



Spotlight on Species: Genus *Dicentra*

By Jim Drake

During this “home confinement” period, rather than miss out on the season entirely, a “virtual” spring trip seemed appropriate. Thousands of wildflower slides (most digital, some actual slides), taken over the years, fostered the desk-top journey. During this adventure, harbingers within the uncommon genus *Dicentra* seemed to call out.

The genus *Dicentra*—from two Greek words generally meaning “two spurs”—resides in the Fumitory family (Fumariaceae). The genus contains about 20 species (depending on the source), approximately nine of which occur in North America. Three native species, with a fourth native occurring out of its customary range because of escape from cultivation, may generally be found growing wild in the Eastern U.S. Due to the popularity of certain *Dicentra* species, additional non-natives, cultivars and hybrids are frequently found in gardens. Herein, our focus will be on three Eastern U.S. natives. All three species are perennial herbs. Flowering times vary with location and elevation, but usually late March into May would likely be the best times to begin viewing the plants in bloom. Leaves of all three species are compound and very divided. However, leaf structure can often be used as a, perhaps more subtle, key distinction.

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President's Perspective



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As I am writing this in early April, the governor of our state has extended his 'shelter in place' order to April 30 and the public health state of emergency to May 13. All of our Society's activities have been cancelled through the end of April. Earlier, for the first time in the history of our organization, we cancelled our Spring Wildflower Pilgrimage due to the COVID-19 pandemic.

I'm sure many of you, like me, feel like an entire spring has been stolen from you. I hope you've been able to steal away to a patch of nearby woods to spend a few moments searching for bright flowers emerging from the leaf litter. Or maybe you have a garden full of native wildflowers that have brought you solace.

I've become complacent with some of the natives in my yard that have been there for many years. This year, they've suddenly seemed new...as if I finally realized that I was neglecting an old friend who has been there all along. When my two fringetrees, *Chionanthus virginicus*, flowered the first week of April, it was like I hadn't seen them in years. Never have they looked so beautiful. Maybe that is the good that will come out of the COVID-19 pandemic - that we will all come out of our complacency toward the things that are real and beautiful; that we'll all live more in the moment; and be more in touch with the life that is around us.

While our spring field trips have all been canceled, so far, the work of the Botanical Society continues. We've already started the planning process for the 2021 Pilgrimage. Details will be coming out very soon. There will be a next year and we will have a spectacular Spring Wildflower Pilgrimage.

This is an election year for the Botanical Society (a much more civilized and orderly process than our national elections), and we will be holding elections during our Annual Meeting on July 11. Stay tuned to our field trip list to see details for that. If you are interested in taking on a serious role in the operations of the Georgia Botanical Society, the Vice President's slot is open! Actually, we'd love to hear from you if you are interested in taking on any role in the organization. Getting more people involved is never a bad idea.

When we do resume field trips, don't be surprised if there are some restrictions put in place. This novel coronavirus isn't going to just be there one day and gone forever the next. We may have participation limits, requiring pre-registration. Social distancing is probably going to be a thing for some time. We may ask everyone to drive separately to field trips, not a good thing environmentally, but it will only be temporary.

If we all do our part, we'll beat this virus and COVID-19 will become a topic for the history books. Life will go on. Next spring the bloodroots and trilliums will flower again...and we will be there on the trails to see them. Stay safe, stay healthy.

~ Hal Massie

Spotlight on Species—Genus *Dicentra* (cont'd)

Dicentra canadensis (Squirrel Corn) - The common name refers to the corn-kernel shaped bulblets growing on the underground stems. Flowers, fragrant, white to whitish with pinkish tipped inner petals, are borne on leafless racemes which protrude above the finely divided leaves. Spurs on the flowers of *D. canadensis* are more rounded and heart-shaped than those of *D. cucullaria*, the description of which follows. Flowering time is typically April to May. A more northeastern species, the southern range extends slightly into North Georgia. Habitat for *Dicentra canadensis* includes rich woods. *D. canadensis* is a Georgia Special Concern Species.

