



Nature Notes

Journal of the Webster Groves Nature Study Society February 2010, Vol. 82, No. 2

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President's Corner

Ann Earley

I hope 2010 is off to a good start for everyone. If your New Year's resolution is to learn more about nature, WGNSS offers many educational and volunteer opportunities to do so. Resolve to join us at an upcoming program presentation, field trip, or meeting of interest!

Following our break from program meetings in January, our **February general program meeting** will be a joint meeting with St. Louis Audubon at the Creve Coeur Community Center. This program will be held on **Tuesday, February 16 at 7:00 P.M.** and will feature U.S. Army Corps of Engineers Biologist **Sarah Miller** speaking about **"The Interior Least Tern at Riverlands."**

Besides presenting general information about this bird, Sarah will also provide an update on the status of the Interior Least Tern Habitat Project at the Riverlands Migratory Bird Sanctuary in West Alton. Don't miss this opportunity to learn more about this local project!

Also in February, WGNSS will have a display table at the Missouri Botanical Garden's Backyard Bird Festival. This event will be held on Saturday, February 6 from 7:30 A.M.–3 P.M. Fees vary for the various Festival events offered, so check www.mobot.org or call (314) 577-5140 for additional information or to register. This is a great opportunity for adults and children of all ages and

experience levels to learn more about birding and bird identification.

The New Year brings additional opportunities to become involved and participate in your Society. Elections for officers and Board members will be held in the first part of 2010, and your input and assistance are needed! **We are seeking nominating committee members, as well as candidates for several offices, including President, Vice President, Member-at-Large, and committee chair positions.** Please contact me or another Board member for additional information or suggestions about these openings. **New members are especially encouraged to volunteer. WGNSS needs your skills and talents!**

New officers and Board members will be installed at the WGNSS spring banquet to be held in May. Planning is underway for this year's event, so watch for further details in future issues of *Nature Notes*.



February General Program Meeting

February General Program Meeting Spotlights the Interior Least Tern at Riverlands: Tuesday, February 16, 2010 at 7 P.M. at Creve Coeur Community Center

The Webster Groves Nature Study Society will hold a joint program meeting with St. Louis

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Audubon Society on Tuesday, February 16 at 7 P.M. at the Creve Coeur Community Center. U.S. Army Corps of Engineers Biologist Sarah Miller will speak about the Least Tern and the ongoing habitat project for this bird at Riverlands Migratory Bird Sanctuary in West Alton. Come hear about project planning for the upcoming nesting season and how you can become involved!

Sarah has worked in the Environmental Stewardship Section of the Rivers Project Office for five years and has extensive experience working on the Mississippi and Illinois Rivers. Her academic credentials include a Bachelor of Science degree in Biology and Environmental Science, and a Master's degree in Environmental Science.

Directions to Creve Coeur Community Center at 300 N. New Ballas Road:

- From the intersection of I-270 and Ladue Road, go east on Ladue Road.
- Turn left at the light at New Ballas Road.
- Go one-quarter mile north to the Creve Coeur Community Center on the right.

The meeting room is in the northwest corner of the building's lower level, closest to the Ballas and Olive intersection.

November Botany Report

Compiled by George Van Brunt

November 2, 2009— Victoria Glade Preserve and Conservation Area, Jefferson County, MO (contributed by Jeanne Clauson).

A beautiful, sunny day after weeks of rain brought 17 hikers out to identify the fall offerings of Victoria Glade. The participants were Fr. Sullivan, George Van Brunt, Burt Knoll, Paul Corley, Jeanne Clauson, Jeanie Moe, Audrey Wattler, Doris Yohe, Martha and Rex Hill, Wayne and Nancy Clark, Larry Morrison, John Oliver, Bridget Schaefer carrying 3 month old John, and Amy Madalon and her 4 year old son, John.

Obvious in the first glance at the glade were the large, black curled leaves of prairie dock (*Silphium terebinthinaceum*). Also stiff and darkened were stems and leaves of Fremont's leather flower (*Clematis fremontii*). The coarse feel of these two plants quite fascinated 4-year old John. Leaves of the round-fruited St John's wort (*Hypericum sphaerocarpum*) stood out because they remained a rich green, and the much elongated leaves of bird's foot violet (*Viola pedata*) were explained by John Oliver to have grown considerably after the plant had flowered. Near the end of the walk Fr. Sullivan located a silky aster (*Symphiotrichum sericeum*) plant. The silvery underside of its leaves felt as smooth as the common name implied.

The few blooming plants consisted of a probable white heath aster (*Symphiotrichum pilosum*) spotted by Larry Morrison just over the creek, aromatic aster (*Symphiotrichum oblongifolium*) the common name referring to the turpentine-like aroma of the leaves when crushed, and tiny narrow-leaved bluet (*Hedyotis nigricans*) found by someone with very good vision. Two plants just past bloom and in fruit were a goldenrod (*Solidago gattingeri*) and Great Plains ladies tresses (*Spiranthes magnicamporum*).

Recognizable seed heads from familiar flowers were those of Missouri coneflower (*Rudbeckia missouriensis*), cylindrical blazing-star (*Liatris cylindracea*), ashy sunflower (*Helianthus mollis*), wild onion (*Allium stellatum*), thimbleweed (*Anemone*

cylindrica), and prairie dock (*Silphium terebinthinaceum*).

Also evident in seed were the grasses such as river oats (*Chasmanthium latifolium*) near the creek, little bluestem (*Schizachyrium scoparium* var. *scoparium*), sideoats grama (*Bouteloua curtipendula*), and dropseed (*Sporobolus* sp.), which has a leaf sheath wider than the leaf blade. George Van Brunt explained that Indian grass (*Sorghastrum nutans*) is one of the grasses which have a ligule (a membrane with a hairy margin on the inner side of a leaf sheath at its junction with the leaf blade). A sample of three-awn grass (*Aristida* sp.) was taken for further identification.

