



# Nature Notes

## Journal of the Webster Groves Nature Study Society November 2009, Vol. 81, No. 8

First Issue November 1929

---

### PRESIDENT'S CORNER

---

*Ann Earley*

Our October general program meeting featured a special audiovisual presentation by WGNSS member and Society Secretary Layne Van Brunt on the wildlife and wildflowers of Alaska's Kenai Peninsula and Glacier Bay National Park. An audience of about thirty WGNSS members and friends enjoyed Layne's colorful photos of flora and fauna, with an informative and entertaining audio accompaniment. Thank you, Layne, for sharing your presentation and experiences with us!

Again this year, our **November program** will be presented by you, our WGNSS members! On **Wednesday, November 4 at 7:30 p.m. at Powder Valley**, we will have a **members' "show and tell" evening**. For further details, see the meeting announcement elsewhere in this newsletter. Join us for this special event that spotlights the many talents and skills of fellow WGNSS members! As this will be our final general program meeting of the year, it's a great way to catch up on the nature adventures and experiences of WGNSS members during 2009! **Please note the change in date, location, and time for this program from our usual program schedule.**

Many thanks to Mike Olson for his service to WGNSS as Society Treasurer, and prior to that, as WGNSS Secretary. We appreciate all the time and expertise Mike has given to WGNSS in these

important roles, which are behind-the-scenes in nature but nevertheless are critical to the Society's functioning. Mike is being replaced as Treasurer by Board member Paul Brockland. In addition, Joe Whittington has joined the Board as a Member-at-Large and Assistant Treasurer, and will be assisting Paul with some of the Treasurer duties. Joe is retired from the St. Louis Zoo and is a regular participant in the Thursday bird walks. We welcome Joe to the Board, and thank both Joe and Paul for their willingness to serve WGNSS!

**We continue to seek a volunteer to serve as First Vice President and Program Chair, as well as a volunteer to assume Membership duties** from Paul. If you are interested in these opportunities, please let me or another Board member know. WGNSS needs your skills and expertise!

Mark your calendars for two other upcoming dates. Once again this year, WGNSS will have a display table at the Whitney and Anna Harris Conservation Forum at the St. Louis Zoo's Living World, to be held on Thursday, November 12. This year's theme is "Sustainable Agriculture: From Field to Market." Additional details are included elsewhere in this newsletter. Looking ahead into December, our holiday celebration with St. Louis Audubon is scheduled for the afternoon of Sunday, December 6, at the Green Center in University City. Check next month's *Nature Notes* for further information. We look forward to seeing you there!

- IN THIS ISSUE -

---

PRESIDENT'S CORNER.....	1
NOVEMBER GENERAL MEMBERSHIP MEETING.....	2
JULY BIRD REPORT.....	2
AUGUST BIRD REPORT.....	3
JULY BOTANY REPORT .....	4
AUGUST BOTANY REPORT .....	7
SEPTEMBER ENTOMOLOGY MEETING .....	12
REVISITING THE SWIFT TIGER BEETLE .....	13
THE RIVERVIEW CASINO COMPLEX: A LOSING BET .....	17
PUBLICATIONS BY MEMBERS.....	17
WGSS BIRD REPORTS USED FOR RESEARCH.....	18
WGSS BIRDERS ARE INVITED TO SOUTHEAST MISSOURI .....	18
FREE ADULT LECTURES AT THE ST. LOUIS ZOO – OCTOBER/NOVEMBER .....	19
2009 WHITNEY AND ANNA HARRIS CONSERVATION FORUM .....	19
A SPECIAL "THANK YOU"! .....	19
GO GREEN – RECEIVE NATURE NOTES BY EMAIL! .....	19
CALL FOR ARTICLES, ANNOUNCEMENTS, AND REPORTS .....	20
GROUP ACTIVITY/WALK SCHEDULES .....	21
ADMINISTRATIVE INFORMATION .....	22



## NOVEMBER GENERAL MEMBERSHIP MEETING

---

November's general membership meeting will be our annual "Show and Tell" event. Members are encouraged to bring no more than ten

**presentation items** to share with the group. These items can include photos, slides, artwork, and collections. A digital projector and a slide projector will be available for members to use at this meeting, which will be held at **7:30 p.m. on Wednesday, November 4 at Powder Valley**. **Please note the change in date, location, and time for this program from our usual program schedule.**



## JULY BIRD REPORT

---

*Jim Ziebol*

**Sightings:** A Western Grebe appeared at CL on 7/19-DK, CA. BR. On 7/20 a Brown Pelican was recorded at 2 R NWR, Swan Lake-DK. By early July, there were 8 nests and 32 young Yellow-crowned Night Heron in Wilson Park-FM, and on 7/20 a HY Yellow-crowned Night Heron was seen in FP-SMCC. Four HY White Ibis seen in Monroe Co. by Connie Alwood were an exceptional find-photo BR. The WGNSS Thursday group found 5 White Ibis, Spoiled Sandpiper, Black Vulture, Black-necked Stilt and a Blue Grosbeak in Monroe Co. on 7/23-JC. A male Blue-winged Teal and 2 Spotties appeared at HL on 7/2-PH. Frank also had a Wigeon on 7/20 at HL. A female Hooded Merganser was spotted at LVT on 7/5. On 7/19 several Moorhen and young were seen at HL-CA, FH. Connie also had two Least Bitterns there the same day. Dave Rogles found 2 Solitary Sandpipers at CBCA on 7/9, and 12 Least Terns at RMBS. On 7/11, Dave also recorded Pectoral, Stilt Sandpiper, 7 Short-billed and one Long-billed Dowitcher at RMBS on 7/11. On 7/2 a HY Forster's Tern appeared at HL-FH and on 7/12 four HY Forster's and one white and dark morph Snow Geese were seen along Band Rd., HL-FH, JZ. An adult Bald Eagle was seen at CCL on 7/24-BP. Six Yellow-billed Cuckoos, including a copulating pair, were heard and seen at BCA on 7/3-YH. Black-billed were found at BGT on 7/11-PK, and on 7/19 at SNR-JZ. A Willow, 2 Acadian Flycatchers, 3 Phoebe and a Great Crested Flycatcher were visible at BCA on 7/3-YH, JZ. On 7/5, 2 Wood Thrush and a Kentucky Warbler were seen at LVT-SMCC-YH. A Prothonotary Warbler was feeding young at CCL

on 7/24-BP. On 7/3, 2 Yellow-throated, Black and White, Prothonotary Warbler, N. Paruta, and Louisiana Waterthrush were all recorded along Route "C" at BCA-YH, JZ. Mike Treffert and Joe Carter had Redstart, Kentucky W. and 2 Louisiana Waterthrushes at LVT on 7/2. A Cerulean Warbler was closely approached at CCL on 7/8-BP.

**Backyard Birds:** An E. Phoebe graced Sherry McCowan's yard on 7/14. A Great Horned Owl remained near Connie Alwood's home all summer. A Brown Thrasher family group was present at Linda Virga's yard, "Shady Nook." On 7/24 a Catbird, E. Pewee, Great Crested Flycatcher, Mississippi Kites and Eurasian Tree Sparrows were in Sue Gustafson and David Rabenau's yard. As many as 8 Mississippi Kites were near Brentwood Forest all summer-YH.

**Contributors:** C. Alwood (CA), D. Becher (DB), J. Carter (JCA), J. Chain (JC), S. Gustafson (SG), F. Holmes (FH), Y. Homeyer (YH). D. Kassebaum (DK). P. Keyel (PK), S. McGowan (SMCC). B. Prather (BP) D. Rabenau (DR), B. Rowe (BR), B. Rudden (BRU), M. Treffert (MT), R. Widmer (RW), J. Ziebol (JZ).

**Abbreviations:** BCA, Busch Conservation Area; BGT, Blue Grosbeak Trail; CBCA, Columbia Bottom Conservation Area; CCL, Creve Coeur Lake; CL, Carlyle Lake; FP, Forest Park; HL, Horseshoe Lake; HY, Hatch Year; RMBS, Riverlands Migratory Bird Sanctuary; 2 R NWR Swan Lake, 2 Rivers National Wildlife Refuge Swan Lake; SNR, Shaw Nature Reserve; LVT, Lost Valley Trail.



## AUGUST BIRD REPORT

---

### *Jim Ziebol & Yvonne Homeyer*

**Sightings:** While photographing insects at Cahokia Mounds, Jim Ziebol and Yvonne Homeyer observed a Yellow-crowned Night Heron on 8/2. Four Shovelers and 40 Bobwhites were seen at CBCA on 8/30 (MT). Mike Thelen also found 2 American Golden Plovers in Calhoun County on 8/20. Bill Rudden spotted 2 Piping Plovers from 1/4 of a mile away at Canteen Lake on 8/18, and many local birders were able to relocate

them. David Becher visited Two Rivers NWR on 8/29 and found 17 Avocets, a Black-bellied Plover, and a few Stilt Sandpipers. Two Black-necked Stilts and a Ruddy Turnstone were observed in Monroe County on 8/2 (David Starret). Three Ruddy Turnstones, 2 Sanderlings, and other shorebirds were seen at Sandy Slough on 8/10 (Boris Chevone). On 8/12, Jim Hickner found 8 Least Terns at the barge in Ellis Bay at Riverlands. Jim Malone found a Western Sandpiper at Riverlands on 8/16. An Upland Sandpiper was observed on Steppig Road on 8/20 (CM). An apparent Little Stint was photographed in Madison County by Bill Rudden on 8/20. Seven Common Moorhens were observed at HL on 8/1 (BK, KL). Two Coots with two young were found at HL on 8/6 (FH). A hatch-year Common Moorhen was observed in Monroe County on 8/20 (CM). Two Caspian Terns and a Shoveler were found at HL on 8/2 (FH). A visit to Riverlands on 8/23 produced 5 Caspian Terns, 1 Franklin's Gull, and several Bobolinks (Bill Rowe). Frank Holmes located 14 Caspian and 5 Forsters' Terns at HL on 8/16.