Dicentra cucullaria (Dutchman's Breeches) - The common name refers to the blooms' resemblance to upside down flared, baggy pants. Flowers, non-fragrant, white with yellowish-tipped inner petals, are also borne on leafless, arching racemes appearing above the finely-divided leaves. Flowering time is typically April to May. *D. cucullaria* is sometimes found growing with *D. canadensis* which it somewhat resembles. Also a more northeastern species, the range of *D. cucullaria* extends southward into extreme North Georgia. The habitat includes rich woods.



Left: *Dicentra cucullaria* (Dutchman's Breeches) Right: *Dicentra canadensis* (Squirrel Corn)

Spotlight on Species—Genus *Dicentra* (cont'd)

Dicentra eximia (Wild Bleeding Heart) - The flowers' shape and color account for the common name. The deep-pink flowers are borne on dangling multi-flowered panicles. The somewhat noticeably-protruding inner petal tips resemble a drop of blood exuding from the bottom tip of the heart-shaped blooms. Unlike the previous two species, the flowering time for *D. eximia* often extends from April into September. The leaves are much divided but not as finely cut as those of the other two species. The range extends along the Appalachians from North Carolina to Pennsylvania and possibly in North Georgia. The range has likely been extended due to the popularity of cultivating the species. The habitat includes shale slopes, rocky banks and ledges. A similar species, *D. formosa*, a native of Southwestern Canada to Central California, is frequently cultivated in the Southeast, sometimes making differential identification uncertain.



Jim Drake

Dicentra eximia (Wild Bleeding Heart)

All photos by Jim Drake

For references for this article, please see the next page.

Society News

Welcome to our new members who have joined since Feb 1, 2020.

Tanner	Biggers	Athens	GA
Gervasio	Cubenas	Duluth	GA
Vicki	Featherstone	Tunnel Hill	GA
Meghan	Hedeen	Decatur	GA
Lori	Janeira	Acworth	GA
Deborah	Kramb	Roswell	GA
Dorothy Dot	Martin	Canton	GA
Emma	Neigel	Gainesville	GA
Mark	Ogilvie	Smyrna	GA
Caellia	Wysocki	Kennesaw	GA
Mary & Warren	Zurn	Acworth	GA

References For Spotlight on Species: *Dicentra* and further reading, “home” work

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2. Horn, D., T. Cathcart, T.E. Hemmerly, and D. Duhl. 2005. Wildflowers of Tennessee, the Ohio Valley, and the Southern Appalachians. Loan Pine Publishing, Auburn, WA.
3. Stern, K. R. 1997. *Dicentra*. In: Flora of North America Editorial Committee, eds. 1993+. Flora of North America North of Mexico. 19+ vols. New York and Oxford. Vol. 3, pp. 341-347.
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Note: Pursuant to state mandates changing, all trips—especially the early ones—are subject to cancellation. Please check the website for the latest information.

We hope to see you on a field trip in the future; in the meantime, check out some of our members’ photos from previous field trips on Facebook:

<https://www.facebook.com/Georgia-Botanical-Society-155368511224211>

The "Great" Valley

By Richard Ware

My part in this story began in May or June, 1997 when I discovered *Clematis socialis* (Alabama Leatherflower), a Federally endangered species, on Technology Parkway, here in northwestern Floyd Co., Georgia. Previous to that, the species was only known from two counties in Alabama. Needless to say, Tom Patrick was very excited over the finding of another Federally endangered species for the state of Georgia, and subsequently the GA DNR funded a study to possibly find more *C. socialis* or other rare plants.

The study area, named by Tom Patrick as the Calcareous Flatwoods, was huge, extending from just below Dalton, south through Gordon and Floyd counties and actually flowing into Alabama, although we never got that far. There were two investigators on the project, Tom Govus who handled the northern counties plus parts of Floyd, and myself who, pretty much stuck close to home here in Floyd county. The site where I located the original populations of *C. socialis* is now known as the Little Dry Creek Natural Area (LDCNA) and owned by the GA DNR.

