Wild News

The Bi-monthly Newsletter of the Prince William Wildflower Society

A Chapter of the Virginia Native Plant Society

Number 2021 - 01 **January - February 2021**

The Prince William Wildflower Society
2021 Winter Slideshow via Zoom
Thursday, January 7, 7:30 pm

Please plan to join us for our annual members' winter slideshow.

President's Column

Farewell, 2020! How happy I am to write that! What a year it has been with the challenges of Covid-19 and a divisive presidential election. Let's hope that 2021 is a year of healing in all interpretations of the word.
Meanwhile, we will continue to hold our PWWS meetings virtually through Zoom. January is the month of our Annual Member Slide Show, and we will continue that tradition in 2021. We may not have traveled much in 2020, but we are fortunate to have so many beautiful natural areas around us where we can view our beloved flora. Vice president Val Neitzey is our program chair; please notify her at val@shanessigns.com if you plan to share some of your photos.

Despite our significant challenges, we managed to accomplish more than expected this past year. One highlight was our most successful ever author event in February when Doug Tallamy presented on his new book *Nature's Best Hope*. This was our second occasion with Tallamy, and this time we had at least ten co-sponsors and a full house of 200 participants. We were fortunate to conduct this event because his later appearances in the area and beyond were canceled outright or rescheduled as Zoom events because of the pandemic. (Elsewhere in this issue of Wild News, we talk about the 2021 Author Event.)

We held the following programs and missed only the May meeting as we adjusted to conducting meetings through Zoom:

- January: Member Slide Show with photos from Brigitte Hartke, Janis Stone, and me.
- March: *"Herbivory: Why it is Important that Plants Get Eaten"* with ecologist Charles Smith.
- July: *"Reforesting the Land: Prince William County's Efforts, Past and Present"* with urban forester Julie Flanagan. (Zoom)
- September: Botanical Art with artist Elena Maza Borklund. (Zoom)
- November: *Insects and the Milkweed Community* with photographer and amateur entomologist Judy Gallagher. (Zoom) Available for viewing at https://vimeo.com/481769726.

We were unable to conduct our annual spring wildflower garden tour and native plant sale this past year, but we did share plants from our gardens for donations to the Society. Though a far cry from our usual net of $3000 or more, we did manage to raise several hundred dollars this way.

Earlier in December we purchased an eight-foot White Oak (*Quercus alba*) from Stadler Nursery, and two of its staff planted it on the front lawn of the old Prince William Courthouse in Manassas just before our first snow. Several large trees on the grounds came down in recent years, and the lawn just screamed for some trees. We chose a stately White Oak because of its importance as a wildlife tree and because the ample space will allow it to spread its mighty branches. We hope to schedule a formal dedication in the spring.

Also in December, I testified (virtually) before the Prince William County Planning Commission on behalf of PWWS regarding the Independent Hill Small Area Plan. I asked that a privately-owned undeveloped 161-acre mostly forested property within the Prince William (National) Forest Park legislative boundary be preserved. Developers hope to site a data center on part of the property. The headwaters of Quantico Creek are located on this property. I noted that the federally threatened orchid, Small Whorled Pogonia (*Isotria medeoloides*) is found nearby and could be on the property. I also pointed out that disturbance will invite invasive species into the site and nearby national park. Several land conservation organizations are discussing strategies to purchase the entire property, but such efforts take time. The Planning Commission voted in our favor, 5-3, to recommend denial of the entire small area plan. The issue moves to the Board of County Supervisors for final disposition, with an expected public hearing date of January 19, 2021. We hope that we can count on your support and letters to show that the citizens would like this property to become part of the park. I'll send out an action alert with more information as the time nears.

With new Conservation Chair Jocelyn Meloy at the helm, we plan to increase our efforts at invasive plant removal. She led a small group effort at Manassas Battlefield recently, and we hope to increase our volunteer contingent.

On the subject of invasive plants, we have some important legislative news to share. A coalition of conservation organizations including VNPS, Audubon of Northern Virginia, Piedmont Environmental Council, Sierra Club, and others have contacted two state legislators to introduce a resolution to require a study to determine ways to reduce or eliminate the sale of plants that appear on the state list of invasives. Once again, we will need your support in contacting key legislators to make this a reality. We have no bill numbers to share at this point, but once we do, we will be sending out more information on how you can help.

Happy New Year! See you on Zoom.
Nancy

Prince William Wildflower Society
Membership Meeting Minutes
Thursday, November 5, 2020 7:30 p.m.
On Zoom

President Nancy Vehrs called the meeting to order and welcomed all who were signed into Zoom. (There were 52 participants.)

