



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

Solidago

Newsletter of the Finger Lakes Native Plant Society

Volume 22, No. 1



March 2021

WILD GARDENING

Remembering Bill Plummer and His Garden

Text by [Rosemarie Parker](#)

Photos by [Colleen Wolpert](#) (unless otherwise credited)



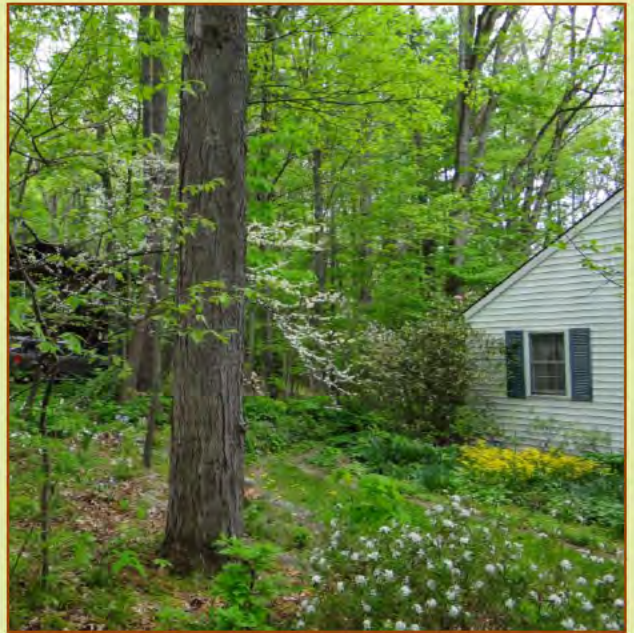
Photo provided
by Bill's family.

With Bill's passing this January, at the grand age of 93, we lost a friend, a teacher, and access to a wonderful 50+ year old garden. When Bill and Jane built their house in 1964, the property had mature trees, a shrub layer, and an interesting native herb layer. They encouraged the native growth, and added more native species through friends, rescues, and purchases. *Over time, the yard became a carpet of green, species intermixing in a natural tapestry.* In spring it was a swath of White Trilliums (*T. grandiflorum*) that self-sowed from a rescue in his neighborhood. Like many avid gardeners, Bill worked non-native species into the mix. Near the two native *Actaea*



Bill showing his
garden to FLNPS
members Georgia
Feasel and
Colleen's mom.
Photo by Colleen
Wolpert.

would be an Asian species. Along the path, native *Packera* made a patch of bright yellow, complemented by Green-and-Gold (*Chrysogonum virginianum*, native south of New York) between the slates in the walk. He particularly loved ferns, with many species colonizing his rock walls. Bill loved to show his garden, and few visitors left without a handful of divisions for their own garden. He donated generously to multiple plant sales and public gardens. I know that several of my most loved plants came from Bill, directly or via the May plant sale. I suspect that is true for many other FLNPS members, though you may not have known the source. Bill's garden writings are collected in *Fronde and Anemones*, *Essays on Gardening and Nature*. Reading it is like having tea with Bill — a truly kind person, who will be missed.