Two adult Bald Eagles were reported from HL on 8/10 (FH), and on 8/22, another adult Bald Eagle was seen there (S Marshall). Two more Bald Eagles were found in Calhoun County on 8/20 (MT). One Osprey was seen at Riverlands on 8/11 (Bill Rudden) and 2 were seen there on 8/20 (John Hitzeman). A Peregrine Falcon was photographed with prey (a peep) at Riverlands in early August (Bill Rudden). A Merlin was seen at very close range on Bend Road on 8/16 (FH). A Barred Owl and a Yellow-throated Warbler were observed in TGP on 8/20 (PL, JC). On 8/15, several Nighthawks were found at Clayton & Skinker (JC) and on 8/28, 35 were seen in University City (MT). A Black-billed Cuckoo was seen along Two Pecan Trail at Riverlands on 8/2 (Bill Rudden) and the Thursday Group found 2 Black-billed Cuckoos there on 8/5. Two Black-billed Cuckoos were reported at MTC on 8/12, along with an otter (MB). [An adult Black-billed Cuckoo was seen at Shaw Nature Reserve on 7/19 (JZ)]. Bryan Prather refound the Yellow-bellied Sapsucker at LVT on 8/8 that was originally found there in July by Yvonne Homeyer. Five Sedge Wrens were reported at Riverlands on 8/20 (MT).

A male Golden-winged Warbler and 2 Redstarts were seen in TGP on 8/27 (S McCowan). August 26 was a good day for songbird migration – 1 Blackburnian Warbler, 1 Summer Tanager, 1 Rose-breasted Grosbeak, and many Pewees (BP). Twenty-one species of shorebirds were found at CL on 8/29, including 2 Red-necked Phalaropes, 4 Wilson's Phalaropes, a Tri-colored Heron, a Buff-breasted Sandpiper, and a Neotropic Cormorant (DK).

A typical day at Tower Grove Park on 8/29 included Yellow-billed Cuckoo, 3 Nighthawks, Red-bellied Woodpecker, Hairy Woodpecker, Downy Woodpecker, 5 Pewees, 2 Yellow-bellied Flycatchers, 12 Red-eyed Vireos, 1 Philadelphia Vireo, 2 Blue-winged Warblers, 3 Golden-winged Warblers, 1 Tennessee, 1 Nashville, 1 Black-and-white, 3 Chestnut-sided, 6 Black-throated Green, Magnolia, N. Waterthrush, Ovenbird, Pine, 3 Canada, 1 Wilson's, 12 Redstarts, Common Yellowthroat, 20+ Baltimore Orioles, Scarlet Tanager, Summer Tanager, and several Ruby-throated Hummingbirds (Jackie Chain, Jean Cook, Jack Cowan, Yvonne Homeyer, Mark Mittleman, Bill Rudden, Rad Widmer, Jim Ziebol). This is one of the best fall days in several years.

A typical day at Two Rivers NWR on 8/23 included 1500+ Pectoral Sandpipers, Black-bellied Plover, 2 Wilson's Phalaropes, Stilt, Spotted, Least, and Semipalmated Sandpipers, both Yellowlegs, and 15 Avocets (David Rogles).

**Contributors:** Nick Barber, Paul Bauer, David Becher, Tom Bormann, Mike Brady, Jackie Chain, Dick Coles, Jim Hickner, Frank Holmes, Yvonne Homeyer, Dan Kassebaum, Peter Keyel, Bob Kleiger, Kent Lannert, Pat Lueders, Charlene & Jim Malone, David Marjamaa, Scott Marshall, Anne McCormack, Sherry McCowan, Keith McMullen, Kraig Paradise, Bryan Prather, Bill Rowe, Bill Rudden, Mark Seiffert, Al Smith, John Solodar, Mike Thelen, Josh Uffman, Jim Ziebol, Phil Ziebol.

**Abbreviations:** BCA, Busch Conservation Area; BKL, B. K. Leach; CBCA, Columbia Bottom Conservation Area; CC, Clarence Cannon NWR; CL, Carlyle Lake; CSP, Castledown State Park; FP, Forest Park; HL, Horseshoe Lake; LCCL, Little Creve Coeur Lake; MBG, Missouri Botanical Garden; MTC, Marais Temps Clair; RMBS,

Riverlands Migratory Bird Sanctuary; SNR, Shaw Nature Reserve; TGP, Tower Grove Park.



## JULY BOTANY REPORT

---

*Compiled by George Van Brunt*

**July 6, 2009 – Ketcherside Mountain**

**Conservation Area**, Iron Co., MO (contributed by Nels Holmberg).

On a surprisingly cool July morning a group of 12 ventured south to Ketcherside Mountain Conservation Area in Iron County. The group was treated to an appreciation of the power of the May 8 storm that had toppled many large trees, and the dedication of the Ozark Trail volunteers who had cleared the trail. The storm was a **Derecho** (pronounced day-RAY-cho), a widespread and usually fast-moving windstorm associated with convection. Derechos include any family of downburst clusters produced by an extratropical Mesoscale Convective System, and can produce damaging straight-line winds over areas hundreds of miles long and more than 100 miles across (information from Jack Harris).

It wasn't far up the hill until Fr. Sullivan tested the group on the identification of a large yellow trumpet shaped flower. Jack Harris passed with smooth false foxglove (*Aureolaria flava*). The group stopped to examine 2 woody species that are uncommon in the St Louis area: black tupelo (*Nyssa sylvatica*) and witch hazel (*Hamamelis vernalis*).

The main target of this trip was to find a mint known as richweed or citronella horse balm (*Collinsonia canadensis*). It was Larry Morrison who first spotted the vegetative stems of the plant near an acid seep. We were too early in the season to see its delicate yellow flowers. Other plants found in flower were angelica (*Angelica venenosa*), shrubby St. John's-wort (*Hypericum prolificum*), spiked lobelia (*Lobelia spicata*), wild quinine (*Parthenium integrifolium*), a tickseed (*Desmodium nudiflorum*), and hoary skullcap (*Scutellaria incana*). An interesting group of ferns were also seen during the hike: maidenhair fern (*Adiantum pedatum*), sensitive fern (*Onoclea sensibilis*), royal fern (*Osmunda regalis*), broad beech fern (*Phegopteris hexagonoptera*), Christmas

fern (*Polystichum acrostichoides*), and bracken fern (*Pteridium aquilinum*).

Several interesting mosses were noted at the site including a sphagnum (*Sphagnum lescurii*), a tree moss (*Climacium americanum*), and unusual variety of *Hypnum lindbergii* called *var. americanum*, with collections taken to Carl Darigo at MOBOT for identification.

### July 13, 2009 – Victoria Glade Conservation Area, Jefferson Co., MO (contributed by Larry Morrison).

There are no triskaidekaphobes among WGNSS botanists. Indicative of that is the fact that 13 of them met on July 13th then scampered up the 13 meters high roadside embankment to the MDC's portion of Victoria Glade. There has been enough consistent rain this year that the glade was still lush and green, with several wildflowers in bloom. The "plant of the day" was Blue Hearts (*Buchnera americana*), a species that requires undisturbed prairie or glade to survive. There were several in full bloom, some of which were the most robust specimens of this species that members of the group had ever seen. Also in bloom were: Mullein Foxglove (*Dasistoma macrophylla*), Slender Mountain Mint (*Pycnanthemum tenuifolium*), Round-Fruited St. Johnswort (*Hypericum sphaerocarpum*), Hairy Wild Petunia (*Ruellia humilis*), Flowering Spurge (*Euphorbia corollata*), Long-Leaved Bluets (*Hedyotis longifolia*), Leucospora (*L. multifida*), Gray-Headed Coneflower (*Ratibida pinnata*), Missouri Coneflower (*Rudbeckia missouriensis*), both pink and white flowered Rose Pink Gentian (*Sabatia angularis*), Pale-Spike Lobelia (*L. spicata*), Green and Whorled Milkweed (*Asclepias viridiflora, verticillata*), Butterfly Weed (*Asclepias tuberosa*), Lead Plant (*Amorpha canescens*), Heliotrope (*Heliotropium tenellum*), American Aloe (*Manfreda virginica*), Smooth Sumac (*Rhus glabra*), Scurfy Pea (*Psoralidium tenuiflorum*), Ox-Eye (*Heliopsis helianthoides*), Purple Prairie Clover (*Dalea purpurea*), Rattlesnake Master (*Eryngium yuccifolium*), Rosinweed (*Silphium integrifolium*), Grooved Flax (*Linum sulcatum*), Wild Quinine (*Parthenium integrifolium*), and Side Oats Grama (*Bouteloua curtipendula*). By the parking lot, were several large Hazelnut (*Corylus americana*) shrubs in fruit.