Treasurer Valerie Kenyon Gaffney reported $1,372.37 in the PWWS checking account and $11,926.85 in the savings account.

Announcements:
Nancy introduced Conservation Chair Jocelyn Meloy. She announced a volunteer opportunity to pull invasive plants at Manassas National Battlefield Park on Tuesday, November 17, from 1 to 3 p.m. at Chinn Ridge. Volunteers are asked to meet at the New York Monument.

In Virginia Native Plant Society news, Nancy announced that the Flora of Virginia Foundation Board will be installing a new Board of Directors. Our Botany Chair, Marion Lobstein, has served on the Board for 20 years and has helped with the project of publishing the book and now the second version of the app. Marion said she and the outgoing board members are 'tired,' and they welcome newcomers! The VNPS statewide fundraiser this year is for the Flora of Virginia Project Foundation as it positions itself for the future. Appeal letters will be in the mail soon.

On Thursday, January 7, 2021, the PWWS meeting will include the annual slide show-on Zoom, of course. If you have pictures you would like to show of (mostly) native plants from your travels, parks, or your own back yard, please let Vice President and Program Chair Val Neitzey know at 571-259-0044.

Program:
Nancy introduced our speaker, Judy Gallagher, who is a charter member of PWWS. Her talk, entitled *Insects and the Milkweed Community,* included macro pictures she had taken and discussions of the importance of milkweeds to many insects. We are familiar with butterflies and bees sipping nectar from the milkweed flowers, but milkweed bugs insert their proboscis into a seed and suck the insides out — who knew? They also feed on leaves and stems of milkweed and are recognizable with their orange-and-black coloring.

Judy showed a photograph of a spring beauty bee, covered with pink pollen from spring beauties. That bee was beautiful and important to the pollination of spring beauties. Many other insects were shown, and the milkweed community was just one example of how native plant communities are so necessary to our important insects.

Judy relayed a list of threats to the insects that included: predators, climate change, habitat loss, pesticides, light, air and water pollution, diseases, and nonnative species. What can we do? Plant natives, do not use pesticides, try to create contiguous habitat, and join Citizen Science, sometimes described as 'public participation (non-professionals) in scientific research.' (See two websites: www.citizenscience.gov and www.nationalgeographic.org/idea/citizen-science-projects)

Thank you, Judy. Your photographs were so well done, and the talk was highly informative.

Karen Waltman, Secretary

UPCOMING EVENTS, 2021

With most VNPS chapters holding their meetings and programs virtually via ZOOM for the foreseeable future, we have the opportunity to register for meetings that, pre-covid, we would not easily have been able to attend. Here are some upcoming events.

January

Tuesday, January 5, 2021, 7 pm via Zoom
The Botanical Society of Washington is pleased to invite you to a Zoom event. Plantsman and Owner of Plant Delights, Tony Avent, will be speaking on the topic of *"High and Dry — The Wonderful, Wild, World of Crevice Gardening"*. Tony Avent is a renowned horticulturist, plant-explorer, and leader in the propagation and hybridization spring ephemerals and hostas. Zoom Link: https://smithsonian.zoom.us/j/8687584555?pwd=WllwQ1ZCMEhkZWZvem1jQURDeHh3UT09

Tuesday, January 12, 7 - 9 pm via Zoom
VNPS-New River Meeting and program: The Flora of Virginia Mobile App Overview with Marion Lobstein & Sally Anderson. There will be a prerecorded powerpoint presentation. Both presenters are board members of the Flora of Virginia Foundation and the Flora of Virginia project; they will show how to use this app more effectively. Please contact nrchaptervnps@gmail.com for meeting access information. And here you will find links to download the app for Android and iOS devices: https://vnps.org/newriver/events/new-river-chapter-meeting-5-2021-01-12/

Wednesday, January 13, 7 - 9 pm
VNPS: What's being done to protect Virginia's native plants? Chris Ludwig will examine the mounting threats to our native flora and show what's being done to mitigate these threats. The critical conservation work is shared among numerous government agencies, private and non-profit organizations, and individuals.
Registration for this will open in January.

