

The Introduction of Black Locust (*Robinia pseudoacacia* L.) to Massachusetts

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Though it is a firmly entrenched member of the Commonwealth's flora, the black locust is not native to Massachusetts

Our common black locust (*Robinia pseudoacacia* L.) is not native to Massachusetts but is an escaped and naturalized tree native to the central and southern Appalachian Mountains. Nonetheless, many people believe that it was present in the original forests of the state. When was black locust introduced to Massachusetts? How did it become such a common tree in a region far to the north of its original range? The answers to these deceptively simple questions are shrouded in myth and obscured by the inaccuracies and incompleteness of the historical record. Indeed, the ubiquity of black locust in such areas as Cape Cod reflects significant aspects of our region's history. My questions thus shift for their answers to the cultural forces that led to the black locust's introduction to Massachusetts and its subsequent spread throughout our area. I hope here to clarify the historical record and to correct several commonly held misconceptions about the species' introduction and spread.

Robinia pseudoacacia is one of the few arboreal species of the Pea Family (Fabaceae) found in Massachusetts. Here it grows to be a tree of medium height, usually less than fifty feet (15 m) tall; I have seen trees over eighty feet (25 m) high in its native range in the Great Smoky Mountains of North Carolina and Tennessee. Its leaves are compound, usually consisting of seven to nineteen leaflets. Its flowers, borne in June in the Boston area, are

heavily fragrant. The woody pods mature by late summer and remove any doubt a nonbotanist might have that this species is indeed a member of the Pea Family.

The black locust is noted not only for its vigorous growth—young trees can reach twenty feet in just a few years—but also for its aggressive suckering. Early travelers and naturalists found this vegetative fecundity astounding. Jean Hector Saint-Jean de Crève Cœur's account of his travels in North America (1786) typifies the impression made by suckering black locusts: "An acacia [*Robinia*], that was planted twenty feet from the parsonage house . . . sent a root across the cellar of the house, which penetrated the side of a well 17 feet beyond, and to the depth of 15 feet below the surface of the ground, insinuating itself among the stones of the well. . . . [I]t then . . . threw up a small tree." Lest his contemporary readers should find this incredible, Saint-Jean de Crève Cœur provided his own observation from a small church along the Hudson River in New York:

On the 17th of June, 1769, I attended the service at this church, and being obliged to remain for a short time in the neighborhood, it so occurred that two Sundays afterwards I again repaired to this place of worship; and I never was more astonished, than when, on opening the door, I perceived a young acacia [*Robinia*], which, in this short interval, had forced its way through the floor and had grown to the height of four feet. This tree was the sucker from a root . . . 49 feet long.

Modern black locusts are no less vigorous; the asphalt sidewalk in front of my Arboretum residence is plagued by *Robinia* suckers from a tree situated a good thirty feet away.

Resistance to Decay

Of great importance to colonists to the south of Massachusetts was the soon-discovered resistance of *Robinia pseudoacacia* wood to decay. The naturalist Mark Catesby (1767), as well as Saint-Jean de Crève Cœur (1786), comments on the high esteem in which the wood was held by American farmers for this reason. *Robinia* wood was prized for fence-posts and construction timber in contact with the ground. It was also noticed that *Robinia* plants would colonize poor, dry soils, thus giving farmers marketable timber from otherwise marginal land. [This is due in part to the nitrogen-fixing ability of symbiotic bacteria in the root nodules of *Robinia*, a symbiosis common in the Pea family.] The value of *Robinia* wood in the early 1800s was demonstrated by Michaux, who noted (quoted in Withers, 1842) that “[*Robinia* is] allowed to remain standing in the newly cleared lands, because the inhabitants can never have enough of the wood. . . .”

Agricultural use turned out to be only one facet in the development of a market for *Robinia* wood. Withers’ friend Joseph Harrison, in a letter of 1782 (printed in Withers, 1842), recalled from firsthand experience the trials of *Robinia* in American shipbuilding “about 1733.” *Robinia* wood was used for trenails (pegs used to fasten planks to a ship’s frame), instead of iron, with great success. “When unloaded she [the ship] was hauled ashore upon the bank in order to be searched both outside and inside, when, on the strictest examination, it was found the locust tree-nails, that had been substituted instead of iron bolts, seemed, to all appearance, to have effectually answered the purpose intended. . . .” This development did not, according to Harrison, spread quickly in shipbuilding. “I

frequently recommended it [*Robinia* trenails] . . . but all to no purpose, till about 20 years ago [the 1760s] when I was settled in trade at Rhode Island, I persuaded some ship-builders to try the experiment: but, notwithstanding all my endeavours, the use of locust tree-nails still continued to be little practiced or known, till it happened to be adopted by a builder of some eminence at New York, and of late years has been introduced into general use there, and in some parts of New England: but, as yet, the use of the locust-tree in ship-building is confined to the article of tree-nails on account of its scarcity. . . .” The major use



Robinia pseudoacacia in winter. This tree (growing in Czechoslovakia) was sixty-three feet tall; its trunk was nearly fifteen feet in circumference. Photograph (dating from 1905) from the Archives of the Arnold Arboretum.

of *Robinia* trenails in shipbuilding produced a significant market. By 1819, Philadelphia alone annually exported over one hundred thousand *Robinia* trenails for ship construction.

