Journal of the Webster Groves Nature Study Society
February 2011, Vol. 83, No. 2
First Issue November 1929

President's Corner

Rich Thoma

Did you know that at least once a week there is a WGNSS activity going on? The natural history book club, entomology group and the general organization all hold at least one meeting a month featuring great topics of discussion and excellent speakers. There are also lots of field trips run by the birding and botany groups throughout the month. These field trips occur even on the coldest days of winter. WGNSS offers something for everyone. Be sure to look in the "Group Activities" section of *Nature Notes* or online at www.wgnss.org for all that WGNSS has to offer.

In the next few weeks, WGNSS is having two joint events with the St. Louis Audubon Society. The first is the **WGNSS – Audubon Society Winter Party**. The party takes place on **Sunday, January 30, from 1:30 – 4 p.m.** at the Green Center in University City. Door prizes will be given. If you are planning to attend, we ask that you bring a dish for all to enjoy. Beverages will be provided for this event. See the announcement in this issue of *Nature Notes* for more details. The second joint event takes place **Tuesday, February 15 at 7 p.m.** at the Forest Park Visitors Center. **Carol Kershner**, founder and executive director of the Wild Bird Rehabilitation in Overland will present ***The Rescue & Recovery of Injured Songbirds.*** For more details, look to the meeting announcement in this issue of Nature Notes.

Is there someone you know that deserves recognition for many years of service to WGNSS? The WGNSS Board is accepting nominations for the **2011 Lifetime Achievement Award** to be presented at our Annual Banquet in May. The only requirement to receive this award is to be an active member of WGNSS over many, many years. Awardees typically exemplify what it truly means to be a lifelong Naturalist. If you know of someone truly deserving of this award, please notify the Nomination Committee – Layne Van Brunt, Jane Deschu, Ann Earley or myself – at your earliest convenience.

Jonathan Hogg, Department of Fisheries and Wildlife School of Natural Resources, University of Missouri, Columbia, has requested help from WGNSS for his research studies. Jonathan is studying raptors in urban environments and needs to locate **nesting territories of Cooper's Hawks** for his project. If anyone knows about any active Cooper's Hawk nests or other breeding activities in St. Louis and St. Charles Counties, please let me know and I'll forward the information to Jonathan.

Finally, I would like to give the WGNSS membership an update on the ongoing discussions associated with **Patch-Burn Grazing** (PBG) by the Missouri Department of Conservation (MDC). Since the December board meeting, we learned that several other nature organizations, including the Missouri Prairie Foundation, St. Louis Audubon Society, and Missouri Native Plant Society (MoNPS), are all discussing the issue of PBG. MoNPS has gone so far as to send a letter

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to MDC critical of PBG on Natural Areas. We have also learned that MDC plans to expand PBG to at least five more prairies in Missouri. At the January board meeting, there was a lot of discussion concerning the PBG issue. At this point in time, WGNSS has committed to continue discussions on this issue. If you have an opinion about the PBG issue, there is still time to be heard. To offer your opinion, feel free to contact a board member or go online to the WGNSS web site. The preservation of the few remaining Missouri prairies is the responsibility of all who love nature.

Winter Holiday Party

Don't forget the **WGNSS – St. Louis Audubon Society Winter Holiday Party**. The party will be held on January 30 from 1:30 – 4 p.m. at The Green Center, 8025 Blackberry Ave., University City, Missouri. All naturalists are welcome! Bring a dish, beverages will be provided, and door prizes will be awarded! To get there, take I-170 to Delmar, go east through 4 stoplights and turn left on North and South Road, then left again on Blackberry. See you there!

February General Program Meeting

Red-bellied Woodpecker in recovery. WBR photo.

The **February General Program Meeting** will be a joint meeting by WGNSS and the St. Louis Audubon Society. Carol Kershner, founder and Executive Director of Wild Bird Rehabilitation (WBR) in Overland, will present a program titled, **"The Rescue & Recovery of Injured Songbirds."** The talk will be give at the Dennis & Judith Jones Visitor Center in Forest Park on February 15 at 7:00 p.m. Founded in 1992, WBR is the only organization in eastern Missouri that cares for small native birds. Since they began, over 40,000 injured and orphaned birds have been received by the group's volunteer staff.

The Dennis & Judith Jones Visitor Center, at 5595 Grand Drive, is just east of the Missouri History Museum at Lindell and DeBaliviere. The program will be held in the Learning Lab. Questions, call Mitch Leachman at (314) 599-7390.

March General Program Meeting

Join us for a special program in March. Cindy Gilberg and Barbara Perry Lawton will present, *Shaw Nature Reserve – Yesterday, Today, and into the Future*. Note the special date: **Tuesday, March 1**,

7:30 p.m., Powder Valley Nature Center. Cindy and Barbara are co-authors of the recently-published book, *The Missouri Botanical Garden's Shaw Nature Reserve: 85 Years of Natural Wonders* (see book announcement elsewhere in this newsletter). There will be copies of the book available for purchase, and members are invited to bring their copies for the authors to sign after the program.

December Bird Report

Compiled by Jim Ziebol

The most important element of any given region, park, half acre or habitat in general, according to people like E. O. Wilson, is biodiversity. That is, the greatest number of species that any size habitat can contain. Unfortunately, this reporter has witnessed a decline in birds, butterflies, dragonflies, frogs, reptiles and native plants in the St. Louis area over the past thirty years. We know this by direct observation and record keeping. Other WGNSS members and I have been counting the birds and insects in the St. Louis region since the 1970's. In 1984, I made the acquaintances of Mark Peters and Randy Korotev. They taught me that one can both watch nature and record accurate data over long periods of time that hopefully will aid nature people in the distant future. Mark counted migrating hawks and Randy counted migrating songbirds. In 1993, I met Bill Brandhorst and have been counting insects ever since. Results have been published in Nature Notes, MDC reports, Hawk Migration Association's Journal, area bird and insect checklists and elsewhere.

