

Ellanor C. Lawrence Park:
Field Notes

By:
David L. Gorsline

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Study Site

Ellanor C. Lawrence Park is a 650-acre unit of the Fairfax County Park Authority. It's located in the western part of the county, trisected north to south by Sully Road (Virginia 28), a divided highway, and Walney Road (Virginia 657), which meets Sully Road near the south end of the park. To the south lies the community of Centreville, as well as two east-west highways, Interstate 66 and U.S. 29.

The park is in the Piedmont physiographic province, and it is drained by Big Rocky Run, which flows southwest to Cub Run. A mill, now known as Cabell's Mill, was first built on the run in the 1750s. The property was donated to FCPA in 1971 by David Lawrence, per the wishes of his late wife, Ellanor Campbell Lawrence.

The northeastern section of the park is bounded by Walney Road on the west, a old fire road and Walney Park Drive on the north, a subdivision of single-family homes to the east, and Big Rocky Run to the south. It's roughly 1500' x 2500' (35 ha). The Woodland Trail (0.6 mi on trail maps) is a C-shaped trail that penetrates to the center of this northeastern section. The C is closed into a loop by a north-south access trail that runs along the park boundary and then north to Walney Park Drive, where parking is available. I designated the closed loop as my study site, and did not make substantial observations along the northern stem of the access trail. I observed no surface water at my study site.[FC13]

Bedrock for the study site is the Poolesville Member of the Manassas Sandstone, from the Late Triassic. Elevation is about 350'; there is a slight downward slope northeast to southwest. There is also a finger of Holocene alluvium (Qal) running in this direction, and it would appear that the Woodland Trail crosses this finger. [Drake94]

Visits

I walked the Woodland Trail loop on seven occasions. Following is a highly edited and condensed version of my field notes. Bird observations are given in a subsequent table.

The remains of a 3' high stone fence (Figure 2) run along the access trail, more or less dividing the park from the subdivision. The fence begins to break up along the north half of the trail leading to Walney Park Drive, then peters out entirely. The area along the access trail forms a clear ecotone between the subdivision and the forest. In my notes, I call this simply "the edge."

- 27 September 2014 13:45-15:45 counterclockwise around the loop

Sunny and clear, upper 70^os. Tree down across trail at trailhead, trail has rerouted itself accordingly. Area is posted for deer management. Invasive plants prevalent here: much, much Wineberry and Japanese Stilt-grass. The grass is overgrowing the trail. Also Mile-a-Minute, Multiflora Rose, Oriental Bittersweet, Garlic Mustard. Greater “diversity” of aliens along the edge. Deer Flies. Usually a sparse understory/shrub layer, but there are exceptions where these are more developed. Smartweed. Old bench with a Wineberry vine across it. Lots of windthrow. Very gentle roll to the topography, perhaps 10-20' change. Small white asters, resembling a fleabane. Deer-tongue Grass, deer-browsed. Fern sp., deer browsed. Virginia Pine, American Beech, White Oak, Flowering Dogwood, Common Persimmon, Virginia Grape. Greenbrier, deer-browsed. Christmas Fern, Pawpaw, in substantial clumps. American Sycamore, Poison Ivy, old Eastern Red-cedar. Tuliptree, Red Maple, American Holly, Partridgeberry, Red Oak, New York Fern, mystery composite, later keyed out to Wild Lettuce. 3-stemmed maple resprouting from windthrow. Another bench, littered with food wrappers and bottles; we will call this the Party Bench. Numerous breaks in the canopy. Some squirrel-nibbled twigs on the ground, squirrels audible. A Sweetgum sapling under a Red Maple, but no mature trees of this species. Male Spicebush with buds. Dead Sweet Birch. A hickory, perhaps Pignut. Black Walnut fruits on ground. Fruits hanging down (Figure 1): is this grape or Porcelainberry? 1-2” large oval/round woodpecker excavations. Beefsteak Plant near the edge. Many Mockernut Hickory shells along the fence line. Bird feeder along the fence line. Eastern Cottontail. Arrowwood Viburnum.

