



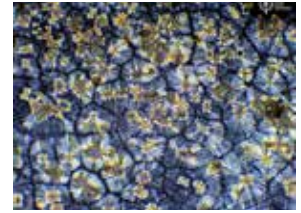
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# THE NATURALIST

THE HISTORIC RIVERS CHAPTER OF VIRGINIA MASTER NATURALISTS

## The President's Message

by Rick Brown

In February 2020, after I had been nominated for Chapter President, I decided I had better learn more about this Chapter, and be very quick about it, since I had only been a member since 2017. And that's what led me to my homework assignment to go back and read all the old issues of this newsletter that were archived on the website.

Doing that I came across a President's Message written by Judy Jones, in 2016 and thought at the time it was very well written. So today when I sat down to write my own message I remembered it, and I thought that I could not really express with any more sincerity my own feeling about what make this Chapter work.

For those who are even later-comers than me, you need to know that Doug Dwyer was a member of Cohort VIII. He is a retired NASA scientist with a Ph.D. In Aerospace Science. He lives in Gloucester and after traveling back and forth for a few years he decided to colonize and form a VMN Chapter on the other side of the York River back in 2019. That was the beginning of the successful Middle Peninsula Chapter. Doug was and is a natural leader. In retirement he became a self-described "Climate Change Activist". I

can still recall a well researched, although thoroughly frightening, presentation he gave on climate change at one of our Chapter meetings. It was one of the best discussions that I have heard on the subject. Doug was also a Board member and a former editor of this newsletter. Keep all that in mind as you read Judy's excellent Message from April 2016. By the way I checked and the embedded link Doug shared with the Chapter is still active on YouTube.

*Doug Dwyer this week shared with all of us a 'commercial' found at <https://youtu.be/Bf5TgVRGND4>. It is a humorous but pointed message that explains that if we are "tired, irritable, or stressed out, try prescription-strength 'Nature.'" The side effects included "spontaneous euphoria, being in a good mood for no apparent reason, and developing a genuine caring for ourselves, for others, and for the world we live in." It increases "confidence, honesty, and authenticity, as well as relieving work-induced catatonia". This commercial captures perfectly the synergy of skills, enthusiasm, knowledge, and experience we find in Historic Rivers Chapter.*

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*As a group, we are wise beyond any one of our individual chunks of knowledge. And the laughter that resonates through each of our projects is as important as the pleasure we experience in the activities themselves. The philosophy of sharing information and the enthusiasm of our members performing these endeavors together provides excellent camaraderie at a level some organizations never achieve. It is impressive to have such a depth and range of talent in our Chapter.*

*As individuals, we enjoy being together, each doing our part to make the experience meaningful for the group. It's amazing to watch the members interact with each other as they contribute their expertise. Our diverse personalities become compatible; our talents merge to form an amazing skill set. The end point is greater than any one of us individually. Other organizations should be envious of the dynamics and the span of environmental skills across our Chapter members. What a distinguishing characteristic to have in an organization of volunteers. And aren't you glad we take a dose of "prescription strength Nature" every day?*

*Judy Jones, HRC President, "The Naturalist", Vol 10, Number 4: April 2016.*

So thanks very much Judy for crafting the perfect message that still resonates almost 6 years later. The recent preparation of our Annual Report reminded me of the really special things that a group of interesting, individuals with diverse backgrounds, can accomplish. Having now trained over 300 Master Naturalists our Chapter continues to thrive and grow because of the many members for whom Doug and Judy are just two examples.

-Rick





## Vole Visitors

by Adrienne Frank

Gary and I typically watch our bird feeders, especially before and during a snow storm. Under our kitchen window, Gary put out an old flower pot with seeds all over it, to encourage the birds and squirrels to play. Then we had a visitor, another visitor, and they kept bringing their friends. First one, then two, then five.

Fun to watch. See the little round ears of Voles. Today, a vole decided to chase a squirrel away.