### July 20, 2009 – Ketcherside Mountain Conservation Area, Iron Co., MO (contributed by John Oliver).

On a warm, clear and sunny morning, eight botanists (Fr. James Sullivan, Wayne and Nancy Clark, Jack Harris, George Van Brunt, Paul Warner, David Visintainer, and John Oliver) made a trek to Ketcherside Mountain Conservation Area in Iron County. A previous trip (see July 6, 2009) had visited another part of this large MDC property, along Claybaugh Creek, and this trip focused on the upper portion on Russell Mountain just south of the parking access on Highway CC. After only a few minutes of walking, we remarked on the very dry condition of plants along the trail. We traveled downhill through igneous glades which are always harsh and desert-like in Missouri's summer heat. Nevertheless, in light of the relatively cool and rainy weather we had been experiencing in St. Louis, we were surprised at the desiccated condition of most of the plants we encountered. The extensive rhyolite glades were interesting to explore with massive boulder outcrops dotted with acid soil-loving mosses and lichens. Some of the slabs of rhyolite showed flow patterns which were left as the slow-moving lava solidified.

In this water-deprived environment, plants must adapt in some way. Examples include completing their growth cycle when water is available, developing a deep taproot or by storing water in some structure above or below ground. A visit to such an area following a period of rainfall can also be quite rewarding, as some of the xerophytic species react quickly to water when it becomes available.

Unfortunately, our field trip was in the middle of what appeared to be a protracted dry spell and most of the plants were not in bloom. *Rhus copallinum* (winged or dwarf sumac), the last of the native sumacs to bloom, was an exception. The large flowering spikes of this species were in evidence everywhere. *Liatris squarrosa* (a blazing star), *Diodea teres* (buttonweed), *Euphorbia corollata* (flowering spurge), *Parthenium integrifolium* (wild quinine), and *Polygala sanguinea* (field milkwort) were other flowering plants we observed.

Other species identified in non-flowering condition included *Symphyotrichum turbinellum*

(prairie aster), *Solidago ulmifolia* (elm-leaved goldenrod), *Solidago hispida* (hairy goldenrod), *Solidago nemoralis* (old-field goldenrod), *Hypericum gentianoides* (pineweed), *Ambrosia bidentata* (lanceleaf ragweed), *Asclepias stenophylla* (narrow-leaved milkweed), and *Smilax glauca* (greenbrier).

We decided to drive on to the top of Taum Sauk Mountain in search of wetter conditions and walked the trail toward the high point and a wet meadow we have visited before. Along the way, many of the same species seen earlier were found as well as several new ones including *Helianthus hirsutus* (bristly sunflower), *Phyllanthus carolinensis* (Carolina leaf-flower), *Lobelia spicata* (spiked lobelia), *Hedyotis nigricans* (narrow-leaved bluets), *Ludwigia alternifolia* (bushy seedbox), *Chamaecrista nictitans* (sensitive partridge pea), *Vernonia baldwinii* (Western Ironweed), and a very nice stand of *Aralia racemosa* (American spikenard), a species not often encountered. Arriving at the meadow, a brilliant display of *Liatris pycnostachya* (button snakeroot) festooned with butterflies, and a few remaining *Rhexia virginica* (meadow beauty) flowers were the perfect topper to a fine outing.

**July 27, 2009 – Johnson's Shut-Ins State Park,** Reynolds Co., MO (contributed by George Van Brunt).

Thirteen botanists (Wayne Clark, Nancy Clark, Nevin Aspinwall, Peggy LeFarth, Nels Holmberg, Jim Wiant, Fr. Jim Sullivan, John Oliver, Mark Peters, Jack Harris, Pat Harris, Dave Visintainer, and George Van Brunt) met at Johnson's Shut-Ins State Park in Reynolds County. We were joined by the park naturalist, Janet Price, who took us on a tour of the, as yet, unopened Black River Center with exhibits that explain the natural and human histories of the area. Following our tour, we assembled in a meeting room where Janet gave a very interesting and informative talk and slide show detailing the damage caused by the December 14, 2005 catastrophic failure of the Taum Sauk Reservoir Dam and the subsequent recovery efforts in the park. From our position on the second floor of the Black River Center, we could see the various features she was explaining, such as the path the flood had taken down the mountain. The area in front of the Center had been forest but was now a field with many large boulders. Sand, mud, trees, and many smaller rocks had been removed from the field and plant

life was returning. We appreciate and thank Janet for sharing her expertise with us.

After her talk, Janet led the group to a recovering fen near the Center. The fen had been a forested area, but now had very few trees. A layer of mud had been removed from the area and the fen was fenced off and labeled as a "Fen Recovery Area", closed to the public. With Janet leading, we were able to enter and explore the fen. One end of the fen area was dry and the other wet. At the wet end, we hoped to find the orchid, *Platanthera peramoena* (purple fringless orchid). Janet reported it last year, but unfortunately we did not find it, possibly because it had already bloomed or did not appear this year. We did find many other interesting plants in bloom including *Phlox maculata* (wild sweet William), *Mimulus alatus* (winged monkey-flower), *Sida spinosa* (prickly sida), *Glandularia canadensis* (rose verbena), *Rudbeckia triloba* (brown-eyed Susan), *Ipomoea pandurata* (wild potato vine), *Vernonia baldwinii* (Baldwin's ironweed), *Campanula americana* (tall bellflower), *Oxyopolis rigidior* (cowbane), *Apios americana* (groundnut), *Ludwigia alternifolia* (rattlebox), *Eupatorium perfoliatum* (perfoliate boneset), *Boehmeria cylindrica* (false nettle), and *Oenothera gaura* (formerly *Gaura biennis*) (butterfly weed).

In the drier area, we found *Echium vulgare* (viper's bugloss), *Hypericum perforatum* (common St. John's wort), *Erigeron strigosus* (daisy fleabane), *Senna marilandica* (Maryland senna), *Croton capitatus* (woolly croton), *Verbena stricta* (hoary vervain), *Desmodium nudiflorum* (bare-stemmed tick trefoil), *Scutellaria incana* (downy skullcap), *Diodia virginiana* (large buttonweed), and *Oenothera filiformis* (formerly *Gaura longiflora*) (long-flowered beeblossom).

We made an interesting observation of the leaf arrangement of *Verbesina alternifolia* (wingstem, yellow ironweed), which as its species epithet indicates, has an alternate leaf arrangement. It has long been noted that an opposite leaf arrangement is found in this species when the plant is growing in a shaded area. This is known as an ecophenotype, a nongenetic phenotypic modification in response to environmental conditions. We found opposite-leaved *Verbesina alternifolia* growing in bright sunlight, far from any shade. This raises an interesting question. Since this area was once shaded and *V. alternifolia* is a

perennial, does this species become "imprinted" with its initial environment and continue to grow as though it is still in that environment? Is this an epigenetic change? An epigenetic change is a change in gene expression caused by environmental factors without a change in the DNA sequence. Such changes can be inherited for many generations.

**Editor's Note:** Labeled and annotated pictures of WGNSS botany field trips may be found at

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

o



## AUGUST BOTANY REPORT

---

*Compiled by George Van Brunt*

**August 3, 2009 – Al Foster Trail**, St. Louis Co., MO (contributed by John Oliver).

Monday dawned clear and sunny, encouraging 14 botanists (Fr. Sullivan, Jack & Pat Harris, Jim Wiant, George Van Brunt, Burt Noll, Larry Morrison, Bob Coffing, Wayne & Nancy Clark, Dave & Mary Visintainer, David Bruns, and John Oliver) to attend the botany walk on the Al Foster Trail (part of the Meramec Greenway Trail) and some adjacent floodplain areas along the Meramec River at Glencoe, in St. Louis County.

This portion of the Greenway is an interesting example of cooperation among several governing units including the St. Louis County Parks and the Missouri DNR (portions of the area are within Castlewood State Park). At the end of Grand Avenue in "Downtown Glencoe," the road ends at the railroad buildings and the trail takes over. The only railroad left in Glencoe is the 12 inch gauge live Steam Railroad operated by the Wabash, Frisco and Pacific Railroad Association, which has been a local attraction since 1961, offering steam train rides on Sundays, from May to October. For much of the way, the trail parallels the river, railroad tracks or both.

Much of the vegetation here is typical of floodplains or disturbed areas, with an occasional surprise (or as Jack Harris terms them, "targets of opportunity"). Our visit was timed to seek one of these floodplain specialists, *Orobancha riparia*, a rare

broomrape which has only recently been recognized as a new species. In a paper published in the *Journal of the Botanical Research Institute of Texas* (July, 2009; co-authored by WGNSS member George Yatskievych), morphological, geographic and ecological distinctions between *O. riparia* and other members of the genus are described. Heretofore, the broomrape along the Meramec had been considered as *O. ludoviciana*. Searching the sandbars along the river, we checked below *Ambrosia trifida* (giant ragweed), the preferred host for this parasitic plant, but were unsuccessful in locating it.

Among the other blooming plants observed, were several pairs or combinations which allowed us the opportunity to see their similarities and differences in close proximity. Among these were two thoroughworts: *Eupatorium serotinum* (late boneset) and *Eupatorium altissimum* (tall thoroughwort), three members of the nettle family: *Laportea canadensis* (wood nettle), *Boehmeria cylindrica* (false nettle), and *Pilea pumila* (clearweed), two related "former Eupatoriums": *Ageratina altissima* (white snakeroot) and *Conoclinium coelestinum* (mistflower), and a pair that provided one of Father Sullivan's favorite "teachable moments": *Scrophularia marilandica* (figwort, carpenter's square, which has square stems) and *Agastache nepetoides* (yellow giant hyssop, which has stems like an I-beam).