Some of the dogwood shows color, otherwise all green. Did not see, but expected: Pokeweed. IDs: Eastern Box Turtle. Small yellow blobs growing on a log: need more info to ID (Figure 5a). Lots of *Microstegium* seeds snagged onto my shoes.

- 5 October 2014 9:00-11:00 clockwise

50^os, calm, partly cloudy. Eastern Chipmunk. Black Walnut along the edge, many openings in the canopy, trees are of mixed height. Some double and triple trunks, evidence of cutting. The yellow mystery has bloomed up to be Chicken of the Woods (Figure 5b). Fall colors: some Tuliptree yellow on the ground. A windswayed Tuliptree, surrounded by Pawpaw. More Black Walnut fruits down: did these fall in the past week? The Virginia Grape seems more noticeable today. Cleaned up the trash around the Party Bench. It's at a high spot, and the canopy is open. Windthrown Va. Pine, an Eastern Red-cedar exposed to the canopy. Black Cherry. Pine seedlings, Tuliptree seedlings. Partridgeberry in fruit. Big wide canopy opening with nearly dead tree at center. Scratching at soil at the Wineberry Bench, moist, brownish, good leaf litter from previous years. There is a weathered fence post with lichens and two staples on it. After the Wineberry

Bench the sycamores come in, 1 w/4 stems. A 2-stemmed Red Oak. Taking a 2nd soil sample 2" deep: gray/brown, sandy, somewhat moist. Oak seedling. Short American Beech in canopy. 2-trunked White Oak. A few other grasses, here and there. More Wild Lettuce. Nearing the edge, Autumn Olive begins to appear, along with more Mile-a-Minute. On the outside of the loop, several Chestnut Oaks, mixed with other oaks, little understory. The patch with the oaks has a slight north-facing slope. There's a raggedy one sprouting from a 4"-diameter stump.

At the Party Bench, an *Aralia* species. Per [Sibley09], this is likely *A. elata*, non-native (ID based on stems and leaves, no flowers); however, [Weakley12] does not record *A. elata* in Virginia, suggesting that this is *A. spinosa*. A flower is desired.

- 14 October 2014 8:30-11:15 counterclockwise

Recent rain, cloudy, 70°, occasional breeze. The *Microstegium* is dying back, yellow. Hearing some Common Katydid, other orthopterans (trigs, perhaps). Smartweed is beginning to pale. A Blue Beech being taken down by an old bittersweet. The trees are generally showing color, esp. the understory trees. Some Spicebush fruits remain. Sassafras, one in Halloween orange. Barberry in fruit. I see Black Gum leaves but no trees. (Or do I see dogwood leaves?) Going off-trail at Wineberry Bench for 1st soil sample. Persimmons w/fruit on tree, uphill from the bench. Autumn Olive in fruit. Ferns yellowing, but not all. 2nd soil sample inside the loop at the Party Bench. Something smells bad: skunk? Willow Oak. Sweetgum leaves and fruits in leaf litter, but where is the tree? Lush clone of Pawpaw, 20 m across. Very well developed *Vitis* vines. Nearly stepped on a small bright yellow-green snake across the path, like a strappy leaf. 2' long, thin tapering tail, red tongue. Moved slowly across the trail, into hole? Keys out to Rough Green Snake. Mystery oak, leaning, on inside of loop: red oak group, brownish buds, not deeply lobed, snagged by *Vitis*. There is a side trail leading outside the loop, just after the walnuts. At the edge now: Bitternut and Pignut Hickory. Alas, a *Paulownia*, 20' tall, at the edge of an opening. Fruit on the Arrowwood Viburnum. Squirrel-dropped twig of Southern Red Oak, but I did not locate the tree.

