Founded in 1997.
Logo art of Tall Goldenrod,
Solidago altissima,
by Nat Cleavitt, 2006.

Solidago

Newsletter of the
Finger Lakes Native Plant Society

Volume 26, No. 3 ❀ September 2025

LOCAL FLORA

The Bottle Gentians,

Gentiana clausa and *Gentiana andrewsii*

by Anne Klingensmith

If you are lucky enough to spot a Bottle Gentian on an October hike in Tompkins County, New York, it's likely to be *Gentiana clausa*, but why not stop for a closer look, to see if you have instead found *G. andrewsii* ?

Andrews' Bottle Gentian (*Gentiana andrewsii*). *Photo by Robert Wesley*

At a glance, these two species appear remarkably similar. Both have intense blue flowers (also occasionally white or violet) in clusters at the top of the stalk, and a few flowers may be found in the leaf axils below the top whorl. These flowers never open, hence the common name of Bottle Gentian; they are pollinated by the strongest bumblebees — the ones that can force their way into and out of the flower (*see photos, page 3*).

Both species have smooth leaves that are opposite, except for a whorl of leaves that surround the terminal cluster of flowers. The leaves are lanceolate and taper to a point. They do not clasp the stem, and have no leaf stalk. As the season progresses, the shiny green of the leaf can acquire pleasing hints of purple (*see page 4*).

photo by Robert Wesley

Gentiana andrewsii has white fringes protruding from the top of the flower (*above, arrow*).

Gentiana clausa (*center,* 25 Sept. 1976, *and left,* 10 Sept. 2000, in the southern Catskills) has slightly smaller flowers without white fringes (*arrows*). See more details on the next page.

Photos by Robert Dirig

The difference between *G. andrewsii* and *G. clausa* is found at the tip of the blossom. *G. andrewsii* has a small fringe of whitish ***plicae**** sticking out of the center of the flower, and *G. clausa* does not. Removing a flower and slitting it lengthwise, you will find alternating lobes and plicae (which are fringed or ragged along the top edge). In *G. andrewsii* the plicae are longer than the lobes, and in *G. clausa* they are not. With the corolla laid flat one can also see that in *G. andrewsii* the lobes are reduced and the plicae clearly extend beyond, while in *G. clausa* the lobes between each plica are rounded and of the same height as the plicae.

Photos of real flower bits, and tracings of portions of corolla

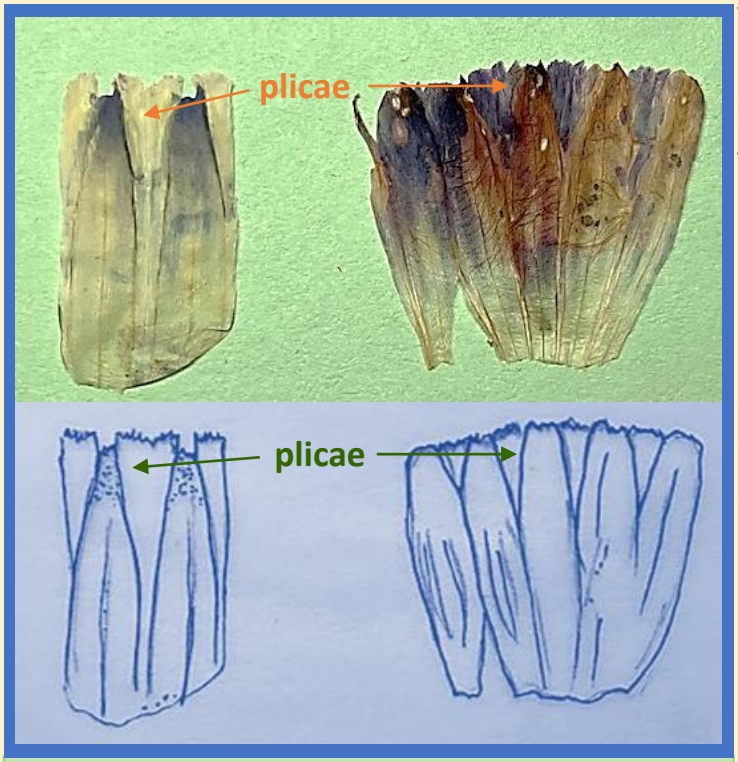

photo & art by the author

Gentiana andrewsii **(Andrews' Bottle Gentian)** ***Gentiana clausa*** **(Meadow Bottle Gentian)**

Both in Tompkins County, N.Y.

[*It is not necessary to dissect the flower if you look carefully at the top. —Ed.*]

Plicate means folded into plaits, usually lengthwise (*Gray's Manual of Botany*, p. 1580).