Other plants observed included *Eclipta prostrata* (yerba de tajo), *Campanula americana* (tall bellflower), *Rhus copallinum* (winged or dwarf sumac), *Polymnia canadensis* (pale-flowered leaf cup), *Chenopodium ambrosioides* (Mexican tea, wormseed), *Spermacoce glabra* (smooth buttonweed), *Chasmanthium latifolium* (river oats), *Rudbeckia triloba* (brown-eyed Susan), *Hedyotis nigricans* (narrow-leaf bluets), *Ptelea trifoliata* (wafer ash), *Dasistoma macrophylla* (mullein foxglove), *Clematis virginiana* (virgin's bower), *Campsis radicans* (trumpet creeper), *Iresine rhizomatosa* (bloodleaf), *Erigeron annuus* (daisy fleabane), *Hackelia virginiana* (stickseed), *Arnoglossum atriplicifolium* (pale Indian plantain), *Lobelia inflata* (Indian tobacco), *Dianthus armeria* (Deptford pink), *Verbena stricta* (hoary vervain), *Heterotheca subaxillaris* (camphorweed), *Froelichia floridana* (cottonweed), *Diodea teres* (buttonweed), *Hasteola suaveolens* (false Indian plantain), *Polanisia dodecandra* (clammy weed), *Lindernia dubia* (false

pimpernel), *Blephilia hirsuta* (wood mint), *Phryma leptostachya* (lopseed), and *Prunella vulgaris* (self-heal).

**August 10, 2009 – Missouri Botanical Garden, St. Louis, MO** (contributed by Jack Harris, including a short tale of the relentless pursuit of *Franklinia alatamaha*).

As this trip began, it was with a sense of relief that the Botany Group realized that the weather forecast had been wrong. The starting time and place had been set early (9:00 am) in order to try to anticipate the predicted 90 degrees - plus afternoon high. However, the passing of a local thunderstorm a couple hours earlier left us with a cooler (70s - 80s) and friendlier climate for a casual stroll around Garden. Those participating were Rev. Jim Sullivan, Jack Harris, John Oliver, Pat Harris, George Van Brunt, Wayne Clark, Nancy Clark, and we welcomed first time Botany Group visitors Lynn McGoogan and Jim and Yvonne Roe.

In the beginning, on the second floor of the Ridgway Building, the photographic exhibit "A World Out of Time" by Franz Lanting attracted the attention of the group. The many very large images displayed along the wall drew many complimentary comments and appraisals. And conveniently at the end of the first row of images, and near the exit to the outdoors Garden, was the next short stop: the "Current Plants in Bloom" display table. Briefly consulting this small display provided a few suggestions of specific plants to look for along the way in addition to the heads-up alert/main target suggested by George Van Brunt (GVB).

George had earlier advised the gathering group that the very unique small tree *Franklinia alatamaha* Bartram ex Marshall, 1785, (common name: Franklin tree) of the Theaceae (tea family), was in bloom and that there were several of these plants on the Garden grounds. We just had to find them. *Franklinia alatamaha*, the only member of the genus from the vicinity of the Altamaha River in Georgia, was last seen in its native habitat in 1803. It is believed to be extirpated in the wild and now occurs only as a cultivated ornamental.

The story thread about how GVB learned of the Franklin tree merits a brief diversion here: A couple of months ago, GVB was listening to the Diane Rehm show and she was talking with

Andrea Wulf, a German woman who has lived in England a number of years. Intrigued, George looked up the narrative on the www. "Diane Rehm, the excellent morning talk show host on NPR, talked Thursday about English gardens with Andrea Wulf, author of *The Brother Gardeners: Botany, Empire and the Birth of an Obsession*. It is the story of how a colonial American farmer with a passion for plants and a group of eighteenth century explorers, botanists, and collectors triggered the English obsession with gardens and gardening. You can listen to a recording of this segment of her show by going to WAMU-FM's Web site and clicking on the appropriate content link." (the Diane Rehm show in question was April 30, 2009 at 10:00).

And GVB followed up and learned about John Bartram, a Philadelphia farmer who lived in the 1700s and was friends with Benjamin Franklin and other scientific luminaries of the time. He is an ancestor of Diane Rehm's husband, John Bartram Rehm. During the show a caller mentioned that she had a tree that was something like a dogwood, but wasn't, and had beautiful blooms in the late summer. The author said it was a Franklin tree. Again intrigued, GVB searched the on-line info at MOBOT, and found that the Franklin tree was listed as being present on the grounds at the Garden.

The route for the day, as led by the field trip leader Rev. Jim Sullivan, wended its way through several 'feature' areas listed here in the order visited along with an associated eclectic plant listing:

1. The small Lily Pad pools adjacent to the Linnean House: Rev Jim Sullivan pointed out the potted, pendant *Dicobondra* sp. and the imposing *Thalia geniculata*. The latter grows in three eastern Gulf Coast states and is a relative of the Missouri native *Thalia dealbata*. In the same pond are two relatives of the Missouri native *Menyanthes trifoliata* var. *minor* (buckbean). The attractive floating pond plants are *Nymphoides indica* (water snowflake) with fringed petals and *Nymphoides cristata* (floating heart) with fringe in the flower center. Along the walk here there is also a showy group of *Rudbeckia fulgida* (orange coneflower) and *Gomphrena glogota* (globe amaranth), which is noted for its capacity to hold its shape and color even when dry and is used for



decorations. The spiraling, twisting stems of *Juncus decipiens* (curly-wurly) invited the comments of curious observers. A robust *Agastache rupestris* (threadleaf giant hyssop) and the blazing colors of *Lagerstroemia indica* (crepe myrtle) were pleasingly conspicuous.

2. In the Ottoman Garden the small tree *Punica granatum* (pomegranate) was displaying its fruit which recent publicity has cited for its nutritional values.
3. The Sensory Garden has many special plants on exhibit here and the *Lavandula angustifolia* (English lavender), reputed for its value in aromatherapy, but not a native of England, was confirmed by the sniff test.
4. The Dry Streambed Garden features several unique native North American species, e.g., *Leitneria floridana* (corkwood), a very rare one in Missouri, *Solidago ouachitensis* (Ouachita mountain goldenrod) known only from Arkansas and Oklahoma, and *Thalia dealbata* (thalia) a large native southern MO plant that has an inflorescence more densely flowered than its southern cousin noted above. Also in robust condition were examples of two federally listed (ESA) species: *Echinacea tennesseensis* (Tennessee coneflower) and *Boltonia decurrens* (decurrent false aster). All of these and others with a huge *Nyssa sylvatica* (black gum tree) standing guard just west of the streambed.
5. The English Woodland Garden. A young specimen of the Franklin tree was located here, but it apparently was not mature enough to bear flowers so the search continued.
6. The Native Plants Garden with several species of plants familiar to the Botany Group was in grand display, e.g., *Silphium terebinthinaceum* (prairie dock), *Andropogon gerardii* (big blue stem), et al. The many native plants here, nurtured under the TLC of the professional garden staff, grow to very large size and are unusually showy.
7. The Center for Home Gardening Gardens displayed a GREAT, and inviting, crop of tomatoes, and other commonly grown vegetables. Unfortunately the signs clearly stated: NO PICKING!

8. The George Washington Carver Garden is where GVB found a fine flowering specimen of the Franklin tree and so advised other members of the Botany Group. It is an understatement to report that much photography and discussion ensued. The basis for the descriptor of "ornamental" was on good display with several fragrant, showy white flowers, each with a cluster of many golden yellow stamens and stigma at the center. The flowers are similar to some species of camellia.

At one spot, tucked along the walkway border on the way back to the entrance, was a close relative of our food supply plants, the tomato and potato. This plant, *Solanum quitoense* (naranjilla), was eminently conspicuous for its hostile appearance. All parts of the plant appeared armed with dangerous looking spines/thorns including the surface of the large leaves. A cultivated spineless variety of this plant bears a fruit that is a popular food source in South America.

This 'stream of consciousness of GARDENS' visited one after the other, left the Botany Group's energy reserves dwindling and soon several members repaired to the on-site SASSAFRAS Restaurant for sustenance and refreshments.

**August 17, 2009 – Johnson's Shut-Ins State Park, Iron Co., MO** (contributed by Nels Holmberg).

On a hot August morning, the botany group chose a hot site to visit: the scoured valley at Johnsons Shut-Ins State Park created in 2005 by the breach of Ameren-UE's Taum Sauk Reservoir on Proffit Mountain. The great interest to our group of 10 was to see what vegetation had developed from a bare rock and gravel start in the intervening 4 years. Some of the classic botanical studies have been on plant succession on places like Krakatoa Island and the Michigan Sand Dunes. Here we have a chance to watch the re-vegetation of our own 'ground zero'.

By a lucky chance, we were met at the site by a park seasonal naturalist, Pamela Kugel-Ralls, who provided great information on the scouring event and the geology of the area, pointing out the exposed rhyolite, granite and dolomite.

In the scoured valley, we found 2 main habitats. In the wet area along a small stream, we noted umbrella sedge, (*Fuirena simplex*), yellow flatsedge, (*Cyperus flavescens*), Torrey's rush, (*Juncus torreyi*), boneset, (*Eupatorium perfoliatum*), box-seed, and (*Ludwigia alternifolia*).

In the gravel and sand areas, we could divide the plants into several categories:

Non-natives: sericea lespedeza (*Lespedeza cuneata*), beefsteak plant (*Perilla frutescens*) and viper's bugloss (*Echium vulgare*).

