

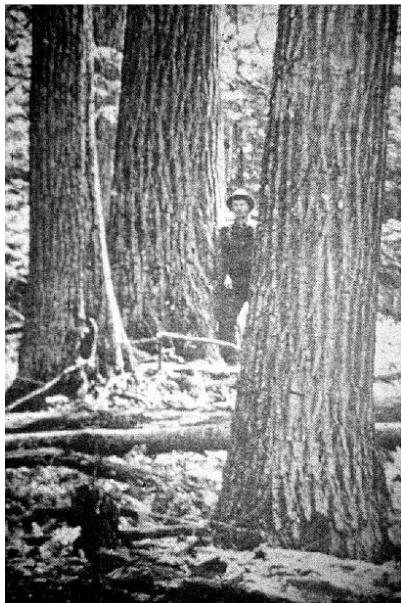
The Chestnut Story
8th Landowners' Woods and Wildlife
Conference
February 19, 2011



© Richard Stromberg



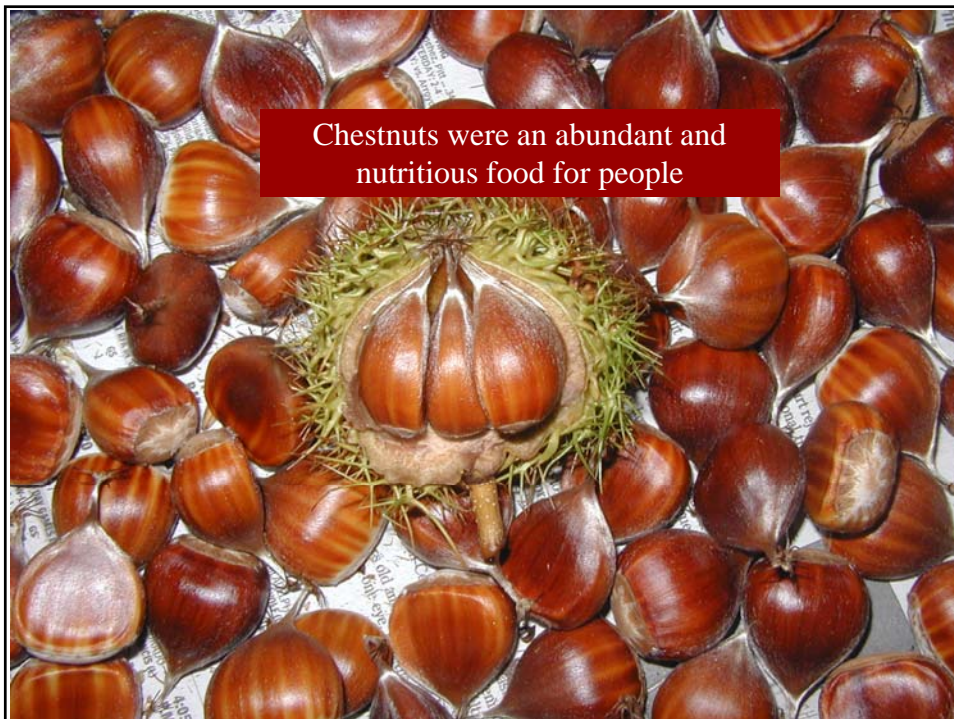
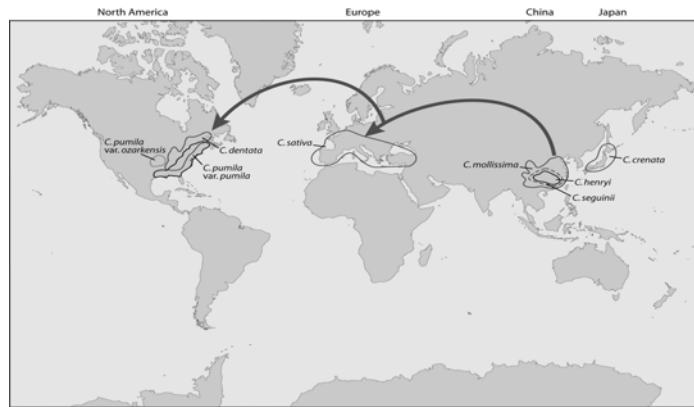
Catherine Mayes
Chairman



Migration Pathway – *Castanea*

• Dispersal and evolution of *Castanea* from Asia to Europe to North America.

• Chloroplast DNA sequences suggest a common *Castanea* ancestor originated in Asia about 40 – 60 million years ago. *Castanea dentata* probably diverged from *C. sativa* in the late Eocene epoch – approximately 35 million years ago.



Wildlife also thrived on American chestnuts



Chestnut Harvest



Chestnut is a versatile wood.