1st soil sample: Digging 6" down, roots all the way down. Uniformly medium brown. Field soil texture test: forms a ball, no shine when rubbed, or very little. Does not form a ribbon (or is this my inexperience?). Wetted pinch very gritty. **Loamy sand/sandy loam.**

2nd soil sample: 6" down. Medium brown. Forms ball, slight shine when rubbed. Forms ribbon 2-1/4". Wetted pinch very gritty. **Sandy clay loam.**

- 26 October 2014 8:00-10:00 clockwise

50°s, mostly clear, breeze rising. Generous fall color, Greenbrier starting to brown up. A White Oak, still alive, but covered with big clusters of puffballs, mostly done. White-throated Sparrows much more conspicuous today. Some brown in the White Oak leaves. Smaller hickories all yellow-brown. Pawpaw yellow. By the Chicken of the Woods log, a white painted fence post in good condition, and a cross trail. *Microstegium* has died down, it's a little easier to see other herbs. Wineberry still green, Tuliptree yellow. Noisy leaves on the trail. The big beech is mostly bare. Stepping outside the loop, a big 3-stem Tuliptree. At 9:00, not much breeze on ground or on canopy. I am surprised by how much traffic noise from I-66 and VA 28 I can hear, as well as aircraft from IAD. The Eastern Red-cedar at the Party Bench is still thriving. The small white composite, on closer examination, is probably *Aster vimineus*. The persimmon is bare of leaves, full of unripe fruit. Some pink remains on the smartweed. Sycamores browning; with them, a hickory with bright yellow leaves. The leaves remaining on the Chestnut Oaks are still mostly green, but I see brown leaves on the ground, as well as oak seedlings. Seeds and stalks of Beefsteak Plant snagged on jacket and socks. Breeze picks up from time to time.

There is one patch of Pokeweed on the access trail leading to the loop.

- 1 November 2014 15:45-17:30 clockwise, with friend

Overcast, breezy, 45°. Lots of leaves down, can't see the nuts on the path for the leaves. Northern Cardinal at the feeder. A bit of English Ivy. Leaves on the Pawpaws at the Chicken of the Woods log are mostly down, other Pawpaws mostly green. Walnuts on the ground are going black: where is the tree? At the Party Bench, some fruits persist on the Partridgeberry. Persimmon still retains fruit. Collected a few from the ground: very soft, with chestnut-brown skins turning black around the calyx. The flesh tastes mild, but the skin is astringent: a little goes a long way. Found *Daedalea quercina* on a broken branch, somewhat ratty, not clean white. Leaves on Chestnut Oaks 50% down.

- 9 November 2014 7:00-11:00 counterclockwise

40°s, partly cloudy, calm winds. Lots of leaves down, perhaps 10% remain. Will I be able to follow the trail? Birds are deeper in the woods, not along the edge like they were on the 1st. A sycamore visible from the edge. Rock pile by the Chestnut Oaks. Stepped into one bit of spidersilk.

Looking at windfall patterns today: A red-cedar, fallen from the NW (winds from this direction). More or less in same direction, a pine lined up with it, then at the end of the pine, snapped-off top of a second pine, fallen just short of a Chestnut

Oak. Another patch of windthrow: from NE, from NNW. Perhaps a downburst?
A large Virginia Pine, from SW.

Looking at the soils where the sycamores are most prevalent: thick litter layer here, perhaps the soil at the surface is a little damper, but this is still upland, not wet. Multi stems: one with 2 stems and a stump, another with 4 stems. (This patch is about where the Qal alluvium is located.)

At the Wineberry Bench, persimmons are still on the tree. At the Party Bench, picked up a bit of trash. Windthrow here from NW. Some deadfall, too.

Beech leaves still on, golden brown with bit of green.

Maples here are confusing, appear to be much older than the rest of the trees. One tree here is 4-stemmed about 20' up; doesn't have the profile of a pasture tree with side branches. 113" circumference, but this might be overstated bec. of the multi stems.

