

POTOWMACK NEWS

Potowmack Chapter of the Virginia Native Plant Society

VOLUME 37, NO. 2, MAR-MAY, 2019

Caterpillars and Specialist Bees: Who Are You Planting For? By Margaret Chatham



WINGSTEM, VERBESINA ALTERNIFOLIA, IS A LARVAL HOST PLANT FOR THE SUMMER AZURE, CELASTRINA NEGLECTA. ALL PHOTOS FOR THIS ARTICLE BY MARGARET CHATHAM UNLESS OTHERWISE NOTED.

Amid the reports of the decline in numbers of insects worldwide, it's more important than ever to plant things that our insects can eat. If you haven't read Doug Tallamy's *Bringing Nature Home*, I highly recommend it, for explaining insects' vital role in food webs. We all know that monarch caterpillars can only eat milkweeds, but we are generally less aware that many other insects depend on a limited number of species of plants that they have co-evolved with. The caterpillars that feed baby songbirds are one prime example; another is our specialist native bees. Honeybees are generalists that can make a living off many (but not all) kinds of flowers. Some of our native bees are also generalists, but all do better in a landscape that includes the plants specialist bees need. Tallamy has done his research on how many different kinds of caterpillars each genus of plants supports, from our native oak trees with over 500, down to the Bradford or Callery pears that support hardly any. Look to Sam Droege for specialist bee listings.

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Upcoming

Patrick Whitehouse:
From Garlic Mustard to Japanese Stiltgrass: Non-Native Invasive ID and Control

*Thursday, March 14, 7:30-9 pm
Green Spring Gardens Horticulture Center*

Fairfax County Park Authority ecologist for the Resource Management Division discusses invasive ID and control, and the Invasive Management Program that you could join.

Tree ID for Beginners
Led by Carrie Blair & Toni Clausen
*Saturday, March 16, 11 am-1 pm
Green Spring Gardens*

Budding native trees & shrubs, easy walk.

Early Spring at Turkey Run
Led by Margaret Chatham
Sunday, Mar 31, 9:30-12:30 or 1:30-4:30

A snapshot of spring ephemerals on an energetic walk. Choose AM or PM

Spring Ephemerals in the Potomac Gorge
Led by Alonso Abugattas
*Saturday Morning, April 6
Turkey Run*

Michael S. Hayslett:
Flowery Waters of Spring: Ecology & conservation of Vernal Pool Wetlands in Virginia
*Thursday, April 11, 7:30-9 pm
Green Spring Gardens Horticulture Center*

Trilliums at Thompson Wildlife Management Area
Led by Alonso Abugattas
Saturday, April 27

Betsy Martin & Alda Krinsman
Audubon at Home
*Thursday, May 9, 7:30-9 pm
Green Spring Gardens Horticulture Center*

All events are free and open to the public. Walks require preregistration. To receive email notices with walk registration links and other chapter news, send an email to vnps-pot-subscribe@yahoogroups.com.

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Spring Native Plant Sales (an incomplete list)

Sat, Mar 30, 8:30 am-2 pm National Arboretum Native Plant Sale, enter at 2400 R St NE, Washington, DC fona.org

Wednesdays, Apr 3, May 1, June 5, etc. 10 am-1 pm VNPS First Wednesday Plant Sales in the propagation beds behind the Horticulture Center at Green Spring Gardens Park vnps.org

Sat, Apr 6, 9 am-3 pm Loudoun Wildlife Conservancy Spring Native Plant Sale 17263 Southern Planter Lane, Leesburg, VA loudounwildlife.org

Sat, Apr 27, 9 am-2 pm Northern Alexandria Native Plant Sale, 1701 N Quaker Lane, Alexandria, VA <http://www.northernalexandrianativeplantsale.org>.

Sat, May 4 1-4 pm (rain date Sun, May 5) Long Branch Nature Center, 625 S Carlin Springs Rd, Arlington, VA parks.arlingtonva.us
Some plants can be preordered at registration.arlingtonva.us

Sun, May 5, 10 am-2 pm (tentative) Earth Sangha Spring Open House & Plant Sale north end of Cloud Dr, Springfield, VA earthsangha.org Plants may also be purchased at other times by appointment

Sat, May 11, 9-am-12 noon Prince William Wildflower Society Plant Sale, Bethel Evangelical Lutheran Church, 8712 Plantation Lane, Manassas vnps.org

Sat, May 18, 9 am-3 pm Green Spring Garden Day brings in native plant vendors among others. Be sure to visit the VNPS propagation beds for our offerings behind the Horticulture Center. 4603 Green Spring Rd, Alexandria, VA <https://www.fairfaxcounty.gov/parks/green-spring/events>