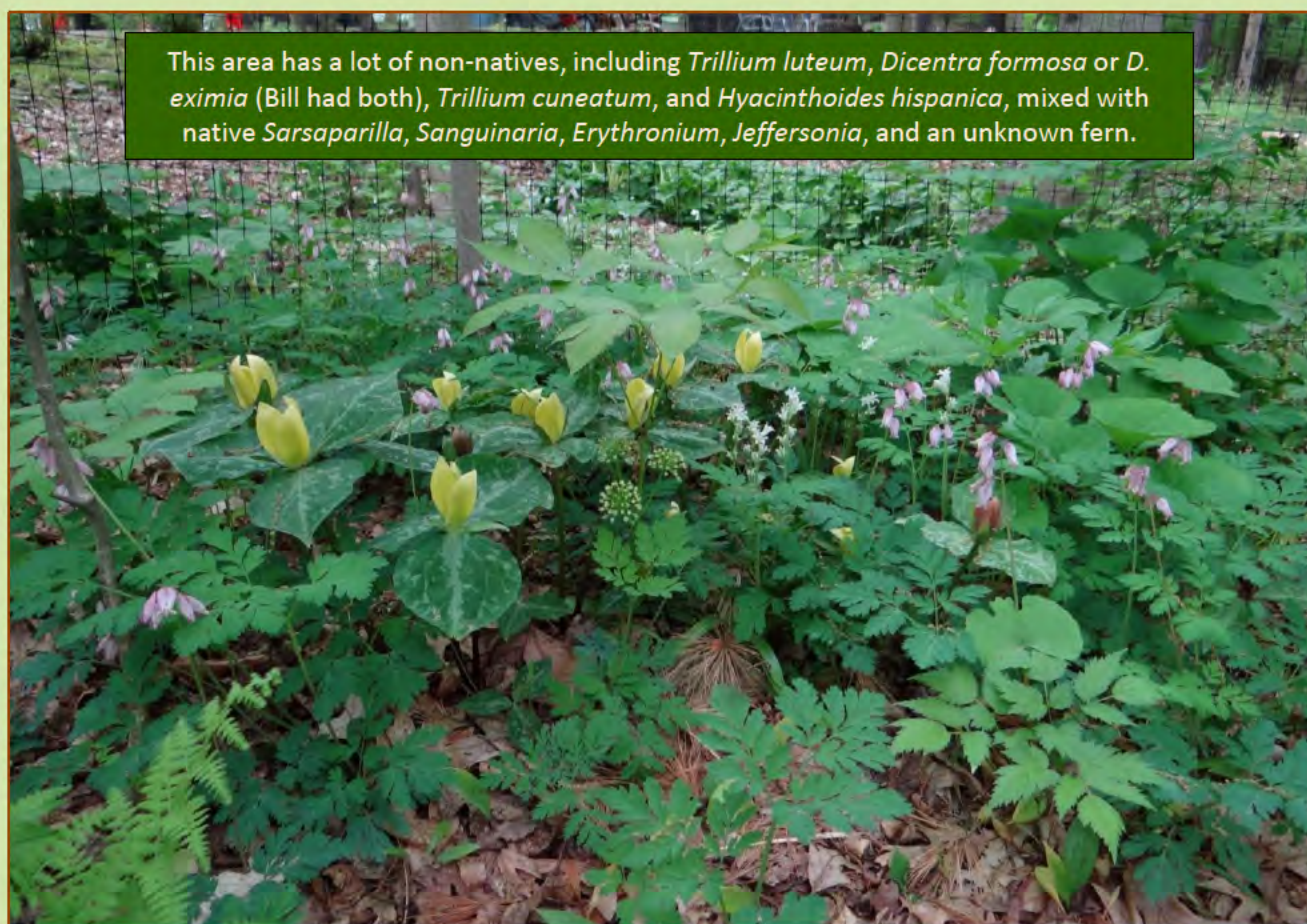


Top: *Halesia*.

Center row: *The side yard in spring*, with *Cypripedium parviflorum* var. *pubescens* (left) and white-flowered *Cercis* and yellow *Packera* (right).

Bottom: A carpet of White *Trilliums* (*Trillium grandiflorum*), photo taken by Bill Plummer.

Other photos
on this page
by Colleen Wolpert.



This area has a lot of non-natives, including *Trillium luteum*, *Dicentra formosa* or *D. eximia* (Bill had both), *Trillium cuneatum*, and *Hyacinthoides hispanica*, mixed with native *Sarsaparilla*, *Sanguinaria*, *Erythronium*, *Jeffersonia*, and an unknown fern.

All photos on this page by Colleen Wolpert.



A typical square yard on Bill's property, contrasted with the neighbor's Asian *Pachysandra* behind the fence. This photo shows *Prosartes lanuginosa*, *Podophyllum peltatum*, *Jeffersonia diphylla*, *Asarum canadense*, *Sanguinaria canadensis*, *Actaea* sp., a non-native *Anemone*, and a fern.



Mertensia paniculata (white form), a species of the Pacific Northwest.



Phlox divaricata, *Iris cristata* (white form), *Jeffersonia*, *Actaea*, etc.

THE FINGER LAKES NATIVE PLANT SOCIETY STEERING COMMITTEE

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Rosemarie Parker: Webmaster & Assistant
Newsletter Editor

David Werier: Newsletter Editor Emeritus



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, sonnets, 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

Volume 22, No.1

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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.



What is it? (One right answer is "hope for summer"!)

See page 6.