Water accumulation in some level areas on the glade gave *Nostoc* an opportunity to grow. This blue-green alga forms dark, jellylike colonies in moist places.

Also out enjoying the day was either a large wolf spider or thin tarantula (which chose not to climb into Rex Hill's hand). Another spider, which John Oliver identified as the common rabid wolf spider [*Rabidosa rabida*, ed.], had light stripes on its back.

Several gum bumelia or woolly buckthorn (*Sideroxylon lanuginosum*) trees held bunches of black berries, and noticeable by the creek as we left the glade was a small eastern wahoo tree (*Euonymus atropurpureus*) with its red fruits gleaming in the sun.

November 9, 2009— LaBarque Creek Conservation Area, Jefferson County, MO (contributed by Nels Holmberg).

A chance to hike the new trail at LaBarque Creek Conservation Area drew a crowd of 13 for the November 9 botany hike. The group set off in hopes of hiking the entire 3 miles trail, with a fallback option of cutting back along a small tributary if we ran out of time. We did. Even with few plants in flower and without Fr. Sullivan to slow us down with Latin names and quizzes, we couldn't make the 1 MPH speed it would take to get us around the loop.

Botanically, the hike was dominated by bryophytes and ferns. The Conservation Area was beautifully decked out in the green of these two groups. Common mosses admired were *Atrichum* sp. (Catherine moss), *Climacium americanum* (tree moss), *Bryoandersonia illecebra* (spoon-leaved moss), *Entodon seductrix* (glossy moss), *Polytrichum juniperinum*

(juniper hairy cap moss), and *Thuidium delicatulum* (delicate fern moss). Ferns noted were *Asplenium platyneuron*, (ebony spleenwort), *Cheilanthes tomentosa* (woolly lip fern) and *Polystichum acrostichoides* (Christmas fern).

Lists kept for this Conservation Area show 516 vascular plants and 123 bryophytes. Three interesting plants were added to the list: *Corallorhiza odontorhiza* (autumn coralroot), *Pseudognaphalium obtusifolium* (cudweed/sweet everlasting), and *Monotropa uniflora* (Indian pipe). The orchid with a few small seed pods was barely visible in the leaf litter beside the trail. Sweet everlasting is an annual aster family plant. The plant is covered with a cottony down and has an aroma that some say resembles vanilla or perhaps chocolate. The Indian pipe produces no chlorophyll, and is white while it grows. Now it was black and crisp. Without chlorophyll it gets its nutrition from fungus, forming a relationship with *Russula* and *Lactarius* species. These fungi are also mycorrhizal with trees, and thus the energy ultimately comes from photosynthesis of the tree, then passing through the fungus on the way to the *Monotropa*. As their contribution to the mycorrhizal relationship, the fungus aids the tree in absorption of water and essential minerals, especially phosphorous.

With few leaves left this late in the fall, one plant was discouragingly and abundantly visible: *Lonicera maackii* (Bush honeysuckle). Small saplings of this invasive exotic were scattered along the trail. The group pulled up many of these seedlings as we hiked, as the young plants mostly pull easily out of the damp sandy soil. This may be a futile attempt to control its invasion, but it made us feel like we were doing something.

November 16, 2009— Missouri Botanical Garden, St. Louis, MO (contributed by Jack Harris).

Eight WGNSS trippers (Fr. Sullivan, Wayne Clark, Nancy Clark, Jack Harris, Jeannie Moe, Marlene Bopp, Jack Mitchell and Jackie Mitchell) gathered at the lobby area of the Ridgway Visitor Center. Weather forecasters prediction of rain (assurances increasing from 50% to 90%) for this Monday prompted a day's plan that included options for nearby access to shelter such as the Climatron.

After a brief visit to the Garden Gate Shop, the “Losing Paradise” exhibit and the Plants-in-Bloom table, the walk began under cloudy, but rain free, skies; a condition which lasted about an hour and a half. The path selected by the trip leader Rev. Jim Sullivan led through the Linnaean House, the Ottoman Garden, the Sensory Garden, past the Iris Garden and the Day Lily Garden, a short side tour of the rare corkwood colony (*Leitneria floridana*), and on by the Tower Grove House.

An eclectic list of plants that garnered attention of the group would include: *Ilex verticillata* (winterberry) for its showy set of red fruits, *Bergenia cordifolia* (pigsqueak) for its large leaves, the colorful *Lagerstroemia* spp. (crepe myrtle), *Citrus* x Myers (lemon) with a few heavy, ripening fruits, *Ficus carica* (common fig) bearing a good years yield, *Salvia elegans* (pineapple sage), with showy red flowers and odor like a pineapple, *Carya cordiformis* (bitternut hickory) with a dense litter of hickory nuts on the ground, a huge *Phellodendron amurense* (Amur cork tree) noted for its wide, wide spread of sagging lower branches, some of which may touch the ground and then again reach toward the sun. At the location of a grove of *Sassafras albidum* (Sassafras), an interpretive sign noted that prior to 1819 the area was native tall grass prairie, quite a contrast with the present condition. At about that time the promised rain arrived and the group opened up their umbrellas and headed for the Cimatron.

