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Bulletin

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Conserving wild flowers and wild places
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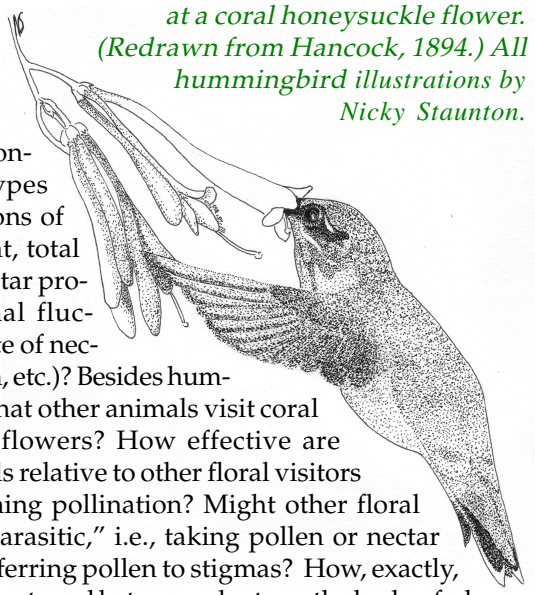
Hummingbirds

Pollination facts and fancy



Ruby-throated hummingbird feeding at a coral honeysuckle flower. (Redrawn from Hancock, 1894.) All hummingbird illustrations by Nicky Staunton.

Coral honeysuckle (*Lonicera sempervirens*), the 2014 VNPS Wildflower of the Year, is a classic example of a hummingbird-pollinated flower: bright red petals, often with contrasting yellow tones in the corolla throat, provide visual attraction, drawing hummingbirds to the flowers, where they are rewarded with a rich supply of nectar. Whereas hummingbirds have good color vision, they have a poor sense of smell. So it is not surprising that coral honeysuckle flowers are nearly scentless, at least to the human nose; even modern analytical instruments detect only traces of volatile molecules emanating from them. And open coral honeysuckle flowers, like those of many other hummingbird-pollinated species, are typically held in a slightly nodding orientation, which presumably makes it less likely that nectar will be diluted by rainwater. Coral honeysuckle exemplifies hummingbird-mediated ornithophily.

Consequently, it seems odd that there has been a dearth of formal, detailed studies of hummingbird pollination of coral honeysuckle. Oh, sure, one can easily find statements in books, scientific articles, and nature-based web pages linking the two organisms in the context of pollination. But my efforts to find a detailed study—using obvious search terms (*Lonicera sempervirens*, coral honeysuckle, pollination, ornithophily)—yielded little beyond brief mention of the most basic facts—information that could be easily confirmed by spending a few pleasant moments near the plants during their peak flowering time. It seems that a serious study of the phenomenon has yet to be undertaken.

Clever investigators of pollination biology could probe a wide array of questions by devising controlled experiments and carefully parsing direct observations: Will coral honeysuckle flowers produce seeds in the absence of pollinators? What are the dynamics of nectar production in the species (total sugar concentration, types and proportions of sugars present, total volume of nectar produced, diurnal fluctuations in rate of nectar production, etc.)? Besides hummingbirds, what other animals visit coral honeysuckle flowers? How effective are hummingbirds relative to other floral visitors in accomplishing pollination? Might other floral visitors be "parasitic," i.e., taking pollen or nectar without transferring pollen to stigmas? How, exactly, do pollen grains travel between plants on the body of a hummingbird? What is the efficiency of pollen removal by hummingbirds? What is the efficiency of pollen deposition on stigmas? How much pollen must be deposited on the stigma to yield viable seed formation?