Thursday, January 14, 7 - 9 pm via Zoom
Pocahontas Chapter Meeting and Program: *"The Surprising Pollination Biology of Native Azaleas"*. Mary Jane Epps will share recent discoveries and ongoing efforts to explore the surprising pollination biology of Virginia's native azaleas (*Rhododendron sp.*). Mary Jane is assistant professor of biology at Mary Baldwin University where she teaches botany ecology, and conservation biology. https://vnps.org/pocahontas/

Thursday, January 14, 7:30 - 9 pm, via Zoom
VNPS: Charles Smith presents the program, *"Climate Change and the Need to Make Space for Nature"*. Charles is a naturalist and ecologist with 27 years of experience in natural resource inventory, planning, management and monitoring.

February

Saturday, February 6, 9 am - 12 noon Third Annual Prince William Native Plant Symposium Feb 6, via Zoom

Brought to you by PWWS/VNPS and other partners. This will be offered virtually from 9 am – noon on Saturday, February 6, and registration is now open. Alonso Abugattas will be the keynote speaker, presenting *"Nature's Puzzle: The Interconnectedness of Nature"*; a choice of two breakout sessions will be offered, all for just a $5 registration fee. Register: https://www.eventbrite.com/e/stop-mowing-start-growing-3rd-annual-native-plant-symposium-for-beginners-tickets-133260322211 Event capped at 300 participants. As of December 28, there were 181 slots remaining; Sales end on January 31.

Thursday, February 11, 7:30 - 9 pm, via Zoom
Potowmack Chapter will host this talk — *"Life in Your Wild Garden"*— given by VNPS's Horticultural Chair, Laura Beaty. Growing numbers of gardeners are incorporating native plants into their landscapes. Join in to see inside a wild garden — then look deeper into yours. Registration will open in February.
https://vnps.org/potowmack/

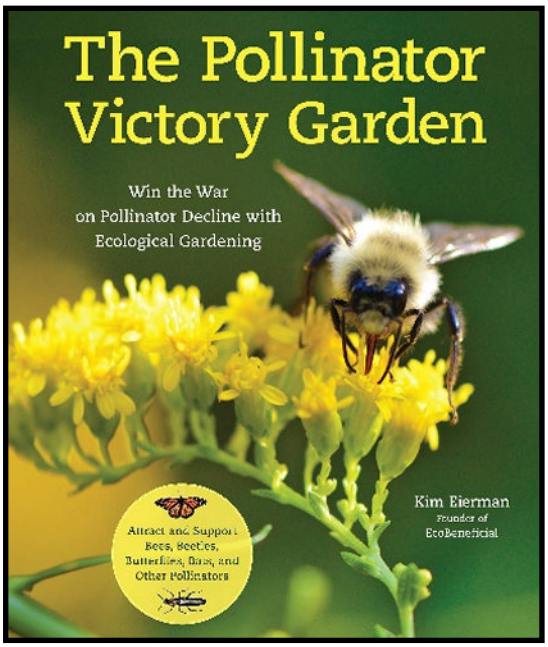
Saturday, February 20, 9:30 am - 12:30 pm,
17th Annual Eco-Savvy Gardening Symposium
VCE Green Spring Master Gardeners present "Integrated Stormwater Management in Landscape Design" with speakers Dr. Laurie Fox and Christine Horner. Learn innovative techniques to capture, store and redirect rainwater. Registration (703) 642-5173

February 21 Author Event

In keeping with our string of annual author events in the month of February, **Kim Eierman**, author of *The Pollinator Victory Garden*, will be our guest speaker on Sunday, February 21 at 2 p.m. through Zoom. As she says, "You don't have to be an entomologist to realize that pollinators are in trouble, and you don't have to be a professional landscaper or horticulturist to do something about it."

Kim asserts that the passion and urgency that inspired WWI and WWII Victory Gardens is needed today to meet another threat to our food supply and our environment—the steep decline of pollinators. The Pollinator Victory Garden offers practical solutions for winning the war against the demise of these essential animals.

Kim Eierman is the Founder of EcoBeneficial. She is an environmental horticulturist and ecological landscape designer specializing in native plants. Based in New York, Kim teaches at the New York Botanical Garden, Brooklyn Botanic Garden, The Native Plant Center in NY, Rutgers Home Gardeners School and several other institutions. Kim is an active speaker nationwide on many ecological landscape topics, presenting for industry conferences, "green events," Master Gardener groups, garden clubs, nature centers, Audubon Society chapters, beekeeping groups, and other organizations interested in environmental improvements. Kim also provides horticultural consulting and landscape design to homeowners and commercial clients.



In addition to being a Certified Horticulturist through the American Society for Horticultural Science, Kim is an Accredited Organic Landcare Professional, a Steering Committee member of The Native Plant Center, and a member of The Ecological Landscape Alliance and the Garden Communicators International.

