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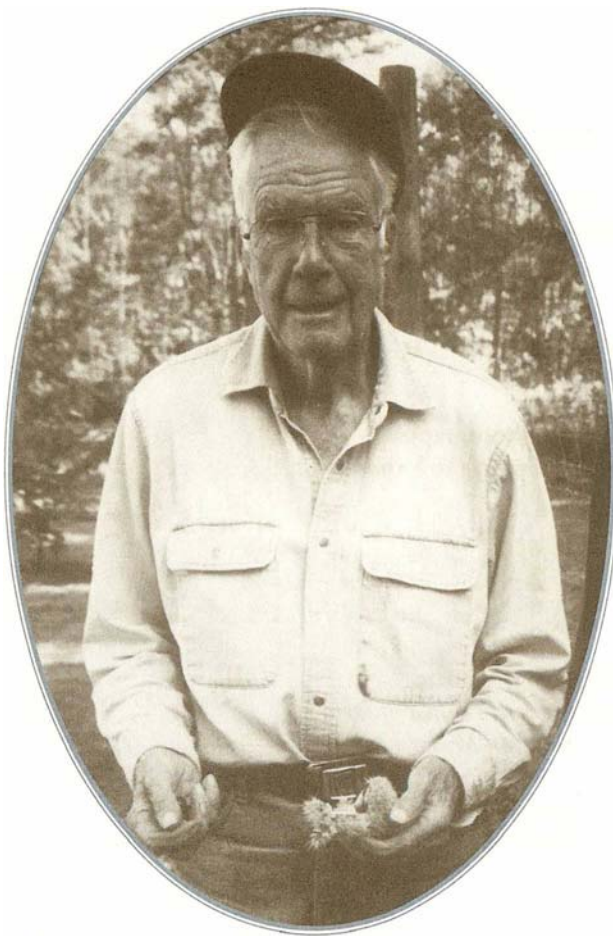
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IN MEMORY OF WILLIAM G. RAOUL

1911-1997





## FROM THE EDITOR

Winter 1997/98

In this issue we record with sadness the passing of William G. Raoul of Lookout Mountain, Tennessee, for more than a decade one of TACF's most active and generous supporters. In addition to the remarks of several of his friends, our tribute includes excerpts of a few of his letters to us over the years - one of them in his own practiced calligraphic hand.

No one person is irreplaceable in an organization like ours. But Bill's contributions certainly charted a new course for us. Where we'd been trying to sail into the wind, full of ideas but basically without the money to implement them, Bill helped us turn about and catch a steady breeze from our backs. And we've been sailing ahead ever since (often with his guidance), true explorers headed for a better future.

Dakota Bockenbauer, author of *My Grandpa's Mighty Chestnut Tree*, will be part of that future. Nine-year old Dakota's poem gives us a fresh perspective on the giant chestnuts growing on the Bockenbauer property in West Salem, Wisconsin. A different perspective on those same trees is offered in our latest research update from a team of scientists that has been studying the effects of the introduction of hypo virulent blight strains into the West Salem stand since 1991.

Timothy Billo's bachelor's thesis on the ecology of chestnut in the Hopkins Memorial Forest in Williamstown, Massachusetts, which we excerpt here, illuminates the role of chestnut in forests near the northern limit of its range.

Finally, we share with you scratchboards and photos from a 1935 collection self-published by a botany professor at a Wisconsin college. We never get tired of looking at depictions of trees, chestnut in particular.

This issue is the last to go to press under the watchful eye of Dr. Mark Widrechner, Publications Chair since 1994. Mark has been everything we could ask for in an editor and guide: compassionate, creative, conscientious, and very, very skillful. We thank him for all his help with *The Journal* and for the education he gave us along the way.

-Shelly Stiles, Editor

## WE REMEMBER BILL RAOUL

From *In Memorium A.H.H.* by Alfred Tennyson

*Calm is the morn without a sound  
Calm as to suit a calmer grief  
And only through the faded leaf  
The chestnut pattering to the ground.*

**W**illiam G. Raoul, one of the American chestnut's most ardent supporters and one of The American Chestnut Foundation's most generous friend, died on November 1, 1997. Bill Raoul was 86 years old.

