

Reports

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**Ironwood, Blue Beech, American Hornbeam, Muscle Wood
Carpinus caroliniana Walter**

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Technical Report



Wetland Flora

No. 97-2 / March 1997

Gene Silberhorn

Ironwood

Blue Beech

American Hornbeam

Muscle Wood

Carpinus caroliniana Walter

Growth Habit and Diagnostic Characteristics

Ironwood is a small understory tree, rarely reaching heights above 30 feet. Its smooth, blue-grey bark is a diagnostic characteristic. The bark is fluted, appearing as stressed muscles, hence, one of its common names. Leaves are simple, elliptically shaped, alternate and pinnately veined with double serrated margins. Young branches are slender reddish brown and have a slightly zig zag pattern. *Carpinus* is a slow growing tree producing hard, dense, heavy wood from which one of its common names is derived. The aggregate fruiting structure is characteristic and distinct. A dry, small nutlet is attached to the base of a leaf-like bract. A number of these units are concentrated into an unusual pendulous structure as illustrated. *C. caroliniana* is sometimes confused with another understory tree with the same common name (Ironwood), but *Ostrya virginiana* has rough scaly bark, and although the leaves are quite similar, the fruiting structure of the latter species resembles hops, hence the origin of one of its other common names, hop hornbeam. Both trees produce dense, hard wood. Common names are often confusing because a particular species may have several common names and may be called by another name in a different locale.

Distribution

Carpinus caroliniana ranges throughout most of the eastern United States.

Habitat

Ironwood is a frequent understory tree in both forested uplands and forested wetlands. It is seldom found in inundated situations, but commonly grows in saturated forested wetlands. *C. caroliniana* often grows in association with overstory trees such as red maple, *Acer rubrum* (Wetland Flora No. 91-7 / July 1991; sweet gum, *Liquidambar styraciflua* (Wetland Flora No. 92-1 / January 1991); sycamore, *Platanus occidentalis* (Wetland Flora No. 94-3 / January 1994); and black gum, *Nyssa sylvatica*. Other understory trees that may be associated with *C. caroliniana* are flowering dogwood, *Cornus florida*; American Holly (Wetland Flora No. 94-3 / March 1994) and red bay, *Persea borbonia*.

Ecological Values / Benefits

Ironwood fruits and buds are eaten by songbirds and deer browse on the branches.

Wetland Indicator Status

As listed in the *National List of Plant Species that Occur in Wetlands: Virginia 1988*, *Carpinus caroliniana* is classified as a **facultative plant (FAC)**. FACs are plants that are "equally likely to occur in wetlands or non-wetlands (estimated probability 34-66%)."

Carpinus caroliniana Walter



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