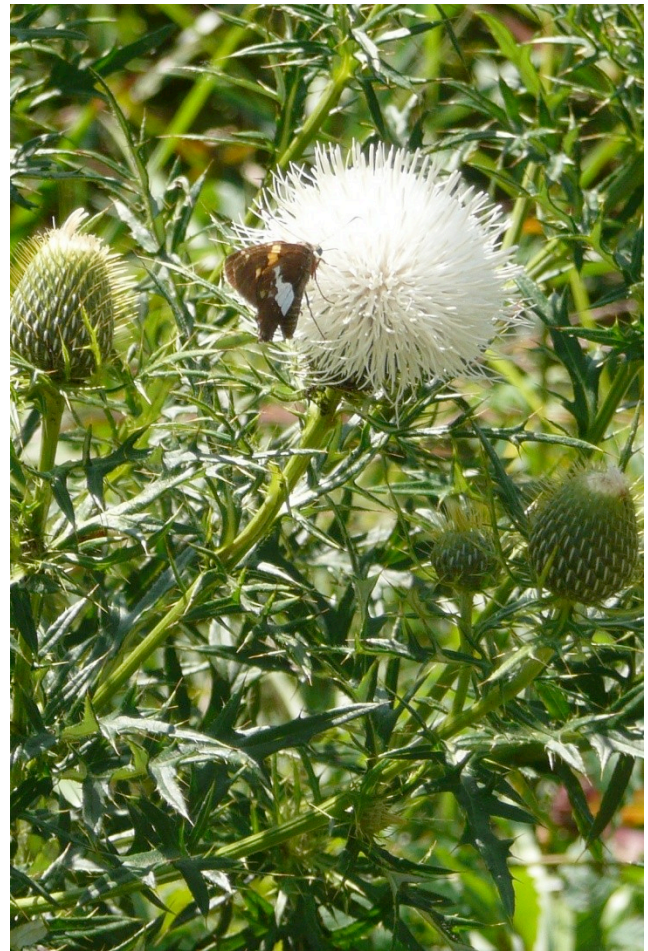
Early colonizing natives: cottonwood (*Populus deltoides*), common ragweed (*Ambrosia artemisiifolia*), partridge pea (*Chamaecrista fasciculata*), horseweed (*Conyza canadensis*), common evening primrose (*Oenothera biennis*), and gaura (*Oenothera filiformis*).

More conservative natives, some of which are acid soil specialists: false pennyroyal (*Trichostema brachiatum*), slender cottonweed (*Froelichia gracilis*), rough buttonweed, (*Diodia teres*), rattlebox (*Crotalaria sagittalis*), and sensitive partridge pea (*Chamaecrista nictitans*).

On the trail in to the scour area, we noted several late summer flowering plants: woodland agrimony (*Agrimonia rostellata*), tall bellflower (*Campanula americana*), richweed (*Collinsonia canadensis*), large-bract tick trefoil (*Desmodium cuspidatum*), hoary skullcap (*Scutellaria incana*), and hairy goldenrod (*Solidago hispida*).

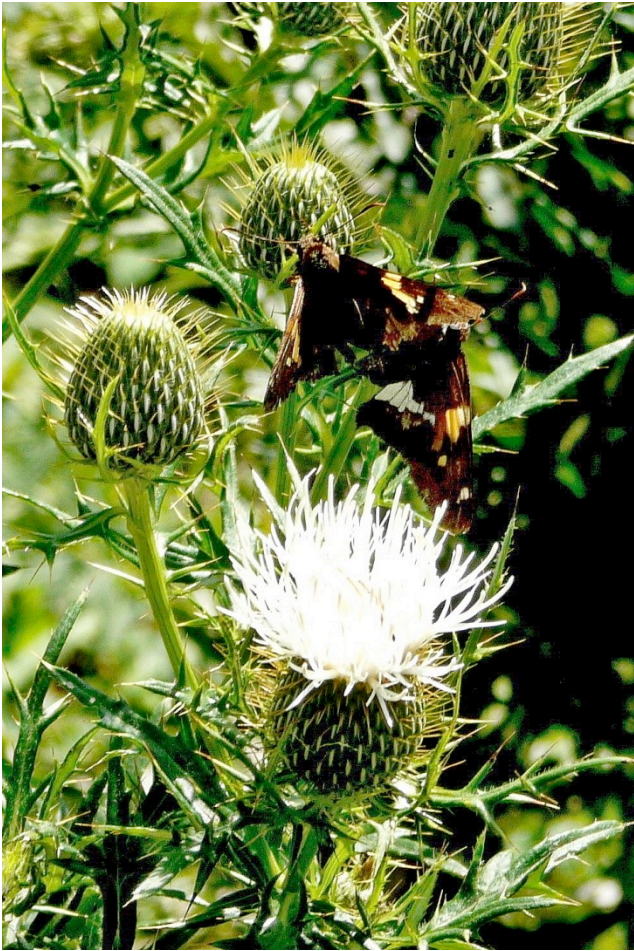
**August 24, 2009 – Katy Trail, Weldon Spring Access, St. Charles Co., MO** (contributed by Wayne Clark).

Fourteen botanists, Ed and Gladys Kullman, Tom Kullman, Larry Morrison, Jack and Pat Harris, Kathy Thiele, Fr. Sullivan, George Van Brunt, Wayne and Nancy Clark, Paul Corley, Jim Wiant, and Renee R. gathered on a pleasant day to explore the Katy Trail. We went across the access to a strip of ground between the soybean field and the slough. There we found *Phyla lanceolata* (northern fog fruit), *Chamaecrista fasciculata* (showy partridge pea), *Conyza canadensis* (horse weed), *Stachys hispida* (hairy hedge nettle), *Persicaria lapathifolia* (pale smartweed), *Pyrrhopappus carolinianus* (false dandelion), *Lactuca saligna* (willow-leaved lettuce), *Ipomoea hederacea* ivy-leaved morning-glory), *Phytolacca americana* (pokeweed), *Solanum carolinense*



*Cirsium discolor* f. *albiflorum* (field thistle). © Nancy Clark.

(horse nettle), *Chenopodium album* (lamb's quarters), *Capsella bursa-pastoris* (shepherd's purse), *Commelina diffusa* (dayflower), and *Cyperus esculentus* (yellow nutgrass). Having explored that area we proceeded to the Katy Trail and headed west. We noted *Equisetum hyemale* (common scouring rush), *Campanula americana* (tall bellflower), *Smilax hispida* (bristly green briar), *Sicyos angulatus* (bur cucumber), *Setaria faberii* (nodding foxtail), *Lactuca floridana* (Florida lettuce), *Commelina erecta* (dayflower), *Scrophularia marilandica* (figwort), *Plantago rugelii* (Rugel's plantain), *Impatiens capensis* (jewelweed), and *Solidago altissima* (tall goldenrod). The fruit of either *Arisaema dracontium* (green dragon) or *Arisaema triphyllum* (Jack-in-the-pulpit) was found. A consensus of it being *A. dracontium* was reached because of the time of year it was. An *Ulmus rubra* (slippery elm) placed a branch across the trail to give easy access for identification. A *Rudbeckia triloba* (brown eyed-susan) was seen just before we turned right on the levee road to the Hamburg Trail and explored for a short distance. There we saw *Agalinus tenuifolia* (common gerardia),



*Cirsium discolor* f. *albiflorum* (field thistle). © Nancy Clark.

*Eupatorium altissimum* (tall thorough wort), *Daucus carota* (Queen Anne's lace), *Ambrosia artemisiifolia* (common ragweed), *Ambrosia bidentata* (lanceleaf ragweed), *Dianthus armeria* (deptford pink), and a *Cirsium discolor* (field thistle) with normal pinkish purple head. Back at the intersection of the levee road and the Katy Trail a *C. discolor* f. *albiflorum* with white flowers was seen. White flowers occur infrequently. The only other place that this writer has seen the white flowers was at Marais Temps Clair Conservation Area. On both occasions the heights of the stalks were in the upper range of their height limit and many branched. On the return trip we also found *Desmanthus illinoensis* (Illinois bundleflower), *Euphorbia dentata* (toothed spurge), and *Cuscuta gronovii* (common dodder).

**August 31, 2009 – Katy Trail, Research Access,** St. Charles Co., MO (contributed by George Van Brunt).

Ten botanists (Fr. Sullivan, Wayne and Nancy Clark, Bob Siemer, Kathy Thiele, Jack and Pat Harris, Louise Langbein, John Oliver, George Van

Brunt) met on a cloudy, cool (63°F) morning at the Research Park Access to the Katy Trail. Exploring the parking lot area while waiting for 9:00am, we found *Ratibida columnifera* (Mexican hat), *Lobelia siphilitica* (great blue lobelia), *Eupatorium serotinum* (late boneset), and *Verbesina alternifolia* (wingstem) in bloom.

When the appointed hour arrived, we began botanizing the Missouri Research Park Trail, a three-quarter of a mile-paved trail that leads to the Katy Trail. Missouri River bottomland provides habitat for a rich assortment of plants. Among the many species we found in bloom were *Aureolaria grandiflora* (yellow false foxglove), *Cunila origanoides* (dittany), *Symphotrichum anomalum* (blue aster), *Lobelia inflata* (Indian tobacco), *Agalinis tenuifolia* (narrow-leaved false foxglove), *Symphotrichum patens* (spreading aster), *Persicaria lapathifolia* (pale smartweed), *Eupatorium altissimum* (tall boneset), *Scrophularia marilandica* (late figwort), *Impatiens capensis* (jewelweed), *Impatiens pallida* (pale touch-me-not), *Persicaria pennsylvanica* (pink smartweed), and *Samolus parviflorus* (brookweed).

When we reached the Katy Trail we turned east and walked to the Daniel Boone Bridge (I-64). We returned by the same route. The vines of *Sicyos angulatus* (bur cucumber) were in bloom as were the the short herbaceous plants of *Solanum ptychanthum* (black nightshade). *Sicyos angulatus* is in the cucumber family, but its fruits are thin-walled, often bristly, modified berries that do not resemble the edible cucumber. The vine, *Apios americana* (groundnut) was blooming in one area by the trail while another vine, *Passiflora incarnata* (large purple passion flower or maypops), was growing and blooming in several places near the bridge.

