.²⁴



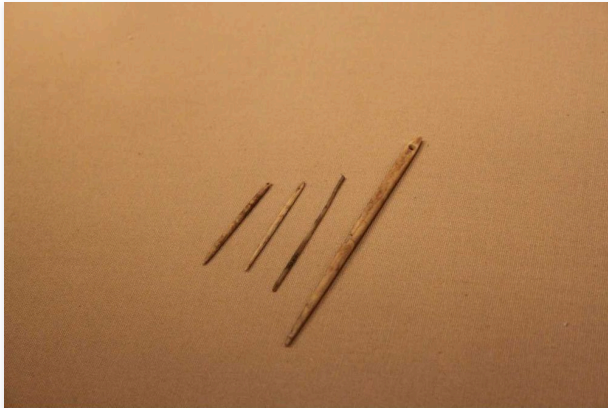
Shang Dynasty ox bone inscription ...

According to a popular legend, the Chinese Empress Xi Ling-Shi (西陵氏), also known as Leizu (嫫祖), first discovered silk while sitting under a white mulberry tree. As she drank her tea, a silkworm cocoon fell from the branches into her teacup and she found that the hot liquid had unwound the cocoon into soft, silky strings that were long and plentiful enough to be wrapped around her entire garden. Indeed, considering that a single cocoon may contain 1.5 km of silk, the legend does not exaggerate the wonders of the silkworm.²⁵ Now celebrated as the silkworm goddess, it is said that Leizu also invented the silk loom and the art of sericulture.²⁶



Image of Leizu (嫫祖) printed via...

The first concrete evidence of sericulture was discovered in Shandong and Huzhou from around 2700 BCE: silk ribbons and threads, and a silkworm cocoon split cleanly with a sharp tool.²⁷ The first evidence of Chinese cultivation of the white mulberry was discovered a thousand years later.²⁸ Refined for several hundred years, sericulture techniques were subsequently printed in the Chinese text *Qimin Yaoshu* (齐民要术), a work from 533 BCE containing information on ancient agricultural practices.²⁹ By the nineteenth century, visiting English explorers reported highly specialized cultivation practices of both the mulberry trees and silkworms. In May 1845, Robert Fortune wrote that the Chinese did not allow mulberry trees "to grow more than from four to six feet in height"—indicating copious pruning of the tree for ease of leaf-picking since women and children mostly did this.³⁰



⋮ Neolithic-age bone needles found in Shanxi,...



⋮ Engraving of silk manufacture in China,...

White Mulberry's Journey to Virginia

Although the Chinese had closely guarded the secret of the mulberry and silkworm for centuries, upon the second-century BCE, trading of silk on the Silk Road, the white mulberry, and the practice of silkworm sericulture began to appear elsewhere. How this secret first escaped China is unclear. It is possible Chinese migrants making their way to Korea or Japan brought the process with them. However, according to popular myth, a Chinese princess engaged to a Khotanese king brought the mulberry and silkworm out of China. To learn the Chinese art of sericulture, the king sent word that there was no silk production in his country, prodding the princess to bring sericulture to Khotan lest she lose access to silk entirely.³¹ Cleverly, she smuggled silkworm eggs and white mulberry seeds out of the country in her hairpiece, which Chinese inspectors dared not touch.³²



⋮ Khotanese votive panel from...

Evidence of white mulberry cultivation in Khotan emerging from 150–350 CE might support this story. By the seventh to eighth centuries CE, the legend was being incorporated artistically into artifacts such as wall paintings and votive panels. Interestingly, in both the panel presented here, and in different depictions, a four-armed deity is present, possibly representing a god of silk or a smaller local deity who protected silk production.³³



: Khotanese votive panel portraying ...

According to another legend, the sixth century Byzantine Emperor Justinian I bribed Nestorian monks to smuggle silkworm eggs and white mulberry seeds to Constantinople, which they did using hollow canes purportedly from Persia.³⁴ Whether or not these stories are true, the secret of sericulture spread—and the mulberry trees themselves, first to the Byzantine Empire in the 500s, then to Spain in the 900s and to England in the 1600s.³⁵ Sericulture slowly expanded westward, further spurred by industrialization and new, cheap silk production methods, with the black mulberry planted as sericulture's companion. Eventually, the white mulberry followed, appreciated for both its sericultural importance and the versatility of its fruit.³⁶



: Plate depicting Justinia...



: Third plate from the sa...



: The fourth plate,...



: The fifth plate, depictin...



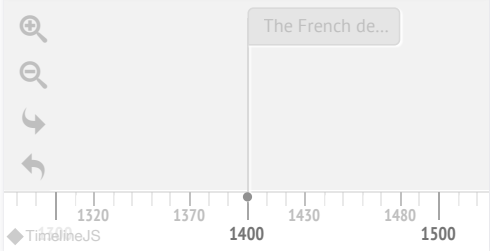
: The sixth plate,...

