Common Name: TWINLEAF

Scientific Name: *Jeffersonia diphylla* (Linnaeus) Persoon

Other Commonly Used Names: none

Previously Used Scientific Names: *Podophyllum diphyllum* Linnaeus

Family: Berberidaceae (barberry)

Rarity Ranks: G5/S1

State Legal Status: Rare

Federal Legal Status: none

Federal Wetland Status: none

Description: Perennial **herb**, 4 - 16 inches (10 - 40 cm) tall, with an **underground stem (rhizome)** that sends up 4 - 8 leaves each year and no aboveground stem. **Leaves** up to 7 inches (18 cm) long, with 2 spreading, wing-like leaflets that continue to enlarge after the plant flowers; waxy, blue-green above, whitish beneath, with smooth or slightly wavy edges; leaf stalks 6 - 12 inches (15 - 30) long. **Flowers** up to 1½ inch (1.5 - 4 cm) across, held at the top of leafless

stalks; with 7 - 9 white **petals** and 8 white **stamens** (with yellow anthers) at the center of the flower. **Fruit** an erect, pear-shaped pod, about 1 inch (2 cm) tall, the top quarter opening back like a lid, exposing the seeds, which fall out as the pod tips over. Each **seed** has a fleshy, white outgrowth that attracts ants, which disperse the seeds.

Similar Species: Bloodroot (*Sanguinaria canadensis*) leaves are waxy, blue-green, and often deeply lobed but never divided into two equal halves; the leaf stalks exude red juice if broken; its flower has 8 - 16 petals and the stamens are bright gold; the fruit pod splits along 2 vertical seams.

Habitat: Moist, deciduous hardwood forests over limestone.

Life History: Twinleaf reproduces sexually as well as vegetatively by branching of its rhizome. The rhizome branches produce new plants, with the older portions of the rhizome decaying away. Leaves emerge from the rhizome in early spring; plants with more than 8 leaves are more likely to produce flowers. The flowers stay open for 2 - 6 days, the whole population remaining in flower for up to 2 weeks. Flowers are visited by halictid bees and honeybees on warm, sunny days. Twinleaf flowers produce abundant pollen but no nectar. Within a few days of the flower opening, the stamens of the twinleaf flower bend inward toward the stigma, effecting self-pollination. Twinleaf can produce fruit and seeds from both self-pollinated and insect-pollinated flowers. Fruits are produced at the end of long stalks which bend over at maturity, tipping the seeds out. The seeds are dispersed by ants, which are attracted by oily, fleshy outgrowths (elaiosomes) on the seeds; ants carry the seeds to their nests, feed the elaiosomes to their larvae, and discard the seeds in their nutrient-rich waste dumps. However, most seeds are eaten by other animals; as a result, twinleaf relies heavily on vegetative reproduction for population growth.

Survey Recommendations: Surveys are best conducted during flowering (late March–early April) and fruiting (April). Leaves persist through mid-summer and are easy to identify.

Range: Georgia and Alabama, north to New York and Ontario, west to Minnesota and Iowa. Twinleaf is abundant in northern and midwestern states.

Threats: Conversion of habitat to pine plantations, pasture, and development. Logging and other mechanical clearing. Invasion by exotic pest plants such as Japanese honeysuckle. Plant poaching.

Georgia Conservation Status: Four populations are known, 2 on state conservation lands.

Conservation and Management Recommendations: Avoid logging, clearing, and other mechanical disturbances in hardwood forests. Eradicate exotic pest plants. Prosecute plant poachers.

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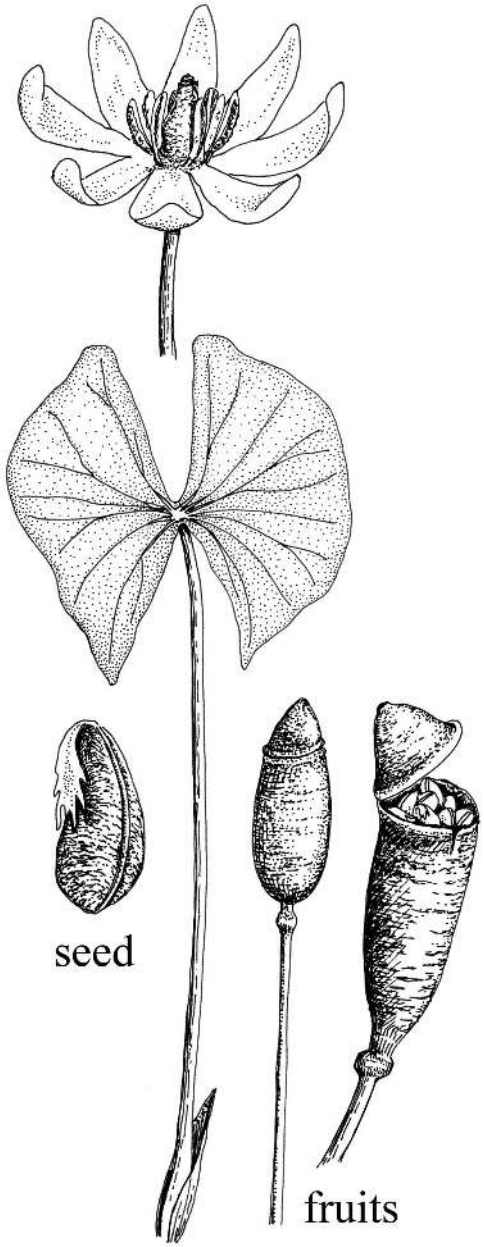
L. Chafin, Apr. 2007: original account
K. Owers, Feb. 2010: added pictures

TWINLEAF

Jeffersonia diphylla

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