Bill had belonged to TACF for several years when, in November 1990, he volunteered to help raise funds for our fledgling organization. By the end of December of that year he'd already drafted what would become a successful request for several tens of thousands of dollars in foundation support. In the first months of the new year, he began in earnest to reach out on our behalf to dozens of potential grantors, an effort he continued in a very personal, very warm, and highly successful way until his death. And like all good fundraisers, he gave generously himself. He reached into his own family's pockets almost immediately, extending us a very large loan in March 1991 to keep the organization going during a difficult year. He later gave us Outright a portion of that original loan. And his gifts kept coming, every year thereafter.

By 1992, Bill had established our southernmost breeding station at the privately owned Bendabout Farm in McDonald, Tennessee. He convinced the landowner to fence off experimental plots against deer and promise to mow routinely the plots and their perimeters. When the sites were ready he traveled to central Mississippi to dig the trees himself, then transplanted them in pollinating pairs each so well isolated from the others that hand pollinating wouldn't be necessary. Bill also arranged for an Ohio Valley out-planting at Bernheim Forest near Louisville, Kentucky.

Farm employees and volunteers do most of the work at Bendabout Farm, and Bill recruited each of them to the cause. But beginning in September 1996, most of the scientific research conducted at Bendabout has been the responsibility of Dr. J. Hill Craddock, professor of biology at The University of Tennessee at Chattanooga and holder of the Robert M. Davenport Professorship of Biology - perhaps the only university chair dedicated to chest-

*nut research in the country, and one established largely at BiWs behest and by virtue of his unusual powers of persuasion.*

*Bill Raoul was a graduate of Dartmouth College. He taught English at Baylor University, then took over his family's furniture business. Bill was instrumental in creating the Tennessee River Gorge Land Trust and the Chattanooga Rowing Center. He was an accomplished amateur scholar and calligrapher.*

*Here, drawn from our correspondence files, is a little of William G. Raoul in his own words.*

*From a 1990 letter, accepting TACF's request for fundraising help, and describing how he might go about providing it:*

"My approach will be that a relatively small amount of funding for the foundation will accomplish more for the general improvement of our forests and environment than any other application of support. And I can speak for what the chestnut was in this area because I remember the trees very well from my youth. I also think it fair to say there is no reasonable doubt of our eventual success in developing a fully resistant American tree, and that timely support will greatly hasten the day when we can start replanting on a massive scale. I don't know what my chances of success will be, but I intend to give it a good try."

*From a 1990 letter asking for support for TACF:*

"As you drive though the mountains around Chattanooga you cannot fail to notice the neglect of our hardwood forests. More and more of the natural hardwood land is being bulldozed and replanted in pine, an unfortunate monoculture that contributes nothing to wildlife and produces little except pulpwood. The reason for this is the difficulty of any kind of profitable timber harvesting in our mixed mountain hardwood forest. The oaks and hickories are too slow, and their wood has more specialized uses. A restoration of the native chestnut would change all this. The chestnut grows fast and straight and tall, and its wood has ten times the uses of any other tree we have. It has something else: the nut is sweeter and better in every way than the European and Oriental chestnuts you find on the streets of New York and elsewhere. I hope and believe that with [your] help I will taste those nuts again in my lifetime. Young men plant flowers; old men, trees."





*From another 1991 personal solicitation:*

"It may seem strange to you, as it did to me, that our little foundation is the only organization in the nation dedicated to the restoration of our most important tree, a tree which fed all the animals of the forest and provided us with timber rivaling redwood in durability. The answer is that enormous efforts were made sixty and seventy years ago, when the blight was raging, but that our knowledge of genetics was simply inadequate, and all those efforts failed. Now we know what to do, and are doing it."

*From a 1991 letter to a new member:*

"The arrival of the blight in the New World caused an unprecedented near-extinction of our most important forest tree. We know of no similar catastrophe in world history. Nor is there any parallel to our work, which is to restore the most important wild plant we had. While all our timber-using industry will benefit, that has never been our primary objective. The real goal of The American Chestnut Foundation is to give all our people a new faith in the importance of forests for their own sake. As soon as we have resistant stocks which can be offered for planting, there are thousands of people waiting and willing to take them into the woods and thus start the great regeneration. You and I will see only the beginning of this process, but to work for something beyond one's life span is to experience immortality while we are living. Thank you for joining The American Chestnut Foundation. I hope it will bring you new associations, new ideas and the satisfaction of helping in a most important work of restoration!"