My search for information on the topic did yield a rather old but interesting paper published in *The American Naturalist* (Hancock 1894). This paper recounts observations of pollen grains on the bodies of museum specimens of the ruby-throated hummingbird (plus one unlucky bird seized from the mouth of a cat belonging to a friend of the author!). Coral honeysuckle is mentioned in the paper and featured in one illustration, but the thrust of the paper involves microscopic detection of pollen grains on different portions of the birds' head. Hancock illustrates how pollen grains can be held between the vanes and barbs of feathers, and he carefully notes the presence of pollen on feathers from the cheek and

(See Hummingbirds, page 5)

Winter Workshop report, page 3 **Shale barrens field trip, page 7**

From the president

Savor the fleeting moments of spring

After our brutal winter, it's wonderful to welcome spring. This is the time of year when most of us are excited by tiny emerging leaves, swelling buds, and the return of migrating birds. Butterflies, bees, and other pollinators throng to our native plants, ensuring the continuing life cycle. It's a busy, exhilarating time of year that seems to pass in an instant. Garden duties compete for our time with hikes in the woods and environmental festivals. We are impatient for some flowers to bloom, though we mourn the passing of early spring ephemerals such as bloodroot. If only the redbud season overlapped better with the dogwood blooms. We are never satisfied, yet the succession of bloom times lengthens the spring season for us and gives us something new and exciting to anticipate. If everything peaked at once, the overstimulation might kill us! Relax and savor each bloom in its own time.

I'm pleased that so many of us attended this year's workshop on climate change. Unlike past years, this year we were able to accommodate everyone who wanted to participate, because we could seat more in this different venue at the University of Richmond. The topic of climate change seemed ironic after such a cold winter, but we learned that weather is highly variable from year to year. Climate takes a longer view. While the message from the speakers was alarming, they softened their words with many beautiful photographs. Elsewhere in this issue, you can read a wrap-up of the program. A DVD of the workshop will be made available to the chapters. Many thanks to Pocahontas Chapter members John Hayden, Ruby Jane Robertson, Suzanne Jenkins, Caroline Meehan, Daune Poklis, Dick Wills and Catharine Tucker, who provided logistical support and refreshments. Thanks also to Sally Anderson, who coordinated the program and produced the brochure. If you have ideas for workshop topics or speakers, please let us know.

Did you read that the "Flora of Virginia" exhibition opened at the Library of Virginia in Richmond in mid-March? Last year's VNPS fundraiser helped finance this outstanding exhibition, curated by Bland Crowder, of the Flora of Virginia Project. The exhibition will run through mid-September. I hope that many of you will be able to visit our commonwealth's library (located at 800 E. Broad St.) to view this extensive exhibition. A necessarily abbreviated (and two-dimensional) panel exhibit will begin traveling around the state after the exhibition closes, but see the full exhibition if you can.

Enjoy the spring. Summer will be here all too soon.

Your president, Nancy Vehrs

Society must give abundantly for the plants

In the years since my intensive recruitment to join VNPS (with gratitude to Carrie Blair), I have been impressed with the generosity of the VNPS membership in supporting the annual funding appeals. I have looked at our fundraising efforts over the past 10 years, and since 2004 we have raised anywhere from $8,000 to $21,500 per year. Each year, it seems, there is a compelling project needing our attention and our funding. The board chooses these projects, and an appeal goes out.

We have twice partnered with the Center for Plant Conservation in St. Louis to send people into the field to research an endangered species, harperella (*Harperella* [formerly *Ptilimnium*] *nodosum*) in 2005 and shale barren rock cress (*Boechera* [formerly *Arabis*] *serotina*) in 2011. Our goal each time was to raise $10,000 to fund study of genetics, historic range, and threats to survival for these species, and both years we exceeded our goal. Both species are found in Virginia, but they are exceedingly rare. Locally, we have raised funds to support the Virginia Natural Heritage Program's research on state or globally rare Virginia plants, in 2009 calling it our Natural Treasures Hunt.

Other years we had to think of the Society, and we worked to increase our presence in the state by supporting the establishment of more chapters. One year we worked to ensure our financial health by building up our Founder's Fund. Another year we raised money to build our website.

Dearest to all our hearts has been the *Flora of Virginia*, and in four years—2006, 2010, 2012 and 2013—we raised $62,000, all from your contributions to VNPS. This figure does not include the contributions you made

(See Search, page 4)

Focus on climate change at Winter Workshop

As we all know, climate change is one of the world's most intense current issues. It is rife with controversy, seen by some as an enormous threat to our ecological balance, and by others as a natural progression that has happened before and will happen again. Members of the Virginia Native Plant Society are as troubled by climate change as any. Naturally, our concern centers around the effects of climate change on our native flora. To help us understand this very singular phenomenon, the Society chose this topic as the theme for its Winter Workshop. Through the generous assistance of Conservation Chair and University of Richmond professor of biology and VNPS Botany Chair John Hayden, the Workshop was once again held on the beautiful UR campus, on March 1.