Pawpaw still in yellow leaf. By the birches, some bedrock does crop out (Figure 3). Conversely, the White Oaks look young and small: can't find a large one in the interior. The Chicken of the Woods is growing on a deadfall Black Cherry (Figure 5c), bark of the base is scaly, but doesn't curl up like classic burnt cornflakes. Exposed heartwood shows the red. Tree lies across trail, was cut by managers into chunks. Tree stretches about 100' on ground; upper quarter of the tree shows lenticels. Larger White Oaks appear on both sides of the stone fence.

Measuring trees for aging: I tried to find the largest example of each species that I measured.

	CBH	Estimated age	Notes
Chestnut Oak	75.5"		
Virginia Pine	50"		
American Sycamore	61"	> 78 yr	3-stemmed; measured largest stem
Red Oak	71"	90 yr	harder to push pins into bark
Tuliptree	93"	89 yr	about 25' up, three stems; sapsucker holes above this branching
Red Maple	96"	137 yr	?!
Blue Beech	20.875"	47 yr	
American Beech	25.5"	49 yr	

Sweet Birch	39"		
Black Walnut	56"	80 yr	
White Oak	95"	151 yr	at the edge
Mockernut Hickory	67"		also hard to push pins
Black Cherry	83"	132 yr	measured 16 November

- 16 November 2014 9:15-11:00 clockwise

Overcast, 35°, light winds. Some leaves remain. Wineberry leaves green but curling and drying up. Ditto Autumn Olive. Watching birds at the feeder: I'd never noticed before that a Tufted Titmouse is a skosh bigger than a House Finch. Measured one of the Black Cherry trees for age. *Stereum* and that other sessile polypore that I see regularly. Conks on birch. Leaves down on the Pawpaw. Fruit persists on the Persimmon (!). Small oaks with persistent chocolate-brown leaves, shallow sinus, medium-to-large buds. I think these are just White Oak: upper sun leaves run more to type. I don't have my lichen keys, but I do see a bit of *Graphis scripta*. 30% of leaves remain on Chestnut Oaks.

Looking at some leaves to confirm what species of *Smilax* I have. I have a couple that are whitish underneath, but I don't think they are so glaucous as to be *S. glauca*.

Plant Species Observed

Ordered following [Weakley12]

- Forbs and ferns

¶ Christmas Fern (*Polystichum acrostichoides*)
 New York Fern (*Thelypteris noveboracensis*)
Symphytotrichum racemosum = *Aster vimineus* (probable)
 Wild Lettuce (*Lactuca canadensis*)
 * Garlic Mustard (*Alliaria petiolata*)
 * Beefsteak Plant (*Perilla frutescens*)
 * Mile-a-Minute (*Persicaria perfoliata*)
 Smartweed (*Polygonum* sp.)
 Partridgeberry (*Mitchella repens*)
 Deer-tongue Grass (*Dichanthelium clandestinum*)
 * Japanese Stilt-grass (*Microstegium vimineum*)
 Common Greenbrier (*Smilax rotundifolia*)