Upon entering the sheltered area, and as soon as the fog cleared from our glasses, we observed the *Fittonia albivens* (mosaic plant) with its contrasting, ornamental leaf vein patterns, and the Bromeliad *Tillandsia usneoides* (Spanish moss) that is neither a moss nor a lichen, which it is commonly mistaken for. Its flowers are tiny and inconspicuous. Later we were advised by occasional commentary from Jackie Mitchell, a Master Gardener, that we were passing through the display of commercially significant tropical plants. Here a species of *Punica granatum* (pomegranate) with showy orange flowers was apparent, along with the relatively obscure *Persea americana* (avocado). The avocado, a native of Mexico, is a subtropical species now cultivated around the world. Not visible on this visit, but later reading revealed that the cultivars of

avocado have two flowering types. One has flowers that open as female on the morning of the first day and close later in that day. Then they open as male in the afternoon of the second day. The second type opens as female in the afternoon of the first day, closes in late afternoon, and then opens as male the following morning. The writer can only attest that this flowering complexity results in a pastel of flavors in the fruit, that when laced with carefully selected spicy ingredients can produce a delicious guacamole.

Meanwhile back at the banana and coffee plants, also in this vicinity, the ambient presence of so many food related plants prompted an umbrella caravan to the Sassafras Restaurant where the group enjoyed the camaraderie of a rainy days lunch.

November 23, 2009—Babler State Park, St. Louis County, MO (contributed by John Oliver).

Clear skies with steadily warming temperatures lured 15 botanists (Fr. Sullivan, Jack and Jackie Mitchell, Jim Wiant, Jack and Pat Harris, Wayne and Nancy Clark, Jeannie Moe, Jean Clausen, Larry Morrison, Ed and Darlene Haun, Paul Corley and his two dogs, and John Oliver.) to the botany walk at Babler State Park in St. Louis County. The group walked along the Woodbine Trail, which starts in the north-south valley that intersects the park and soon starts uphill, sharing a section of a paved bike trail that runs through the woods.

Most of the leaves of the forest trees and shrubs had already fallen, giving us an opportunity to refresh our rusty knowledge of winter twig identification. *Corylus americana* (hazelnut) was relatively easy to identify, since it had a few fruits still remaining on the branches and some tiny catkins which will become the male flowers early next spring. Likewise, the presence of the heavy pods of *Gymnocladus dioica* (Kentucky coffee tree) caught our eyes, and the distinctive bark of the trees along with the long central stalks of the huge, doubly compound leaves on the ground confirmed the identification. *Lindera benzoin* (spice bush) had few of the bright red berries left, but the small, round buds of next year’s flowers and the “scratch and sniff” test served to identify it. The twigs of *Cornus florida* (flowering dogwood) and *Asimina triloba* (pawpaw) were recognizable, and a few trees

are actually easier to identify in winter than in summer. *Carya cordiformis* (bitternut hickory), for example is similar to several other hickories in the summer, but in winter has bright yellow buds which are distinctive.

Late fall is a time when most of the forest and forest floor takes on a yellow-brown aspect and those plants with green leaves remaining stand out in contrast. Many times this indicates non-native and invasive plants like *Lonicera maackii* (bush honeysuckle) and *Euonymus alatus* (wintercreeper), which are unfortunately very common in our area and were represented at Babler. A closer look at the forest floor, however, did reveal a few native plants still green or in fruiting condition. In fact, we had hardly left the parking area when we encountered the first of what turned out to be approximately 20 specimens of *Aplectrum hyemale* (Adam and Eve orchid). This welcome winter sighting shows one striking dark green, white-veined corrugated leaf coming from each underground corm. The overwintering leaves are the reason for the name *hyemale* (“winter”), and are much more frequently seen than the flowers, which are harder to spot on the forest floor in May or June. *Polystichum acrostichoides* (Christmas fern) and *Asplenium platyneuron* (ebony spleenwort) were also green and abundant in places, while *Botrychium dissectum* (cut-leaf grape fern) showed leathery, bronze-colored sterile leaves with some prominent fertile fronds rising above them. Here and there, the delicate, shiny leaves of *Galium concinnum* (shining bedstraw) were also still showing green coloration.

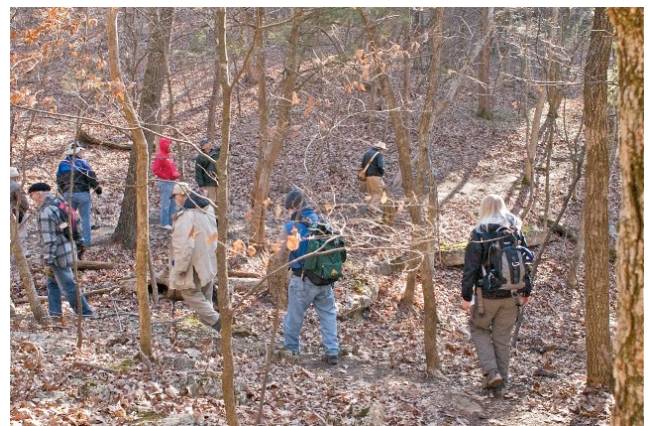
Other species noted included *Chasmanthium latifolium* (river oats), *Rudbeckia triloba* (brown-eyed Susan), *Cryptotaenia canadensis* (wild chervil), *Viola sororia* (common violet), *Lobelia inflata* (Indian tobacco), *Prunella vulgaris* (self-heal), *Symphotrichum lateriflorum* (white woodland aster), *S. pilosum* (hairy white oldfield aster), *Solidago altissima* (tall goldenrod), *S. rugosa* (rough-leaved goldenrod), *Lepidium campestre* (field cress), *Agastache nepetoides* (yellow giant hyssop), *Persicaria longisetata* (bristly lady's-thumb), *Campsis radicans* (trumpet creeper), *Polygonum cuspidatum* (Japanese knotweed), and a couple of late bloomers, *Campanulastrum americanum* (tall bellflower) and *Veronica sp.* (a speedwell).