Anyway, E.O. Wilson and many others believe we are experiencing the sixth major extinction of species in the history of this planet. Ten years ago he believed he could save half the biodiversity in the world for only ten billion dollars. I've even read that the web of life is unraveling on our planet. Can a herbicide feminize frogs? Will the ever growing number of *Homo sapiens* eat the remaining wildlife on earth? Only time will tell, and my personal time is very short.

I'm now going to quote Harold Kroto (who shared the Nobel Prize in Chemistry in 1996) from Science News magazine August 28, 2010. This is from a talk he gave at Euroscience Open Forum 2010 conference in Turin, Italy about scientists cooperating internationally to secure a sustainable future for the planet and other issues.

"Scientists have enemies now out there who are trying to destroy science… It's not just against evolution. It's about truth. It's much more fundamental… It's about science. It's about your culture. It's about how children and adults should determine what is true. And therefore you have an enemy, the enemies who want to undermine the ability of young people and adults to find out what is actually true, on the basis of evidence. Don't underestimate that one…"

I'm adding an addendum, prepared by Chris McClarren, to the bird report two months ago concerning the passerine migration in Tower Grove Park this fall:

- 8/15-Black and White W.
- 8/19-2 Eurasian Collared Doves (very rare TGP)
- 8/20-Canada W., Kentucky W., Northern Parula, Least Flycatcher
- 8/22-Am. Redstart, 3 Blackburnian W., Pine W., Black-throated Green W., Baltimore Oriole
- 8/23-Chestnut-sided W.
- 8/25-Swainson's Thrush, 2 Veery, Olive-sided Flycatcher, Yellow-bellied Flycatcher, Ovenbird, Mourning W., Magnolia W., 2 Golden-winged W. (a very good year for a species numbering less than 750,000)
- 8/27-Philadelphia Vireo
- 8/29-Bay-breasted W., Mississippi Kite
- 8/30-5 Red-headed Woodpeckers
- 8/31-Yellow-throated Vireo, Wilson's W., Blue-winged W.

Chris very carefully and methodically birded TGP almost daily in 2010. I applaud her for her effort.

October Botany Report (addendum)

Compiled by George Van Brunt

October 18, 2010 – Washington State Park, Washington County, MO (contributed by Wayne Clark).

It was an ideal fall day, sunny, clear with the temperature just warm enough to go without a coat when 11 botanists gathered in the Petroglyph Site parking lot. The participants were Fr. Sullivan, George Van Brunt, Maggie Hover, Kathy Thiele, Jack Harris, Pat Harris, Burt Noll, Jeanne Clauson, Wayne Clark, Nancy Clark, and Larry Morrison. The parking lot is next to the glade where we usually start our exploration at this park. The vegetation had grown tall enough this summer that park personnel mowed a path through the glade.

Some of the *Symphyotrichum* species noted were *Symphyotrichum urophyllum* (aster), *Symphyotrichum oblongifolium* (aromatic aster), and *Symphyotrichum lateriflorum* (white woodland aster). There were three species of *Solidago* observed, *S. ulmifolia* (elm-leaved goldenrod), *S. nemoralis* (old field goldenrod), and *S. altissima* (tall goldenrod). Others noted were *Ptelea trifoliata* (common hop tree), *Bouteloua curtipendula* (sideoats grama), *Spiranthes magnicamporum* (Great Plains ladies' tresses), *Eupatorium altissimum* (tall thoroughwort), *Ratibida pinnata* (grayhead prairie coneflower), *Smilax hispida* (bristly greenbrier), *Schizachyrium scoparium* (little bluestem), and *Monarda bradburiana* (beebalm). We finished looking at the glade and drove down the hill to the lodge area and the trailhead of the Thousand Steps Trail. *Verbesina alternifolia* (yellow ironweed), *Symphyotrichum cordifolium* (blue wood aster), *Laportea canadensis* (wood nettle), and *Persicaria longiseta* (smartweed) formerly known as *Polygonum cespitosum* var. *longisetum*. It was known only in St. Louis County in Steyermark's (1963) *Flora of Missouri* but now it is fairly widespread in the state.[1] For *Persicaria* in general, the leaves can cause a rash on some individuals. The sap can cause a "smarting" sensation if it comes in contact with eyes or nostrils, hence, smartweed (nothing to do with the plant's or your intelligence).[2] We departed from the trail to the mowed grass open field and headed back to the lodge parking lot. Along the way back at the edge of the field, we found *Humulus japonica* (Japanese hops) and *Viola sororia* (common violet). We carpooled to the last stop, the Overlook. The star of the show was *Solidago drummondii* (Ozark goldenrod). It grows on

***Persicaria longiseta*. Photo by Gerrit Davidse in Tropicos, the Missouri Botanical Garden database.**

cliff tops and in crevices on cliff faces in very little soil. Other species observed were *Acalypha monococca* (one-seeded mercury), *Asclepias verticillata* (whorled milkweed), *Celtis tenuifolia* (dwarf hackberry), and *Chasmanthium latifolium* (river oats).

November Botany Report

Compiled by George Van Brunt

November 1, 2010 – Graham Cave State Park, Montgomery County, MO (contributed by Steve Turner).

Time: 9:30 – 11:30 a.m.
Conditions: Partly sunny, temperature low to upper 50s F.
Participants: Jeanne Clauson, Jack Harris, Pat Harris, Nels Holmberg, Burt Noll, John Oliver, Fr. Sullivan, Kathy Thiele, Steve Turner, George Van Brunt.

The group of ten assembled in the Graham Cave parking lot on the chilly morning of November the first. As expected, most of the plants observed during the day's excursion were past flowering, instead at fruiting, senescent / moribund, or small new vegetative stages. Nevertheless, flowering specimens of several species were found, including *Polymnia canadensis* (leaf cup), *Hieracium gronovii*, (beaked hawkweed), *Symphyotrichum anomalum* (woodland aster), *Symphyotrichum oolentangiense* (azure aster), and *Rudbeckia triloba* (brown-eyed Susan). In all cases these represented straggling survivors and not lushly blooming populations.

[1] Thomas, J. R. 2005(2006). Vegetative key to *Polygonum* in Missouri. *Missouriensis* 26:29.
[2] Phillips, J. 1989. *Wild Edibles of Missouri*. Missouri Department of Conservation, Jefferson City, 248 pp.