However, this is not a story about the LDCNA, but the larger habitat or association, which Tom called the calcareous flatwoods. Part of this area in Floyd county is locally known as the Berry College flatwoods. The calcareous flatwoods are part of the Ridge and Valley Province which flows through the northwest corner of Georgia. This province is made up of long, narrow (Armuchee) ridges and the Great Valley. These calcareous "flatwoods" are typically located within a few miles of the major rivers of this region: the Conasauga, Coosawattee, Oostanaula, and Coosa rivers.

The habitat description is very important and is included below from NatureServe. We have edited the plants to include only the rare trees, shrubs, and wildflowers. When you see the list of rare plants perhaps you'll see why I called it the "Great" Valley!

"NatureServe has named this association the *Quercus (pagoda, shumardii) / Cornus foemina / Podophyllum peltatum - Hymenocallis occidentalis* Flatwoods Forest (Cherrybark Oak, Shumard Oak) / Stiff Dogwood / Mayapple - Woodland Spiderlily Flatwoods Forest) or the Southern Ridge and Valley Calcareous Flatwoods Forest. These

seasonally inundated wet hardwood forests occur on gently rolling or flat terrain along small streams and sometimes on shallowly depressed upland flats in the Great Valley subsection of the Ridge and Valley of Georgia and Alabama. The substrate for this association is deep, stiff



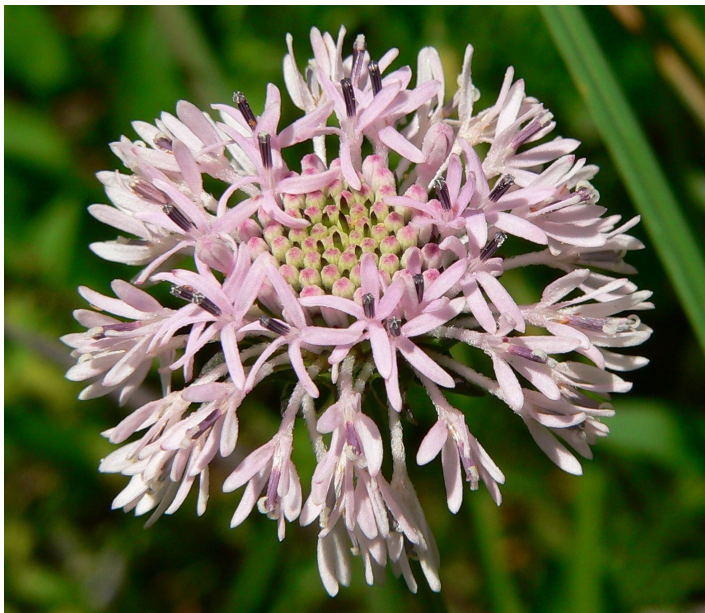
Clematis socialis

All photos by Richard & Teresa Ware

The "Great" Valley (cont'd)

calcareous clays derived from weathered shale and limestone of the Conasauga Group. They are very poorly drained and seasonally inundated by winter rain and then subjected to extreme drying and cracking during the summer growing season. This results in a canopy that tends to be somewhat stunted and open, allowing for a very well-developed and diverse herbaceous layer that includes many calciphilic species. Characteristically these forests are a mosaic of wetland depressions interspersed with scattered, raised hummocks of marginally upland forest. These forests are seasonally wet and are on the borderline between upland, saturated, and seasonally flooded. Because of the very subdued topography, the water table is never far from the surface, and the ground may be saturated for extended periods of time during the growing season. In winter and early spring, large areas of standing water are typically found at sites where this vegetation occurs. This helps create the unusual habitat conditions. In summer and fall, as the water table drops, the clay soil shrinks and becomes almost pavement-like, even though the water table may be only a foot or two below the soil surface. This is a distinctly seasonal pattern of hydrologic regime, but the resulting vegetation is a mixture of wetland and mesic species."

