

Elliottia Racemosa and Its Propagation

Alfred J. Fordham

Alfred Fordham was the propagator at the Arboretum from 1958 to 1976. During this time he built up a reservoir of knowledge about plants and their propagation that few people are able to match. In this article, Al Fordham displays the skill that earned him his well-deserved reputation.

Elliottia racemosa, the Georgia Plume, is a small tree or large shrub in the Ericaceae or Rhododendron family, native to the state of Georgia. A review of the literature concerning it reveals a history of frustration and disappointment. Despite the fact that it was discovered 160 or more years ago, and despite the fact that its impressive ornamental characteristics have been often described, it is still exceedingly rare in cultivation. It has been reported to have lost its ability to produce seeds, to be difficult to transplant (even in areas where it is native), and to have failed in most propagational efforts. For a time *Elliottia* was considered lost.

Elliottia was discovered in Waynesboro, Georgia, by Steven Elliott who was in the process of preparing his "Sketch of the Botany of South Carolina and Georgia." Other stands were later found in the same region and across the Savannah River in South Carolina. Mr. P. J. Berckmans, of Augusta, Georgia, moved several plants to his nursery and from these succeeded in propagating a few by using root cuttings. Through the cutting of the woods and the clearing of land for agriculture, the original stands of *Elliottia* disappeared. Dr. Charles S. Sargent wrote, "The range near

Augusta is now entirely barren of *Elliottia*. Unless another locality is found, I should not be surprised if the species is preserved only on P. J. Berckmans' grounds." Dr. Asa Gray also visited the region and wrote, "Not a vestige of *Elliottia* (in Columbia county) remains. A small patch is said to exist in Edgefield county, South Carolina, but all efforts to find it have failed." Fortunately the threat of extinction no longer exists, for a number of stands have been found more recently both in the area of the original find and also down into central Georgia.

Two attempts were made to establish *Elliottia* at the Royal Botanic Gardens, Kew, England. The first in 1894, consisting of a few plants donated by Mr. Berckmans, resulted in failure while the second in 1902, from the same donor, led to the establishment of two specimens. J. Robert Seeley, writing in *Bartonia* (1938), spoke of one remaining plant at Kew Gardens as the only representative of its species in Britain and possibly in Europe as well. He also noted that every effort to propagate *Elliottia* at Kew had failed.

Propagation of *Elliottia racemosa*

In 1962, while visiting Mr. Henry Hohman of Kingsville Nursery, Kingsville, Maryland, we viewed his two plants of *Elliottia* and discussed its propagation. A month or so later,



The original specimen of Elliottia racemosa sent to the Arboretum by Henry Hohman in 1962. Photographed in full bloom by Ràcz and Debreczy in 1988.



Mature seed pods and viable seed of *Elliottia racemosa* Photo by P. Del Tredici.

the smaller of the two, a fine eight-foot specimen, arrived at the Arnold Arboretum from Mr. Hohman with his suggestion that we work out methods for its propagation. While at Kingsville Nursery, we discussed the use of root cuttings in the propagation of *Elliottia*. When Mr. Hohman dug the plant, he did not fill the resulting crater but let it remain. He thought that the severed roots left in the crater wall might produce shoots. This worked well, and in 1963, eighteen plants were harvested from within the crater.

Mr. Hohman's plant has prospered at the Arnold Arboretum and it flowers profusely each year. It should be added that *Elliottia* has not proven hardy at the Arnold Arboretum.

Our accession records show that all prior efforts to establish it have ended with the notation, "winter killed." Alfred Rehder in his *Manual of Trees and Shrubs* considered *Elliottia* a Zone 7 plant. Therefore, our specimen is lifted each autumn and placed in a cold storage unit.

Propagation by Seeds

Some years, fruit capsules appear on our *Elliottia*, while in other years there are none. They, however, have always been devoid of sound seeds.

In October of 1962, several fruit capsules matured on Mr. Hohman's remaining plant and he sent them on to us. By carefully pick-

ing them apart, we obtained eleven plump seeds which appeared viable. These were sown without pretreatment. By March of 1964, they had all decomposed.

In June of 1964, several capsules were received from Miss Claremont H. Lee of Savannah, Georgia. Some were light brown in color while others were of darker hue. This difference would indicate that those light in color were from the 1963 fruit crop while those more weathered were from the previous year. The seeds were carefully separated from the capsules and some appeared well filled and sound. Cut tests were not made since those seemingly viable were so few. The seeds were divided into two lots: Lot #1 was sown without pretreatment, while Lot #2 was provided with a two-month period of cold stratification at 40 degrees Fahrenheit. One seedling germinated in Lot #1. When Lot #2 was sown, one seedling also appeared. After five months in the greenhouse, no further germination took place so Lot #2 (which still contained sound seeds) was placed in our winter cold storage unit for three months. The temperature there is maintained at about 34 degrees. It was then returned to the greenhouse and after a lapse of three months, three more seedlings appeared. This behavior leads one to suspect that *Elliottia* seeds might be doubly-dormant or two-year seeds. However, the sample was far too small for this to be other than a suspicion.

Propagation by Cuttings

Repeated attempts were made to root stem cuttings of *Elliottia* using an assortment of root-inducing substances and a variety of tim-

ings. Success was mediocre. The next effort was to test whether or not root pieces would produce multiple shoots. Shoots that arise from roots are physiologically juvenile and will usually root despite the fact that stem cuttings from the same plant will not. With this fact in mind, root sections about 3/8 inches in diameter and about 4 to 5 inches long were taken from the plant when it was dormant. They were placed horizontally about half an inch deep in flats of sandy soil. This was done on March 24 and by May 19, multiple shoots began to appear. The pressure of spring work was such that cuttings were not taken from the roots until July 14. By this time they were firm and woody.

The first crop of cuttings was divided into two lots. Lot #1 was treated with a product containing 3 milligrams of IBA in a gram of talc with Thiram added. Lot #2 was treated with a similar formulation but with 8 milligrams of IBA. In each case all cuttings rooted. The root pieces were left in place and continued to produce shoots for over a year. The largest root pieces that we could get from our plant were only about 3/8 of an inch in diameter and these produced well. It seems reasonable to suppose that, if root sections of larger diameter were used, the crop of shoots could be vastly increased. Root cuttings have not presented survival problems and all have prospered.

If propagators set root pieces horizontally in flats, as described above, and gather the easily rooted shoots as they appear, there seems no reason why this beautiful subject should not become commonly established in cultivation.