*From a letter to Jimmy Carter, shortly after the President agreed to become an honorary director of TACF in 1992:*

"Dear President Carter:

You are now the southernmost outpost of The American Chestnut Foundation, and having occupied that position for several years I am delighted to greet you as my successor. It is an accident of history that our foundation began in the northernmost part of the range of the American chestnut, but the people who have so ably guided it in its early years of growth now need our help: we will benefit most, because the climax of the chestnut forest was in the South, and can be so again."



*From a 1992 update on activities at Bendabout Farm:*

"Now [Bendabout] has enclosed our space. The fence is woven wire, 8 feet high, deer-proof. I have been to central Mississippi and brought back thirteen sprouts, all taken up with big root balls, bagged on the spot and carried out in a two-man carrier I made for the purpose. Very hard work, too, because all the sprouts were down in a deep ravine. Yesterday we planted all of them at Bendabout, plus one lone sprout I found on [the farm], : way back in the hills ... Now I have about thirty native plants marked on Lookout Mountain, and during warm spells through the winter I will move most of them to Bendabout."

I can only tell you what this endeavor means to me. The chestnut was everywhere in these mountains when I was young. I remember them well ~ the largest trees in our forest. Then the years of blight ~ the skeletons of millions of trees covered every mountain slope. All that is past now, but the old roots continue to send up new shoots. Except for the blight the American chestnut is an extraordinarily vigorous tree, and blight resistance can be bred into it. We are far along in that program ~ but we need your help!

Sincerely yours

William G. Raouf

*Here, from his friends, is a little of Bill Raoul as seen by those whose lives changed because of him.*

*From L. L. "Bud" Coulter, president of TACF*

Many men do great things, but not all are great men. Bill Raoul did great things for TACF, because he was a great man. His quiet wisdom, always available to us for the asking, and his concern for our vision were important in bringing us to where we are today.

Bill was very active on our Board for a number of years. During a time when our treasury was dangerously low, he helped save the day through his own contributions and intense efforts to secure major funding from outside our organization. Eventually, when he no longer felt able to serve as he thought he should, he asked that his term not be renewed. His contributions, however, didn't end. He maintained contact with many of us through phone and letters.

This man was one of the first TACF statesmen. He presented his ideas modestly and with great thought. He did not always get his way but this never lessened his support. To him, the financial issues were always separate from the intellectual issues. We cannot all be great statesmen, but Mr. Bill Raoul has given us something to aspire to.

*From Donald C. Willelle, TACF Secretary and founding director*

It has been said, perhaps often enough, that Bill Raoul was a Renaissance Man. But in that characterization lies a lesson for all of us who work in The American Chestnut Foundation.

Among the most prized treasures in my personal library is a work that came, in two distinct senses, directly from the hand of Bill Raoul. It is his *Liber Psalmorum*. Shortly after we first met several years ago, Bill gave me a large and beautiful *Book of the Psalms* printed from texts which he lovingly lettered in a perfect Italic hand. The book has the Latin text (the Vulgate) on the left and the English text of Miles Coverdale on the right on each set of pages. Bill's calligraphy is perfect, and it is a joy to hold the book in my hands, letting it fall open where it will, reading first the soaring poetry in the lines as translated into English by Coverdale and then reading the ancient Vulgate text, much of which is familiar

even

today from musical settings by Mozart, Mendelssohn, C. V. Stanford and other composers.

The lesson Bill's life teaches us is that here was a man who could have done anything he wanted to. He came from considerable means, and was quite successful in business. He knew and loved great literature and music. He was a civic leader, and as my prized volume shows, he was an accomplished artist. Bill could have chosen any cause as his own. But even as he heeded the advice of Psalm 90: "So teach us to number our days, that we may apply our hearts unto wisdom" (which he caused to be printed in bright red letters in his *Liber Psalmorum*), Bill chose the American chestnut as the cause to which he devoted his remaining days amongst us here on the Earth. His leadership, his large personal financial commitment, and most of all his spirit, are major factors contributing to the present success and bright future of The American Chestnut Foundation and the American chestnut tree.