Several clues have about the introduction and naturalization of *Robinia pseudoacacia* in New England have come to light: durable wood useful in shipbuilding and agriculture, rapid growth of young trees even on poor soils, and clonal growth of groves from initial plantings. Include the the aesthetic attraction of fragrant blooms and one has the makings of a tree popular in a rural, maritime economy.

The first myth (and an entrenched one at that) concerns the initial source of *Robinia pseudoacacia*. Linnaeus, the great Swedish botanist, named the genus *Robinia* in honor of Jean Robin (1550–1629), a major botanist at the Jardin des Plantes in Paris. Robin is usually credited with introducing seeds of *Robinia* to France from Canada in 1600 or 1601. A Canadian seed source at this time would certainly imply that *Robinia* could well have been native in New England, too. However, Charles Sprague Sargent (1892) reiterated the claim that it was the son of Jean Robin, the botanist Vespasian Robin (1579–1662), who introduced the plant to Paris in 1636, and this without a definite source. In this case, which I take to be correct (remember that Linnaeus was writing over a century after the latter date), the error in citing a Canadian source for the original French introduction has little bearing on our quest.

Early American records can be divided into two groups: those that note a peculiar new tree that can be identified as *Robinia* and those that make no note of a tree with any combination of its distinguishing characteristics (floral fragrance, woody pods, durable lumber, rapid growth, and clonal habit). William Strachey (quoted in Sargent, 1892) saw during his journey into Virginia in 1610 “a kynd of low tree, which beares a cod like to

the peas, but nothing so big,” and he observed that the Indians used it to make bows. Strachey’s observation has been taken to be one of the earliest records of black locust (Sargent, 1892), but it could also refer to the redbud, *Cercis canadensis* L. While *Robinia* was found at the time of the establishment of the southern colonies, what of Massachusetts? Here we come to the second myth.

Apparent Source of the Error

A statement in the seventh edition of Philip Miller’s authoritative *Gardeners Dictionary* (1756–1759) appears to be the original incorrect citation of the “fact” that *Robinia* wood was used in the first buildings of Boston, a “fact” that quickly found its way into the European botanical literature. (See, for example, the citation of José Quer, 1762, in Austrich, 1987.) The statement in the *Gardener’s Dictionary* is:

This Sort grows to a very large Size in America, where the Wood is much valued for its Duration; moft of the Houfes which were built in Bofton in New England, upon the firft Settling of the Englifh, was with this Timber, which continues very found at this Time.

As this is the only reference I have found to an original presence of *Robinia* in Massachusetts at the time of settlement (other than the possibility that it could have been here if the species had been introduced from Canada around 1601), the veracity of this “fact” (written over a century after the settlement of Boston) must be evaluated critically. I have found no evidence to support the statement but have found numerous cases that cast severe doubt upon it.

Massachusetts is fortunate that its early settlers were literate and left written records, including notes of new plants. John Josselyn’s *New England’s Rarities Discovered in Birds, Beasts, Fishes, Serpents, and Plants of that Country* (1672) has sections on “Plants as are proper to the Country” and “Of such plants as are proper to the country, and have no name.”

Here, for many pages, are featured such novelties as pitcher-plants under the name of "Hollow Leaved Lavender," Indian beans, squashes, sumach, hemlock trees, pitch trees (here meaning *Abies*), larch trees, "cran berry," pyrola, a "hellibore" with the note "the whole plant scents as strong as a fox" (skunk cabbage to us), plus a weirdly fanciful sketch that seems to have more to do with Ezekiel's vision of wheels-in-wheels than anything truly terrestrial. Nothing like a *Robinia* is mentioned, figured, or described. Josselyn also authored his *Voyages*, or accounts of his sea voyages to and adventures in New England. Published in 1675, it has only one possible reference to an unknown tree that might be a *Robinia*: "The Line-tree with long nuts, the other kind I could never find." William Wood's propagandistic *New-England's Prospect* (1634) also lacks any reference to a tree with the characteristics of a *Robinia*.