Note: Labeled and annotated pictures of this and other WGNSS botany field trips may be found at

<http://community.webshots.com/user/oliverjcomo>

November 30, 2009— LaBarque Creek Conservation Area, Jefferson County, MO
(contributed by Jack Harris).

A larger than usual group of fourteen WGNSS field trippers (Rev. Jim Sullivan and brother Bill Sullivan, Wayne Clark, Jack Harris, Pat Harris, Jeannie Moe, John Oliver, Bob Coffing, Nels Holmberg, Bill Knight, Burt Noll, Tina Mathes, Paul Corley, and Jim Wiant) assembled at the parking area of the LaBarque Conservation Area, mostly to take advantage of the fine hiking weather for this last day of November. It was clear, sunny, and a cool 39–49 degrees F. The day's route was to cross the new pedestrian bridge over LaBarque Creek, still adorned with the ribbons from the official opening day ceremonies a few weeks earlier, and follow the eastern side of the loop trail laid out by MDC (on an earlier visit the western side of the loop had been followed). In each case the rate of travel of the group permitted progress along the trail to only about half way to the farthest point before the clock indicated time to start back. In this case a bushwhacking “cut 'em off at the pass” style detour led the group to intersect with the west side of the loop and then a return to the starting point.



WGNSS Botany Group on the trail at LaBarque Creek Conservation Area. Photograph by Jack Harris.

Vascular plants for the day: It was a three orchid day starting with the conspicuous leaves of *Aplectrum hyemale* (Adam & Eve orchid) found only a few yards beyond the bridge. And on the return trip the seed pod bearing stems of

Spiranthes cernua (nodding ladies tresses orchid) were found on a small sandstone outcrop glade. Nels Holmberg subsequently discovered *Corallorhiza odontorhiza* (late coral root orchid) and *Ilex opaca* var. *opaca* (American holly) on a short off-trail excursion. Also noted along the trail were *Opuntia humifusa* (eastern prickly pear), *Schizachyrium scoparium* var. *scoparium* (little bluestem), *Muhlenbergia sobolifera* (rock muhly), *Lobelia inflata* (Indian tobacco), *Carex glaucoidea* (blue sedge), *Carex eburnea* (green hair sedge), *Cunila origanoides* (dittany), *Chasmanthium latifolium* (river oats), *Ostrya virginiana* (eastern hop hornbeam), *Carpinus caroliniana* (musclewood), *Elymus villosus* (downy wild rye), *Elymus hystrix* (bottlebrush grass), *Solidago rugosa* (rough-leaved goldenrod), *Arnoglossum atriplicifolium* (pale Indian plantain), and *Solidago hispida* var. *hispida* (hairy goldenrod).

Ferns for the day: (*Dryopteris marginalis* (marginal shield fern), *Polystichum acrostichoides* (Christmas fern), *Pellaea glabella* (smooth cliff brake fern), *Asplenium platyneuron* (ebony spleenwort fern), the withered, brown remnants of *Adiantum pedatum* var. *pedatum* (northern maidenhair fern), and John Oliver found *Botrychium dissectum* (cut-leaf grape fern). From the group of plants closely related to the ferns, the *Equisetum hyemale* var. *affine* (winter scouring rush) was noted at several localities.

Mosses for the day (IDs by Nels Holmberg): *Brachythecium laetum* (cedar moss), *Thuidium delicatulum* (delicate fern moss), *Bartramia pomiformis* (apple moss), *Anomodon attenuatus* (common tree apron moss), *Climacium americanum* (tree moss), and *Leucobryum glaucum* (cushion moss).

Lichens for the day: *Cladina* sp. (reindeer moss), *Cladonia* sp. (British soldiers).

Following the day's successful trip, several members repaired to a local gourmet restaurant for a tasty lunch.

CORRECTION: In the list of attendees for the September 7, 2009 (*Nature Notes*, December 2009 issue, page 4); Jerry "Breadstone" should have read Jerry "Breakstone". My typo—JHH



"Lichen Lite" For Field Botany Aficionados

By Jack Harris

Lichens are fungi that have discovered agriculture—Lichenologist Trevor Goward¹

The WGNSS Botany Group visited the LaBarque Creek Watershed Conservation Area on 9 November 2009. Hiking a part of the trail on the outbound and bushwhacking on the return trip, the Group observed a wide variety of lichens and mosses occupying the various sandstone and dolomite outcroppings. At this time of the year these organisms are conspicuously colorful when framed by the near continuum of fall brown leaf litter over the landscape.

The field trip participants were fortunate to be joined by Nels Holmberg who answered questions and identified nearly all of the bryophytes (mosses, liverworts, and hornworts). However, there were many unanswered questions about lichens. The following may answer some of those questions.

- A lichen is a symbiotic composite of a fungus and an organism that is capable of photosynthesis.
- The photosynthesis capable organism (a photobiont) is usually a: 1) green algae; 2) cyanobacterium (blue-green alga); or 3) both. Interestingly, these organisms are morphologically and physiologically different to the degree that they are assigned to different Kingdoms by biologists.
- There are an estimated 14,000¹–20,000³ species of lichens in the world.
- A checklist² of Missouri lichens by Doug Ladd includes 436 taxa (Missouri lichens "remains poorly studied.").
- Most of the fungi that form lichens are members of the Ascomycetes group (30,000 species strong) of fungi. Less than half of these may form lichens. A much smaller

number of lichens may be formed by members of the Basidiomycetes group of fungi.