The first part of the day's route was up to the cave itself, and very shortly after beginning our walk we noticed the first leaves of *Aplectrum hyemale* (putty root). The leaves of this orchid were to be frequent sights throughout the day's walk, so frequently seen as to provoke tongue-in-cheek comments that the orchids had become "weedy and invasive," and were "beginning to choke out the *Lonicera maackii*." In some places nearly a dozen plants could be seen from a single vantage point. Many of the plants had flowered, as shown by persistent fruit stalks. Many of the capsules contained apparent seeds, which were tiny, threadlike, and fluffy in bulk, appearing chaffy to the unaided eye.

Our route passed by the cave and up to the sandstone glade above the cave, where we found several specimens of *Trichostema dichotomum* (blue curls). The dense glandular pubescence on the upper stems of these dried plants was still easily observable, and these glands exuded a sticky resin with a pronounced terpenoid aroma resembling turpentine. (The member who suggested the aroma to be reminiscent of gin was encouraged to seek a different brand of spirits.) Many of the plants also had persistent fruits, some of which still contained four black, wrinkled, roughly spherical seeds resembling small peppercorns. Also in this glade region were found examples of *Symphyotrichum patens* (spreading aster), which is notable for its brittle stems. The fruits of this species, like those of many asters, are hairy. Other species found in this glade included *Verbascum thapsus* (flannel plant, green and vegetative), *Blephilia ciliata* (Ohio horse mint), *Eupatorium serotinum* (late boneset), *Pseudognaphalium obtusifolium* (sweet everlasting), and the desiccation-tolerant moss *Grimmia laevigata* (grimmia dry rock moss).

As we continued past the glade, the path descended to an area of low, dripping bluffs. Some time was spent examining various bryophytes clinging to the rock surface; these included *Conocephalum conicum* (giant scented liverwort) and a hornwort, *Phaeoceros carolinianus* (Carolina phaeoceros). The name "hornwort" derives from the plant's elongated, hornlike sporophytes, which grow out of archegonia embedded within the flat, leafy green gametophyte. Additional nonflowering species were discovered on bluffs and rock faces along subequent sections of trail; these included *Polytrichum juniperinum* (juniper hairycap moss), *Leucobryum glaucum* (pincushion moss), and *Huperzia lucidula* (shining clubmoss). Ferns such as *Cheilanthes lanosa* (hairy lip fern), *Onoclea sensibilis* (sensitive fern) and *Adiantum pedatum* (maidenhair fern) were also found in the general area. Further angiosperm examples included numerous new shoots of *Rudbeckia laciniata* (goldenglow), leaves and vines of *Menispermum canadense* (moonseed), and dried remnants of *Lobelia siphilitica* (Great Blue lobelia), *Lobelia inflata* (Indian tobacco), *Ageratina altissima* (white snakeroot), and *Cunila origanoides* (dittany). A small sapling of *Carya cordiformis* (bitternut hickory) presented its characteristic golden colored terminal buds for inspection.

Toward the end of the day's walk, a smaller group of us also explored another small glade above the bluffs near the end of the trail. A dominant woody

***Conocephalum conicum*. Photo by Steve Turner.**

***Selaginella rupestris*. Photo by George Van Brunt.**

species in this region was the blackjack oak (*Quercus marilandica*); other trees in the immediate area included chinkapin oak (*Quercus muehlenbergii*), flowering dogwood (*Cornus florida*), and persimmon (*Diospyros virginiana*). The most interesting find was *Selaginella rupestris* (rock spikemoss), a tiny fern ally somewhat resembling a moss. Under a lens, the tiny leaves are seen to have minute hairs or spines, with the ends of the leaves terminating in long, ascending white bristles.

November 8, 2010 – Bill Knight's Property, Jefferson County, MO (contributed by John Oliver).

Time: 9:30–11:30 a.m.
Conditions: Sunny, temperature mid–60s F.
Participants: Bill Knight, Fr. Sullivan, Jack Harris, Pat Harris, George Van Brunt, Kathy Thiele, Wayne Clark, Nancy Clark, Steve Turner, Ruth TenBrink, Jane Deschu, Burt Noll, and John Oliver.

Missouri Native Plant Society member Bill Knight enjoys riding his motorcycle in the rural Missouri countryside, and as a resident of the City, he has long dreamed of living in the country as well. Owning a bit of property in Madison County gave him a rural retreat, but it lacked a house and was a little remote from his St. Louis base. So when the opportunity to buy a house with some forested acreage in Jefferson County presented itself recently, he didn't hesitate – nor did we when offered an opportunity to visit.

After climbing the steep drive to his new property, we found ample room for 10 cars to park and were treated to a house tour before setting out on our walk. Bill's land includes parts of two intersecting ridges and their sloping sides. On this visit, we confined our walk to the top of the ridge west of the house with a later foray onto the other ridge top to the northeast. Most of the leaves had fallen from the trees, making us rely on our rusty winter identification skills, although an occasional leaf or fruit provided some help. What appeared at first glance to be a rather typical, dry Jefferson County ridge top, turned out to have a surprising variety of native and conservative species with a relatively low number of exotics compared to some areas nearby. The trees appeared in good condition with most species exhibiting a mix of both large, mature specimens and occasional, nicely spaced and vigorous younger examples. The open understory consisted of the woody species *Rhamnus caroliniana* (Carolina buckthorn), *Vaccinium pallidum* (lowbush blueberry), *Rhus aromatica* (fragrant sumac), with occasional thickets of *Rubus occidentalis* (black raspberry) and the remnants of the non-woody forbs and grasses from the past growing season.