Nearly 100 people came together to hear four exceptional speakers discuss some of the significant issues of climate change and the native plant life of Virginia and beyond. We began our exploration of the climate change question with a discussion centered on understanding weather and climate. Jerry Stenger, research coordinator with the University of Virginia Climatology Office and a research scientist at UVA, led us off with a spirited talk that helped us grasp the factors that make up these two related but different subjects. Stenger explained that climate tends to encompass weather on a longer time scale. If you're looking at the dynamics of a particular thunderstorm, that's weather. If you want to know how frequent thunderstorms are, that's climate. In practice, there's a lot of overlap.

Once we were armed with this basic knowledge, the next step in our examination of climate change was led by Richard Primack, a professor of biology at Boston University, where his primary area of interest is the impact of climate change on plants and animals. He explained the unique and extensive study conducted in the 1850s by Henry David Thoreau of the flowering and leafing-out times of plants, the emerging of insects, and the variable response of migratory birds in his hometown of Concord, Massachusetts. Comparing Thoreau's detailed records with similar observations today, Primack and his colleagues have documented the striking differences between biological events of the 19th century and those of the 21st century. With arresting and beautifully presented data, he presented the differences over span of 150 years of climate change to the flora found around Concord. A detailed analysis of Primack's work may be found in his new book, *Walden Warming: Climate Change Comes to Thoreau's Woods.*

Jerry Stenger talks about the impact of climate change on the natural world.

An examination of the important role forests play in climate regulation was presented next by Kristina Anderson-Teixeira, of the Smithsonian Conservation Biology Institute, where she leads the Ecosystems and Climate initiative for a global network of forest research sites, focusing on understanding forest responses and feedback to climate change. I found her discussion of the effects on the interactions of forests and climate especially fascinating, as I am particularly interested in forest ecology. Teixeira's work in tropical areas was of special interest, and her data on the contribution of deforestation to carbon dioxide emissions were compelling.

The workshop finished with a talk by Carl Hershner, director of the Center for Coastal Resources Management at the Virginia Institute of Marine Science of the College of William and Mary. Hershner is an authority on tidal and nontidal wetlands ecology, landscape ecology and resource management and policy issues. Titled "Climate Change Impacts on Virginia Wetlands," his talk centered on aspects of the effects of climate change on wetlands including changes in sea level, salinity, and temperature. This captivating talk highlighted, as a conclusion to our Workshop, the stark consequences of the climate change phenomenon.

What did our members take away from this absorbing set of talks? I

(See Climate change, page 7)

Native plant nurseries appearing across the state

Two VNPS members are traveling to Tappahannock. Friday afternoon finds them driving slowly north on U.S. Route 17, with roadwork making it easy to read signs in an unfamiliar town. Their intentions include seafood, antiques, a visit with an old friend, and a park. But surprise! There's a sign for a nursery. They pull into the parking lot and see a small END OF YEAR SALE sign and, more surprise, a larger one announcing NATIVE PLANTS SOLD HERE. Forget antiques; this is their kind of place!

They find the natives attractively displayed together, well labeled, and with lists posted of all natives that were available, with no need to ask. But when they do ask, they learn that the owner has received encouragement and help from the Virginia Native Plant Society's Northern Neck Chapter. Our travelers admit to being members of other chapters and then proceed to spend their dollars buying natives instead of antiques. Thank you Northern Neck Chapter for giving us a lesson for other chapters.

The Northern Neck's Go Native – Grow Native campaign seeks to inspire area residents and businesses to use native plants in their gardens and to protect native vegetation in the landscape. Go Native – Grow Native campaign activities will increase both the demand for and supply of Northern Neck native plants. Products include:

- A full-color guide to selected native plants of the Northern Neck.
- New educational signage on native plants found in demonstration gardens.
- Native plant identification tags, promotional banners and flags for partner retail establishments, to help customers identify native plants for their gardens.
- Native Plant of the Month feature articles in the region's newspapers.
- A tabletop exhibit for use at special events.