- About a dozen genera of photobionts make up the vast majority of organisms that may be associated with fungi and become lichens. Only about 2–3% of all lichen photobionts have been identified to species level due to the difficulty of identification. In some cases the same species of photobiont may occur in more than one species of lichen fungus.
- Lichens occur on every kind of surface from soil, rocks, tree bark, sidewalks, even to the backs of insects, and they range globally from the poles to the tropics.
- When in close association (i.e., as in a lichen) the physical form/morphology of the fungus and the photobiont each transform into shapes that may not be visually relatable to the appearance of those same organisms when they are separate.
- The fungus is the main source of the structure and external shape of the lichen and the spectrum of colors that catch the eye. The colors may vary greatly when wet vs. dry.

For those who wish to investigate further the complex world of LICHENS, I suggest the sources listed below for starters.



Typical Missouri lichens ... *Cladonia* spp. Photograph by Jack Harris.

SOURCES:

1. Brodo, Sharnoff & Sharnoff. 2001. Lichens of North America. Yale University Press. One author's web page <http://www.lichen.com/>
2. Ladd, D. 1996. Checklist and Bibliography of Missouri Lichens. Conservation Commission of the State of Missouri. The text of this document is at <http://mdc.mo.gov/nathis/lichens/lichens/>
3. For a brief survey of the status of "Lichenology," visit: <http://en.wikipedia.org/wiki/Lichens>.



Pickle Springs Natural Area¹

By Ted C. MacRae

[Pickle Springs Natural Area](#) lies in Ste. Genevieve County, about an hour south of St. Louis. Like [Hawn State Park](#), the geology of this area and its effect on the flora have resulted in a unique collection of geologic features and plants found in few other places. The Lamotte sandstone outcrops that dot the landscape were formed nearly half a billion years ago when sand deposited in an extensive maze of braided river channels was cemented and buried under younger layers of limestone and dolomite formed from deposits on the floors of ancient seas that covered the interior of the continent. Later, the periods of uplift that created the St. Francois Mountains and resulting erosion of overlying strata once again exposed the sandstones at the surface. Millions of years of water, ice, rain, wind, and plants have further shaped the exposed sandstones, creating fantastic shapes and formations and cool, deep canyons. The weathered sandstone created acid soils which support many unique plants. During the ice ages, northern plants and animals moved into the area ahead of the advancing glaciers. Mammoths roamed the landscape grazing on the northern vegetation supported by the area's acid soils. Eventually the ice retreated, and so did the mammoths. But many of the plants remained – able to hang on in the cool, moist canyons long

¹ Reprinted from an article posted December 29, 2007 on the author's website: <http://beetlesinthebush.wordpress.com>
All photographs by the author unless specified.

after the mammoths that once roamed these canyons disappeared. Because of this unique concentration of rare plants and geologic features, the area has been designated a [Missouri Natural Area](#) and a [National Natural Landmark](#).

Yesterday I hiked the aptly-named ‘Trail Through Time’ with my family. This 2-mile trail is one of the most “feature-packed” trails in the state, with something to look at around almost every bend. Almost immediately the trail leads to the Slot, the result of a vertical fracture in the Lamotte sandstone that was loosened by leaching and then widened by erosion. The unique partridge berry (*Mitchella repens*) was seen on the moist, vertical walls of the rock, growing among strange holes, pockets, and ridges that formed as a result of the sand grains being variably cemented.

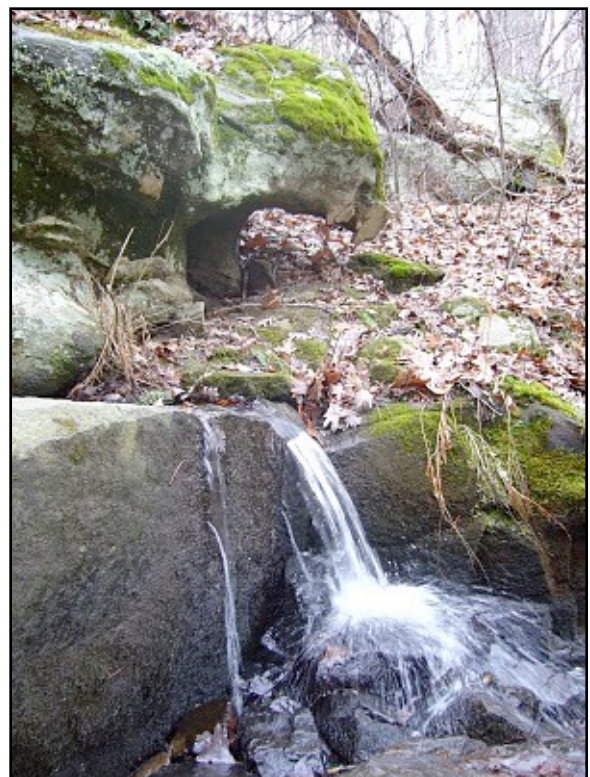


A short distance from The Slot lie Cauliflower Rocks – large mound-like formations (also called hoodoos or rock pillars) formed from jointed or fractured sandstone that undergoes deep solutional weathering followed by erosion and weather-mediated shaping. Hoodoos occur primarily in this type of rock due to its granular, variably cemented and cross-bedded matrix. On the south side of Cauliflower Rocks lies a special type of butters arch called Double Arch. It

occurs at almost a right angle to the adjacent rock outcrops, suggesting formation along a set of fractures running perpendicular to the main fracture trend of the area, but the precise details of its formation remain a mystery.



After leaving Cauliflower Rocks the trail descends steeply into a deep valley, at the bottom of which lies Pickle Creek just below its origin in a box canyon south of the Natural Area. Lush vegetation in this cool, moist valley contrasts with the stark rocks seen earlier.



The creek is fed by a series of seeps, allowing the valley to remain moist even during the dry

summer months, and along with the acid soils support a unique plant community. Lush colonies of ferns (I believe this is *Polypodium virginianum* L.) covered the rocks adjacent to the creek...



