

# The Massachusetts Sweet Bay Swamp

by Peter Del Tredici

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The sweet bay magnolia swamp in Gloucester, Massachusetts, has been a botanical shrine since its discovery in 1806. Early New England naturalists and botanists from Henry David Thoreau to Asa Gray made pilgrimages to see the fragrant *Magnolia virginiana* L. growing in this northernmost colony 150 miles north of the next nearest population, on the eastern shore of Long Island, New York (Little, 1971).

The residents of Gloucester were so impressed with what they thought of as a southern plant growing this far north that they changed the name of the Kettle Cove section of the town to Magnolia in the mid-1800s. It is probably no coincidence that the name change occurred at the time the area was starting up its tourist trade.

The Gloucester magnolia population also was remarkable for having escaped notice until 1806 in an area that was settled in 1623. This led at least one author to speculate that the colony was not wild but had escaped from a cultivated plant (anonymous, 1889). The overwhelming consensus of earlier botanists, however, is that the population is in fact native. Whatever its origin, the swamp remains as unique and mysterious as it has for almost 200 years.

Little has been written about the magnolia swamp in recent years. The latest, and best, article was written by Dr. George Kennedy and appeared in

1916 in *Rhodora*, the Journal of the New England Botanical Club. Dr. Kennedy summarized the history of the stand, and cleared up the confusion about who discovered it by publishing a letter, written by the Honorable Theophilus Parsons, Chief Justice of the Massachusetts Supreme Court, to the Reverend Manassah Cutler in 1806. The letter captures the emotion of the moment of discovery:

Reverend and Dear Sir: In riding through the woods in Gloucester, that are between Kettle Cove and Fresh Water Cove I discovered a flower to me quite new and unexpected in our forests. This was last Tuesday week (July 22, 1806). A shower approaching prevented my leaving the carriage for examination, but on my return, on Friday last, I collected several of the flowers, in different stages, with the branches and leaves, and on inspection it is unquestionably the *Magnolia glauca*. Mr. Epes Sargent has traversed these woods for flowers and not having discovered it, supposes it could not have been there many years. It was unknown to the people of Gloucester and Manchester until I showed it to them. I think you have traversed the same woods herborizing. Did you discover it? If not, how long has it been there? It grows in a swamp on the western or left side of the road as you go from Manchester to Gloucester, and before you come to a large hill

over which the road formerly passed. It is so near the road as to be visible even to the careless eye of the traveler. Supposing the knowledge of this flower, growing so far north, might gratify you, I have made this hasty communication. Your humble servant, Theoph. Parsons.

The existence of the magnolia swamp was first announced to the general public in 1814 by Jacob Bigelow in the first edition of his famous *Plants of Boston*:

The only species of this superb genus, that has been found native in our climate. It attains the height of a dozen feet, but is sometimes killed down to the roots by severe winters. . . . The bark is highly aromatic, and possesses medicinal properties. It grows plentifully in a sheltered swamp at Gloucester, Cape Ann, twenty-five miles from Boston, which is perhaps its most northern boundary. — June, July.

On September 22, 1858, Henry David Thoreau visited the swamp and wrote in his *Journal*:

September 22. A clear cold day, wind northwest. Leave Salem for the Cape on foot . . . We now kept the road to Gloucester, leaving the shore a mile or more to the right, wishing to see the magnolia swamp. This was perhaps about a mile and a half beyond Kettle Cove. After passing over a sort of height of land in the wood, we took a path to the left, which within a few rods became a corduroy road in the swamp. Within three or four rods on the west side of this, and perhaps ten or fifteen from the highroad, was the magnolia. It was two to seven or eight feet high, but distinguished by its large and still fresh green leaves, which had not begun to fall. I saw last year's shoots which had died down several feet, and probably this will be the fate of most which has grown this year. The swamp was an ordinary one, not so wet but we got about very well. The bushes of this swamp were not generally more than six feet high. There was another

locality the other side of the road.

Clouds of doubt concerning the survival of the swamp started to gather in 1875, in *A Report on the Trees and Shrubs Growing Naturally in the Forests of Massachusetts* by George B. Emerson. He noted "scores" of trees broken down in a single season by people who sold the flowers in Boston and Salem. By 1889, the situation had deteriorated to the point that J.G. Jack, the dendrologist at the Arnold Arboretum wrote:

So eagerly have the flowers been sought for by collectors, and especially by those who wished to make money out of the sale of both plants and flowers, that there has been some apprehension that the day would soon come when the Magnolia could only be classed in New England floras as one of the indigenous plants of the past.

But some good news also appeared in this article, which goes on to say: "The hope is now entertained, however, that the owners of the woods where it occurs, appreciating its rarity and interest, will take care that its existence, in a wild state, may be perpetuated." And indeed it was, for in that same year, 1889, Samuel E. Sawyer, the owner of the swamp, set up a trust fund, to be administered by a board of trustees, to manage the land. He chose to call it "Ravenswood Park" and instructed that it be left open for and made accessible to the general public.