The tree canopy is very diverse and quite variable. A listing of the federal or state rare trees from this habitat includes: *Carya laciniosa* (Shellbark Hickory) Rank: G5/S2?, GA; *Carya myristiciformis* (Nutmeg Hickory), Rank: G4/S1, GA: Rare; *Quercus imbricaria* (Shingle Oak), Rank: G5/S1, GA.



Left: *Marshallia mohrii* (Coosa Barbara's-buttons); Right: *Jamesianthus alabamensis* (Alabama Warbonnet)

Like the canopy layer, the understory and shrub layer is very diverse. The herbaceous layer is perhaps the most diverse component of this association and can include a large number of species where extensive expanses of this habitat exists. Included here are rare narrow endemics such as *Nabalus barbatus* (Barbed Rattlesnake Root), Rank: G3/S2, GA: Rare; *Clematis socialis* (Alabama Leatherflower), Rank: G1/S1, GA: Endangered, US: Listed Endangered; *Thalictrum debile* (Trailing Meadowrue), Rank: G2/S1, GA: Threatened and *Aureolaria patula* (Spreading Yellow Foxglove),

The "Great" Valley (cont'd)



Left: *Polemonium reptans* (Jacobs Ladder); Right: *Lilium michiganense* (Michigan Lily)

Rank: G3/S1, GA: Threatened. Openings within these associations can sometimes include other narrowly distributed species such as *Marshallia mohrii* (Coosa Barbara's-buttons), Rank: G3/S2, GA: Threatened, US: Listed Threatened; and *Jamesianthus alabamensis* (Alabama Warbonnet), Rank: G3/S1, GA: Endangered. Many herbaceous species found in these flatwoods are disjunct northern or midwestern species with prairie affiliations such as *Asclepias purpurascens* (Purple Milkweed), Rank: G5/S1, GA: Rare; *Packera crawfordii* (Crawford's Ragwort), Rank: G2/SH; *Clematis fremontii* (Fremont's Leatherflower), Rank: G5/S1, GA: Endangered and *Lilium michiganense* (Michigan Lily), Rank: G5/S1, GA: Rare. Often, calciphilic species, such as *Mertensia virginica* (Virginia Bluebells), Rank: G5/S2; *Polemonium reptans* (Jacobs Ladder), Rank: G5/S1S2; *Pycnanthemum virginianum* (Virginia Mountain-mint), Rank: G5/S2; *Trillium lancifolium* (Lanceleaf Trillium), Rank: G3/S3; *Erigenia bulbosa* (Harbinger-of-spring), Rank: G5/S2?; *Delphinium tricorne* (Dwarf Larkspur), Rank: G5/S2?; *Cirsium carolinianum* (Carolina Thistle), Rank: G5/S3; and *Allium stellatum* (Glade Onion), Rank: G5/S1 can predominate.

Examples of rare wetland species include *Ptilimnium costatum* (Eastern Bishopweed), Rank: G4/S2; and *Trillium georgianum* (Georgia Dwarf Trillium), Rank: G3/S1, GA: Endangered. There are many other important herbaceous species and vines found within these flatwoods, some with wetland affinities and others that are aligned with rich mesic woodlands. Few deciduous forested plant associations can compare with this association in overall plant diversity and potential for rare species.



Cirsium carolinianum (Carolina Thistle)

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The "Great" Valley (cont'd)

According to NatureServe: "High-quality examples of this association still remain but are limited in extent and have no formal protection. An outstanding example in Murray County, Georgia (the Carbondale Swamp), provides habitat for the only known population of *Trillium pusillum* within the state. This site is threatened by development as an industrial site. Additional high-quality examples are found on the Berry College Wildlife Management Area near Rome, GA." However, it is the opinion of this author that there are at least two sites that are not usually thought of as being in the flatwoods that should be included. Both the Coosa Prairies in Floyd County and the Chickamauga Cedar Glades in Catoosa County are actually only rocky openings in flatwoods. In fact the whole area where the Coosa Prairies are located have always locally been called the "flatwoods." These two areas both contain many rare and unusual species that are not included in the lists above.