Registration for this event is free and open to the public. Register in advance for this meeting: https://us02web.zoom.us/meeting/register/tZwpdO2pqj8jHNCLNrgeG1XzhHf_Yu9Cz9SE After registering, you will receive a confirmation email containing information about joining the meeting. Some co-sponsors of this event are Prince William Conservation Alliance, Bees in Schools, and Elisa Meara's Native Plant Design Corp, among others.

Ferns & Fern-Allies Checklist

By Marion Lobstein

Botany Chair, PWWS; Professor Emeritus,
Northern Virginia Community College

[This article is a reprint of the same titled article in November-December 2014 *Wild News*. The scientific names used in this article are based on the nomenclature of the *Flora of Virginia* (1st edition 2012, 2nd printing with corrections) and the current Flora of Virginia Mobile App (2017-end of 2020). A major update of the App will be available in early 2021 with nomenclatural updates.]

In late fall and winter the weather is often still mild enough for a brisk walk through the woods. We tend to think this time of year a dreary and uncolorful season, but if you look closely in the woods, you may still see green foliage or other patterns of color. Lichens, mosses, and some fungi, such as bracket fungi, persist through the winter and are interesting to observe, especially with a little magnification. The seed pods or berries of many flowering plants also persist through the winter and are worth the effort to try to identify. Some flowering plants retain leaves through the winter: Hepatica, Spotted Wintergreen, Cranefly Orchid, Rattlesnake Weed, and some of the mustard family members, are only a few. Of course, Skunk Cabbage hoods are up in December and bloom by January. [See the January-February 2014 issue of *Wild News* https://vnps.org/princewilliamwildflowersociety/wp-content/uploads/filebase/pwws/pwws_wild_news/pwws_newsletters_2014/Wild-News-January-February-2014.pdf for additional information on Skunk cabbage.] Hepatica may start to bloom by late January.

Another group of evergreen winter plants too often overlooked are the Fern and Fern allies, such as Horsetails, as well as the Lycophytes (Clubmosses, Spikemosses, and Quillworts). Lycophytes once were considered fern allies, but now are treated as a separate taxonomic group. (This separation is discussed briefly in the taxonomic article below.) For information on the Lycophytes in our region, please refer to *Wolf's Paws*: "An Ancient and Interesting Group of Fern Allies" and "Taxonomy of Lycophyaceae" [http://vnps.org/princewilliamwildflowersociety/botanizing-with-marion/ or see the January-February 2013 issue of *Wild News* (http://vnps.org/princewilliamwildflowersociety/download/newsletter_2013/WILD-NEWS-January-February-2013.pdf)]. This information on the Lycophytes will be updated in a future Wild News article.

Below is an updated checklist of Fern and Horsetail species documented to occur in the Northern Virginia region over to Shenandoah County. Species marked with an asterisk* are evergreen species or semi-evergreen and may be enjoyed during the winter months. Even with the species that are not evergreen or semi-evergreen, there may be parts of the fern visible especially during a mild winter.

Athyriaceae (Lady Fern Family) (Added Family)
__ *Athyrium asplenioides* - Southern lady fern
__ *Deparia acrostichoides (A. thelypteriodes)* - Silvery glade fern,

Aspleniaceae (Spleenwort Family) (No changes)
__*Asplenium bradleyi* * - Bradley's spleenwort
__*Asplenium montanum* * - Mountain spleenwort
__*Asplenium pinnatifidum* * - Lobed spleenwort

__*Asplenium platyneuron* * - Ebony spleenwort
__*Asplenium resiliens* * - Blackstem spleenwort
__*Asplenium rhizophyllum* (*Camptosorus rhizophyllus*) * - Walking fern
__*Asplenium ruta-muraria* * - American wall-rue
__ *Asplenium trichomanes* *- Maidenhair spleenwort

Blechnaceae (Chain Fern Family) (Changes)
__ *Lorinseria areolata (Woodwardia areolate*) - Net-vein chain fern
__ *Anchistea virginica (Woodwardia virginica*) – Virginia chain fern

Cystopteridaceae (Brittle Fern Family) (New Family)
__ *Cystopteris bulbifera* - Bulblet fern
__ *Cystopteris protrusa* - Lowland brittle fern
__ *Cystopteris tenuis* (*Cystopteris fragilis*)– Fragile fern
__ *Gymnocarpium appachianum* (*Gymnocarpium dryopteris*)-Appalacian oak fern

Dennstaedtiaceae (Brachen Family) (No changes)
__ *Dennstaedtia punctilobula* - Hay-scented fern
__ *Pteridium aquilinum* (two ssp)– Bracken fern