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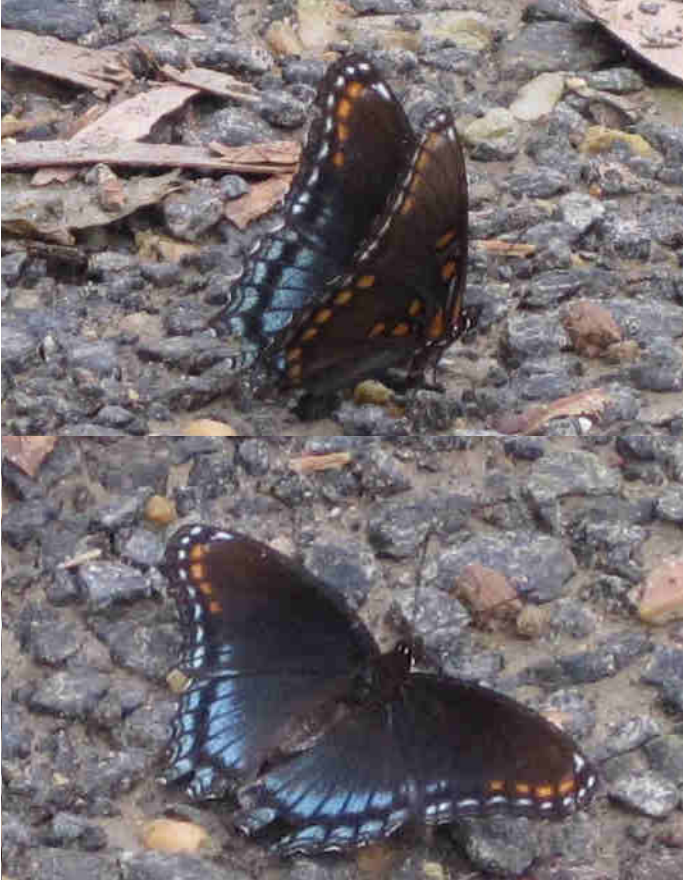
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Submissions to *Potowmack News* may be sent to The Editor at vnps.pot@gmail.com

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By the measure of caterpillar species the best single plant to support wildlife is an oak tree, but we don't all have enough room to grow a full-sized oak, and when those caterpillars metamorphose, the resulting butterflies and moths may need flowers to nectar on. Better than any single plant is a diverse collection of native plants, woody and herbaceous, big, medium and small, blooming in different seasons to support caterpillars as baby bird food, and pollinators, especially native bees, to keep the whole ecosystem going.

If you have room for a full-sized tree, oaks will feed mammals from deer to chipmunks and blue jays on their acorns as well as the caterpillars (mostly of moths) on their leaves. If you have lots of deer, you'll need to protect young oak trees from being eaten down to nothing or having their bark rubbed off in the fall.

The second largest number of kinds of caterpillars use Black Cherry (*Prunus serotina*), including the Red-spotted Purple (*Limenitis arthemis astyanax*) shown at left. Cherries also provide flowers for pollinators, summer fruits for birds, and seeds for mice and chipmunks in the winter. Don't be scared off by the prospect of Eastern Tent Caterpillars (*Malacosoma americanum*): it's true that they use Black Cherry as a larval host, but they also are native, and they've been doing this dance with the Black Cherries for a long time. Once they've eaten a significant portion of a tree's leaves, the tree rushes out next year's leaves with a heavier dose of chemicals, which will usually keep it free of Tent Caterpillars for a few years.

Birches (*Betula nigra* is the only native that does well here), willows (*Salix* spp.), maples (*Acer*), elms (*Ulmus*), poplars (*Populus*), hackberries (*Celtis*), hickory (*Carya*), and pines (*Pinus*) all are larval hosts to more than 200 species of caterpillars. Willows and hollies (*Ilex*) support specialist bees.

Native shrubs have their place, too. Blueberries (*Vaccinium* spp.) are larval host plants for over 100 species of caterpillars, support at least five species of specialist native bees, and their leaves turn a lovely red in the fall. Viburnums (Arrowwood, *Viburnum dentatum*, Maple-leaf Viburnum, *Viburnum acerifolium*, Blackhaw, *Viburnum prunifolium*) also are larval hosts to over 100 Lepidoptera species, and offer spring flowers and fall fruit. Spicebush (*Lindera benzoin*) and Pawpaw (*Asimina triloba*) serve as larval hosts to "only" thirteen caterpillar species each, but among these are the showy Spicebush Swallowtail, *Papilio troilus*, and Zebra Swallowtail, *Eurytides marcellus*. Their flowers and fruits also benefit wildlife – in my yard, the Spicebush berries seem to last only minutes after they turn bright red before the birds gobble them up. Fatty Spicebush fruits are just what our migrating songbirds need to fuel their long flights. Yes, Spicebush is dioecious, so only female plants will bear fruits, and with seed-grown plants, no one can tell which ones the females are until they bloom for the first time. So plant three, to have a good chance of getting one of each sex. Pawpaws aren't dioecious, but they do need to cross-pollinate with a different plant to set fruit. Seed-grown plants are best here. Pawpaws like to form clonal colonies. If you get two Pawpaws that were dug from the same clone, they'll both need some outsider plant for cross-pollination.