The botanical explorers and writers of the late 1700s and early to mid-1800s leave little room to believe that *Robinia pseudoacacia* was ever native to Massachusetts. The Rev. Manasseh Cutler's *Account* (1785) described the species as native to "southern states—only cultivated here." François Michaux (cited in Withers, 1842) categorically states that the tree did not grow naturally in any state east of the Delaware River, trees in those areas having been planted. Daniel Browne (1832) reiterated Michaux's statement and noted that the wood was not much used in construction except to support the sills—further evidence that Miller's source was incorrect. Torrey's *Flora of the State of New York* (1843) described the tree as "not indigenous in any part of the State . . . [A]most naturalized in many places." Finally, George B. Emerson's *Report on the Trees and Shrubs Growing Naturally in the Forests of Massachusetts* (1846) concisely claimed that "[*Robinia*] is not known to be, nor is it generally considered, a native of the State or of New England; and it is doubtful whether it grew

naturally in the northern part of the Middle States. . . . It does not grow spontaneously near the sea-coast, even in the Southern States."

Escape and Naturalization

Note the gap in time from the earliest colonial records of New England, in which black locust is not mentioned, to the botanical writings of the late 1700s and early to mid-1800s, in which *Robinia pseudoacacia* is described as naturalized. A major development in the *Robinia* story occurred in this period. First was the destruction of the original forests in Massachusetts (and the other colonies) as the colonists changed the forested territory to settled farm and pasturelands. New England is probably more forested at present (the 1980s) than at any time since the arrival of the colonists, thus it is easy for us to forget that much of the arable land of the state was practically clearcut. In addition, grazing was a component of agricultural settlement and much additional land, including parts of Cape Cod and the islands, was further stressed by this factor. Second, various attempts were made to reforest some of the abused land and exotic species were certainly tried. Evidence of more recent trials can be seen in the early ecological literature, as where an old private reforestation at Woods Hole was evaluated (Chrysler, 1905). The condition of this property in 1850—essentially deforested—was undoubtedly a widespread condition and was anything but new.

The reforestation of New England occurred primarily through the natural forces of forest succession on abandoned farms and pastures. Black locust probably became locally common by escaping from cultivation once it had been planted. Saint-Jean de Crève Cœur's account (1786) of the rapid spread of *Robinia pseudoacacia* in the colonies focuses on all the critical points of human interest for growing the tree: the fragrance of its flowers, the durability of its wood, and the rapidity with which it grew vegetatively, even on poor



Specimen of Robinia pseudoacacia in the Royal Botanical Gardens, Kew, planted in 1762 by Princess Augusta of Wales. Photograph by and courtesy of István Rácz.

soils. Saint-Jean de Crève Cœur recounts the development of nurseries for the production of robinias, and the establishment of robinias on Long Island, New York, on a major scale. He does not overlook New England:

It has been already observed, that the Americans plant the acacia [*Robinia*], with the view of meliorating such poor and defective soils, as they intend to put under crop, for a series of years; and, as the woods annually diminish in the inhabited parts of the country, it is no uncommon thing to see the old forests replaced by plantations of acacias. It is in Long Island, New Jersey, Provi-

dence, and in the vicinity of Boston, that I have particularly noticed the good effects of these plantations. In several places there were formerly moveable sands [that] by means of inclosures of acacias, and by planting a great number of trees in different ways, these moveable sands have been fixed.

He also notes the tendency of Americans to use black locusts as shade trees near watering spots, and to hold firm eroding river banks.

Black locust must have been introduced to Massachusetts by the mid-1700s (Catesby, 1767, recorded it as "very numerous in most

of our northern colonies"), the introduction having been driven by the overlapping forces of strong demand for the wood in both agricultural and marine markets, by the then-ongoing destruction of the original forests, and by the consequent need for a fast-growing tree capable of tolerating marginal agricultural land. *Robinia pseudoacacia* fit all these needs. Since the species is semi-weedy, once it was established within a region it was only a matter of time before naturalized populations became permanent and the species spread as a part of the secondary woodlands on disturbed and abandoned sites.

The *Robinia* craze in the United States witnessed by Saint-Jean de Crève Cœur was ultimately thwarted by the presence of a native insect borer. The borers stunt individual trees, and greatly reduce the commercial quality of the wood. Sargent (1892) considered only the borers to prevent *Robinia pseudoacacia* from being one of the most important timber trees in North America. A significant *Robinia* craze swept Europe in the early 1800s, aided in good part to the horticultural phenomenon in the person of one Mr. William Cobbett. Between 1817 and 1819 he managed a farm on Long Island, New York. He became enthralled with "especially the Flowering Locust, or Acacia, which, in my opinion, surpasses all other trees, and some of which, in this Island, are of very great height and beauty" (Cobbett, 1828). Upon his return to Europe, he established a nursery and is supposed to have sold more than one million *Robinia* seeds and trees; that leads to another chapter in horticultural history.

There is an irony here. One *Robinia* craze fed another, and both ended with *Robinia pseudoacacia* permanently naturalized far beyond its homeland in the central and southern Appalachian Mountains. *Robinia*'s naturalization has been so convincing that I have been assured—incorrectly—that the extensive groves of *Robinia* on Cape Cod most certainly are *not* artifacts of European settlement.

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