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

**Deadline for the June 2021
issue is May 15th !**

NAME THAT PLANT CONTEST

The photo from last issue's *NAME THAT PLANT CONTEST* [Solidago 21(3-4), Sept.-Dec. 2020] was of **Nannyberry** (*Viburnum lentago*). A common shrub in central New York, its fruits are delicious and the flowers fragrant. The flavor of the fruits is reminiscent of prunes, but is unique. Some years the shrubs can be loaded with fruits, which the birds appear to love.

Thanks to all who entered the contest, and congratulations to the winners: *Betsy Darlington*, *Bob Dirig*, *Susanne Lorbeer*, and *Rosemarie Parker*.

This issue's mystery plant is shown below.



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

Nakita @lightlink.com

The background image was taken on 25 May 2016 in Passaic County, N.J.; the closeup of the flowers on 25 May 2019 in Cayuga County, N.Y.; and the naked stem on 26 May 2019 in Tompkins County, N.Y., by David Werier.



LETTER

Bob!

The new issue [Vol. 21(3-4), Sept.-Dec. 2020] looks amazing! I see that "Winter Greens & Reds" are featured. Really nice imagery; I love it. I love the urban botany and all the readers' comments. And that photo of Fischer! It's a beautiful issue.

Scott LaGreca

Durham, North Carolina

email of 4 December 2020



MISCELLANY

NORM TRIGOBOFF sent this link to an interesting article about Wardian cases: "How a Glass Terrarium Changed the World," by Jen Maylack, *The Atlantic*, 12 Nov. 2017, <https://www.theatlantic.com/technology/archive/2017/11/how-a-glass-terrarium-changed-the-world/545621/>



Upcoming FLNPS Programs

Rare Plant Watch List for the Finger Lakes, a talk by **Steve Young** of the New York Natural Heritage Program. Tuesday, March 16th 2021, at 7:00 p.m. Presented via ZOOM. A link will be sent to members who receive monthly emails. The registration link will also be listed on our website (www.flnps.org).

Finger Lakes Fungi, a talk by **Teresa Iturriaga**, Curator of the Cornell Plant Pathology Herbarium. Tuesday, May 18th 2021, at 7:00 p.m. Also presented via ZOOM, with notices as above.



DID YOU KNOW? The Finger Lakes Native Plant Society is a 501(c)3 nonprofit organization, and as such, donations made to FLNPS are tax-deductible. The CARES Act of 2020 allows individual *taxpayers who don't itemize to deduct up to \$300* in donations made to 501(c)3 nonprofits in 2020. If you file jointly, that allowance doubles. And if you do itemize, the deductible amount of donations to charity has increased for 2020 as well. Here's a link to some more information about these changes:

<https://www.501c3.org/the-cares-act-increases-donation-tax-deductibility/>.

We hope you'll consider making a tax-deductible donation to FLNPS this year!

POET'S
CORNER*Marsh St. John's
Wort*

by Kenneth Hull



I know what it looks like, the red buds and fruit a giveaway but to see it in flower is another story, gone back over and over, yet I saw nothing but tight buds. Yesterday, I thought it's either now or wait for another season. The book says that the flower opens for a short time in the early afternoon. I arrived there at 1:30 — nothing but buds. I waited until 3:30 in the hot July sun and saw fleshy color appear in a few tips; hornets as impatient as I, prying down into the bud to get the nectar; I left and returned in an hour. Those same few had opened further, just enough to display yellow stamens. One in a hundred opened all the way to reveal five finely striped pink petals, green center and gold stamen and pistils. The whole flower is only the size of a collar button, but magnified its beauty is magnificent! I felt relieved that nature granted me the patience and the privilege to observe this plant in flower.

WILD GARDENING

Attack Agastache!

by Jean Weedman

Kettle Moraine Chapter of Wild Ones

In late July, I found out that my *Agastache foeniculum* — sometimes called **Lavender, Blue,** or **Anise Hyssop** — was actually **Korean Mint** or **Korean Anise Hyssop** (*A. rugosa*), and not the Wisconsin native. Korean Mint is a look-alike that is used by herbalists.

Though both plants draw in bees and some butterflies, the look-alike is an aggressive re-seeder. I've seen this happen in the gardens near my house. The species bullies smaller plants, and claims the territory for its offspring. Luckily, I did not plant this in my prairies!