All of the shrubs above bloom in the spring. For summer bloom, consider Buttonbush (*Cephalanthus occidentalis*) or Summersweet (*Clethra alnifolia*), both very pollinator-friendly shrubs. Then close out the flowering year with Witch Hazel (*Hamamelis virginiana*).

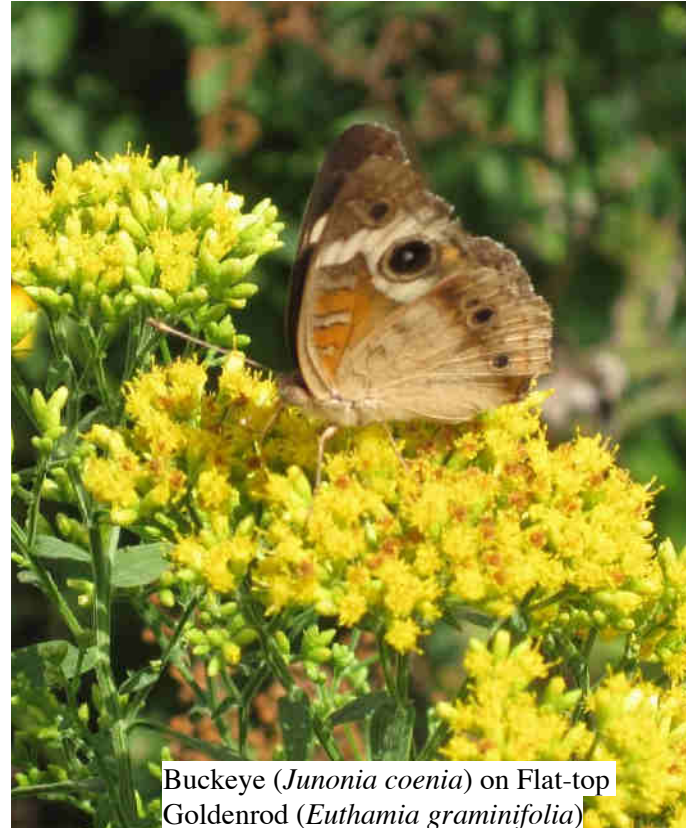


Buttonbush (*Cephalanthus occidentalis*) with visitors. Laura Beaty photo.

No herbaceous plant genus supports as many different kinds of caterpillars as the highest ranking woodies, but of course herbaceous plants are vital to supply nectar and pollen sources throughout the season, as well as joy to the heart of the gardener. Both bees and butterflies prefer patches with multiple plants to a jumble of single plants: a small mass of flowers is easier to spot, and once a bee has figured out how to enter one kind of flower, she will speed her pollen collection by reusing this skill.

Among the spring bloomers, Spring Beauties (*Claytonia virginica*) have their own specialist bees; Strawberries (*Fragaria virginiana*) support 73 kinds of caterpillars; Violets (*Viola* spp.) host fritillary butterflies; Golden Ragwort (*Packera aurea* and other *Packera* species) host American Lady butterflies among 16 species; Zizia (*Zizia aurea*) hosts black swallowtails; Geraniums (*Geranium maculatum* et al.) host 27 kinds of caterpillars; Fleabanes (*Erigeron* spp. including Robin's Plantain, *E. pulchellus*) host 20 species... and the list goes on.

Important summer bloomers include native Loosestrifes, *Lysimachia* spp. with at least 3 oil collecting specialist bees; Sunflowers (*Helianthus* spp.) that host 66 kinds of caterpillars; Mountain Mints (*Pycnanthemum* spp.) and *Monarda* spp. with their many pollinators; Rose Mallows (native *Hibiscus* spp.) that host 29 caterpillar species; Coneflowers (*Rudbeckia* spp.) and Wingstem (*Verbesena* spp.) which host 20 kinds of caterpillars each, as well as pollinators; Monkeyflowers (*Mimulus* spp.) that host the Buckeye butterfly shown at right; Evening Primrose (*Oenothera* spp. – you probably don't need to plant the summer-blooming *O. biennis*, just fail to pull some) and Jewelweed (*Impatiens capensis*) each host 15 caterpillar species.



