

POTOWMACK NEWS

Potowmack Chapter of the Virginia Native Plant Society

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Eastern White Pine

Pinus strobus

By Margaret Chatham



EASTERN WHITE PINE, *PINUS STROBUS*. ALL PHOTOS FOR THIS ARTICLE BY MARGARET CHATHAM.

I have often heard it said — I have even said it myself — that Eastern White Pine (*Pinus strobus*) is native to Virginia's mountains, but not to our area. You'd never guess that by surveying the suburban forest that surrounds us, so many White Pines have been planted. The tree shown above is in my neighbor's yard, and I have a good crop of its progeny growing in my own yard, so it clearly can reproduce here. So I looked at the Digital Atlas of Virginia Flora to see how close to home it is considered native, and found it marked as native to Fairfax, Loudoun, and Prince William counties, though not to Arlington.

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Upcoming

Charles Smith: Natural Landscaping: Repairing & Rewilding Our Spaces

Thursday, Jan. 11, 7:00 pm

By Zoom

NOTE EARLIER START TIME: This will be the new standard for VNPS-Pot programs.

Remove invasives without damaging a stream bank? Stop erosion on a bank? Plants for understory or near water? Learn answers by registering at <https://vnps.org/potowmack/events/natural-landscaping-repairing-and-rewilding/>

Winter Tree Identification With Margaret Chatham at Fraser Preserve

Friday, Jan. 26, 10 am-1 pm

Rain/snow date Monday, Jan 29

Margaret Chatham continues to regret not having been "raised in the woods so's she knew ev'ry tree" but has watched the trees at Fraser Preserve enough to be able to point out what to look for to identify them when they have no leaves. Space limited.

Lara Call Gastinger: Botanical Art

Thursday, Feb. 8, 7:00 pm

Zoom: watch for registration announcement

Chief illustrator for the Flora of Virginia Project talks about the art of botanic illustration. See also "Under Foot" on p. 2

Winter Greens at Scott's Run Walk led by Margaret Chatham

Friday, Feb 23, 10 am-1 pm

Rain/snow date Monday, Feb 26

Treasured native or invasive exotic, anything green at this time of year is worth noting. Space limited, and we'll start from a new location, so watch for announcement.

All events are free and open to the public. Walks require preregistration. To receive email notices about upcoming events, subscribe to our mailing list at <https://vnps.groups.io/g/potowmack> You can also send a blank email to potowmack+subscribe@vnps.groups.io.

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Subscribe to our Potowmack Chapter email discussion group to receive and send email about native plants in our area including questions, answers, and discussions. You don't have to be a VNPS member and there are no ads. Over 350 members strong! Just send a blank email to potowmack+subscribe@vnps.groups.io. Visit <https://vnps.groups.io/g/potowmack> to look around.

Under Foot

An exhibit of botanical art that gets to the roots of things by Lara Call Gastinger, Margaret Saylor, and Carol Woodin in the Cody Gallery of Marymount University, located on the second floor at 1000 North Glebe Road in Arlington. The exhibit opens on Thursday, January 18 with an artists' talk from 4:30 to 5:30 followed by a reception until 7:30 pm. Regular gallery hours are 9 am-6 pm Mondays and Tuesdays, 9 am-5 pm Wednesdays, Thursdays and Fridays, closed weekends. This exhibit continues through Friday, February 23.

Flora of the Southeastern United States: Northern Tier

Edition of April 14, 2023 by

Alan S. Weakley and the Southeastern Flora Team*

This major work of botanical information includes Virginia. It is available either as a pdf for your desktop computer or a mobile app for either Apple or Android devices at <https://fsus.ncbg.unc.edu>. Keys and range maps, short descriptions of plants and habitat; no pictures of the plants themselves.

Where and when would you like to see a native plant walk?

Does your favorite piece of woods or meadow deserve a VNPS visit? You may not feel confident about naming all the lovely plants there, but could you lead a group to them, to let the joint expertise of the group come up with an identification? In other words, you may not want to "lead" a walk, but would you like to "host" one? If you're interested in hosting, or even if you just have a suggestion for a good place to visit, please contact Margaret Chatham at Margaret.chatham@verizon.net. We all want to get out there more, but need more eyes and ideas to make it happen. "Things that you can do any time — never happen."

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Planting Clues: How plants solve crimes by David J. Gibson

Reviewed by David Gorsline

Looking to commit the perfect crime? If you're a reader with mischief on your mind, you won't find straightforward advice in David J. Gibson's *Planting Clues: How Plants Solve Crimes* (Oxford University Press, 2022), but perhaps you will learn about some miscues to avoid. In this compact book, Gibson presents an accessible blend of legal theory and botanical expertise (and a bit of mycology); it's at the right level of detail for an audience acquainted with the basics of plant science and chemistry.