*Passiflora incarnata* is native in the southeastern and southwestern parts of Missouri and introduced elsewhere. Maypops is grown extensively in gardens, and the plants we found were probably escapees from cultivation. Maypops is a temperate cousin of the mostly tropical Passifloraceae whose most famous member is the widely cultivated *Passiflora edula*, passionfruit. Not only is the fruit edible, but the roots and leaves of *P. edulis* (and *P. incarnata*) were used by Native Americans in medicine.

The flower of *Passiflora* sp. is very unusual; the whorls of parts in ascending order are 3 bracts, 5



*Passiflora incarnata* flower.

sepals, 5 petals, a 2-layered corona of long rays exceeding 100 in number, a stalk on top of which are 5 stamens, and a pistil with a triple branched style. (Note: in the flower photo above there is a small caterpillar in the left front feeding on the pollen in one of the stamens. Also note that the bracts cannot be seen in this photo.) Due to the wide gap between the corona and the underside of the anthers where the pollen is exposed, *Passiflora* spp. are mostly pollinated by large bees. I observed bumblebees visiting the flowers of *Passiflora incarnata*.

The "passion" in passionflower refers to the Passion of Christ. Spanish missionaries, in the 15th and 16th centuries, adopted the structures of *Passiflora* sp. as symbols of the last days of Jesus, especially the Crucifixion. The ovary is shaped like a chalice and represented the Holy Grail, the cup used at the Last Supper. The ten tepals (sepals and petals) represented the 10 faithful apostles (all except Peter, the denier, and Judas Iscariot, the betrayer). The tendrils represented the whips used in Jesus' flagellation, while the rays of the corona represented the crown of thorns. The pointed tips of the leaves represented the lance with which a Roman soldier pierced the side of the crucified Christ. Finally, the 3 styles represented the three nails used in the crucifixion (the stigmas are the nails' heads) and the 5 anthers represented the 5 wounds (4 caused by nails and one by the lance).

**Editor's Note:** Labeled and annotated pictures of WGNSS botany field trips may be found at

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

[o](#)



*Passiflora incarnata* leaves.

---

## SEPTEMBER ENTOMOLOGY MEETING

---

### *Rich Thoma*

The WGNSS entomology group met at the home of **Richard Thoma** in September for our annual "Show and Tell Night". For this meeting, everyone that came had a chance to show pictures, preserved insects and anything else that was acquired over the summer that was insect related. In effect, we were treated to the equivalent of three or four presentations all in one evening.

**Jane Walker** gave a report on the Dragonfly Society of America meeting in Sullivan, Missouri this past June. The Dragonfly Society is the major organization responsible finding and preserving habitat for the endangered Hine's Emerald dragonfly. Jane did much of the organizational work that helped to make this meeting a success.

Our next speaker, **James Trager** presented a slide show on singing crickets and katydids of eastern Missouri. Many of the photos were taken from James' back yard. The best part though was that along with the picture of the cricket or katydid, James also mimicked the song of each species for us to hear.

**Ted MacRae** put together a slide show from his trip to Four Canyon Preserve and other shortgrass prairies in western Oklahoma. This was Ted's first major trip with a new digital camera. Despite the newness of the equipment, it is obvious that Ted has a knack for taking photos of insects (and the

rest of nature too). From the photos we saw, western Oklahoma is a hidden treasure few have visited. Ted showed photo after photo of plants and insects only found on the shortgrass prairies. The highlight of the trip for Ted was to find populations of the Swift Tiger Beetle, *Cylindera celeripes* – a potentially endangered species (see Ted's article about this species elsewhere in this newsletter).

**John Christensen** showed off a collection of insect toys he has acquired. Nearly all were the windup variety. We all had fun winding up the insects and letting them run. Interestingly, most of the toys had the general shape of a particular insect but were colored like no known species.

Our last presenter for the evening, **George Diehl** brought a nice selection of insects collected this summer in Missouri and was looking for identification help. It's always a pleasure to see what others have found during their summer travels. Everyone had a chance to admire the many colorful insects George had found.

The evening ended with more entomological conversation with chips, donuts and drinks provided by **Nancy Longhibler**.



## REVISITING THE SWIFT TIGER BEETLE<sup>1</sup>

*Ted C. MacRae*

When my hymenopterist friend, Mike Arduser, came back from his first trip to [Oklahoma's Four Canyon Preserve](#) last September, my first thought upon seeing his photos of the area was, "Ooh – that looks like a good place for tiger beetles!" Its rugged red clay and gypsum exposures reminded me of similar country I had seen in the not-too-distant Gypsum Hills of south-central Kansas, where I was fortunate enough to observe a nice population of the fantastically beautiful *Cicindela pulchra* (beautiful tiger beetle) back in 2005 (MacRae 2006). When I later realized that the area was only 30 miles southwest of a confirmed recent sighting of *Cylindera celeripes* (swift tiger beetle), I

<sup>1</sup> Excerpted from a 3-part series of posts appearing 6/30–7/7, 2009 on the author's website <http://beetlesinthebush.wordpress.com>.

thought, "Ooh, I wonder if *C. celeripes* might occur there also."

*Cylindera celeripes* is one of North America's rarest and least understood tiger beetles. This tiny, flightless, ant-like species has been recorded historically from eastern Nebraska south to north-central Texas, but its range appears to have become highly restricted over the past century. It hasn't been seen in Nebraska for [nearly 100 years](#), and most recent records have come from its last known stronghold in the Flint Hills of Kansas. Last year, however, small numbers of adults were seen in the Loess Hills of western Iowa, triggering an immediate trip to the site by myself and Chris Brown, who has been co-investigating the [tiger beetle fauna of Missouri](#) with me for several years now. The occurrence of this species in Iowa's Loess Hills had reignited our hopes – faint as they were – that the beetle might yet occur in extreme northwestern Missouri, where the Loess Hills reach their southern terminus. We wanted to see the beetle in the wild to better understand its habitat requirements before resuming our search for this species in northwestern Missouri. We succeeded in finding the beetle, and I wrote about that experience last August in a post entitled, ["The hunt for \*Cicindela celeripes\*"](#) (that post is now currently in press as an article in the journal *CICINDELA*).

Thus, when Mike asked me earlier this year if I might be interested in joining him on his return trip to Four Canyon Preserve in June, [I jumped at the chance](#). I figured I could look for *C. celeripes* at the preserve, and if I failed to find it there then I would go to nearby Alabaster Caverns to see if I could relocate the beetle where it had been photographed in 2003. My goals were modest – I simply wanted to find the beetle and voucher its current presence in northwestern Oklahoma (and if possible photograph it in the field with my [new camera](#)), and on the first Friday of June I followed behind Mike and his lovely wife Jane during our ten-hour drive out to Four Canyon Preserve. [For three days](#), I roamed the mixed-grass prairie atop the narrow ridges and dry woodland on the steep, rugged canyon slopes of the preserve – always on the lookout for that telltale "flash" between the clumps of bluestem and grama, ever hopeful that one would prove not to be the ant or spider that it appeared to be (and, indeed, always was). Many



*Cylindera celeripes*, Alabaster Caverns State Park, Oklahoma.

tiger beetles would be seen – chiefly the annoyingly ubiquitous *Cicindela punctulata* (punctured tiger beetle), but *C. celeripes* would not be among them. Whether this is due to historical absence from the site or a more recent consequence of the wildfires that swept the area a year earlier is hard to say, but its absence at Four Canyon meant that I would need to make a quick, 1-day detour to Alabaster Caverns before rejoining Mike and Jane at Tallgrass Prairie Preserve in northeastern Oklahoma, where we planned to spend the second half of the week. There, I not only succeeded in finding the species but documented robust populations there and at several nearby locations, confirming the existence of a new, previously unknown population center for the species across a large swath of red clay/gypsum hill habitat in northwestern Oklahoma. This is good news for the species, which some have regarded as a potential candidate for federal listing on the endangered species list, and the presence of a strong population in Oklahoma gives reason for optimism about its long-term prospects.

My work with this species was not done, however. While *C. celeripes* has never been recorded in Missouri, my colleague Chris Brown and I have long suspected that it might occur here – most likely, we felt, in extreme northwestern Missouri where the [Loess Hills landform](#) reaches its southern terminus. We had looked for it in this area a few times before on the few remaining dry, hilltop prairie relicts that are so common further north in Iowa, and we had also looked for it in the larger tallgrass prairie remnants of west-central Missouri. None of these searches were successful, and with each unsuccessful effort it seemed less

likely that the species actually occurred within the state – especially considering the declines that the species has experienced throughout its range. However, our experience with this species last summer in the Loess Hills of southwestern Iowa convinced us that one more thorough effort this year to locate the species in Missouri was in order.

Our plan was straightforward – we would travel to northwestern Missouri each weekend beginning in late June and search the most promising hilltop prairie relicts that still remain in Missouri. There aren't many of these, so I contacted Tom Nagel of the Missouri Department of Conservation – who probably knows more about Missouri's hilltop prairie relicts than anyone else – for assistance in identifying these parcels. Tom graciously sent me descriptions and aerial photographs of the highest quality relicts still remaining in Missouri. None of these are large (12 contiguous acres or less), and all have been impacted to some degree by woody encroachment and are in various stages of restoration. We had already searched one of these tracts (Star School Hill Prairie) a few times, but two others were new to us. So, on a Friday evening before the first of three planned weekends for our study (and only two weeks after returning from Oklahoma), Chris and I made the long drive across Missouri and north along the Missouri River and began our search the next morning.

