

**Hardy Orange**                      **POTR4**

***Poncirus trifoliata*** (L.) Raf

Synonyms: trifoliolate orange, bitter-orange

**From:** Miller, James H. and Steve T. Manning. [working title] An Expanded Nonnative Invasive Plants of Southern Forests: A Field Guide for Identification and Control. Asheville, NC: U.S. Department of Agriculture, Forest Service, Southern Research Station. DRAFT - August 2008

**Family: Rutaceae**

**Plant.** Deciduous, small tree or shrub to 20 feet (6 m) in height and with tufts of trifoliolate (3-leaflet) leaves on seriously spiked stems. White flowers in spring cover plants to yield abundant small, fuzzy green orange-like fruit that turn yellow in fall. Abundant sprouts around stems.

**Stem.** Twigs flattened with sharp thorns to 2 inches (5 cm) jutting outward, glossy green and hairless, turning yellowish in drought and winter, becoming stout, chestnut brown to reddish tan, smooth-to-velvety with light dots (lenticels) and heart-shaped leaf scars. Buds finely hairy, dome-shaped, and partially hidden by the leaf bases. Branches dark gray with lengthwise lighter stripes and intervening green stripes that become an intricate braided network on the bark. Basal sprouts vine-like and green, climbing up through the crown into surrounding trees.

**Leaves.** Alternate or tufts of trifoliolate (3 leaflet) leaves in the axils of thorns, appearing at or just after the time of flowering in the spring. Leaflets unequal in size with the terminal 1 to 2.5 inches (2.5 to 6.4 cm) long and 0.5 to 1 inch (1.3 to 2.5 cm) wide, obovate to elliptic, while the lateral leaflets are similar but smaller. Dark green and hairless, becoming yellowish in the fall. Blades merge into the winged leaf stalk (sometimes not winged).

**Flowers.** March to early May. Showy clusters of white, five-petaled flowers, 1.5 to 2 inches (3.8 to 5 cm) across that cover trees early on previous year's branches. In the center of the flower are 8 to 10 projecting stamens that enclose a yellow, hairy stigma.

**Fruit and seeds.** July to October and rarely persisting into winter. A hairy, bitter orange, green turning yellow to golden when ripe, up to 1.5 inches (3.8 cm) wide. Pulp is minimal and the multiple seeds are viable.

**Ecology.** Moderate initial growth rate becoming rapid with establishment, forming dense, impenetrable thickets and stands. Prefers open areas or edges and acid, well-drained soils. Colonizes by basal sprouts and spreads by prolific animal-dispersed seeds.

**Resembles** osage orange [*Maclura pomifera* (Raf.) C.K. Schneid] due to similar thorny stems, but with larger, spherical yellowish fruit that are not hairy and leaves that are not trifoliolate.

**History and use.** Introduced as an ornamental in the 1850's from China and Korea.