...while this rattlesnake plantain orchid (*Goodyera pubescens*) was seen in a colony growing at the base of a black oak tree (*Quercus velutina*) just above the creek.



Mosses and lichens were also abundant in the valley. This little hair cap moss (*Polytrichum* sp.) with its distinctive fruiting structures was growing in a colony at the base of another black oak tree. The members of this genus prefer acidic environments.



Further ahead, along Bone Creek, several colonies of woolly aphids (family Aphididae) were seen on the branches of a small hop hornbeam tree (*Ostrya virginiana*).



The highlight of the hike had to be in Spirit Canyon at Owl's Den Bluff. The horizontal layers of sandstone, each deposited on the steep

downstream slopes of sandbars, are clearly visible in the towering bluff face. At the bottom lie bluff shelters – formed where lower sandstone layers collapse due to weathering or leaching, and where Native Americans almost surely camped out. The sun never reaches parts of these shelters, providing ideal conditions for a variety of mosses and liverworts – many of which are known only from this area. Fallen boulders and collapsed portions of the bluff face provided photo opps for the daring...



...and good exploring for the nimble.



By now, the trail has passed the halfway point and is looping back to the west, where it ascends

to Dome Rock Overlook. Along the way, a fascinating variety of lichens, including reindeer lichen, covers the forest floor where they are supported by the acid soils.



Dome Rock Overlook is the largest hoodoo complex in the Natural Area. The thin soils and exposed conditions create a harsh, dry, windswept environment that only the hardiest of plants can withstand. Only a few small blackjack oaks (*Quercus marilandica*), shortleaf pines (*Pinus echinata*), and farkleberry (*Vaccinium arboreum*) survive here. Despite their small size, some of the trees growing here are at least 150 years old.



The trail descends from Dome Rock Overlook and passes underneath, providing spectacular views of the sheer rock face below the overlook. The trail completes its descent back into Pickle Creek Valley, where Pickle Spring can be seen. This small, permanent spring – an unusual feature in sandstone where seeps are more

common – was an important source of water for early settlers.



Further along the trail lies one of the areas most unusual features – Rockpile Canyon – formed some 50 years ago (a fraction of a second in geologic time) when part of a sandstone bluff collapsed in a rumble, leaving behind a sheer bluff face and a jumbled pile of large boulders. A short spur in the trail leads to the head of a small box canyon, where some of the 20+ Ice Age relict plant species can be seen growing in the acid soils and cool, moist canyon walls.

Near the end of the loop lies Piney Glade, an area where the exposed sandstone bedrock once again creates a dry, harsh environment. Poverty grass (*Danthonia spicata*) and little bluestem (*Schizachyrium scoparium*) grow in small, shallow pockets of soil scattered amongst stunted shortleaf pines and blackjack oaks – creating a small prairie surrounded by a sea of forest. All three forms of lichens can be found on the rocks and soils of the glade – the aptly named crustose lichens cling tightly to rock surfaces amongst foliose (leafy) and fruticose (branched) lichens.



Eureka!

By Richard Thoma

Many years ago, while collecting insects in the floodplain forest at Otter Slough Conservation Area in Stoddard Co., Missouri I ran across a strikingly beautiful flower. It was white, six-sided,

and almost tubular like a delicate morning glory. This flower, however, was not any morning glory I was familiar with. What made this flower unique was that long, delicate streamers flowed out from beneath all six sides of the flower. Also, one green stalk indicated the plant I was looking at was a monocot, while a morning glory is a dicot. The flower easily stood out on the heavily shaded, nearly barren forest floor. Even though I didn't know what it was, I was confident that the flower could easily be identified. Just to be certain, I took several photos to help with the identification back home.

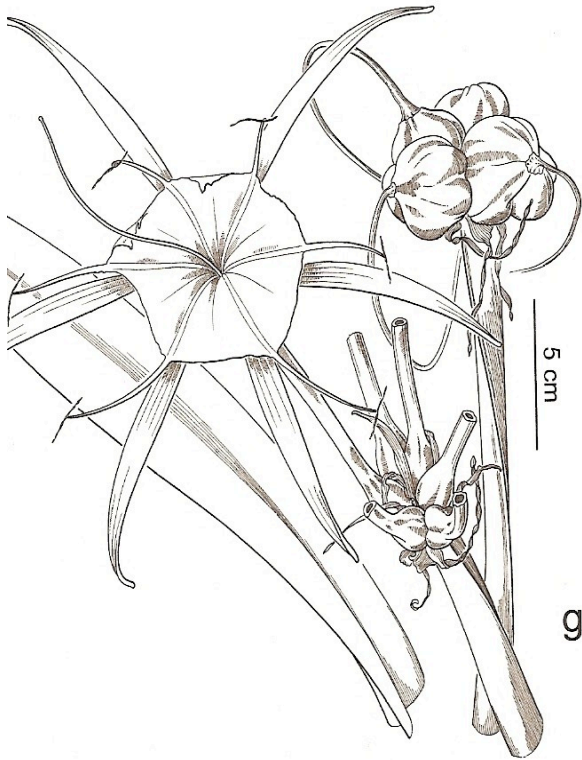


Spider lily (*Hymenocallis caroliniana*), Otter Slough Conservation Area. Photograph by Richard Thoma.

Back home, I looked in every wildflower book I had, including the Peterson “Fieldguide to Wildflowers”, Edgar Denison’s “Missouri Wildflowers” and Erna Eisendrath’s “Missouri Wildflowers”. The flower wasn’t in any of them. I also looked in several other botanical books at the library and asked a few friends. None were of any help. Unbelievable! It just seemed like a flower this unique, would be in every field guide. By this point, I’ll bet there are several botanical experts in WGNSS that know exactly what species of flower I had seen. As things happen though, the photos of the flower and conversations with the right botanical experts never made enough of a connection for me to make an identification. Eventually, I gave up and added the photos to the

list of things to be worked on and identified some day.