Bill was truly like the man of Psalm 1, who in Coverdale's translation, is one "whose delight is in the law of the Lord .... And he shall be like a tree planted by the water-side, that will bring forth his fruit in due season. His leaf also shall not wither; and look, whatsoever he doeth, it shall prosper." In the words of the prayer that ends Psalm 90 and in honor and recognition of Bill's example, we in the Foundation also should pray "Prosper thou the work of our hands upon us; O prosper thou our handiwork." And then - each in his own way - we should emulate Bill's hard work and leadership.

*From Barbara B. Cox) TACF member and Bendabout Farm volunteer*

During the short time that I knew Mr. Raoul, I came to learn that he was a man of vast talents who devoted his entire life in the service of many organizations and endeavors, but the way I knew him best was in working with him to help revive the American chestnut tree. The intensity which he brought to every aspect of our work, the order of the work sessions and the attention to the minute detail of each task testifies to the profound earnestness Mr. Raoul lent in restoring the tree. I have known few people so dedicated to the object at hand, and The American Chestnut Foundation will suffer his loss. I am grateful to have known this gentle giant and will miss him and his leadership.

I shall always think of him standing among those chestnut trees, struggling to get the work advanced enough to leave it in hands that: would carry it forward. Mr. William Raoul, a man of grace, with unflagging faith in the miracle of the reforestation of the tree, will continue to be an inspiration to those of us who loved him.

*From Dr. J. Hill Craddock, TACF vice-president, science cabinet*

I was invited to Chattanooga for the first time almost three years ago by William G. Raoul. Mr. Raoul, a long-time member of The American Chestnut Foundation, introduced me to the local chestnut enthusiasts and gave me a tour of their American chestnut plantation at Bendabout Farm near Cleveland, Tennessee. I was very impressed. Bill was the leader and animator of the all-volunteer group that planned and established the Bendabout Farm chestnut field station. The plantation now includes two separate orchards. The first, planted between November 1992 and March 1993, is composed primarily of *Castanea dentata* (30 transplants) collected as saplings from a wild population found in Attala County, Mississippi. This central Mississippi population of American chestnut marks the extreme southwestern boundary of the native range for the species and is very interesting from a genetic perspective. The second orchard includes trees that were grown from the fruit of open pollinations of second backcross (B2) trees at the TACF Research Farm, Meadowview, Virginia.

William G. Raoul's enthusiasm and boundless energy buoyed all who knew him. His love for the American chestnut was infectious. The Chattanooga Chestnut Tree Project was his brainchild. Bill was instrumental in setting up the Robert M. Davenport Professorship of Biology at the University of Tennessee at Chattanooga. The Davenport Professorship may be the only endowed chair of its kind in the nation; funded with the expressed purpose that its recipient conduct research on the American chestnut. The restoration of the American chestnut to the southern Appalachians will succeed in large part due to the efforts of this great man.

*From Albert H. Ellingboe, T A CF science director*

The survival and success of private, nonprofit organizations is dependent on the contribution of resources by its members. These contributions




of time, talent, labor and financial assistance by many people have made possible the establishment of programs for the common good, such as the effort to reestablish the American chestnut as a significant feature of the American forests. William G. Raoul was an exemplar of what is necessary to make a program work to achieve its objectives.

In the early days, he provided not only moral support for the idea for the restoration of the American chestnut to American forests, but also the financial support to get from the talking stage to the hiring of personnel to begin the breeding effort. He took a very active interest in the effort.

It is easy for people to get interested in the restoration of the American chestnut to American forests, particularly the Appalachian forests where the American chestnut was an important source of human and animal food, lumber and other products for the immigrants to this country. Dr. C. R. Burnham had laid out a rather simple strategy of how to bring resistance to the blight disease into American chestnuts. But the restoration of the species requires more than making a few crosses and selecting one or more trees to be planted somewhere. There are many parts to a successful program with these goals.

