

Common Name: PONDBERRY

Scientific Name: Lindera melissifolia (Walter) Blume

Other Commonly Used Names: pond spicebush, jove's fruit

Previously Used Scientific Names: Benzoin melissifolium (Walter) Nees von Esenbeck

Family: Lauraceae (laurel)

Rarity Ranks: G2/S1

State Legal Status: Endangered

Federal Legal Status: Endangered

Federal Wetland Status: OBL

Description: Shrub up to 6 feet (2 meters) tall, forming dense colonies of green or brown stems with yellowish bases. Leaves 2 - 6 inches (5 - 16 cm) long, drooping, deciduous, alternate, widest at or below the middle, with a rounded base and sharply pointed tip; both surfaces of the leaf with conspicuous netted veins and short, soft hairs; leaves smell spicy (like sassafras) when crushed. **Male and female flowers** on separate plants, appearing before leaves, borne in clusters

of 2 - 6 flowers, each with 6 pale yellow, petal-like **tepals**. **Fruit** about ½ inch (1 - 1.2 cm) long, bright red, oval to round, on a stout stalk about ½ inch (0.9 - 1.2 cm) long with a blunt tip. The stalk persists through the winter following fruiting.

Similar Species: Spicebush (*Lindera benzoin*) is a large shrub up to 15 feet tall (5 meters). Its leaves do not droop and are usually widest above the middle, tapering to a wedge-shaped base; upper surface of the leaves are smooth and dark green, lower surface paler and hairy with inconspicuous veins; crushed leaves and twigs smell spicy or medicinal. It is common in moist woods and floodplains in north and central Georgia.

Related Rare Species: See bog spicebush (*Lindera subcoriacea*) on this website.

Habitat: Edges of sandhill ponds and limesinks, often occurring with pondspice (*Litsea aestivalis*), also rare (see account on this website).

Life History: Pondberry reproduces sexually and, primarily, vegetatively by the spread of stolons (horizontal, ground-level stems that root at the nodes and tips). Pondberry is dioecious, with female and male flowers on separate plants, and often forms extensive colonies of all-female or all-male plants. Female clones are usually smaller than the male clones and are often absent. Even though female pondberry plants frequently set abundant fruit, seedlings are rarely seen. Pondberry is a host plant for spicebush swallowtail (*Papilia troilus*), which lays its eggs singly on the lower surface of the leaves; when the eggs hatch, the larval stages (caterpillars) eat the leaves of the pondberry.

Pondberry is currently at risk of infection by laurel wilt disease, a fungal (*Raffaelea* sp.) infection that kills trees and shrubs in the laurel family. The fungus is carried by an exotic insect, the red bay ambrosia beetle (*Xyleborus glabratus*), and blocks water-conducting cells of infected plants, resulting in wilted leaves and, quickly and ultimately, death. Laurel wilt has spread quickly along the southeastern coast and caused extensive mortality among red bay (*Persea* spp.). Laurel wilt is likely to spread inland, infecting and killing rare species in the laurel family, such as pondberry and pondspice, and common species, such as sassafras.

Survey Recommendations: Surveys are best conducted during flowering (late February–mid-March) and fruiting (August–October). Plants may be identified in the winter from colonial growth form, aromatic twigs, and presence of last season's fruit stalks.

Range: Coastal Plain of Georgia, Alabama, North Carolina, South Carolina, Mississippi, Missouri, and Arkansas. The species has not been seen in Louisiana and Florida in more than a century.

Threats: Ditching, draining, and filling wetlands. Fire suppression. Digging by feral hogs. Infection by laurel wilt disease.

Georgia Conservation Status: Ten populations are extant, only 2 are protected on conservation land. Most of Georgia's colonies have only male plants.

Conservation and Management Recommendations: Allow prescribed fires in uplands to burn into the edges of ponds. Avoid ditching, draining, clearing, and logging in isolated wetlands. Eradicate wild hogs.

Selected References:

Aleric, K.A. and L.K. Kirkman. 2005. Growth and photosynthetic responses of the federally endangered shrub, *Lindera melissifolia* (Lauraceae), to varied light environments. American Journal of Botany 92(4): 682-689.

Anderson, L.C. 1999. Striking sexual dimorphism in *Lindera subcoriacea* (Lauraceae). Sida 18 (4): 1065-1070.