By the late 1400s, France—which had witnessed the prosperity silk had brought to Italy and Spain—established its own thriving silk industry with Lyon serving as the heart of French silk weaving, albeit with minimal in-country sericulture and thread production. It was due to Henri IV and his agronomist friend Olivier de Serres in the late 1500s that the first consequential planting of mulberries occurred. However, until the eighteenth century, the French silk industry remained reliant on Piedmontese silk threads—known as organzine—which were vastly superior to French alternatives in terms of uniformity, quality, and fabric production.³⁷ At one point, in the mid 1500s, 30 percent of all silk imports to France were from Italy, which also accounted for 20 percent of imports to other European countries, at times even surpassing China.³⁸ Because the exportation of silk fabric was such a significant portion of France's economy, the French desired to produce their own organzine on par with the Italians.

THE MULBERRY: FRANCE TO VIRGINIA



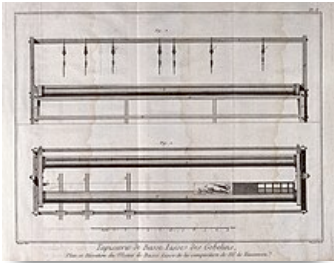
Wikimedia Commons
The mulberry tree at St. Mary's Point in Maryland, circa 1876.



In the 1740s, Philibert Orry, the General Controller of Finances, ordered another increase in cultivation of mulberry trees and opened spinning manufacturers in an attempt to eventually match the quality of Piedmont organzine. As this endeavor proved largely unsuccessful, the physicist Jean-Antoine Nollet was sent to Italy as an "intelligence agent" to learn the secrets of Piedmont silk thread production. Through the information Nollet gathered, the French concluded that it was the superior production methods of the raw silk itself that produced quality organzine, which led to the invention of an automated spinning machine by Jacques Vaucanson, the inspector of silk manufacturing. Several decades later, Joseph Marie Jacquard drew inspiration from Vaucanson's machine and invented the Jacquard loom, revolutionizing French textiles and the silk weaving industry along with it.

1740

To recreate Italian (Piedmont) organzine, the French cultivate many mulberries in the southern provinces. "Intelligence agents" are sent to learn the secret of Piedmontese organzine, resulting in a new French spinning machine.



Wellcome Collection, via Wikimedia Commons

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1650

1710

1760

1820

1880

TimelineJS

1700

1800

1900

England, meanwhile, had a late start into the silk industry. By the time the French had perfected their woven silk fabrics in the fifteenth century, King Henry VI had banned silk imports, and small-scale efforts to cultivate silkworms proved unsuccessful due to the climate.³⁹ Beginning in 1607, King James I attempted to match France's success, eager to cement England as a rival powerhouse in the silk industry. However, England's poor climate foiled such plans, and the only aspect of France's silken success he managed to replicate was the planting of mulberry trees.⁴⁰ Despite this failure at establishing sericulture, James I was determined not to be outcompeted by France. To this end, he required English landowners to plant mulberries and suggested that they raise silkworms themselves. While unsuccessful in-country, this culminated in several sericulture projects in the North American colonies, further motivated by the need to reduce England's tobacco dependency through diversified crops.⁴¹ The first attempt at raising silkworms was in Jamestown in 1607, where there were many native red mulberries, not a favorite of silkworms. But the endeavor failed because the silkworms' caretaker became ill which resulted in rats "[overrunning] the silk establishment and [eating] the worms."⁴²

1601 – 1607

King James I unsuccessfully attempts to replicate French success in the silk industry, only managing to plant mulberries across England.



Wikimedia Commons

A mulberry tree near Lesnes Abbey in the London Borough of Bexley, purportedly from the 17th century.

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King Henri IV ...

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TimelineJS

In 1609, the colonists began revamping sericulture efforts with improved organization and presumably healthier caretakers, finding reasonable success despite their using the native red mulberries.⁴³ Starting in 1620, manuals and handbooks with advice on how to rear silkworms began to appear. For instance, in his *Systema agriculturae*, John Worlidge recommended that growers hang lavender and sprigs of rosemary between the shelves where the silkworms were housed to keep them warm.⁴⁴ In a 1622 letter to the Earl of South-Hampton, John Bonoil, a sericulture advisor to James I, suggested growers "caste a little Vinegar" or "sweet smelling herbes" on coals in the oven or fireplace to "comfort the Wormes."⁴⁵ When it came to the silkworm, no detail was too small. The worms were mated on the backside of old velvet or other "stuffe"—never linen, paper, or wool—lest the eggs bond too tightly to the fabric.⁴⁶

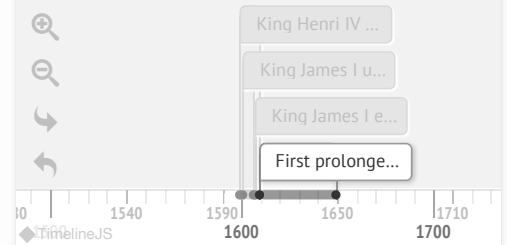
1609 – 1650

First prolonged, successful ventures into sericulture in the colonies; sericulture manuals begin to appear in the 1620's.