Notable among our observations was the *Fraxinus americana* (white ash) found not far from the house as we walked up the ridge. This was a good example of the "brown-budded" white ash that Father Sullivan has been pointing out to us for several years now. We have often heard him conjecture that it might be a different species from the more typical "black-budded" white ash. (This second group could probably also be considered brown, but significantly darker.) Recently word came to us via George Yatskievych that indeed a new species of ash has been recognized in the Missouri flora. While this matter is still under study, it appears that *Fraxinus americana* and *F. smallii* (the newly recognized member of the white ash group) differ by features of the fruit, leaf and twig vestiture, and shape and thickness of the petiole base and these have also been related to chromosomal distinctions, with the *F. americana* specimens being diploid, while those of the larger-fruited *F. smallii* are tetraploid. Both of these species have been identified in collections from our area. Whether the color distinction we have observed is reliably linked to the other characteristics remains to be determined. Stay tuned.

We observed six different oaks rather evenly distributed on the property, and were able to get a lesson from Father Sullivan on how to distinguish *Quercus rubra* (northern red oak) from *Quercus shumardii* (Shumard's oak) and *Quercus coccinea* (scarlet oak) based on twig and bud characteristics. Despite the fact it was the beginning of the second week of November, we did see a few flowers still blooming. *Cunila origanoides* (dittany) was probably the most widespread example, causing us to speculate whether these late bloomers were ever still in actual flower when a cold snap produced "frost flowers," a phenomenon common to this species. A few goldenrods and asters were also still producing flowers, perhaps as a result of cropping by deer before they had set seed. We saw

***Solidago petiolaris* (downy goldenrod), blooming on November 8, 2010. Photo by John Oliver.**

A late-blooming *Symphyotrichum anomalum* (manyray aster) on Bill Knight's property in Jefferson County. Photo by John Oliver.

Symphyotrichum patens (spreading aster), *Symphyotrichum anomalum* (manyray aster), *Solidago petiolaris* (downy goldenrod), and *Solidago hispida* (hairy goldenrod) in this condition. Many thanks to our host, Bill Knight, and we look forward to another visit during the active growing season to expand our list of species.

The complete list of plant species observed on this trip: *Acer rubrum* (red maple), *Acer saccharum* (sugar maple), *Ageratina altissima* (white snakeroot, in fruit), *Amelanchier arborea* (shadbush), *Asplenium platyneuron* (ebony spleenwort), *Carya cordiformis* (bitternut hickory), *Celastrus scandens* (American bittersweet), *Celtis occidentalis* (northern hackberry), *Cercis canadensis* (eastern redbud, fruit), *Cirsium altissimum* (tall thistle, fruit), *Crataegus sp.* (a hawthorn), *Cunila origanoides* (dittany, flower and fruit), *Danthonia spicata* (poverty grass), *Elymus hystrix* (bottlebrush grass, fruit), *Fraxinus americana* (white ash), *Juglans nigra* (black walnut, fruit), *Juniperus virginiana* (red cedar), *Lindera benzoin* (spice bush), *Monarda bradburiana* (Bradbury bee balm, fruit), *Monotropa uniflora* (Indian pipe, fruit), *Passiflora lutea* (passion flower), *Polystichum acrostichoides* (Christmas fern), *Quercus alba* (white oak, fruit), *Quercus coccinea* (scarlet oak), *Quercus marilandica* (black jack oak), *Quercus rubra* (northern red oak, fruit), *Quercus shumardii* (Shumard's oak), *Quercus velutina* (black oak), *Rhamnus caroliniana* (Carolina buckthorn), *Rhus aromatica* (fragrant sumac), *Rubus occidentalis* (raspberry), *Sassafras albidum* (sassafras), *Sideroxylon lanuginosum* (woolly buckthorn), *Smilax hispida* (bristly greenbrier), *Solidago hispida* (hairy goldenrod, flower), *Solidago petiolaris* (downy goldenrod, flower), *Solidago ulmifolia* (elm-leaved goldenrod, fruit), *Symphoricarpos orbiculatus* (coral berry, buckbrush, fruit), *Symphyotrichum anomalum* (manyray aster, flower and fruit), *Symphyotrichum patens* (spreading aster, flower and fruit), *Toxicodendron radicans* (poison ivy), *Vaccinium pallidum* (lowbush blueberry), *Viburnum rufidulum* (rusty blackhaw, fruit), *Viola sororia* (common blue violet), *Vitis aestivalis* (summer grape, fruit).

November 15, 2010 – Katy Trail, Lost Valley Trailhead to Femme Osage Creek, St. Charles County, MO (contributed by Burton Noll).

Attendees: Fr. Sullivan, George Van Brunt, Wayne Clark, Nancy Clark, Steve Turner, Ruth TenBrink, Jim Wiant, Maggie Hover, Jack Harris, Burt Noll, and John Oliver.

Fall has set in earnest. One objective was to identify plants by basal leaves, seed heads, and fruit. We have visited this area earlier this year and had a pretty good idea what was here, but one had to look closely to see most of the green plants observed on this day's walk. We found *Glechoma hederacea* (gill-o-the-ground or creeping Charlie) as green as ever. The branch-veined basal leaves (*Nature Notes*, 82, No. 7, p. 4) of *Hydrophyllum appendiculatum* (woollen breeches water leaf) were distinguished from those of *Phacelia bipinnatifida* (Miami mist), which have gray blotches on the upper surfaces. The winter leaf of *Aplectrum hyemale* (Adam and Eve orchid) was found sticking up through the leaves alongside the trail. Specimens of *Laportea canadensis* (wood nettle) were found green with the axillary flower cymes still present. Other "little green things" will have to wait for spring to be identified.

Another objective was to identify woody specimens by their buds and leaf scars. There are many large grape-like vines in the trees along the trail. Some are grapes, *Vitus sp.* (*aestivalis*?), and the larger specimens show the loose, stringy bark, that distinguishes *Vitus* species from *Ampelopsis cordata* (raccoon grape), also present, which has bark with coarse, tight ridges and remains of its fruit clusters, broader than long. Slippery elm, sassafras, walnut, oaks, sycamore and others were found and examined. A young specimen of *Quercus shumardii*, var. *schneckii*, was studied at the trailhead.

It was a challenge to recognize those we knew in previous guise.

November 22, 2010 – Faust Park, St. Louis County, MO (contributed by George Van Brunt).