Gentiana clausa (*bottom*) with Bumble Bee pollinators! Note the **white plicae** showing as the Bee enters the corolla (*right photo, arrows*). Photographed on 14 Sept. 1974 in the southern Catskills, N.Y.

Photos by Robert Dirig

Interestingly the *Flora of North America* (vol. 14) says that *G. andrewsii* grows in calcareous soils, and *G. clausa* in acid soils. This may explain why there are only a few records of hybridization between the two. Having grown both species from seed for the past two years, I have found that in conventional potting mixes, *G. clausa* does seem to need something culturally different than *G. andrewsii*. I have better luck with *G. clausa* if I use fertilizer and a more acidic soil mix.

Range maps show *G. andrewsii* occurring throughout New England (except Maine) south to Kentucky and west to the Dakotas; while *G. clausa* shows up only as far west as Ohio, making *G. andrewsii* a more western species. However, the record of these species apparently may be muddied by confusion about the correct identification of herbarium specimens. ☙

Gentiana clausa with different stages of purpled foliage, both photographed in the southern Catskills, N.Y., on 10 Sept. 2000, by Robert Dirig.

Robert Wesley has only seen *G. andrewsii* "in the northern half of the Finger Lakes and on the Ontario-Oneida Lake Plain. It seems to like limestone influence. It used to be abundant in Montezuma NWR. It is no longer abundant there, but still present. Syracuse area and Oneida Lake area have it.... It seems to like sandy or marly soils over limestone best. Though it grows happily enough in the Mundy Wildflower Garden, where the soils are about pH 8."

Please Contribute to *Solidago*

We welcome contributions that feature wild plants of the Finger Lakes Region of New York and nearby. We include cryptogams (bryophytes, lichens, fungi, and algae) as "flora," and recognize that green plants provide habitats and substrates for these and many animals, especially insects. We are interested in zoological associations as long as plants are an integral part of the story.

We can use a wide spectrum of material in a variety of writing styles. Our regular columns include **Local Flora** (plant lists or details of species from specific sites), **Outings** (reports of FLNPS-sponsored excursions), and **Plant Profiles** (on specific local plants). We also occasionally publish **Appreciations** (memorials to local botanists and naturalists), **Reviews** (of books, talks, meetings, workshops, and nurseries), **Letters** (commentaries and letters to the editor), **Essays** (on botanical themes), **Verse** (haiku, limericks, and poems of less formal structure), **Art** (botanical illustrations, plant designs, pencil sketches, decorations), and **Photographs** (stand-alone images, photo essays, and full-page composite plates, or originals that can be scanned and returned). We also can always use **Fillers** (very short notes, small images, cartoons) for the last few inches of a column.

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Newsletter of the
Finger Lakes Native Plant Society

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Published quarterly at Ithaca, New York, USA.

FLNPS (founded in 1997) is dedicated to the promotion of our native flora. We sponsor talks, walks, and other activities related to conservation of native plants and their habitats. *Solidago* is published as a colorful online version, and a B&W paper version that is mailed. The online format is posted 3 months after publication. Please see **www.flnps.org** for details of membership, past *Solidago* issues, and updates about our programs.

Meadow Bottle Gentian (*Gentiana clausa*), 9 Sept. 1974, southern Catskills, N.Y. *Photo by Robert Dirig.*

Contents

* Please send *Solidago* contributions & correspondence to Robert Dirig, Editor, at editorofsolidago@gmail.com

Deadline for the December 2025 issue is November 15th !

Name That Plant Contest

The photo from last issue's Name That Plant Contest [*Solidago* 26(2), p. 3] was of **Water Smartweed (*Persicaria amphibia*)**, the floating leaved form. While Water Smartweed can be enjoyed from land, it is a special delight to be in a boat floating among a patch of them. Thanks to all those who entered the contest, and congratulations to the winners: **Barbara Chase**, **Bob Dirig**, **Ed Fuchs**, **Rosemarie Parker**, **Susanne Lorbeer**, and **Charlie Smith**.

This issue's mystery plant is shown below.

Common and/or scientific names are acceptable, and more than one guess is allowed. Hints and suggestions are often provided to contest participants who try. Please submit your answer to

David Werier (Nakita@lightlink.com).

The photographs were taken in Tompkins County, New York by David Werier on May 11, 2023 (flower buds – upper left; flower – lower left; and background), May 23, 2023 (upper center inflorescence), and May 7, 2009 (upper portion of plant – right).

Thank You!