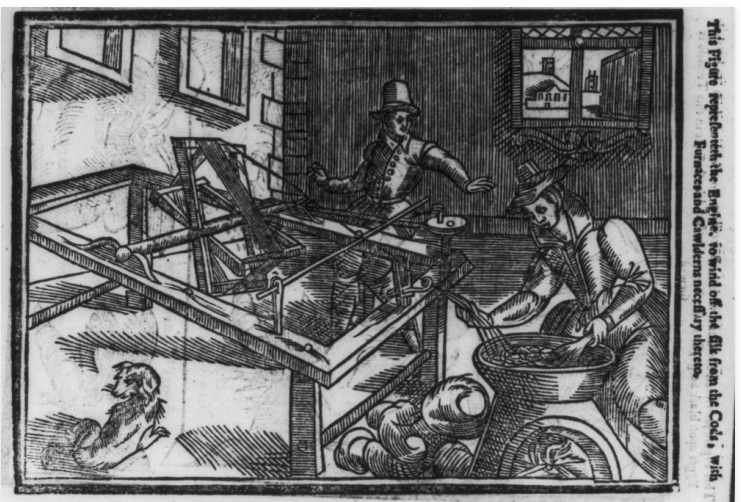


Wikimedia Commons

An engraving of a preliminary Virginian engine being used to wind silk out of cocoons, circa 1650.



To kill the worms within their cocoons, the best practice was using cauldrons, half full of hot water, with a wooden cover bored full of holes stationed three or four fingers above the water; spread on top of the cover would be a thin layer of "Darnix," where the silk cocoons were to be frequently stirred.⁴⁷ By 1639, likely through experimentation, Virginian sericulturists had become aware of the silkworms' proclivity for white mulberries—Sir Francis Wyatt wrote instructions to sericulturists ensuring that these were the sole variety planted.⁴⁸ And, as the colonists realized that the highest quality silk came from white mulberry leaves, they too planted acres of white mulberry.⁴⁹ Virginian sericulture, as elsewhere in the world, became a more precise science. The fascination to understand the alchemy of silk-making continues. Modern research has shown that although silkworm larvae will eat other leaves, such as lettuce and fig leaves, they are most attracted to unique essential oils in mulberry leaves.⁵⁰



⋮ An engraving of a preliminary Virginian engine being used... 🗨

Apart from these ventures in Virginia, successful silkworm-rearing attempts in the United States were few and far between.⁵¹ Suboptimal climate, disease, a focus on other agricultural pursuits, and often a general lack of knowledge meant that few of these pursuits ever took hold, with exceptions in Virginia, Georgia, Kentucky, and Pennsylvania (1725).⁵² Virginia's moderately successful venture from 1609 to 1676 eventually faded away too, lost to tobacco and rebellion.⁵³ Though faded, silk production would be given another chance nearly two hundred years later in Virginia's 1830s mulberry craze.⁵⁴

1830

Acres of white mulberry are planted in Virginia and Georgia, with farmers convinced that exporting silk could be a new path to American riches.



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Acres of white...

After a period ...

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1900

TimelineJS

Since a silkworm consumes about sixty grams of white mulberry leaves during its six-week life cycle and only produces 0.2 grams of silk, one hectare of white mulberry trees would likely produce around forty kilograms of silk.⁵⁵ Having a vast stock of mulberry trees to provide food for the silkworms was essential to firmly reestablish sericulture in Virginia. To this end, new acres of white mulberry were planted across Virginia to support the hopeful, renewed industry—the red mulberry, once again, was considered of no use. As we will learn next, the white mulberry spread far beyond Virginia—in fact, the highly invasive species spread throughout the country. Today, the tree can be found in every continent but the poles. As garden historian Bill Laws put it, “The silken mulberry had crossed the world.”

1880

After a period of mostly short-lived sericulture attempts, Virginia once again reignites interest in the industry, and many white mulberries are planted across the south. Although this lasts longer than the last "mulberry mania", silk never becomes the gold mine farmers expected.



Library of Congress, via Wikimedia Commons
Pencil sketch of mulberry trees and locusts on tan paper,

ite Ita...

Acres of white...

After a period ...

The mulberry ...

Timeline

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The Love Affair Turns Sour

Present in the landscapes of our childhoods and imaginations, how was it that the mulberry tree transformed from the harbinger of wealth to a pest, by some accounts, even an invasive species? A key factor is “mulberry mania,” which took hold of the northeastern United States in the 1830s. The fast-growing *Morus multicaulis* tree—a white mulberry variant that arrived in the United States from China, had immediate appeal. Its large leaves were easy to harvest and provided an abundant and nutritious source of food for silkworms. State subsidies encouraged the widespread planting of trees to supply an ever-increasing number of forays into silk production.⁵⁶