Korean Mint looks like native Hyssop, and pollinators love it. So what's the problem? "We have tons of ecologically invasive species that pollinators nonetheless like," explained **DAN CARTER**, Land-owner Services Coordinator for The Prairie Enthusiasts. But, he warns, "Korean Anise Hyssop hybridizes with native Anise Hyssop, so Korean Anise Hyssop's presence on the landscape actually threatens the continued existence of the native species, just as Oriental Bittersweet threatens American Bittersweet, and White Mulberry threatens Red Mulberry."

Apparently, this problem has existed for some time in the landscape and nursery growers' industry. "It appears that the confusion between *A. foeniculum* and *A. rugosa* is not an isolated one and is throughout the nursery trade," Prairie Nursery's **NEIL DIBOLL** said. "We became aware of this issue in 2018." Diboll credits the "Three Problem Species" webpage listed below with helping to raise awareness.

Prairie Moon Nursery stopped their sales around 2017, according to its president and part-owner **BILL CARTER**. "All of the native plant and seed producers that I know of in the Upper Midwest are now fully aware of the past problem," he added. Agrecol has also indicated that they now have a correct local seed source for their *Agastache foeniculum*.

DAN CARTER expressed that once Korean Mint becomes established, it's a constant battle to pull the species and its hybrids. Some ecologists have stopped recommending that the native species be bought for planting, lest the purchased plants turn out to be non-native or hybrids.

It seems that the mistake has been corrected within the native plant nursery business. It's great that the problem is now known. Still, **BILL CARTER** explains that "exact species identification is not of great importance to some major generalist plant producers." This look-alike has to go!

Back in July, I just couldn't believe my plants were the wrong species. But even now, as I hunt around the Internet, I'm finding pictures of Korean Mint being incorrectly labeled as the native plant. Many reputable sites are still misidentifying the species. The following site presents good information; it convinced me after I got a microscope to see the back of the leaves clearly.

https://bigriverbigwoods.org/wpcontent/uploads/2019/03/ThreeProblemSpecies_v3.pdf

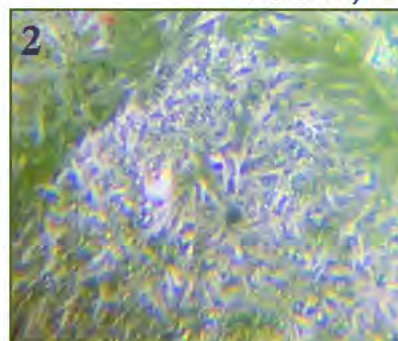
Be your own botanist and check your *Agastache* plants. You care enough to plant natives, so you'll want to know if you have an aggressive look-alike hiding in your plantings. DAN CARTER concluded, "I think eradicating it would be the prudent and responsible thing to do." Thanks, Dan!

✂

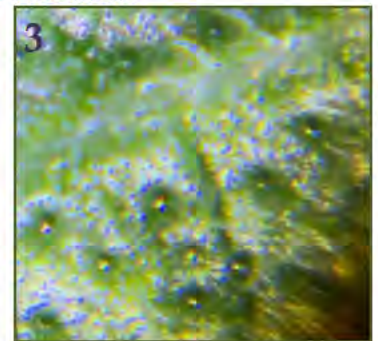


1: The two plants look very similar at first glance!
The native species is on the right.

Photos by Jean Weedman



2: Under magnification, leaves of native **Anise Hyssop** (*Agastache foeniculum*) have lots of small hairs on the back, making them appear whiter.



3: Leaves of non-native **Korean Anise Hyssop** (*Agastache rugosa*) have fewer hairs and small indentations or areoles.

NATURAL HISTORY

Sulfur Eaters

by Norm Trigoboff

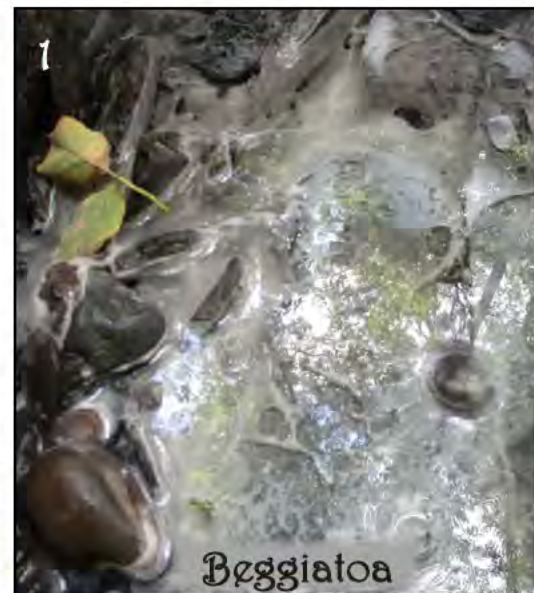
Photos by the author in August 2020. The creek shots were taken in Lansing, N.Y., at the ravine mentioned.