For information see http://nnnps.org/Go_Native_Grow_Native.html.

VNPS recently began another nursery program in which its membership brochure and its "Do I Have to Mow All That?" brochure are being distributed to nurseries across the state that sell native plants. Our intents are to spread the word about the importance of natives, to help nursery shoppers learn about VNPS, and to gain new members for VNPS. If your chapter or any individual members would like to support this effort and distribute brochures, please contact Joyce Wenger. If you have additional ideas of how VNPS chapters can support and encourage your local nurseries, please take whatever steps you can, and share your ideas with the rest of our membership.

Plant NoVA Natives
Naturally Beautiful!

The logo of the native marketing program for Northern Virginia.

VNPS is participating in several other nursery-related initiatives. With funding from the Virginia Department of Environmental Quality's Coastal Zone Management Program, four areas of the state are participating in a native plant marketing campaign: the Eastern Shore, Hampton Roads, the Northern Neck, and Northern Virginia. The NoVA Natives campaign is coordinated by the Northern Virginia Regional Commission, and VNPS is a partner. Alan Ford, president of the Potowmack Chapter, and Nancy Vehrs, Society president and president of the Prince William Wildflower Society, are on the coordinating committee.

In January, a number of VNPS members attended a meeting of the Virginia Native Plants Marketing Partnership Forum in January in Culpeper, organized by Virginia Witmer, with the Coastal Zone Management Program, and Carol Heiser with the Virginia Department of Game and Inland Fisheries, to determine how to develop a statewide native plant marketing campaign. A key issue for such a campaign is the chicken-and-egg problem of having enough people who want to buy native plants and enough nurseries that sell natives.

So, we all love to buy natives, maybe even more than we like to go antiquing. And there are plenty of activities going on now that each of us can support to help publicize the importance of natives through our local nurseries.

—Joyce Wenger, VNPS Publicity Chair, and Katherine Smith, Upper James River Chapter

Search for rare plants next task of Society

(Continued from page 2)

directly to the *Flora* in your names. I am so impressed with what you have done. It comes from our deeply held belief that what we do has merit, but I believe, too, that it comes from love. We love these plants.

The board has before it another proposal from Natural Heritage whose botanists have identified close to 100 state or globally rare plant populations in need of a survey. These are plants that have not been seen in many years, and we need to ascertain whether they are, indeed, still where they were once reported to be. Our fund raising would permit Natural Heritage to hire additional field staff charged with finding, for example, three birds orchid (*Triphora trianthophora* ssp. *trianthophora*), last seen in Botetourt County, or mountain camellia (*Stewartia ovata*), last reported in York County. Botanists could look for large-leaved grass-of-Parnassus (*Parnassia grandifolia*) in Bland County or Millboro leatherflower (*Clematis viticaulis*) in Bath. I have no doubt but that you will once again step up to the plate.

—Marjorie Prochaska, VNPS First Vice-President

• Hummingbirds

(Continued from page 1)

lores (a lore is the region between the base of the bill and the eye). Hancock also reports the presence of nonfeathery pollen "repositories" on or near the lower mandible. One of these pollen repositories is a groove on the midline of the lower mandible, roughly from its base to its midpoint (Fig. 1A); two more are reported on the right and left sides of the head where the lower mandible joins the cheek. Hancock reported multiple kinds of pollen from these repositories, distinguished by size and shape, but none were identified to species.

At first I was a bit skeptical about the efficacy of the lower mandibular groove in moving pollen from one flower to the stigma of another. The problem, I thought, was that for a great many hummingbird-pollinated flowers, anthers and stigmas are located on the upper side of the corolla tube. Consider, for example, the bilaterally symmetric flowers of trumpet-creeper (*Campsis radicans*) (Fig. 1B) or crossvine (*Bignonia capreolata*): from a hummingbird's-eye-view at the mouth of the corolla tube, the anthers and stigmas are located near the roof of the floral tunnel, and below these

Fig. 1A: *This close-up drawing illustrates the outer surface of the lower mandible from a ruby-throated hummingbird; minute circles denote pollen in the "repository." Redrawn from Hancock (1894).*