Diplaziopsidaceae (Glade Fern Family) (No changes)
__ *Homalosorus pycnocarpos* (*Athyrium pycnocarpon*) - Glade fern

(The Ferns and Horsetail species checklist continues on the following page)

Checklist continuation:

Dryopteridaceae (Wood Fern Family) (Changes)
__*Cyrtomium falcatum** –Net-veined holly fern [added-an introduced species that has naturalized in Virginia]
__ *Dryopteris carthusiana* (*Dryopteris spinulosa*)* - Wood fern, spinulose
__ *Dryopteris celsa* * - Log fern
__ *Dryopteris cristata* - Crested wood fern
__ *Dryopteris erythrosora*- Japanese red shield fern [added-an introduced species that has naturalized in Virginia]
__ *Dryopteris goldiana* - Wood fern, Goldie's
__ *Dryopteris intermedia* * - Wood fern, intermediate
__ *Dryopteris marginalis* * - Wood fern, marginal
__ *Polystichium acrostichoides* *- Christmas fern

Equisetaceae (Horsetail Family) (Changes)
__ *Equisetum arvense* * - Field horsetail
__*Equisetum fluviatile* * - Scouring rush [Added]
__ *Equiestum praealtum (Equisetum hyemale*)* - Tall scouring rush [Change]
__ *Equisetum syvaticum* * - Woodland horsetail

Lygodiaceae (Climbing Fern Family)
__ *Lygodium palmatum* - Climbing fern

Onocleaceae (Sensitive Fern Family)(No Change)
__ *Matteuccia pensylvanica* - Ostrich fern
__ *Onoclea sensibilis* - Sensitive fern

Ophioglossaceae (Adder's-Tongue Family) (Changes)
__ *Botrychium matricariaefolium* * – Daisyleaf grape fern or moonwort
__ *Botrypus virginianus* (*Botrychium virginianum)* *– Rattlesnake fern

__ *Ophioglossum engelmanni* * - Engelmann's adder's-tongue [Added}
__ *Ophioglossum pycnostichum (Ophioglossum vulgatum*)*- Southern Adder's-tongue
__ *Sceptridium biternatum (Botrychium biternatum)* *- Southern grape fern
__ *Sceptridium dissectum* (*Botrychium dissectum*) *- Cut-leaf or dissected grape fern
__ *Sceptridium multifidum* (*Botrychium multifidum*) *– Leathery grape fern (only at Big Meadows area in SNP)
__ *Sceptridium oneidense* (*Botrychium oneidense)* *- Grape fern, blunt lobed

Osmundaceae (Royal Fern Family) (No Changes)
__ *Claytosmunda claytoniana (Osmunda claytoniana*)- Interrupted fern (Change)
__ *Osmunda regalis* - Royal fern
__ *Osmundastrum cinnamomea* (*Osmunda cinnamomea)* - Cinnamon fern

Polypodiaceae (Polypody Family) (Changes)
__ *Pleopeltis michauxiana* (*Pleopeltuis polypodioides)*, (*Polypodium polypodioides*) * -Resurrection fern (change)
__ *Polypodium appalachianum* * (?) – Appalachian rock polypody
__ *Polypodium virginianum* * – Common rock polypody

Pteridaceae (Maidenhair Fern Family) (No Changes)
__ *Adiantum pedatum* - Maidenhair fern
__ *Cheilanthes lanosa* * - Hairy lip fern,
__ *Pellaea atropurpurea* * - Purple cliff-brake
__ *Pellaea glabella* * – smooth cliff-brake

Salviniaceae (Floating Fern Family) (No Changes)
__ *Azolla caroliana*-Eastern mosquito fern, water fern

Thelpteridaceae (Marsh Fern Family) (No Changes)
__ *Parathelypteris noveboracensis* (*Thelypteris noveboracensis)* - New York fern
__ *Phegopteris hexagonoptera* - Beech fern
__ *Thelypteris palustris (Thelypteris thelypteris or Dryopteris thelypteris*)- Marsh fern