We are grateful for the continuing support of our columnists and other contributors, including ***writers*** Anne Klingensmith (pp 1-4), Norm Trigoboff (pp. 7-10), David Werier (p. 6), Laurel Williams (p. 7), & Robert Dirig (pp. 6 & 8); & ***photographers*** R. Dirig (pp. 2-6 & 8), Anne Klingensmith (p. 3), Anna Stalter (p. 9), David Werier (p. 6), Robert Wesley (pp. 1-2), & Portia Wong (p. 10).

Layout & design by the Editor, ***proofreading*** by Rosemarie Parker, and ***printing*** by Gnomon Copy. Anna Stalter emailed the newsletter, Pat Curran mailed paper copies, & Rosemarie posted to the web.

Please check our website (**www.flnps.org**) regularly throughout the coming months for announcements and details of walks, talks, workshops, and other events. Many thanks to our **Steering Committee** (p. 5) and all of our members for supporting FLNPS and its activities. We wish everyone in our reading audience a delightful autumn, enjoying goldenrods and asters, gentians, and the annual pageant of colorful trees!

— Robert Dirig

Sensitive Ferns Available

Pat Curran offers **Sensitive Ferns (*Onoclea sensibilis*)** for wild gardens. This beautiful fern likes wet situations, where it may mass. The yellow-green sterile fronds last from May to frost. The brown, beaded fertile fronds persist through the winter, sticking above the snow. Free dug plants will be available on **September 16th (at FLNPS's first evening program, on bryophytes, by Jonathan Shaw)** on the patio of the Nevin Welcome Center at Cornell Botanic Gardens.

Plant Trivia ◆ *by Norm Trigoboff*

1.a. Are plant roots larger (compared to the aboveground parts) in cold dry areas or warm wet areas?

1.b. In general, do roots make up a larger percent of ecosystem biomass in forests, shrublands, or grasslands?

2. Name the odd one out: poison ivy, mistletoe, Indian paintbrush, Indian pipe, bastard toadflax, dodder.

3. Tubers, corms, rhizomes, bulbs, and true roots are underground plant structures that may store nutrients. Which structures are these?

A. Potato & sweet potato. **B.** Taro & Chinese water chestnut. **C.** Carrot & turnip. **D.** Ginger & arrowroot. **E.** Onion & garlic. ***Hints***: ***Tubers, corms,*** & ***rhizomes*** are modified stems. ***Tubers*** are swollen underground lateral stems that store nutrients. ***Corms*** are solid, vertical underground stems with leaf bases and buds at the top. ***Rhizomes*** are horizontal, underground stems that may yield roots and shoots and grow into new plants. ***Bulbs*** are modified leaves around a stem. ***True roots***, which include ***taproots***, are unmodified roots. I can remember this stuff for about 15 minutes.

4. What do the seeds of these spring flowers have in common: Trillium, bloodroot, dutchman's breeches, trout lily, wild ginger, violets, hepatica, bleeding heart, and squirrel corn?

5. You're about to botanize around a local pond with a couple who say they want to see early hours. At the last minute they tell you they forgot their brolly and wellies (or daisies). These people: **A.** have speech impediments. **B.** have spent too much time away from civilized folks. **C.** speak a language known as George Carlin. **D.** are British.

6. True or false: **A.** The first nuclear-powered submarine had some bearings made of wood. **B.** You can tell linen wool by chewing it. **C.** There's a desert plant that when dry is so hard that two pieces struck together can make sparks. **D.** Most humans have electromagnetic receptors that can let them tell blue from yellow flowers.

7. The phrase *Knee High by the Fourth of July* means what? **A.** A slow going barn raising. **B.** A train that often came in late to the farm town of Knee High, PA. **C.** How well a corn crop is doing. **D.** A quip of General Patton's that meant the enemy will soon be under gravestones. **E.** Whether a farmer's wood pile is growing at the right rate.

8. Name the odd one out: yarrow (*Achillea millefolium*), thyme (*Thymus vulgaris*), banana (*Musa acuminata*), coca (*Erythroxylum coca*), Wild mint (*Mentha arvensis*), Hercules club (*Zanthoxylum clava-herculis*).

9. What do these days and times have in common? Tuesdays 6 pm. Tuesdays 7 pm. Wednesdays 6:30 pm. Wednesdays 7 pm. Wednesdays 7:30 pm. Thursdays 6 pm. Hint: This differs 50% from a plant trivia question.

10. American Indians planted and still plant corn, beans, and squash together. The Chinese grew and still grow the fern *Azolla* with rice. African farmers today use a push-pull approach to manage crop pests. Name a culture that forbade and still forbids certain mixed plantings.