Center for Plant Conservation. 2007. National Collection Plant Profile. http://www.centerforplantconservation.org

Chafin, L.G. 2007. Field guide to the rare plants of Georgia. State Botanical Garden of Georgia and University of Georgia Press, Athens.

Devall, M., N. Schiff, and D. Boyette. 2001. Ecology and reproductive biology of the endangered pondberry, *Lindera melissifolia* (Walt.) Blume. Natural Areas Journal 21(3): 250-258.

FNA. 1997. Flora of North America, Vol. 3, Magnoliophyta: Magnoliidae and Hamamelidae. Oxford University Press, New York.

Godt, M.J.W. and J.L. Hamrick. 1996. Allozyme diversity in the endangered shrub, *Lindera melissifolia* (Lauraceae) and its widespread congener *Lindera benzoin*. Canadian Journal of Forest Research 26 (12): 2080-87.

NatureServe. 2007. NatureServe Explorer. Arlington, Virginia. http://www.natureserve.org/explorer

Patrick, T.S., J.R. Allison, and G.A. Krakow. 1995. Protected plants of Georgia. Georgia Department of Natural Resources, Natural Heritage Program, Social Circle.

Smith, C.G., P.B. Hamel, M.S. Devall, and N.M. Schiff. 2004. Hermit thrush is first observed dispersal agent for pondberry (*Lindera melissifolia*). Castanea 69(1): 1-8.

Steyermark, J.A. 1949. *Lindera melissifolia*. Rhodora 51(608): 153-162.

USFWS. 1990. Pondberry (*Lindera melissifolia* [Walt.] Blume) recovery plan. U.S. Fish and Wildlife Service, Atlanta, Georgia.

USFWS. 1991. Pondberry (*Lindera melissifolia*) species account. U.S. Fish and Wildlife Service, Washington, D.C. http://endangered.fws.gov

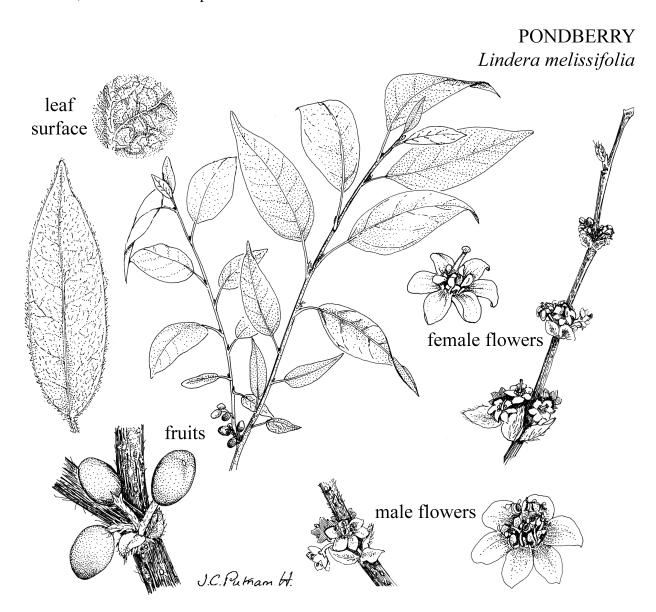
Weakley, A.S. 2007. Flora of the Carolinas, Virginia, Georgia, and surrounding areas. University of North Carolina Herbarium, Chapel Hill. http://www.herbarium.unc.edu/flora.htm

Wofford, B.E. 1983. A new *Lindera* (Lauraceae) from North America. Journal of the Arnold Arboretum 64: 325-331.

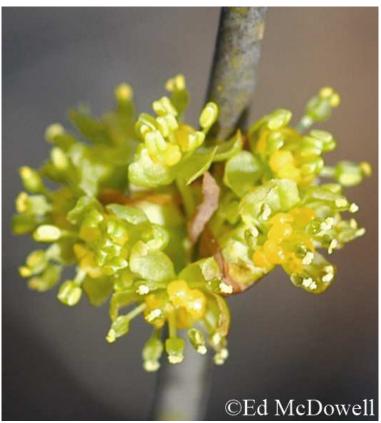
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L. Chafin, May 2007: original account K. Owers, Feb. 2010: added pictures







Male flowers