Clockwise from left: *Mertensia virginica* (Virginia Bluebells), *Delphinium tricorne* (Dwarf Larkspur), *Aureolaria patula* (Spreading Yellow Foxglove), *Asclepias purpurascens* (Purple Milkweed)



Upcoming Field Trips

<p>May 2 10:00 AM</p>	<p>Chattahoochee National Forest</p> <p>We expect to see a lot of trilliums—at least 3 species, pink-ladyslippers, plus the usual suspects of mid-spring wildflowers common in the mountains of central north-Georgia.</p> <p>Note: please check the website for status in case of cancellation due to state mandate.</p>	<p>This trip has been canceled since the issue was published.</p>	<p>Rich Reaves rich.reaves@att.net 770-827-5186—cell</p>
<p>May 17 10:00 AM</p> <p>Note: this is a Sunday</p>	<p>Canoe Trip to See Shoals Spiderlilies on the Flint River</p> <p>The purpose of this paddle on the Flint River will be to get up close and personal with the shoals spiderlily, or Cahaba lily, <i>Hymenocallis coronaria</i>, a Threatened species in Georgia. At normal water levels, the lilies are difficult to reach by wading into the river, so we are going to paddle right into the heart of a very large population of this lovely wildflower. We should also see American Water-willow, <i>Justicia americana</i> flowering among the hundreds of shoals lilies. Southern catalpa, <i>Catalpa bignonioides</i>, which has remarkably showy flowers, may also be in flower on the river banks, along with oakleaf hydrangea, <i>Hydrangea quercifolia</i>. Since we will be floating down to the main population and lingering among them, this trip will be an excellent opportunity to photograph the shoals lilies. After we've had our fill of this beautiful aquatic lily, we'll paddle downstream for about 3.5 miles to the Pobiddy Bridge.</p> <p>Special Considerations: Pre-registration is required. There is no outfitter in the area, so you must bring a boat yourself or partner with someone who has space in a boat.</p>	<p>Directions: From Thomaston, take US 19 south for about 3.5 miles. Turn right onto Indian Trail Road. At the first stop sign, stay to the right. Follow Indian Trail Rd. to Pobiddy Rd. and turn left onto Pobiddy. Stay on Pobiddy Rd. for several miles. You will cross the Flint River on a new bridge (Pobiddy Bridge) and head uphill. After about 3 miles, turn right onto Bunkham Rd (there is a sign for Big Lazer Creek WMA at the intersection). Drive until you see the DNR Check Station on the left. We will drive to the actual canoe ramp on Big Lazer Creek.</p> <p>Facilities: None</p> <p>Difficulty: This is an easy stretch of river, but there are rocks and patches of shoals spiderlilies that will require some ability to maneuver. Note that in the past this has been an upstream paddle, but due to a new canoe launch on Big Lazer Creek, the entire trip will be downstream this time. Total paddling distance is about 4 miles.</p> <p>Bring: Lunch, water, camera, sense of adventure. Oh, and bring a boat.</p>	<p>Hal Massie massiefarm@aol.com 478-550-1062</p>
<p>May 23 9:30 AM</p> <p>Note: early start time</p>	<p>Roadside Botanizing: Coweeta Hydrologic Laboratory (CHL), Otto, NC</p> <p>We will drive along the Forest Service roads stopping to look at flowers along the way. In past years, on or about this date, we have seen approximately fifty species of wildflowers and flowering shrubs blooming along the route we will be taking. Among these are alumroot (<i>Heuchera americana</i>), whorled loosestrife (<i>Lysmachia quadrifolia</i>), poke milkweed (<i>Asclepias exaltata</i>), goat's beard (<i>Aruncus dioicius</i>), false goat's beard (<i>Astilbe biternata</i>), Michaux's saxifrage (<i>Saxifraga michauxii</i>), speckled wood lily (<i>Clintonia umbellulata</i>), including a striking deep purple color variant. If we are lucky, we may also see pale (rock) harlequin (<i>Corydalis sempervirens</i>), if the season is delayed, and/or small (lesser) purple fringed orchid (<i>Platanthera psychodes</i>), if the season is running a little late. Of course, many of the common montane spring ephemerals will be on display, including several of the trilliums and Solomon's seal.</p>	<p>This trip has been canceled since the issue was published.</p>	<p>Don Hunter eaverdon24@gmail.com 706-207-0013</p>