Meadow Vole (*Microtus pennsylvanicus pennsylvanicus*) | Gary Driscoll

## Wonders Abound!

by Shirley Devan

Many HRC members roam around Jamestown Island. I expect that there's probably at least one HRC member there every day exploring the bountiful natural wonders. I only visit one or two times per week, but I almost always find something new. So, the discovery of ice flowers Saturday, January 8 was a true treasure.

Babs Giffin and I were bundled up against the colder-than-usual temperatures – mid-30's – and were headed back to the car. What we initially thought was trash – white “things” on the roadside – turned out to be ice structures. Whaaaaaat? Of course, photography ensued. Some of the ices were larger than others. All were associated with small plant stems; some were wrapped around stems. Some were intact; others had been broken. Some featured rings like what we would find on a scallop shell.

The obvious question from both of us – HOW does this happen? Inquiring minds...well, you know the rest.

When I got home, I entered this phrase in that search engine: “ice formations around plant stems.” This was the result: <https://www.americanscientist.org/article/flowers-and-ribbons-of-ice>. From the September – October 2013 publication, American Scientist, the author, James Richard Carter, writes: “if the weather conditions and the local flora are just right, you might come across fleeting, delicate frozen formations sprouting from certain plant stems, literally a garden of ice.”

Because Historic Rivers Chapter members are “nature nerds” and want more science not less, I am including extensive excerpts from this article below, always in quotation marks. Mr. Carter describes his own discoveries of “natural ice sculptures” starting in 2003 when hiking in Tennessee. What's interesting to Master Naturalists in the coastal plain of Virginia is his 2006 collection of seeds from the site of his first



discovery of ice sculptures. The Tennessee seeds were from “white crownbeard (*Verbesinia virginica*), a cousin of one of our local favorites yellow crownbeard, (*Verbesinia occidentalis*). As we know, the edges at Jamestown are stuffed with yellow crownbeard.

Mr. Carter took seeds back to his own yard in Illinois and reports that the following year he had ice flowers around the stems of the white crownbeard. Mr. Carter goes on to summarize the documented study of such ice formations from 1833 through 1913. Per Mr. Carter:

*“A century later, ice flowers remain something of an enigma. There isn't even a consensus about what to call them. Ice flowers are also commonly known as ice fringes, ice filaments, rabbit ice, and frost flowers. That last one is a bit of a misnomer because they do not form in the same way as frost. Bob Harms of the University of Texas at Austin's Plant Resources Center has proposed the name *crystallofolia* (Latin for “ice leaves”) to describe these unusual formations. (Similarly odd ice structures can sometimes occur on rocks or from pipes; see more about these phenomena on the next pages.)”*

But back to plant stems.

Mr. Carter started growing his own ice flowers and realized: “there has been little formal study of the process, but by gathering together what is known, a picture is starting to emerge. Not all plants will produce

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ice. I've compiled verifiable reports of about 40 species worldwide that are known ice-flower producers. All appear to be herbaceous species, meaning they lack woody stems, and their leaves and shoots die back at the end of their growing season. Although most ice flowers are associated with dead stems, some can occur on green stems near the end of the growing season when the temperatures are right. In addition, another ice formation, called hair ice, grows only from dead wood."

Mr. Carter continues:

*"To add some clarity, Bob Harms [of the University of Texas at Austin's Plant Resources Center] made detailed observations of plants that produce ice flowers. He notes that their stems all contain pronounced xylem rays, vessels that transport sap from the center to the periphery of the stalk. Because ice flowers grow perpendicular to the stem, it seems likely that these vessels are their fluid source. Harms suggests that non-ice producing plants may have less developed xylem rays. But he has struggled to identify the exact range of pore spacing and water permeability that enables certain plant stems to turn water into these specific shapes of ice."*