Around mid-July, along a sluggish, winding creek through a shady, secluded rocky ravine near Ludlowville, a few miles north of Ithaca, N.Y., a pure white growth coated the smooth creek-tumbled pebbles and the muck here and there, mostly at the even slower edges of the creek [1]. Several spots along a quarter mile stretch of creek looked like white topped black muck seeped in from springs at the side, then spread out over the creek bottom. In one spot, a thin, hard to collect layer of **Purple Sulfur Bacteria** (*Chromatium* and relatives) coated a layer of black muck [2]. **Sulfide Eating Bacteria** like to sit and oxidize their sulfur compounds at the line between anoxic muck and oxygenated creek water, much as people like to sit and eat in a dining room between the kitchen and the rest of the house. The metaphor may be a bit rocky and hard to clamber over, but you get the idea.

Under a 10× lens, the white growth looked like fine cotton. Later, under high power, the filaments, about 0.5 to 2+ microns in diameter, looked branched or maybe clumped onto large filaments. The filaments looked pure white in the field, under the scope and when dried, though in my photos they might look colored [3-4]. They had inclusions, presumably sulfur. Finger Lakes well water often reeks of sulfur, but here the odor was absent, or at least we failed to notice it.

BETSEY DYER, a bacteria enthusiast who wrote the energetic book, *A Field Guide to the Bacteria* (2003, Cornell University Press), looked at my photos and emailed me that "...there are microbes nearby using the methane or H_2S just as soon as it is produced. It should be a tight cycle without much leakage into the atmosphere. And maybe that is why you didn't smell sulfur."

BETSEY agreed that the white stuff was likely the well known **Sulfide Oxidizing Bacteria**, *Beggiatoa*. You may have heard of *Beggiatoa*. It and its close relatives play big roles at sulfide-emitting hydrothermal vent ecosystems at the bottom of the ocean and in flooded-soil ecosystems (**Larkin & Strohl** 1983). It does fine in polluted and unpolluted settings. Still, it was new to me. I must have walked past it before without a glance, perhaps thinking it was water mold covered detritus, lime deposits, liquid bird poop, or bleached diatoms (**Trigoboff** 2007).



Beggiatoa

Chromatium
(and relatives)

Beggiatoa

Beggiatoa
(enlarged)

Sulfate reducing bacteria often live in mud and produce sulfides (compounds with reduced sulfur, such as iron sulfide, which is black) as wastes when they eat decaying plant matter, such as algae. **Sulfur Oxidizing Bacteria** then eat the sulfides left in the black ooze and oxidize them. All this (bacteria that eat sulfates and release sulfides followed by bacteria that eat sulfides and release oxidized sulfur that leads again to sulfates) makes it sound like we could build a perpetual motion machine from bacteria. Something has to be wrong. It could be my knowledge of chemistry. Still, it reminds me of an almost dry mud puddle I saw once in the midday sun: Flies fed on the remains of stranded tadpoles, while a frog sat and caught the flies.

In mid-August, we returned to the creek. We stopped at a few spots to look at sulfur bacteria and noticed a tiny falls where the filamentous algae were covered in white [5]. The white covered muck looked more impressive than a month earlier. It might have grown, or maybe the water was lower, the light was different, or we just paid more attention to the pretty frost-coated underwater pebbles, twigs and leaves. The pink had diminished, though some of my photos showed the creek with an odd pink cast, maybe because the camera sees some bacteria better than we do. The white was intense at two points, presumably springs at the edge of the creek. These spots stank of rotten eggs, but only if you put your nose close to the water. One large flat rock I stepped on released a big bubble from its other end. In quiet moments, I could hear gas leaving the creek and ravine sides. (We can likely make do without a metaphor here.) The white covered about forty square feet at the largest spring.