Upcoming Field Trips

<p>May 24 10:00 AM</p> <p>Note: this is a Sunday</p>	<p>Wildflowers of the Tennessee Rock Trail, Northeast Georgia</p> <p>We will hike the Tennessee Rock Trail, a 2.2 mile loop trail profiled in Hugh and Carol Nourse's book, <i>Favorite Wildflower Walks in Georgia</i>. We should see Trilliums, monkshood (vegetative only), mayapple, cucumber root, azaleas, rosebay rhododendron, poke milkweed, and others.</p>	<p>Directions: Meet at 10:00 am at the Tennessee Rock Trail trailhead at Black Rock Mountain State Park, 3085 Black Rock Mountain Pkwy, Mountain City, GA 30562. From Clayton, drive 3 mi north on US 441 to Mountain City. Turn left on Black Rock Mountain Pkwy (brown directional signs in Mountain City). Trailhead is 0.5 mi before Visitor Center.</p> <p>Walking: 2.2 mi, moderate with steep sections including a 440 ft climb and steep descent back to the parking area. Part of trail is along ridgeline that is steeply downhill to either side.</p> <p>Facilities: At the visitor center. Gas/food in Clayton.</p> <p>Bring: Lunch to eat during walk, water, raingear, insect repellent, sturdy footwear.</p>	<p>Rich Reaves rich.reaves@att.net 770-827-5186 – cell Hal Massie massiefarm@aol.com 478-550-1062</p>
<p>May 25 9:00 AM</p> <p>Note: this is a Monday and an early start time.</p>	<p>Till Ridge Cove</p> <p>Till Ridge Cove is famous for its early spring display of <i>Trillium grandiflorum</i>. We will be well past that display and this will be an exploratory trip to check out the late spring flora of the cove.</p>	<p>Directions: From Clayton, GA proceed north on US 441 from intersection with US 76 for approx. 6.4 miles to Dillard, GA. Turn left on Bettys Creek Road and continue for approximately 3.3 miles. Turn left on Patterson Gap Road. (If you get to Hambidge Center, you've gone too far.) After approximately 3.7 miles on Patterson Gap Road, you will reach the crest of the mountain at Patterson Gap. There is parking on both sides of the road. If you start to go downhill, you have gone too far.</p> <p>Walking: Approximately 3 mi, along an old roadbed with elevation gain primarily along two lengthy climbs going in.</p> <p>Facilities: None.</p> <p>Bring: Lunch to eat during walk, water, raingear, insect repellent, sturdy footwear.</p>	<p>Rich Reaves rich.reaves@att.net 770-827-5186 – cell Hal Massie massiefarm@aol.com 478-550-1062</p>

References For The Great Valley article

Conservation Status of this association: Global rank: G2?

Reasons: This is a very uncommon association, and examples are known only from the Ridge and Valley of Georgia and (presumably) Alabama. Very few sites remain with high-quality examples. No protected occurrences are known from public land and much of the existing habitat has been degraded by grazing or logging.

References:

NatureServe Explorer

(https://explorer.natureserve.org/Taxon/ELEMENT_GLOBAL.2.721861/Quercus_pagodina_shumardii) - *Cornus foemina* - *Podophyllum peltatum* - *Hymenocallis occidentalis* Flatwoods Forest) - accessed 3/31/2020

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