When I accepted the responsibility of providing guidance to the breeding of blight resistant American chestnuts following Dr. Burnham's illness and death, I frequently found myself frustrated by the observation that many people understood the goals but had very little knowledge of what needed to be done to accomplish the task. My interactions with W. Raoul were very interesting because he wanted to know and understand all the parts to the successful development of blight-resistant trees of American chestnut morphology and growth habit. Over the past few years I have had many conversations with him at meetings, in correspondence, and innumerable telephone calls. These communications were very enjoyable because he had always done his homework. He realized that there were many parts to accomplish our goals, and that these parts had to move forward in a coordinated effort, with a constant evaluation of our progress and where the pitfalls may be. He was a tremendous help to me. He was a tireless advocate for the goals of The American Chestnut Foundation. He will be sorely missed for his dedication, humor, and for his friendly converse.





*From Christine Bok, head horticulturist at the Tennessee Aquarium in Chattanooga and a Bendabout Farm volunteer*

The first time I heard William Raoul was at a luncheon where he was speaking about the American chestnut tree, and I went up to him afterwards and told him I wanted to know more about what he was doing and would like to see the trees. That began a series of chestnut adventures.

He would call and we would go out looking for chestnuts that he had heard about and checking on ones he had already found.

The most memorable such trip is probably the time at the **Lula** Lake Land Trust when we were standing, like billy goats on the steep side of a hill, under a tree full of burs. He explained that it must have been polluted by another tree, since they don't self-pollinate, and that therefore there must be another American chestnut around, within fifteen hundred feet or so (scientists aren't sure of the exact maximum distance). Yet, he said, he'd searched and searched and could not find one. I walked around the area, looking for that particular kind of bark, and I FOUND THE TREE! Bill was so ecstatic that he grabbed me and jumped up and down and yelled. This was not easy considering we were on a 55 degree slope.

Bill embodied the belief that one person could make a difference. The Mississippi trees in our orchard are a result of his trip to a southern location where he hired labor to help him dig and carry chestnut sprouts to his truck. These trees add an important element to our orchard - genes from a southern strain of the American chestnut.

All of us that loved him so much will carry on his legacy with our work here in Chattanooga with the American chestnut. And if he could choose **I** to be anywhere after this physical life, I know without a doubt Bill Raoul will be among the chestnut trees.

*Bill Raoul's family asked that memorial contributions be made to the Tennessee River Gorge Trust, Inc. (Suite 104) 25 Cherokee Boulevard) Chattanooga, TN 37405, and to The American Chestnut Foundation. TACF has already received several significant gifts in his name, and we've created a William G. Raoul Memorial Fund. As the fund grows, interest income will go toward creating an in-house library on the ethnographic and natural history of chestnut.*



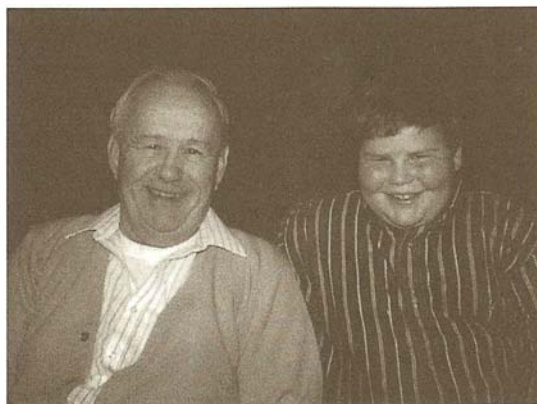
## MY GRANDPAS'S MIGHTY CHESTNUT TREE

*Nine year-old Dakota Bockenbauer won second place in a Wisconsin state forestry essay contest for his poem on a truly mighty chestnut - one of the several century-old giants growing on the West Salem Wisconsin property owned by Ron and Sue Bockenbauer and Ron's sister Delores Rhyme. (Ron is the "grandpa" in the poem.) West Salem: A Research Update) also in this issue of The Journal reports on research on hypovirulence in trees on the Bockenbauer and adjacent properties.*

I stand alone at the top  
of the hill; my branches are broad  
and mighty; yet still,

I quiver with a chill when the icy north winds  
blow;  
my blanket of leaves fallen and covered with  
snow. But oh, in the summer, after the spring  
rains have come  
and went, how beautiful my blossoms; how  
lovely my scent.