- Trees, Woody Vines, and Shrubs

& Eastern Red-cedar (*Juniperus virginiana*)
 \$ Virginia Pine (*Pinus virginiana*)
 Arrowwood Viburnum (*Viburnum dentatum*)
 \$& Sweetgum (*Liquidambar styraciflua*)
 \$ Poison Ivy (*Toxicodendron radicans*)
 ¶ Pawpaw (*Asimina triloba*)
 American Holly (*Ilex opaca*)
Aralia sp.
 * English Ivy (*Hedera helix*)
 Sweet Birch (*Betula lenta*)
 ¶ Blue Beech (*Carpinus caroliniana*)
 * Oriental Bittersweet (*Celastrus orbiculatus*)
 ¶\$ Flowering Dogwood (*Cornus florida*)
 & Common Persimmon (*Diospyros virginiana*)
 * Autumn Olive (*Elaeagnus umbellata*)
 & Black Locust (*Robinia pseudoacacia*)
 ¶ American Beech (*Fagus grandifolia*)
 †\$ White Oak (*Quercus alba*)
 \$ Southern Red Oak (*Q. falcata*) (probable)
 Chestnut Oak (*Q. montana*)
 Willow Oak (*Q. phellos*)
 †¶ Red Oak (*Q. rubra*)
 † Bitternut Hickory (*Carya cordiformis*)
 †\$ Pignut Hickory (*C. glabra*)
 \$ Mockernut Hickory (*C. tomentosa*)
 ¶ Black Walnut (*Juglans nigra*)
 ¶ Spicebush (*Lindera benzoin*)
 \$& Sassafras (*Sassafras albidum*)
 ¶\$& Tuliptree (*Liriodendron tulipifera*)
 \$ Black Gum (*Nyssa sylvatica*) (probable)
 * Princesstree (*Paulownia tomentosa*)
 & American Sycamore (*Platanus occidentalis*)
 & Black Cherry (*Prunus serotina*)
 * Multiflora Rose (*Rosa multiflora*)
 * Wineberry (*Rubus phoenicolasius*)
 ¶\$& Red Maple (*Acer rubrum*)
 Wild Grape (*Vitis* sp.)

* non-native

† Indicator species, Oak-Hickory Forest [Kricher98]
 ¶ Characteristic plants, Basic Mesic Forest [Spira11]
 \$ Characteristic plants, Oak-Hickory Forest [Spira11]
 & Trees of old field succession [Kricher98]

Bird Species Observed

Breeding and winter ranges from [Peterson02]

	27 Sep	5 Oct	14 Oct	26 Oct	1 Nov	9 Nov	16 Nov	Notes
<i>Accipiter</i> sp.			x					
Red-shouldered Hawk (<i>Buteo jamaicensis</i>)		x		x				
Turkey Vulture (<i>Cathartes aura</i>)			x			x		
Mourning Dove (<i>Zenaida macroura</i>)	x					x		
Hairy Woodpecker (<i>Picoides villosus</i>)				x				@
Downy Woodpecker (<i>P. pubescens</i>)	x	x	x					
<i>Picoides</i> sp.						x	x	
Red-bellied Woodpecker (<i>Melanerpes carolinus</i>)	x		x		x	x		§
Pileated/Flicker		x						
Northern Flicker (<i>Colaptes auratus</i>)						x	x	§
Great Crested Flycatcher (<i>Myiarchus crinitus</i>)	x							§ summer breeder
American Crow (<i>Corvus brachyrhynchos</i>)				x	x	x	x	
Blue Jay (<i>Cyanocitta cristata</i>)	x	x	x	x		x	x	†§
Carolina Chickadee (<i>Poecile carolinensis</i>)	x	x	x	x	x	x	x	
Tufted Titmouse (<i>Baeolophus bicolor</i>)	x	x	x	x	x	x	x	§
White-breasted Nuthatch (<i>Sitta carolinensis</i>)	x	x	x	x	x	x	x	@
Carolina Wren (<i>Thryothorus</i>)	x	x	x	x		x	x	§

<i>ludovicianus</i>)								
Ruby-crowned Kinglet (<i>Regulus calendula</i>)				x				winter resident
Eastern Bluebird (<i>Sialia sialis</i>)						x		
American Robin (<i>Turdus migratorius</i>)	x	x	x	x	x		x	
Hermit Thrush (<i>Catharus guttatus</i>)						x		@ winter resident
Gray Catbird (<i>Dumetella carolinensis</i>)	x							§ summer breeder
Northern Cardinal (<i>Cardinalis cardinalis</i>)				x	x	x	x	§
White-Throated Sparrow (<i>Zonotrichia albicollis</i>)			x	x	x	x	x	winter resident
Song Sparrow (<i>Melospiza melodia</i>)				x				
Eastern Towhee (<i>Pipilo erythrophthalmus</i>)		x	x	x		x		§
House Finch (<i>Carpodacus mexicanus</i>)							x	