Fr. Sullivan, Ed Kullman, Gladys Kullman, Wayne Clark, Nancy Clark, Jack Harris, Steve Turner, Jeannie Moe, Larry Morrison, Paul Corley, John Oliver, Burt Noll, and George Van Brunt met at the Governor Bates Trailhead parking lot in Faust County Park. It was very warm for late November (low 70ºsF), cloudy, and very windy.

We first explored the grassy area-forest border in the area between the parking lot and the point at which the Governor Bates Trail enters the forest. In this upland area, we found heavy growth of *Lonicera maackii* (bush honeysuckle); it dominated the understory. We also found native (N) and introduced (I) trees including *Robinia pseudoacacia* (black locust)(N), *Morus alba* (white mulberry)(I), *Ailanthus altissima* (tree-of-heaven)(I), *Acer saccharum* (sugar maple)(N), and *Paulownia tomentosa* (princess tree)(I). Herbaceous plants included *Urtica dioica* ssp. *gracilis* (stinging nettle), *Arctium minus* (common burdock), *Elephantopus carolinianus* (Carolina elephant's-foot), *Ageratina altissima* (white snakeroot), and *Perilla frutescens* (beefsteak plant). *Perilla frutescens* is an Asian native that has been widely naturalized in the eastern half of North America. Its seeds are spread by wind and the species is highly invasive. We see this species, sometimes in large numbers, on many of our field trips. In Asia, the leaves of this mint are used for food and edible oil is extracted from its seeds. In Japan, *Perilla frutescens* is called shiso and the leaves are eaten in salads and as an herb in sashimi, spaghetti, pizza and other foods. The Pepsi Company in Japan markets a shiso flavored beverage called Pepsi Shiso.

When we reached the point where the trail enters the forest, we began a long, sometimes steep, descent into Missouri River bottomland forest. (At the other end of the trail, once again high on the bluffs, we could see the not-too-distant Missouri River and the St. Louis County Central Water Treatment Plant.) The stated objectives of the field trip were "to seek signs of *Aplectrum hyemale* (putty root orchid, Adam-and-Eve orchid) and *Actea pachypoda* (doll's-eyes)". Unfortunately, it was too late in the season to find any doll's-eyes, but we found hundreds of fresh, green *Aplectrum hyemale* leaves. Each plant sprouts one leaf in the fall to photosynthesize during the winter when there is no canopy cover. Food is stored in the underground corm which, in spring, gives rise to the flowering stem. In addition to the leaves, we found a number of fruiting stems of *Aplectrum hyemale* and broke open a capsule or two, scattering the minute seeds in the wind. Other notable species were *Asimina triloba* (pawpaw), *Carya tomentosa* (mockernut hickory), *Celtis occidentalis* (hackberry), *Quercus rubra* (red oak), and *Sassafras albidum* (sassafras).

We also identified a white ash with brown buds in the bottomland forest. In my report of our field trip to Forest Park on February 25, 2008, I wrote "We also found a specimen of *Fraxinus americana* (white ash) with brown buds. Some *Fraxinus americana* trees in Missouri have black buds while others have brown buds. Father Sullivan thinks that these are really two different taxa and that one day, after more research, they will be classified separately." Guy Nesom Ph.D., the contributor of the *Fraxinus* (ash trees) treatment for an upcoming volume in the *Flora of North America* series., published a paper on November 11, 2010 concerning the taxonomic treatment of some closely related ash trees. In his paper, Dr. Nesom proposes that the brown-budded white ash be considered a species separate from *Fraxinus americana* (black-budded white ash), and he uses *Fraxinus smallii*, a name given it in 1908 by Nathaniel Lord Britton, a founder of the New York Botanical Garden. Although others have recognized differences between specimens of *Fraxinus americana*, Fr. Sullivan independently made this observation in his explorations of Missouri

flora. Several WGNSS Botany Group members suggested "Sullivan's ash" in lieu of any other common name for the newly recognized species, *Fraxinus smallii*.[1]

Also in the bottomland portion of our walk we found a number of low growing winter leaves of *Asarum canadense* (wild ginger), *Hydrophyllum appendiculatum* (woollen breeches), *Chaerophyllum procumbens* (wild chervil), and *Hydrophyllum canadense* (broad-leaved waterleaf). Like *Aplectrum hyemale*, these species photosynthesize all winter but unlike Adam-and-Eve orchid, they continue photosynthesis in the spring and through the summer. We also discovered several specimens of the fern *Botrychium dissectum* f. *obliquum* (grape fern). *Botrychium* is a member of the family Ophioglossaceae (adder's tongue) and is not closely related to other ferns; Ophioglossaceae is thought to be most closely related to the Psilotaceae. For more detailed information see http://en.wikipedia.org/wiki/Psilotopsida, and follow links to Psilotaceae and Ophioglossaceae. Grape fern leaf color changes from summer green to winter copper and this transition can be seen in the accompanying photograph.

Climbing the Governor Bates Trail up out of the bottomland, we found *Campanula americana* (tall bellflower) in bloom, the red buds of *Tilia americana* (basswood), the glaucous stems of *Rubus occidentalis* (black raspberry), and a few blooms of *Lonicera japonica* (Japanese honeysuckle).

***Botrychium dissectum* f. *obliquum* (grape fern). Photo by Jack Harris.**

[1] Nesom, G. L. 2010. *Fraxinus biltmoreana* and *Fraxinus smallii* (Oleaceae), forest trees of the eastern United States. *Phytoneuron* 2010-51:1–30. To view this paper online, copy and paste the following URL into your address bar: http://www.phytoneuron.net/PhytoN-Fraxamericana.pdf.

November 29, 2010 – Missouri Botanical Garden, St. Louis, MO (contributed by Jack H. Harris).

Time: 10:00 - 11:40 a.m. (+/-).
Conditions: Cloudy, later deteriorating to light rain, temp: 40° - 45° F., occasionally breezy.
Participants: Rev. Jim Sullivan, Wayne Clark, Nancy Clark, George Van Brunt, Jack Harris, Pat Harris, Jeannie Moe, Larry Morrison, Burt Noll, and John Oliver.

