



Common Name: FRINGED GENTIAN

Scientific Name: *Gentianopsis crinita* (Froelich) Ma

Other Commonly Used Names: none

Previously Used Scientific Names: *Gentiana crinita* Froelich

Family: Gentianaceae (gentian)

Rarity Ranks: G5/S1

State Legal Status: Threatened

Federal Legal Status: none

Federal Wetland Status: FACW+

Description: Biennial **herb** producing only a small rosette of leaves during its first year; in the second year, plants send up an erect, branched **stem**, 4 - 35 inches (10 - 90 cm) tall. **Leaves** up to 2 inches (5 cm) long and $\frac{5}{8}$ inch (1.7 cm) wide, oval to lance-shaped, lacking stalks, and clasping the stem, opposite. **Flowers** erect, up to $2\frac{3}{8}$ inches (6 cm) long, solitary on leafless stalks $\frac{3}{4}$ - $4\frac{3}{4}$ inches (2 - 12 cm) long, with 4 deep blue, iridescent, fringed **petals**, spreading open on sunny days and closing in the evening. **Fruit** a capsule $1\frac{3}{16}$ - $1\frac{1}{2}$ inches (3 - 4 cm) long, tapering at both ends.

Similar Species: No other wildflowers in north Georgia have large, deep blue flowers with 4 spreading, fringed petals.

Related Rare Species: None in Georgia.

Habitat: Fringed gentian requires circumneutral soils in early successional habitats with few woody or aggressive competitors. In Georgia, it occurs in damp, sunny meadows and roadsides underlain by magnesium-rich, ultramafic rocks such as serpentine or soapstone.

Life History: Fringed gentian is a biennial. It spends the first year as a rosette, then, in the second year, it bolts, producing a leafy, branched stem with a single flower at the tip of each branch. The flowers, which must be cross-pollinated in order to set seed, unfurl their tightly wrapped petals only on sunny days. They are pollinated primarily by large-bodied bumblebees, but also by beetles and homopterans, that are attracted by nectar produced inside and at the base of the flower. Its seeds are dispersed by the wind. Since the plants reproduce only by seed, a population will not persist at a site unless the seeds find suitable conditions for germination. Fringed gentian appears to benefit from the presence of mycorrhizae, which seem to play a role in inducing and breaking winter dormancy and suppressing soil pathogens that cause root disease.

Survey Recommendations: Surveys are best conducted during flowering (late September–early November). Flowers open only on sunny days.

Range: Georgia, north to Quebec and west to Alberta. It is critically imperiled in North Carolina, Virginia, and Maryland, and rare in a number of other states.

Threats: Invasion of woody shrubs and aggressive herbs. Poorly timed roadside mowing and herbicide application. Road widening, development, and other soil and ground cover disturbances.

Georgia Conservation Status: Five populations are known, all in the vicinity of Brasstown Bald. One population occurs on National Forest land, the rest on private land or roadside rights-of-way.

Conservation and Management Recommendations: Control invasion of woody species by hand-clearing or burning. Mow only January–May. Avoid use of herbicides in highway and powerline rights-of-way. Research propagation methods.

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L. Chafin, Feb. 2008: original account

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