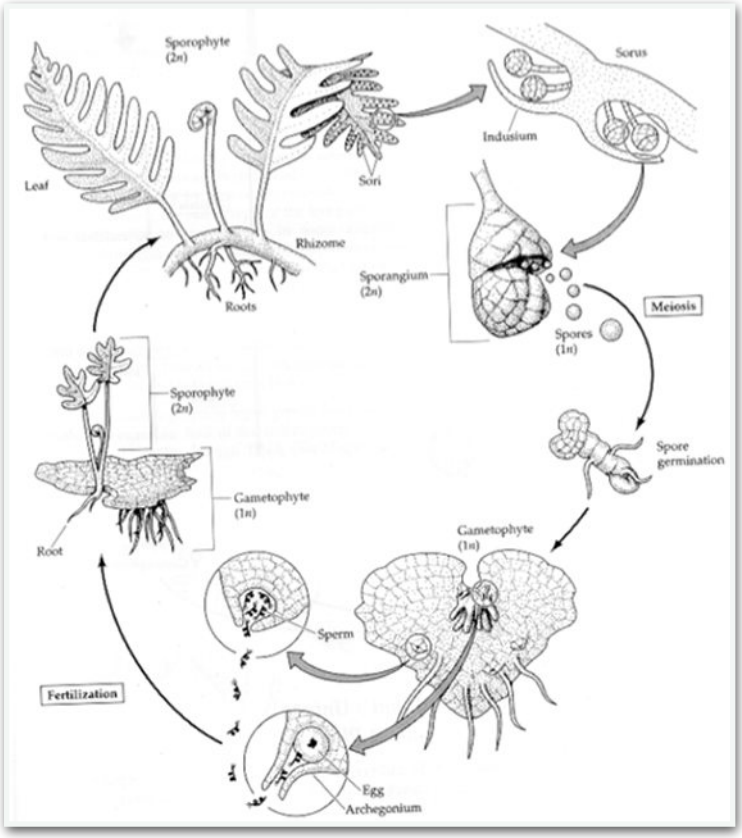
Woodsiaceae (Lady Fern Family) (Changes)
__ *Woodsia ilvensis* - Rusty woodsia or cliff fern
__ *Woodsia obtusa* - Blunt-lobed woodsia or cliff fern

Taxonomic Changes in Pteridophytes

By Marion Lobstein,
Botany Chair, PWWS; Professor Emeritus,
Northern Virginia Community College

The taxonomic treatment of Virginia's vascular plants in the *Flora of Virginia* is based on dichotomous keys and descriptions of family, genera, and species of five groups of vascular plants. (Vascular plants are characterized by specialized vascular tissues, xylem and phloem, which conduct water and sugars throughout the plant). Of the vascular plants, Lycophytes and Pteridophytes make up the seedless groups; Angiosperms, which are further divided into dicots and monocots, and Gymnosperms form the three groups that are seed plants.

Seedless vascular plants produce free living stages. The first stage, called a gametophyte or the gamete forming stage of the plant, produces flagellated sperm and eggs. Sperm are released into a film of water to swim to structures on the gametophytes that contain eggs. The sperm fertilize the eggs to form embryos that then develop into the sporophyte stage, which produces spores. Spores in turn produce the gametophyte stage. Unlike seed plants, embryos are not encased in a seed with a food supply and a protective covering, thus they are called seedless plants. Bryophytes (mosses, liverworts, and hornworts) are a major group of plants that lack true vascular tissues and thus are not covered in the *Flora of Virginia*. Seedless vascular plants with true vascular tissue, the Lycophytes and the Pteridophytes, are included. The "Key to Families" on page 92 of the *Flora of Virginia* begins with the first pair of choices (a couplet) describing the gametophyte stage of a Lycophyte or Pteridophyte. Some ferns, such as species of *Vittaria* and *Crepidomones,* are found only in their gametophyte stage.



The 1762 edition of *Flora Virginica* used class "Ficiles" to cover the horsetails and ferns known at that time in Virginia. Over twelve genera of ferns and horsetails included in the 1762 edition are still recognized in the *Flora of Virginia* published 250 years later in 2012. The clubmosses were included with the mosses in the *Flora Virginica*. But by the 1800s, Asa Gray and other botanists were separating out the Lycophytes into their own order along with spikemosses and quillworts. By the late 1800s and early 1900s the Lycophytes often were considered fern allies along with the horsetails and whiskferns. By the 1990s, plant taxonomists, such as Arthur Cronquist, were separating Lycophytes from Pteridophytes. As DNA analysis of plants has become more practical and more widely used, the genetic differences between these two groups has become more obvious. Fossil evidence, as well as structural differences of the leaves and even the sperm of these groups, has supported the idea that Lycophytes evolved as one of the earliest groups of vascular plants and are as distinct from Pteridophytes as these are from the seed plants. This genetic evidence also has shown that the horsetails and whiskferns, once treated as quite distinct from ferns, actually are closely related to the ferns and should be included with fern taxonomy.