Stacks of Chestnut Timber



Old Worm Fence – Shenandoah National Park



Then the blight struck

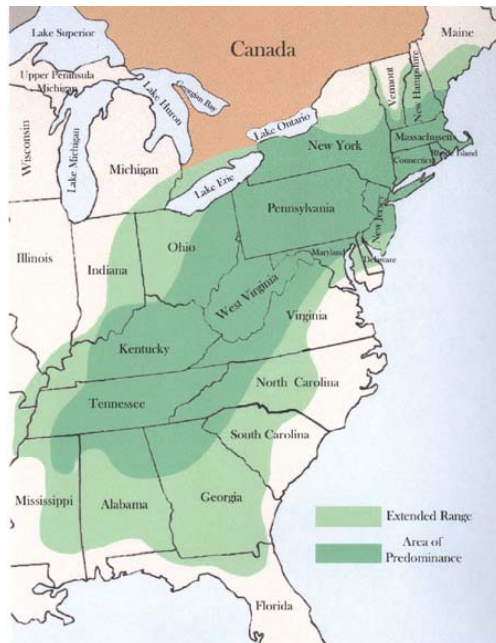
First identified in 1904 in New York City

The blight is an Asian fungus brought here on Chinese and Japanese chestnuts imported for food

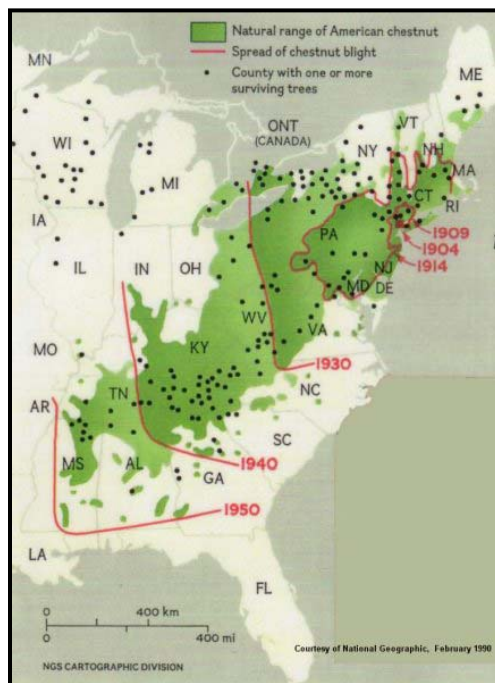
The fungus enters bark and infects cambium, not roots