However, as any good scientist will tell you, we rarely forget. Unanswered questions gnaw at us and never really go away. We might not be actively working on solving an unanswered problem but we never forget. It just takes the right moment and everything comes back in a flash.



Spider lily (*Hymenocallis caroliniana*). Illustration reprinted from *Steysmark's Flora of Missouri, Volume 1* (Yatskievych 1999).

This happened last Christmas when I received a copy of *Steysmark's Flora of Missouri, Volume 1*. While paging through the book, not looking for anything in particular, I ran across a drawing of a spider lily, *Hymenocallis caroliniana*. In that instant I had my answer to this old question. The match between the drawing and my memory was nearly exact. Everything in the flower's description matched what I remembered. Of course, just to be sure, I pulled up the old picture on my computer. **Eureka!** I now had a name to go along with the picture. I also found out that this species is found in only a few counties in southeastern Missouri and, though not rare, is not commonly found. For us naturalists, it is a most satisfying feeling when something unknown is

finally identified. In many ways, this experience was even more satisfying than if the flower had been identified right away.

Weldon Spring Christmas Bird Count

By Anne McCormack

“Neither rain, nor sleet, nor gloom of night...”

On January 3, 2010, 19 participants braved single-digit temperatures, winds, and ice-covered roads inside Busch Wildlife Area to complete the 51st annual Weldon Spring Christmas Bird Count. Christmas Bird Counts are a 100 and some year-old tradition, sponsored by the National Audubon Society. Count records now form a huge database of winter bird statistics. Around 1958, a 15-mile diameter count circle was set, with its center on the town of Weldon Spring, St. Charles County. Each year, participants divide up and attempt to count every species and individual bird in those 113 sq. miles. This year the teams spent a total of 25 hours and 15 minutes on foot, and drove 146.4 miles while counting 13,179 individual birds of 70 different species—in spite of the fact that our pens froze at times.



Connie Joseph, Pat Lueders, Ann Kirkpatrick, & Dave Haenni scan frozen ponds at the 51st Weldon Spring Xmas Bird Count. Photograph by Anne McCormack.

Christmas Bird Counts—“CBCs”—are fun, non-competitive events. In spite of the weather that kept the birds and some would-be counters under

cover, we had some real highlights. Greater White-fronted Goose was found by Tom Parmeter in the north-western area of the count. This western goose has been recorded only 10 times in the count's 51 year history. Four different groups, reporting from 4 different areas, were amazed to see one or more Turkey Vultures: a total of 6 for the day. Although "TVs" have been spotted 6 other years in the past 51, and 3 years ago we had 18 on the count, I would have thought the frigid weather would have sent them packing. Brown Creeper is a bird we expect, having been counted 47 times since the count circle began. This year, in spite of fewer counters, we ticked off 10 creepers; very near the record high count of 12, set in 1972. Connie Alwood's team recorded Cackling Goose—only the 4th time it's been listed. Perhaps we should call Cackling Goose expectable too, since it's only been named a full species since the 2004 count. Ducks were scarce this year, as was open water, but Tom Parmeter managed to find American Black Duck; the first time since 1971. Hiking along the Katy Trail, Bryan Prather spotted a Harlan's Hawk. This subspecies of Red-tailed Hawk has only been seen 4 times in the history of the count; the last time was in 1962! The young Sandhill Crane which has been frequenting Howell Island Conservation Area in Chesterfield was Most Valuable Player this year. Found by the Jungbluth party, the Sandhill has never been recorded on the Weldon Spring count before.



Connie Alwood strikes a heroic pose. Photograph by Anne McCormick.

I should mention the common birds as well as the rarities. Every group recorded three widespread species: Red-bellied Woodpecker, Downy Woodpecker, and Northern Cardinal. Seventeen

species have been listed each of the 51 years of the count, including Blue Jay, Song Sparrow, Swamp Sparrow, and Eastern Bluebird. Surprisingly, the House Sparrow was actually missed one of those 51 years, and the European Starling—sometimes called the most numerous bird in North America—was missed twice. That's a good thing! The Common Grackle was the most abundant bird this year with a total of 4,831; down from a high of 15,181 in 1984.

Mammal sightings are rarer and, so, are more exciting than a huge flock of grackles. The Jungbluth group spotted a reddish coyote on Howell Island, and Connie Alwood's group was thrilled to see a bobcat at Busch Wildlife Area. Thanks to everyone who participated, especially Tom Parmeter, who guided me through this first year as count compiler.



St. Louis Zoo Lecture Series

By Jim Jordan¹

The St. Louis Zoo presents two lecture series: *Conservation Conversations* and *Science Seminar Series*. Both series are co-sponsored by the Academy of Science –St. Louis. Programs are **FREE** and open to the general public, no reservations required. Programs are held in the Living World, with free parking available in the North parking lot. Call (314) 646-4544 for more information.

CONSERVATION CONVERSATIONS

Adult lectures that focus on worldwide conservation issues and efforts supported by the Saint Louis Zoo.

Race for Survival: Cheetahs in Peril

Bircher, Curator of Carnivores
Tuesday, January 26, 7:30–9 P.M.

Undertaking Conservation:

The Recovery of the American Burying Beetle

Bob Merz, Zoological Manager - Invertebrates
Tuesday, February 16, 7:30–9 P.M.

¹ Curator of Education, Saint Louis Zoo.

SCIENCE SEMINAR SERIES

St. Louis scientists present timely topics and/or recent "discoveries."