Until the 1960s, most taxonomists lumped most genera of typical ferns into Polypodiaceae. In the 2012 *Flora of Virginia*, however, many of the families of ferns, as you can see by the included chart, seem "new." But, of the eighteen families of ferns and fern allies in the *Flora of Virginia*, nine families were proposed in the 1800s.

In the 2010s the idea of a group to update the taxonomy of Pterigophytes (Lycophytes and Ferns and Fern Allies) began to take shape. This group is called the Pteridophyte Phylogeny Group (PPG) and is made up an informal coalition of international systematic botanist. In 2016 this group published an updated classification of ferns and lycophytes which is based on phylogenetic studies including DNA studies. A number of these updates played a role in updating the taxonomy of ferns and horsetails as well as Lycophytes in the updated Flora of Virginia App..

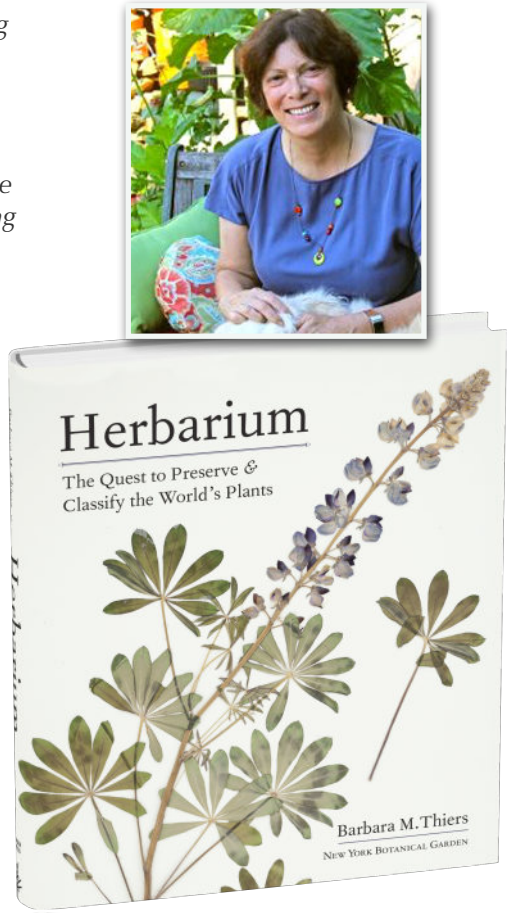
Try to see and enjoy some of these beautiful Pteridophytes this winter as well as the rest of the year—whatever name changes there may be!