Our first stop was High Creek Hill Prairie in [Brickyard Hill Conservation Area](#) (Atchison Co.). We had been to Brickyard Hill a few times but had not previously found this particular hilltop prairie. We found the tract, a long, narrow series of ridge tops and southwest-facing slopes, thanks to Tom Nagel's map and began searching with all the enthusiasm and optimism that accompanies any new search. Our optimism waned with each hilltop ridge that we traversed not seeing the beetle, until we reached the easternmost ridge amidst a jumble of eastern red-cedar cadavers that halted any further progress or promise. As we stood atop that last hill, we debated our next move. Chris had noted apparently good habitat on the lower slopes below us, while I had spotted another very small hilltop tract across a wooded ravine and disjunct from the main prairie. We decided these areas should be explored before moving on to the next site, but as we searched those lower slopes our optimism continued to



*Cylindera celeripes* at Brickyard Hill Conservation Area, a new state record for Missouri.

wane. The habitat was perfect based on what we had seen in Iowa last year and what I had seen in Oklahoma earlier in the month – small clay exposures amongst clumps of undisturbed little bluestem and grama, but still no beetles. Chris, refusing to accept defeat, continued to search the slope, while I worked my way over to the smaller hilltop tract I had seen from above. After crossing through the wooded ravine, I found an old 2-track running along the base of the tract and began walking along it. The small slope above the 2-track was littered with large cadavers of the invasive eastern red-cedar (*Juniperus virginiana*), apparently left in place after chain sawing to provide fuel for a planned, future burn. As I walked, a white-tailed deer bolted from a nearby cadaver, giving me a bit of a start, and I veered towards the cadaver to have a look at where it had bedded down. By this time I almost wasn't even really thinking about *C. celeripes* anymore – we had been there for about an hour and a half and searched the most promising habitats without success – the small tract where I was now working was almost a last gasp before moving on. As I approached the deer's bedding site, a "flash" in the thick vegetation caught my eye, and I knew instantly what it was. Immediately I dropped to my knees and tried to "trap" the evasive little beetle (I've found that forming a "trap" between the crotches of my hands and gradually closing my hands together forces the beetle to run up and over one of my hands, at which time I can try to pin it down with my other). The beetle behaved exactly as expected, running over my left hand – but I missed it. I trapped it again, and once again it ran over my hand too fast to pin down. I tried to follow it as it zigzagged erratically through the

thick vegetation, but in the blink of an eye it was gone. I spent the next several minutes frantically pulling apart the vegetation in a 2-foot radius around the spot in what I knew was a vain attempt to relocate the beetle before ultimately accepting that I had missed it. No matter – I had seen it and had absolutely no doubt about what it was – *C. celeripes* does indeed occur in Missouri! Wow – big news! I knew if I had seen one, I had a good chance of seeing another, so I began searching the area again – now with much more deliberation. I walked back and forth along the old 2-track, up and down the cadaver-littered slope, and back to the original spot several times. As time passed, a gnawing fear began to grow inside me that this new state record might lack a voucher. Suddenly, very near the original spot, I saw another. This time I pounced with authority and made no mistakes, and after securing the live beetle in a vial I gloated and congratulated myself unabashedly inside while bursting to give the news to Chris. I searched the slope some more, but I couldn't take it anymore – I had to tell someone. I pulled out my cell phone and began texting a message to my daughter Mollie (who really doesn't care about beetles but loves to receive text messages). As I was texting, Chris appeared on the lower slope, obviously noting that my net had been left on the ground purposely to mark a spot. As I finished texting I told Chris to come here, I wanted to show him something, and then nonchalantly handed him the vial. I would give anything to have a video of the look on Chris' face as it changed from quizzical dumbfoundedness to shocked elation. Chris, too, had reached a low point in his optimism after thoroughly searching the previous slope without success, but now we were both as giddy as schoolboys – our long efforts had finally paid off with a new state record for one of North America's rarest tiger beetles. The way we were acting, you'd have thought we'd just discovered plutonium!

We searched the slope for another half hour or so, with Chris seeing one more individual very close to where I had seen the first one. Whether it was the same or a different individual is unknown, so we decided that we had seen at least two individuals at this site. The discovery of *C. celeripes* here caused us to once again search the lower slope that Chris had previously searched so thoroughly, but again



*Cylindera celeripes* habitat at Star School Hill Prairie. Beetles were seen along the narrow trail (foreground) and on the mild upper slopes (below bur oak, upper left).

the beetle was not seen. Our giddiness was beginning to give way to concern over the few individuals we had seen and how localized they seemed to be. We had been at the site now for about three hours, and I was famished. I hiked back to the truck, noting some habitat at the far western end of the main prairie where we had begun our search that looked like it deserved another search. As I ate, Chris worked his way over to that spot, and after a period of time I heard him yell down to me and give me the “thumbs up.” I hurriedly finished eating and worked my way up to where he stood, and together we located two more individuals – taking one as a voucher for the site and ganging up on the other to keep it pinned into an open area where each of us could take field photographs before we finally let it “escape.” Seeing the species on the larger parcel had relieved our concern a little bit, and we felt a little less worried about its status here now.

Later in the day we would see the species again at [Star School Hill Prairie Natural Area](#), the northernmost substantial loess hilltop prairie within Missouri, and one that we had searched at least twice previously for the species. Again, we saw only two individuals in almost three hours of searching, confirming the impression first gained at Brickyard Hill that the species is not present in very high densities. Like Brickyard Hill, the beetles at this site were found in areas of undisturbed hilltop prairie with moderately thick shortgrass vegetation and were seen only when they ran from one grass clump to another after being disturbed by our approach. We also looked

for it at a smaller disjunct parcel just to the north, but the lateness of the hour limited the time we had to explore this site. Star School Hill Prairie is some 6 miles north of Brickyard Hill, thus, finding *C. celeripes* at two sites not in close proximity increased our optimism that the species might actually occur in many of the loess hilltop prairie remnants still remaining in northwestern Missouri. This optimism was further increased the next day when we saw two more individuals at one of Missouri’s southernmost hilltop prairie relicts at [McCormack Loess Mounds Natural Area](#) in Holt Co. However, our optimism was tempered by the fact that, again, we saw only two individuals, both of which were seen in a small, unburned spur extending northward off the main prairie, while none were seen in the much larger main parcel that appeared to have been recently burned in its entirety.

The presence of this rare Great Plains species in Missouri’s critically imperiled hilltop prairies is cause for both excitement and concern. *Cylindera celeripes* represents a unique and charismatic addition to the state’s rich natural heritage. However, like soapweed yucca (*Yucca glauca* var. *glauca*), skeletonweed (*Lygodesmia juncea*), and the dozen or so other plant and animal [species of conservation concern](#) found within the hilltop prairies of Missouri’s Loess Hills, *C. celeripes* appears to be entirely dependent upon these habitats for its survival within the state. Ensuring its continued survival will require careful reconsideration of the management approaches used for these rapidly shrinking natural communities. Prescribed burning has been and will continue to be an important tool in restoring our hilltop prairies; however, nonjudicious use of fire could lead to local extirpation of *C. celeripes* within these habitats. Should that occur, recolonization from nearby parcels is unlikely due to the small, highly disjunct, and upland character of Missouri’s hilltop prairie remnants and the flightless nature of *C. celeripes*. As a result, rotational cool-season burns should be utilized as much as possible to avoid localized extirpations, especially on smaller parcels.

#### Reference:

**MacRae, T. C. 2006.** Beetle bits: The “beautiful tiger beetle”. *Nature Notes* 78(4):9–12.





## THE RIVERVIEW CASINO COMPLEX: A LOSING BET

---

*Dora R. Gianoulakis<sup>1</sup> & Caroline Ishida<sup>2</sup>  
Coalition for Common Sense*

In September the WGNSS Board agreed to oppose the proposal for an enormous casino development being planned just 500' south of the Columbia Bottom Conservation Area on the Mississippi River Flyway and the Mississippi River floodplain in Spanish Lake, unincorporated north St. Louis County. This 374 acre enormous development would require the flood plain to be raised 30' and would continue a pattern of ill-conceived endeavors in St. Louis County that exacerbate floods by increasing the amount of impenetrable surface in the floodplain and destroying wetlands. The floodplains and wetlands near the project possess rare natural beauty and provide valuable migratory bird and wild animal habitat. The Riverview Casino complex would destroy these ecosystems and undermine the \$25 million investment recently made in the Columbia Bottom Conservation Area by the Missouri Department of Conservation.

The Coalition for Common Sense, now numbering 18 organizations including WGNSS, St. Louis Audubon Society and Audubon Missouri, are working together to organize members and individuals to oppose this Riverview Casino. On September 15th, over 40 folks picketed outside the County Government Center where shortly thereafter the County Planning Department recommended approval of this development and the County Planning Commission voted in favor of it. This proposal will be submitted to the St. Louis County Council on October 13th so that the process to oppose this development is now before the County Council. County-wide opposition to this proposal has developed and your active support to stop this development on the Mississippi River Flyway is urgently needed.

Ironically there has been no Environmental Impact Study conducted by the County Planning

Department, nor will one be required by the County Council before they vote the proposal up or down. Only **after the property has been rezoned** for this casino complex which includes a casino, convention center, restaurants, retail shops, sports bar, an 18 hole golf course, parking for 8,000 cars and, of course, incredibly enormous lighted signage (hours till 3 a.m.) will this study be conducted. That means the property will have been rezoned for these new uses in the future, even if this present development somehow doesn't get built this time a-round.