Citizen Science:

From the Cosmos to Coneflowers

Dr. Pamela Gay, SIU-Edwardsville
Wednesday, February 10, 7:30–9 P.M.

Subversive Science:

Sustainability and Architecture

Dr. Bruce Lindsey, Washington University
Wednesday, March 10, 7:30–9 P.M.

Salmon in the Trees:

Life in Alaska's Tongass Rain Forest

Amy Gulick, award-winning photographer and author, *Salmon in the Trees*
Wednesday, April 7, 7:30–9 P.M.



Editor's Corner

NATURE NOTES DISTRIBUTION

A big thank you to Jackie Chain, who has agreed to succeed Marjorie Richardson in overseeing the distribution of *Nature Notes*. Jackie has been active in WGNSS for some time, most visibly as leader for the Thursday bird group. We greatly appreciate her willingness to further serve WGNSS in this additional and important role.

NATURE NOTES BY EMAIL

Nature Notes is available not only by regular post, but also by email. Not only does this save paper and reduce mailing costs, it allows viewing of the newsletter and the included photos **in full color**.

Embedded hyperlinks also allow instant navigation to email addresses and websites. Of course, you can always print your electronic copy of *Nature Notes* if you wish (if you do, please be sure to use both sides of the paper ☺). The electronic newsletter is sent as a PDF, which can be opened using *Adobe Reader* (free download available at <http://get.adobe.com/reader/>). Send your name and email address to the Assistant Treasurer at whittex@aol.com to receive *Nature Notes* by email.

CALL FOR SUBMISSIONS

We welcome all announcements of WGNSS or other nature related events in the St. Louis area, notices of published articles—especially those authored by members, and original nature oriented articles. Suggested topics include accounts of field trips you have taken, information about local natural areas, interesting nature sightings, or reviews of nature related books. Reprinting of articles from other sources requires permission from the copyright holder. Previous *Nature Notes* issues are a good source of ideas—copies of recent issues can be provided upon request.

Please direct all submissions by email to the Editor at ted.c.macrae@monsanto.com. Limit text formatting to bold for emphasis and italics for scientific names. Additional formatting (e.g., use of tabs and extra spaces, multiple hard returns, underlining, etc.) should be avoided, since it must be removed by the Editor during final formatting. Photographs are encouraged and will be published on a space-available basis. Contributions are welcome from all but especially encouraged from members—remember; this is your newsletter!





Group Activity/Walk Schedules

ORNITHOLOGY GROUP

David Becher, Chair—(314) 576-1146

Saturday Bird Walks

David Becher, Leader—(314) 576-1146

Saturday Trips meet at **8:00 A.M.**

January 23—Des Peres Park

February 6—Des Peres Park

February 20—Des Peres Park

March 6—Des Peres Park

March 20—Teal Pond at Riverlands


March 27—Des Peres Park

Thursday Bird Walks

Jackie Chain, Leader—(314) 644-5998

Thursday trips meet at at the Des Peres Park parking lot (east side of Ballas Rd. just north of Manchester Rd) at **8:30 A.M.** (to avoid school and rush hour traffic). Depending on what birds are around, we may continue to other areas. Bring lunch as we usually have lunch in the field unless you plan to leave early. We will normally return by 3 or 3:30 P.M. If you have questions, please contact Jackie Chain at (314) 644-5998 or

chainjac@sbcglobal.net



BOTANY GROUP

George Van Brunt, Chair—(314) 993-2725

Botany Walks

Fr. James Sullivan, Leader

(now in his 44th year as Botany Walk Leader!)

Botany walks are every Monday. The WGNSS Botany Group visits many of the same locations as the Bird group: Busch Conservation Area, Shaw Nature Preserve, the Missouri Botanical Garden, Babler State Park and Cuivre River State Park. Learning plants will help you learn butterfly host plants. Sign up for WGNSS Botany Group emails from Jack Harris by contacting him at jahar@mac.com or (314) 368-0655 and receive an email no later than Sunday about the next Monday's trip.




ENTOMOLOGY GROUP

Rich Thoma, Chair—(314) 965-6744

Upcoming Meetings

Sunday, January 24, 7:00 P.M. Chris Hartley, an entomologist at the Sophia M. Sachs Butterfly House, will talk about his graduate research, “Arthropod life in the leaf litter habitat with a special focus on the beetle family, Latridiidae.” The meeting will take place at the Butterfly House in Chesterfield. From St. Louis, take U.S. 40/I-64 west. Exit on Clarkson/Olive Blvd. and drive north approximately 1.2 miles. The Butterfly House will be on the left. Entry can be gained through Faust Park. Please contact Richard Thoma at (314) 541-4199 should additional directions be necessary.

Sunday, February 21, 7:00 P.M. Jennifer Hopwood, will present “Bugs, bees and butterflies...all about the Xerces Society”. The Xerces Society is a nonprofit organization that protects wildlife through the conservation of invertebrates and their habitat. Established in 1971, the Society is at the forefront of invertebrate protection worldwide, harnessing the knowledge of scientists and the enthusiasm of citizens to implement conservation programs. Mike Arduser, will host the meeting at August A. Busch Wildlife Conservation Center. From I-270 take I-64/US40 west approximately 15 miles. Exit onto Mo 94 and drive west (left) 1.5 miles. Turn right on D and drive another 1.5 miles. Busch Wildlife Conservation Center is on the right. Go in the main entrance and follow the road signs to the main building. The meeting will take place in one of the classrooms within the main building. Please contact Richard Thoma at (314) 541-4199 should additional directions be necessary.



For general information about WGNSS, contact Membership Chairman Paul Brockland at pbrockland@sbcglobal.net or (314) 961-4661.