*"Once the water emerges from the stem, on the other hand, the process that produces the ice growth is now known: ice segregation, whereby water moves through a medium (be it a plant stem, piece of wood, soil, or rock) and freezes at a colder surface. In 1989, Hisashi Ozawa and Seiiti Kinoshita of Hokkaido University demonstrated this process by placing an ice crystal on top of a microporous filter, which in turn was overlying a pool of water that was supercooled. (A supercooled liquid is one in which the temperature is below freezing but the liquid cannot solidify without some kind of imperfection, or nucleation site, such as a speck of dust or an ice crystal, to seed the process.) The filter pores were so small that ice could not move through them, but water could. As it flowed to the surface, the water froze to the base of the ice, added to it and pushed it upward, and in the*

*process released latent heat from crystallization. That warmth kept the water below from freezing, allowing the cycle to continue for as long as the water supply was available."*

*"In the case of ice flowers, similar conditions most commonly emerge overnight, as the air temperature falls below freezing while the moisture in the ground remains unfrozen. But I have seen ice start to grow on plant stems in mid-afternoon when cold air flows into the area. Once the soil freezes to some depth these processes cease, but when thawing occurs they may be renewed. In the middle latitudes, the right conditions for ice flowers can happen any time between mid-fall and early spring."*

Back to our finds at Jamestown.

Were the ice flowers we found around stems of our native yellow crownbeard? Hard to know for sure. But I'm willing to "guess" that they were. And what produced the rings of ice formations? The description above: "As it flowed to the surface, the water froze to the base of the ice, added to it and pushed it upward" – gives the answer. "Added to it" is the key. The process keeps adding ice to the formation and pushes it up or out.

There's still lots of winter left for our area. Be on the lookout for ice flowers wherever you go. Inquiring minds...well, you know the rest.



## Cohort XV, Part One!

*This is Part One of an ongoing series of introductions to the Historic Rivers Chapter's newest group of Master Naturalist Trainees: Cohort XV!*



**Cheryl Roettger**

As a retired elementary school teacher and Nature Center volunteer, this program has provided an opportunity for me to gain more knowledge of the natural world and its inhabitants. I am also a JCC/W Master Gardener so my skill set includes

working with plants, teaching children, and instilling in the public a respect for nature through various projects. I have enjoyed volunteer projects and I especially enjoyed the kayaking event at Waller Mill Park!



**Dave Stansbury**

I joined Cohort XV because I want to learn more about our local environment and to give back to the world that we live in. I am an active member of the Williamsburg Volunteer Fire Department and the Virginia Medical Reserve

Corps. I am handy with most any tool and like to build things. I like to get my hands dirty. I am very interested in wetland habitat and really enjoyed the VIMS field trip.



**Barbara Creel**

I applied to the HRC VMN because I wanted to learn more about what I was photographing and educate my grandchildren, so they will have a conscious outlook or better awareness of nature and the world surrounding us. I collect old camera

equipment. I enjoyed the picnic the best: meeting so many of the Master Naturalists, building a blue bird box, walking the wooded area and discussing what we were looking at.



**Emily Argo**

I joined Cohort XV to take advantage of all the great volunteer opportunities! I spend a lot of my free time on the water rowing and paddleboarding (when it's warm enough!). For half my life, my specialty was dance (ballet,

modern, and jazz). My favorite activity so far has been FeederWatch.



**Bill Grass**

I joined the VMNs because I found the common focus of making a difference helped me turn outward instead of inward. I make ice cream. If I have a specialty, it is making and fixing things. I really enjoyed pulling English Ivy on the W&M campus.

*The Naturalist* is the monthly newsletter of the Historic Rivers Chapter of Virginia Master Naturalists. It is a membership benefit for current members of HRC.

Newsletter contributions are due by the 15th of the month for inclusion in the issue distributed to the HRC Google Group by the end of the month. Send your ready-to-publish photos, notices, stories, or reports to The Naturalist's newsletter editor at:

[HRCenewsletter@gmail.com](mailto:HRCenewsletter@gmail.com)

Make sure your work is formatted and labeled properly. Please make sure your copy is error-free. We are happy to help you if you have questions!

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