Pteridophyte (Ferns and Fern Allies) Plant Families in *Flora of Virginia*	Authority and date family name proposed	Common Names	No. Spp. in Article	Genera	Notes on Changes Compared to "Traditional" Floras and in Flora II App
Pteridophyte Families					
Horsetails (Fern Ally):					
Equisetaceae	Richard 1805	Horsetails	4	*Equisetum*	*Equisetum fluviatile* - Scouring rush added, *Equiestum praealtum formerly Equisetum hyemale* - Tall scouring rush
Ferns: 17 families					
Aspleniaceae	Frank 1877	Spleenworts	8	*Asplenium*	Genus formerly included in Polypodiaceae
Athyriaceae	Alston 1956	Lady & Silvery Glade Ferns	2	*Althyrium, Deparia*	*Althyrium & Deparia* formerly included in Woodsiaceae
Blechnaceae	Presl 1947	Chain Ferns	2	*Lorinseria, Anchistea*	Genus formerly *Woodwardia*
Cystopteridaceae	Shmakob 2001	Fragile & Oak Ferns	2	*Cystoperis, Gymnocarpium*	*Cystoperis & Gymnocarpium* formerly included in Woodsiaceae
Dennstaedtiaceae	Sermolli 1970	Hay-Scented & Bracken Ferns	3	*Dennstaedtia* and *Pteridium*	Genera both formerly included in Polypodiaceae
Diplaziopsidaceae	Zhang & Christenhusz 2011	Glade Ferns	1	*Homalosorus*	*Homalosorus* formerly *Athyrium*
Dryopteridaceae	Ching 1965	Wood/Shield, Christmas, & Net-Veined Holly Ferns	10	*Cyrtomium, Dryopteris,* and *Polystichum*	*Cyrtomium,* the Net-Veined Holly is an introduced spp.that has naturalized and has been added to App
Lygodiaceae	Presl 1845	Climbing Ferns	1	*Lygodium*	Genus formerly in Schizaeaceae
Marsileaceae	Mirbel 1802	Water-Clover Ferns	1	*Marsilea*	Not included in original 2014 article in *Wild News*
Onocleaceae	Sermolli 1970	Ostrich & Sensitive Ferns	2	*Matteuccia* and *Onoclea*	Genera in this family formerly included in Polypodiaceae
Ophioglossaceae	Agardh 1822	Grape and Adder's-Tongue Ferns	8	*Botrychium, Botrypus, Ophioglossum,* and *Sceptridium*	Genus *Botrychium* formerly included genera *Botrypus* and *Sceptridium*
Osmundaceae	Berchrold & Presl 1820	Cinnamon, Royal, & Interrupted Ferns	3	*Osmunda and Osmundastrum*	Genus *Osmunda* formerly included genus *Osmundastrum* (Cinnamon Fern)
Polypodiaceae	Berchrold & J. C. Presl 1820	Polypody Ferns	3	*Pleopeltis and Polypodium*	Genus *Polypodium* formerly included genus *Pleopeltis.* Formally included genera in 7 fern families described in *Flora of Virginia*.
Pteridaceae	Reichenbach 1837	Maidenhair, Lip, Cliff-Brake, and Shoestring Ferns	9	*Adiantium, Cheilanthes, Pellaea,* and *Vittatia*	Genera *Adiantium*, *Cheilanthes* and *Pellaea,* formerly included in Polypoiaceae. *Vittatia* (only found in the gameotophyte stage in VA) formerly included in Hymenophyllaceae.
Salviniaceae	Dumortier 1829	Mosquito Ferns	1	*Azolla*	Genus formerly in Azollaceae
Thelypteridaceae	P. Sermolli 1970	Bog, Beech, and Marsh Ferns	3	*Parathelperis, Phegopteris, and Thelipteris*	Genera in this family formerly included in Polypodiaceae; Genera *Parathelperis* and *Phegopteris* formerly included in genus *Thelipteris*
Woodsiaceae	Herter 1949	Woodsia Ferns	2	*Woodsia*	All genera in this family formerly included in Polypodiaceae; Genera *Athyrium* & *Deparia* now in Athyriaceae and *Cystoperis & Gymnocarpium* now in Cystopteridaceae

New Books:

"Herbarium"

by Barbara M. Thiers



"Herbarium is a fascinating enquiry into this unique field of plant biology, exploring how herbaria emerged and have changed over time, who promoted and contributed to them, and why they remain such an important source of data for their new role: understanding how the world's flora is changing. Barbara Thiers, director of the William and Lynda Steere Herbarium at the New York Botanical Garden, also explains how recent innovations that allow us to see things at both the molecular level and on a global scale can be applied to herbaria specimens, helping us address some of the most critical problems facing the world today."

from PublishersWeekly.com: Barbara Thiers . . . . . delivers a fascinating and beautiful resource for gardeners about her field—the study of plants via dried and preserved specimens. She begins by highlighting the pioneering Luca Ghini (b.1490), an Italian physician and professor who first advanced the study of plants' medicinal qualities from "a minor sub-discipline of medicine into an independent scientific endeavor." Ghini is credited for creating the first herbarium—a book filled with pressed specimens of plants, glued onto the pages alongside annotations about a particular plant's features, the circumstances behind its collection, its known medical properties, and other facts. "If handled carefully and kept protected from moisture, insects, and light," the author notes, "a dried plant specimen could be preserved in this manner indefinitely." Thiers tracks the discipline as it evolved, spurred by Renaissance scientific curiosity and more recently by technological advances, such as genetic sequencing tools that allow scientists to research extinct species using herbaria specimens. Today, she writes, there are some 390 million specimens held in 3,300 herbaria around the world, giving scientists a greater understanding of plant life generally, as well as a deeper understanding of how forces like climate change are affecting the environment. Green-thumbed readers will find this to be a stimulating intellectual adventure.

Barbara M. Thiers. Timber, $40 (304p) ISBN 978-1-60469-930-2

Others books that may be of interest:

The Southeast Native Plant Primer: 225 Plants for an Earth-Friendly Garden: Mellichamp, Larry, Gross, Paula, Stuart, Will: 9781604699913: Amazon.com: Books

Uprooted - Workman Publishing

Iwígara - Workman Publishing

https://www.workman.com/products/writing-wild

Prince William Wildflower Society Newsletter

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Prince William Wildflower Society

A Chapter of the Virginia Native Plant Society
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Next Meeting, Thursday, January 7, 7:30
2021 Member Slide Show via Zoom

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