The day's outing plan was to adapt to the unpredictable local weather pattern. First, visit the annual Gardenland Express holiday and flower show in the Ridgway Building display room. Second, check outdoors for precipitation. If reasonably dry, explore the winter botany of the outdoor Garden, or if rainy & cold, head for the shelter and tropical plant diversity of the Climatron.

A visit to the Gardenland Express holiday show has become an annual event for the WGNSS-Botany Group. This year the show's theme was the mountains and valleys of the Appalachian Trail area. Miniature representations of typical villages and culture were anchored by 5 different model railroad scenes. The whole was framed in various forms of *Euphorbia pulcherrima* (poinsettia), which ranged from the classic bright red to powdery pale, with nearly white edging and boxwood, begonias, and hibiscus filled in for variety in texture and color saturation.

The micro scenes included a lumber mill, a barnyard with tiny mobile horses and mule, a mountain village, the ubiquitous junkyard with old tires, auto wrecks, and even an Appalachian Trail hiker in a sleeping bag being checked out by a couple of black bears.

Live, miniature versions of various trees and bushes (?bonsai?) were cast in the roles of their life size counterparts in the model settings. For example a *Sedum* sp. (very light green), *Juniperus horizontalis* (creeping juniper), *Araucaria heterophylla* (Norfolk pine), *Chamaecyparis pisifera* (Japanese false cyparis) and *Picea abies* (Norway spruce) are representations of trees and shrubs. A moss filled the role of a ground cover or grass. Last, but not

least, somehow, a real, 'like new', classic 1947 International "B" Farmall tractor appeared in the rear center of the exhibit with miniature scenes continuing to either side. No doubt to the delight of many visiting children.

Following our appreciation of the artistry and innovation displayed in miniature, we peeked outside and determined that the weather was suitable for a walk in the Garden. First, walking toward the east wall and passing the bell tower, several members were compelled to test the tonal quality of the various bells in cold, nearly rainy weather. Some bells had to be rung more than once to compare and contrast (as mentioned before, no doubt to the delight of many visiting children, had there been any there).

Meanwhile, back to winter botany, we proceeded to the Sensory Garden area. A sample of the plants that received attention here would include an ornamental pepper *Capsicum annuum* ("purple flash") of the family Solanaceae; an *Oregonum* sp. (Oregano - hot & spicy) with one flower hanging on late in the season, a *Thymus x citriodorus* (lemon thyme), and *Lavandula angustifolia* (English lavender), again with one flower remaining.

Continuing the stroll along the east side of the garden, we noted the small colony of *Leitneria floridana* (corkwood). One stem had a tag "staminate", apparently indicating that it had been determined to be a male specimen. This plant has the lightest wood of any American shrub/tree. Current texts list this species as the sole member of the Leitnariaceae (corkwood) family. This has become controversial where recent molecular evidence seems to indicate a relationship with the Simaroubaeae (Quassia) family. It is native (and rare) to southern Missouri and five other states in the southeast US. Continuing the sample listing of plants along our route would include *Hamamelis x intermedia* (a hybrid witch-hazel), *Ilex opaque* (American holly) all dressed for the holidays in bright red fruits, *Magnolia x soulangiana* (saucer magnolia), and *Poncirus trifoliata* (the ALL thorn) bush. Farther along the pathway, we were treated to the presence of a special specimen of *Ilex decidua* (possumhaw). This particular tree has been determined to be a STATE CHAMPION, i.e., the largest of its kind in the state. And nearby, we were also treated to the presence of the WORLD

Euphorbia pulcherrima **(poinsettia / Dulce Rosa 'Eckory') Gardenland Express Holiday Show, Missouri Botanical Garden. Photo by Larry Morrison, November 29, 2010.**

Ilex opaca **(American holly), Daylily Garden area, Missouri Botanical Garden. Photo by Nancy Clark, November 29, 2010.**

CHAMPION *Tilia heterophylla* (white basswood) (family Tiliaceae).

Heading toward the English Woodland Garden, we were surprised to find a few severely frostbitten

***Hibiscus* sp.. (rose mallow), Gardenland Express Holiday Show, Missouri Botanical Garden. Photo by Nancy Clark, November 29, 2010.**

flowers still on the *Tsutsuji sp.* (evergreen azalea "Autumn Amethyst"), and one *Camelia* sp. ("Winter Star") with one flower also showing signs of severe frostbite.

Scattered rain drops becoming a light rain was enough to turn our thoughts to finding cover and the proximity of the Sassafras restaurant helped in determining that it was time for a warm lunch.

Desmocerus palliatus – elderberry borer

Ted C. MacRae[1]

Last June I made two trips to the Loess Hills in northwestern Missouri to survey additional sites for *Cylindera celeripes* (swift tiger beetle), which my colleague Chris Brown and I had discovered in some of the area's few remaining loess hilltop prairie remnants the previous year. One of these potential new sites was Squaw Creek National Wildlife Refuge, where a few tiny slivers of hilltop prairie can still be found on the fingers of loess bluffs that border the refuge's several thousand acres of restored wetlands that famously host large concentrations of snow geese and bald eagles during the fall and spring migrations. On the first visit, I had arranged to meet with Corey Kudrna, Refuge Operations Specialist, who was kind enough to take several hours out of his day to

personally guide me to each of the site's loess hilltop prairie remnants.

As we crossed the highway right-of-way at the base of the bluffs on our way to the one of the remnants, we passed through a large patch of common elderberry, *Sambucus nigra* ssp. *canadensis*. Anytime I see patches of this plant, especially in June, I immediately think of *Desmocerus palliatus* (elderberry borer) – a spectacularly colored longhorned beetle (family Cerambycidae) that breeds exclusively in the living stems and roots of this plant. It is not a particularly rare species, but for some reason I have not had much success in finding this species. In my close to three decades of collecting beetles, I had encountered perhaps a half dozen individuals – never more than two at the same time. Still, when I get the chance to look at elderberry I look for this beetle, and when I did so this time I was delighted to see one within a few moments of entering the patch. I was ecstatic when I saw another one almost immediately after the first, and I was stunned when I realized that they were all around me! Good fortune continued on my subsequent visit two weeks later, when I was able to spend a little more time trying to get a good field photograph. Wind was a problem, the beetles were easily alarmed, and their tendency to rest in the upper reaches of the plant made it difficult to brace myself and the camera while shooting, making this a rather difficult subject to get a good photograph of. The photo shown here is literally the last of around two dozen that I took and is the only one that I really like.