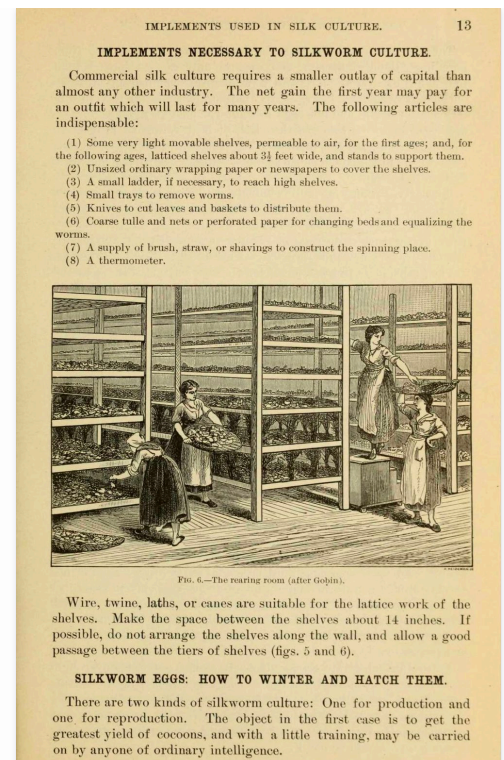


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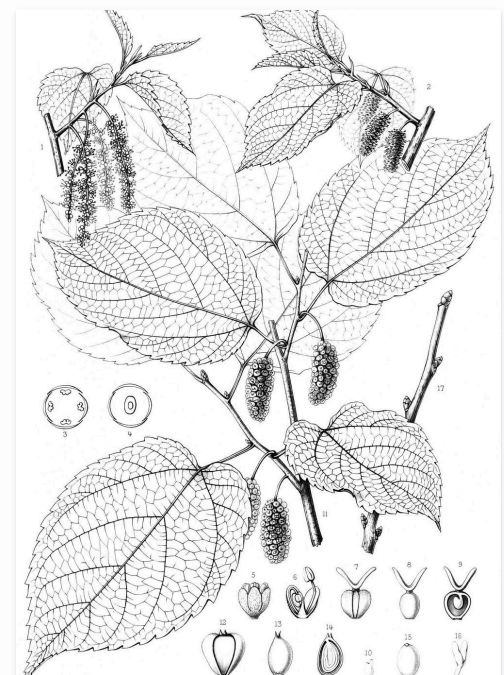
Group of workers at the Hand Silk Mill....

The hype spread from state to state: New Jersey, Pennsylvania, Delaware, Maryland, and Virginia were early adopters,⁵⁷ and Vermont, Massachusetts, and Connecticut followed suit. Mulberry mania spread south to South Carolina.⁵⁸ Advertisements in newspapers and magazines promised buyers a ten-fold increase in trees and, therefore, in profits over just one season.⁵⁹ Millions of hastily raised white mulberry trees were sold, inflating a speculative bubble that burst just as the entire nation's economy collapsed in the late 1830s.⁶⁰ It seems true to say that the role of the leaves of the white mulberry in the failed economy of silk production tainted the tree itself.⁶¹

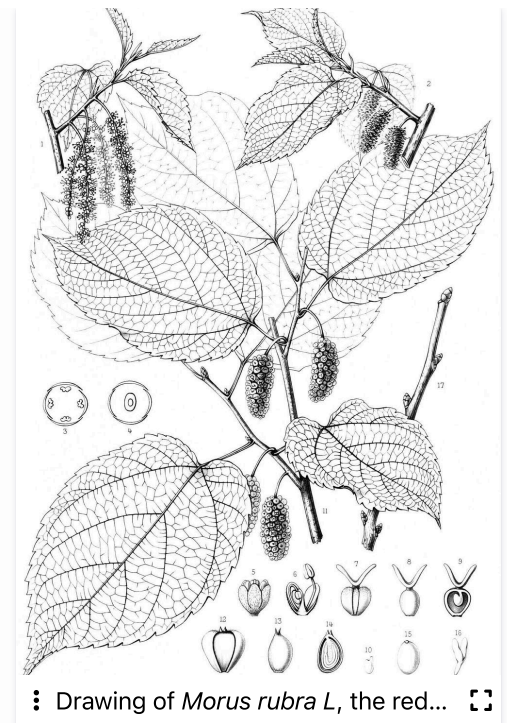


⋮ A page from a manual on rearing... 📄

*"Nor is this tree less beautiful to the eye than the fairest elm, and is very proper for walks and avenues."*⁶²



Horticulturists writing about the red mulberry use language that elevates the tree in words that suggest a patriotic pride in the species that is native to North America. A popular handbook from 1900 quotes Charles Sprague Sargent, author of the periodic survey of American trees, *Silva of North America*, who lists the many winning qualities of the red mulberry.⁶³ Apart from a wide and dense canopy that provides abundant shade, "its freedom from disease and the attacks of disfiguring insects, its prolificness, its hardiness except in its earliest years, and the rapidity of its growth in good soil, make it a most desirable ornamental tree."⁶⁴ *Silva of North America* 1892-1902 admires the red mulberry's "shapely head" and remarks on it being a "venerable tree."⁶⁵



At Lewis Ginter Botanical Garden near Richmond, Virginia, a 100-year-old red mulberry is venerated and is a popular feature in its [Children's Garden](#). It's the only tree visitors are allowed to climb and harvest for berries. Websites devoted to native species and plant nurseries in the surrounding areas encourage gardeners to grow red mulberries, both for their fruit and the shade of their generous canopies. As summer temperatures continue to rise every year, these shade or cooling trees, in the vernacular of horticulture, become ever more alluring. In addition, they are also necessary for humans, birds, and insects as resting spaces, homes, and sources of nutritious berries.