This great display of generosity did not stem the tide of destruction. Dr. Kennedy in his *Rhodora* article quotes a letter, dated April 17, 1916, from C.E. Faxon, the illustrator at the Arnold Arboretum, to Walter Deane, the president of the New England Botanical Club, which shows the condition of the swamp in the summer of 1913:

Dear Mr. Deane: I have just found in *Garden and Forest* an interesting letter from Mr. Fuller giving a marginal note from Judge Davis's copy of *Bigelow's Plants of*



Boston... When I first visited the swamp some 45 years ago there were plenty of good specimens all about, sometimes 15 feet tall or more. It was easy to find them, as the boys who sold the flowers on the Boston trains had made trails from one plant to another all over the swamp.

When I visited the place with Dr. Kennedy two years ago we found with the aid of the Tree Warden of the town, only two little plants a few feet high that had escaped the Magnolia hunters — such had been the destruction! Yours faithfully, C.E. Faxon.

Recently the story has developed a more cheerful turn. When I visited the swamp during the winter of 1981, I estimated there were 40 to 50 multi-stemmed clumps of *Magnolia virginiana*. Most of the stems were 2 to 4 meters tall, but there was one 6 meters high. Stem diameters ranged from 2 to 10 centimeters. About 1970, the trustees of Ravenswood Park thinned out some of the larger trees shading the magnolias in the back part of the swamp. the effect has been a great increase in the vigor and fruitfulness of the plants — so much that in the fall of 1980, I managed to collect 938 fertile seeds from about half a dozen plants. By no means was this the total seed production of the colony, only what I could collect without doing damage to the trees.

Jack's 1889 article listed the common plants of the swamp, and it is clear that it contained a great degree of diversity. When I visited the swamp in 1981, I had Jack's list with me, so I was able to make some comparisons. As for the trees, not much has changed: hemlock (*Tsuga canadensis*), white pine (*Pinus strobus*) and red maple (*Acer rubrum*) still dominate the canopy. In the shrub layer, however, there are fewer kinds of plants now than in 1889. At present, blueberries (*Vaccinium corymbosum*), sweet pepperbush (*Clethra alnifolia*), catbrier (*Smilax rotundifolia*) and tall *Osmunda* ferns are most abundant.

Interestingly, the shade-tolerant evergreen inkberry (*Ilex glabra*), common in the swamp today, was not mentioned by Jack. Conversely, Jack reported that the sun-loving cranberry (*Vaccinium macrocarpum*) grew thickly in the swamp in 1889 but I couldn't find it anywhere. This absence of cranberry along with the decrease in the diversity of shrubs suggests that in 1889 the swamp was not as grown up with trees as it is at present. It also suggests that a periodic thinning of the canopy is the best way to maintain the swamp in a healthy condition.

During the summer of 1981, I returned to the swamp to see the floral display. The severe winter of 1980-81, during which the temperature in Gloucester dropped to an unusual low — 16° F. — seemed not to have affected the plants adversely. I could find no evidence of stem dieback and flowers were plentiful. From this observation it seems likely that something other than minimum winter temperature must have been responsible for the dieback Thoreau noted in 1858. On two of the fully opened blossoms, I found the flower spider (*Misumena vatia*) lying in wait for pollinators. This spider, which depends upon ambush instead of webbing to catch its prey (Gertsch, 1949), is creamy white with two red lines on either side of its abdomen. To my eye, the spider was perfectly camouflaged inside the flower, the red lines looking like spent anthers. Although this spider is most commonly found on the flat flower clusters of various *Compositae*, it seems perfectly adapted to magnolia blossoms.

On this same trip, I also found a second stand of sweet bay in a small swamp due west of the main swamp and separated from it by a hill 70 meters high. How extensive this second population is remains to be determined this winter when the ground freezes.

In spring 1982, the Arnold Arboretum, in conjunction with the trustees of Ravenswood Park, plans to



*The web of life is spun in this mini-drama in a flower of Magnolia virginiana in Ravenswood Swamp, Massachusetts. In photo at left the flower spider, which ambushes its prey instead of trapping it in a web, sits waiting, in tepal at bottom left of flower, for its next meal. In picture at right, along comes a pollinating insect (bottom center of flower) to dine on some pollen and presumably gets eaten itself.*

replant part of the swamp with seedlings grown from seed collected at the park in 1980. We will concentrate our efforts on those parts of the swamp where the magnolia is not now growing but probably was originally. Our hope is that some day the swamp will contain as much magnolia as it did when it was discovered. Preparatory to the planting, the Board of Trustees plans to do some thinning of the now

dense canopy to allow more light to reach the seedlings, thereby increasing their chances of survival.

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