How can you help? Go to the Spanish Lake Community Association's website at [www.spanishlakemo.org](http://www.spanishlakemo.org) for up-to-date information. Can you circulate a petition among your friends? Write to your County Councilman? Write letters to the editors of your local papers, on-line sites? Attend meetings? Speak at hearings? Call Dora Gianoulakis at (314) 741-8425 to volunteer.

This is going to be a long process, eventually including review by the Corps of Engineers, Missouri Department of Natural Resources, FEMA and the Missouri Gaming Commission at the very least.

Join with us and help millions of migratory birds from dying because of the bright lights and the loss of habitat in this area of the Mississippi Flyway, so important in this region. And if you're still wondering about what might happen on this site? We visited the Lemay Casino site in south St. Louis County in August and saw three birds. Pigeons. Join with us!



## PUBLICATIONS BY MEMBERS

---

**Blom, H. H. & C. E. Darigo. 2009.** *Schistidium viride* (Grimmiaceae), a new name for a common but neglected species in eastern North America. *The Bryologist* 112(2):273–277.

**Darigo, C. E. & N. Holmberg. 2009.** *Polytrichum formosum* var. *densifolium* (Musci: Polytrichaceae) new to Missouri and the Interior Highlands of North America. *Evansia* 26(2):50–51.

---

<sup>1</sup> President and former Secretary, Spanish Lake Community Association  
<sup>2</sup> Staff Attorney, Missouri Coalition for the Environment.

(*The Bryologist* & *Evansia* are published by the American Bryological and Lichenological Society.)

**MacRae, T. C. 2009.** The species of *Purpuricenus* Dejean (Coleoptera: Cerambycidae) occurring in Maryland. *The Maryland Entomologist* 5(1):5–10.

**McDowell, W. T. and T. C. MacRae. 2009.** First record of *Typocerus deceptus* Knull, 1929 (Coleoptera: Cerambycidae) in Missouri, with notes on additional species from the state. *The Pan-Pacific Entomologist* 84(4) (2008):341–343.

### Dichotomous bee keys:

George Yatskievych forwarded to me the following note from Elizabeth Sellers, Manager of the NBII Pollinators Project, announcing the publication of eleven new dichotomous bee keys by WGNSS Member Michael Arduser:

The Pollinators Project of the National Biological Information Infrastructure (NBII) is pleased to announce the publication of eleven new dichotomous bee keys completed this year by Michael Arduser (Natural History Biologist, Missouri Department of Conservation).

Initially developed as part of a "Bees of Missouri" project that is now being expanded to include all species east of the Great Plains, the keys are all works-in-progress, and will be updated / improved / corrected as necessary. Each key can be downloaded as a PDF document from

<http://www.nbii.gov/beekeys/>

The NBII Pollinators Project <http://pollinators.nbii.gov/> supports efforts to increase access to information about the taxonomy, biology, ecology, conservation status, and threats to native pollinators, pollinator-dependent species, and pollinator habitats in the United States and abroad.

Please address any corrections/suggestions for the keys to Mike at

[michael.arduser@mdc.mo.gov](mailto:michael.arduser@mdc.mo.gov) and any comments regarding the Web page may be addressed to Elizabeth Sellers (Manager, NBII Pollinators Project) [esellers@usgs.gov](mailto:esellers@usgs.gov).



## WGNSS BIRD REPORTS USED FOR RESEARCH

---

Jim Ziebol recently received a manuscript being prepared for publication by Amanda J. Oliver and colleagues at the University of Missouri-St. Louis entitled, "The funnel effect: avifauna richness enhanced in large, isolated urban parks." The manuscript reports the results of a study examining the effects of urbanization on bird communities in remnant and restored parks in the St. Louis area, using data compiled from 23 area parks. Their study was based in large part on WGNSS' online database of monthly bird reports spanning the years 1999–2007, and they found that park area was the best predictor of species richness, followed by distance from the highest human population density (a surrogate for isolation). They further suggested that high species richness in highly urbanized parks is explained by the parks' relatively large size, internal habitat diversity, and the funneling of species to large natural areas within an inhospitable urban matrix.

This is an excellent example of how the efforts of citizen scientists and the organizations that they belong to – such as WGNSS – can make meaningful contributions to conservation science.



## WGNSS BIRDERS ARE INVITED TO SOUTHEAST MISSOURI

---

WGNSS members are invited to join a new group, Swamp Candle Birders of Southeast Missouri, on their upcoming outings, which are listed below. For additional information, please contact the group at [sebirding@yahoo.com](mailto:sebirding@yahoo.com)

November 8	Discovery Hike at Tower Rock
November 22	Maple Hollow Trail
December 17	Bird Count at Big Oak Tree State Park
December 19	Bird Count at Mingo National Wildlife Refuge
December 19	Eagle Watch (TBA)



## FREE ADULT LECTURES AT THE ST. LOUIS ZOO – OCTOBER/NOVEMBER

---

Join the St. Louis Zoo for in-depth discussions on hot topics in the world of science and wildlife. All programs are free and located in The Living World. For more information, call (314) 646-4544 or visit [www.stlzoo.org](http://www.stlzoo.org)

---

### CONSERVATION CONVERSATIONS

Co-sponsored by the Academy of Science-St. Louis. No reservations required.

#### **Drying up Extinction in the Sahara**

Bill Houston, Assistant General Curator  
Tuesday, October 27, 7:30 – 9 p.m.

#### **Return of the Peregrine Falcon**

Jackie Fallon, Midwest Peregrine Society  
Tuesday, November 17, 7:30 – 9 p.m.

---

### SCIENCE SEMINAR SERIES

Co-sponsored by the Academy of Science-St. Louis. No reservations required.

#### **The Most Violent Places in the Universe**

Dr. James Buckley, Washington University  
Wednesday, November 4, 7:30 – 9 p.m.

---

### CONSERVATION FORUM

In collaboration with World Ecology Center, UM-St. Louis.

#### **Sustainable Agriculture: From Field to Market**

Thursday, November 12, 6 – 9 p.m.  
Advance registration required by calling  
(314) 516-5219.

---



## 2009 WHITNEY AND ANNA HARRIS CONSERVATION FORUM

---

The 2009 Whitney and Anna Harris Conservation Forum will be held at the Saint Louis Zoo on Thursday, November 12, 5:30-9:00 p.m. A flier of the program can be found at the following link:



## A SPECIAL "THANK YOU"!

---

The next time you see any of these wonderful people, please give them a hearty "Thank you!" You would not be reading this if it weren't for their dedication to WGNSS as volunteers who do all that is required to get *Nature Notes* ready for mailing. Most of them have been graciously doing this for over 25 years (yes! I said 25 YEARS, surely some kind of record for volunteering for anything!). In addition, there have been many more who are no longer with us:

Roseanne Bodman  
Jackie Chain  
Missy Chouteau  
Jean Cook  
Pat Diener  
Barbara Elftman  
Vivian Liddell  
John Loomis  
Ginnie Young  
Clarence Zacher

and until very recently, Jim and Betty Adams and Carl Darigo

Volunteers keep WGNSS alive. And volunteering is a member's way of saying "Thank you" to our founders and so many others who have worked diligently for so many years to keep this great organization going.

*Marjorie Richardson  
Newsletter Distribution*

---



## GO GREEN – RECEIVE NATURE NOTES BY EMAIL!

---

*Nature Notes* is now available 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 can be also be clicked on for instant navigation to email addresses and websites. Of course, you can print

your electronic copy of *Nature Notes* if you wish (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 (pre-installed on most computers, available for free download at <http://get.adobe.com/reader/>). Contact the Editor at [ted.c.macrae@monsanto.com](mailto:ted.c.macrae@monsanto.com) if you would like to subscribe to *Nature Notes* by email.



## CALL FOR ARTICLES, ANNOUNCEMENTS, AND REPORTS

---

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](mailto: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 AM**

October 24	Teal Pond @ Riverlands
October 31	Des Peres Park
November 7	Des Peres Park
November 14	Des Peres Park
November 21	Des Peres Park
November 28	Des Peres Park
December 5	Des Peres Park
December 12	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 AM** (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 PM. If you have questions, please contact Jackie Chain at (314) 644-5998 or [chainjac@sbcglobal.net](mailto:chainjac@sbcglobal.net)



### BOTANY GROUP

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

#### Botany Walks

– Fr. James Sullivan, Leader

(starting his 43rd year in January, 2009)

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](mailto: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, October 18 at 7:00 PM.** Bob Merz, Caretaker of Invertebrates at the St. Louis Zoo, will discuss “The American Burying Beetle”. Come and find out how the St. Louis Zoo is rearing this endangered species and future plans to reintroduce it into the wild. The meeting will take place at the Monsanto Auditorium on the lower level of the Living World at the St. Louis Zoo. For this event, park on the north side of the zoo and come in the Living World entrance. Someone from the WGNSS Entomology Group will be there to guide you to the auditorium.

**Sunday, November 22 at 7:00 PM.** Kyra Krakos, 2009 WGNSS Menke scholarship winner, will talk about her research, “Specialization of pollination systems in *Oenothera*”. Come to the meeting to find out what insect species pollinate the seven species of *Oenothera* found in Missouri. The location for this meeting will be at the Shaw Nature Reserve in Gray Summit. Directions for this event are as follows: Take I44 west (about 22 miles from the 270 interchange) to Gray Summit. The Gray Summit I-44 exit is # 253, just two exits west of Six Flags (Allenton/Eureka). After exiting I-44, turn left, crossing over I-44. Turn right at the intersection (at the Phillips 66) and go 50 yards to the large iron gates on the left side of the road. We will be gathering at the visitor's center prior to conveying a short distance to the reserve's conference center. For assistance with directions contact Richard Thoma at (314) 541-4199.



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