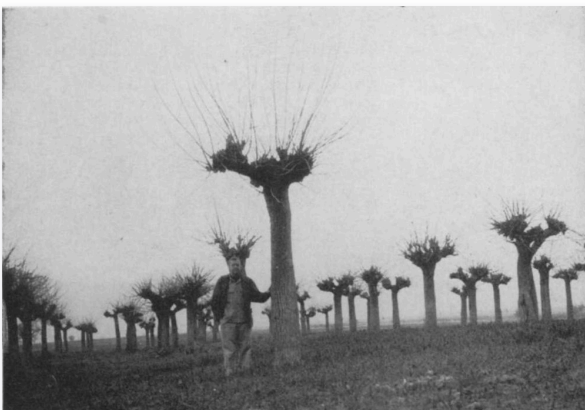


During his travels around North America in the eighteenth century, the Swedish naturalist Pehr Kalm described the view of red mulberries on "fields, hills and near houses."⁶⁶ The red mulberry was not only common in these landscapes of home, their timber was used to make homes. Red mulberry wood is weather- and insect-resistant and makes for fine cabinets and musical instruments.⁶⁷ Its bark is suitable for "good and rough bast ropes."⁶⁸ And it caters to birds, insects, and domestic animals. Species of birds that feed on the tree's fruit include the yellow-billed cuckoo, kingbird, tree swallow, thrush, and warbler.⁶⁹ In the southern states, the fruit of the red mulberry was good for fattening hogs and feeding poultry.⁷⁰ Hardy and easy to grow, the red mulberry can be coppiced and pruned to make excellent hedges "keeping children in and animals out."⁷¹



Frontispiece of the 1772 Dutch...

For centuries, people in different parts of the world have used mulberry trees for multiple purposes in both house and homestead. Settlers in the United States, including farmers and gardeners, discovered how adaptable the white and red mulberry tree were to being shaped for human convenience. White mulberry was pruned so that children and "aged women" could harvest its leaves.⁷² In Europe, Macedonian farmers selected and bred white mulberry trees to have broad leaves with low moisture and fiber content.⁷³ In China, it was common to graft cultivated stock from the white mulberry onto established wild rootstock—five years later, the leaves were ready to harvest.⁷⁴ Mulberry trees were so malleable that even their sex could be changed through simple grafting of a branch from a female tree onto a male tree.⁷⁵



An orchard of 150 year old mulberry trees...



A young woman in...

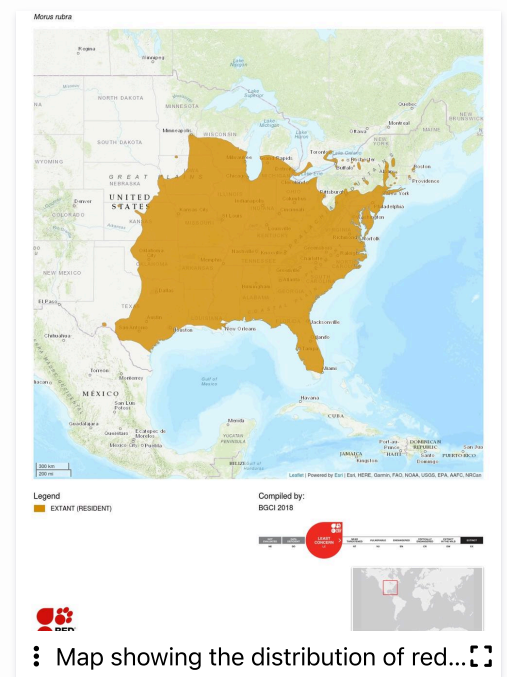
Alongside the pruning, grafting, altering, and shaping to suit human needs, a different quality of relationship with the red mulberry co-evolved with Native American peoples. In his travelogue recounting his journeys through North American landscapes in the eighteenth century, Pehr Kalms wrote of the fruit bread he ate with the Iroquois peoples: it was “just like the puddings which our women pack full of raisins.”⁷⁶ The tree's berries provided fruit, preserves, such as jams and syrups, as well as mulberry wine.



⋮ The American Mulberry (aka the Red Mulberry) is amazing



In 1979, the “alley-cat nature” of the white mulberry recommended the adaptability and fast growth of the species.⁷⁷ However, the fast propagation of the white mulberry has put red mulberry in danger of dying out in parts of Canada.⁷⁸ In Ontario, red mulberry is an endangered species. In 2023, only three hundred trees remained.⁷⁹ Along with loss and fragmentation of its forest habitat, the red mulberry's main threat is the white mulberry, which both outcompetes and quickly hybridizes red mulberry. The hybrid trees are difficult to distinguish as either purely white or red until they are adults, when the glossy and smooth leaves of the white mulberry contrast with the leaves of the red mulberry, which aren't shiny and feel rough to the touch. Conservation efforts of the red mulberry center around controlled pollination once they have been confirmed as a pure species through genetic testing.⁸⁰



The red mulberry has not dwindled to the same extent in the United States.⁸¹ Nevertheless, in Maine and New Hampshire, the species has disappeared.⁸² In Vermont and Massachusetts, it is considered "extremely rare."⁸³ While the future of the species is unclear, the place of the red mulberry is embedded in the cultural heritage along the length and breadth of the northeastern seaboard, as a source of food and medicine, cloth and wood, for humans, our domestic animals, birds and insects.