See answers on page 8.

Letter

A Request to Join the Finger Lakes PRISM Trail Survey Program

Hello,

*I'm **Laurel Williams**, the Invasive Species Education and Outreach Program Manager for Finger Lakes PRISM.* Volunteers for our recently launched trail survey program are asked to survey five times for twelve invasive species until the end of October. We provide online training, materials, and offer open communication with those interested in participating. Below is an outline of the Trail Survey.*

What is the Trail Survey? Volunteers hike local trails and record invasive species using a simple smartphone app (ArcGIS Survey123). These observations help us track where invasive species are spreading and guide management efforts.

Why Get Involved? ♦**Make an impact:** Your time on the trail directly contributes to invasive species management in the Finger Lakes. ♦**Learn something new:** Volunteers receive training materials and easy-to-follow species ID guides. ♦**Stay active & outdoors:** Hiking is a healthy, stress-reducing way to give back to your community. ♦**Earn recognition:** Complete surveys and receive certificates celebrating your contributions.

How It Works: ♦Hike a trail of your choice five times between August and October. ♦Record sightings of 12 priority invasive species using Survey 123 app. ♦Use our quick training video, slides, and fact sheets to prepare—it's fun and easy!

Earn Certificates of Achievement: ♦*Trail Tracker Certificate* (complete 3 surveys), and ♦*Trail Master Certificate* (complete 5 surveys).

How To Join: 1. Register here. **2.** Watch our short training video and review the ID materials on our website. **3.** Downlowd the ArcGIS Survey123 app and load the survey. **4.** Hit the trail and start surveying!

Please let me know if you have any questions. Even though you are the Finger Lakes Native Plant Society, knowing which species are invasive and helping us identify them through the trail survey by gathering data from commonly used trails can help protect our native species!

Best, Laurel

*Finger Lakes Partnership for Regional Invasive Species Management (Finger Lakes PRISM)
Phone: 315.781.4950

Visit https://fingerlakesinvasives.org/Invasive-survey-2/ to review the training materials.

Plant Trivia Answers ◆ *by Norm Trigoboff*

(*from page 7*)

1.a. In cold, dry areas, soil nutrients are scarcer, so roots grow larger. Plants in warm, wet areas compete for light more, so aboveground parts grow larger.

1.b. A recent study claims roots are 22% of forest biomass, 47% in shrublands and 67% in grasslands. Such studies help us learn how plants sequester carbon (and help us fall asleep at night). See: https://usys.ethz.ch/en/news-events/news/archive/2021/06/root-to-shoot.html

2. Poison ivy. The others are parasites or hemiparasites on other plants.

3. A. Tubers. **B** Corms. **C.** Tap roots. **D.** Rhizomes. **E.** Bulbs.

4. Their seeds have *elaiosomes*, structures rich in nutrients that may be plucked from the seed without hurting it. Ants often collect the seeds, eat (or feed their larvae) the elaiosomes, then dump the leftover seeds with their trash, which is aerated and fertilized. This feeds the ants and helps the seeds grow. ***Trivia*:** Elaiosomes, a great example of convergent evolution, occur in at least 11,000 species and develop from many different tissues. Fun activity to wow little kids and childlike adults: break open a ripe trillium fruit, set the seeds down in the woods and come back in fifteen minutes, or just sit and watch. With luck, ants (and other small, hungry lunatic beings on tight schedules) will run in and race off with the seeds. Some seeds may fly off in less than a minute. (Many thanks to Mike Hough for showing me this.) See: https://chestnutherbs.com/spring-ephemerals-and-elaiosomes/ and https://en.wikipedia.org/wiki/Elaiosome

5. Brolly is British slang for umbrella. Early hours is rhyming slang for flowers. Wellies are a British term for rain boots. They could've said daisies — short for daisy roots, which rhymes with boots.

6. A. The nuclear-powered USS Nautilus, launched in 1954, had aft main shaft strut bearings made of lignum vitae, a tough, strong, dense wood. What the wood trade calls Lignum vitae comes mostly from *Guaiacum officinale* and *G. sanctum*, small slow growing trees from the Caribbean and the northern coast of South America. Bearings made of it self lubricate and last long, even at sea. See: https://en.wikipedia.org/wiki/Lignum_vitae **B.** The Wikipedia entry for Shatnez says "Linen thread has a gummy consistency if chewed, due to its pectin content; a quality only found in bast fibers." **C.** Wood with a bit of rock or metal stuck in it may spark. Good luck trying to get pure plant matter to spark regardless of how hard it is. **D.** Human electromagnetic receptors (in the retina of the eye) detect the colors of light.