Then my green leaves turn to a golden brown,  
and under  
my branches a blanket of leaves and burrs cover the ground.  
I'll feed the squirrels with my bounty;  
my trunk will be their home and once again the north winds  
will once again begin to blow.

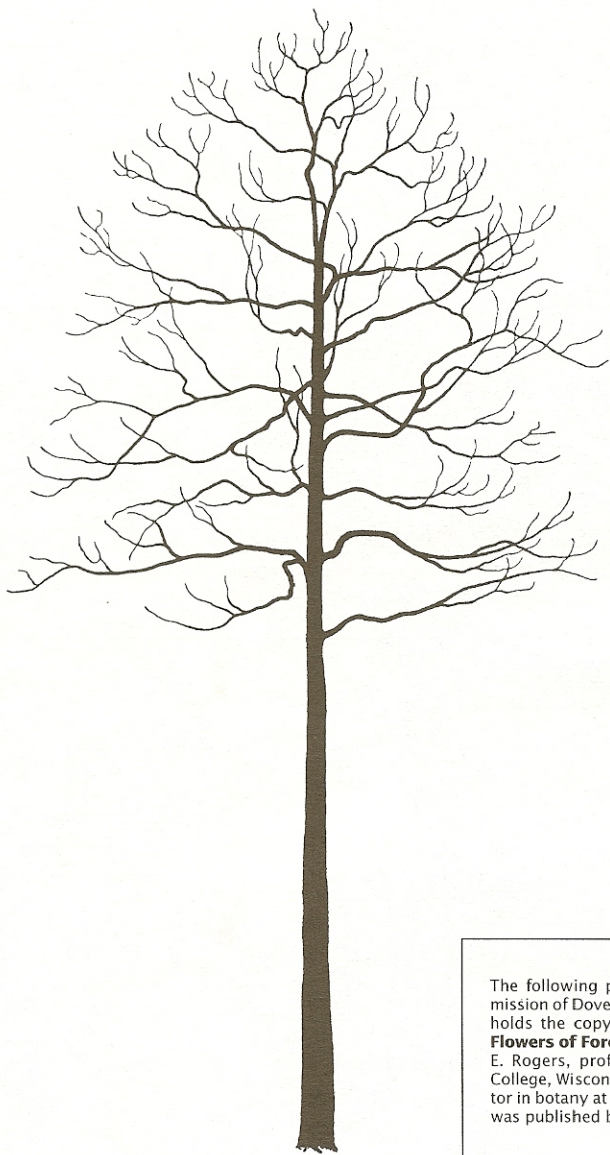


Dakota Bockenbauer, with granddad Ron Bockenbauer, was awarded a prize for his poetry, not (though he deserves it) for his smile.