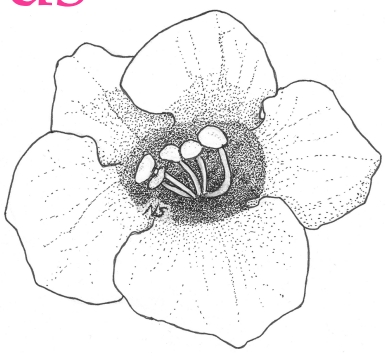


Fig. 1B*: Illustration shows the corolla throat, anthers and stigma of trumpet-creeper flower.*

organs there is nothing but a large void leading to the nectar at the bottom of the flower. Sure, there might be some stray pollen grains scattered on the floor of the corolla tunnel that could be picked up in the mandibular groove, but it is hard to imagine how that pollen would ever reach a stigma located near the top of the bird's head. Or, consider cardinal flower (*Lobelia cardinalis*) (Fig. 1C): the anthers and (later) the stigmas extend far beyond the corolla mouth and are borne in a curved configuration that puts the back of the hummingbird's head into play for deposition of pollen and its subsequent transfer to stigmas—the lower surface of the bill seems not to be involved at all; the real action appears to be on the opposite side of the bird's head. Just as football is a game of inches, in pollination allowable tolerances in the placement of anthers or stigma may be minute—just a few millimeters can make all the difference in the world.

Upon reflection, however, I soon realized that coral honeysuckle flowers (Fig. 1D**)** were not like those described above. Although held in a drooping position like those of trumpet-creeper (and many other bilaterally symmetric ornithophilous flowers), the flowers of *Lonicera sempervirens* are very nearly radially symmetric (one corolla lobe is slightly larger than the other four). Further, the five pollen-bearing anthers are more or less evenly spaced around the corolla throat, and whether the anthers are positioned slightly inside the corolla or project slightly beyond, the stigma projects still further and often (though not always) below the midline axis of the flower. The hummingbird's-eye-view during entry into the corolla is markedly different from that of the flowers of trumpet-creeper and similar plants: the corolla throat is essentially ringed with pollen-bearing anthers, and it may be reasonably postulated that pollen is deposited on all surfaces of the bird's face (i.e., lores, cheeks, and chin) and that some could become lodged in the mandibular groove highlighted by Hancock. Once dusted with a load of pollen, a bird entering another coral honeysuckle flower must first brush by the stigma to gain access to the corolla tube; the stigma could pick up pollen from any quadrant of the bird's face, depending on how the bird approaches the flower. Since the stigma is often positioned below the midline of the flower axis, it could very well slide along the lower surface of the bill as the hummer enters the flower, thus picking up pollen from the groove. Maybe Hancock was onto something.

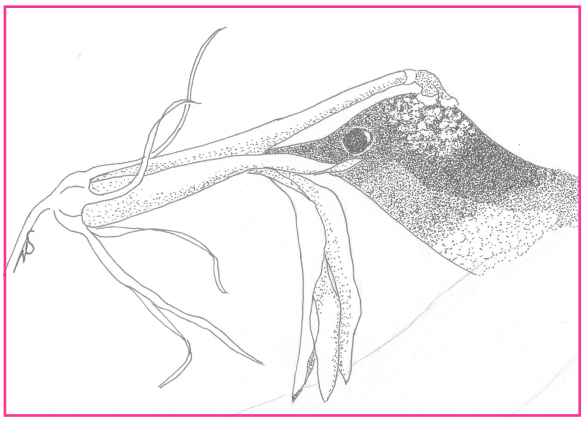


Fig. 1C: *A hummingbird feeds at a cardinal flower; note the anthers in contact with the back of the bird's head.*

As much fun as such speculation is, guessing how things might work is not the same as solid scientific documentation of how something does indeed work. The above paragraph should be considered little more than initial, off-the-cuff hypotheses. But it is from such hypotheses that good science can emerge. Pollination biology of coral honeysuckle appears to be a nearly

(See Pollination, page 8)

Virginia sneezeweed habitat filled with rare plants

On a hot, hazy, late-September afternoon, *Bulletin* editor Nancy Sorrells and I set forth on a trip in search of the globally rare and endangered Virginia sneezeweed (*Helenium virgicinum*). Virginia sneezeweed is found in only three locations: Augusta and Rockingham counties in Virginia and the Ozark Mountains of Missouri. We began our quest to see the Augusta County population not knowing what we would find, but we sure ran into a lot of surprises that afternoon.