† Indicator species, Oak-Hickory Forest [Kricher98]

§ Forest interior-edge species [Kricher98]

@ Forest interior-only species [Kricher98]

Other Species/Taxa Observed

- Fungi and lichens

Graphis scripta

Flavoparmelia caperata

Chicken of the Woods (*Polyporus sulphureus*)

Daedalea quercina

Ganoderma applanatum

Stereum ostrea

Trichaptum biforme

- Invertebrates

Common True Katydid (*Pterophylla camellifolia*)

Deer Fly (*Chrysops* sp.)

- Herps

Eastern Box Turtle (*Terrapene carolina carolina*)

Rough Green Snake (*Opheodryx aestivus*)

- Mammals

Eastern Chipmunk (*Tamias striatus*)

† Eastern Gray Squirrel (*Sciurus carolinensis*)

Eastern Cottontail (*Sylvilagus floridanus*)

White-tailed Deer (*Odocoileus virginianus*) (indirect evidence only)

† Indicator species, Oak-Hickory Forest [Kricher98]

Questions to Be Answered

Stratification: Variable. Some patches with good herb, shrub, and understory layers, with Spicebush, Pawpaw; others heavily deer-browsed, and the herb layer dominated by Wineberry and Japanese Stilt-grass. Park-like conditions under the Chestnut Oaks, with little understory.

Types of Trees: Predominantly broad-leaved deciduous. See also discussion of forest age below.

Indicator Species: There's a good fit for Kricher's † Oak-Hickory Forest. In Spira's system, the forest shows characteristics of ¶ Basic Mesic Forest (a wet community) and \$ Oak-Hickory Forest (a dry community).

Species Richness: A surprising variety of tree species, with many of the species that are common to the mid-Atlantic Piedmont. More difficult to assess diversity of the herb layer at this season.

Soil: See notes for 14 October 2014 above.

Soil Moisture: Mesic conditions; evidence of a slight gradient dry-to-wet from the Chestnut Oaks down to the American Sycamores.

Evidence of Fire: No evidence of recent fire.

Plant Population Patterns: Definite clumps for certain species (e.g., Chestnut Oaks, Pawpaw). Other species (e.g., Wineberry) evenly spread everywhere.

Forest's Age/Old Fields: Canopy trees are large, well-spaced; there is much deadfall and windthrow and many gaps.

Trees in this forest seem to be of three cohorts. There are the old Red Maples, White Oaks, and Black Cherries (130-150 years old, ca. 1870), which perhaps are remnants from when this land was actively farmed. The oldest oaks, in particular, cluster along the fence, where they may have escaped being cut down. Black Cherry is a successional tree, per [Kricher98]. It would be good to get an age estimate for the Chestnut Oaks.¹

Then there are trees that are about 80-90 years old, ca. 1930: these are both hardwoods (American Sycamore, Red Oak, Tuliptree, Black Walnut) and softwoods (Virginia Pine, Eastern Red-cedar [I don't have a good age estimate for these]). This community is consistent with the hypothesis that the tract was an old field in 1930 and began to undergo succession. The pines and red-cedars do not look strong; they appear to be the pioneer trees that are now being replaced by the hardwoods. [Kricher98] notes that American Sycamore can be a succession species. Perhaps a sampling of some of the younger Red Maples would also find individuals from the 1930s.²

Finally, there are understory trees (Blue Beech, American Beech) that are about 45 years old, ca. 1970, that would have settled in to the maturing forest. Interestingly, this is time when the Lawrences deeded the property to FCPA.