⋮ Photograph in the book A popular... []

In the landscapes of past and present, the red mulberry inhabits a deep history that is particularly North American. The centenarian tree at Lewis Ginter Botanical Garden attracts generations of children and adults every season, whether to savor its juicy berries, climb its branches, or sit in its shade when it is in full and generous leaf. While this beloved red mulberry is firmly part of visitors' memories, blogs, texts and photographs, there is another tree whose chronicle stretches further back in time, to the early days of the nation: the Yorktown-Washington tree, a mulberry tree under which it is said that George Washington slept "undisturbed, unvisited, unphotographed."⁸⁴



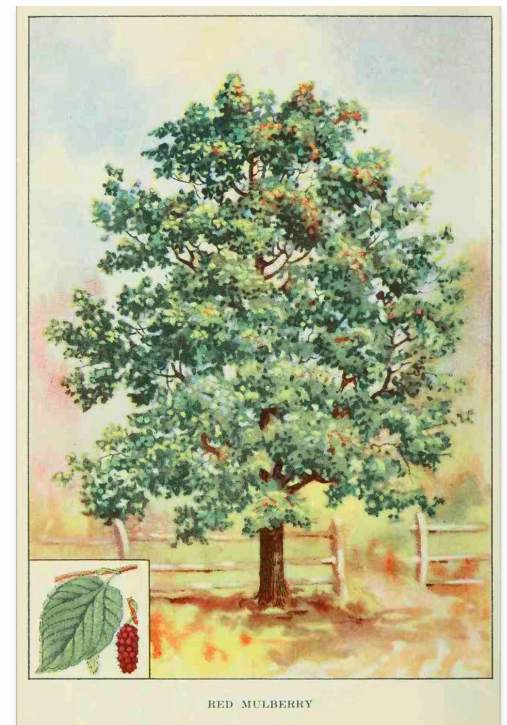
⋮ George Washington accepts the... []

Building on its deeply rooted presence in American history, the mulberry, particularly the native red mulberry, once held great promise for hopeful American planters. Although it had existed in the Americas for thousands of years, it was silk that moved the white mulberry and its genus to international prominence. The eventual end of sericulture and the American silk industry condemned the white mulberry as messy and undesirable.



⋮ The full canopy of a red mulberry... []

White mulberry is malleable, and the qualities that human cultivators imbued in the species—cropped short for ease of picking and grafting trees from male to female—were easily achieved. However, once the white mulberry's utilitarian purpose was lost, it was vilified in American gardens and fields as a relic of a failed sericultural project. While in horticulture, the white mulberry is considered a nuisance in the United States, in its wild form, it is revered in India as a Kalpavriksha—an old, gnarled, and wise tree of plenty. Today, as we look beyond the functional characterization of the tree, its true value—rooted in its cultural history and ecological significance—calls for recognition long overdue. Perhaps now, the red mulberry can be appreciated not for what it failed to provide but for what it has always offered.