The name sneezeweed is derived from the fact that the leaves were dried and used as snuff, first by the Indians, who believed it would relieve the body of evil spirits, and later by European settlers. About 40 species of sneezeweed, annuals and perennials, are native to North America. The rounded seed head is characteristic of the sneezeweeds, along with their orange or yellow petals. The common sneezeweed (*Helenium autumnale*) and the nonnative Bigelow's sneezeweed (*H. bigelovii*) are commonly seen in the nursery trade and are sold under the genus name, *Helenium*, to divert attention from bad connotations of the name sneezeweed. Both species have been hybridized into many color varieties including yellows, reds and oranges.

As we walked into the hot and dry oak-hickory forest, we encountered something interesting, but it certainly was not natural: junk, and lots of it. Half a car, washers and dryers, bottles and jars, even old shoes, some with mini–moss gardens thriving in the dappled sunlight. Though it was disheartening to see that this area, which was actually a preserve, had been thoughtlessly turned into a garbage pit, the fact that most of this stuff was 20 to 50 years old caught our attention. It was like stumbling upon the remains of a civilization from an archeological site of the mid–20th century, 1950s saddle shoes included. Fortunately the junk stopped as we turned toward an opening in the forest that led into a small depression that earlier in the year had been full of water. This type of aquatic environment is known as an ephemeral sinkhole pond, created in a sinkhole by the precipitation during the fall, winter, and spring but remaining mostly dry through the summer. A more technical geological name for this type of pond is montane depression wetland.

When we approached the pond we noticed that the edges contained drier soil and plants typical of the scrubby edges of an upland mixed forest of oak, hickory, and pine. Here we found black raspberry (*Rubus occidentalis*), pitch pine (*Pinus rigida*), pin oak (*Quercus palustris*), white pine (*P. strobus*), Pennsylvania sedge (*Carex pennsylvanica*), tall goldenrod (*Solidago altissima*), rabbit tobacco (*Pseudogna-phalium obtusifolium*), Maryland golden-aster (*Chrysopsis mariana*), sassafras (*Sassafras albidum*), black gum (*Nyssa sylvatica*), mockernut hickory (*Carya tomentosa*), pignut hickory (*C. glabra*), northern red oak (*Q. rubra*), chestnut oak (*Q. montana*), Virginia pine (*P. virginiana*), fox grape (*Vitis labrusca*) and panicled aster (*Symphyotrichum lanceolatum*).

Though the water had evaporated or drained away, the soil was still moist as we went further into the pond. The composition changed to plants that liked slightly moister soil, including northern St. John's-wort (*Hypericum boreale*), Virginia chain fern (*Woodwardia virginica*), winterberry holly (*Ilex verticillata*), Virginia meadow beauty (*Rhexia virginica*), three-way sedge (*Dulichium arundinaceum* (L.) Britton var. *arundinaceum*), small white aster (*Symphyotrichum racemosum* (Ell.) Nesom var. *racemosum*), common greenbrier (*Smilax rotundifolia*), and red maple (*Acer rubrum*). Here we found many dragonflies and had our first glimpses of Virginia sneezeweed, peeking through the graminoids. A little farther along we encountered several swaths of the sneezeweeds and graminoids mixed with mints and narrow-leaf blue curls (*Trichostema setaceum*), another rare flower in western Virginia. At the center of the pond the soil was wettest, and here we noticed northeastern bulrush (*Scirpus ancistrochaetus*), woodland bulrush (*S. expanses*) and wiry panic grass (*Panicum flexile*). Near the center of the pond we heard cicadas humming and frogs croaking, saw a praying mantis shimmying up a big bluestem (*Andropogon gerardii*) stalk and, in the distance, the glistening wings of dragonflies as they danced around the edges of the pond. As the sun began to slip behind the tallest trees and cast a golden light on the grasses and flowers, we left the pond, tracking our steps back to the trail we had followed to find this little enclave of rare plants.