The mysteries "solved" by plants in this book range from poaching and trafficking of protected species, to adulteration of dietary supplements, to deaths by mishap, to a disturbing variety of capital crimes—kidnapping, rape, and murder foremost among them. Each illustrative case is presented like a pocket *Law & Order* episode: sometimes the question is whodunnit, and sometimes it is how-to-prove-it. Notorious incidents such as the Lindbergh baby abduction, the serial killings by Ted Bundy, and the death of Christopher McCandless (explored by Jon Krakauer's *Into the Wild*) share space with lesser-known crimes.

David Gibson is Professor of Plant Biology and University Distinguished Scholar at Southern Illinois University Carbondale; his books include two on grassland ecology.

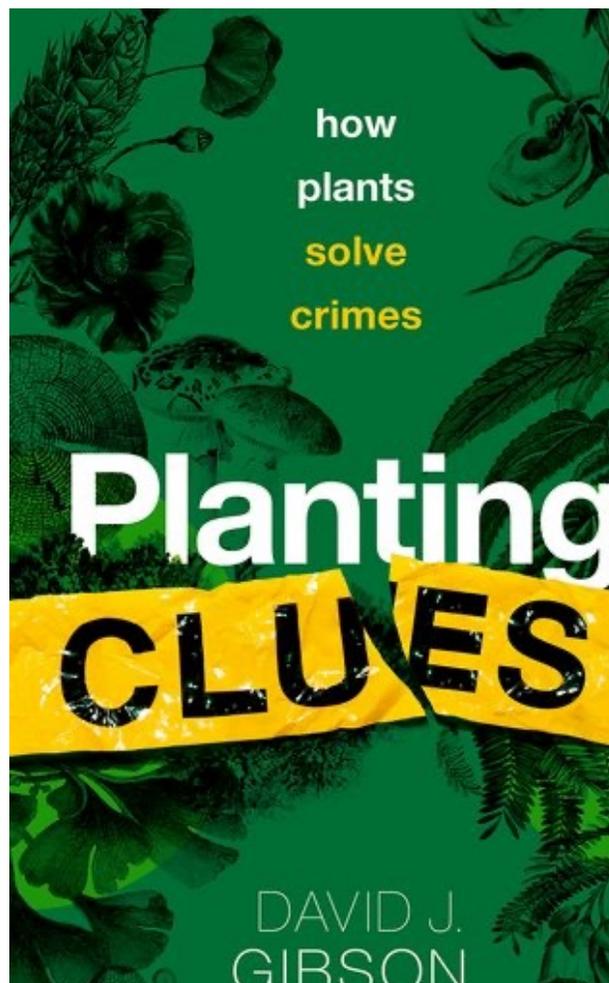
This book is organized from the large to the small, beginning with a chapter on the macro- and mesoscopic application of plant forensics. Analysis of plant material can point to how, where, and sometimes even when (via inspection of stomach contents) a crime was committed. Investigators searching for the body of a murdered person might find a cadaver decomposition island (CDI), a "halo of lush plant growth" that surrounds the impromptu grave, sparked by the 2.6 kilograms of nitrogen that an average decaying body adds to the soil. There's a delightful passage about using the phenology of mosses with sympodial growth in order to determine a Post Mortem Interval (PMI)—time of death to you and me.

The next chapter moves into the microscopic, with pollen grains, filamentous algae, and fungal spores making their appearances. The importance of all these tiny bits—*les poussières*, in the words of early 20th century forensic pathfinder Edmond Locard—is explored. The presence of diatom frustules in the bones of a murder victim can be evidence of drowning in a natural body of water: such a person gulps water "with such force that in the moments before death, there are ruptures in the alveolar-capillary membranes in the lungs. Small structures such as diatoms pass through the blood-lung membranes into the bloodstream... and into the bone marrow."

Going deeper into the weeds, Gibson in his next chapter outlines the limitations of employing DNA technology. While the first molecular evidence from plants was used in 1992, to match seed pods of a Blue Palo Verde tree (*Cercidium floridum*) found in a suspect's pickup truck to a tree damaged at the crime scene, in large part the utility of DNA forensics is restricted by the small number of large databases at botanists' disposal. As it stands now, environmental DNA (eDNA) from plants is yet to be introduced in court.

A chapter on pharmacological effects offers the larcenous possibilities of scopolamine poisoning, which can lead to obedient behavior in the victim and transient general amnesia; seeds from Virginia's introduced Jimson-weed (*Datura stramonium*) are one possible source. And, as a respite from all the bloody mayhem of previous chapters, the book is rounded out with ways to catch smugglers of orchids, decorative woods, and pitcher plants. A successful lawsuit accusing retailer Lumber Liquidators of fraudulently labelling oak from Siberian forests as *Quercus petraea* hinged on isotope ratio analysis.

Back matter includes a glossary of forensic chemical and molecular methods, endnotes, general index, and a much appreciated index of scientific names.



 WHITE PINE FROM PAGE 1

White Pines grow quickly and keep going, reaching their typically quoted height of 50-80' in 25-40 years. New England's virgin pine forests, prized for ship masts, are long gone, but various champion White Pines have been measured at 150+ feet — and then, perhaps, lose their tops and champion status to storms. Those flattened treetops are favored perches for eagles and other large raptors.

