

Naturalist Notebook

Text by Daniel Jones, Volunteer Naturalist—Drawing by Moe Brand

Bottle Gentian

(Gentiana andrewsii)

Bottle gentian is a showy violet to purple wildflower that blooms August through October. Other common names include Closed Bottle Gentian, and Andrew's Gentian. The name bottle gentian comes from the plant's unusual inflorescence, which resembles a cluster of small oblong flasks sitting at the top of the 1 to 3-foot stem. Upon first seeing it, you might think that the flowers were still budding up, and had not yet opened. But those flowers are in full bloom, and the petals will not open and spread any further than their "bottle" form. The 1 to 1½ inch long flowers are tubular because the five petals on each flower are fused together, with a tiny fringe of fine teeth at the tip, which may be slightly open.

Why would a flower keep its pollen-bearing stamens and pollen-receiving pistils sealed up inside that tightly closed bottle? It would take some strength and leverage to pry open the blossom and get at the pollen and nectar inside the flower. What sort of pollinator can do that? Bumblebees! Bumblebees are the main pollinators of bottle gentian, because only they have the size and strength to force the closed petal tips open and access the inside of the flower. So bottle gentian is an important pollen source for native bumblebees at River Bend Nature Center.

Colors of bottle gentian can vary greatly but are typically blue to purplish, occasionally pink or white. The leaves are up to 4 inches long and 2 inches wide, tapering to a point at the tip. There are fine, rough hairs around the edges and 3 to 7 parallel veins running the length of the leaf. The upper side of the leaf is glossy. The leaves are attached opposite each other, and tend to become larger further up the stem. This is unusual, since most plant species have larger leaves at the bottom, getting smaller as they go up the stem. At the very top of the bottle gentian

stem there is a whorl of leaves beneath the flower cluster.

The main stem is thick and smooth, light green or purplish. As the flower dies back, the fused petals form a papery wrapping for a 1-inch capsule with a seam down the sides. As the fruit ripens the seams split to release many seeds, each with papery wings to disperse in the wind.

This plant can be found in moist, rich soils at RBNC in either full sun or part shade. Look for it in RBNC's flood plain forests or swampy areas near water. You might also see the plant on moister parts of the prairie along with big bluestem, heath aster and Culver's root. Few animals eat bottle gentian, because it roots and leaves are bitter tasting. Deer may browse the tops of the plants before they bloom.

Gentian root has a long history of use as a herbal bitter in the treatment of digestive disorders. It contains some of the most bitter compounds known and is a key ingredient of angostura bitters. It's a great strengthener of the human system, stimulating the liver, gall bladder and digestive system.

Search for bottle gentian at RBNC and enjoy this beautiful, unusual flower!