7. C. Sky High by the Fourth of July refers to pot growers.

8. These plants, except the banana, have anesthetics, which humans may sense when they chew the leaves. Ever seen a slug or snail feed on mint? Wild mint and other kinds of mint (as well as lectures on the Lamiaceae) may induce sleep in snails and other small invertebrates.

9. This is a rare species, a trivia question about trivia contests. The days and times refer to local trivia contests. You can look up on the web which bars and stores host them.

10. Ancient Jewish law forbids sowing certain mixtures of seeds (as well as grafting trees, mixing plants in vineyards, crossbreeding animals, using teams of different kinds of work animals, mixing wool and linen in cloth, and using cell phones while driving). It is written in the Kil'ayim Wikipedia entry. (Okay, I made up the cell phone bit.)

A Bumble Bee (*Bombus* sp.) pollinator

Common Fringed Gentian (*Gentianopsis crinita*), another Glory of Autumn! Photos by Robert Dirig

FIELD TRIP REPORT: THE HIGH LINE IN NEW YORK CITY

by Norm Trigoboff

In late July, on a mid-90º day, I walked the High Line, a long narrow park built from an old elevated train track on Manhattan's West Side. You climb a couple of flights of stairs and leave the rush of the city to enter an odd little world. The mile and a half stroll through landscaped greenery with nice views of city skyscrapers and the water — the Hudson River is almost a mile wide at this point — is said to take a half hour or so, but you can stop and look at the plants, or leave the High Line for a short side trip to wander Little Island (an artificial island) or the Hudson Yards (an artificial neighborhood), or sit in the shade to get relief from the sun or eat lunch, in which case the walk can and perhaps should take a few hours. I took my time. The others on the trail who I spoke with or overheard were also tourists. Native and introduced flowering plants, including small to medium size trees such as maples and magnolias, cover the park, interrupted here and there by many fascinating steel and concrete masses from the former rail line. Isolated sculptures and didactic signage that notes the planting choices of the gardeners stand out in spots; also drinking fountains, bathrooms and fences to protect the plants — a melting pot of prairie grasses, forest trees, exotic flowers and other disparate native and wild green things that the experts judged would fit together well. The chaos brought to mind my youth in the suburbs. Years ago, when I first read that different plants liked different habitats, I balked. My time in the 'burbs taught me that the average plant can grow anywhere and that plant communities were a fiction, or at least a wild exaggeration. My ecology blindness was the natural outcome of seeing many gardens and few natural settings. I grew up and learned some ecology since then, but the effects of gardens-as-propaganda live on. City-raised young people may harbor odd ideas about nature. When some of them grow up to design gardens, the cycle continues. At one point in the park, a sheet of water that suggests a creek or a broken water main flows over concrete for a few yards then vanishes. At another point, you can get misted if you get a friend to work a big pink foot-shaped pedal-powered fountain. A small moist moss garden might have been nice. A few sad bits of moss grew at just two small spots that the weeders missed. At one end of the park, about seven hundred yards of RR line had been left to show the wilder mix of self-seeded native and introduced plants and scraps of abandoned RR equipment that the site boasted before they turned the gardeners loose. A museum-quality piece of antique rolling stock might have been nice. Some folks prefer the park in winter with fewer people. The day I toured, the extreme heat had likely shrunk the crowds. Only one street performer worked that day, a sax player. He sat in the shade with his soulful sounds, a sad, almost empty hat and the drone of traffic in the background. Bees and flies zipped around the flowers without stopping to wonder about plant communities. A young robin fed in a small choke cherry tree. A few house sparrows pecked at human food scraps. Signs of land mammals other than tourists would have been nice. I can recommend this park for a good family trip, but expect a riveting clash of manicured garden and abandoned transportation infrastructure framed by metal and glass skyscrapers, rather than a quiet walk in the woods.

See this website for images and history of this urban park: http://en.wikipedia.org/wiki/High_Line

LOCAL FLORA

Wild Cucumber
(*Echinocystis lobata*)
in bloom (male flowers) at Stewart Park in Ithaca, N.Y. This plant has long vines over shrubby thickets, with spiny fruits in late summer.
Photos by Anna Stalter

Local Flora

This photograph of a big (ca. 10 ft. tall) teasel plant was taken on 17 July 2025 on a roadside at the Catharine Creek WMA near Watkins Glen in Schuyler County, N.Y. Norm Trigoboff's left foot marks the base of the plant. ***Photo by Portia Wong.***