⋮ Drawing of a red mulberry tree by... 🗨

References

1. J. H. Cobb, *A Manual Containing Information Respecting the Growth of the Mulberry Tree, with Suitable Directions for the Culture of Silk. In Three Parts* (Boston: Carter, Hendee, and Babcock, 1833), 13. [↗](#)
2. United States Department of Treasury Doc. No. 158 [↗](#)
3. United States Department of Treasury Doc. No. 158. p iii. Although mulberry trees prefer moist, well-drained soil, they can tolerate acidic or alkaline conditions as well as full sun or partial shade. [↗](#)
4. Cobb, *A Manual Containing Information*, 13. [↗](#)
5. Peter Coles, *Mulberry* (London, UK: Reaktion Books, Ltd., 2019). [↗](#)
6. Laws, Bill. *Fifty plants that changed the course of history*. Newton Abbot: David & Charles, 2010. [↗](#)
7. Coles, *Mulberry*. [↗](#)
8. Scott, Timothy Lee. *Invasive plant medicine: the ecological benefits and healing abilities of invasives* (New York: Simon and Schuster, 2010). [↗](#)
9. Coles, *Mulberry*. [↗](#)
10. Stephen Harris, *What Have Plants Ever Done for Us? Western Civilization in Fifty Plants* (Oxford: Bodleian Library, University of Oxford, 2015). [↗](#)
11. Coles, *Mulberry*. [↗](#)
12. "Sericulture." Britannica Academic, Encyclopædia Britannica, 26 Jan. 2012. academic-eb-com.ezp-prod1.hul.harvard.edu/levels/collegiate/article/sericulture/470923. Accessed 25 Nov. 2024. [↗](#)
13. https://en.wikipedia.org/wiki/Ahimsa_silk. Accessed 18 Dec. 2024 [↗](#)
14. Coles, *Mulberry*. [↗](#)
15. John Worlidge, *Systema Agriculturae: The Mystery of Husbandry Discovered* (London: T. Dring, 1668), 176. [↗](#)
16. United States Department of Treasury Doc. No. 158. [↗](#)
17. United States Department of Treasury Doc. No. 158. [↗](#)
18. Anbumozhi 2007. [↗](#)
19. Coles, *Mulberry*; Indosphere, "Kalpavriksha: The Primordial World Tree." Medium, March 23, 2021. 2019. [↗](#)
20. Coles, *Mulberry*, p174 [↗](#)
21. Coles, *Mulberry*, p174 [↗](#)
22. Platt, *Mulberry Fruit Poem*; Isaac Cruikshank, *Three Men Carousing beneath a Mulberry Tree, with Verses of a Song Comparing the Life of Humans to the Life of a Tree*, etching after I. Cruikshank, March 1, 1808, [1 print: etching and letterpress], Wellcome Collection. [↗](#)
23. According to one source, the rhyme is about women prisoners walking around the mulberry tree at Wakefield Prison in Great Britain. The prison was originally built in 1594 and has housed some of the UK's most notorious prisoners. The tree died and was removed in 2019 but cuttings from it have been germinated and the next generation tree is now in Yorkshire Sculpture Park (Dave Higgins, "Mulberry bush that inspired nursery rhyme has new lease of life," *The Independent*, March 30, 2023). [↗](#)
24. Coles, *Mulberry*. [↗](#)
25. Harris, *What Have Plants Ever Done for Us? Western Civilization in Fifty Plants*. [↗](#)
26. Himani G. Choudhary, "Reviving the Magic of Silk for Beauty and Health," *International Journal of Research in Engineering and Applied Sciences* 6, no. 4 (2016): 77–86. [↗](#)
27. Coles, *Mulberry*; Dieter Kuhn, *Science and Civilisation in China, Volume 5, Part 9* (Cambridge: Cambridge University Press, 1988), 284. [↗](#)
28. Coles, *Mulberry*. [↗](#)
29. Coles. [↗](#)
30. Fortune, Robert. *Three Years' Wanderings in the Northern Provinces of China*. (London: Spottiswoode and Shaw, 1847). [↗](#)
31. Erika Forte, "Images of Patronage in Khotan," in *Buddhism in Central Asia I* (Leiden, The Netherlands: Brill, 2020), 58–82. https://doi.org/10.1163/9789004417731_004. [↗](#)
32. Forte, "Images of Patronage in Khotan." [↗](#)
33. Forte. [↗](#)
34. Arnold Krochmal, "The Vanishing White Mulberry of Northern Greece," *Economic Botany* 8, no. 2 (1954): 145–151. [↗](#)
35. Coles, *Mulberry*. [↗](#)
36. Coles. [↗](#)
37. Paola Bertucci, "Enlightened Secrets: Silk, Intelligent Travel, and Industrial Espionage in Eighteenth-Century France," *Technology and Culture* 54, no. 4 (October 2013): 820–52.; Coles, *Mulberry*. [↗](#)
38. Coles, *Mulberry*. [↗](#)
39. Gerald B. Hertz, "The English Silk Industry in the Eighteenth Century," *The English Historical Review* 24, no. 96 (1909): 710–27. [↗](#)
40. Hertz, "The English Silk Industry in the Eighteenth Century." [↗](#)
41. Warren M. Billings, *The Old Dominion in the Seventeenth Century: A Documentary History of Virginia, 1606–1700*, revised ed. (Chapel Hill: University of North Carolina Press, 2007). [↗](#)
42. Charles E. Hatch, Jr., "Mulberry Trees and Silkworms: Sericulture in Early Virginia," *The Virginia Magazine of History and Biography* 65, no. 1 (January 1957): 6. <https://www.jstor.org/stable/4246279>. [↗](#)
43. Hatch, Jr., *Mulberry Trees and Silkworms: Sericulture in Early Virginia*, 7. [↗](#)
44. Worlidge, *Systema Agriculturae*. [↗](#)