BETSEY's field guide has a chapter on "sulfureta," or communities rich in hydrogen sulfide. It tells how you and those who share your dinner table may culture *Beggiatoa*, *Chromatium* and their colorful dining room friends. Just serve the bacteria their food in a glass jar or a simple glass tube called a *Winogradsky column*. These are easy to start and last longer than any perpetual motion machine I've seen. The two multicolored ones in the window at Ithaca's **FREE SCIENCE WORKSHOP*** were started last August with muck from Cayuga Lake [6-8]. BETSEY's field guide notes that you can "enjoy it for years! It makes a great conversation piece for the kitchen...."

If you want an excuse to splash through a creek on a hot day, consider looking for sulfureta. You might try the shallow water just downstream from the (western) Forest Home Drive bridge over Fall Creek in Ithaca. In early September, a thin veil of properly stinky, perfectly natural white filaments covered at least a square yard or two of creek bottom. I have seen a handful of sulfureta since the spring and still find them intriguing. If you know of a creek with nice sulfureta, please email me (tt5544@yahoo.com).

I thank BETSEY DYER, JERRY OEMIG, the gang
at the Free Science Workshop, HANK SPENCER and CAROLE STONE.

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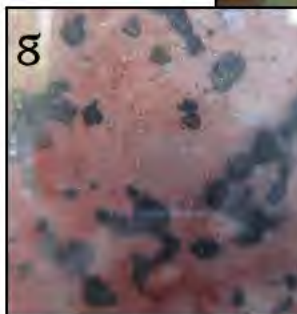
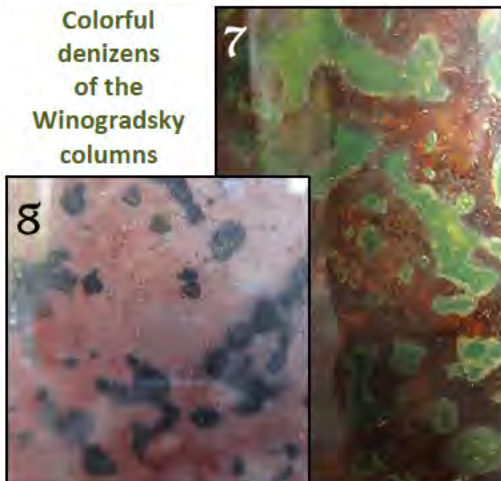
Larkin, J. M., & Strohl, W. R. 1983. *Beggiatoa*, *Thiothrix*, and *Thioplaca*. *Ann. Rev. Microbiol.* 37: 341-67.

Trigoboff, N. 2007, July. Tiniest Flowering Plants in the World: *Wolffia* spp. and Diatoms. <https://flnps.org/native-plants/tiniest-flowering-plants-world>

* Please see: <https://www.freescienceworkshop.org/>



Colorful
denizens
of the
Winogradsky
columns





Photographs copyright © 2021 by Robert Dirig.

Ice Paintings

on a Small Brook
photos by Robert Dirig

Thank You!



I am especially grateful to the editorial team (Rosemarie Parker and David Werier), Robert Wesley, and the wonderful writers, poets, artists, and photographers who contribute to each issue. Also to Audrey Bowe and Rosemarie for posting our newsletters; Whitney Carleton for mailing them; Audrey, Rosemarie, and Anna Stalter for organizing calendar items; and all the Steering Committee members (p.4), who perform other important functions, and deal with the business details of our organization. Their collaboration makes producing issues of *Solidago* a continuing joy.

For this issue, we thank **writers** Mary Gilliland, Kenneth Hull, Scott LaGreca, Rosemarie Parker, Norm Trigoboff, Jean Weedman, & David Werier; **photographers** Ken Hull (pp. 4 & 6), Bill Plummer (2), Norm Trigoboff (8-9), Jean Weedman (7), David Werier (5), Colleen Wolpert (1-3), & Robert Dirig (10). **Layout & design** by the Editor, **proof-reading** by Rosemarie & Norm, and **printing** by Gnomon Copy.

Best Wishes to FLNPS members (and all others in our reading audience) for safety, and joyous outdoor revels with the spring flora! — Robert Dirig

Down

by Mary Gilliland

Sleet crusted the two-foot snow base a few days ago. As he stands in the high boots of his mind's awareness breathing a new day, oddly colored flakes come to rest: too large for snow, sooty wisps, or clumps.

Up in the tallest smallest branches above the gold band of the horizon with its blurred gold disc five weeks before spring starts on the calendar robins are preening.

for Peter
17 February 2021

POET'S
COR-
NER