Buckeye (*Junonia coenia*) on Flat-top Goldenrod (*Euthamia graminifolia*)



Variegated Fritillary *Euptoieta claudia* on Small White Aster *Symphyotrichum racemosum*

For late summer into fall, the Goldenrods (*Solidago* spp.) are the champions, hosting over 100 species of caterpillars and feeding migrating monarchs, 11 specialist bees, and many other stay-at-home bees and butterflies. The Asters (*Symphyotrichum* spp.) are also important, with 8 specialist bees, 12 hosted caterpillars, and more pollinators visiting than you can count. And then there are the Joe Pyes and Thoroughworts (*Eupatorium* & *Eutrochium* spp.) good nectar plants that host 33 kinds of caterpillars; Ironweed (*Vernonia* spp.) that host 24 species of caterpillars.

There are many sources for this kind of information. For numbers of caterpillar species, I've been passing on what it says on the Native Plant Finder on the National Wildlife Federation site, which I reached by going to bringingnaturehome.net and clicking on "what should I plant?" The NWF site only tells you genera and numbers after you enter your zip code, so your results may differ somewhat from mine.

For specific butterflies' host plants, I have consulted Nicole Hamilton's *Field Guide to the Butterflies of Loudoun County* (Loudoun Wildlife Conservancy, 2012) – this also lists favored nectaring plants; Elton N. Woodbury's *Butterflies of Delmarva* (Tidewater Publishers, 1994); and the *Audubon Society Pocket Guide to Familiar Butterflies: North America* by Richard K. Walton (Alfred A. Knopf, 1992). I also read through the faunal associates for a number of plants on https://www.illinoiswildflowers.info/trees/tree_index.htm – you can also look at wildflowers here.

The numbers of specialist bees that depend on various plants I took from a handout by Sam Droege, and notes from a talk he gave on 2/19/19.

More Long-distance Tree ID

by Margaret Chatham

Last issue, I left a lot of forest trees as part of an undifferentiated woods whizzing by. Not in the woods — yet — but visible as conical peaks above all their neighboring trees wherever they've been planted are Dawn Redwoods (**Metasequoia glyptostroboides*). They quickly grow to 70-100 feet tall, with some even reaching 200 feet. I say “not in the woods — yet” because European studies have shown a delay between the time a plant is introduced to a new place and when it starts spreading. In trees, this delay has been as long as 200 years. So will Dawn Redwood become an invasive weed in the future?

Other trees can be hard to pick out in the middle of winter, but as spring comes, some of them become briefly distinguishable as they bloom or leaf out. I've always thought of Red Maple (*Acer rubrum*) as being the first of these, turning their branches to a reddish haze as their red flowers bloom, sometimes as early as February. The red haze lasts quite a while, as the flowers are followed by red samara wings before the seeds twirl down and the leaves really turn green. Red Maple is sometimes said to be a hybrid species, with Silver Maple (*Acer saccharinum*) as one of its parents. Certainly Red Maple is variable and wide-spread, though often not the tallest tree in the canopy. Norway Maple (**Acer platanoides*) can also become noticeable for a time in March, when it is hung with chartreuse golf-ball-sized flower clusters.

In the running for first to bud out are the elms. I haven't noticed too many elms along the I-95 corridor going north, but have been astonished at the number of elms along US 29 heading down to Charlottesville. Some show the classic vase shape of the American Elm (*Ulmus americana*). Some are younger trees, still reaching up and out like the tree at left, shown in mid-February. The fish-bone pattern of young branch growth is characteristic. As with Red Maple, elm flowers open and seeds form before the leaves spread out.

Another early season “look how many there are!” surprise comes when the Serviceberry or Shadbush (*Amelanchier* spp.) bloom: delicate white narrow petals on delicate, leafless twigs on forest or stream edges — a very pleasant contrast to the heavy-handed invasive Pears (**Pyrus calleryana*) that claim so much roadside territory.



Word of the Month: Larval Host

The plant a caterpillar can digest. Plants generate chemicals to inhibit being eaten; insects evolve to be able to digest one set of plant chemicals, but cannot deal with the chemicals produced by other kinds of plants. So most caterpillars can only eat a small portion of the whole spectrum of plants. Shown: Brown Hooded Owlet caterpillar (moth, *Cucullia convexipennis*) on its larval host Goldenrod (*Solidago* sp.)

Photo taken 8/14/07 by Margaret Chatham

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