As young trees, they are pyramidal. Open-grown trees may retain their lower branches, but forest-grown trees will lose theirs. For a while, you can estimate a White Pine's age by counting the number of annual whorls of branches. This also makes them easy climbing trees, at least for the pine sap tolerant. Young bark is smooth, thin, and gray, becoming darker, thick and furrowed with age. Their bundles of five soft, grayish green needles stay on the tree for two growing seasons, then are shed in the fall. Our president, Alan Ford, gathers the "pine straw" to put on his strawberries or on top of fallen leaves to keep them from blowing away. The slight acidity of the pine needles may also counteract the basic effect of city water.

With warmth, pine needles produce pinene, an atmospheric aerosol. It not only smells nice, it is one of the benefits of forest-bathing. According to Diana Beresford-Kroeger in *To Speak for the Trees*, "The beneficial effects of a twenty-minute pine forest walk will remain in the immune systems's memory for about thirty days."

White Pine cones take two years to mature, usually up so high as to be invisible to us on the ground until they become large and pendulous in their second year, then fall. A large branch fell from my neighbor's tree ten years ago in December, allowing me to take the photos at right: the top one shows male flowers, desperately trying to do some good after losing their connection to the rest of the tree. Normally they would bloom in the spring, with yellow pollen. The middle photo is of some first-year cones, and the bottom photo is, of course, a mature cone, shown with some of its seeds and a dime for size comparison.

Pines in general do not have the reputation of being particularly useful to wildlife, but the Loudoun Wildlife Conservancy's booklet *Planting for Wildlife in Northern Virginia* credits them with hosting more than 230 species of lepidoptera, including Eastern Tailed Blue, Clouded Sulfur, Eastern Pine Elfin, and Eastern Tiger Swallowtail butterflies and Luna and Prometheus moths. Songbirds and small mammals eat the seeds — said to be sweet, similar to piñon nuts, just too small for most people to bother with. And the trees provide many good nesting sites.

We often hear of favored companion plantings, but if you have White Pines, you'll want to avoid planting any of the alternate hosts of White Pine Blister Rust (*Cronartum ribicola*), a fungus introduced from Asia around 1900. This fungus kills White Pines, but generally doesn't affect its alternate host. Usually currants and gooseberries are cited as alternate hosts, but a US



Forest Service website says that Indian paintbrush and snapdragons can also serve that function. <https://www.fs.usda.gov/rm/highelavationwhitepines/Threats/blister-rust-threat.htm>. Our Eastern White Pines deserve our protection.

Catkins

Some seeds grow inside odd casings, pods, bladders, what have you. How many do you recognize? Photos by Margaret Chatham.

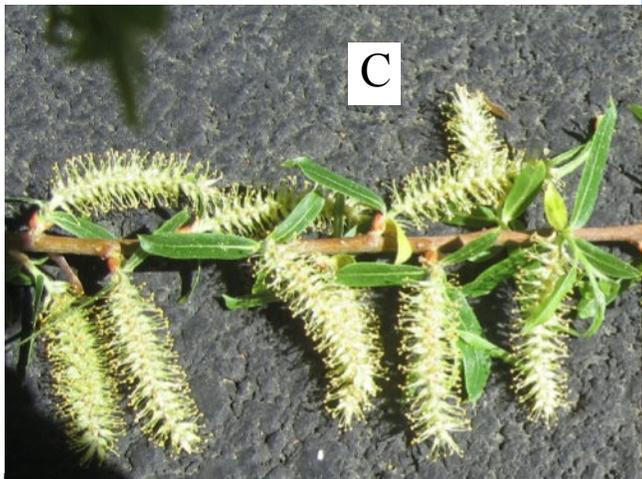
- 1 *Alnus serrulata*, Smooth Alder
- 2 *Carpinus caroliniana*, Hornbeam
- 3 *Carya sp.*, Hickory
- 4 *Corylus americana*, Hazelnut
- 5 *Juglans nigra*, Black Walnut
- 6 *Liquidambar styraciflua*, Sweetgum
- 7 *Ostrya virginiana*, Hop Hornbeam
- 8 *Populus deltoides*, Eastern Cottonwood
- 9 *Quercus phellos*, Willow Oak
- 10 *Salix nigra*, Black Willow



A



B



C



D



E



F



G



H



I



J

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Virginia Native Plant Society
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Word of the Month: Ament



A strap-like, usually single-sex inflorescence of flowers without petals. *Flora of Virginia* simply defines an ament as a catkin. These are the wind-pollinating cause of early spring allergies.

Here is an American Hazelnut (*Corylus americana*) ament, growing at the tip of a branch that also sports a tiny, red, female flower.

PHOTO BY MARGARET CHATHAM

Answers to the puzzle on page 5: 1-H (also shows the upward-pointing female cones); 2-J; 3-E; 4-A; 5-D; 6-I; 7-B; 8-G; 9-F; 10-C