Many cerambycid beetles are mimics of other more noxious species, mostly ants and wasps. However, elderberry borers appear to be the exception in that they are themselves noxious. The cobalt blue and bright orange coloration of

[1] Reprinted from an article posted November 18, 2010 at http://beetlesinthebush.wordpress.com. Photo by the author.

the adults screams aposematic (warning) coloration, and it is reasonable to assume that they accumulate in their bodies for defensive purposes the cyanogenic glucosides produced by elderberry plants (Huxel 2000). Even their movements are those of a chemically protected model - lumbering and clumsy, without the alert evasiveness usually seen with other flower longhorn species. Presumably this species participates in a Müllerian mimicry complex involving netwinged beetles (family Lycidae, particularly species in the genus *Calopteron*) and perhaps *Pyromorpha dimidiata* (orange-patched smoky moth, family Zygaenidae) as well, and it may serve as a Batesian model for the equally colorful but completely innocuous *Lycomorpha pholus* (black-and-yellow lichen moth, family Arctiidae).

REFERENCE:

Huxel, G. R. 2000. The effect of the Argentine ant on the threatened valley elderberry longhorn beetle. *Biological Invasions* 2:81–85.

North America's Largest Stag Beetle

Ted C. MacRae[1]

The insect in these photos is, of course, a fine example of a male *Lucanus elaphus* – the giant stag beetle (family Lucanidae). This striking insect is easily among North America's most distinctive and recognizable species by virtue of the enormously fearsome appearance belies the true nature of this harmless beetle, which spends its days feeding on

sap that flows from wounds on the trunks and roots of trees. Males use their massive mandibles in combat with other males, not for "biting," but rather as tools to pry and lift their adversaries before dropping them to the ground. Some marvelous photos of this behavior in a related super-sized mandibles sported by the males. Its European species can be seen at Stag Beetles *Lucanus cervus* Mating Behaviour.

I collected this specimen many years ago at an ultraviolet light ("blacklight") that I had setup in the pine/oak forests at Pinewoods Lake, Carter Co., in the southeastern Ozarks – one of my favorite 1980's beetle collecting spots. This was in my early days of studying beetles, during which time I was actively collecting material as part of my statewide surveys for the families Buprestidae (MacRae 1991) and Cerambycidae (MacRae 1994). *Lucanus elaphus* is not a commonly encountered species, especially in the western reaches of its distribution here in Missouri, and I'll never forget my rabid excitement when I encountered this fine major male at my blacklight sheet. For many years afterward it remained the only individual that I had ever encountered, until a few years ago when I came across a group of two males and one female feeding on a sap flow in a wet bottomland forest along the Mississippi River in the lowlands of southeastern Missouri. I encountered another male the following year at a nearby location "rafting" on debris in floodwaters from the nearby river, and two weeks later at that same site I picked up several males and females in a fermenting bait trap.[2] Like most "uncommon" species with broad distribution across the eastern U.S., I suspect that

[1] Modified from an article posted December 30, 2010 at http://beetlesinthebush.wordpress.com. Photos by TCM.

[2] I have used fermenting bait traps to collect a wide variety of beetles, but especially longhorned beetles. My recipe is based

its apparent rarity is an artifact due to habits that make it infrequently encountered rather than being truly scarce.

REFERENCES:

Champlain, A. B. and J. N. Knull. 1932. Fermenting bait traps for trapping Elateridae and Cerambycidae (Coleop.). *Entomological News* 43(10):253–257.

MacRae, T. C. 1991. The Buprestidae (Coleoptera) of Missouri. *Insecta Mundi* 5(2):101–126.

MacRae, T. C. 1994. Annotated checklist of the longhorned beetles (Coleoptera: Cerambycidae and Disteniidae) known to occur in Missouri. *Insecta Mundi* 7(4) (1993):223–252.

New Book Celebrates 85th Anniversary of Shaw Nature Reserve

The Missouri Botanical Garden has released a new book titled, **"The Missouri Botanical Garden's Shaw Nature Reserve: 85 Years of Natural Wonders,"** by Cindy Gilberg and Barbara Perry Lawton. The book celebrates the 85th anniversary of this 2,400-acre refuge for plant and animal diversity, environmental education and recreation through a detailed, illustrated exploration of the land, its history and natural beauty from before the Reserve's founding to present day.

The book costs $19.95 and can be purchased at the Missouri Botanical Garden's Garden Gate Shop, 4344 Shaw Blvd., St. Louis or the Shaw Nature Reserve Visitor Center, Interstate 44 at exit #253, Gray Summit. For more information, contact the Garden Gate Shop at (314) 577-0865 or www.gardengateshop.org, or Shaw Nature Reserve at www.shawnature.org/gifts.aspx.

St. Louis Wild Ones February Lecture

Wednesday, February 2; 7 p.m.
Creating habitat for pollinators in your yard – Jennifer Hopwood, Midwest Pollinator Outreach Coordinator, The Xerces Society for Invertebrate Conservation. Jennifer will give an introduction to native pollinators, a quick overview of bees, and will present ways to protect or create habitat for pollinators in gardens. The program will be held at Powder Valley Nature Center, rooms A & B. Sponsored by the St. Louis Chapter of Wild Ones: Native Plants, Natural Landscapes. Wild Ones is a not-for-profit environmental, educational, and advocacy organization that promotes environmentally sound landscaping practices to encourage biodiversity through the preservation, restoration and establishment of native plant communities.

TNC Spring 2011 Conservation Speaker Series

The Nature Conservancy has announced their **Spring 2011 Conservation Speaker Series**. Mark your calenders – all talks are free & open to the public and are held at Schlafly Bottleworks in Maplewood.