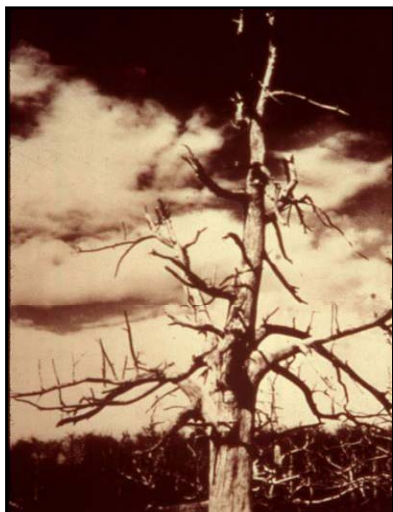
Natural Range of American Chestnut



Spread of Chestnut Blight



For most of the 20th century, skeletons stood in fields throughout the range



Chestnut Moths

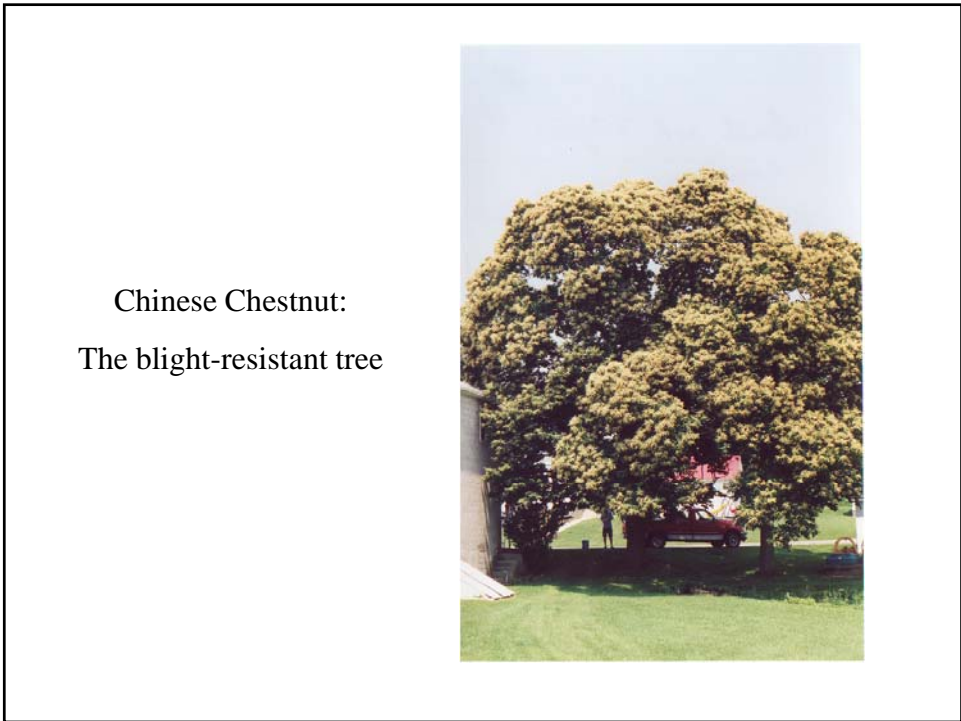
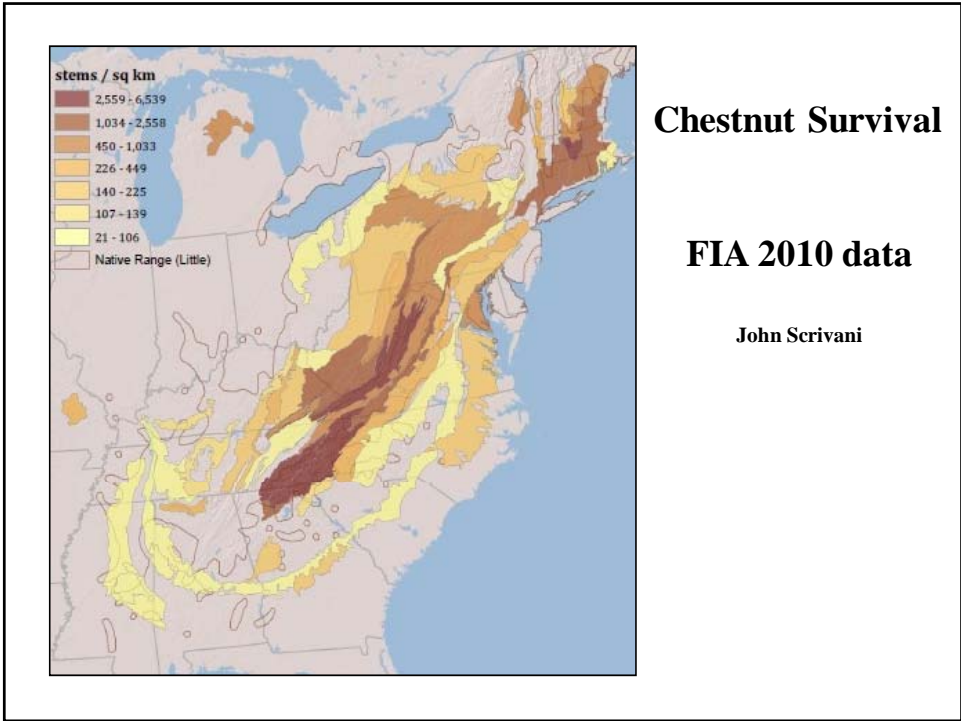


5 “micromoths” that fed exclusively on American chestnut are now extinct.

Chestnuts as We See Them Today



Amherst Tree
The Virginia Champion



How Our Volunteers Help

- Find a tree
- Grow a tree
- Tell the chestnut story
- Join TACF

Finding wild survivors



We are looking for trees that are:

- Wild
- American
- Sexually mature
- Accessible by ladder or bucket truck

Chestnut leaves



L to R: American Chestnut (*C. dentata*), Chinese Chestnut (*C. mollissima*), Chinquapin (*C. pumila*), European Chestnut (*C. sativa*), and Japanese Chestnut (*C. crenata*).



Twigs and Buds,
Left – Right:

American
Chinese
European
Japanese

Bagging Flowers



Controlled Pollination – Breeding Monoecious Trees in the Field



Staminate Catkins – Male Flowers



Bisexual Catkins – Female and Male



Pollen Bags Prevent Open Pollination



Dried Pollen Applied From Vials

Harvesting Nuts



Planting



Orchard Maintenance



Inoculation

SG 2,3

Paired Inoculations

1 year post-
inoculation:

Resistance Rating = 5



Blight susceptible trees are cut down, but...



... trees with enough **blight resistance** are advanced in the breeding program.



Education Programs



VIRGINIA CHAPTER



THE
AMERICAN
CHESTNUT
FOUNDATION



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