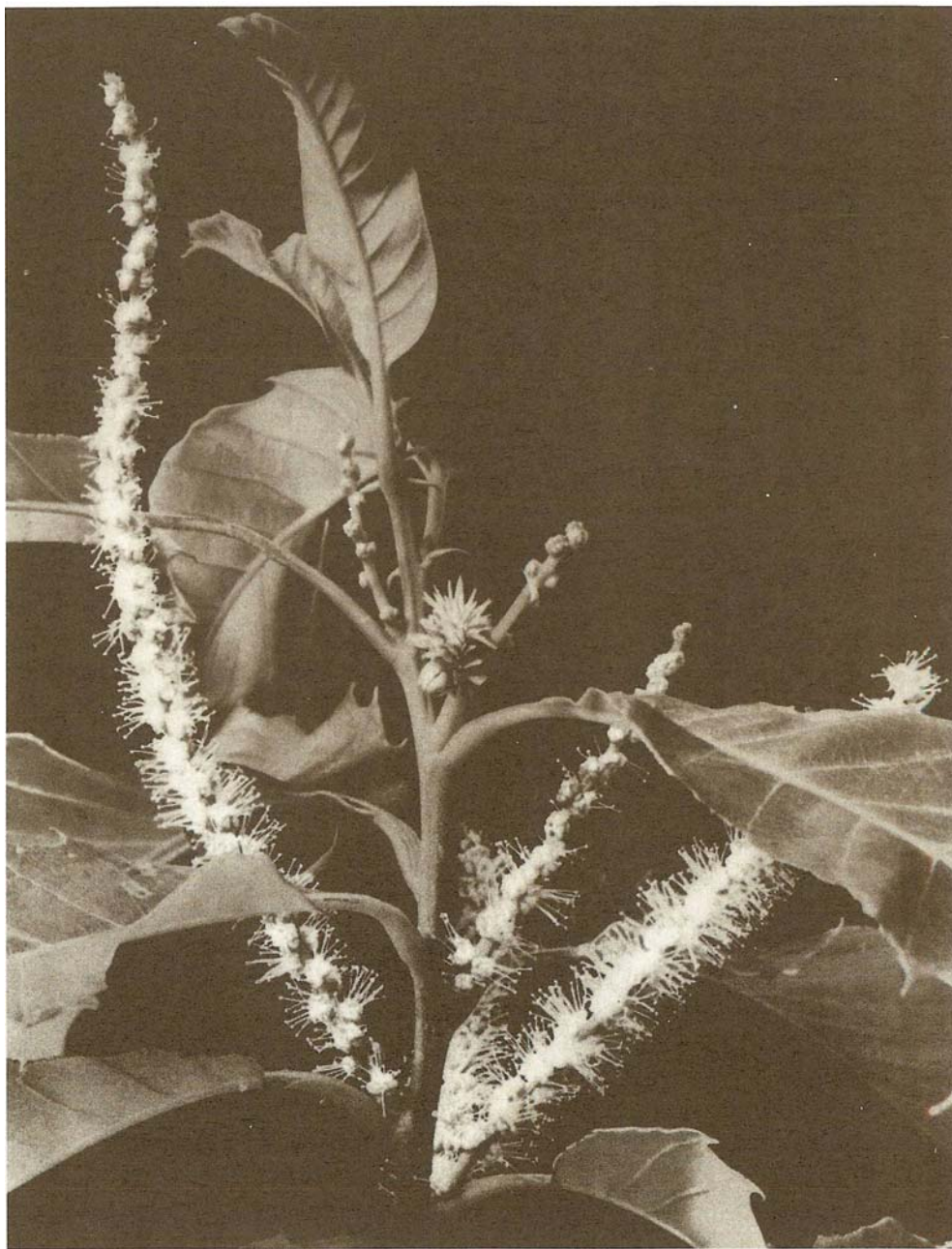
CHESTNUT



BLIGHTED CHESTNUT

The following plates, reprinted with the permission of Dover Publications, Inc., (which now holds the copyright) first appeared in **Tree Flowers of Forest, Park, and Street** by Walter E. Rogers, professor of botany at Lawrence College, Wisconsin, and Olga A. Smith, instructor in botany at Lawrence College. The original was published by Professor Rogers in 1935.







Flower-Clusters

CHESTNUT

*Castanea dentata* (Marsh.) Borkh

Beech family

FAGACEAE

The native Chestnut is a disappearing race of trees. Already the chestnut-Blight disease has killed most of the chestnut timber of the eastern states, and it is feared that before long the last of it will have vanished before the onslaughts of the destroying fungus. The chestnut is a summer flowering form and all other members of its family are well along in fruit formation before it comes into bloom.

The clusters of staminate flowers are very showy, often being half a foot or more in length, and creamy white in color.

Pistillate clusters may be borne in the axils of the upper leaves, or sometimes on the basal parts of the staminate catkins. Each one is surrounded by an involucre of bright green bracts.





Pistillate Flowers

CHESTNUT

*Castanea dentate* (Marsh.)

Borkh.