Among the plants observed at the sinkhole pond in southeastern Augusta County were Virginia sneezeweed, top, and winterberry holly. (Photos by Nancy Sorrells)

—Nathan Miller, owner, Simply Sustainable Landscape Design

Society members to visit Botetourt shale barrens in August

Tom Wieboldt, curator of vascular plants at the Massey Herbarium, Virginia Tech, will lead VNPS members on Aug. 2, from 9:30 a.m. until 4:30 p.m., on a field trip to shale barrens in Botetourt County, near the community of Oriskany. This area affords several good options. In addition to the target barren, we'll visit another along a nearby old railroad grade, and, further along the grade, we'll move on to an interesting swamp forest. Later, we'll travel to close-by Craig Creek where the aquatic flora includes a couple of species of quillworts along with their hybrid, *Isoetes* × *altonharvillii*. Tom has studied this area extensively and has advised that a number of shale barren species are likely to flower during the hottest days of the season. There are several shale barren endemics, or what are called near endemics, that we will see. Kates Mountain clover (*Trifolium virginicum*), shale barren buckwheat (*Eriogonum alleni*), and shale barren evening-primrose (*Oenothera argillicola*) are among them. The latter two will be blooming and there may still be fruit on the clover. Other things we'll see are Virginia white-hair leather flower (*Clematis coactilis*), heart-leaf skullcap (*Scutellaria ovata* ssp. *rugosa*), slender dayflower (*Commelina erecta*), chestnut lip fern (*Cheilanthes eatonii),* and maybe *Phlox buckleyi*.

Due to the fragile nature of shale barrens, on Tom's recommendation the trip is limited to 12 participants. Registrations will be accepted from VNPS members starting May 19 for a fee of $25. To register, call the VNPS office.

—Shirley Gay, VNPS Director at Large

*Virginia white-haired leatherflower (*Clematis coactilis*).*

•Climate change

(Continued from page 3)

overheard bits of conversation as the auditorium at UR's Jepson Center emptied: "… I had no idea Thoreau kept such detailed records …," "… did you know about the immediacy of rising sea levels? ..." "I don't think I really understood how intricate and valuable forests were to overall ecological health." In short, I think that, as a result of this fine program, we all now grasp a little more firmly the consequences of this evolving climate change on our world.

Of course, knowing about it isn't enough. What we are going to do about it is the real question.

—Harry Glasgow
Prince William Wildflower Society

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___Associate (groups) $40*
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*Please designate one person as delegate for Associate membership

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I wish to make an additional contribution to ___VNPS or_____Chapter in the amount of ___$10___$25___$50___$100___$(Other)_____

_____Check if you do not wish your name to be listed in a chapter directory

Which chapter do you wish to join? (See www.vnps.org)_____
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The deadline for the next issue is **May 15, 2014.**

• Pollination

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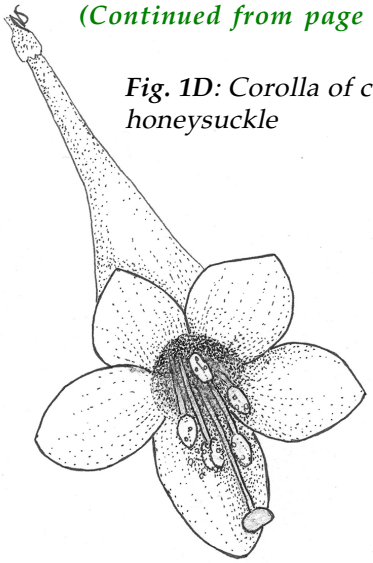

***Fig. 1D**: Corolla of coral honeysuckle*

blank slate. There is, I believe, an opportunity here for someone with curiosity, ingenuity, and determination to make real and fundamental contributions to knowledge about our Wildflower of the Year.

—John Hayden, VNPS Botany Chair

Source: Hancock, J.L., 1894. Ornithophilous pollination. The American Naturalist 28: 679–683.

No April Fool's joke!

An April 1 walk along a west-facing shale bank above the Cowpasture River in Bath County turned up a colony of Erythronium americanum*, commonly called trout lily. They were a welcome sign of spring. (Photos by Nancy Sorrells)*