Forest Gaps: Many examples of windthrow and deadfall, resulting in numerous gaps. Where there are gaps, herb layer is dominated by aggressive alien species, Wineberry and Japanese Stilt-grass.

1 [FC13] offers an explanation: the property was exhaustively logged during the Civil War. In 1861-1862, 40,000 soldiers camped in and around Centreville.

2 [FC13] concurs: the farm "appears to have been abandoned for several years in the late 1920s and early 1930s before Ellanor C. Lawrence bought the farm from the Machen heirs in 1935."

Forest's Future: Uncertain. I see evidence of oak, Tuliptree seedlings that will replace their mature counterparts. On the other hand, deer-browse pressure is apparent, which would have an adverse effect on recruitment. And the predominance of invasives in the herb layer is concerning.

Apart from the posted deer management activity, there is not much evidence that park staff or volunteers are actively managing the patch. There are three places where downed trees cause a walker to be diverted. The proximity of the houses makes any sort of controlled burning a non-starter. Indeed, there is little evidence that anyone uses the patch, save for some ill-mannered litterbug children.

The strong diversity of tree species is promising, however. If some means could be found to control the *Microstegium* and *Rubus*, I suspect that this could remain a healthy oak-hickory forest.

Ecotones: As noted above, there's a distinct, rather sharp ecotone along the eastern side of the study site. With the exception of Wineberry and *Microstegium*, the alien invasives are segregated into this edge, with just scattered examples along the Woodland Trail. But also, there are native species that are more prevalent along the edge than in the interior: hickories, Arrowwood Viburnum, and the large White Oaks.

Animals: At this season, birds are the easiest to detect. I was surprised to see so little evidence of spiders and other invertebrates, although I was not actively searching for them. No reason to believe that the actual populations differ from the norm, with many undetected invertebrates, salamanders, and nocturnal mammals.

Energy Pyramid: Similarly, I did not estimate biomass of the various trophic levels. But I did observe primary production (flowering plants, ferns, lichens), herbivory (deer browse, squirrels and rabbit, a wood-boring insect [Figure 4]), predators (insectivorous birds, snake, hawks), scavengers (vulture), decomposers (fungi).

Seasonality: At the beginning of the study period in late September, I observed lingering summer breeding birds (Gray Catbird, Great Crested Flycatcher); these birds were not observed after September. Winter resident birds (White-throated Sparrow, Ruby-crowned Kinglet, Hermit Thrush) began to appear in mid-October, with the sparrows coming on strong by 26 October.

A fine variety of fall-fruiting plants: Common Persimmon, Flowering Dogwood, Partridgeberry.

On a shorter time scale, it was particularly interesting to watch the progress of a bloom of Chicken of the Woods (Figures 5a-5c).

Figures

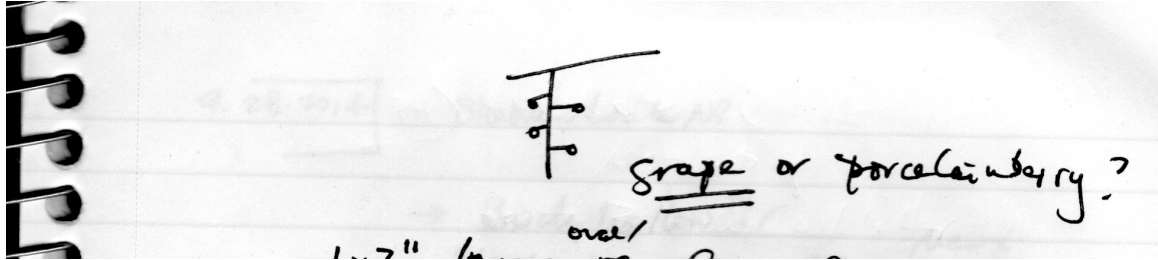


Figure 1



Figure 2



Figure 3



Figure 4



Figure 5a



Figure 5b



Figure 5c

References

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