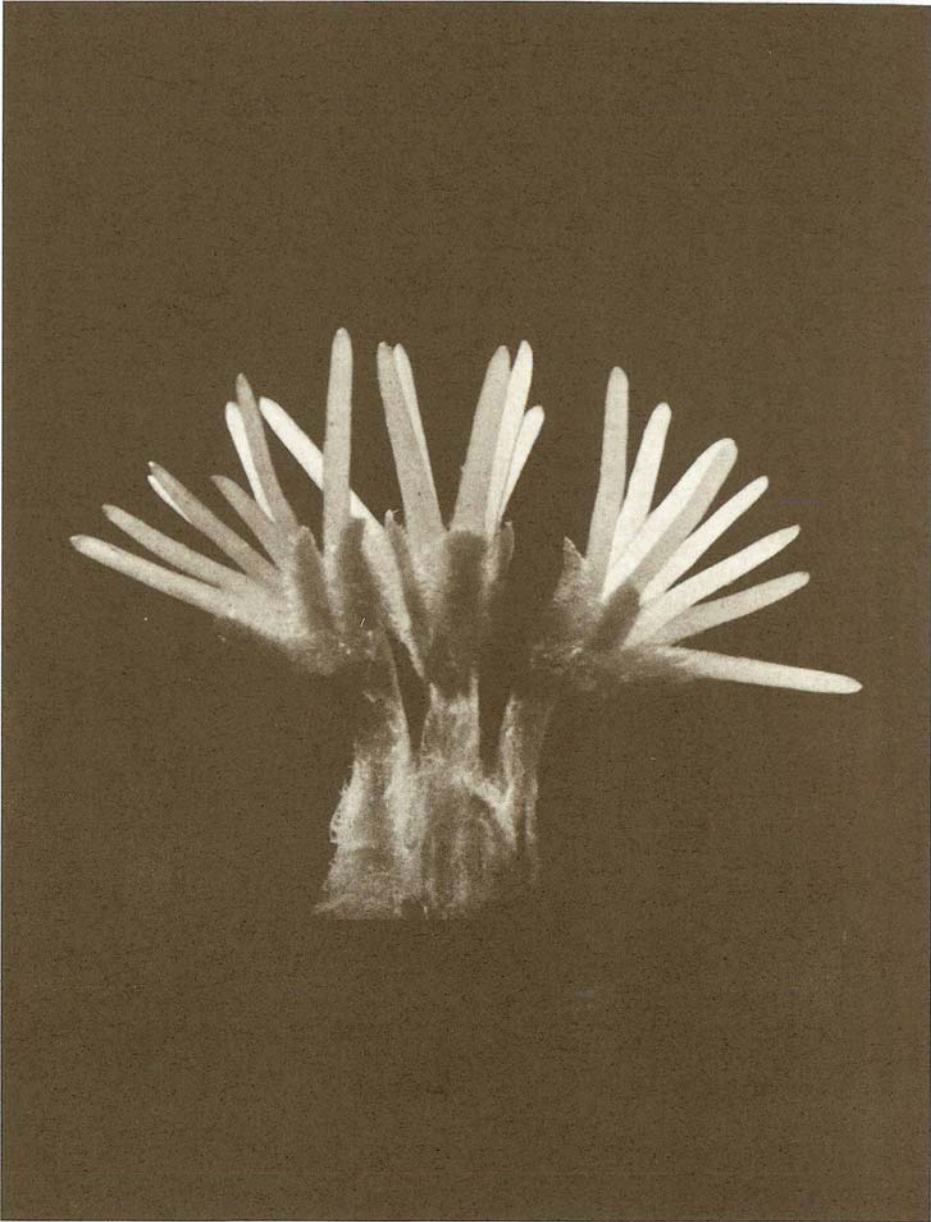
Beech family

FAGACEAE

The plate presents a natural cluster of three pistillate flowers from which the surrounding involucre (shown in the preceding plate) has been taken off. Enclosing the pistil of each flower is a hairy calyx with six spreading lobes. Projecting above the calyx are the pure white and rigid styles of the pistil, each one topped by a minute stigma. With the exception of the styles and stigmas, no part of the flower is exposed to the outside world, for the enveloping involucre develops into a bur which remains as a protective structure until the nuts mature. The outer surface of the bur displays a remarkable covering of slender and exceedingly sharp spines, which makes the extraction of the nuts strictly a job for autumn frosts.



Memories



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