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on that described by Champlain and Knull (1932) – bring 12 oz. dark molasses and 12 oz. beer up to 1 gal. with water, mix well and add a packet of dry baker's yeast to get the fermentation started. Hang a 1/2-gallon milk jug with big holes cut in the sides in a tree along the edge of a woods and add ~1 quart of fresh liquid. It generally takes 2-3 days for the liquid to really start fermenting and become attractive, and it will remain so for about another week or so. Check traps every 2-3 days by pouring the liquid through a kitchen strainer into another container – reuse or replace as necesssary. Place the collected specimens in vials of water to wash off the molasses residues, and either pin immediately afterward or transfer to 70% ethanol for longer term storage. Some of the more desireable species I've collected in this manner, besides *L. elaphus*, are *Plinthocoelium suaveolens*, *Purpuricenus axillaris*, *P. humeralis*, *P. paraxillaris*, *Stenocorus cylindricollis*, *S. shaumii*, *Sarosesthes fulminans*, *Stenelytrana emarginata* [= *Leptura emarginata*], and *S. gigas* [= *Leptura gigas*].

Tuesday, March 15; 7 p.m.
Conservation and Fire – Blane Heumann, Director of Fire Management, The Nature Conservancy.

Tuesday, May 24; 7 p.m.
Genetically Modified Agriculture and the Environment – Barbara Schaal, Evolutionary Biologist, Washington University, St. Louis.

Tuesday, April 12; 7 p.m.
Natural History, Human Culture, and Conservation in Missouri – Doug Ladd, Director of Conservation Science, The Nature Conservancy in Missouri.

St. Louis Zoo Lecture Series

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

SCIENCE SEMINAR SERIES

Wednesday, February 2; 7:30 – 9 p.m.
Left Out in the Cold: The Story of the Barrow Global Climate Change Research Lab in Barrow, Alaska – Janet Baum, AIA, Trustee, Academy of Science – St. Louis, retired founding partner of Health, Education + Research Associates, Inc.; lead programmer and planner, Barrow Global Climate Change Research Lab.

Wednesday, March 2; 7:30 – 9 p.m.
Re-Energizing America: Renewable Energy Solutions for the Future – an energizing and lively talk and book signing Dan D. Chiras, Ph.D., founder and director, The Evergreen Institute; President, Sustainable Systems Design, Inc.; and nationally known author of more than two dozen books on green building, residential renewable energy and sustainability. Dr. Dan Chiras describes and talks about how we can avert disaster by turning to renewable energy now, renewable energy's potential to meet our needs, and how we can heat our homes, cook food, provide hot water and generate electricity via clean affordable, and reliable renewable energy technologies. Books available for signing and purchase after the talk.

Wednesday, April 6; 7:30 – 9 p.m.
Squeaks and Scents: The Neurobiology of Animal Social Communication – Timothy E. Holy, Ph.D., 2009 Outstanding St. Louis Scientist Innovation Award recipient, Academy of Science- St. Louis; Associate Professor of Anatomy and Neurobiology, Washington University School of Medicine. Dr. Timothy Holy gives us the inside scoop on the neurobiology of animal social communication among mice: chemical signals, often called pheromones, and "courtship songs" sung at frequencies too high to be detected by humans.

CONSERVATION CONVERSATIONS

Tuesday, February 22; 7:30 – 9 p.m.
"Congo's Curious Chimps" – David Morgan, Ph.D., Executive Director, African Association of Zoos and Aquaria; and Circkette Sanz, Ph.D., Assistant Professor, Physical Anthropology, Department of Anthropology, Washington University in St. Louis

Group Activity/Walk Schedules

BOTANY GROUP
Chair – George Van Brunt

Monday Botany Walks (Leader – Fr. James Sullivan; now in his **44th year** as Botany Walk Leader!). 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 following Monday's trip.

ENTOMOLOGY GROUP
Co-Chairs – Phil Koenig and Jane Walker

Monday, February 21; 7 p.m.
Mark Grueber, Urban Forester for this region with the Missouri Department of Conservation (MDC), will be talking about the emerald ash borer (EAB) and Asian longhorned beetle. He will cover the beetles, their life histories, and the monitoring program MDC and USDA-APHIS have established for EAB. The meeting will be held at the Butterfly House, Faust Park, 15193 Olive Blvd., Chesterfield. For directions call (636) 530-0076 or visit http://www.butterflyhouse.org.

NATURE BOOK CLUB
Chair – Pat Diener

The Nature Book Club is a group of naturalists who meet once a month to discuss a book chosen for its general interest from botany to zoology. The group meets at members' homes on the second Tuesday of the month from 1:30 – 3 p.m. For meeting locations and directions contact Pat Brock Diener at (314) 962-8665 or Lisa Nansteel at (636) 391-4898. All are welcome – especially newcomers! Upcoming books:

Tuesday, February 8; 1:30 – 3 p.m.
The Dangerous World of Butterflies, by Peter Laufer.

Tuesday, March 8; 1:30 – 3 p.m.
The Lost City of Z, by David Grann.

Tuesday, April 12; 1:30 – 3 p.m.
Dark Banquet, by Bill Schutt.

ORNITHOLOGY GROUP
Chair – David Becher

Saturday Bird Walks (Leader – David Becher). Walks are at Des Peres Park February 5 and 19 and March 5, 19, and 26. All trips begin at **8 a.m.** and normally go through early afternoon, so bring lunch if you wish to stay out. Everyone is welcome. The leader reserves the right to change the schedule if necessary. If you have questions, contact David at (314) 576-1146 or DavidBecher@msn.com.

Thursday Bird Walks (Leader – Jackie Chain). Walks are at Des Peres Park – meet in parking lot (east side of Ballas Rd. just north of Manchester Rd.) at **8:30 a.m.**, return is usually by 3:30 p.m. (you may leave at your convenience). Bring lunch, beverage, binoculars and if you have one a scope/tripod. If you have questions, contact Jackie at (314) 644-5998 or chainjac@sbcglobal.net.

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

Editor's Corner

Ted C. MacRae

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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!