45. John Bonoel, *His Majesties gracious letter to the Earle of South-Hampton, treasurer, and to the Councell and Company of Virginia heere: commanding the present setting up of silke works, and planting of vines in Virginia* (London: Felix Kyngston, 1622). [↗](#)
46. Bonoel, *His Majesties gracious letter to the Earle of South-Hampton*. [↗](#)
47. Technique originated from Messina, Italy. Bonoel, 29. [↗](#)
48. Hatch, Jr., *Mulberry Trees and Silkworms*. [↗](#)
49. Hatch. [↗](#)
50. Watanabe, Tadao. "Substances in Mulberry Leaves Which Attract Silkworm Larvæ (*Bombyx mori*)," *Nature* 182 (1958): 325–326, <https://doi.org/10.1038/182325a0>. [↗](#)
51. By 1616, moderate success of sericulture in Jamestown, Virginia, was proof enough to send to England cocoons and possibly spooled threads of silk. Hatch, 8–9. [↗](#)
52. There were several bitterly cold winters in the 1840s that ravaged burgeoning white mulberry trees; survivors were further thinned by an 1844 fungal blight. Ben Marsh, "The Republic's New Clothes: Making Silk in the Antebellum United States," *Agricultural History* 86, no. 4 (fall 2012): 206–34. <https://www.jstor.org/stable/10.3098/ah.2012.86.4.206>, p 226; Harris 2015; Billings 1996. [↗](#)
53. Hatch, Jr., *Mulberry Trees and Silkworms: Sericulture in Early Virginia*, 61. [↗](#)
54. Chambliss, "The mulberry craze." [↗](#)
55. Harris, *What Have Plants Ever Done for Us?*, 117. [↗](#)
56. Chambliss, "The mulberry craze." [↗](#)
57. Ryland, Elizabeth Hawes. "America's 'Multicaulis Mania.'" *The William and Mary College Quarterly Historical Magazine* 19, no. 1 (1939): 25–33. <https://doi.org/10.2307/1923038>. [↗](#)
58. Chambliss, "The mulberry craze." [↗](#)
59. Chambliss. [↗](#)
60. Marsh, "The Republic's New Clothes." [↗](#)
61. Ryland, "America's 'Multicaulis Mania.'" [↗](#)
62. Thornton, Robert. *A new family herbal*. London: for Richard Phillips, 1810, 756. [↗](#)
63. Keeler, Harriet. *Our Native Trees and How to Identify Them: A Popular Study of Their Habits and Their Peculiarities*. New York: Charles Scribner's Sons, 1917. [↗](#)
64. Keeler, Harriet. *Our Native Trees and How to Identify Them: A Popular Study of Their Habits and Their Peculiarities*. New York: Charles Scribner's Sons, 1917. [↗](#)
65. Sargent, Charles Sprague. *Silva of North America*. (Boston and New York: Houghton, Mifflin and Company, 1895), 79. [↗](#)
66. Kalm 1770 cited in Keeler, Harriet L. *Our Native Trees and How to Identify Them; a Popular Study of Their Habits and Their Peculiarities*. (New York: Charles Scribner's Sons, 1910). <https://doi.org/10.5962/bhl.title.56389>. [↗](#)
67. Eric Meier, "Mulberry," *The Wood Database*, accessed August 9, 2024, https://www.wood-database.com/mulberry/#google_vignette. [↗](#)
68. Thornton, *A new family herbal*. [↗](#)
69. Gary L. Koller and Michael A. Dirr, "Arnoldia," *Arnoldia* 39, no. 3 (1979). [↗](#)
70. Sargent, *Silva of North America*. [↗](#)
71. Koller and Dirr, "Arnoldia." [↗](#)
72. Kenrick, William. *American Silk Growers' Guide*. Boston: Weeks, Jordon and Company, 1839. [↗](#)
73. Krochmal, A. "The vanishing white mulberry of northern Greece." *Economic Botany* 8, no. 2 (1954): 145–151. [↗](#)
74. Laws, Bill. *Fifty plants that changed the course of history*. Newton Abbot: David & Charles, 2010. [↗](#)
75. The male tree produces clouds of pollen that cause hay fever, but when a branch from a female tree is grafted onto it, the male tree becomes female and stops producing pollen. The tree is allergy free! (<https://arboretum.uoguelph.ca>). [↗](#)
76. Kalm, Pehr. *Travels into North America Containing Its Natural History, and a Circumstantial Account of Its Plantations and Agriculture in General : With the Civil, Ecclesiastical and Commercial State of the Country, the Manners of the Inhabitants, and Several Curious and Important Remarks on Various Subjects*. London: Printed for the editor; and sold by T. Lowndes, 1771. <https://www.biodiversitylibrary.org/page/32458197>. [↗](#)
77. Koller and Dirr, "Arnoldia." [↗](#)
78. See Julian Campbell about the negative impact of *Morus alba* on the native *Morus rubra* in North America: [the nakedoaktreefarm.com/services-6-1](http://thenakedoaktreefarm.com/services-6-1). [↗](#)
79. Government of Ontario. "Red Mulberry (Species at Risk)." Ontario.ca. Last modified September 25, 2014. <https://www.ontario.ca/page/red-mulberry-species-risk>. [↗](#)
80. University of Guelph Arboretum. "Red Mulberry Conservation." Arboretum at the University of Guelph. Accessed August 9, 2024. <https://arboretum.uoguelph.ca/research-conservation/red-mulberry-conservation>. [↗](#)
81. Native Plant Trust. "Morus rubra (Red Mulberry)." Go Botany. Accessed August 9, 2024. <https://gobotany.nativeplanttrust.org/species/morus/rubra/>. [↗](#)
82. Native Plant Trust. "Morus rubra (Red Mulberry)." [↗](#)
83. Native Plant Trust. [↗](#)
84. *The William and Mary College Quarterly Historical Magazine*, Vol. 13, No. 4 Apr., 1905: 246. [↗](#)

